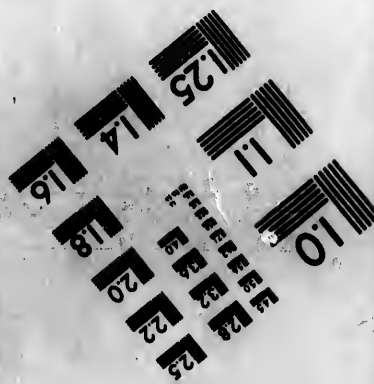
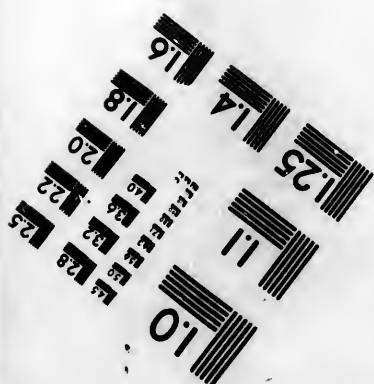
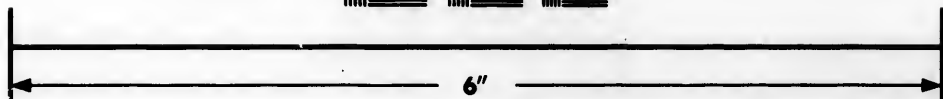
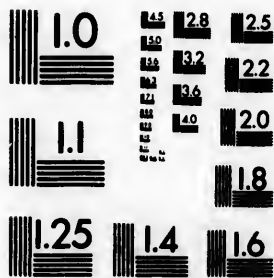


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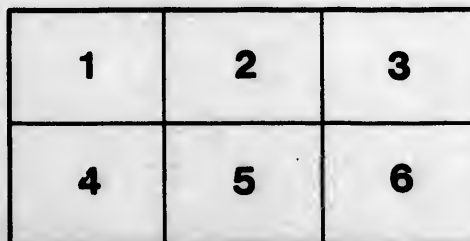
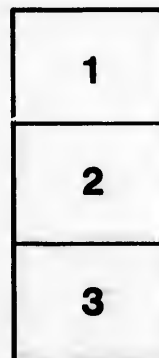
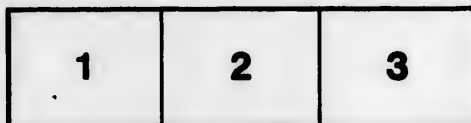
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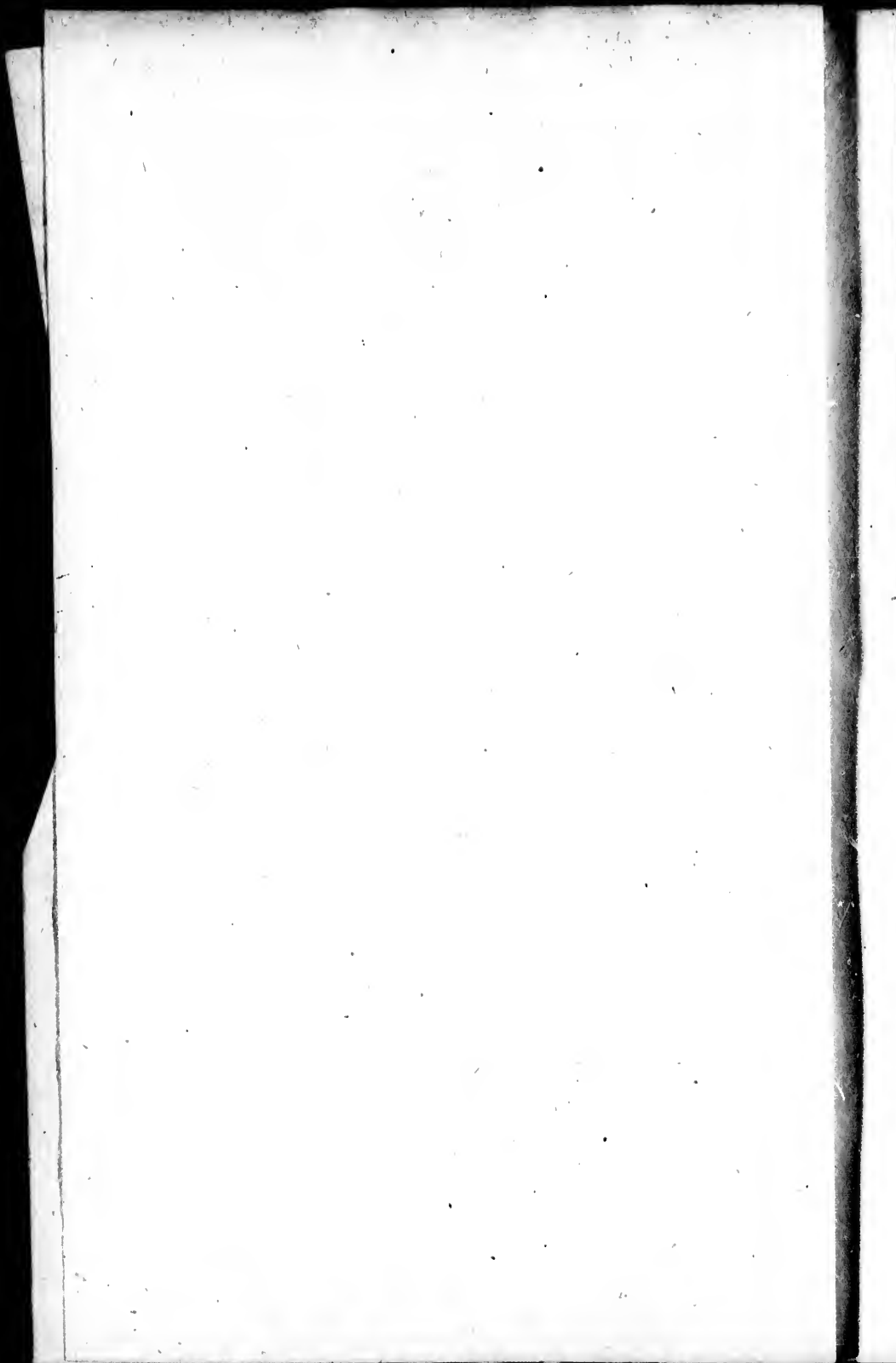
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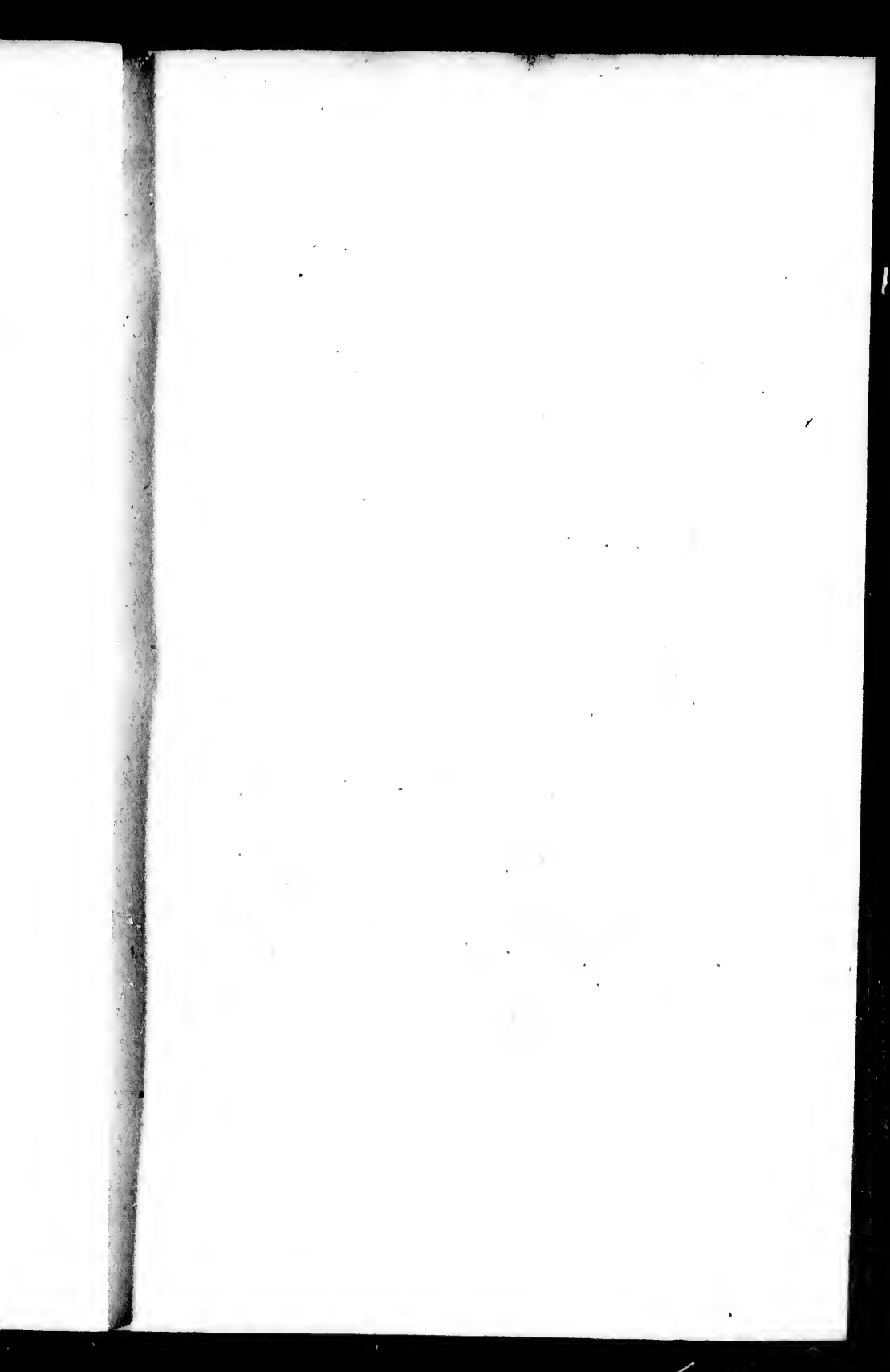
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FLY-BIRDS OF THE NATURAL SIZE.

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THE
NATURAL HISTORY
OF
B I R D S.

The FLY-BIRD.

*L'Oiseau * Mouche, Buff.*

OF all animated beings, the Fly-bird is the most elegant in its form, and the most brilliant in its colours. The precious stones and metals polished by our art cannot be compared to this jewel of nature. Her miniature

* In Spanish *Tomineios*: in Peruvian *Quinti* or *Quindé*, which name obtains also in Paraguay: in Mexican *Huitzitzil* or *Hoitzitzil*, *Ouriffa* (sun-beam): in Brazilian *Guianumbi*, which is generic. It is also called *Vicilim* and *Guachicbil* (flower-sucker) in Mexico. Brisson terms it *Mellisuga* or honey-sucker; Linnæus *Trochilus*, or little-top. In English it is usually known by the name of *humming-bird*. Mr. Pennant denominates it *honey-sucker*.

[The Mexican appellations of *Huitzitzil* and *Vicilim*, signify *re-generated*; which alludes to a notion entertained by the Indians that in autumn this bird stuck its bill into the trunk of a tree, and remained insensible during the winter months, till the vernal warmth again waked it to animation, and invited it to its flowery pasture. T.]

productions are ever the most wonderful; she has placed it in the order of birds, at the bottom of the scale of magnitude; but all the talents which are only shared among the others, nimbleness, rapidity, sprightliness, grace, and rich decoration, she has bestowed profusely upon this little favourite. The emerald, the ruby, the topaz, sparkle in its plumage, which is never soiled by the dust of the ground. It inhabits the air; it flutters from flower to flower; it breathes their freshness; it feeds on their nectar, and resides in climates where they blow in perpetual succession.

It is in the hottest part of the new world that all the species of Fly-birds are found. They are numerous, and seem confined between the two tropics*; for those which penetrate in summer within the temperate zones make but a short stay. They follow the course of the sun; with him they advance or retire; they fly on the wings of the zephir, to wanton in eternal spring.

The Indians, struck with the dazzle and glow of the colours of these brilliant birds, have named them the *beams or locks of the sun*†. The Spaniards call them *tomineos*, on account of their diminutive size, *tomine* signifying a weight of twelve grains. "I saw," says Nie-remberg, "one of these birds weighed with its

* Laet. *Ind. Occid.* Lib. V. 256.

† Marcgrave.

nest,

nest, and the whole together did not amount to two tomines *." The smaller species do not exceed the bulk of the great gad-fly, or the thickness of the drone. Their bill is a fine needle, and their tongue a delicate thread; their little black eyes resemble two brilliant points; the feathers of their wings are so thin as to look transparent †; hardly can the feet be perceived, so short they are and so slender: and these are little used, for they rest only during the night. Their flight is buzzing, continued, and rapid; Maregrave compares the noise of their wings to the *whirr* of a spinning-wheel: so rapid is the quiver of their pinions, that when the bird halts in the air, it seems at once deprived of motion and of life. Thus it rests a few seconds beside a flower, and again shoots to another like a gleam. It visits them all, thrusting its little tongue into their bosom, and caressing them with its wings; it never settles, but it never quite abandons them. Its playful inconstancy multiplies its innocent pleasures; for the dalliance of this little lover of flowers never spoils their beauty. It only sips their honey, and its tongue seems calculated for that purpose: it consists of two hollow fibres, forming a small canal ‡, parted at the end into two

* Nieremberg, p. 239. Acofta, Lib. IV. cap. 37.

† Maregrave.

‡ Macrgrave.

filaments* : it resembles the proboscis of insects, and performs the same office †. The bird protrudes it from its bill, probably by a mechanism of the *os hyoides*, similar to what obtains in the tongue of wood-peckers. It thrusts it to the bottom of the flowers, and sucks their juices. Such is its mode of subsisting according to all the authors who have written on the subject ‡. One person alone denies the fact; he is Badius§, who, finding in the œsophagus some portions of insects, concludes that the bird lives on these, and not the nectar of flowers. But we cannot reject a number of respectable authorities for a single hasty assertion; though the Fly-bird swallow some insects, does it thence follow that it subsists upon them? Nay, must it not necessarily happen, that, sucking the honey from the flowers, or gathering their pollen, it will sometimes swallow the little insects which are entangled? Besides, the rapid waste of its spirits, the consequence of its extreme vivacity and its rapid incessant motion, must continually be recruited by rich nutritious aliments: and Sloane, on whose observations I lay the greatest stress, positively avers

* Labat, t. IV. 13.

† Natural History of Guiana, p. 165.

‡ Garcilasso, Gomara, Hernandez, Clusius, Nieremberg, Marcgrave, Sloane, Catesby, Feuillée, Labat, Dutertre, &c.

§ Journal de Physique, *Janvier* 1773, p. 32.

that

that he found the stomach of the Fly-bird entirely filled with the pollen, and sweet juice of flowers*.

Nothing can equal the vivacity of these little creatures, but their courage, or rather audacity; they furiously pursue birds twenty times larger than themselves, fix in the plumage, and as they are hurried along strike keenly with the bill, till they vent their feeble rage †: sometimes even they fight obstinately with each other. They are all impatience; if upon alighting in a flower they find it faded, they will pluck the petals with a precipitation that marks their displeasure. Their voice is only a feeble cry *screp, screp*, which is frequent and reiterated ‡. They are heard in the woods at the dawn of the morning §, and as soon as the sun begins to gild the summits of the trees, they take wing and disperse in the fields.

They are solitary ||; and indeed, fluttering irregular in the breeze, they could hardly associate. But the power of love surmounts the elements, and, with its golden chains, it binds all animated beings. The Fly-birds are seen to pair in the breeding season; their nest corre-

* Nat Hist. Jamaica, p. 307.

† Browne, p. 475; Charlevoix, *Nouvelle France*, t. III. p. 158; Dutertre, t. II. p. 263.

‡ Marcgrave compares this note, for its continuance, to that of the sparrow, p. 196.

§ Marcgrave, p. 196.

|| Philosophical Transactions, No. 200, art. 5.

ponds to the delicacy of their bodies; it is formed with the soft cotton or silky down gathered from flowers, and has the consistency and feel of a thick smooth skin. The female performs the work, and the male collects the materials*. She applies herself with ardour; selects, one by one, the fibres proper to form the texture of this kindly cradle for her progeny; she smooths the margin with her breast, the inside with her tail; she covers the outside with bits of the bark of the gum tree, which are stuck to shelter from the weather, and give solidity to the fabric †; the whole is attached to two leaves, or a single sprig of the orange or citron ‡, or sometimes to a straw hanging from the roof of an hut §. The nest is not larger than the half of an apricot ||, and it is also shaped like a half cup. It contains two eggs, which are entirely white, and not exceeding the bulk of small pease. The cock and hen sit by turns twelve days; on the thirteenth the young are excluded, which are then not larger than flies. "I could never perceive," says Father Dutertre, "how the mother fed them, except that she presented the tongue covered entirely with honey extracted from flowers."

We may easily conceive that it is impossible to raise these little flutterers. Those who have

* Dutertre, t. II. p. 262.

† *Id. Ibid.*

‡ Browne.

§ Dutertre.

|| Feuillée *Journal d'Observations*, t. I. p. 413.

tried

tried to feed them with syrups could not keep them alive more than a few weeks; these aliments, though of easy digestion, are very different from the delicate nectar collected from the fresh blossoms. Perhaps honey would have succeeded better.

The method of obtaining them is to shoot with sand, or by means of the *trunk-gun*; they will allow one to approach within five or six paces of them*. They may be caught by placing a twig smeared over with a clammy gum in a flowering shrub. It is easy to lay hold of the little creature while it hums at a blossom. It dies soon after it is caught †, and serves to decorate the Indian girls, who wear two of these charming birds, as pendants from their ears. The Peruvians had the art of forming their feathers into pictures, whose beauty is perpetually extolled in the older narratives ‡. Maregrave, who saw some of these pieces of workmanship, admires their brilliancy and delicacy.

With the lustre and gloss of flowers, these pretty birds have been supposed to have also the perfume; and many authors have asserted that

* They are so numerous, says Maregrave, that a fowler may easily take sixty in a day.

† Dutertre and Maregrave.

‡ See Ximenes, who attributes the same art to the Mexicans: Gemelli Carreri, Thevet, Lery, Hernandez, &c.

they have the fragrance of musk. The mistake originated probably from the name applied by Oviedo, of *passer mosquitus*, which would easily be changed into *passer moscatus* *. But this is not the only marvellous circumstance with which their history has been clouded †; it has been said that they are half birds, half flies, and produced from a fly ‡; and a Provincial of the Jesuits gravely affirms in Clusius, that he was witness to this transformation §. It has been alledged that during the winter season they remain torpid, suspended by the bill from the bark of a tree, and awakened into life when the flowers begin to blow. These fictions have been rejected by intelligent naturalists ||; and Catesby assures us, that he saw them through the whole year at St. Domingo and Mexico, where nature never entirely loses her bloom †. Sloane says the same of Jamaica, only that they are more numerous after the rainy season; and prior to both, Marcgrave

* Gesner very justly remarks that this epithet is derived rather from *musca* (a fly), than from *moschus* (the name in modern Latin for musk.)

† Dutertre corrects very judiciously many puerile exaggerations, and detects, as usual, the mistakes of Rochefort, t. II. p. 263.

‡ See Nieremberg, p. 240.

§ This Jesuit, says Clusius, made strange relations in natural history. *Exotic*, p. 96.

|| See *Willoughby*.

† Nat. Hist. of Carolina, Vol. I. p. 65.

mentioned

mentioned their being frequent the whole year in the woods of Brazil.

We are acquainted with twenty-four species in the genus of the Fly-bird; and it is probable some have been overlooked. We shall distinguish them by their different denominations, drawn from the most obvious characters.

The LEAST FLY-BIRD.

Le plus petit Oiseau-Mouche, Buff.

FIRST SPECIES.

Trochilus Minimus, Linn. Gmel. and Klein.

Mellisuga, Briss.

Guainumbi septima species, Marcq.

Guainumbi minor, corpore toto cinereo, Ray.

Polytmus minimus variegatus, Brown.

The Least Humming-bird, Sloane, Edw. and Lath.

IT is congruous to begin with the smallest species, in enumerating the smallest genus. This Least Fly-bird is scarce fifteen lines in length; its bill is three and a half, its tail four: so that there remains only nine lines for the head, the neck, and the body. It is smaller, therefore, than some of our flies. All the upper side of the head and body is of a gold green changing brown, and with reddish reflections; all the under side is of a white grey. The feathers of the wing are brown, inclining to violet, and this is the general colour of the wings in all the Fly-birds, as well as in the colibris. The bill also and the feet are commonly black, the legs are clothed pretty low with little downy plumules; and the toes are furnished with little sharp curved nails. All of them have six feathers in the tail; Marcgrave mentions only four, which

is probably a mistake of the transcriber. The colour of these tail-feathers is, in most of the species, bluish black, with the lustre of burnished steel. In the female the colours are generally not so bright; it is acknowledged too by the best observers to be rather smaller than the male*. The bill of the Fly-bird is equally thick throughout, slightly swelled at the tip, compressed horizontally and *straight*. This last character distinguishes the Fly-bird from the colibris, which most naturalists, and even Marcgrave, have confounded.

This first and least species is found in Brazil and the Antilles. The bird was sent to us from Martinico with its nest; Edwards received it from Jamaica.

* Grew in the Philosophical Transactions, No. 200, art. 5.—
Labat, Dutertre.

[A] Specific character of the *Trochilus Minimus*: "Its lateral tail-feathers white at their outer edge, its body of shining green, below whitish." It weighs between twenty and forty-five grains.

The R U B Y.

L. Rubis, Buff.

SECOND SPECIES.

Trochilus-Colubris, Linn. Gmel. and Klein.

Mellisuga Carolinensis gutture rubro, Briñ.

Tomino Viriscens, gutture flammeo, Petiv.

Guainumbi, Ray. and Will.

The *American Tomineius* or *Humming-bird*, Catesby and Kalm.

The *Red-throated Honey-sucker*, Penn.

The *Red-throated Humming-bird*, Edw. and Lath.

IN observing the scale of magnitude, many would occupy the second place. We shall take the Carolina Fly-bird, and denominate it the *Ruby*. Catesby feebly expresses the lustre and beauty of the colour of its throat, when he calls it a *crimson enamel*: it has the brilliancy and fire of the ruby. In a side view, it has a gold tinge, and, seen from below, it appears a dull garnet. We may remark that the feathers of the throat are fashioned and disposed like scales, round and detached; which arrangement multiplies the reflections, that play both on the neck and the head of the Fly-birds, among all their sparkling feathers. In the present, all the upper side of the body is gold-green, changing into red copper; the breast and the fore part of the body are mixed white,

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white, grey, and blackish; the two feathers in the middle of the tail are of the colour of the back, and the lateral feathers are purple-brown; Catesby says *copper colour*. The wing is brown, tinged with violet, which, as we have already observed, is the common colour of the wings in all these birds; so that we may omit them in the subsequent descriptions. The form of the wings is singular: Catesby compares it to the blade of a Turkish scimeter. The four or five first outer quills are long, the next much less so, and those nearest the body are extremely small; which, joined to another circumstance, that the largest are curved outwards, makes the two wings when spread resemble a drawn bow, of which the little body of the bird represents the arrow in the middle.

The Ruby appears in summer in Carolina, and even in New England; it is the only Fly-bird that penetrates into the northern provinces*. Some narratives transport it to Gaspesia †, and Charlevoix says that he saw it in Canada. But he appears little acquainted with it when he says, that the bottom of its nest is *interwoven with small bits of wood, and that it lays five eggs* ‡; and in another place that its

* Catesby and Edwards.

† *Nouvelle relation de la Gaspésie*, par le R. P. Chretien le Clerque, Paris, 1691, p. 486. The Gaspesians, according to this account, call it *nirido*, bird of heaven.

‡ Hist. and Descrip. de la Nouv. France, Paris, 1741, t. III. 158.

*feet are like its bill, very long**. Little stress can be laid on such evidence. The winter retreat is said to be in Florida †; it breeds in Carolina in summer, and departs when the flowers begin to fade. It extracts its nourishment from the flowers only; "and I have always observed," says Catesby, "that it never feeds on insects, but entirely on honey-juices ‡."

* Hist. de St. Domingue, Paris, 1730, p. 31.

† See Hist. Gen. des Voy. t. XIV. p. 456.

‡ Carolina, Vol. I. p. 65.

[A] Specific character of the *Trochilus-Colubris*: "It is gold-green; its tail-feathers black, the three lateral ones ferruginous tipped with white; its throat flame coloured." It is three inches and one third long.

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The AMETHYST, Buff.

Trochilus Amethystinus, Gmel.The *Amethystine Humming-bird*, Lath.

THIRD SPECIES.

ALL the throat and the fore part of the neck are of a brilliant amethyst, which it is impossible to figure or paint. This is one of the smallest of the Fly-birds; its size and form the same with those of the Ruby; its tail is also forked. The fore side of the body is marbled with white, grey, and brown; the upper side is gold-green; the amethyst colour of the throat changes into purple brown, when the eye is placed lower than the object. The wings seem rather shorter than in the other Fly-birds, and reach not the two middle feathers of the tail, which are however the shortest, and give it a forked shape.

[A] Specific character of the *Trochilus Amethystinus*: "It is gold-green, below variegated with ash and brown, its throat amethystine." It is found in Cayenne.

The GOLD GREEN.

L'Orvert, Buffon.

FOURTH SPECIES.

Trochilus Viridissimus, Gmel.

The All-green Humming-bird, Lath.

GREEN and gold yellow sparkle more or less in all the Fly-birds; but these fine colours cover the whole plumage of this, with a brilliancy and gloss which the eye cannot enough admire. In certain positions it is pure dazzling gold; in others, it is a glazed green, which is not inferior to the lustre of polished metal. These colours extend over the wings; the tail has the black hue of burnished steel*.

To this we shall refer the *All-green Humming-bird* of Edwards. We shall also refer the second species of Marcgrave; its singular beauty, its short bill, and the dazzle of gold, and of brilliant and resplendent green, distinguish it sufficiently. Brisson makes this his sixteenth species, under the name of the *Forked-tail Bra-*

* Specific character: "It is very green, its belly white, its tail steel-coloured."

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zilian Honey-sucker *; but he was not aware that Marcgrave represents its tail neither long nor forked. Its *tail is like the former*, says that author; and in the first species the tail is *straight, only an inch long*, and does not exceed the wing.

The TUFTED-NECK.

Le Hupecol, Buff.

FIFTH SPECIES.

Trochilus Auratus, Gmel.

Trochilus Ornatus, Lath. Ind.

The *Tufted-necked Humming-bird*, Lath. Syn.

THIS name marks a very singular character, which distinguishes this bird from all the rest. Not only its head is ornamented with a pretty long rufous tuft, but on each side of the neck, below the ears, rise seven or eight unequal feathers; the two longest, being six or seven lines, are rufous, and narrow throughout,

* *Trochilus Glaucopsis*, Gmel.

Trochilus Frontalis, Lath.

Mellisuga Brasiliensis caudâ bifurcâ, Briss.

Guainumbi Major, Ray and Will.

The *Blue fronted Humming-bird*, Lath. Syn.

Specific character: "It is gold-green; its front sky-blue, its vent white, its wing-feathers violet-brown, its feet feathered, its tail steel-coloured, and somewhat forked."

but the ends a little widened, and tipped with a green dot. The bird erects them reclining them back; while at rest they lie flat on the neck, as also does the beautiful tuft: but they are all bristled when it flies, and the bird appears quite round. The throat and the fore side of the neck are of a rich gold green (if the eye be held much lower than the object, these brilliant feathers appear entirely brown); the head and all the upper side of the body green, with dazzling reflections of gold and bronze, as far as the white bar that crosses the rump; beyond this, to the end of the tail, is spread a shining gold on a brown ground on the outer webs of the quills, and rufous on the inner ones; the under side of the body is gold-green brown; the lower belly, white. The Tufted-neck does not exceed the size of the Amethyst; the female resembles it, except that it has no tuft or external ears: the bar of the rump is rusty, and so is the throat; the rest of the under side of the body rufous, shaded with greenish; its back and the upper side of the head are as in the male, green with gold and bronze reflections.

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The RUBY TOPAZ, *Buff.*

SIXTH SPECIES.

Trochilus Moschitus. Linn. and Gmel.

Mellisuga Brasiliensis gutture topazino, Briss.

The *Trochilus* with a ferruginous tail, Bancroft.

The *Ruby-necked Humming-bird,* Lath.

OF all the birds of the genus, this is the most beautiful, says Maregrave, and the most elegant: it has colours and the sparkling fire of the Ruby and the Topaz: the upper side of its head and neck is as brilliant as a ruby; the throat, all the fore side of the neck, in the front view, dazzle like the Aurora Topaz of Brazil. The same parts, seen a little lower, resemble unburnished gold, and still lower, change into a dull green; the top of the neck and the belly are of a velvet black brown; the wing is violet brown; the lower belly white; the inferior coverts of the tail and its quills are of a fine gold-rufous, and tinged with purple; it is edged with brown at the end; the rump is brown, heightened with gold-green; the wings, when closed, do not extend beyond the tail, whose quills are equal. Maregrave remarks that it is broad, and that the bird displays it gracefully in flying. It is pretty large for its kind. Its total length is three inches and from four to six lines; its bill is seven or eight; Maregrave calls this *half an*

inch. This beautiful species seems numerous, and has become common in the cabinets of naturalists: Seba says that he received many of them from Curaçoa. We may notice a character which all the Fly-birds and Colibris have, viz. that the bill is thick feathered at its base, and sometimes as far as the fourth or third of its length.

The female has only a streak of gold or topaz, on the throat and fore-part of the neck; the rest of the under side of the body is white-gray [A].

We conceive that the Fly-bird represented, No. 640, fig. 1*, *Planches Entumées*, is a proximate species, or perhaps the same with this; for the only difference consists in its having a crest, but which is not much raised. In other respects, the resemblance is striking; and, from a comparison of the figures, the latter appears rather smaller and its colours not so deep, though the tints and distributions are essentially the

[A] Specific character of the *Trochilus Moschatus*: "It is gold-green; its tail-feathers equal and ferruginous, the outermost tipped with brown; its wing-feathers black."

* *Trochilus Elatus*, Gmel.

Mellisuga Americana gutture topazino, Briss.

Florisuga aut Mellisuga, Seba.

The *Ruby-crested Humming bird*, Edw. and Lath.

Specific character: "It is gold-greenish, its tail-feathers equal and ferruginous, tipped with black, a red crested cap."

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same: so that the one seems to be young, the other adult. Or perhaps it is a variety of climate; since the one comes from Cayenne, the other from Brazil. The *Ruby-crested Humming-bird* given in Edwards's Gleanings corresponds exactly with the above-mentioned coloured figure. Frisch has also given the head of this Fly-bird, *pl.* 24, on which Brisson has formed his second species, taking, for the female, another figure inserted by Frisch in the same place, and which represents a Little Gold-green Fly-bird. But the female of the Topaz-breasted Fly-bird, whose body is brown, cannot surely be this. In this, as in every other genus of birds, the colours of the female are always duller than those of the male. We may, therefore, with the highest probability, refer the *second all-green Fly-bird* of Frisch to the gold-green.

The CRESTED FLY-BIRD.

L'Oiseau-Mouche Huppé, Buff.

SEVENTH SPECIES.

Trochilus Cristatus, Linn. Gmel. and Borowk.*Meliffuga Cristata*, Briss. and Klein.The *Green Strait-billed Humming-bird*, Bancroft.The *Crested Green Humming-bird*, Lath.

DUTERTRE and Feuillée have taken this bird for a *Colibri*; but it is one of the smallest of the Fly-birds, since it does not exceed the Ruby. Its crest resembles the most brilliant emerald; and this distinguishes it, for the rest of its plumage is dull. The back has green and gold reflexions, on a brown ground; the wing is brown; the tail blackish, and shining like polished steel; all the fore-side of the body is velvet brown, mixed with a little gold-green near the shoulders; the wing, when closed, does not exceed the tail. The under side of the bill is covered with little green brilliant feathers as far as the middle. Edwards has delineated the nest. Labat observes that the female has no crest.

[A] Specific character of the *Trochilus Cristatus*: "It is green, its wings brown, its belly brown cinerous, its crest bluish, its legs feathered."

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The RACKET FLY-BIRD,

L'Oiseau-Mouche a Raquettes, Buff.

EIGHTH SPECIES.

*Trochilus Longicaudus, Gmel.**Trochilus Platurus, Lath. Ind.**The Racket-tailed Humming-bird, Lath. Syn.*

Two naked shafts, extending from the two middle feathers of the tail, are terminated with little fans, which gives them the form of rackets. The ribs of all the quills of the tail are very thick, and of a rusty white; the rest is brown, like the wings. The upper side of the body is of a bronze green, which is the colour common to all the Fly-birds; the throat is of a rich emerald-green. The point of the bill is about thirty lines from the end of the true tail, the two shafts extend ten lines farther. This species is not well known, and seems very rare. We have described it from a specimen in Mauduit's cabinet. It is one of the smallest Fly-birds, and, exclusive of the tail, it exceeds not the Tufted-neck.

[A] Specific character of the *Trochilus Longicaudus*: "It is gold green, its throat emerald; its wings, and its tail-feathers, brown, the two shafts very long."

The PURPLE FLY-BIRD.

L'Oiseau-Mouche Pourpré, Buff.

NINTH SPECIES.

Trochilus Ruber, Linn. and Gmel.

Mellisuga Surinamensis, Briss.

Mellisuga Alis Fuscis, Klein.

The *Little Brown Humming-bird*, Edw. Banc. and Lath.

ALL the plumage of this bird is a mixture of orange, purple, and brown; and it is, perhaps, as Edwards observes, the only one of the genus that has not the gold-green on the back. Klein has therefore discriminated it imperfectly by the epithet of *brown-winged*; since brown, with more or less of violet and purple, is the general colour of the Fly-birds. The bill is ten lines, which is nearly one third of its length.

[A] Specific character of the *Trochilus Ruber*: "Its lateral tail feathers are violet; its body of a brown brick-colour, somewhat spotted."

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The GOLD CRAVAT.

TENTH SPECIES.

Trochilus Leucogaster, Gmel.

Mellisuga Cayanensis ventre albo, Briss.

Guainumbi prima species, Ray and Will.

The Larger Humming-bird, Sloane.

The Gold throated Humming-bird, Lath.

THIS seems to be the first species of Marcgrave; for it has a gold streak on the throat, which that author thus describes, "the fore-side of the body is white, mixed under the neck with some feathers of a shining colour." Brisson omits that circumstance in his eighth species, though it is formed upon the description of Marcgrave's first. Its length is three inches and five or six lines; all the under side of the body, except the gold streak on the fore side of the neck, is white-grey, and the upper side gold-green [B]. We shall reckon Brisson's ninth species* the female of this, there being no material difference between them.

[B] Specific character of the *Trochilus Leucogaster*: "It is gold-green, below white, its legs feathered."

* *Trochilus-Pegasus*, Gmel.

Mellisuga Cayanensis, ventre griseo, Briss.

The Grey-bellied Humming bird, Lath.

It is thus described by Brisson: "Above gold-green, varying with a pure copper colour; the feathers of the tail gold-green on their first-half, varying with a pure copper colour, and dark purple on their other half, the lateral ones tipped with grey; the feet feathered."

The S A P P H I R E.

Le Saphir, Buff.

ELEVENTH SPECIES.

*Trochilus Saphirinus, Gmel.**The Sapphire Humming-bird, Lath.*

IT is rather above the middle size; the fore-side of the neck and breast is of a rich sapphire-blue, with violet reflections; the throat is rufous; the upper and under sides of the body dull gold-green; the lower belly white; the inferior coverts of the tail rufous; the superior ones of a shining gold-brown; the quills of the tail are gold-rufous, edged with brown; those of the wings brown; the bill is white, except the point, which is black.

The EMERALD-SAPPHIRE, *Buff.*

TWELFTH SPECIES.

*Trochilus Bicolor, Gmel.**The Sapphire and Emerald Humming-bird, Lath.*

THE two rich colours which decorate this bird deservedly confer upon it the names of those precious stones. A sapphire blue covers the head and throat, and melts admirably
 § into

into the glazed emerald green, with gold reflexions that cover the breast, the stomach, the circle of the neck, and the back. The bird is middle sized; it comes from Guadeloupe, and, we believe, has not hitherto been described. We have seen another, brought from Guiana, of the same bulk; but it had not the sapphire throat, and the rest of its body was of a very brilliant glazed green. Both these are deposited with the first in the excellent cabinet of Mauduit. The last appears to be a variety, or at least a species nearly related to the first. In both, the lower belly is white; the wing is brown, and exceeds not the tail, which is cut equally and rounded: it is black, with blue reflexions; their bill is pretty long, its lower half whitish, and upper black.

[A] Specific character of the *Trochilus Bicolor*: "It is gold-emerald; its head and throat sky-blue."

The AMETHYST EMERALD.

THIRTEENTH SPECIES.

Trochilus-Ouviffia, Linn. and Gmel.

Mellisuga Surinamensis pectore cœruleo, Briss.

The *Green and Blue Humming-bird*, Edw. and Lath.

THIS Fly-bird is above the middle size; it is near four inches long, and its bill is eight lines. Its throat and the fore part of its neck are

are emerald green, brilliant and golden; its breast, its stomach, and the top of its back, are purple blue amethyst of the utmost beauty: the lower part of the back is gold-green, on a brown ground; the belly is white; the bill blackish; the tail velvet black, shining like polished steel. To the same species we may refer the *Green and Blue Humming-bird* of Edwards, and the *Blue-breasted Surinam Honey-sucker* of Brisson. It is figured rather larger in Edwards [B].

The CARBUNCLE.

L'Escaubeule, Buff.

FOURTEENTH SPECIES.

Trochilus Carbunculus, Gmel.

The *Carbuncle Humming-bird*, Lath.

A CARBUNCLE red, or deep ruby, is the colour of the throat and breast; the upper side of the head and neck is of a duller red; a velvet black envelopes the rest of the body; the wing is brown, and the tail of a deep gold-rufous. The bird is rather above the middle size; the bill, both above and below, is beset with feathers, through almost one half of its length.

[B] Specific character of the *Trochilus Ouriffia*: "It is golden-green, the feathers of its tail somewhat equal and gold-brown, the feathers of the wings black, its belly blue."

It

It was sent from Cayenne, and seems to be very rare. Mauduit, in whose possession it is, would refer it as a variety to the *Topaz-ruby*; but the difference between the topaz-yellow and the deep ruby on the throat of these two birds, seems too great to admit this classification. In all other respects, they are very similar.—The preceding species, except the thirteenth, are new, and not described by any naturalist [A].

The GOLD-GREEN, *Buff*.

FIFTEENTH SPECIES.

Trochilus Mellisugus, Linn. and Gmel.

Guainumbi Nona Species, Ray and Will.

Mellisuga Cayanensis, Briff.

The *Cayenne Humming-bird*, Lath.

THIS is the ninth species of Marcgrave; the whole body, says he, is of a brilliant green, with gold reflections; the upper mandible is black, the lower rufous; the wing is brown; the tail pretty broad, and shines like polished steel. The total length of the bird exceeds somewhat three inches. The under side of the body has not so much green as the back, and is

[A] Specific character of the *Trochilus-Carbunculus*: "It is black; its head, neck, and breast, red; its wings brown; its tail gold-rufous."

only

only marked with spots or waves of that colour. The female is rather smaller, as usual in this tribe of birds [A].

THE
SPOTTED-NECKED FLY-BIRD.

L'Oiseau-Mouche a Gorge Tachetée, Buff.

SIXTEENTH SPECIES.

Trochilus Fimbriatus, Gmel.

Mellisuga Cayanensis gutture nœvio, Briss.

The Spotted necked Humming-bird, Lath.

THIS species is much related to the preceding. It is larger, and, but for that difference, we should have assigned it the same place. Briffon says that it is four inches long, and its bill eleven lines. Its plumage is exactly like that of the preceding*.

[A] Specific character of the *Trochilus Mellisugus*: "It is gold-green; its tail-feathers equal and blue, its wing-feathers dark bluish; its legs feathered."

* Specific character: "It is gold-green, below gray; its tail steel coloured, tipped with gray; the feathers of its breast fringed with white."

The EMERALD RUBY, *Buff.*

SEVENTEENTH SPECIES.

Trochilus Rubineus, Lath. Ind.*Mellisuga Brasiliensis gutture rubro*, Briss.The *Ruby-throated Humming-bird*, Lath. Syn.

THIS is much larger than the Carolina Ruby, being four inches four lines in length; its throat is of a sparkling ruby, or, in certain positions, rose colour; its head, its neck, the anterior and upper parts of its body, emerald green, with gold reflections; the tail is rufous. It is found both in Brazil and in Guiana [A].

The EARED FLY-BIRD.

L'Oiseau-Mouche a Oreilles, Buff.

EIGHTEENTH SPECIES.

Trochilus Auritus, Gmel.*Mellisuga Cayanensis Major*, Briss.The *Violet-eared Humming-bird*, Lath.

WE apply the epithet *eared* to this Fly-bird, both on account of the remarkable colour of the two pencils of feathers, which

[A] Specific character of the *Trochilus Rubineus*: "It is gold-green, its throat gold-red, its wings and tail rufous."

extend

extend behind the ears, and on account of their great length, which is twice or thrice that of the small adjoining feathers that cover the neck. They seem only the production of what, in all birds, cover the *meatus auditorius*; they are soft, and their downy fibres not glued together. These are the remarks of Mauduit, and well agree with his ingenious observation, which we formerly had occasion to mention, viz. that all the feathers which appear superabundant, or, so to speak, parasite, in birds are not peculiarities of structure, but merely the extension and developement of parts common to all the others. The Eared Fly-bird is of the first magnitude, being four inches and a half long. Of the two pencils which distinguish the ears, and which consist each of five or six feathers, the one is emerald-green, and the other amethyst-violet; a streak of velvet black stretches under the eye; all the fore part of the head and body is of a bright gold-green, which changes on the coverts of the tail into a very lively bright green; the throat and under side of the body are of a fine white; of the tail quills, the six lateral ones are of the same white, the four mid-ones black, inclining to deep blue; the wing is blackish, and the tail projects beyond it nearly one-third of its length. In the female, the pencils and the black streak under the eye are less distinct; in other respects it resembles the male.

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The COLLARED FLY-BIRD,
Called the *Jacobine*.

NINETEENTH SPECIES.

Trochilus Mellivorus, Linn. Gmel. and Browlk.

Mellisuga Surinamensis Torquata, Briss.

The *White-bellied Humming-bird*, Edw. and Lath.

THIS Fly-bird is of the first magnitude ; it is four inches eight lines in length ; its bill ten lines ; its head, throat, and neck, of a fine obscure blue, glossed with green ; on the back of the neck, and near the back, is a white half collar ; the back is gold-green ; the tail white at the end, and edged with black ; its two middle quills, and their coverts, gold-green ; the breasts and sides the same ; the belly white. It is probable, on account of this distribution, it has been called *Jacobine*. The two middle feathers of the tail are shorter than the rest, and the wing, when closed, does not project beyond it. The species is found at Cayenne and Surinam.

[A] Specific character of the *Trochilus Mellivorus* : " Its tail-feathers are black, the lateral ones white ; the head blue ; the back green ; the belly white."

The BROAD-SHAFTED FLY-BIRD.

L'Oiseau-Mouche à Large Tuyaux, Buff.

TWENTIETH SPECIES.

Trochilus Campylopterus, Gmel.

Trochilus Latipennis, Lath. Ind.

The Broad-shafted Humming-bird, Lath. Syn.

THIS bird and the preceding are the two largest of the genus. The present is four inches eight lines long; all the upper side of the body is of a faint gold-green; the under side grey; the middle feathers of the tail are like those of the back; the lateral ones white at the tip, the rest of a brown, resembling polished steel. It is easily distinguished from the other Fly-birds by the protuberance of three or four great wing-quills, whose shafts appear swelled and dilated, bent near the middle, which gives the wing the shape of a broad sabre. This species is new and apparently rare, and has not hitherto been described. We saw the specimen in the cabinet of Mauduit, who received it from Cayenne.

[A] Specific character of the *Trochilus Campylopterus*: "It is gold-green; below grey; its lateral tail-feathers brown, tipped with white; the shafts of three or four of the middle feathers of the wings curved in the middle."

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The LONG-TAILED STEEL-COLOURED FLY-BIRD. *Buff.*

TWENTY-FIRST SPECIES.

Trochilus Macrourus, Gmel.

Trochilus Forcipatus, Lath. Ind.

Mellisuga Cayanensis cauda bifurca, Briff.

The *Cayenne fork-tailed Humming-bird*, Lath. Syn.

THE beautiful violet blue, which covers the head, throat, and neck, would seem to indicate an analogy to the sapphire, did not length of the tail exhibit too great a difference. The two exterior quills are two inches longer than the two mid-ones; the lateral ones continually diminish, which makes the tail very much forked. The bird is dark blue, glistening like burnished steel; all the body, both above and below, is of a shining gold-green; there is a white spot on the lower belly; the wings, when closed, reach only to the middle of the tail, which is three inches and three lines; the bill is eleven lines, and the total length is six inches. The entire resemblance between this description and that which Marcgrave gives of his third species, convinces us that they are the same, contrary to the opinion of Brisson, who makes it his twentieth species. But the third species of Marcgrave has a tail more than three inches long; whereas the twentieth Honey-

sucker of Brisson has it only *an inch and six lines*: and this is too wide a difference to occur in the same species. We shall consider the bird of Brisson in the following article [A].

The FORKED-TAIL VIOLET FLY-BIRD.

L'Oiseau-Manche Violet a Queue Fourchue, Buff.

TWENTY-SECOND SPECIES.

Trochilus Furcatus.

Mellisuga Jamacienfis Violacea cauda bifurca, Briss.

The *Lesser fork-tail Humming-bird*, Lath.

BESIDES the difference of size, which, as we have already remarked, obtains between this and the preceding species, there is also a difference of colours. The upper parts of the head and neck are brown, glossed with gold-green, whereas these glisten with blue in Marcgrave's third species. In the present, the back and breast are of a shining violet blue; in that of Marcgrave they are gold-green. The throat and the lower part of the back are brilliant gold-green; the small coverts below the wings

[A] Specific character of the *Trochilus Macrourus*: "It is gold-green, its head and throat violet, its belly marked with a white space, its tail forked and steel-coloured."

are

are of a fine violet, the great ones gold-green; their quills black: those of the tail the same; the two exterior ones are the longest, which makes it forked; it is only an inch and half long; the bird measures four inches.

The LONG-TAIL FLY-BIRD,
Of Gold, Green, and Blue. *Buff.*

TWENTY-THIRD SPECIES.

Trochilus Forficatus, Lath. Gmel. and Browlk.

Falcinellus vertice caudaque cyaneis, Klein.

Mellisuga Jamaicensis cauda bifurca, Briss.

The *Long-tailed Green Humming-bird*, Edw.

The *Fork-tailed Humming-bird*, Lath.

THE two exterior feathers of the tail of this Fly-bird are near twice as long as the body, and project above four inches. These feathers, and all those of the tail, of which the two middle ones are very short, and not exceeding eight lines, are wonderfully beautiful and mingled, says Edwards, with reflections of green and of gold blue; the body is green; the wing is purple brown.—This species occurs in Jamaica.

[A] Specific character of the *Trochilus Forficatus*: “It is green, the lateral feathers of the tail very long, its cap and its tail feathers blue.”

The BLACK LONG-TAILED FLY-BIRD. *Buff.*

TWENTY-FOURTH SPECIES.

Trochilus-Polytmus, Linn. and Gmel.

Falcinellus cauda septem unciarum, Klein.

Mellisuga Jamaicensis Atricapilla cauda bifurca, Briss.

The *Long-tailed Humming-bird*, Albin.

The *Long-tailed Black-cap Humming-bird*, Edw. & Ban.

The *Black-capped Humming bird*, Lath.

THIS Fly-bird has a longer tail than any of the rest; the two great feathers are four times as long as the body, which is scarcely two inches; these are also the two outermost; their webs consist of parted downy fibres, and they are black like the crown of the head; the back is gold brown-green; the fore-side of the body green; the wings purple-brown. Albin's figure is a very bad one, and he was much mistaken in supposing this to be the smallest species in the genus; though he says, that he found it in Jamaica in its nest, which consisted of cotton [A].

We find in the Essay on the Natural History of Guiana, mention of a little Humming-bird

[A] Specific character of the *Trochilus Polytmus*: "It is greenish, the lateral feathers of its tail very long, its cap and tail feathers brown."

wit.

with a blue crest. We are unacquainted with it; and the account of it, and indeed of two or three others, is insufficient to ascertain their species. We may, however, be convinced that the genus of these handsome birds is still richer and more multiplied in nature than we have delineated it.

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The COLIBRI*.

WHEN nature bestowed beauty so lavishly on the fly-birds, she neglected not their kindred tribe, the Colibris. Both inhabiting the same climate, fashioned after the same model, and decorated by the same brilliancy of plumage: the same vivacity, the same perpetual flutter of action, and the same habits and economy. As their resemblance is so entire, they have often been confounded under the same name: that of *Colibri* is adopted from the language of the Caribbees. Marcgrave applies to both indifferently the Brazilian appellation, *Guainumbi*. But they are distinguished by an obvious and permanent character: in the Colibris the bill is equal and taper, inflated slightly near the end, and not straight, as in the fly-birds, but curved throughout, and longer also in proportion. Further, the neat and slender form of the Colibris seems to be more lengthened than that of the fly-birds; and they are in general larger: yet there are some little Colibris smaller than the great fly-birds. The

* In the Brazilian language, the Fly-bird and the Colibri have the common name of *Guainumbi*: in Guiana, the Colibri is called in the dialect of Garipana *Toukouki*: and, according to Seba, certain tribes of Indians term it *Ronckjes*.

Colibris



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COLIBRIS, OF THE NATURAL SIZE.

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Colibris should be ranged below the creepers, though they differ in the shape and length of their bill; in the number of the feathers of their tail, there being ten in the former and twelve in the latter; and in the structure of their tongue, which is simple in the latter, but in the former divided into two semi-cylindrical portions, as in the fly-bird.

All naturalists agree that the Colibris and fly-birds have the same manner of living. It has, indeed, been denied that either of these tribes feed on the honey of flowers*. But the reasons already adduced convince us that this assertion is unfounded; and the general resemblance of these birds corroborates the evidence that their mode of subsisting is the same.

It is no less difficult to breed the young of the Colibri than those of the fly-bird; they are as delicate, and confinement proves equally fatal to them. The parents have been seen, hurried on by the audacity of affection, to rush with food for their progeny into the very hands of the plunderer. Labat relates an instance of this, which deserves to be quoted. "I showed," says he, "to Father Montdidier a nest of Colibris, which was placed on a shed near the house. He carried it off with the young, when they were about fifteen or twenty days old, and put them in a cage at his room window, where

* *Journal de Physique, Janvier 1778.*

the cock and hen continued to feed them, and grew so tame, that they scarcely ever left the room; and though not shut in the cage, nor subjected to any restraint, they used to eat and sleep with their brood. I have often seen all the four sitting upon Father Montdidier's finger, singing, as if they had been perched upon a branch. He fed them with a very fine and almost limpid paste, made with biscuit, Spanish wine, and sugar. They dipt their tongue in it, and when their appetite was satisfied they fluttered and chanted . . . I never saw any thing more lovely than those four pretty little birds, which flew about the house, and attended the call of their foster-father*."

Marcgrave, who does not discriminate the Colibris from the fly-birds, mentions them as having only a feeble cry, and no travellers ascribe song to them. Thevet and Lery alone assert of their *gonambouch* that it chants so as to rival the nightingale †; for it is from them that

* " He preserved them in this way five or six months, and we hoped soon to see them breed, when Father Montdidier, having one night forgotten to tie the cage in which they roosted by a cord that hung from the ceiling, to keep them from the rats, had the vexation in the morning to find that they were disappeared; they had been devoured." Labat, *Nouveau Voyage aux Isles de l'Amérique*. Paris, 1722, t. IV. p. 14.

† " But, as a singular curiosity, and as a master-piece of littleness, we must not omit a bird which the savages call *gonambouch*, of a whitish and shining plumage, which, though not larger than a hornet, excels in song; insomuch that this diminutive creature,

scarce

that *Coreal* and some others have repeated the same. But it is most likely a mistake; the gonambouch, or little bird of Levy, which has a *whitish shining plumage, and a clear distinct voice*, is the *sugar bird*, or some other, and not the Colibri, whose notes form, according to Labat, only a sort of pleasant hum.

It does not appear that the Colibris advance so far into North America as the fly-birds; at least, Catesby says that he saw only one species of these in Carolina. And Charlevoix, who pretends that he found a fly-bird in Canada, confesses that he never saw there a Colibri*. Yet it is not the cold that prevents it from visiting that province in the summer, since it seeks a cool temperature at a considerable height among the Andes. M. de la Condamine never saw Colibris more numerous than in the gardens of Quito †, where the climate is not hot. They prefer, therefore, a warmth of twenty or twenty-one degrees ‡: there, in a perpetual round of pleasures and joys, they fly from the

scarce stirring from the great millet, which the Americans name *avati*, or other great plants, has its bill and throat always open. If one did not repeatedly see and hear, he would hardly be persuaded that from so slender a body could proceed notes so clear, so liquid, and so loud, as not to yield to those of the nightingale." *Voyage au Bresil, par Jean de Lery*. Paris, 1578, p. 175. The same fact is mentioned by Thevet. *Singularités de la France Antarctique*. Paris, 1558. p. 94.

* Hist. de Saint Domingue. Paris, 1730, t. I. p. 32.

† Voy. de la Condamine. Paris, 1745, p. 171.

‡ i. e. 77° or 79° of Fahrenheit.

expanded

expanded blossom to the opening bud, and where the harmonious year for ever invites them, by its enchanting mildness, to love and fruition.

The TOPAZ COLIBRI, *Buff.*

FIRST SPECIES,

Trochilus Pella, Linn. and Gmel.

Polytmus Surinamensis Longicaudus Ruber, Briss.

Falcinellus gutture viridi, Klein.

The *Long-tailed Red Humming-bird*, Edw.

The *Topaz Humming-bird*, Lath.

As smallness was the most striking character of the fly-birds, we began with the smallest: but that property, not being so conspicuous in the Colibris, we shall resume the natural order of magnitude. The Topaz appears, exclusive of the two long shafts that extend from its tail, to be the largest of the genus; we should also call it the most beautiful, did not all these brilliant birds rival each other, and bewilder the imagination amid the blaze of their charms. Its form is delicate, slender, elegant, and rather smaller than the common creeper, its total length, from the point of the bill to the end of the true tail, being near six inches; the two long shafts project two inches and a half beyond it; the throat, and the fore side of the neck,

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neck, decorated by the most brilliant topaz mark; that colour viewed obliquely changes into gold-green, and from below it appears pure green; a hood of soft black covers the head, a thread of the same black incloses the topaz mark; the breast, the neck, the top of the back, are of a finer deep purple; the belly is of a still richer purple, and dazzling with red and gold reflections; the shoulders and the lower part of the back, are orange rufous; the great quills of the wing, violet-brown; the little quills, rufous; the colour of the superior and inferior coverts of the tail, gold-green; the lateral quills rufous, the two middle ones, purple brown; these project into two long shafts, which are webbed with a small edging a line broad on each side; these long shafts, in their natural position, cross each other a little beyond the tail, and then diverge; they drop in moulting, and the male to which they belong would then resemble the female, were he not discriminated by other characters. The female has not the topaz breast, but only a slight trace of red; and in place of the fine purple and flame rufous of the male's plumage, almost all that of the female is gold-green: in both the feet are white.

[A] Specific character of the *Trochilus Pella*: "It is red, its middle tail-feathers very long, its head brown, its throat golden, and its rump green."

The GARNET.

Le Grenat, Buff.

SECOND SPECIES.

Trochilus Auratus var, Gmel.

THE cheeks as far as under the eye, the sides and lower part of the neck and throat to the breast, are of a fine brilliant garnet; the upper side of the head and back, and the under side of the body, are of a soft black; the tail and wings of the same colour; but ornamented with gold-green. The bird is five inches long, and the bill ten or twelve lines.

The WHITE SHAFT.

Le Brin Blanc, Buff.

THIRD SPECIES.

Trochilus Superciliifus, Linn. and Gmel.

Polytmus Cayanensis Longicaudus, Briss.

The Supercilious Humming-bird, Lath.

OF all the Colibris, this has the longest bill, which is twenty lines; the feathers of the tail, next the two long shafts, are also the longest, and the lateral ones continually decrease, to the two outermost, which are the shortest,

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shortest, and this gives the tail a pyramidal shape; its quills have a gold gloss on a grey and blackish ground, with a whitish edge at the point, and the two shafts are white through the whole projecting portions; all the upper side of the back and head, gold colour; the wing violet-brown; and the under side of the body white-gray [A].

THE
ZITZIL, or DOTTED COLIBRI.

Le Zitzil, ou Colibri Piqueté, Buff.

FOURTH SPECIES.

Trochilus Punctulatus, Gmel.

Polytmus Punctulatus, Briss.

Hoitzitziltotol, Fernandez.

The Spotted Humming-bird, Lath.

ZITZIL is contracted for *Hoitzitzil*, which is the Mexican name of this bird. It is pretty large; its wings blackish, marked with white points on the shoulders and back; the tail is brown, and white at the tip. This is all we can gather from an ill-written description of Hernandez' editor*. He subjoins that he got his information from one Father Aloyfa; and

[A] Specific character of the *Trochilus Superciliifus*: "It is glossy brown; its middle tail-feathers very long; its belly somewhat flesh-coloured; its eye-brows white."

* *Jo. Fab. Lincus.*

that the Peruvians call the same bird *pilleó*; and that living upon the juice of flowers, it prefers that of the thorny tribes*.

The BLUE SHAFT.

Le Brin Blue, Buff.

FIFTH SPECIES.

Trochilus Cyanurus, Gmel.

Polytmus Mexicanus Longicaudus, Briff.

Tayaquiritotol, Seba and Klein.

The *Blue-tailed Humming-bird*, Lath.

ACCORDING to Seba, whom Klein and Brisson have followed in reckoning this a species of Colibri, the two long projections of feathers which decorate its tail are of a fine blue; the same colour, only deeper, covers the stomach and fore part of the head; the upper side of the body and of the wings is light green; the belly cinereous. It is one of the largest Colibris, and almost equal to the epicurean warbler. Seba's figure represents it as a creeper, and that author seems to have never observed the three

* In another part of his work, Hernandez gives the names of several species of fly-birds and colibris, without characterizing any: these names are, *Quetzal Hoitzitzillin*, *Zochio Hoitzitzillin*, *Xiulki Hoitzitzillin*, *Tozcacoz Hoitzitzillin*, *Yotac Hoitzitzillin*, *Témoc Hoitzitzillin*; whence it appears that *Hoitzitzillin* is the generic name.

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shades in the form of the bill which discriminate these three tribes, the fly-birds, the colibris, and the creepers. Nor is he more fortunate in displaying his erudition; he applies to this Colibri the Mexican name *yayauhquitototl*, which, in Fernandez, denotes a bird of the size of a stare. But such errors are trifling in comparison of those into which naturalists are led by the collectors of curiosities, who value nothing but the glitter of their cabinets. To find an instance we need not step aside: Seba mentions Colibris from the Moluccas, from Macassar, and from Bali, not knowing that this tribe of birds is peculiar to the new world. Brisson copies the mistake, and describes three species of *Colibris from the East Indies*. These are undoubtedly creepers, the brilliancy of whose colours, and the names *tsioei* and *kakopit*, which Seba translates *little kings of flowers*, have suggested the Colibri. No traveller acquainted with natural history has found Colibris in the old continent; and what Francis Cauche says of the subject, is too obscure to merit attention*.

* In his account of Madagascar, *Paris, 1651, p. 137*, borrowing the name and the habits of the Colibri, he ascribes them to a little bird of this island. It is probably by a similar abuse of names, that *fly-bird* occurs in the voyages of the Company, applied to a bird of the Coromandel coast, which is indeed very small, and is elsewhere called *sati*. *Recueil de Voyages qui ont servi à l'établissement de la Compagnie des Indes. Amsterdam, 1702, t. VI. p. 513.*

[A] Specific character of the *Trochilus Cyanurus*: "It is green, below cinereous; its front, its throat, and the two middle feathers of the tail longer than the rest, and blue."

The GREEN and BLACK COLIBRI.

SIXTH SPECIES.

Trochilus Holofericeus, Linn. Gmel. and Borowk.

Polytmus Mexicanus, Briss.

Avis Auricoma Mexicana, Klein.

The *Black-bellied Humming-bird*, Edw. Bancr. and Lath.

IT is rather more than four inches long; its bill thirteen lines; its head, neck, and back, are gold colour and bronze; the breast, the belly, the sides of the body, and the legs, are shining black, with a light reddish reflection; a little white bar crosses the lower belly, and another of gold-green, glistening with lively blue, intersects transversely the top of the breast; the tail is velvet black, with the blue gloss of polished steel. It is said that the female may be distinguished in this species by the want of the white spot on the lower belly. The bird is found both in Mexico and in Guiana. Brisson refers to this species the *Avis auricoma Mexicana* of Seba, which is indeed a Colibri; but his description is so vague and indefinite, as to apply equally to them all.

[A] Specific character of the *Trochilus Holofericus*: "It is green; the quills of its tail equal, and black above; a blue bar on the breast; its belly black."

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The TUFTED COLIBRI, *Buff.*

SEVENTH SPECIES.

Trochilus Paradiseus, Linn. Gmel. and Borowsk.*Polytmus Mexicanus Longicaudus ruber cristatus*, Briff.The *Paradise Humming-bird*, Lath.

BRISSON finds this also in Seba's catalogue. I am generally averse to form species on the indications, so often defective, of that compiler; but the characters of the present seem sufficiently distinct to be adopted. "This little bird," says Seba, "has a fine red plumage, blue wings; two long feathers project from the tail; and on its head there is a tuft which is very long in proportion to its thickness, and falls back on the neck; the bill is long and curved, including a small *bifid* tongue, which serves to suck the flowers."

Briffon measuring Seba's figure, which is not of much account, found near five inches six lines to the end of the tail.

[A] Specific character of the *Trochilus Paradiseus*: "It is red, its wings blue, its head crested; its middle tail-feathers very long."

THE
VIOLET-TAILED COLIBRI, *Buff.*

EIGHTH SPECIES.

Trochilus Albus, Gmel.*Trochilus Nitidus*, Lath. Ind.The *Violet-tailed Humming-bird*, Lath. Syn.

THE bright pure violet which paints the tail of this Colibri, discriminates it from the rest; the four middle feathers of the tail are of a violet colour, melted under brilliant reflections of gold-green; the six outer ones, viewed from below, present a white point, with a violet spot that surrounds a space of dark blue like burnished steel; all the under-side of the body is richly gilded in the front view, and when held obliquely it appears green; the wing, as in all these birds, is brown, verging on violet; the sides of the throat are white, and, in the middle, there is a longitudinal streak of brown, mixed with green; the sides are coloured with the same; the breast and belly are white. This species is pretty large, it being five inches; and has one of the longest bills, which is sixteen lines.

[A] Specific character of the *Trochilus Albus*: "It is gold-green; its under surface, the sides of the neck, and the tips of the six outer tail feathers, white; its tail violet."

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THE
GREEN-THROATED COLIBRI, *Buff.*

NINTH SPECIES.

Trochilus Maculatus, Gmel.*Trochilus Gularis*, Lath. Ind.The *Green-throated Humming-bird*, Lath. Syn.

A STREAK of very bright emerald-green is traced on the throat of this Colibri, which falls, spreading on the fore-side of the neck; there is a black spot on the breast; the sides of the throat and neck are rufous, mixed with white; the belly is pure white; the upper side of the body, and of the tail, dull gold-green; below the tail, are the same violet, white and burnished steel spots, as in the *Violet-tailed Colibri*. These two species appear analogous, and they are of the same size, but the bill of the Green-throated Colibri is not so long. We saw in Mauduit's cabinet a Colibri of the same dimensions, with the upper side of the body faintly tinged with green and gold on a blackish grey ground, and all the fore-part of the body rufous, which seems to us the female.

THE
 CARMINE-THROATED COLIBRI,
Buff.

TENTH SPECIES.

Trochilus Jugularis, Linn. and Gmel.

The *Red-breasted Humming-bird*, Edw. and Lath.

IT is four inches and a half in length ; its bill thirteen lines, much curved, and therefore analogous to that of the creepers, as Edwards remarks; the throat, the cheeks, and all the fore-part of the neck, carmine red, with a ruby-lustre; the upper side of the head, body, and tail, of a soft blackish brown, with a slight fringe of blue on the edge of the feathers; a deep gold-green shines on the wings; the inferior and superior coverts of the tail are of a fine blue. This bird was brought from Surinam into England.

[A] Specific character of the *Trochilus Jugularis*: " It is bluish, its tail feathers equal, its neck below blood-coloured."

The VIOLET COLIBRI, *Buff.*

ELEVENTH SPECIES.

Trochilus Violaceus, Gmel.*Polytmus Cayanensis Violaceus*, Briff.The *Violet Humming-bird*, Lath.

IT is four inches and two lines in length; its bill eleven lines; the whole head, neck, and belly, covered with purple violet, which is brilliant on the throat and on the fore-side of the neck, and diluted on all the rest of the body with a mixture of velvet black; the wing is gold green; the tail the same, with a changing reflection of black. It is found in Cayenne; its colours resemble those of the *garnet* Colibri; but the difference of size is too great to admit of their being classed together.

[A] Specific character of the *Trochilus Violaceus*: "It is violet, its wings and tail gold-green."

The GREEN GORGET.

Le Hauffe-Col Vert, Buff.

TWELFTH SPECIES.

*Trochilus Gramineus, Gmel.**The Black-breasted Humming-bird, Lath.*

IT is rather larger than the Violet-tailed Colibri, but its bill is not so long; all the forepart and sides of the neck, with the lower part of the throat, emerald green; the top of the throat, or the small portion beneath the bill, of a bronze colour; the breast velvet black, tinged with dull blue; green and gold appear on the flanks, and cover all the upper side of the body; the belly white; the tail purple blue, with the reflection of burnished steel, and exceeds not the wing. We conceive the female to be another Colibri of the same size and distribution of colours, except that the green, on the forepart of the neck, is intersected by two white streaks, and that the black, on the throat, is neither so broad nor so deep. These two birds are in the admirable series of Colibris and Fly-birds in Dr. Mauduit's cabinet.

[A] Specific character of the *Trochilus Gramineus*: "It is gold-green, below white; its throat emerald; its breast black; its tail purple."

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The RED COLLAR, *Buff.*

THIRTEENTH SPECIES.

Trochilus Leucurus, Linn. and Gmel.*Polymus Surinamensis*, Briss.The *White-tailed Humming bird*, Lath.

THIS is of the middle size, being four inches and five or six lines in length; on the lower and fore-part of the neck, there is a handsome red half collar, of considerable breadth; the back, the neck, the head, the throat, and the breast, are of a bronze and gold green; the two middle feathers of the tail are of the same colour; the eight others are white, and this is the character by which Edwards discriminates the bird.

[A] Specific character of the *Trochilus Leucurus*: "It is gold-green, its tail feathers equal, its collar red."

The BLACK PLASTRON.

FOURTEENTH SPECIES.

Trochilus Mango, Linn. and Gmel.

Guainumbi minor, rostro nigro, Ray and Will.

Polytmus Jamaicensis, Briss.

The *Mango Humming-bird*, Lath.

THE throat, the fore-side of the neck, the breast, and the belly of this Colibri, are of the most beautiful velvet black; a streak of brilliant blue rises from the corners of the bill, and, descending over the sides of the neck, separates the black plastron, or breast-piece, from the rich gold-green, with which all the under surface of the body is covered; the tail is of a purple brown, glossed with shining violet, and each quill is edged with the blue of burnished steel. These colours resemble those of Margrave's fifth species, only the bird is rather smaller; it is four inches long; the bill one inch; the tail eighteen lines. It is found equally in Brazil, in St. Domingo, and in Jamaica.

[A] Specific character of the *Trochilus Mango*: "It is glossy green; its tail-feathers somewhat equal and ferruginous; its belly black."

The WHITE PLASTRON.

FIFTEENTH SPECIES.

Trochilus Margaritaceus, Gmel.

The Grey-necked Humming-bird, Lath.

ALL the under side of the body, from the throat to the lower belly, is white pearl gray; the upper side of the body is gold-green; the tail is white at the tip, then crossed by a bar of black burnished steel, and after that by one of purple brown; and it is black with a blue steel cast at its origin. It is four inches long, and its bill an inch.

The BLUE COLIBRI, *Buff.*

SIXTEENTH SPECIES.

Trochilus Venustissimus, Gmel.*Trochilus Cyaneus*, Lath. Ind.*Polytmus Mexicanus Cyaneus*, Briff.

The Crimson-headed Blue Humming-bird, Lath. Syn.

IT is strange that Briffon, who never saw this bird, should follow the vague, inaccurate account of Seba, instead of the description of Dutertre. The wings and tail are not blue, as Briffon represents, but black, as Father Dutertre mentions, and indeed according to the analogy

logy of all the birds of this tribe. The whole of the back is azure; the head, the throat, and the fore-part of the body, as far as the middle of the belly, are velvet crimson, which, if held in different positions, is enriched with a thousand beautiful reflections. Dutertre only adds, that it is about *half the size of the little crowned wren*. The figure of Seba, which Brisson seems to take, represents a creeper [A].

The PEARL GREEN.

SEVENTEENTH SPECIES.

Trochilus Dominicus, Linn. and Gmel.

Polymus Dominicanus, Briss.

The *St. Domingo Humming-bird*, Lath.

THIS is one of the smallest of the tribe, and hardly exceeds the crested fly-bird; all the upper side of the head, body, and tail, are of a faint gold-green, which is intermixed, on the sides of the neck, and more and more on the throat, with pearl white-gray; the wing is brown, as in the rest, and tinged with violet; the tail is white at the end, and of the colour of polished steel below [B].

[A] Specific character of the *Trochilus Venustissimus*: "It is red; its back blue; its wings black."

[B] Specific character of the *Trochilus Dominicus*: "It is shining green, below somewhat cinereous; its tail-feathers ferruginous in the middle, and white at the tips."

The RUSTY BELLIED COLIBRI.

RIGHTTEENTH SPECIES.

Trochilus Hirsutus, Gmel.

Polymus Brasiliensis, Briss.

Guainumbi minor, rostro incurvo, Ray and Will.

The *Rufous-bellied Humming-bird*, Lath.

THIS is the fourth species of Marcgrave, and must be very small, since he says that it is inferior to the third, which he had formerly stated as the least. All the upper side of the body is gold-green; all the under side rusty blue; the tail is black, with green reflections, and the point is white; the lower mandible is yellow at its origin, and black to the extremity; the feet are yellowish white.

The LITTLE COLIBRI, *Buff.*

NINETEENTH SPECIES.

Trochilus-Thaumantias, Linn. and Gmel.

Guainumbi minor toto corpore aureo, Ray and Will.

Polymus, Briffon.

Mellisuga Ronckje diBa, Klein.

Avicula Americana Colubritis, Seba.

The *Admirable Humming-bird*, Lath.

THIS is the last and smallest of all the Colibris; it is only two inches and six lines

lines in length; its bill eleven lines, and its tail twelve or thirteen; it is entirely gold-green, except the wing, which is violet or brown: there is a small white spot on the lower belly, and a small border of the same colour on the feathers of the tail, broader on the two outer ones, which it half covers. Marcgrave again stops to admire the brilliant plumage with which nature has decked these charming birds. The little Colibri in particular, he observes, dazzles like the sun*.

* *In summâ splendet ut sol.*

[A] Specific character of the *Trochilus Thaumantias*: "It is shining green; its tail-feathers equal and fringed with white, the outermost white exteriorly."

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The P A R R O T*.

Le Parroquet, Buff.

THE animals which man has the most admired, are those that seem to participate of his nature. He is struck with wonder as often as he traces his external form in the ape, or hears his voice imitated by the Parrot; and, in first moments of his surprize, he is disposed to rank them above the rest of the brutes. These animals have fixed even the stupid attention of savages, who behold the magnificent scene of nature and her exquisite productions with the most perfect insensibility: they stop the progress of their canoes, and linger gazing whole hours at the capers of the marmoset. Parrots are the only birds which they are fond of raising and educating, and which they are even at pains to improve; for they have discovered the art, which is still unknown to us, of vary-

* In Greek *ψιττακον*; in modern Greek *Παπαγας*; in Latin *Psittacus*. In German the Parrot is called *Pappengey*, the Parakeet *Sittick*, or *Sickust*: in Spanish the Parrot is named *Popagio*; in Italian *Papagallo*, and the Parakeet *Perochetto*: in Polish *Papuga*: in Turkish *Dudi*: In Mexican *Tuznene*: in Brazilian *Ajuru*, and the Parakeet *Tui*. In old French *Papogaut*. According to Aldrovandus, most of these names are derived from *Papa*, and denote the *shape of the birds*.

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ing and heightening the colours that deck the plumage*.

The power of using the hand, and of walking on two feet, the resemblance, how faint soever, to the face, the want of a tail, the naked hams; the similarity of the sexual parts, the position of the breasts, and the menstrual flux in the females; the ardent passion of the males for women: all these circumstances have procured to the ape the name of *wild man* from those who themselves are indeed only half-men, and who can compare only the exterior characters. Had what was equally possible taken place, had the voice of the Parrot been bestowed on the ape; the human race would have been struck dumb with astonishment, and the philosopher could hardly have been able to demonstrate that the ape was still a brute. It is fortunate, therefore, that nature has separated the faculties of imitating our speech and our gestures, and shared them between two very different species; and while she has conferred on all animals the same senses, and on some the same members and organs, with man, she has reserved for him alone the power of improving

* Those Parrots to which the savages give artificial colours are termed *tapirés*. This is effected, it is said, by means of the blood of a frog, which they drop into the small wounds made in young Parrots by plucking their feathers: those which sprout again change their green or yellow tints into orange, rose colour, or variegated hues, according to the medicaments employed.

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them; that noble mark of our pre-eminence, which constitutes our empire over the animated world.

There are two kinds of improvement; the one barren, and confined to the individual; the other prolific, and extending through the species, and cultivated in proportion as it is encouraged by the institutions of the society. Among brutes, the experience of one race is never transmitted to the succeeding; their acquisitions are merely individual; they are the same now that they ever were—ever will be. But man is progressive; he receives the instructions of past ages, he reaps the benefit of the discoveries of others, and, by a proper use of his time, he may continually advance in knowledge. And who can, without regret and indignation, view that long gloomy night of ignorance and barbarism, which overspread Europe, and which not only arrested our improvement, but thrust us back from that elevation which we had attained? But for these unfortunate vicissitudes, the human species would invariably approach towards the point of perfection.

The mere savage, who shuns all society, and receives only an individual education, cannot improve his species, and will not differ, even in understanding, from those animals on which he has bestowed his name. Nor will he acquire even speech, if the family be dispersed, and the children

children abandoned soon after birth. The first rudiments of the social disposition are therefore unfolded by the tender attachment and the watchful solicitude of the mother; the helpless state of the infant requires constant and assiduous attention; its claimant cries are answered by soothing expressions, which begins the formation of language, and, during the space of two or three years, this grows in some degree fixed and regular. But, in other animals, the growth is much more rapid; the parental endearments last only six weeks or two months; and the impressions are slight and transitory; and, after separation, they entirely cease. It is not, therefore, to the peculiar structure of our organs that we are indebted for the attainment of speech; the Parrots can articulate the same sounds, but their language is mere prattle, and void of signification.

The power of imitating our discourse or our actions, confers no real superiority on an animal. It never incites to the cultivation of talents; it never tends to the improvement of the species. The articulation of the Parrot implies only the close analogy of its organs of hearing and of voice to those in man; and that similarity of structure obtains, though in a less degree, in many other birds, whose tongue is thick, round, and nearly of the same form. The stares, the blackbirds, the jays, the jack-daws, &c. can imitate words. Those whose tongue is forked
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(and almost all the small birds may be ranged in that class), whistle more easily than they prattle; and if, with this structure, they have also sensibility of ear, and can accurately retain the impressions made on that organ, they will learn to repeat airs: the canary, the linnet, the fiskin, and the bulfinch, seem natural musicians. The Parrot imitates every sort of noise, the mewling of cats, the barking of dogs, and the notes of other birds, as well as the human voice; yet it can only scream or pronounce very short phrases: and, though capable of even articulating sounds, it is unable to modulate these, or support them by intermingling gentle cadences. It has therefore less acuteness of perception, less memory, and less flexibility of organs.

There are also two different kinds of imitation; the one is acquired from reflection; the other is innate and mechanical: the latter proceeds from the common instinct diffused through a whole species, which prompts or constrains each individual to perform similar actions; and the more stupid the animal, the more entire will be this influence, and the closer will be the resemblance. A sheep has invariably the same habits with every other sheep; the first cell of a bee is precisely like the last. The knowledge of the individual is equal to that of the species;—such is the distinction between reason and instinct. The other kind of imita-

tion, which should be regarded as artificial, is the acquisition of the individual, and cannot be communicated. The most accomplished Parrot will never transmit his talent of prattling to his offspring. When an animal is instructed by man, the improvement rests with it alone. This imitation depends as well as the former on the peculiar structure; but it also implies sensibility, attention, and memory; and those species which are susceptible of education, rank high in the order of organized beings. If the animal be easily trained, and each individual receive a certain degree of instruction, as in the case of the dogs, the whole species will acquire superiority under the direction of man; but when abandoned to nature, the dog will relapse into the wolf or the fox, and would never of itself emerge from that state.

All animals may therefore be improved by associating with man; but they cannot be instructed to improve each other; for they never can communicate the ideas and knowledge which they have acquired. Even birds whose shape and proportions are so different from those of quadrupeds, are susceptible of the same degrees of education. The *agamis* can be trained to perform nearly all the actions of the dogs; a canary, properly bred, shews its attachment by caresses that are equally animated, and more innocent and more sincere than those of the cat. There are many instances

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stances of the wonderful effects of education on the rapacious birds *, which seem the most savage and the most averse to bend to instruction.

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* "In 1763," says M. Fontaine, "a buzzard was brought to me that had been taken in a snare: it was at first extremely savage and even cruel. I undertook to tame it, and I succeeded by leaving it to fast, and constraining it to come and eat out of my hand. By pursuing this plan, I brought it to be very familiar; and after having shut it up about six weeks, I began to allow it a little liberty, taking the precaution, however, to tie both pinions of its wings. In this condition it walked out into my garden, and returned when I called it to feed. After some time, when I judged that I could trust to its fidelity, I removed the ligatures, and fastened a small bell, an inch and a half in diameter, above its talon, and also attached on the breast a bit of copper having my name engraved. I then gave it entire liberty, which it soon abused; for it took wing, and flew as far as the forest of Belesme. I gave it up for lost; but four hours after I saw it rush into my hall, which was open, pursued by five other buzzards, which had constrained it to seek its asylum After this adventure it ever preserved its fidelity to me, coming every night to sleep on my window; it grew so familiar with me, as to seem to take singular pleasure in my company. It attended constantly at dinner, sat on a corner of the table, and very often caressed me with its head and bill, emitting a weak sharp cry, which however it sometimes softened. It is true that I alone had this privilege. It one day followed me, when I was on horseback, more than two leagues, sailing above my head It had an aversion both to dogs and cats, nor was it in the least afraid of them; it had often tough battles with them, and always came off victorious. I had four very strong cats, which I collected into my garden beside my buzzard; I threw to them a bit of raw flesh, the nimblest cat seized it, the rest pursued; but the bird darted upon her body, bit her ears with his bill, and squeezed her sides with his talons, with such force that the cat was obliged to relinquish her prize. Often another cat snatched it the instant it dropt, but she suffered the same treatment, till the buzzard got entire possession of the plunder. He was so dexterous in his defence, that when he perceived himself as-

In Asia, the pigeon is taught to carry letters between places an hundred leagues distant : and the art of falconry proves that, by directing the instinct of birds, they may be as much improved as the other animals. On the whole, it appears that if man bestowed equal time and attention upon any animal as upon a child, it would acquire a mechanical imitation of the same actions ; the effects only would differ. In the

failed at once by the four cats, he took wing, and uttered a cry of exultation. At last, the cats, chagrined at their repeated disappointment, would no longer contend.

“ This buzzard had a singular antipathy ; he would not suffer a red cap on the head of any peasant, and so alert he was in whipping it off, that they found their head bare without knowing what was become of their cap. He also snatched wigs without doing any injury, and he carried these caps and wigs to the tallest tree in a neighbouring park, which was the ordinary deposit of his booty He would suffer no other bird of prey to enter his domain ; he attacked them very boldly, and put them to flight. He did no mischief in my court-yard, and the poultry, which at first dreaded him, grew insensibly reconciled to him. The chickens and ducklings received not the least harsh usage, and yet he bathed among the latter. But what is singular, he was not gentle to my neighbours’ poultry ; and I was often obliged to publish that I would pay for the damages which he might occasion. However, he was often fired at, and he received fifteen musket-shots, without suffering any fracture. But once early in the morning, hovering over the skirts of a forest, he dared to attack a fox ; and the keeper seeing him on the shoulders of the fox, fired two shots at him ; the fox was killed and the buzzard had his wing broken ; yet notwithstanding this fracture he escaped from the keeper, and was lost seven days. This man having discovered, from the noise of the bell, that he was my bird, came next morning to inform me ; I sent to make a search near the spot ; but the bird could not be found, nor did it return till seven days after. I had been used to call

the one case, reason extends and diffuses the attainments; in the other, they continue stationary, and perish with the possessor.

But that education which seems to unfold the faculties, and meliorate the dispositions of quadrupeds or birds, renders them odious to the rest of their species. When a buzzard, for instance, a magpie, or a jay, escapes to the woods, its savage kindred flock around it to gaze at the novelty. Their wonder is soon converted into rage; and they furiously attack and drive off the intruder: nor is it admitted into their society till it relinquishes its artificial habits, and adopts the manners of the tribe.

Birds are destined by nature to enjoy the completest independence, and exult in the most unbounded freedom. Other animals are condemned to crawl on the surface; these soar aloft

call him every evening with a whistle, which he answered not for six days; but, on the seventh, I heard a feeble cry at a distance, which I judged to be that of my buzzard: I repeated the whistle a second time, and I heard the same cry. I went to the part whence the sound came, and, at last, found my poor buzzard with his wing broken, which had travelled more than half a league on foot to regain his asylum, from which he was then distant about 120 paces. Though he was extremely reduced, he gave me many caresses. It took near six weeks till he was recruited, and his wounds healed; after which he began to fly as before, and follow his old habits for about a year: he then disappeared for ever. I am convinced that he was killed by accident; and that he would not have forsaken me from choice."

Letter of M. Fontaine, Curé de Saint-Pierre de Belesme, to M. le Comte de Buffon, bearing date 28 January, 1778.

in the air. No obstacle can oppose their progress; no spot can fix their residence: the sky is their country, and their course is on the wings of the breeze. They foresee the vicissitude of the seasons, and watch their return. They generally appear when the mild influence of spring has clothed the forests with verdure; there they nestle, concealed under the foliage. Heaven and earth seem to conspire to their felicity. But solicitude soon arises: they dread the cruel visits of the same animals on which they before looked down with contempt. The wild cat, the marten, the weazel, seek to devour the objects of their tenderest affection: the adder clanders to gain their eggs, or devour their progeny: and children, that amiable portion of human kind, but who, from want of employment, are ever in mischief, wantonly plunder the sacred deposits of love. Often the mother rushes into danger in defence of her young; and sacrifices to the ardor of her attachment, her love, her liberty, and her life.

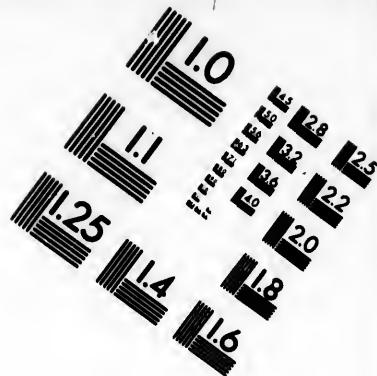
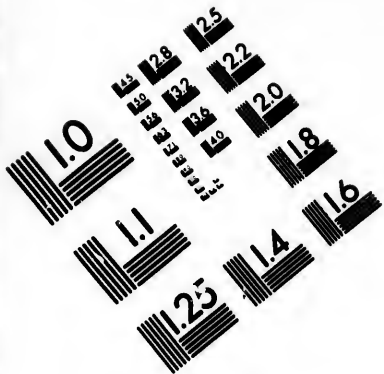
Why is the season of the highest pleasures also the season of the greatest solicitude? Why are the most delicious enjoyments always damped, even in the freest and most innocent of beings, by the cruellest anxieties? May we not complain of harshness in nature, the common mother of all? Her benevolence is never pure, or of long continuance. No sooner the happy pair united, by choice and by their mutual

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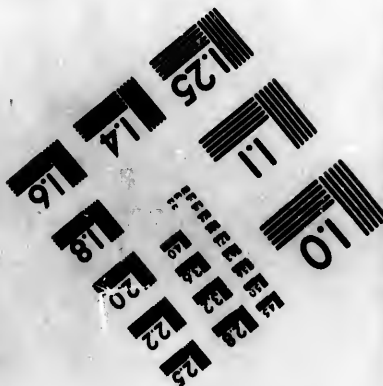
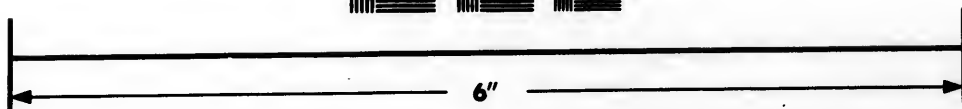
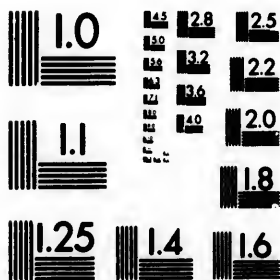
tual labours, have fabricated the mansion of love, than they dread the plunderer's attack. The feathered race has also its tyrants; and the rapacious birds are the more formidable, as they are more independent. The eagle snatches with impunity the prey from the lion; all dread his aspect; the feebler birds scream at his approach, and seek immediate shelter. Perhaps the eagle would have occupied a large portion of the earth, if man had not driven him to the summits of mountains and inaccessible tracks, where in solitude he stretches out his gloomy dominion.

From this cursory view, it would appear that birds rank next to man in the great scale of existence. Nature has accumulated and concentrated more strength in their little bodies than she has communicated to the huge limbs of the most powerful quadrupeds; agility is combined with solidity; their empire extends over the inhabitants of the air, the earth, and the waters. The whole of the insect tribes are exclusively subject to their dominion, and seem only destined to feed these destroyers: they also seize the noxious reptiles on the ground, and snatch the fish from their element. They even attack the quadrupeds; the buzzard sometimes darts on the fox, and the falcon stops the antelope; the eagle preys on the sheep, murders the dog equally with the hare, and transports their carcases to his eyry. The birds walk on two feet,





**IMAGE EVALUATION
TEST TARGET (MT-3)**



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feet, imitate speech, and repeat musical airs; in these respects too they resemble man, while their power of flying marks a decided superiority above all the other terrestrial animals.

But from this general view of the nature of birds, let us descend to survey the genus of the Parrots. That tribe, the most numerous of all, affords striking illustrations of a new proposition: that, in birds, as in quadrupeds, those which inhabit the tropical regions are confined exclusively to their respective continents. This principle serves to fix their nomenclature; the species are much diversified and multiplied; above 100 are known, and yet of these not one is common to both continents. What can be a more decisive proof of this general proposition which we explained in the History of Quadrupeds? The two continents were never joined, except towards the north, and therefore no animal incapable of supporting the intense cold of the frozen regions could migrate from the one into the other. Birds also, such as the Parrots, which live and propagate only in warm climates, have remained indigenous; some inhabit the tropical regions of the new continent, others those of the old, and occupy in each a zone extending twenty-five degrees on both sides of the equator.

But it will be said that if the elephants and other large quadrupeds, which at present are peculiar to Africa and India, inhabited originally

nally the northern tracts in both continents, might not this have also been the case in regard to the Parrots? And as the earth gradually cooled, these might continually advance towards the tropics; and neither the lofty mountains, nor the narrow pass of the isthmus of Panama, could prevent their migration.

This objection, though plausible, is only a new question, which, in whatever way it be resolved, cannot affect our hypothesis, that the north was the primæval residence of animals, and that they afterwards removed to the regions of the south. But those birds whose constitution is adapted to a hot climate could never rise to the frozen summits of mountains; and the cold that prevails in the elevated regions of the air would as effectually stop their flight, as the various obstacles to be surmounted would limit the progress of the elephant. Thus what appears at first an objection, is really a confirmation of the theory; since not only the quadrupeds, but also the birds, which are natives of the torrid tracts in the old world, have never penetrated or settled in the insulated continent of South America. In the case of the birds, however, this principle has some exceptions; for a few species are found equally in the equatorial parts of both continents. But this is owing to particular circumstances; their vigorous wings and their power of resting on the surface of the water by means of the broad membranes

branes of their feet. The Parrots can neither soar to a vast height, nor fly to a great distance, and their feet are not webbed. Accordingly, none of these have ever migrated from the one continent to the other, unless transported by men across the intervening ocean *. This will be better perceived after viewing the arrangement, and comparing the descriptions of the several species. It was perhaps as difficult to class them as the monkeys; since all the preceding naturalists have confounded them together.

The Greeks were acquainted at first with only one species of Parrot, or rather of Parakeet; it is what we now call the *Great Ring Parakeet*, and comes from India. They were brought from the island of Taprobane into Greece by Onesicrites, who commanded Alexander's fleet. They were so new and uncommon that Aristotle himself appears not to have seen them, and mentions them only from report †. But the beauty of these birds, and their power of imitating speech, soon made

* The Parrots have a laborious short flight, so that they cannot cross an arm of the sea seven or eight leagues broad. Each island of South America has its particular Parrots; those of St. Lucia, of St. Vincent, of Dominica, of Martinico, are different from each other: those of the Caribbee islands do not resemble them, nor are these Caribbee Parrots found near the Oronooco, which is the part of the continent nearest these islands. *Notes communicated by M. de la Borde, King's Physician at Cayenne.*

† *Hist. Anim. Lib. VIII. 12.* "There is an Indian bird called *psittace*, which is said to speak."

them the objects of luxury among the Romans, and the prevalence of that practice provoked the indignation of the rigid Cato*. They were lodged in cages of silver, of shells, and of ivory; and the price of a Parrot often exceeded that of a slave †.

No Parrots were known at Rome, but those brought from India ‡, until the time of Nero; the emissaries of that prince found them in the island of the Nile, between Syene and Meroe, which is exactly in the limit that we assigned of twenty-four or twenty-five degrees latitude §. Pliny tells us that the Latin name *psittacus* was derived from the Indian appellation *psittace*, or *sittace* ||.

The Portuguese, who first doubled the Cape of Good Hope, and explored the shores of Africa, found the country of Guinea, the islands scattered in the Indian ocean, and also the continent, inhabited by various kinds of Parrots, all unknown in Europe. So numerous they were

* This austere censor exclaimed in the midst of the assembled senate, "O! senators! O! unhappy Rome! what forebodings! in what times do we live, to see the women feed dogs on their knees, and the men carry Parrots in their hands!" *Columella, Diæt. Antiq. Lib. III.*

† Statius.

‡ Pliny, *Lib. X. 42.*—Pausanias.

§ *Id. Lib. VI. 29.*

|| *Lib. X. 42.* They were brought also in the fifteenth century from the countries through which Alexander marched. *Relation de Cadamosto.* See *Hist. Gen. des Voyages*, t. II. 305.

at Calicut*, in Bengal, and on the African coasts, that the Indians and negroes were obliged during harvest to watch their fields of rice and maize, and to repel the destructive havock of these birds †.

This vast multitude of Parrots in all countries which they inhabit ‡, seems to prove that they breed several times annually, since the product of one hatch is inconsiderable. Nothing could equal the variety of the species which navigators found on every part of the coast of South America. Many islands were called the *Parrot Islands*. They were the only animals that Columbus met with in the one where he first landed §. They were the early articles of traffic between the Europeans and Americans ||. The American and African Parrots were imported in such numbers, that the Parrot of the ancients was forgotten; it was known only by description in the time of Belon †.

* Recueil des Voyages qui ont servi à l'établissement de la Compagnie des Indes, &c. *Amsterdam*, 1702, t. III. p. 195.

† See Mandello, at the end of Olearius, t. II. p. 144.

‡ "Among the many remarkable animals, the Parrots of Malabar excite the admiration of navigators, by their prodigious numbers, and by the variety of their species. Dellon avers that often he had the pleasure of seeing two hundred taken in one draw of a net." *Hist. Gen. des Voy. t. XI. p. 454.*

§ Guanahani, one of the Lucayos.

|| First Voyage of Columbus in the beginning of the *Hist. Gen. des Voy. t. XII.*

† *Nat des Oiseaux*, p. 296.

We shall range the Parrots in two great classes; the first comprehending those of the old continent, the second those of the new. The first will be subdivided into five families; the Cockatoos, the Parrots properly so called, the Lories, the long-tailed Parrakeets, and the short-tailed Parrakeets. Those of the new world will include six other families; the Maccaws, the Amazonians, the Creeks, the Popinjays, the long-tailed Paroquets, and the short-tailed Paroquets.

PARROTS
OF THE OLD CONTINENT.

The COCKATOOS.

Les Kakatoes, Buff.

THE largest Parrots of the old continent are the Cockatoes. They are all natives of the south of Asia, where they seem indigénous. We are uncertain whether they are also found in Africa, but they are undoubtedly not found in America. They are spread through the southern parts of India *, and in all the islands of the Indian ocean, at Ternate †, at Banda ‡, at Ceram §, in the Philippine islands ||, and in

* "The trees of this city (Amadabat, capital of Guzarat), and those on the road from Agra to Brampour, which is 150 German leagues, breed an inconceivable number of Parrots . . . Some are white, or pearl grey, and capped with a carnation tuft; these are called *kakatoes*, because they distinctly articulate that word. These birds are very common through all India, where they nestle in the towns on the roofs of houses, like the swallows in Europe." *Voyage de Mandeste*, t. II. p. 144.

† *Voyage autour du Monde*, par Gemelli Carreri, Paris, 1719, s. V. p. 5.

‡ *Recueil des Voyages qui ont servi à l'établissement de la Compagnie des Indes, &c.* Amsterdam, 1702, t. V. p. 26.

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those of Sunda*. Their name *kakatoes*, *catacua*, and *cacatou*, is formed from their cry †. They are easily distinguished from the other Parrots, by their white plumage, by the rounder and more hooked shape of their bill, and particularly by a crest of long feathers, which they can raise or depress at pleasure ‡.

It is difficult to teach the Cockatoos to prattle, and some species can never acquire the imitation. But they are more easily bred §; they all grow tame, and in some parts of India they seem domesticated, for they build their nests on the roofs of the houses. And this facility of education seems to result from their superior understanding; they are more attentive and obedient than other Parrots, and they strive, though without success, to repeat what they hear. Their defects are compensated by other expressions of feeling, and by affectionate caresses. All their motions have a gentleness and grace which adds new charms to their beauty. Two of these birds, a male and a female, were shewn in March 1775 at the fair of St. Germain at Paris. They disco-

* Voyage de Siam, par le P. Tackard, *Paris*, 1686, p. 130.

† "We made several tacks to double the isle of Cacatoua, so called because of the white Parrots that reside in it, and which incessantly repeat that name. This isle is very near Sumatra." *Ibid.*

‡ The crown of the head, which is covered by the long reclined feathers, is entirely bald.

§ "At Ternate, these birds are domestic and docile; they speak little, but scream much." *Gemelli Carreri.*

vered great docility, raised their crest, made a salute with their head, touched with their bill or their tongue, answered their keeper's questions with a sign of assent, as they were desired; they marked by repeated motions the number of persons in the room, the colour of their clothes, the hour of the day, &c.; they billed each other without being directed, an evident token of their inclination to couple, and their keeper told us that they had often commerce together even in our climate.—Though the Cockatoos, like the other Parrots, use their bill in climbing, they have not the same heavy unpleasant gait; they are, on the contrary, very agile, and walk gracefully, tripping with short quick steps.

T H E
WHITE-CRESTED COCKATOO.

Le Kakatoos a Huppe Blanche, Buff.

FIRST SPECIES.

Pfittacus Cristatus, Linn. Gmel. and Borowsk.

Cacatus, Briss.

Kakatocha tota alba, Klein.

Pfittacus albus Cristatus, Ray and Will.

IT is nearly as large as a hen. Its plumage is entirely white, except a yellow tinge on the under

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THE GREAT WHITE COCKATOO.

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under side of the wings, and of the lateral quills of the tail ; the bill and feet are black. Its noble crest is very remarkable, consisting of ten or twelve feathers, not of the soft downy kind, but of the nature of quills, tall and broad webbed ; they are inserted in two parallel lines running back from the face, and form a double fan [A].

T H E
Y E L L O - C R E S T E D C O C K A T O O .

Le Kakatoes a Huppe Jaune, Buff.

S E C O N D S P E C I E S .

Pfittacus Sulphureus, Gmel.

Cacatua Luteo-cristata, Briss.

The Crested Parrot or Cockatoo, Albin.

The Lesser White Cockatoo, Edw. and Lath.

OF this species, there are two branches, differing in size. In both the plumage is white, with a yellow cast under the wings and the tail, and spots of the same colour round the eyes ; the crest is yellow citron, consisting of long soft ragged feathers, which the bird elevates and projects ; the bill and feet are black. It was a Cockatoo of this species, and probably the first ever seen in Italy, that Aldrovandus

[A] Specific character of the *Pfittacus Cristatus* : " It is white, its crest pliant and yellow."

describes; and he admires its elegance and beauty. It is as intelligent, gentle, and docile, as the preceding.

We saw this beautiful Cockatoo alive. It expresses joy by shaking its head briskly several times upwards and downwards, making a slight cracking with its bill, and displaying its elegant crest. It returns the caresses; touches the face with its tongue, and seems to lick it; the kisses are soft and gentle. When the one hand is laid flat under its body, and the other rests on its back, or only touches its bill, it presses firmly, claps its wings, and with its bill half open it blows and pants, and seems to feel the most intoxicating delight. It repeats this as often as one chooses. It is also very fond of being scratched; holds its head, and raises its wing to be stroked: it often whets its bill, by gnawing and breaking bits of wood. It cannot bear the confinement of the cage, but it never roves out of its master's sight. It answers its call, and retires when he commands; in which case it discovers anxiety, often looking back for the sign of invitation. It is exceedingly neat; all its motions are graceful, delicate, and pretty. It feeds on fruits, pulse, all the farinaceous grains, on pastry, eggs, milk, and whatever is sweet, but not too sugary.

[A] Specific character of the *Psittacus Sulphureus*: "It is white, its crest pliant and drawn to a point; and this, with a spot below the eyes, is brimstone colour."

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The RED-CRESTED COCKATOO.

Le Kakatoës à Huppe Rouge, Buff.

THIRD SPECIES.

Pfittacus Moluccensis, Gmel.

Pfittacus Rosaceus, Lath. Ind.

Cacatua Rubro-cristata, Briss. and Gerini,

The Greater Cockatoo, Edw.

The Great Red-crested Cockatoo, Lath.

IT is one of the largest of the genus, being near a foot and half long; the upper part of its crest, which reclines backwards, consists of white feathers, and covers a bundle of red ones [A].

The LITTLE FLESH-BILLED COCKATOO.

Le Petit Kakatoës à Bec Couleur de Chair, Buff.

FOURTH SPECIES.

Pfittacus Erythroleucus, Linn. Gmel. Ray, and Will,

The Red and White Parrot, Lath.

THE plumage is entirely white, except some tints of pale red on the temples, and on

[A] Specific character of the *Pfittacus Moluccensis*: "It is white, inclining to a dilute rose colour; its crest is red above; the lateral feathers of its tail below, from the base to the middle, brimstone coloured."

the feathers of the upper part of the crest, which red cast is deeper on the coverts of the lower surface of the tail. There is a little light yellow at the origin of the scapular feathers and of those of the crest, and on the inside of the quills of the wing and of most of those of the tail; the feet are blackish; the bill reddish brown, which is peculiar to this species, the bills of the other Cockatoos being all black. It is also the least of the genus; Brisson makes it of the size of the Guinea Parrot, but it is much smaller. It has a crest, which lies flat, and is erected at pleasure.

We may observe that the bird termed by Brisson the *Cockatoo with red wings and tail* does not appear to belong to the same genus, since he makes no mention of the crest, which is the distinguishing character. Besides, he borrows his account from Aldrovandus, who describes it in the following terms. "This Parrot ought to be reckoned among the largest; it is equal in size to the capon; all its plumage is cinereous white; its bill is black and much incurvated; the lower part of the back, the rump, all the tail, and the quills of the wings, are vermilion." These characters would correspond to those of the Cockatoos, if the crest were added; and this great red and white Parrot of Aldrovandus might perhaps form a fifth species, or a variety of one of the preceding.

[A] Specific character of the *Pfittacus Erythroleucus*: "It is cinereous; the quills of its wings are white crimson."

The BLACK COCKATOO,
Buff. and Lath.

FIFTH SPECIES.

Pfittacus Aterrimus, Gmel.

EDWARDS, who describes this Cockatoo, asserts that it is as large as a maccaw. Its plumage is entirely bluish black, which is deeper on the back and the wings than under the body; the crest is brown or blackish, and the bird has, like the other Cockatoos, the power of erecting it high, and of reclining it almost close on the head; the cheeks below the eye are covered by a red, naked, wrinkled skin, which covers the inferior mandible of the bill, whose colour, as well as that of the feet, is blackish brown; the eye is fine black. The bird may be reckoned the negro of the Cockatoos, which are generally white; the tail is long, and consists of tapered feathers. The figure delineated from nature was sent from Ceylon to Edwards, and that naturalist recognised the same bird in a collection published by *Vander Meulen* at Amsterdam, in 1707, and termed by *Peter Schenk* the *Indian Crow*.

[A] Specific character of the *Pfittacus Aterrimus*: "It is black, its crest large and lighter coloured, its cheeks red and naked."

The PARROTS
PROPERLY SO CALLED.

WE shall apply the name of Parrot to those of the old continent whose tail is short, and consists of quills nearly equal in length. We may reckon eight species, all natives of Africa or India, and none of them found in America.

THE
JACO or CINEREOUS PARROT, *Buff.*

FIRST SPECIES.

Psittacus Eritbacus, Linn. Gmel. and Kram.

Psittacus Guineensis Cinerous, Briss.

Ufchgraver Papagey, Wirs.

The *Ash-coloured Parrot*, Albin. Will, and Lath.

THIS species is now the most commonly brought into Europe, and generally preferred, as well on account of the mildness of its disposition, as of its sagacity and docility, in which it at least equals the green Parrot, without the disagreeable cries. It seems to pronounce the word *Jaco*, and hence its usual appellation. All the body is of a fine pearl and slaty gray, which is deeper on the upper surface, lighter on the lower, and inclined to white on the belly.

belly. The tail, which is vermilion, terminates and heightens this plumage, which is glossed and powdered with a snowy colour, that gives it constantly a fresh appearance. The eye is placed in a white, naked, mealy skin, that covers the check; the bill is black; the feet gray; and the iris gold colour. The total length of the bird is a foot.

Most of these Parrots are imported from the coast of Guinea*, and come from the interior parts of Africa†: they are also found at Congo‡.

* Willughby.

† “ They are found on the whole of this coast (of Guinea), but in small numbers, and most of them even come from the interior parts of the country. Those of Benin, of Calbari, of Cabolopez, are most esteemed, for which reason they are brought from those places; but they are much older than such as can be obtained here, and consequently are not so docile, nor so easily trained. All the Parrots here on the coast, and also near the angle of Guinea, and in the above-mentioned places, are of a blue colour . . . These birds are so common in Holland, that they are less esteemed there than here, and not sold so dear.” *Voyage en Guinée*, par Bosman, *Utrecht*, 1705.—Albin is mistaken when he says that this species comes from the East Indies; it appears confined to Africa, and *à fortiori* it occurs not in America, though Brisson places it at Jamaica, probably from the indication of Browne and Sloane; but without having consulted them, since Sloane (*Jamaica*, *Vol. II. p. 297*) says expressly that the Parrots, which are numerous in Jamaica, were all brought thither from Guinea. This species is not a native of any part of the new world. “ Among the multitude of Parrots found at Para, we cannot perceive the gray species, which is so common in Guinea.” *Voyage de la Condamine*, *p. 173*.—In Antarctic France there is no gray kind found, as in Guinea, and in upper Africa. *Tbevet*, *Singularités de la France Antarctique*, *Paris*, 1558, *p. 92*.

‡ *Recueil des Voyages qui ont servit à l'établissement de la Compagnie des Indes*. *Amsterdam*, 1702, *t. IV. p. 321*.

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and on the coast of Angola*. They are very easily taught to speak †, and seem fondest of imitating the voice of children, who are also the most successful in training them. It has indeed been remarked by the older writers ‡ that the birds most susceptible of imitating the human voice are eager to listen to children, whose articulation is imperfect and unequal, and therefore more correspondent to their own. But the cinereous Parrot copies also the deep tones of the adult; though the effort is laborious, and the words are less distinct. One of these Guinea Parrots was so completely drilled by an old sailor, that it acquired exactly his hoarse voice and cough; and though it was afterwards given to a young person, and was in no other company, it never forgot the lessons of its first master, and it was diverting to observe its transitions from a soft gracious tone to its former hoarseness and coarse sea tones.

* *Historie Generale des Voyages, t. V. p. 76.*

† They inhabit likewise the isles of France and Bourbon, whether they have been transported. *Lettres Edifiantes, Recueil 18, p. 11.* "This isle (of Mauritius or France) breeds tortoises, turtles, grey parrots, and other game, which are caught by the hand in the woods. Besides the profit derived from this exercise, it affords much diversion. Sometimes when a great Parrot is taken, it is made to scream, and instantly hundreds flock round it, which are felled with sticks." *Recueil des Voyages qui ont servit à l'établissement de la Compagnie des Indes. Amsterdam, 1702, t. III, p. 195.*

‡ Albertus, *Lib. XXIII.*

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But not only has this bird a facility, it has also an eagerness, in imitating the human voice. It listens with attention, and strives to repeat; it dwells constantly on some syllables which it has heard, and seeks to surpass every voice by the loudness of its own. We are often surprised at its repeating words or sounds, which we never taught it, and which we should not suppose it to have noticed*. It seems to set itself tasks, and tries every day to retain its lesson †. This engages its attention even in sleep, and, according to Marcgrave, it prattles in its dreams ‡. They are most capable of improvement when young; then they shew more sagacity, more docility: and their memory, if early cultivated, becomes sometimes astonishing. Rhodiginus § mentions a Parrot which a Cardinal purchased for 100 crowns, because it *recited correctly the Apostles' Creed* ||. But when

* Witness that Parrot of Henry VIII. which, as Aldrovandus relates, having fallen into the Thames, called to the boatmen for assistance, as it had heard the passengers call from the beach.

† Cardan goes so far as to ascribe to it meditation and inward reflection on what it has been taught, and this, says he, through emulation and the love of glory . . . *Meditatur ob studium gloriæ* . . . The love of the marvellous must have had mighty influence upon this philosopher, to make him advance such absurdities.

‡ Aristotle had proposed a quære, whether animals hatched from eggs ever dream (*Lib. V. 10. Hist. Anim.*) Marcgrave answers, that "his Parrot Laura often rose in the night, and prattled half asleep."

§ *Lib. III. 32.*

|| M. de la Borde tells us that he saw one, which served as almoner on board a vessel; it recited the sailors prayer, then the rosary.

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it grows older, it becomes stubborn, and will hardly be taught. Olinia recommends the evening, after their meal, as the proper time to instruct them; for their wants being satisfied, they are most docile and attentive.

The education of the Parrot has been compared to that of the child*. At Rome, the person who trained a Parrot held in his hand a small rod, with which he struck it on the head. Pliny says that its skull is very hard, and that it requires smart blows to make it feel †. However, the bird which we mentioned feared the rod more than a child that has been often whipped. If after remaining perched the whole day, it anticipated the hour of walking out into the garden, and descended too soon (which seldom happened), threats and the sight of the rod drove it with precipitation to its roost; there it continued, but showed its impatience by flapping its wings and screaming.

“ We should suppose that the Parrot does not perceive when he speaks himself, but fancies that some person addresses him, He often asked his paw, and answered by holding up the paw. Though he liked to hear the voice of children, he seemed to have an antipathy to them; he pursued and bit them till he drew blood. He had also his objects of attachment, and though his choice was not very nice, it was constant,

* Ælian.

† Pliny, *Lib. X. 42.*

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He was excessively fond of the cook-maid; followed her every where, sought for her, and seldom missed finding her. If she had been some time out of his sight, the bird climbed with his bill and claws to her shoulders, lavished his caresses, and would, on no account, leave her. His fondness had all the marks of close and warm friendship. The girl happened to have a very sore finger, which was tedious in healing, and so painful as to make her scream. While she uttered her moans, the Parrot never left her chamber. The first thing he did every day was to pay her a visit; and this tender condolence lasted the whole time of the cure, and he again returned to his former calm settled attachment. Yet this strong predilection for the girl seems to have been more directed to her office in the kitchen, than her person; for when another cook-maid succeeded to her, the Parrot shewed the same degree of fondness the very first day*."

But Parrots of this kind not only imitate discourse; they also mimic gestures and actions. Scaliger saw one that performed the dance of the Savoyards, at the same time repeating their song. The one already mentioned liked to hear a person sing, and, when he saw him dance, he also tried to caper, but with the worst grace imaginable, holding in his toes, and

* Note communicated by Madame Nadault, my sister, to whom this Parrot belonged.

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tumbling back clumsily. He was then the most cheerful; but he had also an extravagant joy, and an incessant prattling when in the state of intoxication: for all Parrots love wine, particularly the Spanish and the muscadine. Even in the time of Pliny it was remarked that the fumes of that liquor gave the Parrots a flow of spirits*. He crept near the fire in winter, and his greatest pleasure, in that season, was to get on the chimney; and when warmed he gave many signs of his comfortable feelings. He had equal pleasure in the summer showers; he continued whole hours exposed, and spread his wings the better to receive the rain, and did not seek for cover till he was wet to the skin. After he had returned to his roost, he stripped all the feathers one after another through his bill. If the weather was dry, he liked to bathe in a cistern of water, and entered into it repeatedly, though always very careful not to wet his head. But he was as averse to plunge in winter; and if then shewn a vessel full of water, he would run off, and even scream.

Sometimes he was observed to yawn, and this was almost always the symptom of weariness. He whistled with more force and clearness than a man; but, though he expressed many tones, he could never be taught to copy an air. He imitated perfectly the cries of wild

* *In vino præcipue lasciva.* Lib. X. 42.

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and domestic animals, particularly the crow, which he mimicked so well, that he might have been taken for one. He seldom prattled in a room with company; but if alone in the adjacent room, he was noisy in proportion to the loudness of the conversation which he overheard; he seemed prompted to repeat precipitately all that he had learnt, and was never so animated or so clamorous. In the evening he retired of his own accord to his cage, which he shunned during the day: there with one foot concealed in the plumage, or hooked to the bars of the cage, and his head beneath his wings, he slept until he perceived the dawn of the morning; but he often wakened to the blaze of candles. Then he stepped down to the bottom of the cage, and sharpened his claws, using the same motion with the scratching of a hen. Sometimes he whistled or prattled in the night when exposed to light; but in the dark he was silent and tranquil*.

That sort of society which the Parrot forms with man, is, by means of language, more intimate and pleasing than what the monkey can claim from its antic imitation of our gestures and actions. If the useful and amiable qualities of the dog, the horse, or the elephant, command our attention and esteem, the singular talents of the

* Rest of the note communicated by Madame Nadault.

prattling bird sometimes engage more powerfully our curiosity. It diverts and amuses; in solitude it is company; it takes part in conversation, it laughs, it breathes tender expressions, or mimics grave discourse; and its words uttered indiscriminately please by their incongruity, and sometimes excite surprise by their aptness*. This play of language without meaning is uncommonly whimsical, and though not more empty than much other talk, it is always more amusing. The Parrot seems also to receive a tincture of our inclinations and manners; it loves, or it hates; it has particular attachments, predilections, and caprices; it is the object of its own admiration and applause; it becomes joyous or sad; it is melted by caresses, and bills tenderly in return: in a house of mourning, it learns to moan†, and often accustomed to repeat the dear name of a mistress

* Willughby speaks from Clusius of a Parrot, which, when a person said to it, *Laugh, Poll, laugh*, laughed accordingly, and the instant after screamed out, *What a fool to make me laugh!* We have seen another which grew old with its master, and shared with him the infirmities of age. Being accustomed to hear scarce any thing but the words *I am sick* (*Je suis malade*); when a person asked it, *How d'ye, Po'l, how d'ye* (*Qu'as-tu, perroquet, qu'as-tu*)? *I am sick*, it replied with a doleful tone, stretching itself over the fire, *I am sick* (*Je suis malade*).

† See, in the Annals of Constantine Manasses, the story of the young Prince Leo, son of the Emperor Basil, condemned to death by his implacable father, whom the cries of the persons around him could not move, till the accents of the bird, which had learnt to deplore the fate of the Prince, at last stung his barbarous heart.

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whose loss is bewailed, it awakens, in feeling hearts, the memory of past joys*.

The power of imitating exactly articulate discourse implies in the Parrot a peculiar and more perfect structure of organ; and the accuracy of its memory, though independent of the understanding, manifests a closeness of attention and a strength of mechanical recollection that no bird possesses in so high a degree. Accordingly, all the naturalists have remarked the singular form of its bill, its tongue, and its head: its bill, round on the outside and hollow within, has, in some measure, the capacity of a mouth, and allows the tongue to play freely; and the sound, striking against the circular border of the lower mandible, is there modified as on a row of teeth, while the concavity of the upper mandible reflects it like the palate; and hence it does not utter a whistling, but a full, articulation. The tongue, which modulates all the sounds, is proportionally larger than in man, and would be more voluble, were it not harder than flesh, and invested with a strong horny membrane.

But this organization, though adjusted with skill, is still inferior to the structure contrived to give an easy and powerful motion to the upper mandible, and, at the same time, not to hinder its opening. The muscles are not fixed

* See, in Aldrovandus (p. 662), a pleasing and affecting piece, which a poet, who grieves for his mistress, addresses to his Parrot, that incessantly repeats her name.

to the root, where they would have exerted no force; nor to the sides, where they would have closed the aperture. Nature has adopted a different plan; at the bottom of the bill are fixed two bones, which, extending on both sides, and under the cheeks, form a continuation of it, similar in form to the *pterygoid* bones in man, except that their hinder extremity is not concreted into another bone, but loose. Thick layers of muscles, sent off from the back of the head, and inserted in these bones, move them and the bill. For a fuller description of this singular contrivance, I shall refer to Aldrovandus*.

This naturalist properly observes, that, between the eye and the lower jaw, there is a space, which deserves better the name of cheek than in any other bird; it is also more protuberant, occasioned by the number of muscles that extend over it to the bill.

The bill is very strong; the Parrot easily cracks the nuts of the red fruits; it gnaws the wood, and even bends or wrenches the bars of its cage, if they be slender, or if it be tired of confinement. It uses its bill, oftener than its claws, in climbing and suspending itself; it also holds by the bill in descending, as if it were a third foot, which steadies its motion; it also serves to break its fall †. It is a second organ

* *Tom. I. pp. 640 and 641.*

† *Pliny, Lib. X. 42.*

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of touch, and is equally useful with its toes, in scrambling and clenching:

The mobility of its upper mandible gives it a power which no other birds have, of chewing its food. In those, whether of the granivorous or carnivorous tribes, the bill is like a hand which throws the food into the gizzard, or an arm which splits or tears it. The Parrot seizes the piece sideways, and gnaws deliberately*. The lower mandible has little motion, but that from right to left is most perceptible; and this is often performed when the bird is not eating, which has made it be supposed to ruminare. In such cases it probably only whets the edge of this mandible, with which it cuts and bites its aliments.

The Parrot discovers hardly any choice in its food: it lives in its native country on almost every sort of fruit or grain. The seeds of the bastard saffron † have been found to fatten it, though they act on man as a violent purge ‡. In the domestic state, it eats whatever is pre-

* We must remark that the external hind toe is moveable, and that the bird draws it sidewise and forward, to seize and handle what is given to it; but only in this single case does it use that power, and at other times, whether it walks or perches, it constantly carries two toes before and two behind. Apuleius and Seneca speak of Parrots with five toes; but this was owing to their mistaking a passage of Pliny, where that naturalist ascribes that uncommon property to a family of magpies (*Lib. X. 42.*)

† *Carthamus Carduncellus*, Linn.

‡ The Spaniards call this seed *Seme de Papagey*, Parrot-feed.

fented; but flesh, which it would rather prefer, is extremely hurtful to it, and occasions an unnatural longing, which prompts it to suck and gnaw its feathers, and pluck them one by one from every part that its bill can reach. This cinereous Guinea Parrot is particularly subject to that disease; it tears the feathers from its body, and even from its beautiful tail, which never afterwards recovers the same bright red as at first.

Sometimes after moulting this Parrot is observed to become marbled with white and rose colour; occasioned either by some distemper, or by advanced age.

What Brisson reckons as varieties, under the names of the *Red-winged Guinea Parrot*, and the *Red variegated Guinea Parrot*, are owing to such accidental changes of plumage. In the one figured by Edwards, the red feathers are mingled at random with the gray, as if the bird had been dressed out (*tapired*). The cinereous Parrot is like others of the genus, subject to the epilepsy and the cramp*; yet is it very hardy and lives to a great age †. Salerne says that he saw one at Orleans which was above sixty years old, and still cheerful and lively ‡.

It

* Olin. *Occellaria*, p. 23.

† "I knew one at the Cape of St. Domingo, which was averred to be forty-six years old." *Note communicated by M. de la Borde.*

‡ Vofmaer says that he knew a Parrot which had lived in a family

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It is uncommon for Parrots to propagate in our temperate climates; but they frequently lay addle eggs. There are some instances, however, of Parrots being reared in France. M. de le Pigeoniere had a cock and hen in the town of Marmande in Agenois, which hatched regularly each spring for five or six years, and the young Parrots lived, and were educated by the parents. Each hatch consisted of four eggs, three of which succeeded. The birds were shut in a room with nothing but a barrel open at top and filled with saw dust; sticks were fastened both on the outside and inside, that the male might scramble upwards and downwards, and sit beside the hen. In entering the room it was necessary to have boots; for the male, fired by jealousy, bit furiously whatever he perceived to approach his female*. Father Labat also mentions two Parrots that had several hatches at Paris†.

mily for an hundred years, having descended from father to son: but Olina, more credible and better informed, ascribes only twenty years for the average term of the Parrot.

* Letter dated from *Marmande en Agenois*, 25th August, 1774.

† *Nouveaux Voyages aux îles de l'Amerique. Paris, 1722, t. II. p. 160.*

[A] Specific character of the Ash-coloured Parrot, *Psittacus Eriibacus*: "It is hoary, its temples white and naked, its tail crimson."

The GREEN PARROT,

SECOND SPECIES.

Psittacus Sinensis, Gmel. and Briss.*The Green and Red Chinese Parrot*, Edw. and Lath.

EDWARDS describes this bird as brought from China. But it is not found in most of the provinces of that vast empire; it is confined to the most southern, such as Quanton and Quangsi*, which are near the tropic, the usual limit of the climate of Parrots. This is probably one of those which travellers have fancied were the same both in China and in America. But that notion, which is contrary to the general order of nature, is overturned by comparing each species in detail. The present is unlike any of the Parrots of the new world: it is as large as a middle-sized hen; the whole of its body is bright shining green; the great quills of the wing and the shoulders are blue; the flanks, and the under side of the top of the wing, brilliant red; the quills of the wings and tail are lined with brown.—Edwards says that it is very

* “The southern provinces, such as Quanton, and especially Quangsi, have Parrots of all kinds, which differ in nothing from those of America: their plumage is the same, and they have no less facility in learning to speak.” *Histoire Generale des Voyages*, t. VI. p. 488.

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rare. It is found in the Moluccas, and in New Guinea, whence it was sent to us [A].

The VARIEGATED PARROT.

THIRD SPECIES.

Pfittacus Accipitrinus, Linn. Gmel. Gerini, & Borowk.

Pfittacus Varius Indicus, Briss.

Pfittacus Elegans, Clusius.

The *Hawk-headed Parrot*, Edw. and Lath.

It is of the size of a pigeon. The feathers round the neck, which it bristles when angry, but which Clusius overdoes in his figure, are purple, edged with blue. The head is covered with feathers mixed with streaks of brown and white, as in the plumage of the hawk, and hence Edwards applies the epithet of *Hawk-headed*. There is some blue on the great quills of the wing, and at the point of the lateral ones of the tail, of which the two middle ones are green, and so are the feathers on the upper side of the body.

The mailed Parrot, No. 526, *Pl. Enl.* appears to be the same with the one just described; and we presume that the small number of these

[A] Specific character of the *Pfittacus Sinensis*: "It is green; the lower coverts of its wings red; some of the greater ones, and the margin, blue; the tail brown below."

birds which have been brought from America to France were introduced from India into the new world, and that if they are found in the interior parts of Guiana, they have been naturalized there like the canaries, finches, the Guinea pig, and some other animals, that were carried thither by navigators from the old continent. That this species is not a native of America seems evinced, because no traveller mentions it. Besides, its voice, which is shrill and acute, is different from that of all the other Parrots indigenous in that continent; and we may therefore conclude that it originated from a few individuals carried accidentally from India [A].

The VAZA, or BLACK PARROT*.

FOURTH SPECIES.

Psittacus Niger, Linn. Gmel. Klein. and Gerin.

Psittacus Madagascarensis, Briff.

The *Black Parrot of Madagascar*, Edw. and Lath.

VAZA is the name which this species bears in Madagascar, according to Flaccourt, who

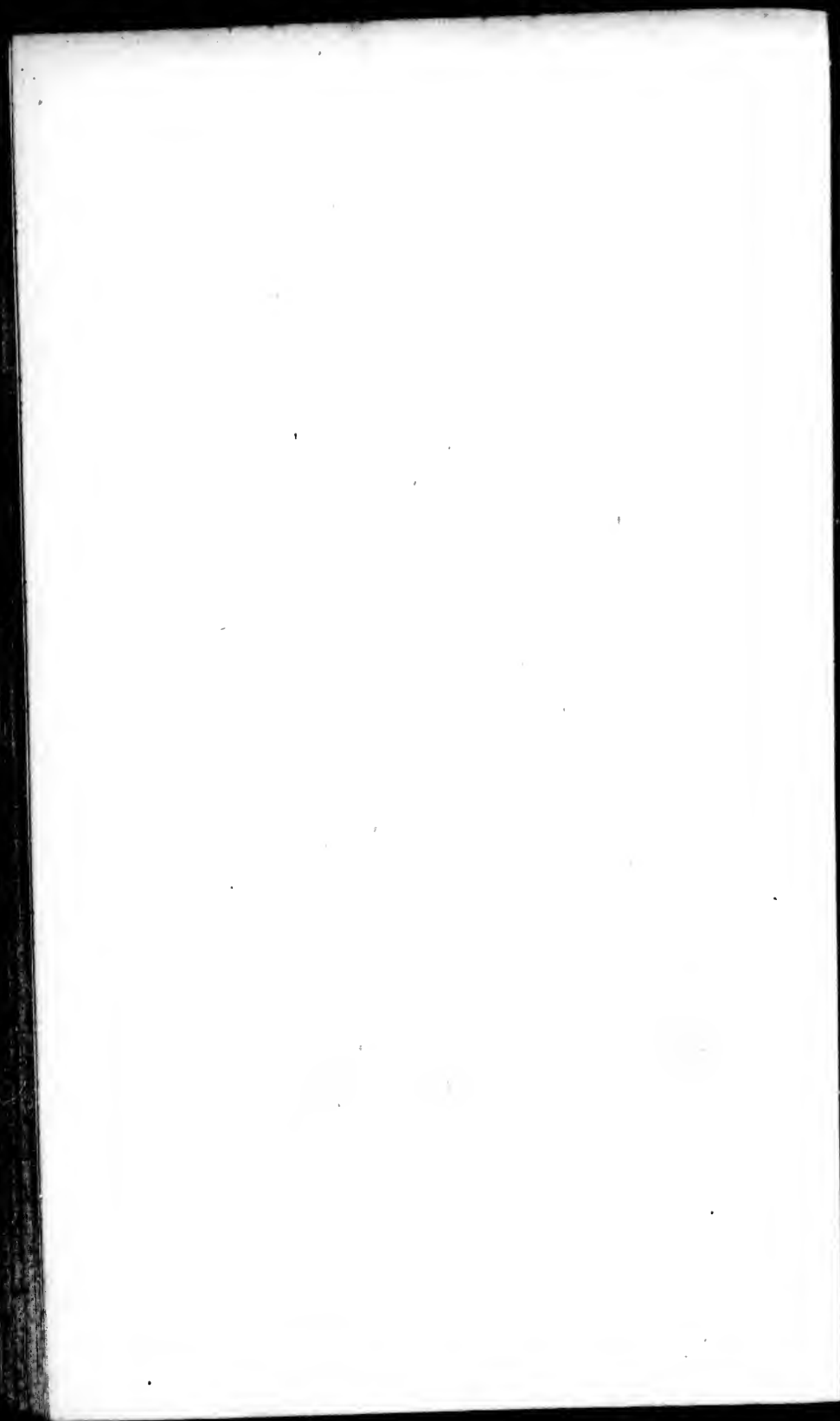
[A] Specific character of the *Psittacus Accipitrinus*: "It is green; its head gray; its neck and breast somewhat violet and variegated; the quills of its wings and tail tipped with blue."

* *Vaza* is the black Parrot of this country; some of the young are brown red, but they are difficult to be had." *Voyage au Madagascar*, par Flaccourt. Paris, 1661.

N^o. 140



THE BLACK PARROT.



N^o. 141



THE MASCARINE PARROT.

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adds that it imitates the human voice. Rennefort also mentions it *; and it is the same with what Francis Cauche calls *Woures-meinte* †; which, in the Madagascar dialect, signifies the black bird. Aldrovandus likewise takes notice of black Parrots that inhabit Ethiopia ‡. The Vaza is as large as the cinerous Guinea Parrot, and is uniformly black over its whole plumage; the colour is not indeed intense, but inclined to brown, and tinged faintly with violet. It has a remarkably small bill; its tail is, on the contrary, of considerable length. Edwards, who saw it alive, says that it is a very familiar and lovely bird [A].

The M A S C A R I N E.

FIFTH SPECIES.

Pfittacus Mascarinus, Linn. Gmel. and Briss.

THIS Parrot is so called, because, round its bill, there is a kind of black mask which

* "At Madagascar the large Parrots are black." *Relation de Rennefort, Hist. Gen. des Voy.* t. VIII. p. 606.

† *Voyage au Madagascar*, par Fr. Cauche, Paris, 1651.

‡ *Tom. I.* p. 636.

[A] Specific character of the *Pfittacus Niger*: "Its tail elongated and equal; its body bluish black, its bill and orbits whitish."

envelopes

envelopes the forehead, the throat, and the border of the face. Its bill is red; a gray hood covers the back of the head and neck; all the body is brown; the quills of the tail, which are brown two thirds of their length, are white at their origin. The total length of this Parrot is thirteen inches. The Viscount Querhoent assures us, that it is found in the island of Bourbon, whither it has probably been carried from Madagascar. We have one in the King's Cabinet of the same size and colour, except that it has not the black mask, nor the white colour on the tail, and that all its body is equally brown; its bill is also smaller, and, in that respect, it resembles the Vaza, of which it would appear to be a variety, if it does not form an intermediate species between that bird and the mascarine. To the same species we would refer the *brown Parrot* of Brisson.

[A] Specific character of the *Pfittacus Mascarinus*: "It is cinereous, with the bridle black below; its orbits naked and reddish; its lateral tail-feathers whitish at their base."

N^o. 142



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The BLOODY-BILLED PARROT.

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SIXTH SPECIES.

Pfittacus Macrorhynchos, Gmel.
The Great-bellied Parrot, Lath.

THIS Parrot is found in New Guinea. It is remarkably large. Its bill is blood-coloured, thicker and broader in proportion than that of any of the other Parrots, and even than that of the American macçaws. The head and neck are of a brilliant green with gold reflections; the fore part of the body is yellow shaded with green; the tail is yellow below and green above; the back is sky blue; the wing appears tinged with a mixture of the same sky blue and green, according to its different positions; the coverts are black, edged and sprinkled with streaks of gold yellow; this Parrot is fourteen inches long.

[A] Specific character of the *Pfittacus Macrorhynchos*: "It is green, inclining below to yellow; its wings mixed with sky blue and green; its coverts black."

The GREAT BLUE-HEADED GREEN PARROT.

SEVENTH SPECIES.

Pfittacus Gramineus, Gmel.

The *Amboyna Parrot*, Lath.

THIS is one of the largest of the Parrots; it is near sixteen inches in length, though its tail is rather short. The face and the upper side of the head, are blue; all the upper surface is meadow-green, mixed with blue on the great quills; all the under surface is olive-green: the tail is green above, and dirty yellow below [A].

The GRAY-HEADED PARROT.

EIGHTH SPECIES.

Pfittacus Senegalus, Linn. Gmel. and Briss.

The *Senegal Parrot*, Lath.

THIS bird has a short tail, which excludes it from the family of the Parrakeets; and though only seven inches and a half long, it is

[A] Specific character of the *Pfittacus Gramineus*: "It is green, below olive; its front and top blue; its tail yellow below."

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thick and round shaped. Its head and face are of a glossy bluish gray; its stomach and all the under side of its body are of a full marigold-yellow, sometimes mixed with aurora red; its breast and all its upper surface green; except the quills of the wings, which are only edged with that colour on a brown gray ground.

These Parrots are frequent in Senegal; they fly in small flocks of five or six, and perch on the straggling trees in the burning, sandy plains of that country, and utter a shrill, disagreeable cry. They keep close together, so that a person may kill several at once; and it often happens that a single shot levels with the ground the whole of the little flock. Le Maire affirms that they never speak*; but perhaps they have been neglected in their education.

* “ The Parrots are these of two kinds (at Senegal); some small and entirely green, others larger, having the head gray, the belly yellow, the wings green, and the back mixed with gray and yellow; the latter never speak, but the smaller have a sweet, clear voice, and prattle whatever they are taught.” *Voyage de le Maire. Paris, 1695, p. 107.*

[A] Specific character of the *Pfittacus Senegalus*: “ It is green, below yellow; its head cinereous; its orbits black and naked.”

The L O R I S.

THIS name has been applied in the East Indies to a family of Parrots whose cry resembles the found of the word *lori*. They are hardly distinguished from the rest of the genus, except by their plumage, which is chiefly red; and of various intensity. Their bill is also smaller, not so much hooked, but sharper than that of the other Parrots. Their aspect is lively; their voice shrill; and their motions quick. They are, according to Edwards; the most nimble of all the Parrots, and the only ones that can leap to the height of a foot. These well ascertained facts confute the assertion of a traveller, that they brood in silent melancholy*.

They are taught with great ease to whistle and articulate words; they soon grow tame, and, what is uncommon in all animals, they retain their cheerfulness in captivity. But they are in general very delicate, and difficult to transport; and, in our temperate climates, they are short lived. Even in their native regions, they are subject to epileptic fits, like the maccaws and other Parrots; yet it is probable that this disorder attacks only the domesticated birds.

* *Hist. Gen. des Voy.* t. X. p. 459.

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“Ornithologists have improperly,” says Sonnerat *, “discriminated the Loris by the epithets of the *Philippine*, the *East Indian*, the *Chinefe*, &c. These birds inhabit only the Moluccas and New Guinea, and those found in other parts have been carried thither.” But these nomenclators are guilty of a greater impropriety in reckoning some species of Loris as natives of America, since none exist there; and, if travellers have seen a few individuals, they must have been introduced from the Asiatic islands.

Sonnerat adds too, that he constantly found the Loris in one island to be of a different species from those in another, though at a short distance only. A similar observation has been made in regard to the islands of the West Indies.

The NOIRA-LORI.

FIRST SPECIES.

Psitacus Garrulus, three Varieties, Gmel.

Lorius Moluccensis, Briss. and Gerini.

THIS bird is found at Ternate †, at Ceram, and at Java, where it is called *Noira*, a name

* *Voyage a la Nouvelle Guinee*, p. 173.

† “There are many beautiful Parrots in the isle of Ternate, which are red on the back, with little feathers on the fore side of the

name which the Dutch have adopted. It is held in such high estimation in India, that ten reals are readily offered for one Noira. In the account of the first voyage from Holland to Java, it is said that several of these beautiful birds, which were tried to be brought home, all died on the passage*. In the second voyage, however, one was carried to Amsterdam; and, since that time, they have been more frequent.

The Noira shews strong attachment, and even affection, to its master; it caresses him with its bill, and strokes his hair with surprising gentleness and tameness. At the same time it cannot bear strangers, and bites them with a sort of rancour. The natives of Java breed many of these birds †. In general the custom of keeping tame Parrots seems to have been very ancient in India, since Ælian mentions it [A].

the wings. They are somewhat smaller than those of the West Indies, but they learn much better to speak." *Argensola, Conquêtes des Meluques. Paris, 1706, t. III. p. 21.*

* Lincot *apud Clusium. Auct. p. 364.*

† "The Dutch passed into the apartment of the Parrots, which appeared to them much more beautiful than what they had seen in other places, but of a moderate size. The Portuguese give them the name of *noyras*: they have a bright glossy red on the throat and under the stomach, and a beautiful gold plate on the back." *Hist. Gen. des Voy. t. VIII. p. 136.*

[A] Brisson thus describes his *Lorius Moluccensis*: "It is scarlet; the spot on the upper part of its back and the upper coverts of the wings, yellow; the quills of the wings green externally and above, below pale rose-colour, within saffron tipped with black; the lateral quills of the tail above, crimson on their first half, and green on the other; the two outermost mixed externally on their last half with deep violet."

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VARIETIES of the NOIRA.

I*. To the Noira we ought perhaps to refer the Java Parrot mentioned by Aldrovandus, and which the inhabitants of that island term *nor*, which means brilliant. The whole of the body is of a deep red; the wings and the tail are of a deep green; there is a yellow spot on the back, and a small border of the same colour on the shoulder. Of the feathers of the wings, which when closed appear entirely green, the coverts only, and the small quills, are yellow, and the large ones are brown.

II†. The Lori described by Brisson under the name of the *Ceram Lori*, and to which he applies what we have ascribed to the Noira, is only a variety, and in no respect different, except that its legs are green, while those of the former are red, like the rest of the body.

* This is the second variety of Linnæus' *Pfittacus Garrulus*.

† *Pfittacus Garrulus*, Linn. Gmel. and Borowsk.

Lorius Ceramensis, Brisson.

Pfittacus Rufus, femoribus alisque viridibus, Fris. & Klein.

The *Purple Parrot*, Charlton.

The *Scarlet Parraketo with green and black wings*, Will.

The *Ceram Lory*, Lath.

[A] Specific character: "It is red; its orbits cinereous; its cheeks and wings green; its tail-quills blue on their posterior half."

The COLLARED LORY.

SECOND SPECIES.

Pfittacus-Domicella, Linn. Gmel. and Borowk.

Lorius Orientalis Indicus, Briss.

The *Second Black-capped Lory*, Edw.

The *Purple-capped Lory*, Lath.

ALL the body, including the tail, is of a deep blood colour; the wing is green, the top of the head is black, terminated with violet on the nape; the legs and the fold of the wing are of a fine blue; the lower part of the neck is furnished with a yellow collar, which we have adopted as the specific character.

The bird figured in the *Planches Enluminees* under the name of the *East Indian Lory*, and which Brisson describes by the same appellation, appears to be the female of this; for the only difference is that it wants the yellow collar, and that the blue spot on the top of its wing is not so broad; it is also somewhat smaller. This Lory is like all the rest of the kind, very gentle and familiar; but it is also very delicate and difficult to breed. None more easily learns to speak, and even with distinctness. "I have seen one," says Aublet, "which repeated every thing it heard the first time*." Though this

* "It had come from India to the Isle of France, and had been given to me by the Count d'Estaing; it was astonishing." *Note communicated by M. Aublet.*

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capacity is very astonishing, there is no reason to doubt of it*. This bird is valued very high; Albin says that he saw one sold for twenty guineas.—We may regard the *East Indian collared Lory* as a variety of this species [A].

The TRICOLOR LORY.

THIRD SPECIES.

Pittacus-Lory, Linn. Gmel. and Borowk.

Lorius Philippensis, Briss.

The *First Black-capped Lory*, Edw. and Lath.

THE fine red, the azure, and the green, which are disposed in large spots on the plumage of this Lory, have induced us to give it the epithet of *Tricolor*. The forepart and the sides of the neck, the flanks, the lower part of the back, the rump and half the tail, are red. The under side of the body, the legs, and the top of the back, are blue; the wing is

* “The Dutch had one that in a moment imitated the cries of the other animals which it heard.” *Second Voyage des Hollandois*. Hist. Gen. des Voy. t. VIII. p. 377.—“All voyagers speak with admiration of the facility with which the Parrots of the Moluccas can repeat what they hear. Their colours are variegated, and form an agreeable mixture; they scream much, and very loud.”—*Ibid*.

[A] Specific character of the *Pittacus-Domicella*: “It is red; its cap violet; its wings green; its shoulders and knees blue; its orbits brown.”

green, and the point of the tail, blue; the crown of the head is covered by a black cap. The bird is near ten inches long. Few are so beautiful, both on account of the brilliancy of the colours, and their elegant contrast. Edwards saw it alive, and terms it the *Little Lory*; it whistled pleasantly, he says, and pronounced several words distinctly; and, leaping briskly on its roost or on the finger, it called with a soft clear voice, *Lory, lory*. It played with the hand, and ran after persons, hopping like a sparrow. This charming bird lived but a few months in England. The specimen which we have described was brought by Sonnerat from the island Yolo, which the Spaniards claim as one of the Philippines, and the Dutch as one of the Moluccas. [A].

The CRIMSON LORY.

FOURTH SPECIES.

Psittacus Puniceus, Gmel.

Lorius Amboinensis, Briss.

THIS Lory is near eleven inches long. We term it *crimson*, because the red of its plumage, the face except, is not so brilliant as

[A] Specific character of the *Psittacus-Lory*: "It is purple; its cap violet; its wings green; its breast, its cheeks, and its tail, blue; its orbits somewhat carnation."

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in the others, and has a dull brown cast on the wing. The blue of the top of the neck and of the stomach is weak, and inclined to violet; but, on the fold of the wing, it is bright and azure, and, at the edge of the great quills, it is lost in their blackish ground; the tail is of a smoky red below, and of the same tile-red above, as the back. This is not the only species seen at Amboyna, and from Gemelli Careri the following also appears to be found there [A].

The RED LORY.

FIFTH SPECIES.

Psittacus Ruber, Gmel.

The *Molucca Lory*, Lath.

It is entirely red, except the tip of the wing, which is blackish, and two blue spots on the back, and one of the same colour on the under coverts of the tail. It is ten inches long, and appears to be a new species. It is improperly termed the *Chinese Lory* in the *Pl. Enlum.* for voyagers never mention the Lories as found in China*, and one of our best observers,

[A] Specific character of the *Psittacus Punicus*: "It is deep scarlet, below white; the lesser and inferior coverts of its wings, and the inner and under side of its wing-quills are blackish brown."

* "At Amboyna there are many species of Parrots; and among others

scribers, M. Sonnerat, assures us, on the contrary, that they are all inhabitants of the Moluccas and of New Guinea. In fact, the *Gilolo Lory** of this author seems to be exactly the same with the present [A].

The RED and VIOLET LORY.

SIXTH SPECIES.

Psittacus Guebiensis, Gmel.

The *Gueby Lory*, Lath.

THIS bird has hitherto been found only at Gueby. All the body is of a shining red, regularly scaled with violet brown from the back of the head, passing by the sides of the neck, as far as the belly; the wing is broken by red and black, in such a manner that this last colour terminates all the points of the quills, and marks a part of their webs; the small quills and their coverts nearest the body are dun-violet; the tail is copper red. The total length of the bird, eight inches [B].

others is one which has all its feathers carnation." *Voyage autour du monde*, par Gemelli Carreri, t. V. p. 236.

* *Voyage à la nouvelle Guinée*, p. 177.

[A] Specific character of the *Psittacus Ruber*: "It is red; the space about the eyes and the wing-quills black; the spot on the wings and the lower coverts of the tail sky-blue; the tail tipped with bay."

[B] Specific character of the *Psittacus Guebiensis*: "It is brilliant red; its wing-quills striped transversely with black; its tail brown-red."

The GREAT LORY, *Buff.*

SEVENTH SPECIES.

Psittacus Grandis, Gmel.The *Grand Lory*, Lath.

THIS is the largest of all the Loris; it is thirteen inches long. The head and neck are of a fine red; the lower part of the neck, where it joins the back, is violet blue; the breast is richly clouded with red, blue, violet, and green, and the mixture of green and fine red is continued under the belly; the great quills, and the edge of the wing, from the shoulder, are sky blue; the rest of the upper surface is dull red. Half of the tail is red, the tip yellow.

It appears that Vosmaer describes the same species by the name of *Ceylon Lory*. It was probably carried from a greater distance to that island, and thence brought into Holland; but it lived there only a few months.

The PARRAKEET LORIS.

THE following species are almost entirely red, like the Loris, but their tail is longer, though not so long as that of the Parrakeets. We shall therefore consider them as forming the intermediate gradation.

The RED PARRAKEET LORY, *Buff*.

FIRST SPECIES.

Pfitacus Borneus, Linn. and Gmel.

Pfitaca Coccinea Bonarum Fortunarum Insule, Briss.

The *Long-tailed Scarlet Lory*, Edw. and Lath.

THE plumage of this bird is almost wholly red, except some of the coverts and the tips of the quills of the wing and of the tail, which are partly green and partly blue. The total length is eight inches and a half. Edwards says that it is very rare, and that a traveller brought it from Borneo, and gave it to Sir Hans Sloane.

[A] Specific character of the *Pfitacus Borneus*, as given by Mr. Latham: "It is red; the quills of its wings and tail green; a blue spot on its wings, its orbits brown."

The VIOLET and RED PARRAKEET LORY, *Buff.*

SECOND SPECIES.

Pfitacus Indicus, Gmel.

Pfitacus Coccineus, Lath. Ind.

Pfitaca Indica Coccinea, Briss.

The *Indian Lory*, Lath. Syn.

THE prevailing colour is red, mixed with violet blue. The bird is ten inches long, and its tail occupies near one third of that space. The tail is entirely of a full blue, which also covers the flanks, the stomach, the top of the back, and of the head; the great quills of the wing are yellow; all the rest of the plumage is of a fine red, edged with black, which is disposed in festoons on the wings.

[A] Specific character of the *Pfitacus Indicus*: "It is scarlet, variegated with brown and violet; the upper parts of its head and neck, its breast, and a band behind the eyes, violet; the tips of the greater tail-quills dilute brown, those of the lesser and the coverts, brown violet."

THE
TRICOLOR PARRAKEET LORY.

THIRD SPECIES.

Pfittacus Amboinensis, Linn. and Gmel.

Pfittaca Amboinensis Coccinea, Briss.

The *Amboyna Red-Parrot*, Lath.

RED, green, and turkey blue, are disposed in large marks over all its plumage; red covers the head, the neck, and all the upper side of the body; the wing is deep green; the back and tail are of a full velvet blue. The tail is seven inches long; and the whole bird is fifteen inches and a half long, and as large as a turtle.—The tail in these three last species, though longer than common in the Loris and Parrakeets properly so called, is not tapered as in the long-tailed Parrakeets, but consists of equal quills, with a square termination.

[A] Specific character of the *Pfittacus Amboinensis*: "It is scarlet; its back blue; its wings with a green spot."

PARRAKEETS
OF THE OLD CONTINENT.

PARRAKEETS

IN WHICH THE TAIL IS LONG AND EQUALLY TAPERED.

WE shall distinguish the long-tail Parakeets into two families; into those which have the tail equally tapered, and into those which have the two middle quills much longer than the rest, and appearing detached from each other. All these Parakeets are larger than the short-tailed ones, which we shall afterwards describe.

THE
GREAT COLLARED PARRAKEET.

La Grande Perruche a Collier d'un Rouge Vif, Buff.

FIRST SPECIES,

With a long, equally tapered Tail.

Pfittacus-Alexandri, Linn. Gmel. Scop. and Bor.

Pfittacus Torquatus Macrourus, Ray.

Perrocello, Olin.

The *Ring Parakeet*, Edw. and Will.

The *Alexandrine Parakeet*, Lath.

PLINY and Solinus have both described the green collared Parakeet, which was the only one

one known in their time, and which came from India. Apuleius delineates it with that elegance which he usually affects*, and says that its plumage is of a pure brilliant green. The only interruption of this colour is, according to Pliny, a half collar of bright red on the top of the neck †. Aldrovandus, who has collected all the particulars, leaves no room to doubt but that the *long-tailed and collared* Parrot of the ancients is the same with the red collared Great Parrakeet of this article. There are two circumstances sufficient to evince this; the first is the breadth of the collar, which, about the middle, is equal to the *thickness of the little finger*, and the second, that there is a red spot which marks *the top of the wing*. Both these are peculiarly the properties of this Parrakeet. It is equally beautiful with the rest of the tribe: its plumage is of a lively light green on the head, and deeper on the wings and the back; the rosy half-collar embracing the back of the neck, joins, on the sides, to the black bar that covers the throat; the breast is of a vermilion red, and there is a purple spot on the crown of the head: the tail is beautiful, and longer than the body; its upper surface mixed with green and beryl, its under surface of a delicate yellow. The bird is found, not only

* Florid. Lib. II.

† *Viridem toto corpore, torque tantum miniato in ceruice distinctam.*
Plin. Lib. X. 42.

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on the south of the continent of Asia, but also in the adjacent islands, and at Ceylon; for this is Taprobana, from which Alexander's fleet brought the first Parrot into Greece [A].

The DOUBLE COLLARED PARRAKEET.

SECOND SPECIES,

With a long and equal Tail.

Pfittacus-Alexandri, second Variety, Gmel.

The *Double-ringed Parrakeet*, Lath.

Two small wings, the one rose-coloured, and the other blue, entirely encircle the neck; all its plumage is green, which is deeper on the back, has a yellow cast under the body, and, in many parts, there is a dusky streak on the middle of each feather; below the tail, a yellowish fringe edges the brown-gray, which is impressed on each quill. The bird is as large as a turtle; and, as it is found in the island of Bourbon, it probably inhabits also the corresponding continent, either of Africa or India.

[A] Specific character of the *Pfittacus-Alexandri*: "It is green; its collar and breast red; its throat black."

The RED-HEADED PARRAKEET.

THIRD SPECIES,

With a long and equal Tail.

Pfittacus Erythrocephalus, Gmel.

Pfittaca Ginginiana, Briss.

The *Blossom-beaded Parrakeet*, Lath.

THIS Parrakeet is eleven inches total length, and the tail is longer than the body. The whole of the upper side is dull green, with a purple spot on the top of the wing; the face is purplish red, which, on the head, runs into blue, and is intercepted, on the nape of the neck, by a streak produced from the black that covers the throat; the under side of the body is a dull dirty yellow; the bill is red [A].

THE

BLUE-HEADED PARRAKEET.

FOURTH SPECIES,

With a long and equal Tail.

Pfittacus Cyanocephalus, Linn. Gmel. Briss. and Gerini.

The *Blue-headed Parrot*, Lath.

IT is ten inches long; its bill is white, its head blue, its body green; the fore-side of

[A] Specific character of the *Pfittacus Erythrocephalus*: "It is green; its head red, mixed with blue; its throat black, with a black and pale green collar."

its

[A]
green;

its neck yellow, and the under surface of its belly and tail yellow mixed with green; the middle quills of the tail have a blue cast above; the legs are bluish [A].

The LORY PARRAKEET.

FIFTH SPECIES,

With a long and equal Tail.

Psittacus Ornatus, Linn. Gmel. and Bor:

Psittaca Indica Varia, Briff.

WE adopt the name which Edwards has bestowed on this species, because it is of a beautiful red, like the loris; that colour, intersected by small brown waves, covers the throat, the fore-part of the neck, and the sides of the face, as far as the back of the head, which it surrounds. The crown of the head is purplish, Edwards terms it blue; the back, the upper surface of the neck, the wings, and the stomach, are emerald green; the sides of the neck, and the flanks, are irregularly spotted with orange yellow; the great quills of the wing are blackish, fringed at the end with yellow; the tail, which is green above, appears tinged below with red, and is yellow at the tip; the

[A] Specific character of the *Psittacus Cyanocephalus*: "It is green; its head and throat blue."

bill

bill and feet are white-gray. This Parrakeet is about the middle size, and is only seven inches and a half long. It is one of the handsomest, on account of the brilliancy and choice of its colours. It is not the *paradise bird* of Seba, as Brisson supposes; for in that bird the tail is unequally tapered [A].

THE
YELLOW PARRAKEET, *Buff.*

SIXTH SPECIES,

With a long and unequal Tail.

Psittacus Solstitialis, Linn. and Gmel.

Psittaca Angolensis Lutea, Brisson.

Psittacus Croceus, Klein.

Psittacus Luteus, cauda longa, Fris.

The *Angola Yellow Parrot*, Alb. and Lath.

ALL its plumage is yellow, except the belly and the ring of the eye, which are red, and the quills of the wing, with a part of those of the tail, which are blue: the former are intersected near their middle by a yellowish bar. Albin tells us that it can learn to speak, and, though he calls it the Angola Parrot, he says it comes from the East Indies [B].

[A] Specific character of the *Psittacus Ornatus*: "It is yellow-green; the back of its head, its throat, and its breast, red; its top, and its ears, blue, with cinereous orbits."

[B] Specific character of the *Psittacus Solstitialis*: "It is yellow; the coverts of its wings green; its orbits red; its lateral tail quills blue exteriorly."

THE
AZURE-HEADED PARRAKEET.

SEVENTH SPECIES,

With a long and equal Tail:

Pfitacus Alexandri, Var. 4, Gmel.

Pittaca Cyanocephalos Indica, Briss.

The *Blue headed Parakeet*, Edw. and Lath.

THIS Parakeet is of the size of a pigeon; all its head, face, and throat, are of a fine sky-blue; there is a little yellow on the wings; the tail is blue, equally tapered, and as long as the body; the rest of the plumage is green. It is brought from the East Indies, according to Edwards, who describes it.

The MOUSE-PARRAKEET, *Buff*.

EIGHTH SPECIES,

With a long and equal Tail.

Pfitacus Murinus, Gmel.

The *Grey-breasted Parakeet*, Lath.

THIS species appears to be new, and we know not its native country. Perhaps the following extract from a voyage to the Ile of France alludes to it*:—"The green Parra-

* Voyage à Isle de France, 1772, p. 122.

keet with a gray cowl is about the bulk of a sparrow, and cannot be tamed;" though, however, this Parrakeet is considerably larger than the sparrow. We have called it the Moufe-Parrakeet, on account of a large mark of moufe gray that covers the breast, the throat, the forehead, and the whole of the face; the rest of the body is olive green, except the great quills of the wing, which are of a deeper green: the tail is five inches long, the body as much; the feet are gray; the bill is white gray. All the plumage is pale and discoloured, and gives it a sombre air; and in point of beauty it is the most inferior of the family [A].

The MUSTACHO PARRAKEET.

NINTH SPECIES,

With a long and equal Tail.

Pfittacus-Pondicerianus, Gmel.

A BLACK streak stretches between both eyes, and two large mustachoes of the same colour rise from the lower mandible, and spread over the sides of the throat. The rest of the face is white and bluish; the tail is green above,

[A] Specific character of the *Pfittacus Murinus*: "It is olive; its face, its throat, and its breast, are moufe-coloured; its wing-quills green."

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and straw coloured below; the back is deep green; there is some yellow on the coverts of the wings, of which the great quills are of a deep water-green; the stomach and breast are lilac. The bird is near eleven inches in length, and the tail occupies the half of it. It has not been hitherto noticed by any naturalist.

THE
BLUE-FACED PARRAKEET, *Buff.*

TENTH SPECIES,
With a long and unequal Tail.

Psittacus Hæmatoëus, Linn. and Gmel.

Psittacus Amboinensis Varia, Briss.

The *Red-breasted Parrot*, Edw. and Lath.

THIS beautiful Parrakeet is green on the upper side, and the head is painted with three different colours; the face and throat with indigo, the back of the head with brown-green, and the crown with yellow: the lower part of the neck and the breast are red snuff-colour on a ground of brown green; the belly is green, the abdomen consists of yellow and green, and the under surface of the tail is yellow. Edwards has given this bird the name of the *Red-breasted Parrakeet*; but it appears to have been represented from a specimen preserved in spirit of

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wine, and its colours were tarnished. Our specimen was in better condition. The bird is found at Amboyna.

We shall regard the *Molucca Parrakeet* as either a variety of this, or a closely related species; its size and colours are nearly the same, only the head is entirely indigo, and there is a spot of the same colour on the belly; and the aurora-red of the breast is not waved, but mixed with yellow. The tail of these Parrakeets is as long as the body, which is ten inches; their bill is reddish white*.

THE
LACE-WINGED PARRAKEET,
Buff. and *Lath.*

ELEVENTH SPECIES,
With a long and equal Tail.

Pfittacus Olivaceus, Gmel.

THE wings are laced with blue, yellow, and orange; the first of these colours occupying the middle of the feathers, the two others extending to the border; the great quills are olive-brown, and the same colour is extended over all the body, except a bluish spot behind

* It is the first variety of the *Pfittacus Hematodus*, according to Gmelin, and denominated the *Orange-breasted Parrot* in Latham's Synopsis.

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the head. The bird is near eleven lines long, of which the tail is more than a third; but the wing is also very long, and covers near half the tail, whereas in the other Parrakeets the wings are much shorter.

We now proceed to enumerate the Parrakeets of the old continent, whose tail is also long, but unequally tapered.

[A] Specific character of the *Pfitacus Olivaceus*: "It is olive; a blue spot on the back of its head; its wings variegated with blue, green, and orange."

PARRAKEETS
OF THE OLD CONTINENT,
WHICH HAVE A LONG AND UNEQUAL TAIL.

The ROSE-RINGED PARRAKEET.

FIRST SPECIES,
With a long and unequal Tail.

Psittacus-Alexandri, Second Variety, Gmel.
Psittaca Torquata, Briff. and Gerini.

SO far is this Parrakeet from being peculiar to the new world, as Brisson represents it, that it is there entirely unknown. It inhabits many parts of Africa, and is brought in great numbers to Cairo by the caravans of Ethiopia. The vessels that sail from Senegal or Guinea, where it is common, carry it with the negroes into the West India islands. None of these Parrakeets are found on the continent of America; they are only seen near the settlements of St. Domingo, Martinico, Guadeloupe, &c. which the African vessels perpetually frequent, but at Cayenne, where negroes are very seldom imported, they never occur. All these facts, which were communicated by an excellent observer, prove that the Rose-ringed Parrakeet is not a native

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of the new world. But it is still more singular that Brisson should consider the same bird as the Parrot of the ancients; as if the Greeks and Romans went to America to find it. Besides, it is a different species, which we have already described.

The Rose-ringed Parrakeet is fourteen inches long, but of this extent the tail and its two projecting feathers occupy near two thirds; these feathers are of a beryl blue; all the rest of the plumage is a light soft green, which is rather more vivid on the quills of the wings and mixed with yellow on those of the tail; a small rose collar clasps the back of the neck and joints with the black of the throat; a bluish tinge appears on the feathers of the nape of the neck, which recline upon the collar; the bill is brown red.

The LITTLE PARRAKEET,

With a Rose-coloured Head and long Shafts.

SECOND SPECIES,

With a long and unequal Tail.

Psittacus Erythrocephalus, First Variety, Gmel.

Psittacus Bengalensis, Briss.

The Parrakeet from Bengal, Albin.

The Rose-headed Ring Parrakeet, Lath.

THIS little Parrakeet, which is not more than four inches long, measures twelve, if the

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two long shafts be included; these are blue, the rest of the tail, which is not more than two inches and a half long, is olive green, which is also the colour of all the under side of the body, and even of the upper side, where it is only deeper; a few small red feathers appear through the plumage, on the top of the wing; the head is rose-colour, mixed with lilac, intersected and bordered by a black ring, which, rising from the throat, encircles entirely the neck. Edwards speaks with rapture of this bird: it is termed, he says, in Bengal *fridyutab*.

The LONG-SHAFTED GREAT PARRAKEET.

THIRD SPECIES,

With a long and unequal Tail.

Psitacus Erythrocephalus, Var. 3, Gmel.

The *Malacca Parrakeet*, Lath.

THE colours of this Parrakeet are so like those of the preceding, that they might be viewed as the same species, were they not considerably different in respect to size. This is sixteen inches long, including the two shafts of the tail, and the other dimensions are proportional; the shafts are blue, as in the preceding; the tail is of the same olive green, but deeper

deeper, and of the same tinge as the wings; the middle of the wings is rather bluer; all the green on the body is much diluted with an admixture of yellowish; the head is not entirely rose-coloured, but only the space near the eyes, and the back of the head; the rest is green, and there is no ring about the hood,

The REDDISH-WINGED GREAT
PARRAKEET, *Buff.*

FOURTH SPECIES,

With a long and equal Tail.

Pittacus Eupatria, Linn. and Gmel.

Pittaca Giminiana, Briss.

The *Gingi Parrot*, Lath.

THIS Parakeet is twenty inches, from the point of the bill to the extremity of the two long shafts of the tail: all the upper surface of the body is deep olive green, the under surface is pale green, intermixed with yellowish; on the pinion of each wing is a small red mark, and another one of dilute blue on the middle of the long feathers of the tail; the bill is red, and also the feet and nails [A].

[A] Specific character of the *Pittacus-Eupatria*: "It is green; its cheeks naked; its shoulders scarlet; its bill purplish."

THE
RED-THROATED PARRAKEET.

FIFTH SPECIES,
With a long and unequal Tail.

Pfittacus Incarnatus, Linn. and Gmel.

Pfittaca Indica, Briss.

The *Little Red-winged Parrakeet*, Edw. and Lath.

EDWARDS, who describes this bird, says that it is the smallest Parrakeet which he had ever seen. It is not larger than a titmouse, but its tail is longer than its body; the tail and back are of a full green; the coverts of the wings and of the throat are red; the under side of the body is yellowish green; the iris of the eye is of so deep a cast as to appear black, though in most of the Parrakeets it is gold-coloured. Edwards says that it comes from India.

[B] Specific character of the *Pfittacus Incarnatus*: "It is green; its bill, feet, and nails, carnation; its cere and orbits whitish; its throat and the coverts of its wings red."

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The BLACK-BANDED GREAT PARRAKEET.

SIXTH SPECIES,

With a long and unequal Tail.

Pittacus Atricapillus, Linn. and Gmel.

Ara Moluccensis Varia, Briff.

THE bird, which Briffon has termed the *Molucca Maccaw*, is undoubtedly only a Parakeet; for no Maccaw inhabits either India, or any part of the ancient continent. Seba calls the same bird a *Lory*; but the long feathers of its tail shew evidently that it is a Parakeet. The total length of the bird is fourteen inches, of which the tail is near seven. The head has a black band, and the neck a red and green collar; the breast is of a fine light red; the wings and back are of a rich Turkey-blue; the belly is deep green, sprinkled with red feathers; the tail, of which the middle quills are the largest, is coloured with green and red, with black edges. This Parakeet was, according to Seba, brought from the Papuan islands; a Dutch settler at Amboyna purchased it of an Indian for five hundred florins. This price was not extravagant, considering the beauty and gentleness of the bird; it pronounced distinctly several words in different languages, it made its salute in the morning, and sung its song.

song. Its attachment equalled its accomplishments; for having lost its master, it died of melancholy * [A].

THE
RED and GREEN PARRAKEET.

SEVENTH SPECIES,
With a long and unequal Tail.

Psittaca Japonensis, Briss.

THIS species has been denominated by Brisson the *Japan Parakeet*; but no Parrots are found in that island, or in the northern provinces of China, except such as have been carried thither; and probably this bird, of which Aldrovandus saw only the figure, came from some more southern part of Asia. Willughby observes even that both the figure and its description appeared suspicious. The plumage is composed of green, red, and a little blue; the first of these colours is spread on the upper side of the body, the second on the under side and the tail, except the two long shafts, which are green, and the blue that tinges the shoulders and the quills of the wings: there are two spots of the same colour on each side of the eye.

* Kæmpfer, *t. I. p. 113.*

[A] Specific character of the *Psittacus Atricapillus*: "Above it is blue; its throat and breast red; its belly and vent green; its top black, with a green and black collar."

The CRESTED PARRAKEET.

EIGHTH SPECIES,

With a long and unequal Tail.

Pfittacus Javanicus, Linn. and Gmel.*Pfittaca Javensis Cristata Coccinea*, Briss.The *Crested Red Parrakeet*, Lath.

THIS is the *small Parrot of Bontius*, whose lustre and variety of plumage are extolled by Willughby; the pencil can hardly imitate, he says, its brilliancy and beauty. It is composed of bright red, and of rose colour, mixed with yellow and green on the wings, and with green and blue on the tail, which is very long, and projects beyond the wings ten inches; a remarkable excess in a bird which is not larger than a lark. The feathers on its head form a crest, which must be very elegant, since it is compared to a peacock's tuft in the following extract, which seems to allude to this beautiful species. "This Parrakeet is about the bulk of a fishkin; on its head is a tuft of three or four feathers, resembling that of the peacock. This bird is exceedingly gentle*." These little Parrakeets are found in Java, in the interior parts of the country. They fly in flocks, making a great noise. They chatter much, and, when tamed, they easily repeat whatever they are taught †.

* *Lettres Edifiantes, second recueil, p. 69.*

† Willughby.

THE
SHORT-TAILED PARRAKEETS
OF THE OLD CONTINENT.

THESE are frequent in the south of Asia, and in Africa. They are entirely different from the Parrakeets of America, except a few which were probably carried thither. The species of Parrakeets that inhabit the old continent are much more numerous than those of the new: their habits are also different; some, for instance, cling to a small branch, and sleep with their head hanging downwards, which is not remarked of those settled in America.

In general, the Parrots of the new world make their nests in the hollows of trees, particularly those deserted by the woodpeckers, which are called *carpenters* in the West India islands*. In the old continent, on the contrary, many travellers inform us that several species of Parrots suspend their nests, which are formed with rushes and roots, to the ends of

* Lery positively avers that the American Parrots never suspend their nests, but make them in cavities of trees. *Apud Clusium Auct. p. 364.*

flexible

flexible boughs *. This difference in the manner of nestling, if it obtains in a great number of species, may have been prompted by the diversity of climate. In America, where the heat never is excessive, it is necessary to concentrate it; but, in the burning plains of Africa, the nest is rocked by the tempering breeze.

THE
BLUE-HEADED PARRAKEET.

FIRST SPECIES,
With a short Tail.

Pfittacus-Galgulus, Linn. Gmel. and Bor.

Pfittacula Malaccensis, Briss.

The *Sapphire-crowned Parrakeet*, Edw. and Lath.

THE crown of the head is of a fine blue, and round the neck is an orange half-collar; the breast and rump are red, and the rest of the plumage green.

Edwards says that he received this bird from Sumatra: Sonnerat found it in the island of Luçon †.

This is one of the species that sleep with their head hanging downwards. It lives on

* See the account given by Cadamosto. *Hist. Gen. des Voy.* t. II. p. 305.—*Voy. à Madagascar* par Fr. Cauche, Paris, 1651.

† *Voyage à la Nouvelle Guinée*, p. 76.

callou,

callou, a kind of white liquor, which is obtained in the East Indies from the cacao tree, by making an incision near the foot stalks that support the fruit. A hollow bamboo is fixed to the extremity of the branch to collect the sap, which when first drawn is pleasant, and resembles the taste of new cyder.

It appeared to us that we ought to refer to the same species the bird mentioned by Aldrovandus, of which the crown of the head was a fine blue, the rump red, and the rest of the plumage green. But as that naturalist does not take notice of the half-collar, or of the red on the breast, and also says that it came from Malacca, it was perhaps of a different, though closely related, species.

[A] Specific character of the *Pfitacus Galgulus*: "It is green; its rump and breast scarlet; the top (of the male) blue."

N^o. 148



FIG. 1. THE RED HEADED GUINEA PARAKEET. FIG. 2. THE PHILIPPINE PARAKEET.

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The RED-HEADED PARRAKEET,
Or the GUINEA SPARROW.

SECOND SPECIES,

With a short Tail.

Pfittacus Pullarius, Linn. Gmel. and Bor.

Pfittacula Guineensis, Bris.

Pfittacus Puffillus viridis, Ray.

The Red-headed Guinea Parrakeet, Lath.

THIS bird is known to bird-fanciers under the name of *Guinea Sparrow**: it is very common in that country, and is brought into Europe on account of the beauty of its plumage, its tameness, and gentleness; for it cannot be taught to speak, and has only a disagreeable scream. Many are lost in the passage, and scarcely one out of ten reaches Europe †; yet they live to a considerable age in our climates, when fed on panic and canary seeds, and kept in pairs. They also lay sometimes ‡, but the
eggs

* "The Parroquets are called *Guinea Sparrows*," says Bosman, "though it would not be easy to assign the reason, since the common sparrows are here (on the gold coast) extremely abundant. Their red bill is a little curved, like that of the Parrots. These small creatures are carried to Holland in great numbers: there they sell very dear, though in Guinea a dozen may be purchased for a crown, of which nine or ten will die in the passage." *Hist. Gen. des Voy. t. IV. p. 247.*

† *Hist. Gen. des Voy. t. IV. p. 64.*

‡ There is no doubt but with due care these birds might be propagated in the domestic state. Sometimes the force of nature alone,

eggs seldom hatch. If one of the pair die, the other grows melancholy, and hardly ever survives. They are extremely attentive to each other; the male sits beside the female, and disgorges into her bill, and he is uneasy if she be a moment out of his sight. Thus they sweeten their captivity, by love and gentle manners. Travellers relate that, in Guinea, these birds are so numerous as much to injure the crops*. It would seem that the species is dispersed over almost all the southern climates in the ancient continent; for it is found in Ethiopia †, in the East Indies ‡, in the island of Java §, as well as in Guinea ||.

Many persons call this bird very improperly the *Brazilian sparrow*; for it is not a native of America.—The body is entirely green, marked with a spot of fine blue on the rump, and by a

alone, in spite of the rigor of the climate and of the season, prevails in them. Her Highness of Bourbon and Vermandois, Abbess of Beaumont-les-Tours, had two Parrakeets from Goree, that hatched two young ones in the month of January in a room without fire, but which the cold soon killed.

* Barbot. *Hist. de Guinee*, p. 220.

† Clusius, *Exot. Aucuar.* p. 365.

‡ Albin, Vol. III. p. 7.

§ Salerne, *Ornithol.* p. 72.

|| “ All along this coast they are numerous, but especially near the lower part, as at Mourée, Cormantin, and Acra.” *Voy. en Guinee*, par Bosman, *Utrecht*, 1705, p. 277. “ Infinite numbers of Parrots are found at Anamaboe: they are of the bulk of sparrows; their body is of a beautiful green; their head and tail of an admirable red, and all their figure so fine, that the author brought some to Paris, as a present fit for the king.” *Hist. Gen. des Voy.* t. IV. p. 64.

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flame coloured mask, mixed with a blush tint, which covers the forehead, encloses the eye, and descends under the throat, and, in the middle of it, the bill appears of a reddish white; the tail is very short, and appears all green when closed, but if displayed it is perceived to be intersected transversely with three bars, the one red, the other black, and the third green, which borders and terminates the extremity; the pinions of the wings are blue in the male, and yellow in the female, which differs not from the former, except that its head is of a fainter red.

Clusius has very distinctly described this species under the name of *Psittacus Minimus*. Edwards, Brisson, and Linnæus, have confounded it with the *little American Parrot painted with various colours* of Seba. But it is undoubtedly a different bird, for Seba says that his Parrot has not only a collar of fine sky-blue, and a tail magnificently tinged with a mixture of five colours, viz. blue, yellow, red, brown, and deep green; but that its voice and song are pleasant, and that it easily learns to speak. It is evident that all these attributes belong not to the Red-headed Parrakeet. Perhaps the bird, which Seba saw alive, forms a sixth species in the short-tailed Parrakeets of the new continent.

A variety, or perhaps a contiguous species, may be found in the bird described by Edwards under the denomination of the *smallest green and*

red Parrakeet, which differs in no respect from the preceding, except that its rump is red [A].

The COULACISSI.

THIRD SPECIES

Of short-tailed Parrakeet.

Pfittacus Galgulus, Var. Gmel.

Pfittacula Philippensis, Briss.

The *Philippine Parrakeet*, Lath.

THIS is the name which the bird receives in its native region, the Philippine islands, and particularly in that of Luçon. The forehead, the throat, and the rump, are red; there is a half-collar of orange on the upper side of the neck; the rest of the body, and the superior coverts of the wings, are green; the great quills of the wings are deep green on the outside, and blackish on the inside; the middle quills of the wings and those of the tail are green above and blue below; the bill, the feet, and the nails, are red.

The female is discriminated from the male by a bluish spot on each side of the head between the bill and the eye, and has no half-collar on the neck, or red on the throat, and the red

[A] Specific character of the *Pfittacus Pullarius*: "It is green; its front red; its tail fulvous; its bar black; its orbits cinereous."
tinge

tinge of its forehead is also more dilute and narrower.

Briffon and Linnæus* confound it with Edwards's Sapphire-crowned Parrakeet, which is our Blue-headed Parrakeet, and the first species with a short tail.

THE
GOLDEN-WINGED PARRAKEET.

FOURTH SPECIES,

With a short Tail.

Pfittacus Chrysopterus, Linn. and Gmel.

Pfittacus Alis Deauratis, Briff.

EDWARDS gives an account of this bird. It was probably brought, he says, from the East Indies, but he is not quite certain. The head, the small superior coverts of the wings, and the whole body, are green, only it is deeper on the body than beneath; the great superior coverts of the wings are orange; the four primary quills of the wings are deep blue on the outside, brown on the inside and at the extremity; the four next are of the same colour with the first; and lastly, those near the body are entirely green, as well as the quills of the tail; the bill is whitish; the feet and nails are pale flesh colour [A].

* Syst. Nat. Edit. XIII.

[A] Specific character of the *Pfittacus Chrysopterus*: "It is green; its wings marked with a blue and fulvous spot; its orbits naked and white."

THE
GRAY-HEADED PARRAKEET.

FIFTH SPECIES,

With a short Tail.

Pfittacus Canus, Linn. and Gmel.

Pfittacula Madagascariensis, Briss.

BRISSEON is the first who described this bird, which he says is found in Madagascar. The head, the throat, and the lower part of the neck, are gray, inclined somewhat to green; the body is of a lighter green below than above: the superior coverts of the wings, and the middle quills, are green; the great quills are brown on the inside, and green on the outside, and at the extremity; the quills of the tail are light green, with a broad transverse black bar at their extremity; the bill, the feet, and the nails, are whitish.

[A] Specific character of the *Pfittacus Canus*: "It is green; its head and its throat gray-green; its tail rounded, with a broad black bar."

The VARIEGATED WINGED PARRAKEET.

SIXTH SPECIES,

With a short Tail.

Pfittacus Melanopterus, Gmel.

The *Black-winged Parrakeet*, Lath.

THIS Parrakeet is somewhat larger than the preceding ones; it is found in Batavia, and in the island of Luçon. We shall borrow the description of it from Sonnerat*. "The head, neck, and belly, are light green and yellowish; there is a yellow bar on the wings, but each feather that forms it is edged exteriorly with blue; the small feathers of the wings are greenish; the great ones are of a fine velvet black (so that the wings are variegated with yellow, blue, green, and black); the tail is of a light lilac colour; and near its extremity there is a very narrow black bar; the feet are gray; the bill and iris are reddish yellow."

* Voyage à la Nouvelle Guinee, p. 78.

THE
BLUE-WINGED PARRAKEET.

SEVENTH SPECIES,

With a short Tail,

Pfittacus Capensis, Gmel.

THIS is a new species, which we received from the Cape of Good Hope, but without any accounts of its habits or of its climate. It is entirely green, except some quills of the wings, which are of a fine blue; the bill and feet are reddish.—This short description is sufficient to discriminate it from the other short-tailed Parrakeets.

The COLLARED PARRAKEET.

EIGHTH SPECIES,

With a short Tail.

Pfittacus Torquatus, Gmel.

WE shall also borrow the account of this bird from Sonnerat. “It is found in the Philippines, and especially in the island of Luçon; it is of the bulk of the Brazilian (Guinea) Sparrow; all the body is of a lively pleasant green, which is deeper on the back, and more dilute

under the belly, and shaded with yellow; behind the neck and below the head, there is a broad collar, which consists, in the male, of sky-blue feathers; but in both sexes the feathers of the collar are variegated transversely with black; the tail is short, equal to the wings, and terminated in a point; the bill, feet, and iris, are blackish gray. This species has no merit, but in its shape and colours; for it is devoid of graces, and cannot be taught to speak [A].

THE
BLACK-WINGED PARRAKEET.

NINTH SPECIES,
With a short Tail.

Psittacus Minor, Gmel.

The *Luzonian Parakeet*, Lath.

THIS species comes likewise from the isle of Luçon, and Sonnerat thus describes it. "It is rather smaller than the preceding; the upper side of the neck, the back, the small feathers of the wings and of the tail, are of a deep green; the belly is light green and yellowish; the crown of the head is a very bright red in the male, and the feathers, which border the

[A] Specific character of the *Psittacus Torquatus*: "It is green; a yellow bar on its head, striped across with black,"

upper

upper margin of the bill in the female are of the same bright red, and there is also a yellow spot above on the middle of the neck; in the male the throat is blue, in the female it is red; in both, the great feathers of the wings are black, those that cover the upper surface of the tail are red; the bill, feet, and iris, are yellow. I conceive, says Sonnerat, these two Parakeets to be the male and female, because they differ little, and are analogous in their size, shape, and colour, and inhabit the same climate; but I will not assert that they may not be distinct species. Both sleep hanging from branches with their heads downwards, and are fond of the sap that flows from incisions in the cocoa tree [A].

The A R I M A N O N.

TENTH SPECIES,

With a short Tail.

Psittacus Taitianus, Gmel.

The Otaheitan Blue Parakeet, Lath.

THIS bird is found in the island of Otaheite, and lodges in the cocoa trees, whence its name *Arimanon*. We borrow the description

[A] Specific character of the *Psittacus Minor*: "It is green; its top scarlet; its breast blue; its greater wing-quills black."
from

from Commerson. We range it after the short-tailed Parrakeets, though it has a peculiar character that belongs not to any of the genus; viz. its tongue is pointed, and terminates in a pencil of short white bristles.

The plumage is entirely of a fine blue, except the throat and the lower part of the neck, which are white; the bill and feet are red. It is very common in Otaheite, where it flutters about continually squalling. It forms flocks, and feeds on bananas, but it is difficult to domesticate; it dies of melancholy, especially if kept alone in the cage. It cannot be brought to eat any thing but the juice of fruits, and constantly rejects every kind of solid diet.

[A] Specific character of the *Psittacus Taitianus*: "It is blue; the feathers on its head longish; its throat white; its bill and feet red."

PARROTS
OF THE NEW CONTINENT.

The A R A S.

OF all the Parrots, the Ara is the largest, and the most magnificently decked; purple, gold, and azure, blaze on its plumage; its aspect is steady and composed; its deportment grave, and even supercilious, and as if conscious of its beauty. But its calm temper soon renders it familiar, and even susceptible of a degree of attachment. It may be domesticated without being enslaved; it never abuses the liberty which has been granted to it; it contracts a fondness for the family where it is adopted, and constantly returns from its rambling.

All these Aras are natives of the tropical parts of the new world, and inhabit both the continent and the islands; but none are found in Africa, or in India. Christopher Columbus, in his second voyage, touched at Guadeloupe, and there saw Aras, which he named *Guacamayas* *. They occur even in the desert islands, and every-

* Herrera, *Lib. II. cap. 10.*

where

where constitute the finest ornament of those gloomy forests with which the wild luxuriancy of nature clothes the face of the earth*.

When these Parrots were introduced into Europe, they were beheld with admiration. Aldrovandus, who, for the first time, saw an Ara at Mantua in 1572, remarks that they were then quite novelties, and highly esteemed; and that princes received these birds from one another as rare and valuable presents. Even Belon, that curious observer, had never seen a maccauw, for he says that the gray Parrots are the largest of all.

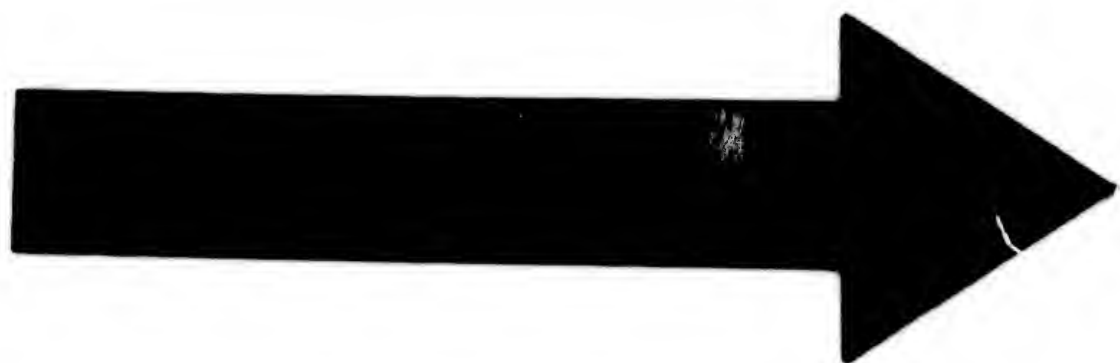
We know four species of Aras, viz. the red, the blue, the green, and the black. Our nomenclators enumerate six †, but which ought to be reduced to one half, as we shall afterwards find.

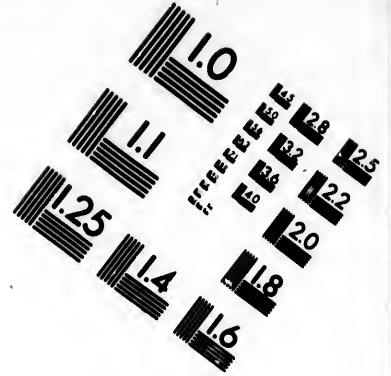
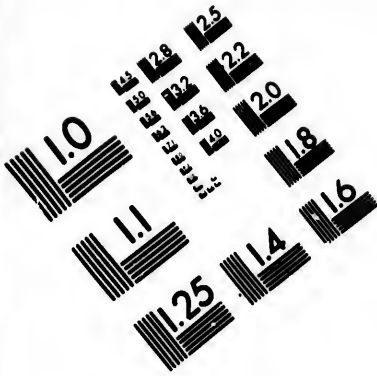
The characters which distinguish the Aras from the other Parrots of the new world are, 1. their size, which is at least double that of the others; 2. the length of the tail, which is

* "While Commodore Anson and his officers were contemplating the natural beauties of this solitude, a flock of Aras flew over their heads; and as if these birds wished to improve the entertainment, and heighten the magnificence of the spectacle, they stopped to make numberless circles in the air, which allowed time to observe the lustre and brilliancy of their plumage. Those who witnessed this scene cannot describe it without raptures." *Anson's Voyage round the World*.—"It is the finest sight in the world, to behold ten or twelve Aras on a very green tree; never are more charming colours displayed." Dutertre. *Hist. des Antilles*, t. II. p. 247.

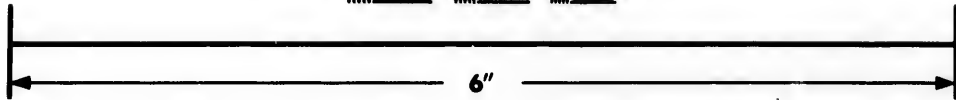
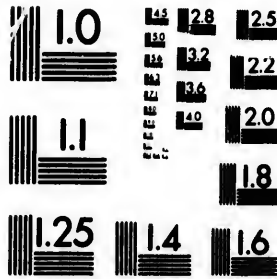
† Brisson.

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also much longer even in proportion to the body; 3. the naked and dirty white skin, which covers both sides of the head, surrounds it below, and covers also the base of the lower mandible. This naked skin, in which the eyes are placed, gives them a disagreeable aspect. Their voice is harsh; they seem to articulate only the sound *ara*, and with a raucous, thick tone, which is grating to the ear.

The R E D A R A.

FIRST SPECIES.

1. *Psittacus-Macaw*, Linn. Gmel. Scop. and Bor.
Ara Brasiliensis, Briff. and Gerini.
Psittacus maximus alter, Ray, Will. and Klein.
 The Red and Blue Macaw, Edw. Alb. Banc. and Lath.
2. *Psittacus-Aracanga*, Gmel.
Araracangua, Ray and Will.
Ara Jamaicensis; Briff.
Psittacus capite caruleo, Klein.
 The Red and Yellow Macaw from Jamaica, Alb. Bancr.
 and Lath.

ALL the nomenclators have followed Gesner and Aldrovandus in ranging the Red Aras in two species. But, on the other hand, Marcgrave, and all the travellers, who have had an opportunity of viewing and comparing the birds, consider them as belonging to the same family. They inhabit only the warm climates of America, the Antilles, Mexico, the isthmus of Panama,

nama, Peru, Guiana, Brazil, &c. and are found in no part of the old continent. It is strange, therefore, that some authors * have copied Albin in calling them *Macao Parrots*, and have imagined that they came from Japan. Some may have been carried thither from America, but they are undoubtedly not natives of Japan, and it is probable that these authors have confounded the great Red Lory of the East Indies with the Red Ara of the West Indies.

The great Red Ara is near thirty inches in length, but of this the tail occupies almost the one half; all the body, except the wings, is vermilion, the four longest feathers of the tail are the same; the great quills of the wing are Turkey-blue above, and copper-coloured on a black ground beneath; in the middle quills the blue and green are admirably melted into each other; the great coverts are gold-yellow, and terminated with green; the shoulders are of the same red with the back; the superior and inferior coverts of the tail are blue; four of the lateral quills, on each side, are blue above, and the whole under surface copper-colour, which is lighter and has more of the metallic gloss under the four great middle quills: a tuft of snuff-coloured velvet feathers projects, like a cushion, on the forehead; the throat is brown-red; a white and naked membranous skin encircles the eye,

* Albin and Willughby.

covers the cheek, and sheathes the lower mandible, which is blackish, and so are the legs. This description was made from a living bird, and one of the largest and most beautiful.— Travellers remark differences both in regard to colour and size, according to the different countries, or even islands, from which they are brought *. We have seen some in which the tail was entirely blue, others in which it was red, and terminated with blue. Their bulk is as various; but the little Red Aras are more rare than the large ones.

In general, the Aras were formerly very common in St. Domingo. I see from a letter of the Chevalier Deshayes that, since the French have extended their settlements to the summits of the mountains, these birds are become less frequent †. Both the Red and Blue Aras inhabit the same climates, and their habits and economy are exactly the same; and what we

* "These birds are so dissimilar according to the grounds where they procure their food, that every island has its Parrots, its Aras, and its Parroquets, different in size of body, in tone of voice, and in the tints of the plumage." Dutertre, *Hist. des Antilles*. Paris, 1667, t. II. p. 247.—"The Aras are birds of extreme beauty: they have a long tail, which is composed of charming feathers of different colours, according to the islands which have given them birth." *Hist. Nat. & Morale des Antilles*. Rotterdam, 1658, p. 134.

† "In all these islands (the Antilles) the Aras have become very rare, because the inhabitants kill them for eating. They retire to the least frequented places, and are no more observed to approach the plantations." *Observations of M. de la Borde, King's physician at Cayenne*.

shall

shall now relate, in regard to the one, will equally apply to the other.

Aras live in the woods that cover the swampy grounds, where the palm trees abound, and they feed chiefly on the dates of the palmettoes, of which there are immense forests in the overflowed savannahs. They generally appear in pairs, seldom in flocks; sometimes, however, they assemble together, and their united screams are heard at a great distance. When any thing scares or surprises them*, they vent the same screams, and while on the wing they cry incessantly. Of all the Parrots, they fly the best; they traverse the cleared lands, but never alight; they perch on the summit of trees, or on the highest branch. During the day, they roam to a distance not exceeding a league in search of ripe fruits, but always return in the evening to the same spot. Dutertre † says that they are sometimes compelled by hunger to eat the apples of the manchineel, which is poisonous to man, and probably to most animals; he adds that the flesh of such birds is unwholesome, and even envenomed. Yet the Aras are commonly eaten in Guiana, Brazil, &c. without any bad

* "The Indians were in profound security (at Yubarco, in Darien), when the cries of a sort of red Parrots of extraordinary size, which they call *guacamayas*, gave them notice of the approach of their enemies." *Expedition of Ojeda, &c. Hist. Gen. des Voy. t. XII. p. 156.*

† *Hist. des Antilles, t. II. p. 248.*

consequences; whether it be that the manchineel does not grow in those countries, or that the Aras, finding abundance of their proper food, shun the food of that poisonous tree.

It appears that the Parrots of the new world had nearly the same dispositions with all those animals which inhabit desert tracts; they were familiar, unsuspecting, and fearless of the approach of men, who in those regions were feebly armed and few in number, and never could display their dominion *. Peter of Angleria † assures us, that, on the discovery of America, the Parrots were caught with the noose, and almost by the hand of the sportsman; that they were seldom scared by the noise of fire arms, and did not take to flight when they saw their companions drop dead; that they preferred the trees planted near houses to the solitude of forests; and though the Indians caught them three or four times a year, to strip them of their rich plumage, this violence did not drive them from their favourite haunts ‡. Hence Aldrovandus, who drew his information from the early accounts of America, says that these birds are naturally attached to man, or, at least, shew no

* "The small birds which inhabited the woods of New Zealand were so little acquainted with men, that they calmly roosted on the branches of trees next us, even on the end of our muskets. We were new objects to them, which they regarded with a curiosity equal to our own." *Forster's Relation of Captain Cook's second Voyage.*

† *Lib. X. dec. 3.*

‡ *Lery, p. 174.*

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symptoms of fear in his presence; that they follow the Indians into their huts, and seem to contract an affection to the spots inhabited by these peaceful men. A part of this confidence and security adheres to the Parrots which have retired to the forests. M. de la Borde informs us that this is the case with those settled in Guiana; they allow one to approach very near them without betraying suspicion or fear. And Piso says of the Brazilian birds, what may be applied to all those of the new world, that they are incautious, and easily decoyed into every kind of snare.

The Aras make their nests in the holes of old rotten trees, which are very common in their native regions, and more numerous even than the rising vigorous plants: they enlarge the aperture, when it is too narrow, and line the inside with feathers. They have two hatches annually, like all the other American Parrots, and each consists of two eggs, which, according to Dutertre, are as large as pigeons' eggs, and spotted like those of partridges*. He adds that the young ones have two small worms in their nostrils, and a third on a small ball which

* "It often happens that an Ara will lay an egg or two in our temperate climates; Aldrovandus cites some instances. M. le Marquis d'Abzac has informed us that a large Red Ara of his laid three eggs; they had no germ: however, as the bird was ardent and clamorous to cover, a hen's egg was given to her, which she hatched." *Letter of M. le Marquis d'Abzac, dated from the Castle of Noyac, near Perigoux, 21 September, 1776.*

gathers above the head; and that these little worms die when the birds begin to be fledged*. Such worms in the nostrils are not peculiar to the Aras; the other Parrots, the cassiques, and many other birds, are subject to them when in the nest: many quadrupeds also, the monkeys in particular, have worms in the nose, and in other parts of the body. These insects are well known in America, and in the French settlements are called *macaques worms*. They creep into the flesh, and occasion dangerous abscesses both in men and the other animals; horses sometimes die of such disorders, owing to their negligent treatment in those countries, where they are never stabled nor dressed.

The male and female Aras sit alternately on their eggs, or cherish their young, and both equally carry food; they never desert the charge as long as their assistance is needed, and always perch together near the nest.

The young Aras are easily tamed, and, in many parts of America, these birds are never taken but in the nests, because the adults are too difficult to educate. Yet Dutertre relates, that the Carribs had a singular way of catching them alive; they observed when the Aras were on the ground, eating fallen fruit; they endeavoured to surround them, and on a sudden halloed, clapt their hands, and made so great a

* Hist. des Antilles, t. II. p. 249.

noise, that the birds, in the moment of surprise, lost the use of their wings, and turned on their back to defend themselves with their bill and nails; the savages then held out a stick, on which they clenched, and were immediately tied by a small string. He also pretends that they could be tamed, though old, and caught in this violent way. But this account appears rather suspicious; particularly, as all the Aras in fact fly from man, a loud noise must have a greater effect in driving them away. Wafer says that the Indians who inhabit the isthmus tame the Aras as we do magpies, and allow them to make excursions into the woods during the day, but that they constantly return home in the evening; that they imitate their master's voice, and the song of a bird called *chicali* *. Fernandez relates that they can be taught to speak, but that their articulation is coarse and disagreeable; that when they are kept in the house, they rear their young like other domestic birds. It is certain, that they never prattle so well as the other Parrots; and after they are tamed, they never try to escape.

The Indians work the plumage into festival caps, and other ornaments; they also stick some of the rich feathers into the cheek, and through the nostrils, or the ears. The flesh of the Aras, though commonly hard and black, is not un-

* Wafer, in Dampier's Voyage.

pleasant food, and makes excellent soup; and, in general, the Parrots are usually eaten as the most plentiful game in the settlement at Cayenne.

The Ara is, more than any bird perhaps, subject to the cramp, which is more violent, and more quickly mortal, in the hot countries, than in the temperate climates. I kept one of the largest and handsomest of the kind, which was given to me by the Marchioness of Pompadour in 1751. It was seized with an epilepsy two or three times every month, and yet it lived several years at my seat in Burgundy, and might have lived much longer, if it had not been killed. But in South America, these birds commonly die of the falling sickness, and this is also the fate of all the other Parrots, which are equally subject to that disorder, in the domestic state. Perhaps the cause which we assigned in treating of the canary finches, obtains here, viz. the separation from the female, and the superabundance of nutrition. The Indians, who rear the Aras in their huts with the view to sell their feathers, have a remedy for the epilepsy; they cut the point of the toe, and the discharge of a single drop of blood works an immediate cure. The same operation succeeds equally in procuring relief to the other disorders incident to the domestic state. I have formerly remarked that the canaries die when the blood does not form a drop at the bill. Nature seems to point out
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the same remedy which the Indians have discovered.

This epilepsy, or cramp, as it is called in the colonies, invariably happens to domesticated Parrots when they perch on a bit of iron, such as a nail, a curtain rod, &c. ; so that great care is taken that they alight only on wood. This fact seems to shew that the fit, which is a violent convulsion of the nerves, is analogous to electricity, whose action, it is well known, is more violent when transmitted through iron than through wood*.

* This analogy seems to be rather fanciful. The effect must be referred to the irritability of the muscular fibres, excited by the sharpness or asperity of the touching substance, and by the sudden cold shot through the bird's toes by the contact of metals, which is a rapid conductor of heat. T.

[A] Specific character of the *Pfittacus-Macao*: "It is red; its wing-quills blue above, rufous below; its scapular feathers variegated with blue and green; its cheeks naked and wrinkled."—
That of *Pfittacus Aracangua*: "It is dilute scarlet; its scapular feathers yellow, terminated with green; its wing-quills blue above, rufous below; its cheeks naked and wrinkled."

The BLUE ARA.

SECOND SPECIES.

Psittacus-Ararauna, Linn. Gmel. Scop. and Bor.

Psittacus maximus cyano-croceus, Ray, Sloane, and Will.

1. *Ara Jamaicensis cyano-crocea*, Briss.

2. *Ara Brasiliensis cyano-crocea*, Id.

Psittacus vertice viridi, cauda cyanea, Klein.

The Blue and Yellow Maccauw, Edw. Alb. and Lath.

NOMENCLATORS have divided this into two species; the first is *the blue and yellow Ara of Jamaica*, and the second is *the blue and yellow Ara of Brasil*. But these birds are not only of the same species, but inhabit the same parts of South America.

It is easy to describe the Blue Ara: the upper side of the body, the wings, and the tail, are entirely azure, and the under side of the body is fine yellow *; this yellow is rich and vivid,

* "The other called *Canidé*, having all the plumage under its belly and round its neck as yellow as fine gold; the upper side of the back, the wings, and the tail, are of the purest blue: you would say that it is attired below with a cloth of gold, and mantled above with violet figured damask." Lery, *Voyage au Bresil*, 1578, p. 171. Thevet characterizes equally well the two species of Aras: "Nature has delighted to pourtray this beautiful bird, called by the savages *carinde*, clothing it with a plumage so beautiful and charming, that it is impossible not to admire the workmanship. This bird exceeds not in bulk the raven, and its plumage, from the belly to the throat, is yellow like fine gold; the wings and the tail, which is very long, are of a fine azure-colour. There is another bird

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THE BRASILIAN GREEN MACCAW.

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vivid, and the blue is glossy and sparkling. The savages admire these Aras, and celebrate their beauty; the usual burthen of their songs is, *Yellow bird, yellow bird, how charming*!*

The Blue Aras never mingle with the Red Aras, though they frequent the same spots, and live in harmony. Their voice is somewhat different, for the savages can distinguish them by the cry alone. It is said that the blue ones do not pronounce the word ara so distinctly [A].

The GREEN ARA.

THIRD SPECIES.

- Pittacus Severus*, Linn. Gmel. Scop. and Bor.
 1. *Ara Brasiliensis Viridis*, Briss.
 2. *Ara Brasiliensis Erythrochlora*, Id.
Maracana; Ray and Will.
 The *Brazilian Green Maccauw*, Edw. Sloane, and Lath.

THE Green Ara is much rarer than the two preceding; it is also much smaller. It consists of only one species, though nomencla-

bird resembling this in size, but different in its colours; for its plumage, instead of being yellow, is of a red like fine scarlet, and the rest azure." *Singularites de la France Antarctique*, par Thevet, Paris, 1558, p. 32.

* *Canidé jouve, canidé jouvs, beura onébe*. Lery, p. 173.

[A] Specific character of the *Pittacus Ararauna*: "Above it is blue, below yellow; its cheeks naked, with feathery lines."

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tors have divided it into two; because they confound it with the Green Parrakeet, which they call the *Ara Parrakeet*, on account of the length of its tail, and its distinctly articulating the word ara: but notwithstanding these properties it is still a Parrakeet, and very common in Cayenne; whereas the Green Ara is there altogether unknown. Sloane says that the Little Maccaw, or Little Green Ara, is very frequent in the woods of Jamaica. But Edwards properly observes that this is certainly a mistake, because, though he made several applications, he could procure none from his correspondents in that island. Perhaps Sloane confounded the long-tailed Green Parrakeet with the Green Ara.

We had a Green Ara alive: it was presented by M. Sonini of Manoncour, who procured it at Cayenne from the savages of Oyapoc, where it was caught in the nest. Its length, from the tip of the bill to the end of the tail, is about sixteen inches; its body, both above and below, is green, which according to the position is golden and sparkling or deep olive; the great and small quills of the wing are beryl blue, on a brown ground, and the under side copper coloured; the under side of the tail is the same, and the upper side painted with beryl blue, melting into olive green; the green on the head is brighter and less mixed with olive than that on the rest of the body; at the base of the upper mandible, on the face, there is a black border of small
linear

linear feathers that resemble bristles; the white naked skin that surrounds the eyes is sprinkled with small pencils of the same black bristles ranged in rows; the iris of the eye is yellowish.

This bird is as beautiful as it is rare; and it is still more amiable for its social temper and gentle disposition. It soon grows familiar with persons whom it sees frequently, and is pleased to receive and repay their caresses. But it has an aversion to strangers, and particularly to children, and flies at them furiously. Like all other domesticated Parrots, it clings to the finger when presented to it; it also clasps wood: but in winter, and even in summer, when the weather is cool and rainy, it prefers the arm or the shoulder, especially if the person has woollen clothes, for in general it likes warm stuffs. It is also fond of kitchen stoves when they are cooled so much as to retain only a gentle warmth. For the same reason, it avoids sitting on hard bodies which quickly communicate cold, such as iron, marble, glass, &c.; and in cold rainy weather, though in summer, it shudders and trembles if water be thrown upon it. However, in sultry days, it bathes of its own accord, and often dips its head in the water.

If one stroke it gently, it spreads its wings, and squats; it then utters its disagreeable cry, which resembles the chatter of the jay, raising its wings during the action, and bristling its feathers:

feathers: and this habitual cry seems to express either pleasure, or languor. Sometimes it has a short shrill cry, which is less equivocal than the former, and denotes joy and satisfaction; for it is generally addressed to persons whom it loves; but this cry also marks its impatience, fits, and its pettish gusts of ill-humour. But it is impossible to be precise on this subject; for birds organized like the Parrots perpetually vary or modify their voice, as they are prompted by imitation.

The Green Ara is jealous: it is fired at seeing a young child sharing in its mistress's caresses and favours; it tries to dart at the infant, but, as its flight is short and laborious, it only shews its displeasure by gestures and restless movements, and continues tormented by these fits till its mistress is pleased to leave the child, and take the bird on her finger. It is then overjoyed, murmurs satisfaction, and sometimes makes a noise exactly like the laugh of an old person. Nor can it bear the company of other Parrots, and if one be lodged in the same room, it will strive to deprive it of every comfort. It would appear, therefore, that the bird can suffer no rivals whatever in its mistress's favour, and that its jealousy is founded on attachment; accordingly it takes no notice when it sees a different person fondle a child.

It eats nearly the same things that we do. It is particularly fond of bread, beef, fried fish, pastry,

pastry, and sugar ; but it seems to prefer roasted apples, which it swallows greedily. It cracks nuts with its bill, and picks them dexterously with its claws. It does not chew the soft fruits, but sucks them, by pressing its tongue against the upper mandible ; and, with respect to the harder sort of foods, such as bread, pastry, &c. it bruises or chews them, by pressing the tip of the lower mandible upon the most hollow part of the upper. But, whatever be the nature of its food, its excrements are always green, and mixed with a sort of white chalky substance, as in most other birds, except when it is sick, and then they assume an orange or deep yellow cast.

Like all the other Parrots, the Blue Ara uses its claws with great dexterity ; it bends forward the hind toe to lay hold of the fruits and other crumbs which are given to it, and to carry them to its bill. The Parrots, therefore, employ their toes nearly as the squirrels or monkeys ; they also cling and hang by them. The Green Ara almost always sleeps in this way, hooked to the wires of its cage. There is also another habit common to the Parrots, viz. they never climb or creep without fastening by the bill, with which they begin, and use the feet only as a second point of their motion.

The nostrils are not visible in this Ara, as in most of the other Parrots ; instead of being placed in the uncovered part of the horn of the bill,

bill, they are concealed in the first small feathers that cover the base of the upper mandible, which rises and forms a cavity at its root when the bird makes an effort to imitate difficult sounds: in such cases the tongue folds back at the tip, and recovers its shape when it eats; a power not commonly possessed by birds which can only move it backwards or forwards in the direction of the bill. This little Green Ara is as hardy as most of the other Parrots, or even more so. It learns more easily to prattle, and pronounces much more distinctly, than the Red or Blue Aras. It listens to the other Parrots, and improves beside them. Its cry is like that of the other Aras, only its voice is not near so strong, and does not articulate so distinctly the sound *ara*.

It is said that bitter almonds will kill Parrots, but I am not certain of the fact; I know, however, that parsley, of which they are very fond, if taken even in small quantity, is very pernicious; as soon as they eat it, a thick viscous liquor runs from the bill, and they die in an hour or two.

It appears that there is the same variety in the Green Aras as in the Red; at least Edwards has described a *great Green Maccaw*, which is thirteen inches long, and fifteen to the middle feather of the tail: the face was red; the quills of the wing blue, and also the lower part of the back and the rump. Edwards calls the colour

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of the under surface of the wings and of the tail, *dull orange*, and it is probably the same with that dull bronze red which we perceived below the wings of our Green Ara; the feathers of the tail, in that of Edwards, were red above, and terminated by blue [A].

The BLACK ARA.

FOURTH SPECIES.

Psittacus Ater, Gmel.

The *Black Maccaw*, Lath.

THE plumage is black, with reflections of shining green, and these mingled colours are much like those of the ani. We can only indicate this species, which is known to the savages of Guiana, but which we have not been able to procure. It differs from the other Aras in some of its habits; it never approaches the settlements, but remains on the arid and barren summits of rocks and mountains. Læet seems to mention this bird by the name of *Ararauna*, or *Machao*, whose plumage, he says, is black, but so well mixed with green that, in the sun beams, it shines admirably; the legs are yel-

[A] Specific character of the *Psittacus Severus*: "It is green; its cheeks naked; the quills of its wings and tail blue, below purplish."

low,

low, he subjoins ; the bill and the eyes reddish, and it resides in the interior parts of the country.

Briffon has formed another Ara from a Parakeet, and called it the *variegated Ara of the Moluccas*. But, as we have frequently observed; there are no Aras in India, and we have spoken of this bird in treating of the Parrakeets of the old continent.

[A] Specific character of the *Pfittacus Ater* : " It is black, with a greenish splendour ; its bill and eyes are reddish ; its legs yellow."

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THE
AMAZONS and CRICKS.

WE shall apply the name of *Amazon Parrots* to all those which are marked with red on the fan of the wing; they have received that appellation in America, because they are brought from the country of the Amazons. We shall appropriate the term *Crick* to those which have no red on the fan, but only on the wing: this too is the name given by the savages of Guiana to these Parrots. They are distinguished from Amazons by other properties also: 1. the plumage of the Amazons is shining, and even dazzling, whereas the green colour of the Cricks is dull and yellowish; 2. in the Amazons the head is covered with a fine and very bright yellow, but, in the Cricks, this yellow is dull and intermixed with other colours; 3. the Cricks are rather smaller than the Amazons, which are much smaller than the Aras; 4, the Amazons are exceedingly beautiful and rare, but the Cricks are the most common of the Parrots, and the most inferior in point of beauty; they are extensively spread, while the Amazons are hardly ever found, except at Para, and in some other countries bordering on the river of Amazons.

But the Cricks, having red on their wings, ought to be joined with the Amazons, of which this red forms the principal character: their natural habits are likewise the same; they fly in numerous flocks, perch in multitudes on the same spots, and all scream together so loud that they may be heard at a great distance. They frequent also the woods, both those on the mountains and those which grow in the low grounds, and even the swamps that abound with palms, elastic-gum trees, and bananas, &c. and are fond of the fruit of these trees. They eat, therefore, a greater variety of fruits than the Aras, which commonly subsist on the palmettoes alone; but these dates are so hard that they can hardly be cut; they are round, and as large as pippins.

Some authors* have said that the flesh of all the American Parrots contracts the odour and colour of the substances on which they feed; that it smells of garlic, when they eat the fruit of the acajou; that it has the scent of musk and of cloves, when they eat the fruit of the Indian wood; and that it receives a black tinge, when they live upon the fruit of the *genipa*, whose juice, though at first as limpid as water, becomes as black as ink in the space of a few hours. They subjoin that the Parrots become very fat during the maturity of the mangroves,

* Dutertre, *Hist. des Antilles*, t. II. p. 251.—Labat, *Nouv. Voy. aux Iles de l'Amérique*, t. II. p. 159.

which

which yield excellent food ; and lastly that the seeds of the cotton shrub intoxicate them to such a degree, that they may be caught with the hand.

The Amazons, the Cricks, and all the other Parrots of America, construct their nests in holes formed in decayed trees by the woodpeckers, and only lay two eggs twice a year, which the cock and hen hatch by turns : it is said that they never forsake their nest, and persist in hatching, though their eggs be handled and deranged. In the love season, they assemble and breed in the same haunt, and search their food in company; when their appetite is satisfied they make a continual and noisy babbling, shifting their place incessantly, and fluttering from tree to tree, till the darkness of night and the fatigue of action invite to repose. In the morning they are observed on the naked branches, at sun-rise, and they remain quiet till the dew is dried from their plumage, and their warmth recovered; then they rise in a flock, with a noise like that of gray crows, but louder. They breed in the rainy season*.

The savages commonly take the Parrots in the nest, because they are more easily reared and better tamed. But the Caribbs, according to Labat, catch them also after they are old : they observe the trees on which they perch in

* Note communicated by M. de la Borde, King's Physician at Cayenne.

great numbers in the evening, and, after dark, they carry near the spot lighted coals, on which they throw gum and green pimento; the birds are suddenly involved and stifled in thick smoke, and fall to the ground; the savages then seize them, tie their feet, and recover them from the suffocation, by throwing water on the head*. They also bring down the Parrots without hurting them much, by shooting them with blunt arrows †. But the old ones thus caught are difficult to tame. There is only one method of rendering them tractable; it is to blow the smoke of tobacco into their bill, which partly intoxicates them, and makes them gentle and pliant. If they grow mutinous again, the dose is repeated, and thus in the course of a few days their disposition is softened. We can hardly form an idea of the envenomed temper of the wild Parrots; they bite cruelly without provocation, and will not quit their hold. The old birds never learn to prattle in perfection. Tobacco smoke is also used to cure them of their noisy disagreeable cry.

Some authors ‡ alledge that the female Parakeets never learn to speak; but this is a mistake: they are more easily taught than the males, and even more docile and gentle. Of

* Labat, *Nouv. Voy. aux Iles de l'Amérique*, t. II. 52.

† "The savages of Brasil have very long arrows, headed with a ball of cotton, for shooting at Parrots." *Belon*.

‡ Frisch, &c.

all the American Parrots, the Amazons and the Cricks are the most susceptible of education, especially when caught young.

As the savages traffic with each other in the feathers of Parrots, they claim a certain number of trees on which these birds make their nests. This is a kind of property from which they derive an income by selling the Parrots to strangers, or by bartering the feathers with other savages. These trees descend from father to son, and are often their richest inheritance*.

* Fernandez, *Hist. Nov. Hisp.* p. 38.

The AMAZON PARROTS.

WE know five species of these, besides many varieties; the first is the Yellow-headed; the second, the Tarabé, or Red-headed; the third, the White-headed; the fourth, the Yellow Amazon; and the fifth, the Aourou-Couraou.

The YELLOW-HEADED AMAZON,

Buff.

FIRST SPECIES.

Pfittacus Nobilis, Linn. and Gmel.

The *Noble Parrot*, Lath.

THE crown of the head is a fine bright yellow; the throat, the neck, the upper side of the back, and the superior coverts of the wings, of a brilliant green; the breast and the belly green, with a little yellowish; the fans of the wings are of a bright red; the quills of the wings are variegated with green, black, violet-blue, and red; the two exterior quills, on each side of the tail, have their inner webs red at their origin, and then deep green, which, at the extremity, changes into a yellowish green; the bill is red at the base, all the rest of it cinereous;

nereous; the iris is yellow; the feet gray, and the nails black.

We must observe that Linnæus commits an error in saying that this bird has naked cheeks; which confounds the Amazons with the Aras, to which alone that character belongs. On the contrary, the Amazons are feathered on the cheeks, or between the bill and the eyes, and like all the other Parrots, have only a very small circle of naked skin round the eyes [A].

VARIETIES OF CONTIGUOUS SPECIES of the
YELLOW-HEADED AMAZON.

THERE are two other species, or perhaps varieties, related to the preceding.

I. *The Red and Green Parrot of Cayenne*, which has not been mentioned by any naturalist, though known in Guiana by the name of *Bastard Amazon* or *Half-Amazon*. It is said to be a cross-breed of the Amazon with another Parrot. It is indeed inferior in beauty to the one just described; for it has not the fine yellow on the face near the root of the bill; the green colour of its plumage is not so brilliant, but has a yellowish cast; the red on the plumage is the only colour which is similar and disposed in the

[A] Specific character of the *Pfittacus Nobilis*: "It is green; its cheeks naked; its shoulders scarlet."

same way; there is also a shade of yellowish under the tail; the bill is reddish, and the feet gray; and as it has the same bulk, we can hardly doubt but that it is nearly related to the species of the Amazon.

II. The second variety was first noticed by Aldrovandus, and, according to his description, it appears to differ from this Amazon Parrot only in the colours of its bill, which that author says is ochrey on the sides of the upper mandible, whose ridge is bluish, with a small white bar near the tip; the lower mandible is also yellowish in the middle, and lead colour through the rest of its length. But all the colours of the plumage, the size, and shape of the body, being the same as in the Yellow-headed Amazon, it may be only a variety.

The TARABE, or RED-HEADED A M A Z O N.

SECOND SPECIES.

Psittacus Taraba, Gmel.

The Red-headed Amazon's Parrot, Lath.

THIS Parrot, which is described by Marcgrave as a native of Brasil, is not found in Peru. The head, the breast, the pinions, and tops of the wings, are red; and hence it ought

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THE WHITE-FRONTED PARROT

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ought to be ranged with the Amazon Parrots. All the rest of its plumage is green; the bill and the feet are dull ash-colour [A].

The WHITE-HEADED AMAZON.

THIRD SPECIES.

Pfittacus Leucocephalus, Linn. Gmel. and Bor.

The *White-headed Parrot*, Edw.

The *White-fronted Parrot*, Lath.

IT would be more accurate to name this bird the *White-fronted Parrot*; because the white is generally confined to the face. But sometimes it surrounds the eye, and extends to the crown of the head; and often it only borders the face. The species appears subject, therefore, to variety. In one specimen, the plumage was also of a deeper green, and less waved with black: in another, it was lighter, mixed with yellowish, and intersected with black festoons all over the body; the throat and the fore-side of the neck are of a fine red. That colour is not so much spread in the former, or so bright, but there is a spot of it under the belly. In both of them, the quills of the wing are blue; those of the tail yellowish green, tinged with

[A] Specific character of the *Pfittacus Taraba*: "It is green; its head, its throat, and the lesser coverts of its wings, are red."

red

red in the first half; and, on the fan, a red spot is perceived, which is the livery of the Amazons. Sloane says that these Parrots are frequently brought from Cuba to Jamaica, and that they occur also in St. Domingo. They are found in Mexico, but never in Guiana. Brisson divides them into two species; and this mistake was occasioned by Edwards's White-headed Parrot being different from his. The Martinico Parrot mentioned by Labat, in which the upper side of the head is slate colour, with a little red, is different from our White-headed Parrot, though Brisson asserts that they are the same [A].

The YELLOW AMAZON.

FOURTH SPECIES.

Pfittacus Aurora, Gmel.

The *Aurora Parrot*, Lath.

THIS bird is probably a native of Brazil, since Salerne says that he saw one which pronounced Portuguese words. We are certain at least that it comes from the new world, and the red colour of its vents assigns its place among the Amazons.

All the body and the head are of a very fine

[A] Specific character of the *Pfittacus Leucocephalus*: "It is green; its wing-quills blue; its front white; its orbits snowy."

yellow;

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THE YELLOWHEADED AMAZON PARROT.

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yellow; the fans are marked with red, and also the great quills of the wings, and the lateral quills of the tail; the iris is red; the bill and feet are white [A].

The AOUROU-COURAOU.

FIFTH SPECIES.

Psittacus Æstivus.

Aiuru-courau, Ray and Johnstone.

The *Common Amazon's Parrot*, Lath.

THE Aourou-Couraou of Marcgrave is a handsome bird, and is found in Guiana and Brazil. Its face is bluish, with a bar of the same colour below the eyes; the rest of the head is yellow; the feathers of the throat are yellow, and edged with bluish green; the rest of the body is light green, which assumes a yellowish tinge on the back and belly; the fan of the wing is red; the superior coverts of the wings green; the quills of the wing are variegated with green, black, yellow, blue, and red; the tail is green, but, when the feathers are spread, they appear fringed with black, red, and blue; the iris is gold colour; the bill is blackish; and the feet cinereous [B.]

[A] Specific character of the *Psittacus Aurora*: "It is bright yellow; its *axillæ*, the margins of its wings, and its greater wing-quills red outwards in the middle."

[B] Specific character of the *Psittacus Æstivus*: "It is green, somewhat spotted with yellow; its front blue; its shoulders blood-coloured; its orbits carnation."

VARIETIES of the AOUROU-COURAOU.

THERE are several varieties which may be referred to this species.

I. The bird mentioned by Aldrovandus under the appellation of *Pfittacus Viridis Melanorinchos*, which hardly differs at all from the preceding.

II. There is another also described by Aldrovandus, in which the face is beryl blue with a bar of the same colour above the eyes, which is only a shade different from the species of this article. The crown of the head is also of a paler yellow; the upper mandible is red at the base, bluish in the middle, and black at the end; the lower mandible is whitish. In all other properties, the colours are precisely the same as in the *Aourou-Couraou*. It is found in Guiana, Brazil, and Mexico, and also in Jamaica; and it must be very common in Mexico, since the Spaniards give it a proper name, *Catherina* *. From Guiana it has probably been carried into Jamaica, which is at too great distance from the continent to correspond with the excursions of the Parrots. Labat says that they cannot fly from one island to another, and that

* Many beautiful kinds of Parrots are distinguished in New Spain; the *caterinillas* have their plumage entirely green; the *loros* have it green likewise, except the head and the extremity of the wings, which are of a fine yellow; the *pericos* are of the same colour, and are not larger than a thrush." *Hist. Gen. des Voy. t. XII. p. 626.*

those

those of the different islands may be distinguished. The Parrots of Brazil, Cayenne, and the rest of the continent of America, which are seen in the islands, have been transported thither, and few which are natives of the islands are found on the continent, on account of the difficulty of the passage; for a strong current sets out from the Bay of Mexico, so that a vessel is carried in six or seven days from the continent to the islands, though it takes six weeks or two months to work back again.

III. Another variety is the *Aiuru-Curuca* of Marcgrave. There is on the head a blue cap mixed with a little black, in the midst of which is a yellow spot: this indication differs in nothing from the description which we have given. But the bill is ash-coloured at the base, and black at the end; this is the only slight variation.

IV. Marcgrave notices another variety, and remarks that it is like the preceding; yet our nomenclators have ranged them in different species, and even doubled these. The only difference is that the yellow extends a little more on the neck.

V. *The Yellow-fronted Amazon Parrot* of Brisson (*Psittacus Amazonicus fronte lutea*). The only difference is that the face is whitish, or pale yellow, but in the other it is bluish; which is by no means sufficient to constitute a distinct and separate species.

The CRICKS.

THOUGH there is a very great number of birds to which this name is applied, they may be all reduced to seven species, of which the others are varieties. These seven species are: 1. The Yellow-throated Crick; 2. The Meunier or Mealy Crick; 3. The Red and Blue Crick; 4. The Blue-faced Crick; 5. The Crick properly so called; 6. The Blue-headed Crick; 7. The Violet-headed Crick.

The CRICK with a YELLOW HEAD and THROAT.

FIRST SPECIES.

Pfittacus Ochrapterus, Gmel.

Pfittacus Amazonicus gutture luteo, Briss.

Pfittacus Viridis Alius, capite luteo, Fris. and Klein.

The Yellow-winged Parrot, Lath.

THE whole of the head, the throat, and the lower part of the neck, are of a very fine yellow; the under side of the body is of a shining green, and the upper side also green, but with a little mixture of yellow; the fan of the wing is yellow, whereas the same part is red in the Amazons; the first row of the coverts

of the wing is red and yellow ; the other rows are of a fine green ; the quills of the wings and of the tail are variegated with green, black, violet, yellowish, and red ; the iris is yellow ; the bill and feet whitish.

This bird is living at present with Father Bougot, who has communicated to us the following account of its disposition and habits. " It is very susceptible of attachment to its master ; it is fond of him, but requires frequent caresses, and seems disconsolate if neglected, and vindictive if provoked. It has fits of obstinacy ; it bites during its ill humour, and immediately laughs, exulting in its mischief. Correction and rigorous treatment only harden it, and make it more stubborn and wayward ; gentle usage alone succeeds in mollifying its temper.

" The inclination to gnaw whatever it can reach, is very destructive in its effects ; it cuts the cloth of the furniture, splits the wood of the chairs, and tears paper, pens, &c. And if it be removed from the spot, its proneness to contradiction will instantly hurry it back. But this mischievous bent is counterbalanced by agreeable qualities, for it remembers easily what it is taught to say. Before articulating it claps its wings and plays on its roost ; in the cage it grows dejected, and continues silent ; never prattles well, except when it enjoys liberty. It chatters less in winter than during the summer months,

months, forgetting its food, when it never ceases from morning to night.

“ In its cheerful days it is affectionate, receives and returns caresses, and listens and obeys; though a peevish fit often interrupts the harmony. It seems affected by the change of weather, and becomes silent; the way to reanimate it is to sing beside it; it strives by its noisy screams to surpass the voice which excites it. It is fond of children; in which respect it differs from other Parrots. It contracts a predilection for some of them, and suffers them to handle and carry it; it caresses them, and if any person then touches them, it bites at him fiercely. If its favourite children leave it, it is unhappy, follows them, and calls loudly after them. During moulting it is much reduced, and seems to endure great pain; and that state lasts near three months.

“ Its ordinary food is hemp-seed, nuts, fruits of all kinds, and bread soaked in wine; it would prefer flesh, but that diet makes it low spirited and inactive, and, after some time, occasions its feathers to drop. It is also observed to keep its food in bags under the chin, and to ruminate*.”

* Note communicated by the Rev. Father Bougot, Guardian of the Capuchins of Semur, who has long amused himself with rearing Parrots.

[A] Specific character of the *Psittacus Ochropterus*: “ It is green; its front and orbits whitish; its top, its cheeks, its throat, and the more remote coverts of its wings, fine yellow.”

The MEALY CRICK.

Le Meunier, ou Le Crik Poudré, Buff.

SECOND SPECIES.

*Pfitacus Pulverulentus, Gmel.**The Mealy Green Parrot, Lath.*

No naturalist has described this species distinctly; only Barrère seems to mention it as large, whitish, and powdered with gray. It is the biggest of all the Parrots of the new world, except the Aras. It is called *meunier*, or the *miller*, by the settlers at Cayenne, because its plumage, whose ground colour is green, appears sprinkled with meal: there is a yellow spot on the head; the feathers on the upper surface of the neck have a broad edging of brown; the under side of the body is of a lighter green than the upper side, and is not mealy; the outer quills of the wings are black, except a part of the outer webs, which are blue; there is a large red spot on the wings; the quills of the tail are of the same colour with the under side of the body, from their origin to three fourths of their length, and the remaining fourth yellowish green.

This Parrot is one of the most esteemed, as well for its magnitude and the singularity of its colours, as for the facility with which it learns to speak, and the mildness of its disposition.

There is only one slight defect in its appearance, viz. its bill is like whitish horn [A].

The RED and BLUE CRICK.

THIRD SPECIES.

Pfitacus Cæruleocephalus, Linn. and Gmel.

Pfitacus Guianensis cæruleus, Briff.

Pfitacus Versicolor, Ray.

'The Red and Blue Parrot, Will. and Lath.

THIS Parrot has been mentioned by Aldrovandus, and all the other naturalists have copied his account; but they do not agree in their descriptions. According to Linnæus, the tail is green; Briffon represents it as rose-coloured. As neither of them has seen it, I shall quote Aldrovandus.

“ The epithet *variegated* (*ποικιλος*) suits it well, considering the diversity and richness of its colours; blue and soft red (*roseus*) predominate; the blue appears on the neck, the breast, and the head, whose crown is marked with a yellow spot; the rump is of the same colour; the belly is green; the top of the back light blue; the quills of the wings and of the tail are

[A] Specific character of the *Pfitacus Pulverulentus*: “ It is green, and above is sprinkled with mealy specks; a bright yellow spot on its head, and a red one on its wings.”

all rose colour; the coverts of the former are mixed with green, yellow, and rose colour; those of the tail are green; the bill is blackish; the feet are reddish gray." Aldrovandus does not inform us from what country this bird is brought; but as there is red on its wings, and a yellow spot on the head, we have ranged it with the American Cricks.

We may observe that Brisson has confounded with it the Violet Parrot mentioned by Barrère, but which is very different, and belongs neither to the Amazons nor to the Cricks [A.]

The BLUE-FACED CRICK.

FOURTH SPECIES.

Psittacus Havanensis, Gmel.

Psittacus Amazonicus gutture cæruleo, Briss.

The *Blue-fronted Parrot*, Lath.

THIS Parrot was sent to us from the Havana, and it is probably common in Mexico and near the isthmus of Panama; but it is not found in Guiana. It is much smaller than the Mealy Crick, its length being only twelve inches. Among the quills of the wings, which

[A] Specific character of the *Psittacus Cæruleocephalus*: "It is blue; its belly, its rump, and its tail, are green; its top bright yellow; the quills of its wings and tail red."

are indigo colour, there are some red ones; the face is blue; the breast and stomach are of a soft red or lilac, and waved with green; all the rest of the plumage is green, except a yellow spot on the lower part of the belly [A].

The CRICK,

FIFTH SPECIES.

Psittacus Agilis, Linn. Gmel. and Bor.

Psittacus Cayanensis, Brisf.

The *Little Green Parrot*, Edw.

The *Agile Parrot*, Lath.

THE name *Crick* is bestowed on this bird at Cayenne, where it is so common that the same appellation is extended to a considerable tribe of Parrots. It is smaller than the Amazons; but we ought not, with the nomenclators, to range it among the Parrakeets*: they have mistaken it for the Guadeloupe Parrakeet, because it is entirely green. They would have avoided this error, if they had consulted Marcgrave, who says expressly that it is large as a hen; and this character is alone sufficient to exclude it from the Parrakeets.

This Crick has also been confounded with

[A] Specific character of the *Psittacus Havanensis*: "It is green; its front and throat ash-blue; a large red spot on its breast; its orbits cinereous."

* Willughby, Ray, Linnæus, and Brisson.

the *Tabua*, or *Tavoua**, which is widely different; for the *Tavoua* has no red on its wings, and is therefore neither an Amazon nor a Crick, but rather a Popinjay, of which we shall speak in the following article.

The Crick is near a foot long from the tip of the bill to the extremity of the tail, and its wings, when closed, extend a little beyond the middle of the tail; both the upper and under surface are of a pretty light handsome green, particularly on the belly and the neck, where the green is very brilliant; the front and the crown of the head are also of a pleasant green; the cheeks are greenish-yellow; there is a red spot on the wings, and their quills are black, terminated with blue; the two middle quills of the tail are of the same green with the back, and the outer quills, being five on either side, have each an oblong red spot on the inner webs, and which spread more and more from the inner quill to the outer one; the iris is red; the bill and feet whitish.

Marcgrave notices a variety in this species, which differs only in point of size, being rather smaller than the preceding. The former he calls *Aiuru-catinga*, and the latter *Aiuru-apara*.

* Barrere and Brisson.

[A] Specific character of the *Pittacus Agilis*: "It is green; the coverts of its bluish primary wing-quills are fulvous; its tail scarcely elongated, red below; its orbits cinereous."

The BLUE-HEADED CRICK.

SIXTH SPECIES.

Pittacus Autumnalis, 1st Var. Gmel.

The *Blue-headed Creature*, Bancr.

The *Blue-faced Green Parrot*, Edw. and Lath.

THIS is described by Edwards; it is found also in Guiana. All the fore-side of the head and the throat are blue, which colour is terminated, on the breast, by a red spot; the rest of the body is green, which is deeper on the back than beneath; the superior coverts of the wings are green; their great quills blue, those adjacent red, and the upper part blue at the extremity; the quills near the body are green; the quills of the tail are green on their upper surface as far as the middle, and yellowish green below; the lateral quills are red on their exterior webs; the iris is orange coloured; the bill is blackish cinereous, with a reddish spot on the sides of the upper mandible; the feet are flesh coloured, and the nails black.

VARIETIES of the BLUE-HEADED CRICK.

To this sixth species we shall refer the following varieties.

I. The

I. The *Cocho Parrot*, mentioned by Fernandez, which differs in so far only as it is variegated with red and whitish instead of red and bluish; in every other respect it is the same with the Blue-headed Crick. The Spaniards call it *Catherina*, which name they apply also to the second variety of the *Aouarou-couraou*; and Fernandez says that it prattles well.

II. The *Lesser Green Parrot* of Edwards, which is distinguished only by its red face and orange cheeks; its other colours, and its size, are the same with those of the Blue-headed Crick.

III. The *Brazilian Green Parrot* of Edwards is also another variety. Its face, and the top of its neck, are of a fine red, whereas these parts are bluish in the Blue-headed Crick; but, in other respects, the resemblance is exact.—We cannot conceive why Brisson ranges this bird with the *Dominica Parrot*, mentioned by L'abat; for that author says only that there are a few red feathers in the wings, in the tail, and under the throat, and that all the rest of its plumage is green. But these characters are too general, and will apply equally to many other Amazons and Cricks.

The VIOLET-HEADED CRICK.

SEVENTH SPECIES.

Psittacus Violaceus, Linn. and Gmel.

Psittacus Aquarum-Lupiarum Insule, Briss.

'The Ruff necked Parro', Lath.

THIS Parrot is found in Guadaloupe, and was first described by Father Dutertre. "Its colours are so beautiful," he says, "and so singular, that it deserves to be selected from all the rest for description. It is almost as large as a hen; its bill and eyes are edged with carnation; all the feathers of its head, of its neck, and of its belly, are violet, mixed with a tincture of green and black, changing like the neck of a pigeon; all the upper side of the back is of a very brown green; the great quills of the wings are black, all the others yellow, green, and red; on the coverts of the wings are two rose-shaped spots of the same colours. When it bristles the feathers of its neck, it makes a fine ruff round the head, on which it seems to pride itself, as the peacock does on its tail; it has a strong voice, speaks very distinctly, and is easily taught, if taken young*."

We have not seen this Parrot; it is not found at Cayenne, and it must now be very rare in Guadaloupe, since none of the inhabitants of

* *Hist. des Antilles*, t. II. p. 251.

this

this island could give us any account of it. But this is not extraordinary; for as the islands advance in population, the number of Parrots gradually decreases. and Dutertre remarks in particular, that the French colonists commit great havock among the Violet-headed Cricks in the season of the maturity of the guavas, cachimans, &c. when their flesh is excessively fat and juicy. He adds that they are of a gentle disposition, and easily tamed: "We have two," says he, "which build their nest in a large tree a hundred paces from our hut; the male and female sit alternately, and come one after another to the hut for food, and bring their young ones with them as soon as these can leave the nest."

We may observe that, as the Cricks are the most common kind of Parrots, and at the same time speak the best, the savages have amused themselves in rearing these, and in trying to vary their plumage. For that operation they use the blood of a small frog, which is very different from those of Europe; it is only half the size, and of a fine azure colour, with longitudinal bars of gold: it is the handsomest of all the frogs, and seldom frequents marshes, but inhabits the sequestered forests. The savages take a young Crick from the nest, and pluck the scapular feathers and some of those on the back; then they rub it with the frog's blood, and the new feathers which grow are no longer green, but fine yellow or beautiful red. These
birds

birds thus altered are called *Tapired Parrots* in France. The operation must have been anciently in use among the savages, for it is noticed by Marcgrave; those which inhabit Guiana and the banks of the Amazons equally practise it*. The plucking of the feathers hurts the birds greatly, and so many die of it, that those which survive are very rare, and are sold much dearer than the other Parrots.

The Parrot mentioned by Klein and Frisch is one of these artificial birds; it would therefore be idle to copy their description.

* Voy. de M. de Gennes au detroit de Magellan. *Paris*, 1698, p. 163.

[A] Specific character of the *Pfittacus Violaceus*: "It is violet, variegated with green, and a mixture of black; its back partly dusky green; its greater wing-quills black, the rest variegated with yellow, green, and red; a rosy spot on the coverts."

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THE ARTIFICIAL PARROT.

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The POPINJAYS.

Les Papegais, Buff.

THESE are in general smaller than the Amazons, from which and from the Cricks they are distinguished by having no red on the wings. They are all peculiar to the new world. We are acquainted with eleven species of Popinjays, to which we shall subjoin such as are slightly mentioned by authors without describing the colours of the wings, and of which we cannot therefore decide to what genus they belong.

The PARADISE POPINJAY.

FIRST SPECIES.

Psittacus-Paradisæ, Linn. Gmel. and Klein.

Psittacus Luteus insulæ Cubæ, Briff.

The *Cuba Parrot*, Brown and Catesby.

The *Paradise Parrot*, Lath.

THIS Parrot is very handsome. Its body is yellow, and all the feathers edged with dark glossy red; the great quills of the wings are white, and all the others yellow, like the feathers on the body; the two quills in the middle of the tail are also yellow, and all the lateral ones red, from their origin as far as two thirds

thirds of their length; the rest is yellow; the iris is red; the bill and feet white.

It would seem that this species admits of some variety; for in the specimen described by Catesby, the throat and belly were entirely red, though there are others in which these parts were yellow, and the feathers only edged with white. Perhaps the breadth of the red borders differs according to age or sex, which would account for the diversity.—The bird is found in the island of Cuba [A].

The MAILED POPINJAY, *Buff.*

SECOND SPECIES.

Pfittacus Accipitrinus, Var. Gmel.

THIS American Parrot appears to be the same with the Variegated Parrot of the old continent, and we presume that those imported into France had been carried from the East Indies to America; and if some are found in the interior parts of Guiana, they have been naturalized, like the canaries, and several other birds and quadrupeds, introduced by navigators. No naturalist or traveller who has visited the new

[A] Specific character of the *Pfittacus Paradisi*: "It is yellow; its throat, its belly, and the base of its tail-quills, are red."

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N^o. 146



THE MAILED PARROT.

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world takes notice of it, though it is well known to our bird-fanciers. Its voice is different from that of the other Parrots of America, and its cry is sharp and shrill. All these circumstances conspire to prove that it is not indigenous in the new world.

The top of the head and the face are surrounded with narrow long feathers, white and radiated with blackish, and which it bristles when irritated, and disposes into a fine ruff. The nape and sides of the neck are of a fine brown red, and edged with lively blue; the feathers on the breast and stomach are clouded with the same colours, only more dilute, and with a mixture of green; a more beautiful silky shining green covers the upper side of the body and of the tail, except that some of the lateral feathers on each side appear blue exteriorly, and the primaries of the wing are brown, and also the under surface of those of the tail.

The T A V O U A.

THIRD SPECIES.

Psittacus Festivus, Linn. and Gmel.

The Festive Parrot, Lath.

THIS is a new species, of which M. Duval sent two specimens for the King's Cabinet. It

It is rare in Guiana ; yet it sometimes approaches the dwellings. Bird-fanciers are eager to obtain it, for of all the Parrots it speaks the best, and even excels the Red-tailed Gray Parrot of Guinea ; and yet it was not known till lately, which is somewhat singular. But its talents are attended with an essential defect ; it is faithless and mischievous, and bites cruelly when it pretends to caress : it would even seem to lay plans of malice, and its physiognomy, though sprightly, is dubious. It is an exceedingly beautiful bird, and more nimble and agile than any other Parrot.

Its back and its rump are of a very beautiful red ; it has also some red on the front, and the upper side of its head is light blue ; the rest of the upper side of the body is a fine full green, and the under side of a lighter green ; the quills of the wings are of a fine black, with deep blue reflections ; so that in some positions they appear entirely of a very deep blue : the coverts of the wings are variegated with deep blue and green.

We have observed that Brisson and Brown have confounded this Popinjay with our fifth species of Cricks.

[A] Specific character of the *Psittacus Festivus*: " It is green ; its front purplish ; its eye-brows and throat blue ; its back blood-coloured."

THE
RED-BANDED POPINJAY, *Buff.*

FOURTH SPECIES.

Pfittacus Dominicanus, Gmel.
The *Red-banded Parrot*, Lath.

THIS Parrot is found in St. Domingo. On the front a small red band extends between the eyes. This and the blue tinge of the primaries of the wings are almost the only interruptions in the colour of the plumage, which is all green and dark complectioned, and scaled with blackish on the back, and with reddish on the stomach. It is nine inches and a half long [A].

THE
PURPLE BELLIED POPINJAY, *Buff.*

FIFTH SPECIES.

Pfittacus Leucocephalus, Var. 3, Gmel.

THIS Parrot is found in Martinico. It is not so beautiful as the preceding ones: the face is white; the crown and sides of the head blue cinereous; the belly variegated with purple and

[A] Specific character of the *Pfittacus Dominicanus*: "It is green; a red band on its front; black crescents on its neck and back; its wing-quills blue."

green,

green, but the purple predominates; all the rest of the body, both above and below, is green; the fan of the wing white; the quills variegated with green, blue, and black; the two middle quills of the tail are green, the others variegated with green, red, and yellow; the bill is white; the feet are gray, and the nails brown.

The POPINJAY with a BLUE HEAD and THROAT.

SIXTH SPECIES.

Pfitacus Menstruus, Linn. Gmel. and Scop.
The *Blue headed Parrot*, Edw. and Lath.

THIS Popinjay is found in Guiana, though rare; and it is besides little sought after, for it cannot be taught to speak. The head, neck, throat, and breast, are of a fine blue, which receives a tinge of purple on the breast; the eyes are surrounded by a flesh-coloured membrane, whereas in all the other Parrots this membrane is white; on each side of the head is a black spot; the back, the belly, and the quills of the wing are of a handsome green; the superior coverts of the wings are yellowish green; the lower coverts of the tail are of a fine red; the quills of the middle of the tail are en-
tirely

tirely green; the lateral ones are of the same green colour, but they have a blue spot, which extends the more the nearer the quills are to the edges; the bill is black, with a red spot on both sides of the superior mandible; the feet are gray [A].

We have observed that Brisson has confounded this bird with Edwards's *Blue-faced Green Parrot*, which is our *Blue-headed Crick*.

The VIOLET POPINJAY.

SEVENTH SPECIES.

Pfitacus Purpureus, Gmel.

The *Little Dusky Parrot*, Edw. and Lath.

THIS is called, both in America and in France, the *Violet Parrot*. It is common in Guiana; and, though handsome, is not much esteemed, because it never learns to speak.

We have already remarked that Brisson confounds this with the Red and Blue Parrot of Aldrovandus, which is a variety of our Crick. The wings and tail are of a fine violet; the head and the borders of the face are of the same colour, which is waved on the throat, and melted into the white and lilac; a small red

[A] Specific character of the *Pfitacus Menstruus*: "It is green; its head bluish; its vent black."

streak edges the front ; all the upper side of the body is brown, obscurely tinged with violet ; the under side of the body is richly clouded with blue-violet, and purple-violet ; the lower coverts of the tail are rose colour, which also tinges exteriorly the edges of the outer quills of the tail, through their first half [A].

The S A S S E B E.

EIGHTH SPECIES.

Psittacus Collarius, Linn. and Gmel.

Psittacus Jamaicensis gutture rubro, Briff.

Psittacus Minor collo miniaceo, Ray.

The Common Parrot of Jamaica, Sloane.

The Red-throated Parrot, Lath.

O VIEDO is the first who has mentioned this Popinjay under the name of *Xaxebàs*, or *Sassebe*. Sloane make it a native of Jamaica. The head, and both the upper and under surface of the body, are green ; the throat and the lower part of the neck are of a fine red ; the quills of the wings are some green and others blackish. It is a pity that Oviedo and Sloane, who saw this bird, did not describe it more fully [B].

[A] Specific character of the *Psittacus Purpureus*: " Above it is dark brown, below purple ; its top and its cheeks black ; its orbits blue ; a collar with dirty points ; and the quills of its wings and tail blue."

[B] Specific character of the *Psittacus Collarius*: " It is green, with a reddish throat."

The BROWN POPINJAY.

NINTH SPECIES.

Pfittacus Sordidus, Linn. and Gmel.*Pfittacus Novæ Hispaniæ*, Briss.The *Dusky Parrot*, Edw. and Lath.

THIS bird is described, figured, and coloured, by Edwards: it is one of the rarest, and of the least beautiful in the whole genus of Parrots. It is found in New Spain. It is nearly as large as a common pigeon; the cheeks and the upper side of the neck are greenish; the back is dull brown; the rump is greenish; the tail is green above and blue below; the throat is of a beautiful blue, which is about an inch broad; the breast, belly, and legs, are brown, with a little cinereous; the wings are green, but the quills next the body are edged with yellow; the under coverts of the tail are of a fine red; the bill is black above, its base yellow, and the sides of the two mandibles are of a fine red; the iris is brown nut colour.

[A] Specific character of the *Pfittacus Sordidus*: "It is brownish; its throat blue; its wings and tail green; its bill and vent red."

THE
AURORA-HEADED POPINJAY.

TENTH SPECIES.

Pfittacus Ludovicianus, Gmel.

Pfittacus Viridis, capite luteo, fronte rubra, Fris.

The Orange-headed Parrot, Lath.

DUPRATZ is the only person who has described this bird. "It is not," says he, "so large as the Parrots which are commonly brought into France; its plumage is of a beautiful celadine-green; its head is enveloped in orange, which receives a red tinge near the bill, and melts into the green on the side of the body; it learns with difficulty to speak, and when it has made that acquisition, it seldom displays it. These Parrots always appear in flocks, and if they are silent when tamed, they are very noisy in the air, and their shrill screams are heard at a distance. They live on walnuts, the kernels of pine tops, the seeds of the tulip tree, and other small seeds*.

* Voyage à la Louisiane, par le Page Dupratz, t. II. p. 128.

[A] Specific character of the *Pfittacus Ludovicianus*: "It is sea-green; its head fulvous, inclining to reddish near the bill."

The PARAGUA.

ELEVENTH SPECIES.

Pfittacus Paraguanus, Gmel.*Lorius Brasiliensis*, Brisf.The *Paraguan Lory*, Lath.

THIS bird, which is described by Marcgrave, appears to be found in Brasil. It is partly black, and larger than the Amazon; the breast, and the upper part of the belly, and also the back, are of a very beautiful red; the iris is likewise of a fine red; the bill, the legs, and the feet, are deep ash colour.

The beautiful red colours would indicate a relation to the Lory; but as that bird occurs only in India, while the other is probably indigenous in Brasil, I shall not venture to pronounce whether they are of the same, or of different species; especially as Marcgrave, who saw the Parrot, only gives it the name *Paragua*, without saying that it is a native of Brasil. It is perhaps a Lory, as Brisson conceives. The conjecture derives force from another circumstance: Marcgrave speaks also of a gray Parrot* as brought from Brazil, which we suspect to be originally from Guinea; because none of these

* *Pfittacus Cinereus*, Linn. and Gmel.*Maracana Prima*, Marc. Johnst. Will. and Ray.*Pfittacus Brasiliensis Cinereus*, Brisf.

Specific character: "It is entirely bluish ash-colour."

gray Parrots are found in America, though they are frequent in Guinea, from whence they are often carried with the negroes. Indeed the manner in which Marcgrave expresses himself shews that he did consider it as an American Parrot; *A Bird evidently like the Parrot* *.

• *Avis psittaco planè similis.*

[A] Specific character of the *Psittacus Paraguani*: "It is scarlet; its head, its neck, its vent, its tail, its shoulders, and its wings, black."

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The PARROQUETS.

Les Perriches, Buff.

BEFORE we consider the great tribe of Parroquets, we shall survey separately a little genus that appears to belong neither to the Parroquets nor to the Popinjays, and which is intermediate in regard to size. It contains only two species, the *Maipouri* and the *Caica*; which last was unknown till very lately.

The MAIPOURI, *Buff.*

FIRST SPECIES.

Psittacus Melanocephalus, Linn. and Gmel.*Psittacus Mexicanus pectore albo*, Briss.*Psittacus Aricapillus*, Miller.The *White-breasted Parrot*, Edw. and Lath.

THE name is very applicable; for this Parrot whistles like the tapir, which is called *maipouri* in Cayenne; and though there is a vast difference between that huge quadruped and this little bird, they utter sounds so exactly similar, as not to be distinguishable. It is found in Guiana, in Mexico, and as far as the Carraccas; it never comes nigh the settlements, but commonly lives in woods surrounded with wa-

ter, or even among the trees which grow in the deluged savannas. It has no other note than the sharp whistle, which it repeats often while on the wing, and it never learns to speak.

These birds commonly associate in small bodies, but often without any tie of affection; for they fight frequently, and with rancorous obstinacy. When any are caught, they reject every kind of food, so that it is impossible to keep them alive; and their temper is so stubborn that it cannot be softened by the smoke of tobacco, which calms the most froward of the Parrots. The Maipouris require to be bred when young, and they would not repay the trouble of educating them, were not their plumage so beautiful, and their figure so singular: for their shape is very different from that of the Parrots, or even of the Parroquets; their body is thicker and shorter, their head much larger, their neck and tail extremely short; so that they have an heavy unwieldy air. All their motions are suitable to their figure; even their feathers are entirely different from those of other Parrots and Parrakeets, being short, close, and cohering to the body; so that they seem compressed and glued artificially on the breast and on all the lower parts of the body.—The Maipouris are as large as a small Popinjay, and, for the reasons perhaps, have Edwards, Brisson, and Linnæus, classed it with the Parrots; but the difference

difference is so great as to require a distinct genus.

The upper side of the head is black ; there is a green spot below the eyes ; the sides of the head, the throat, and the lower part of the neck, are of a fine yellow ; the upper side of the neck, the belly, and the legs, are orange ; the back, the rump, and the superior coverts of the wings, and the quills of the tail, are of a fine green ; the breast and belly are whitish when the bird is young, and yellowish after it is grown up ; the great quills of the wings are exteriorly blue on the upper side, and blackish below ; the following ones are green, and edged exteriorly with yellow ; the iris is of a deep chestnut ; the bill flesh coloured ; the feet ash brown, and the nails blackish [A].

The C A I C A.

SECOND SPECIES.

Pfittacus Pileatus, Gmel.

The Hooded Parrot, Lath.

CAICA, in the Galibi language, is the name of the largest Parroquet, and hence we have

[A] Specific character of the *Pfittacus Melanocephalus*: " It is green, below yellow ; its cap black ; its breast white ; its orbits carnation."

applied

applied it to the present bird. It is of the same genus with the preceding ; for it has all the peculiarities of the form, and also the black hood. Its species is not only new in Europe, but even in Cayenne. M. Sonini de Mononcour tells us, that he saw it the first in 1773. Prior to that date none ever appeared in Cayenne, and it is still uncertain from what country they come. But they have since continued to arrive annually in small flocks, about the months of September and October, and halt only a short time during the fine weather, so that they are only birds of passage.

The hood which envelopes the Caica is pierced with a hole, in which the eye is placed ; the hood extends very low, and spreads into two chin pieces of the same colour ; the circuit of the neck is fulvous and yellowish ; the beautiful green which covers the rest of the body is interrupted by an azure tinge, that marks the edges of the wing from the shoulder, borders the great quills on a darker ground, and tips those of the tail, except the two middle ones, which are entirely green, and appear rather shorter than the lateral ones.

[A] Specific character of the *Pfittacus Pileatus* : " It is green ; its head black ; its orbits white ; a sky-blue spot on its shoulders ; the tail tipped with blue."

PARROQUETS

OF THE NEW CONTINENT.

THE distinction of long and short tailed Parrakeets obtains both in the new and in the old continent. Of the long-tailed ones, some have the tail equally tapered, others unequally. We shall therefore pursue the former plan; we shall begin with such as have long and equal tails, then consider such as have long but unequal tails, and conclude with the short-tailed ones.

PARROQUETS

WITH LONG AND EQUALLY TAPERED TAILS.

The PAVOUANE PARROQUET.

FIRST SPECIES,

With a long and equal Tail.

Pittacus Guianensis, Gmel. and Briff.

The Pavourane Parrot, Lath.

THIS is one of the handsomest of the Parroquets. It is pretty common in Cayenne, and is also found in the Antilles, as M. de la Borde assures us. It learns more easily to speak than any of the Parroquets of the new conti-

ment; but, in other respects, it is indocile, for it always retains its wild savage character. Its aspect is angry and turbulent, but as it has a quick eye and a slender active shape, its figure is pleasing. Our bird-fanciers have adopted the name *Pavouane*, which it has in Guiana. These Parroquets fly in flocks*, perpetually screaming and squalling; and they range through the woods and savannas, and prefer the fruit of a large tree, called in that country the *immortal*, and which Tournefort denominates the *corallo dendron*.

It is a foot long; its tail is near six inches, and regularly tapered; the upper side of the wings and tail of a very fine green. In proportion as the bird grows older, the sides of the head and neck are covered with small spots of a bright red, which become more and more numerous; so that, in such as are aged, these parts are almost entirely covered with beautiful red spots. These never begin to appear till the second or third year. The small inferior coverts of the wings are of the same bright red, in every period of its age, only the colour is not quite so bright when the bird is young. The great inferior wings are of a fine yellow; the quills of the wings and tail are of a dull yellow below; the wing is whitish, and the feet are gray.

* "It is remarked that the Parrakeets never associate with the Parrots, but always keep together in great flocks." *Waser*, in *Dampier's Voyage*.

The BROWN-THROATED PARROQUET.

SECOND SPECIES,

With a long and equal Tail.

Psittacus Aeruginosus, Linn. and Gmel.

Psittaca Martinicana, Briff.

The *Brown-throated Parraquet*, Edw. and Lath.

EDWARDS is the first who described this Parakeet. It is found in the new world; Brisson received a specimen from Martinico.

The front, the sides of the head, the throat, and the lower part of the neck, are of a brown gray; the crown of the head is bluish green; all the upper part of the body yellowish green; the great superior coverts of the wings blue; all the quills of the wings blackish below, but the primaries are blue above, with a broad blackish border on the under side; the middle ones are of the same green with the upper side of the body; the tail is green above and yellowish below; the iris is chesnut; the bill and feet ash coloured [A].

[A] Specific character of the *Psittacus Aeruginosus*: It is green; its top and its primary wing-quills blue; its orbits cinereous."

The PARROQUET with a VARIEGATED THROAT.

THIRD SPECIES,
With a long and equal Tail.

THIS Parroquet is very rare and handsome ; it is not frequently seen in Cayenne, nor do we know whether it can be taught to speak. It is not so large as a blackbird ; the greatest part of its plumage is of a fine green, but the throat and the fore-side of the neck are brown, with scales and mails of rusty gray ; the great quills of the wings are tinged with blue ; the front is water-green ; behind the neck and a little below the back, is a small zone of the same colour ; on the fold of the wing are some feathers of a light vivid red ; the tail is partly green above and partly dun-red, with copper reflections, and below it is entirely copper coloured ; the same tinge appears under the belly.

The PARROQUET with VARIEGATED WINGS.

FOURTH SPECIES,
With a long and equal Tail.

Psittacus Virefcens, Gmel.

Psittaca Cayanensis, Briff.

The *Yellow-winged Parraquet*, Lath.

THIS species is called the *Common Parraquet* in Cayenne. It is not so large as a black-bird, being only eight inches and four lines long, including the tail, which is three inches and a half. These Parroquets keep in numerous flocks, prefer the cleared grounds, and even resort to the settled spots. They are very fond of the buds of the *immortal tree*, and when in blossom they perch on it in crowds. One of these large trees planted in the new town of Cayenne draws the visits of these birds; they are frightened away by firing upon them, but they soon return. It is difficult to teach them to speak.

In this Parroquet the head, the whole body, the tail, and the superior coverts of the wings, are of a fine green; the quills of the wings are variegated with yellow, bluish green, white, and green; the quills of the tail are edged with yellowish on the inside; the bill, the feet, and the nails, are gray.

In

In the female the colours are not so bright, which is the only difference.

Barrere confounds this bird with the *Anaca* of Marcgrave; but these two birds, though of the same genus, are of different species.

The ANACA.

FIFTH SPECIES,

With a long and equal Tail.

Psittacus Ana, Gmel.

Psittacula Brasiliensis Fusca, Briss.

The *Chestnut Crowned Parrakeet*, Lath.

THE Anaca is a very handsome Parroquet, which is found in Brazil. It is only of the size of a lark; the crown of the head is chestnut; the sides of the head brown; the throat cinereous; the upper side of the neck and the flanks green; the belly is rusty brown; the back green with a brown spot; the tail light brown; the quills of the wings green, terminated with blue, and there is a spot or rather a fringe of blood colour on the top of the wings; the bill is brown; the feet cinereous.

Briffon has ranged this Parrakeet among those which have a short tail, but Marcgrave never mentions that property; and as that author never omits, in his descriptions, to note when they

they

they have a short tail, and yet ranges the present between two long-tailed ones, we presume that belongs to that tribe. We have drawn the same inference with regard to the following, which Marcgrave names *Jendaya*, without saying that it has a short tail [A].

The J E N D A Y A.

SIXTH SPECIES,

With a long and equal Tail.

Pfittacus-Jandaya, Linn. and Gmel.

Pfittacula Brasiliensis Lutea, Briff.

The *Yellow-headed Parrot*, Lath.

THIS Parroquet is equal in bulk to the black-bird. The back, the wings, the tail, and the rump, are of a bluish green, inclining to that of beryl; the head, the neck, and the breast, are orange yellow; the extremities of the wings blackish; the iris of a fine gold colour; the bill and feet black. It is found in Brazil, but no person has seen it except Marcgrave, and all the other writers have copied his account [B].

[A] Specific character of the *Pfittacus Anaca*: "It is green, below brown rufous; its top bay; a spot on its back, and its tail pale brown; the margin of its wings red."

[B] Specific character of the *Pfittacus Jandaya*: "Above it is green, below bright yellow; its head and neck bright yellow."

The EMERALD PARROQUET.

SEVENTH SPECIES,

With a long and equal Tail.

Psittacus Smaragdinus, Gmel.The *Emerald Parrot*, Lath.

THE rich and brilliant green that covers the whole of the body, except the tail, which is chestnut with a green point, seems to entitle this bird to the name of *Emerald Parroquet*. The appellation of *Magellanic Parrakeet*, which is given in the *Planches Enluminees*, ought to be rejected; for no Parrot or Parroquet inhabits so high a latitude. It is not likely that these would pass the tropic of Capricorn in quest of regions which are colder than those at an equal distance on the northern hemisphere. Farther, is it credible that birds which live upon tender and juicy fruits would wing their course to frozen tracts, which yield nothing but a few starved berries? Yet such are the lands which border on the Straits of Magellan, where some travellers are supposed to have seen Parrots. This assertion, which is preserved in the work of a respectable author*, would have appeared extraordinary, had we not found, in tracing it to its source, that it rests on an evidence which de-

* Hist. des Navig. aux terres Australes, t. I. p. 347.

froys itself; it is that of the navigator Spilberg, who places the Parrots in the Straits of Magellan, near the same place where, a little before, he fancied that he saw Ostriches*. For a similar reason, perhaps, we ought to reject the relation that Parrots are found in New Zealand and in Diemen's Land †, in the 43d degree of south latitude.

We shall now proceed to enumerate and describe the Parroquets of the new continent, which have a long tail unequally tapered.

* Hist. Gen. des Voy. t. XI. pp. 18 & 19.

† Captain Cook's second Voyage.

[A] Specific character of the *Pfittacus Smaragdinus*: "It is brilliant green; the hind part of its belly, its rump, and its tail, ferruginous chestnut."

PARROQUETS

WITH A LONG TAIL UNEQUALLY TAPERED.

The SINCIALO.

FIRST SPECIES,

With a long and unequal Tail.

Pfitacus Rufirostris, Linn. Gmel. and Gerini.
The *Long-tailed Green Parakeet*, Edw. and Lath.

THIS bird is called *Sincialo* at St. Domingo. It is not larger than a blackbird, but is twice as long, its tail being seven inches, and its body five. It is disposed to chatter, and easily learns to speak, to whistle, and to mimic the cries of all the animals which it hears: these Parroquets fly in flocks, and perch on the closest and most verdant trees; and as they are green themselves, they can hardly be perceived. They make a great noise among the trees, many at once screaming, squalling, and chattering; and if they overhear the voice of men or other animals, they cry the louder*. This habit is not peculiar to the Sincialos, for almost all Parrots that are kept in the house babble with more vociferation when a person speaks high. They feed like the other Parrots, but are more lively

* Dutertre, t. II. p. 252.

and

and cheerful: they are soon tamed; they seem fond of being taken notice of, and they seldom are silent, for whenever a person talks, they scream and chatter likewise. They grow fat and delicate to eat, during the maturity of the seeds of Indian wood, which principally supports them.

The whole plumage of this Parroquet is yellowish green; the inferior coverts of its wings and tail are almost yellow; the two quills in the middle of the tail are longer, by an inch and nine lines, than those contiguous on either side, and the other lateral quills contract gradually, so that the outermost are five inches shorter than the mid-ones. The eyes are encircled by a flesh coloured skin; the iris is fine orange; the bill is black, with a little red at the base of the upper mandible; the feet and nails are flesh coloured. This species is scattered through almost all the warm parts of America.

The Parroquet mentioned by Labat is a variety of this*; the only difference being that there are some small red feathers on the head, and the bill is white.—We must observe that Brisson has confounded this last bird with the *Aiuru-catinga* of Marcgrave, which is one of our Cricks.

* *Perrique de la Guadeloupe*, Labat.
Pfittaca Aquarum Lupiarum, Briff.

[A] Specific character of the *Pfittacus Rufrostris*: "It is green; its bill and feet are red; its tail-quills, tipped with bluish; its orbits carnation."

THE
RED-FRONTED PARROQUET.

SECOND SPECIES,

With a long and unequal Tail.

Pfittacus Canicularis, Linn. and Gmel.

Pfittacus Brasiliensis fronte rubro, Briss.

The *Red and Blue-beaded Parrakeet*, Edw. and Lath.

THIS bird is found, like the preceding, in almost all the warm parts of America. It was first described by Edwards. The front is of a bright red; the crown of the head of a fine blue; the back of the head, the upper side of the neck, the superior coverts of the wings and those of the tail are deep green; the throat and all the under side of the body are a little yellowish; some of the great coverts of the wings are blue; the primaries are dull ash colour on the inside, and blue on the outside, and at the extremity; the iris is orange; the bill cinereous; and the feet reddish.

We must observe that Edwards, and Linnæus, who has copied him, confound this Parroquet with the *Tui-apute-juba* of Marcgrave, which constitutes a different species, as will appear from the following description.

[A]. Specific character of the *Pfittacus Canicularis*: "It is green, with a red front; the back of its head and the outermost quills of its wings, are blue; its orbits fulvous."

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THE ILLINOIS PARROT.

The APUTE JUBA.

THIRD SPECIES,

With a long and unequal Tail.

Pfittacus Pertinax, Linn. Gmel. and Bor.*Pfittaca Illiniaca*, Briff.*Pfittacus Viridis malis croccis*, Klein.The *Yellow-faced Parrot*, Edw.The *Illinois Parrot*, Penn. and Lath.

THE front, the sides of the head, and the top of the throat, are of a fine yellow; the crown and back of the head, the upper surface of the neck and of the body, the wings and the tail, are of a fine green. Some of the superior coverts of the wings, and the great quills, are edged exteriorly with blue; the two quills in the middle of the tail are longer than the lateral ones, which continually shorten, infomuch that the mid-ones exceed the outermost by an inch and nine lines; the lower belly is yellow; the iris deep orange; the bill and feet cinereous.

From this description alone it is manifest that this species is not the same with the preceding, and is even widely different. Besides, it is very common in Guiana, where the former is never found. It is vulgarly called at Cayenne the *Wood-lice Parrakeet*, because it generally lodges in the holes where these insects nestle. It remains the whole year in Guiana, and frequents the savannas and the cleared lands. It is very

improbable that this species extends to the country of the Illinois, or roams so far north, as Brisson asserts; especially as no species of Parrot is found beyond Carolina, and only one species in Louisiana, which we have before described [A].

The GOLDEN-CROWNED PARROQUET.

FOURTH SPECIES,
With a long and unequal Tail.

Psittacus Aureus, Linn. and Gmel.

Psittaca Brasiliensis, Briss.

THIS name was bestowed by Edwards, who took the bird for a female of the preceding species. What he described was really a female, since it layed five or six small white eggs in England, and lived fourteen years in that climate. But the species is different from the foregoing, for though both are common in Cayenne, they never associate together, but keep in great separate flocks; and the males resemble the females. The Golden-crowned Parroquet is called in Guiana the *Parrakeet of the Savannas*; it speaks extremely well, is very fondling and intelligent;

[A] Specific character of the *Psittacus Pertinax*: "It is green; its cheeks fulvous; the quills of its wings and tail somewhat hoary."

whereas

whereas the preceding is not esteemed, and articulates with difficulty.

This handsome Parroquet has a large orange spot on the fore part of the head; the rest of the head, all the upper side of the body, the wings, and the tail, are of a deep green; the throat and the lower part of the neck, are of a yellowish green, with a slight tinge of dull red; the rest of the under side of the body is pale green; some of the great superior coverts of the wings are edged exteriorly with blue; the outer side of the feathers of the middle of the wings is also of a fine blue, which forms on each wing a broad longitudinal band of that beautiful colour; the iris is vivid orange; the bill and feet blackish [A].

The GUAROUBA, or YELLOW PARROQUET.

FIFTH SPECIES,

With a long and unequal Tail.

Psittacus-Guarouba, Linn. and Gmel.

Psittaca Brasiliensis Lutea, Brisf.

Qui Juba Tui, Marc. Ray, &c.

The Brazilian Yellow Parrot, Lath.

MARCGRAVE and De Laët are the first who take notice of this bird, which is found in

[A] Specific character of the *Psittacus Aureus*: "It is green; its cere and its orbits bluish carnation; its top golden; an oblique blue stripe on the coverts of its wings."

Brazil,

Brazil, and sometimes in the country of the Amazons, where however it is rare*, nor is it ever seen near Cayenne. This Parroquet, which the Brazilians call *Guiauba*, that is, Yellow Bird, does not learn to speak at all; and it is melancholy and solitary. Yet the savages hold it in great estimation for the sake of its plumage, which is very different from that of the other Parrots, and on account of its being easily tamed. It is almost entirely yellow; only there are some green spots on the wings, whose small quills are green, fringed with yellow; the primaries are violet fringed with blue; and the same mixture of colours appears on the tail, whose extremity is blue-violet; its middle and rump are green, edged with yellow; all the rest of the body is pure yellow, and vivid saffron, or orange. The tail is five inches in length, which is that of the body; it is much tapered, so that the last lateral feathers are one half shorter than those of the middle. The Yellow Mexican Parrakeet, given by Brisson from Seba, appears to be a variety of this; and the little pale red which Seba represents on the head of his bird *Cocbo*, and which was perhaps only an orange tint, does not form a specific character.

* "The rarest of the Parrots are those which are entirely yellow, with a little green at the extremity of the wings: I never saw any of this sort but at Para." La Condamine, *Voyage a Riviere des Amazones*, p. 173.

THE
YELLOW-HEADED PARROQUET.

SIXTH SPECIES,

With a long and unequal Tail.

Psittacus Carolinensis, Linn. and Gmel.

Psittaca Carolinensis, Briss.

The *Carolina Parrot*, Catesby, Penn. and Lath.

THIS Parroquet appears to be one of those which travel from Guiana to Carolina, to Louisiana*, and even to Virginia. The front is of a beautiful orange; all the rest of the head, the throat, the half of the neck, and the fan of the wing, are of a fine yellow; the rest of the body, and the superior coverts of the wings, are light green; the great quills of the wings are brown on the inner side; the outer side is yellow, as far as one third of its length, it then grows green and blue near the extremity; the middle quills of the wings, and those of the tail, are green; the two middle ones of the tail are an inch and half longer than those adjacent on either side; the iris is yellow; the bill is yellowish white; and the feet are gray.

* "I saw also that day, for the first time, Parrots (in Louisiana); they appear along the Teakiki, but in summer only: these were stray-birds, which repaired to the Mississippi, where they occur in all seasons. They are scarcely larger than black-birds; their head is yellow, with a red spot on the middle; on the rest of their plumage green predominates." *Hist. de la Nouv. France*, par Charlevoix. Paris, 1744, t. III. p. 384.

These

These birds, says Catesby, feed upon the seeds and kernels of fruits, particularly apples, and the grains contained in cypress cones. In autumn they resort to the orchards in great flocks, and as they tear and mangle fruits to obtain the kernel, which is the only part that they eat, they do much injury. They penetrate as far as Virginia, which is the most northern colony, subjoins Catesby, where I heard of Parrots being seen. This is also the only species found in Carolina, where a few breed; but most of them retire southwards in the love season, and appear again during the harvest; being enticed by the fruit trees, and rice crops. The colonies between the tropics suffer greatly from the influx of Parrots on their plantations. In the months of August and September of 1750 and 1751, a prodigious number of Parrots of all kinds arrived in Surinam, and spread in flocks among the ripe coffee; they ate the red husks, without touching the beans, which they suffered to fall to the ground. In 1760, about the same season, new swarms of these birds appeared, and, extending along the coast, did much injury, though it could not be conjectured whence they came*. In general, the ripeness of fruits, the plenty or scarcity of food in different countries, compel

* Pistorius. *Beschrijving van colonie van Surinaamen*, Amsterdam, 1768.

certain

certain species of Parrots to *flit* from one tract to another*.

The ARA PARROQUET.

SEVENTH SPECIES,
With a long and unequal Tail.

Pfittacus-Makarouanna, Gmel.
The *Parrot Maccauw*, Lath.

BARRERE is the first who has noticed this bird. It is however frequently seen in Cayenne, where it is reckoned migratory. It haunts the overflowed savannas, like the Aras, and also subsists on the fruits of the palmetto. It is called the *Ara Parroquet*, because it is larger than the other Parroquets; its tail very long, being nine inches, and its body the same; like the Aras also, it has a naked skin from the corners of the bill to the eyes, and pronounces distinctly the word *Ara*, though with a raucous voice, and lower and shriller. The natives at Cayenne call it *Makarouanne*.

* "In the *Antis* are found Parrots of all sizes and colours. These birds issue from the country of the *Antis*, when the cara or maize is sown, of which they are very fond; and accordingly they make great havock. The *Guacamayas* alone, on account of their unwieldiness, never fall from the country of the *Antis*; they all fly in flocks, yet one species intermingles not with another." *Garcilasso*, *Hist. des Incas*. Paris, 1744, t. II. p. 83.

[A] Specific character of the *Pfittacus Carolinensis*: "It is green; its head, its neck, and its knees, yellow."

The

The quills of the tail are unequally tapered ; all the upper side of the body, of the wings, and of the tail, deep green, with a dark cast, except the great quills of the wings, which are blue, edged with green, and terminated with brown on the outside ; the upper part and the sides of the head are green mixed with deep blue, so as, in certain positions, to appear entirely blue ; the throat, the lower part of the neck, and the top of the breast, have a deep rusty cast ; the rest of the breast, the belly, and the sides of the body, are of a paler green than that of the back ; lastly, on the lower belly there is some brown-red, which extends over some of the lower coverts of the tail ; the quills of the wings and of the tail are yellowish-green below.

We have only to describe the short-tailed Parroquets of the new continent, to which we have given the generic name of *Toui*, by which they are known in Brazil.

The TOUIS, or SHORT-TAILED PARROQUETS.

THESSE are the smallest of all the Parrots which inhabit the new continent: their tail is short, and their bulk exceeds not that of the sparrow, and most of them are incapable of being taught to speak; for of the five species with which we are acquainted there are only two which can acquire that talent. The Tuis appear to be found in both continents, and, though not exactly of the same species, they are analogous and related, because they have been transported, as I formerly mentioned. Yet I am inclined to think that they are all originally natives of Brazil, whence they have been introduced into Guinea and the Philippine islands.

The YELLOW-THROATED TOUI.

FIRST SPECIES

Of short-tailed Toui.

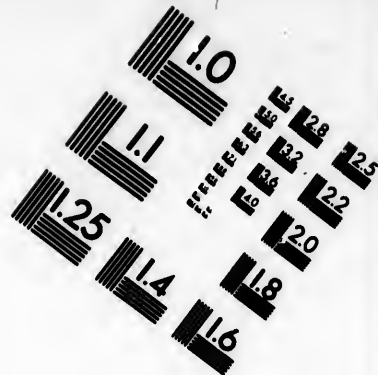
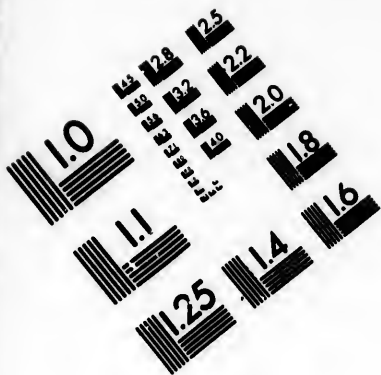
Psittacus-Toui, Gmel.

Psittacula gutture luteo, Brisf.

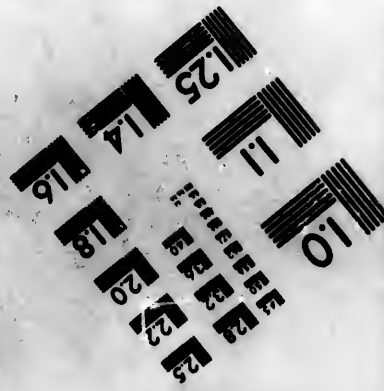
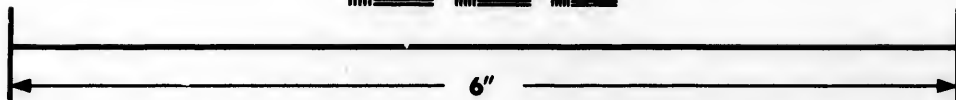
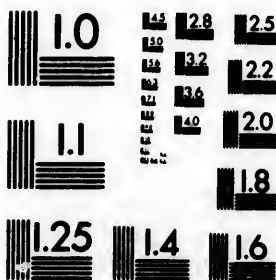
The *Yellow-throated Parakeet*, Lath.

THE HEAD and all the upper side of the body are of a fine green; the throat is of a fine orange





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orange colour; all the under side of the body yellowish green; the superior coverts of the wings are variegated with green, brown, and yellowish; the inferior coverts are fine yellow; the quills of the wings are variegated with green, yellowish, and deep cinereous; those of the tail are green and edged internally with yellowish; the bill, the feet, and the nails, are gray [A].

The S O S O V E.

SECOND SPECIES

Of Toui or short-tailed Parroquet.

Pfittacus-Sosove, Gmel.

The *Cayenne Parakeet*, Lath.

Sosove is the Galibi name of this charming little bird, which is easily described, since it is entirely of a brilliant green, except a spot of light yellow on the quills of the wings, and on the superior coverts of the tail; the bill is white, and the feet gray.

This species is common in Guiana, especially near Oyapoe, and the river Amazons. It can easily be tamed, and taught to speak. Its voice is like that of Punch in the puppet-shews; and when well trained it chatters perpetually [B].

[A] Specific character of the *Pfittacus Toui*: "It is green; a pale orange spot on its throat; a broad chestnut bar on its wings, with a green gold lustre."

[B] Specific character of the *Pfittacus Sosove*: "It is green, with a dilute yellow spot on its wings and the covert of its tail."

The TIRICA.

THIRD SPECIES

Of Toui, or short-tailed Parroquets.

Psittacus-Tirica, Gmel.*Psittacula Brasiliensis*, Briss.

The Green Parrakeet, Lath.

MARCGRAVE first described this bird. Its plumage is entirely green; the eyes are black; the bill carnation; and the feet bluish. It is soon tamed and taught to speak, and is very gentle, and easily managed.

The *small Chatterer* of the *Planches Enluminees* seems to be of the same species: it is also entirely green; its bill flesh coloured, and of the usual size of a Toui.

The *Tuin* of Jean de Laët * does not mean any particular species, but comprehends all the Parroquets in general; and therefore we ought not, with Brisson, to refer it to the *Tui-tirica* of Marcgrave.

Sonnerat mentions a bird which he saw in the island of Luçon, and which much resembles the *Tui-tirica* of Marcgrave. It is of the same bulk, and its plumage wholly dyed green, though deeper above, and lighter below. But it is distinguished by the gray colour of its bill, which is carnation in the other, and by the gray cast

* *Description des Indes Occidentales*, p. 490.

of its feet, which are bluish in the former: these differences would be insufficient to constitute a species, if the climates were not so distant. It is possible, and even probable, that this bird was carried from America to the Philippines, where it might undergo those small changes [A].

The ETE, or TOUI-ETE.

FOURTH SPECIES

Of Toui, or short-tailed Parroquet.

Psittacus Passerinus, Linn. Gmel. and Bor.

Psittaca Brasiliensis uropygia cyano, Briss.

Tuite, Ray and Will.

The Short-tailed Green Parrakeet, Bancroft.

The Least Blue and Green Parrakeet, Edw. and Lath.

WE are likewise indebted to Marcgrave for the account of this bird. It is found in Brazil; its plumage is in general light green; but the rump, and the top of the wings, are of a fine blue; all the quills of the wings are edged with blue on the outside, which forms a long blue band when the wings are closed; the bill is flesh-coloured, and the feet cinereous.

To the same species we may refer the bird denominated by Edwards the *Least Green and Blue Parrakeet*, the only difference being that

[A] Specific character of the *Psittacus Tirica*: "It is green; its bill carnation; its feet and nails bluish."

its

its wing-quills are not edged with blue, but with yellowish-green, and that the bill and feet are fine yellow [A].

The GOLDEN-HEADED TOUI.

FIFTH SPECIES

Of short-tailed Parroquet.

Pfittacus-Tui, Gmel.

Pfittacula Brasiliensis: Iberocephalos, Briss.

The *Gold-head Parakeet*, Lath.

THIS bird is also found in Brazil. All its plumage is green, except the head, which is of a fine yellow; and, as its tail is very short, we must not confound it with another Parroquet which has also a gold colour, but, at the same time, a long tail [B].

A variety, or at least a contiguous species, is delineated in the *Planches Enluminees*, where it is denominated the *Little Parakeet of the island of St. Thomas*, because the Abbe Aubry, Rector of St. Louis, in whose cabinet the specimen was lodged, said that it came from that island. But the only difference between it and the Gold-

[A] Specific character of the *Pfittacus Passerinus*: "It is yellow-greenish; a spot on its wings, and their under surface blue."

[B] Specific character of the *Pfittacus-Tui*: "It is green; its front orange; its orbits bright yellow."

head Toui is that the yellow tinge is much paler.

These five species are all the Touis of the new world that we are acquainted with; nor are we certain whether the two small short-tailed Parrakeets, the first noticed by Aldrovandus, the second by Seba, ought to be classed with the rest, for the descriptions are very imperfect. That of Aldrovandus seems rather to be a *Cockatoo*, by reason of the tuft on its head, and that of Seba appears to be a *Lory*, because its plumage is almost entirely red. But we know none of the Cockatoos or Loris that resemble them closely, or with which we could venture to class them.

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THE CURUCULI.

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The CURUCUIS.

Les Couroucous, ou Couroucais, Buff.

SUCH is the name which these birds bear in their native climate of Brazil. This word imitates their cry so exactly, that the natives of Guiana have omitted only the first letter, and call them *Urucoos*. Their characters are these: Their bill short, hooked, indented, broader than it is thick, and much like that of the Parrots; it is surrounded at its base by ragged feathers, projecting forwards, but not so long as in the bearded birds, which we shall afterwards describe; the legs also are very short, and feathered within a little of the insertion of the toes, which are placed two behind and two before. We know only three species, and these may perhaps be reduced to two, though nomenclators reckon six, some of which are varieties, and others belong to a different genus.

The RED-BELLIED CURUCUI.

Le Couroucou à Ventre Rouge, Buff.

FIRST SPECIES.

Trogon-Curucui, Edw. and Lath.

Trogon Brasiliensis Viridis, Briss.

Txinitzian, Fernand. Johnst. Will. and Ray.

THIS bird is ten inches and a half long; the head, the whole of the neck and the rife of the breast, the back, the rump, and the coverts of the upper side of the tail, are of a fine brilliant green, but changing, and, in a certain position, blue; the coverts of the wings are blue gray, variegated with small black zig-zag lines; and the great quills of the tail are black, except their shafts, which are partly white; the quills of the tail are of a fine green, like the back, except the two outer ones, which are blackish, and have small transverse gray lines; a part of the breast, the belly, and the coverts of the under side of the tail, are of a fine red; the bill is yellowish, and the legs are brown.

Another subject, which appears to have been a female, differed in no respect, except that all the parts, which were of a fine brilliant green in the first, are blackish-gray in this, and without any reflections; the small zig-zag lines are much more indistinct, because the dark brown predominates, and the three outer quills of the tail have,

have, on their exterior webs, alternate black and white bars ; the upper mandible is entirely brown, and the lower yellowish ; lastly, the red colour is much less spread, occupying only the lower belly, and the coverts of the under surface of the tail.

There is a third subject in the King's Cabinet, which differs chiefly from the two preceding in these respects : the tail is longer, and the three outer quills on each side have their outer webs and their tips white ; the three exterior quills of the wing are marked with transverse spots, that are alternately white and black at their margin ; there is also a gold-green shade, waving on the back and on the quills in the middle of the tail, which has not place in the preceding. But the red tinge is disposed in the same way, and begins only at the lower belly, and the bill is similar in its shape and colour.

The Chevalier Le Febvre Deshayes, correspondent of the Cabinet, whom we have often had occasion to quote as an excellent observer, has sent us a coloured drawing of this bird, with excellent observations. He says that it is called at St. Domingo *the red drawers* *, and in many of the other islands it is termed *the English lady* †. “ This bird retires,” he adds, “ into the depths of the forests during the season of its amours ; its melancholy and even dismal accents seem to

* *Galeçon rouge.*

† *Demoiselle ou Dame Angloise.*

express that profound sensibility which carries it into the desert, to enjoy in solitude the tenderness of love, and that languor, which is more delicious perhaps than its transports. This cry alone reveals its retreat, which is often inaccessible, and difficult to discover.

“ Their loves commence in April: they choose the hole of a tree, and line it with the dust of worm-eaten wood; and this bed is as soft as cotton or down. If they cannot find such dust, they break fresh wood with their bill, and reduce it to powder; and their bill, which is indented near the point, is sufficiently strong for that purpose: it also serves to enlarge the hole, when not sufficiently wide. They lay three or four eggs, which are white, and somewhat smaller than those of a pigeon.

“ While the female hatches, the employment of the male is to bring supplies of food, to keep watch on a neighbouring bough, and to sing. At other times he is silent and reserved; but during incubation, he fatigues the echos with those languishing sounds, which how insipid soever they may appear to us, undoubtedly sooth the tedious occupation of his dear companion.

“ The young, at the moment of their exclusion, are entirely naked, without any trace of feathers, but which begin to sprout two or three days after. Their head and bill appear uncommonly thick, compared with the rest of

their

their body; their legs too seem excessively long, though they are very short when the bird is grown. The male becomes silent the instant that the brood are hatched; but he again resumes his song, with his loves, in the months of August and September.

“ They feed their young with worms, caterpillars, and insects. Their enemies are the rats, the serpents, and both the nocturnal and diurnal birds of prey; so that the species of the *Ooroocoais* is not numerous, most of them falling a sacrifice to depredation.

“ After the young ones are flown, they remain not long together; they yield to their solitary instinct and disperse.

“ In some individuals the legs are reddish, in others they are slaty blue. It has not been observed whether this diversity is occasioned by age, or results from the difference of sex.”

The Chevalier Deshayes tried to raise some of the preceding year, but his attempts were fruitless; and, either from a languid or a lofty temper, they obstinately refused to eat. “ Perhaps,” says he, “ I should have succeeded better, if I had taken them just after hatching; but a bird, which lives so remote from us, and which seeks felicity in the freedom and silence of the desert, seems not adapted for slavery, and must continue a stranger to all the habits of the domestic state.”

[A] Specific character of the *Trogon-Curucui*: “ It is gold-green, below fulvous; its throat black.”

THE
YELLOW-BELLIED CURUCUI.

Le Couroucou à Ventre Jaune, Buff.

SECOND SPECIES.

Pittacus Viridis, Linn. and Gmel.

Trogon Cayanensis Viridis, Briss.

THIS bird is about eleven inches long; the wings when closed do not reach quite to the tail; the head and the upper side of the neck are blackish, with reflections of handsome green in some parts; the back, the rump, and the coverts of the upper side of the tail, are brilliant green, like the thighs; the great coverts of the wings are blackish, with small white spots; the great quills of the wings are blackish, and the four or five outer ones have a white shaft; the quills of the tail are of the same colour with those of the wings, except that they have some reflections of a brilliant green; the three outer ones on each side are radiated transversely with black and white; the throat and the under side of the neck are dark brown; the breast, the belly, and the coverts below the tail, are of a fine yellow; the bill is indented, and appears dark brown, as well as the legs; the nails are black; the tail is tapered, the feather on each side being two inches shorter

shorter than the two middle ones, which are the longest [A].

Between the Red-bellied Curucui and the Yellow-bellied Curucui lie some varieties, which our nomenclators have taken for different species. Such, for instance, is the one denominated, in the *Planches Enluminees*, the *Guiana Curucui*, which is only a variety of the Yellow-bellied Curucui, occasioned by age; the sole difference being, that the upper side of the back, which in the adult is fine azure, is ash-coloured in the young one.

Further, the bird represented in the *Planches Enluminees* by the name of the *Rufous-tailed Curucui of Cayenne*, is a variety of the same Yellow-bellied Curucui, produced by moulting; since the only difference is that the feathers of the back and tail are rufous instead of blue*.

There is also a variety of this Yellow-bellied Curucui: it is the bird termed by Brisson the *White-bellied green Curucui of Cayenne*. The only difference lies in the colour of the tail, which may be owing to age, for the feathers were not completely formed. It might also be an acci-

[A] Specific character of the *Trogon Viridis*: "It is gold-green, below yellow; its throat black; a gold-green bar on its breast."

* *Trogon Rufus*, Gmel.

The *Rufous Curucui*, Lath.

Specific character: "It is rufous; its belly, its vent, and its thighs, yellow; the coverts of its wings streaked with black and gray; its wing-quills and the middle quills of the tail tipped with black."

dental

dental diversity; but certainly none of these three birds can be regarded as a distinct and separate species*.

We have seen another individual whose breast and belly were whitish, with a tinge of citron in many parts; which made us suspect that the White-bellied Curucui, just mentioned, was only a variety of the Yellow-bellied Curucui.

The VIOLET-HOODED CURUCUI.

Le Couroucou à Chaperon Violet, Buff.

THIRD SPECIES.

Trogon Violaceus, Gmel.

The Violet-beated Curucui, Lath.

THE throat, neck, and breast, are of a very dusky violet; the head is of the same colour, except that of the front, and of the space round the eyes and ears, which is blackish; the eye-brows yellow; the back and rump of a deep green, with gold reflections; the superior coverts of the tail are bluish-green, with the same gold reflections: the wings are brown, and their coverts, as well as the middle quills, are dotted with white; the two central quills of the tail are green, verging on bluish, and terminated with black; the two adjacent pairs are of the

* *Trogon Viridis*, Var. Linn. and Gmel.

same

same colour in the uncovered part, and blackish in the rest; the three lateral pairs are black, striped and terminated with white; the bill is lead colour at the base, and whitish near the point; the tail exceeds the wings when closed, by two inches and nine lines, and the total length of the bird is nine inches and a half.

M. Koelreuter calls this bird *Lanius**; but it is of a genus very different from that of a shrike, a lanner, or another bird of prey. A broad short bill, and bristles around the lower mandible; such are the characters which it has in common with the Curucuis. But the properties wherein it resembles the cuckoos, that the legs are very short and feathered to the nails, which are slender and disposed in pairs, the one before and the other behind; that the nails are short, and slightly hooked; and lastly, the want of a membrane around the base of the bill: all these differ from the characters of the rapacious tribe.

The Curucuis are solitary birds which live in the heart of damp forests, where they subsist on insects; they are never observed to consort in flocks; they generally sit on the middle branches, the cock and hen on separate but adjacent trees, and call each other alternately, by repeating their hollow monotonous cry, *ooroochoais*. They never fly far, but only from tree to tree, and seldom even do that; for they remain during the greatest part

* *Comment. Petropol.* 1763.

of the day in the same spot, concealed beneath the thickest boughs; where, though their voice is continually heard, yet, as they are motionless, they can hardly be discovered. They are clothed so thickly with plumage, that they appear larger than in reality; they would seem to equal the bulk of a pigeon, though they have not more flesh than a thrush. But if their feathers be numerous and close, they are weakly rooted, for they drop with the least rubbing; so that it is difficult to prepare specimens for the cabinet. These birds are among the most beautiful of South America. Fernandez says that the fine feathers of the Red-bellied Curucui were used by the Mexicans in making portraits, a gaudy kind of paintings, and other ornaments which they wore at festivals, or in battle [A].

There are two other birds mentioned by Fernandez, which Brisson supposes to be Curucuis; but they undoubtedly belong not to that genus.

The first is what Fernandez compares to the stare, and which we have formerly noticed*. I am astonished that Brisson could fancy that it was a Curucui, since Fernandez himself refers it to the genus of the stares, and their figures are similar. But the shape of the bill, the dis-

[A] Specific character of the *Trogon Violaceus*: "It is violet; its eye-brows bright yellow; its back and rump gold-green; its wings brown; its intermediate tail-quills bluish-green, tipped with black."

* *Trogon Mexicanus*, Brisson.

position of the toes, the form of the body, every property of the bird in short, is so widely different from those of the Curucuis, that they never with propriety can be associated.

The second bird which Brisson has taken for a Curucui is one which Fernandez * says is exceedingly beautiful, and of the size of a pigeon; that it frequents the sea shore; and that its bill is long, broad, black, and a little hooked: this form of the bill is very different from what obtains in the Curucuis, a circumstance alone sufficient to exclude it from this genus. Fernandez subjoins that it does not sing, and that its flesh is unfit for eating; that its head is blue, and the rest of its plumage blue, variegated with green, black, and whitish. But these indications are not precise enough to determine the species.

* *Trogon Mexicanus Varius*, Brisson.

The CURUCUCKOO.

Cuculus Brasiliensis, Linn. and Gmel.

Cuculus Brasiliensis Cristatus Ruber, Briss.

The *Red-checked Cuckoo*, Lath.

BETWEEN the extensive family of the Cuckoo and that of the Curucui, we shall place a bird which seems to participate of both; supposing that the indication of Seba is less faulty than most of those inserted in his bulky work: his account is as follows—"The head is of a pale red, bearing a fine tuft of brighter red, variegated with black. The bill is pale red; the upper side of the body is bright red; the coverts of the wings and the under side of the body are pale red; the quills of the wings and those of the tail are yellow, shaded with a blackish tint."

This bird is not so large as the magpie, its total length being about ten inches.

We must observe that Seba takes no notice of the disposition of its toes, and in his figure they are disposed by three and one, not by two and two. But the asserting the bird to be a *Cuckoo*, implied the latter.

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crowns its head is a bunch of bristled feathers, which are fine and silky, and consist of such delicate fibres that the whole is transparent. The beautiful green which covers all the neck, the breast, and the shoulders, is also composed of fibres of the same kind, and equally fine and silky.

We know two species, or rather two varieties, of the genus; the one termed the *Abyssinian Touraco*, and the second the *Touraco from the Cape of Good Hope*.

The only difference lies in the tints, for the bulk of the colours is the same. The Abyssinian Touraco has a blackish tuft, compact like a lock, and reflected backwards: the feathers on the forehead, the throat, and compass of the neck, are meadow green; the breast, and top of the back, are of the same colour, but with an olive tinge, which melts into a purple brown, heightened by a fine green gloss; all the back, the coverts of the wings, and their quills next the body, and all those of the tail, are coloured in the same way; all the primaries are of a fine crimson, with a black indenting on the small webs, near the tip: we cannot conceive how Brisson saw only four of these red feathers. The under side is dun gray, slightly shaded with light gray.

The Touraco of the Cape of Good Hope differs not from the Abyssinian one, except that
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the tuft is of a light green, and sometimes fringed with white. The neck is of the same green, which melts on the shoulders into a darkish tint, with glossy green reflections.

We had a Touraco alive from the Cape, and were assured that it lived upon rice. No other food was offered to it at first, and this it would not touch, but grew famished, and, in that extremity, it ate its own excrements. During three days, it subsisted only on water and a bit of sugar. But observing grapes brought to the table, it shewed a strong appetite for them; some were given to it, which it swallowed greedily. It discovered in the same way a fondness for apples, and afterwards for oranges. From that time it was fed on fruit for several months. This seemed to be the natural food, its curved bill not being in the least adapted for collecting grain. The bill is wide, and cleft as far as under the eyes; the bird hops, but does not walk; its nails are sharp and strong, its hold firm; its toes are stout, and invested with thick scales. It is lively, and bustles much; it continually utters a weak, low, and hoarse cry, *créu, créu*, from the bottom of its gizzard, without opening its bill. But sometimes it has a very loud scream, *cō, cō, cō, cō, cō, cō, cō*; the first notes low, the others higher, rapid, and noisy, with a shrill and harsh voice. It vents this cry of its own accord, when it is hungry;

but it may be made to repeat it at pleasure; if one prompts it by imitation.

This beautiful bird was given to me by the Princess of Tingri, to whom my most respectful thanks are due. It is even handsomer than at first, for it was in moult when I made the foregoing description. At present, which is four months since that time, the plumage is restored with fresh beauties; there are two white streaks of small feathers, or short silky hairs, the one pretty near the inner corner of the eye, the other before the eye, and extending backwards to the outer corner; between these two is another streak of the same down, but of a deep violet cast; the upper surface of the body and of the tail shines with a rich purplish blue, and the crest is green and not fringed. These new characters dispose me to think that it does not resemble the Touraco from the Cape of Good Hope so much as I at first supposed; it seems also to differ in the same properties from the Abyssinian Touraco. We have therefore three varieties; but we cannot determine whether the diversity belongs to the species or to the individual, whether it is periodical or constant, or only sexual.

It does not appear that this bird is found in America, though Albin gives it as brought from Mexico. Edwards affirms that it is indigenous in Guinea, from whence the individual
mentioned

mentioned by Albin was possibly transported into the new world. We are unacquainted with the habits of the bird, when it enjoys its native freedom; but as it is exceedingly beautiful, we may hope that travellers will observe them, and communicate their remarks.

[A] Specific character of the *Cuculus Persa*: "Its tail is equal; its head crested; its body bluish green; its wing-quills blood coloured."

The C U C K O O *.

Le Coucou, Buff.

Cuculus Canorus, Linn. Gmel. and Muller.

Cuculus, Gefner, Will. Johnst. Briff. &c.

IN the age of Aristotle it was generally said that no one had ever seen the hatch of the Cuckoo: it was known that this bird lays like the rest, but makes no nest; that it drops its eggs, or its egg (for it seldom deposits two in the same place) in the nests of other birds, whe-

* In Hebrew, according to the different authors, *Kaath, Kik, Kakik, Kakata, Schalac, Schofshaph, Kore, Banchem, Euchem*: In Syriac, *Coco*: In Greek, *Κοκκυξ*: In Latin, *Cuculus*: In Italian, *Cucculo, Cucco, Cuco, Cucho*: In Spanish, *Cuclillo*: In German, *Kukuk, Gucker, Guggaub, Guckufir*: In Flemish, *Kockok, Kockuut, Kockuunt*: In Swedish, *Gioek*: In Norwegian, *Gouk*: In Danish, *Gioeg-Kukert, Kuk, Kukmanden*: In Lapponic, *Geccha*: In old English and in Scotch, *Gorok*.

A passage from an Italian author, Gerini, will illustrate the misapplication of the name Cuckoo. "It lay its eggs in the nest of the *curruca* (pettychaps); and hence a sottish husband, indifferent to the dishonour of his marriage-bed and the imposition of spurious children, has been called *curruca*: and afterwards that name was corrupted, from ignorance, into *cornuta* (horned). Formerly, and even at present, this word, as well as Cuckoo (cuckold), is bestowed on a sot, who is insensible to shame."

The Latins applied the word *cuculus* to a husband who was unfaithful to his bed; and among the Greeks, it was bestowed on those caught in any disgraceful action, or on persons lazy and slothful. In general, the term conveyed an imputation of indolence and stupidity; in which sense it is still used among some nations in Europe. (*Silly Gorok* is an expression of reproach among the populace in Scotland.)

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ther larger or smaller than itself, such as the warblers, the green-finches, the larks, the wood pigeons, &c.; that it often sucks the eggs which it finds, and leaves its own in their stead, to be hatched by the stranger; that this stranger, particularly the pettychaps, acts the part of a tender mother to her supposititious brood, so that the young ones become very fat and plump*; that their plumage changes much when they arrive at maturity; and lastly, that the Cuckoos begin to appear and are heard early in the spring; that they are feeble on their arrival; that they are silent during the dog-days; and that a certain species of them build in craggy rocks †. Such are the principal facts in the history of the Cuckoo: they were known two thousand years ago, and succeeding ages have added nothing to the stock. Some circumstances had even fallen into oblivion, particularly their breeding in holes

* It is said even that the adults are not bad eating in autumn; but there are countries where, at no period of their age, in no condition of their flesh, at no season of the year, they are ever eaten, being regarded as birds unclean and unlucky: in others they are held propitious, and venerated as oracles: and some countries there are, where it is imagined that the soil under the person's right foot, who first hears the Cuckoo's note, is a certain preservative against fleas and vermin.

† May not this be the Andalusian Cuckoo of Brisson, and the Great Spotted Cuckoo of Edwards? The subject mentioned by the latter was killed on the rock of Gibraltar, and its fellows might have been bred in Greece, whose climate is so nearly the same: lastly, might not these have been sparrow-hawks, mistaken for Cuckoos by reason of the resemblance of their plumage; and it is known that sparrow hawks breed in the holes of craggy rocks.

of precipices. Nor have even the fabulous stories related of this singular bird undergone any alteration: error has its limits as well as truth, and, on a subject of so great celebrity, both have been exhausted.

Twenty centuries ago it was asserted, as at present, that the Cuckoo is nothing else than a little sparrow-hawk metamorphosed; that this change is effected every year at a certain stated season; that when it appears in the spring, it is conveyed on the shoulders of the kite, which, to assist the weakness of its wings, is so obliging as to carry it (remarkable complaisance in a bird of prey like the kite); that it discharges upon plants a saliva which proves pernicious to them by engendering insects; that the female Cuckoo takes care to lay into each nest she can discover, an egg like those contained in it*, the better to deceive the mother; that the mother nurses the young Cuckoo, and sacrifices her own brood to it, because they appear not so handsome†; that, like a true step-mother, she neglects them, or kills them, and directs the intruder to eat them: some supposed that the

* See Ælian, Salerne, &c. The true egg of the Cuckoo is larger than that of the nightingale; of a longer shape, of a gray colour almost whitish, spotted near the large end with violet-brown, very obscure, and with deeper and more apparent brown; and lastly, marked in the middle with some irregular streaks of chestnut.

† Observe that the Cuckoos are frightful when first hatched, and even many days after.

female Cuckoo returned to the nest where she had deposited her egg, and expelled or devoured the other young, that her own might fare the better; others fancied that the little pretender destroyed its foster-brothers, or rendered them victims to its voracity, by seizing exclusively all the food provided by their common nurse. Elian relates that the young Cuckoo, sensible that it is a bastard, or rather an intruder, and afraid of being betrayed by its plumage and treated as such, flies away as soon as it can use its wings, and joins its real mother *. Others pretend that the nurse discovers the fraud from the colours of the plumage, and abandons the intruder. Lastly, others imagine that the young bird, before it flies, devours even its second parent †, which had given it every thing but life; and the Cuckoo has been made the great symbol of ingratitude ‡.—But it is absurd to impute crimes that are physically impossible. How could the young Cuckoo, which can hardly feed without assistance, have strength sufficient to devour a wood-pigeon, a lark, a yellow bunting, or a pettychaps? It is true, that, in support of the possibility of the fact, the evidence of a grave author, Klein, may be

* *Nat. Anim. Lib. III. 30.* It is also said, by running into an opposite extreme, that the Hen-cuckoo, neglecting her own eggs, hatches those of others. See Acron, in *Sat. VII. Horat. Lib. I.*

† Linnaeus, and others.

‡ “Ungrateful as a Cuckoo,” say the Germans. Melancthon has left a fine harangue on the ingratitude of this bird.

adduced,

adduced, who made the observation at the age of sixteen. Having discovered in his father's garden a pettychaps' nest with a single egg, which was suspected to belong to a Cuckoo, he suffered the incubation to proceed, and even waited till the bird was feathered. He then shut both it and the nest in a cage, which he placed on the same spot. A few days after he found the hen-pettychaps entangled in the wires of the cage, and its head sticking in the throat of the young Cuckoo, which had swallowed it through mistake, while catching greedily at a caterpillar that was probably too near. To some accident of this kind the Cuckoo owes its bad name. But it is not true that it devours its nurse, or its foster brothers: for, in the first place, its bill, though large, is too weak; the one mentioned by Klein could not crush the head of the pettychaps, and was choked by it; in the second place, to remove all objections and scruples, I have decided the point by experiment. On the 27th of June, I put a young Cuckoo, which had been hatched in the spring, and was already nine inches long, in an open cage, with three young pettychaps, which were not one quarter feathered, and could not eat without assistance. The Cuckoo, far from devouring them, or even threatening them, seemed eager to repay its obligations to the species. It suffered the little birds, which were not in the least afraid, to warm themselves under

der its wings. On the other hand, a young owl, which had as yet only been fed, began of itself to eat by devouring a pettychaps, which was lodged with it. I know that some qualify the account by saying that the Cuckoo swallows the chicks just as they burst from the shell; and as these little embryos might be regarded as beings intermediate between eggs and birds, they might therefore be eaten by an animal which habitually feeds on eggs, whether hatched or not. But though this statement is less improbable, it ought not to be admitted till it is evinced by observation.

With respect to the saliva of the Cuckoo, it is nothing else than a frothy exudation from the *larva* of a certain kind of grasshopper*. Perhaps the Cuckoo was observed to seek the larva under this froth, which might give occasion to its being supposed to deposit its saliva; and as an insect was perceived to emerge, it would be imagined, that the saliva of the Cuckoo engendered vermin.

* This insect is the *Cicada Spumaria* of Linnæus. It inhabits Europe, and is frequent on brambles, withies, and grass stalks; it settles in the forking of the stalks, and evacuates numerous vesicles, resembling froth, under which the larva lies concealed. This spittle, so frequent in the fields, is termed in French *ecume printannière*, or spring froth, and the insect which emerges is denominated *sauterelle-puce* (grasshopper flea), or *cigale bedouée*. This insect, it is said, kills the Cuckoo by pricking it beneath the wing; which at best is only some misrepresented fact.—This frothy substance is well known in England by the name of *Cuckoo-spittle*, or *woodfare*.

I will

I will not seriously combat the notion, that the Cuckoo is annually metamorphosed into a sparrow-hawk*. It is an absurdity which never was believed by the real naturalists, and some of them have confuted it. I shall only observe that the opinion seems to have taken rise from the following circumstances: the two birds are seldom found in our climates at the same time; they resemble each other in their plumage †, in the colour of their eyes and legs, in the length of their tail, in having a membranous stomach, and a long tail, in their size, in their flight, and in their little fecundity; both live solitary, and have long feathers that descend from the legs on the tarsus, &c.; their plumage is also subject to vary, so that a bird which was taken for a beautiful merlin from its colours, was found on dissection to be a female Cuckoo ‡. But these qualities are not what

* I have just witnessed an odd enough scene. A sparrow-hawk alighted in a pretty populous court yard; a young cock of this year's hatching instantly darted at him, and threw him on his back; in this situation the hawk, shielding himself with his talons and his bill, intimidated the hens and turkies, which screamed tumultuously round him: when he had a little recovered himself, he rose and was taking wing, when the cock rushed upon him a second time, overturned him, and held him down so long that he was caught.

† Especially seen from below when they fly. The Cuckoo rustles with its wings in rising, and then shoots along like the tiercel falcon.

‡ See Salerne, *Hist. des Oiseaux*, p. 40. M. Herissant saw many Cuckoos which, by their plumage, resembled different kinds of male hawks, and one that resembled a wood pigeon. *Mem. de l'Acad. des Sciences*, 1752, p. 417.

constitute

constitute a bird of prey; there are wanting the proper bill and talons, and the requisite courage and strength, in which the Cuckoo, considering its bulk, is very deficient *. M. Lottinger has observed that Cuckoos of five or six months old are as helpless as young pigeons; that they remain for hours in the same spot, and have so little appetite, that they must be assisted in swallowing. It is true that when they grow up, they assume a little more resolution, and may sometimes pass for birds of rapine. The Viscount de Querhoent, whose testimony has the greatest weight, saw one which, being apprehensive of an attack from another bird, bristled its feathers, and raised and depressed its head slowly and repeatedly, and then screamed out; so that in this manner it often put to flight a kestrel, which was kept in the same house. †.

The Cuckoo, far from being ungrateful, seems conscious and mindful of its obligations. On its return from its winter retreat, it eagerly

* Aristotle justly observes that it is a timid bird; but I know not why he cites, as a proof of this timidity, its laying in the nest of another. *De Generatione*, Lib. III. 1.

† An adult Cuckoo, raised by M. Lottinger, charged all other birds, the strongest equally as the weakest, those of its own kind or those of another, aiming preferably at the head and eyes. It rushed even upon stuffed birds, and, though roughly repelled, it would never desist from the attack. For my own part, I know from experience that the Cuckoos menace the hand extended to catch them, that they rise and sink alternately, bristling their feathers, and that they even bite in a sort of anger, though with little effect.

haftens,

hastens, it is said, to the place of its birth; and if it finds its nurse or foster-brothers, they all join in mutual gratulations, each venting its joy in its own manner*. These different expressions, these reciprocal careffes, these salutations of gladness, and these sportive frolics, are what have no doubt been mistaken for battles between the small birds and the Cuckoo. A real combat, however, may sometimes take place, as when the birds surprize a Cuckoo about to destroy their eggs, in order to deposit its own †. This well-ascertained fact, that it lays in another's nest, is the chief singularity in its history, though not altogether unexampled. Gesner speaks of a certain bird of prey, which is much like the goshawk, that lays in the nest of the jackdaw: and though this unknown bird should be supposed to be nothing but the Cuckoo, especially as this is often taken for one of the rapacious tribe; it at least cannot be denied that the wry-necks sometimes raise their numerous progeny in the nest of the nuthatch, as I myself have ascertained; that the sparrows sometimes occupy the swallows' nests, &c. These instances, however, are very rare, and

* Frisch.

† Aristotle, Pliny, and those who have copied or amplified from them, agree that the Cuckoo is timid; that all the small birds annoy them, and that it can put none of these to flight: others add, that this persecution originates from its resemblance to a bird of prey; but when did the small birds ever pursue the birds of prey?

the

the conduct of the Cuckoo must be regarded as an extraordinary phenomenon.

Another singularity in its history is, that it drops only one egg, at least in the same nest. It may indeed lay two eggs, as Aristotle supposes, and which appears possible from the dissection of females, of which the ovarium frequently contained two eggs, well formed and of equal size*.

These two singularities seem to imply a third: it is that their moulting is slower and more complete than in most birds. Sometimes in the winter season we find, in the hollows of trees, one or two Cuckoos entirely naked, insomuch that they may be taken for real toads. Father Bougaud, whom we have often quoted with that confidence which he merits, avers that he saw one in that state, which was taken out of a hollow tree about the end of December. Of four other Cuckoos raised, the one by Johnson, as mentioned by Willughby, the other by the Count de Buffon, the third by Hebert, and the fourth by myself; the first languished on the approach of winter, grew scabby, and died; the second and third cast the whole of their feathers in November, and the fourth, which died towards the end of October, had lost more than half. The second and third also soon died; but, previous to their death, they fell into a

* Linnaeus and Salerne.

kind

kind of numbness and torpor. Many other similar facts are adduced; and though it has been erroneously concluded that all the Cuckoos which made their appearance in summer remain torpid during the winter*, concealed in hollow trees or under ground, disrobed of their plumage, and, according to some, with an ample provision of corn (which this species never eats): if these conclusions ought not to be admitted, we may at least safely infer that those which, on the moment of their departure, are sick or wounded, or too young, or in short too weak, from whatever cause, to perform their distant retreat, remain behind, and pass the winter sheltered in the first hole they meet with which has a good aspect, as do the quails †: 2. That, in general, these birds are very late in moulting, and consequently slow in resuming their plumage, which is hardly restored on their appearance in the be-

* Those who speak of these Cuckoos found in winter lodged in holes, agree that they are absolutely naked, and resemble toads. This account makes me suspect that the supposed Cuckoos were often toads or frogs, which really pass the winter without food, their mouth being then shut, and their jaws, as it were, glued together.—Aristotle positively asserts that the Cuckoos never appear during winter in Greece.

† In winter, sportsmen sometimes meet with quails squatted under a large root, or in some other hole facing the south, with a little provision of grain and heads of different sorts of corn. I must own that the Marquis de Piolenc and another person assured me that two Cuckoos which they reared and kept several years did not drop all their feathers in the winter: but as they remarked not the time, nor the duration, nor the quantity of the moult, we can draw no conclusion from these two observations.

ginning

ginning of spring; accordingly, their wings are then very weak, and they seldom perch on lofty trees, but struggle from bush to bush, and sometimes alight on the ground, where they hop like the thrushes. We may therefore say that, during the love season, the surplus food is almost entirely spent on the growth of the feathers, and can furnish very little towards the reproduction of the species; that, for this reason, the female Cuckoo never lays above one egg, or at most two; and that, as the bird has little abilities for generation, it has also less ardour for all the subordinate functions, which have the preservation of the species as their object, such as nestling, hatching, and rearing their young, &c. which all originate from the same source, and are proportioned to it. Besides, as the male instinctively devours birds' eggs, the female must be careful to conceal hers; she must not return to the spot where she has deposited one, lest the male discover it; she must therefore choose the most concealed nest, and which is also the most remote from his usual haunts; and if she has two eggs, she must entrust them to different nurses: and thus she takes all the precautions suggested by concern for her progeny, and yet carefully avoids betraying it through indiscretion. Viewed in this way, the conduct of the Cuckoo will coincide with the general rule, and imply in the mother an affection for her young, and even a

rational kind of concern, which prefers their interest to the tender satisfaction of fondling and assisting them by her offices. The dispersion too of the eggs in different nests, whatever be the cause, whether the necessity of concealing them from the male, or the smallness of the nest *, would alone render it impossible for the female to hatch them. This fact is the more probable, as two eggs are often found completely formed in the ovarium, but very seldom two eggs in the same nest. Besides, the Cuckoo is not the only bird which never builds; many species of titmice, wood-peckers, king-fishers, &c. come under the same description. We have already seen that it is not the only one that lays in other's nests; there is also another example of a bird which never hatches its eggs; the ostrich, in the torrid zone, deposits its eggs in the sand, and the heat of the sun accomplishes the development of the embryos. It never loses sight of them indeed, and guards them assiduously; but it has not the same motives as the Cuckoo to conceal its attachment, and therefore does not take all the precautions which might exempt it from farther solicitude. The conduct of the Cuckoo is not then an absurd irregularity, a monstrous anomaly, a deviation from the laws

* Persons of veracity have told me that they twice saw two Cuckoos in a single nest, but both times in the nest of a thistle: but the thistle's nest is larger than that of the pettychaps, of the willow-wren, or of the red-breast.

of nature, as Willughby expresses it; it is the necessary consequence of established principles, and the want of it would occasion a void in the general system, and interrupt the chain of phenomena.

What seems to have astonished some naturalists the most, is that attention which they term unnatural in the nurse of the Cuckoo, which neglects its own eggs to cherish those of a foreign, and even hostile bird. One of these, an excellent ornithologist, struck with the appearance, has made a series of observations on this subject: he took the eggs of several small birds out of their nests, and in their place substituted a single egg of a bird of a different kind, and not a Cuckoo; and he inferred from his experiments that, in similar circumstances, birds will hatch no single egg but the Cuckoo's, which is therefore favoured by a special law of the Creator.

But this conclusion will appear rash and precarious, if we attend to the following considerations: 1. the assertion being general, one contrary fact is sufficient to overturn it; and for this reason, forty-six experiments made on twenty species are too few: 2. It would require many more, and those performed with greater nicety, to establish a proposition which is an exemption to the general laws of nature: 3. Admitting the experiments to be sufficiently numerous and accurate, they would be inconclusive, if not made precisely in the same manner, and

in like circumstances. For instance, the case is not similar when the egg is left by a bird or dropped by a man, especially by one who is biassed to a favourite hypothesis; nay the frequent appearance of a person will disturb the most eager brooder, and even cause her to abandon the education of a Cuckoo, though far advanced *, as I have myself experienced: 4. The fundamental assertions of this author are not quite accurate; for, though it seldom happens, the Cuckoo sometimes lays two eggs in the same nest. Further, he supposes that the Cuckoo sucks all the eggs in the nest, or destroys them somehow, leaving only its own; but this is hardly susceptible of proof, and is improbable. But I have often received nests, in which were several besides the Cuckoo's egg which properly belonged to these nests †, and even many of these eggs hatched, as well

* A meadow green-finch, whose nest was on the ground under a thick root, abandoned the education of a young Cuckoo, merely from the inquietude occasioned by the repeated visits of some curious persons.

† 16 May, 1774, five eggs of a titmouse with one of the Cuckoo; the eggs of the titmouse disappeared by degrees.

19 May, 1776, five eggs of the redbreast with one egg of the Cuckoo.

10 May, 1777, four eggs of the nightingale with one egg of the Cuckoo.

17 May, 1777, two eggs of the titmouse under a young Cuckoo, but which did not succeed. Some incident of this sort might have given occasion to say that the young Cuckoo charges itself with hatching the eggs of its nurse. (See Gesner, p. 365.)

as that of the Cuckoo*: 5. But, what is no less decisive, there are incontestible facts observed by persons attached to no hypothesis †, which are directly opposite to those related by the author, and entirely overturn his inconclusive inductions.

FIRST EXPERIMENT.

A hen canary, which sat on her eggs and hatched them, continued to sit when two black-birds' eggs, brought from the woods, were put under her, though eight days afterwards; and the incubation would have succeeded if they had not been removed.

SECOND EXPERIMENT.

Another hen canary sat four days on seven eggs, five of which were her own, and two those of pettychaps; but, the cage being car-

* 14 June, 1777, a Cuckoo newly hatched in a thistle's nest, with two young thistles, began to fly.

8 June, 1788, a young Cuckoo in the nest of a nightingale, with two young nightingales, and an addle egg.

16 June, 1778, a young Cuckoo in the nest of a red-breast, with a little red-breast that seemed to have been hatched before it.

M. Lottinger, in a letter dated 17 October, 1776, has related to me a fact, which he proved himself: in the month of June, a Cuckoo newly hatched in the nest of a blackcap, with a young blackcap that already flew, and an addle egg. I could cite many other similar examples.

† I owe the greatest part of these facts to one of my relations, Madame Potot de Montbeillard, who has many years usefully amused herself with birds, has studied their habits, and traced their pursuits; and sometimes has been so obliging as to make observations and try experiments relative to the subjects in which I was engaged.

ried to the lower story, she forsook them all. Afterwards she laid two eggs, but did not sit.

THIRD EXPERIMENT.

Another hen canary, whose mate had eaten her seven first eggs, sat on the two last, along with three others, the one a canary's, the second a linnet's, and the third a bulfinch's; but all these happened to be addle.

FOURTH EXPERIMENT.

A hen wren hatched a blackbird's egg; and a hen tree-sparrow hatched a magpye's egg.

FIFTH EXPERIMENT.

A hen tree-sparrow sat on six eggs which she had laid; five were added, and she still sat; five more were added, and finding the number too large, she ate seven of them, and continued to sit on the rest; two were taken away, and a magpye's egg put in their place, and the sparrow hatched it, along with the seven others.

SIXTH EXPERIMENT.

There is a well-known method of hatching canaries' eggs, by putting them under a hen goldfinch, taking care that they are previously as far advanced in their incubation as those of the goldfinch.

SEVENTH EXPERIMENT.

A hen canary having sitten nine or ten days on three of her own eggs and two of those of the blackcap, one of the latter was removed, in which the embryo was not only formed, but

but living; two young yellow buntings, just hatched, were entrusted to her, and she treated them with the same attention as she would do her own, and still continued to sit on the four eggs that were left, but they turned out to be addle.

EIGHTH EXPERIMENT.

About the end of April 1776, another hen canary having laid an egg, it was taken away; and three or four days after, it being replaced, the bird ate it. Two or three days afterwards, she laid another egg, and sat on it; two chaffinch's eggs were then put under her, and she continued to sit, though she had broken her own eggs; at the end of ten days the chaffinch's eggs were removed, being tainted. Two newly hatched yellow buntings were given, which she reared very well. After which she laid two eggs, ate one, and though the other was taken away, she continued to brood as if she had eggs; a single egg of the redbreast was put under her, which she hatched successfully.

NINTH EXPERIMENT.

Another hen canary, having laid three eggs, broke them almost immediately; two chaffinch's eggs, and one of the blackcap, were substituted, on which she sat, and on three others, which she laid successively. In four or five days, the cage having been carried to a room in the lower story, the bird forsook them. A short time afterwards, she laid an egg, to which

was joined one of the nuthatch, and then two others, to which a linnet's egg was added. She sat on them all seven days, but preferring the two strangers, she threw out her own successively on the three following days, and on the eleventh she also tossed out that of the nuthatch, so that the linnet's was the only one that succeeded. If this last egg had been that of a Cuckoo, what false inferences might have been drawn.

TENTH EXPERIMENT.

On the 5th of June, a Cuckoo's egg was placed under the hen canary mentioned in the seventh experiment, which she hatched, along with three of her own. On the 7th, one of these eggs disappeared; another on the 8th, and the third and last on the 10th; on the 11th, she also ate the Cuckoo's egg.

Lastly, a hen red-breast, ardently bent on brooding, has been seen to unite with her mate in repelling a female Cuckoo from the nest; they screamed, attacked furiously, and hotly pursued her*.

It

* See Observations sur l'instinct des Animaux, t. I. p. 167, note 32. The author of that note adds some details relative to the history of our bird: "While one of the red-breasts was striking with its bill the lower belly of the Cuckoo, this bird shivered its wings with an almost insensible quiver, opened its bill so wide that another red-breast, which assailed it in front, drove its head several times into the cavity, without receiving any injury; for the Cuckoo was no way irritated, but seemed to be in the condition of a female under the necessity of laying. In a little while the Cuckoo, being

It follows from these experiments, 1. That the females of many species of small birds which hatch the Cuckoo's egg, hatch likewise other eggs along with their own : 2. That they often sit on these eggs in preference to their own, which they sometimes entirely destroy : 3. That they will hatch a single egg, though it be not a Cuckoo's : 4. That they boldly drive off the female Cuckoo, when they surprise her dropping the egg in their nest : 5. Lastly, that they sometimes eat this favoured egg, even in cases where it is single and alone. But a more general and important consequence is, that the instinct of hatching which sometimes appears so powerful in birds, is not determined by the kind or quality of the eggs; since they often eat or break them, or sit on addle ones; they sit even on balls of chalk or wood, and sometimes brood in the empty nest. When a bird hatches the egg of a Cuckoo, or of any other bird, she follows therefore the general instinct; and it is unnecessary to recur to any special appointment of

being exhausted, began to totter, lost its balance, and turned on the branch, from which it hung by the feet, its eyes half-shut, its bill open, and its wings expanded. Having remained about two minutes in this attitude, constantly harassed by the two red-breasts, it quitted the branch, flew to perch at a distance, and appeared no more. The female red-breast resumed her incubation, and all her eggs were hatched, and formed a little family, that long lived attached to this district." M. le Marquis de Piolenc also tells me in his letters of a Cuckoo being repelled by buntings.

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the Author of Nature in accounting for the conduct of the female Cuckoo*.

I ask my reader's pardon for this long discussion, of the importance of which he may not be convinced. The bird which is the subject of this article has given rise to so many errors, that I have thought it necessary, not only to extirpate these from natural history, but to oppose the attempts of those who endeavour to convert them into metaphysical principles. Nothing is more inconsistent with sound philosophy, than to multiply the laws of the universe; a phenomenon appears single and unconnected, because it is not accurately known; and it requires an attentive comparison of the works of nature, a close investigation of the relations which subsist, to enable us to penetrate into her views.

I know more than twenty species of birds, in the nests of which the Cuckoo deposits her eggs; the pettychaps, the blackcap, the babbling warbler, the wagtail, the red-breast, the common wren, the yellow wren, the titmouse,

* Frisch supposes another particular law, to explain why the present Cuckoos never hatch their eggs; it is, he says, because a bird never hatches unless itself has been hatched by a female of its own species. He admits indeed that the first female Cuckoo emitted from Noah's ark must have laid in its own nest, and must itself have taken the trouble of hatching its eggs. He might have spared this exception, for there are many instances of small birds succeeding with their own eggs along with that of the Cuckoo.

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the nightingale, the red-tail, the sky-lark, the wood-lark, the tit-lark, the linnet, the greenfinch, the bulfinch, the throistle, the jay, the black-bird, and the shrike. The Cuckoo's eggs are never found in the nests of partridges or quails, at least they never succeed in them, because the young of these birds run almost the instant they are hatched. It is even singular that the young Cuckoos, which, when bred in the cage, require several months before they eat without assistance, can ever be raised in the nests of larks, which, as we have seen in their history, bestow only fifteen days on their education. But in the state of nature, necessity, liberty, and the proper choice of food, will conspire to unfold their instinct, and hasten their growth*; and may not the attention of the nurse be proportioned to the wants of her adopted child?

We shall perhaps be surpris'd to find many granivorous birds, such as the linnet, the greenfinch, and the bulfinch, in the list of the Cuckoo's nurses. But many of these, it should be remembered, feed their brood with insects; and even the vegetable substances macerated in their craw, may suit the Cuckoo for a certain time, till it can pick up caterpillars,

* I must own that Salerne says, that this bird is fed whole months by its adoptive mother, which it follows crying incessantly for food. But this fact would be difficult to observe.

spiders,

spiders, and beetles, &c. which swarm about its mansion.

When the nest, where it is lodged, belongs to a small bird, and consequently is constructed on a narrow scale, it is usually found so much flattened that it can hardly be recognised; the natural effect of the bulk and weight of the young Cuckoo. Another consequence is, that the eggs or young birds are frequently thrust out of the nest; but, though expelled from their paternal abode, they sometimes survive; for if they be somewhat grown, if the nest be near the ground, and if the aspect is favourable and the season mild, they find shelter under the moss or foliage, and the parents, without forsaking the intruder, continue to feed and watch them.

All the inhabitants of forests assert, that when the female Cuckoo has once deposited her egg in the nest which she has selected, she retires to a distance, and seems to forget her progeny; and that the male never discovers the smallest concern in the matter. But M. Lottinger has observed that, though the parent Cuckoos do not visit their offspring, they approach within a certain distance of the spot, calling, and seem to listen and reply to each other. He adds that the young Cuckoo constantly answers to the call, whether in the woods or in a volery, provided it be not disturbed by the sight of a person. It is certain that the old ones

ones can be enticed by imitating their call, and that they sometimes chant in the vicinity of the nest; but there is no proof that these are the parents of the young bird. They never render those tender offices which mark parental attachment, and their calls proceed only from the sympathy common between birds of the same species.

Every body knows the ordinary song of the Cuckoo *; it is so distinctly formed, and so often repeated, that, in almost all languages, it has given name to the bird. It belongs exclusively to the male, and is heard only during the spring, the season of love, and either when he sits on a dry branch, or while he moves on the wing: sometimes it is interrupted by a dull rattling sound, *crou, crou*, uttered with a hoarse hissing voice. There is also another occasional cry, which is loud but rather quavering, and composed of several notes, like that of the little diver: it is heard when the male and female pursue each other in amorous frolic †. Some have also suspected it to be the cry of the female. When she is animated she has besides a

Cou cou, cou cou, cou cou cou, tou cou cou (cou, in French, pronounced *oo*). This frequent repetition has given rise to two modes of proverbial expressions: when a person dwells upon the same subject, he is said in German to *sing the Cuckoo's song*. The same phrase is applied to a small body of people, who, by their tumultuary vociferation, seem to form a numerous assembly.

† Those who have heard it express it thus; *go, go, guet, guet.*

sort of clucking, *glou, glou*, which is repeated five or six times with a strong clear voice, while she flies from tree to tree. This would seem intended to incite the male; for as soon as he hears the call he hastens to her with ardour, uttering *tuu, cou, cou* *. But notwithstanding this variety of inflection, the song of the Cuckoo ought never to be compared with that of the nightingale, except in the fable †. It is very uncertain whether these birds ever pair; they are stimulated by appetite, but they shew nothing like sentiment or attachment. The males are much more numerous than the females, and often contend for them ‡; yet the object of the struggle is a female in general, without any symptom of choice or predilection; and when their passion is satisfied, they desert her with the coldest indifference. They discover no solicitude, and make no provision, for their offspring. The mutual attachment between pa-

* Note communicated by the Count de Riollet, who makes a laudable amusement of observing what so many others only look at.

† It is said that the nightingale and the Cuckoo disputed the merits of the song in presence of the ass, which adjudged the prize to the Cuckoo; but that the nightingale appealed to man, who pronounced in its favour, since which time the nightingale sings as soon as it sees a man, in gratitude for his decision, or in justification of it.

‡ Seldom or never do persons kill or take any but the singing Cuckoos, and, by consequence, the males. I have seen three or four killed in a single excursion, and not one female among them. "In a trap, which we placed on a tree frequented by Cuckoos," says the author of the British Zoology, "we caught not fewer than five male birds in one season."

rents

rents is founded on the common tenderness to their young.

The young Cuckoos, soon after their exclusion, have also a call not shriller than that of the pettychaps and red-breasts, their nurses, whose tone they assume from the force of imitation * : and as if sensible of the necessity of solliciting and importuning an adoptive mother, who cannot have the compassion of a real parent, they continually repeat their entreaty ; and, to remove ambiguity, their broad bill is opened to its utmost width, and the expression is rendered still more significant by the clapping of their wings. After their wings have acquired some strength, they pursue their nurse among the neighbouring branches, or meet her when she brings food. The young Cuckoos are voracious †, and can hardly be maintained by little birds, such as the red-breast, the pettychaps, the common and yellow wrens, which have besides a family to support. They retain their call, ac-

* “ The singular structure of their nostrils contributes perhaps,” says M. Frisch, “ to produce this sharp cry.” It is true that the nostrils of the Cuckoo have, with regard to their exterior, a pretty singular structure ; but I am convinced that they contribute not in the least to modify this cry, which continued the same after I had stoppt the nostrils with wax. I have discovered, by repeating this experiment upon other birds, and particularly upon the wren, that the cry remains unvaried, whether the nostrils be shut or left open. It is besides known that the voice of birds is formed not in the nostrils, or at the *glottis*, but at the lower part of the *trachea arteria*, near its forking.

† Hence the proverb *to swallow like a Cuckoo*.

cording

ording to Frisch, till the fifteenth or twentieth of September; it then begins to grow flat, and is soon lost entirely.

Most ornithologists agree, that insects are the chief part of the Cuckoo's food, and that, as I have already remarked, it is peculiarly fond of birds' eggs. Ray found caterpillars in its stomach; I have also perceived vestiges of vegetable substances, small beetles, &c. and sometimes pebbles. Frisch asserts that the young Cuckoos ought, in every season, to be fed in the morning and evening at the same time as in the longest days of summer. That author has also observed the way in which they eat the insects alive: they lay hold of the caterpillar by the head, and, drawing it into their bill, they squeeze the juicy matter through the anus, and then shake it several times before they swallow it. They also seize butterflies by the head, and, pressing with their bill, they crush the breast, and swallow the whole together with the wings. They likewise eat worms; but they prefer such as are alive. When insects could not be had, Frisch gave a young Cuckoo which he raised, sheep's liver, and especially kidneys, cutting them into small strips like the insects for which they were substituted. When these were too dry, he soaked them a little, that they might be easily swallowed. The bird never drank unless its food was too dry, and then it drank awkwardly and with reluctance.

In every other case it rejected water, and shook off the drops which were forcibly or artfully introduced into its bill* ; in short, it is habitually under the impression of a hydrophobia.

The young Cuckoos never sing during their first year, and the old ones cease towards the end of June, at least their song is then unfrequent. But this silence does not announce their departure; they are found in the open country until the end of September, and even later †. It is the scarcity of insects, no doubt, which determines them to retire to warmer climates: they migrate for the most part into Africa, since the Commanders of Godeheu and des Mazys reckon them among those birds which are seen twice a year passing and repassing the island of Malta ‡. On their arrival in our climates they approach nearest our dwellings; during the rest of their stay they fly about among the woods, the meadows, &c. and wherever they can discover nests to plunder or deposit their egg, or find insects and fruits. Towards autumn the adults, and especially the females, are excellent food, and as fat as they were lean in the

* I have remarked this fact, as well as the Carthusian of Salerne. May not this be the reason why a decoction of the Cuckoo's dung in wine has been recommended as a sure remedy for the hydrophobia?

† Querhoent and Hébert.

‡ Salerne relates, from *Voyagers*, that the Cuckoos sometimes alight in great numbers on ships.

spring*. Their fat is collected chiefly under the neck †, and is the most delicate morsel of the bird. They are commonly single ‡, restless, and perpetually changing their place; and though they never fly to any great distance, they range over a considerable tract during the course of the day. The ancients watched the times of the appearance and disappearance of the Cuckoo in Italy. The vine-dressers who had not lopped their vines before its arrival were reckoned lazy, and held the object of public derision. The by-passers who saw the backward state of the vineyard, mocked the owner's indolence by repeating the call of that bird, which was itself, and with much propriety, regarded as the emblem of sloth, since it dispenses with the sacred obligations of nature. It was an usual expression also, *crafty as a Cuckoo* (for cunning and indolence may subsist together);

* It is in this season only that the proverb, *lean as a Cuckoo*, is just.

† I observed the same thing in a young rock ouzel, which I brought up, and which died in the month of October.

‡ In the month of July were a dozen Cuckoos on a large oak; some screamed with all their might, others were silent; a fowling-piece was discharged at them, and one dropt, which was a young one. This would give room to suppose that the old and young gather together in small bodies, to migrate.

Note communicated by M. le Comte de Riollet.

* *Inde natam exprobrationem scdam putantium vites per imitationem cantus alitis temporarii quem cuculum vocant; dedecus enim habetur . . . falsam ab illâ volvere in vite deprehendi, ut ob id petulantiae sales etiam cum primo vere ludantur. Pliny, Lib. XVIII. 26.*

either

either because, declining the task itself, it contrives to make other birds hatch its eggs; or for another reason furnished by the ancient mythology*:

Though subtle; though solitary, the Cuckoos are susceptible of a sort of education. Many persons of my acquaintance have reared and tamed them; they are fed with minced meat, either cooked or raw, with insects, eggs, soaked bread, fruits, &c. One of the Cuckoos thus bred knew its master, answered his call, followed him to the sport, perched on his fowling-piece, and if it found a black cherry tree on the road, it flew to it, and returned not till fatiated with the fruit; sometimes it did not join its master again the whole day; but followed him at a distance, shifting from tree to tree: when at home it was permitted to run about, and to roost at night. The dung of this bird is white and abundant, which is a great inconvenience in its education; it must be carefully guarded against the cold during the transition of autumn into winter: this a critical period for the Cuckoo; at least a lost at this time all those

* Jupiter having perceived that his sister Juno was alone on the Discean mount, or Thronax, raised a violent storm, and came in shape of a Cuckoo, and alighted on the knees of the goddess, who seeing it drenched and beaten by the tempest, pitied it, and cherished it under her robe: the god then resumed his proper form, and became the husband of his sister. From that moment the Discean mount was called *Coccygian*, or *Cuckoo-mountain*; and hence the origin of the *Jupiter-cuculus*. See Gesner, p. 368.

which I tried to rear, and indeed many of other kinds.

Olina says that the Cuckoo may be trained for the chase like the sparrow-hawks and the falcons; but he is the only person who makes that assertion; which, perhaps, as well as many other errors in the history of this bird, has its source in the resemblance of its plumage to that of the sparrow-hawk.

The Cuckoos are generally diffused in the ancient continent; and though those of America have different habits, many of them still retain a certain family likeness. The common kind appear only during summer in the colder temperate climates, such as those of Europe; and they reside in the winter only in the warmer countries, such as those of the north of Africa: they seem to shun both extremes alike.

When the Cuckoos alight on the ground, they hop, as I have remarked; but this seldom happens: and even though it were not ascertained by experience, we might infer it from the shortness of their legs and thighs. A young Cuckoo, which I had occasion to observe in the month of June, made no use of its legs in walking, but crept on its belly, assisting its motion by means of its bill, like the parrot in climbing. When it clambered in its cage, I perceived that the largest of the hind toes was turned forwards, but was less used than the two
other

other anterior ones*. It assisted its progressive motion by flapping its wings.

I have already said that the plumage of the Cuckoo is very subject to vary in different individuals; and consequently, in describing the bird, we can do nothing more than give an idea of the colours and their distribution, such as they are most commonly observed. The greater number of the full-grown males, which were brought to me, resembled much the one described by Brisson; in all of them, the upper-side of the head and body, including the coverts of the tail, the small coverts of the wings, the great ones next the back, and the three quills covered by them, are of a fine ash-colour; the great coverts of the middle of the wing are brown, spotted with rufous, and terminated with white; the most remote on the back, and the ten first quills of the wing are deep cinereous, the inside of the latter being spotted with rusty white; the six contiguous quills brown, and marked, on both surfaces, with rufous spots, terminated with white; the throat and the fore-part of the neck are light cinereous; the rest of the under-side of the body is radiated transversely with brown, on a dirty white ground; the fea-

* If this habit be common to the species, what becomes of the expression, *digitis scanforii*, applied by many naturalists to the toes disposed, as in the Cuckoo, two before and two behind? Besides, do not the nut-hatches, the titmice, and the creepers, excel in climbing, though their toes are placed in the ordinary way, three before and one behind?

thers of the thighs the same, and falling on each side on the tarsus, like ruffles; the tarsus clothed exteriorly with ash-coloured feathers as far as the middle; the quills of the tail blackish, and terminated with white; the eight intermediate ones are spotted with white near the shaft on the inside; the two middle ones are spotted in the same manner on the outer edge, and the last of the lateral quills is barred transversely with the same colour; the iris is chestnut, sometimes yellow; the internal membrane of the eye is very transparent; the bill is black without, and yellow within; the corners of the bill are orange; the legs yellow, and a little yellow appears also at the base of the lower mandible.

I have seen several females which were very like the males; and in some I perceived, on the sides of the neck, traces of those brown streaks mentioned by Linnæus.

Dr. Derham says, that, in females, the neck is variegated with rusty, and the upper side of the body is of a darker cast*; that the wings also are of a rusty hue, and the eyes not so yellow. According to other observers, the plum-

* A person of veracity assured me that he saw some of these individuals of a browner cast, which were also larger: if they were females, this would be another point of analogy to the rapacious birds. On the other hand, Frisch remarks, that of two young Cuckoos of different sexes, which he raised, the male was the browner.

age of the male is always darker than that of the female; but the variation is so great, that no certain discrimination can be drawn.

In young Cuckoos, the bill, the legs, the tail, and the underside of the body, are nearly the same as in the adults, except that the quills are more or less retained in their tubes: the throat, the forepart of the neck, and the underside of the body, are barred with white and blackish; in such manner, however, that the blackish predominates on the anterior parts more than on the posterior (in some subjects there is hardly any white under the throat); the upper-side of the head and body is beautifully variegated with blackish, white, and rusty, distributed so that the rusty appears more on the middle of the body, and the white on the extremities; there is a white spot behind the head, and sometimes above the face; all the quills of the wings are brown tipped with white, and spotted more or less with rusty and white; the iris is greenish gray, and the ground of the plumage is a very light ash colour. It is probable that the female so handsomely *mottled*, of which Salerne speaks, was hatched the same year. Frisch tell us, that young Cuckoos reared in the woods have a plumage less variegated, and more like the plumage of those which are bred in the house. If this be not the case, we should at least expect it; for domestication in general alters the colours of animals, and we

might presume that those species of birds which participate of that state, undergo a proportional change of colours. At the same time I must own, that I could perceive no difference between the young wild Cuckoos which I have seen (and I have seen many of them) and those which I reared. Perhaps what Frisch examined were older than the domestic ones with which he compared them. The same author adds that the young males have a darker plumage than the females, and that the inside of their mouth is redder, and their neck thicker*.

The weight of a full grown Cuckoo, weighed on the 12th of April, was four ounces two gros and a half; that of another, on the 17th of August, was about five ounces. But they are heavier in the autumn, being then much fatter, and the difference is not inconsiderable. I weighed a young one on the 22d of July, whose total length was near nine inches, and found it two ounces two gros; another almost as large, though much leaner, was only one ounce four gros, that is near one third less than the first.

In the full grown male the intestinal tube is about twenty inches; there are two *cæca* of unequal length, the one fourteen lines (sometimes

* Frisch suspects that the thickness of the throat, which is peculiar to the male, may have some relation to the cry of the males. Yet I must observe that, in the numerous dissections which I have made, I could not perceive that the organs of voice were larger in the males than in the females.

twenty-four), the other ten (sometimes eighteen), both directed forwards, and adhering all along to the great intestine, by means of a thin transparent membrane; there is a gall bladder; the kidneys are placed on each side of the spine, divided into three principal lobes, and these subdivided into others smaller, secreting a whitish liquor; the two testicles are of an oval shape, and of unequal size attached to the upper part of the kidneys, and separated by a membrane.

The œsophagus dilates, at its lower part, into a sort of glandular sac, parted from the stomach by a contraction; the stomach is slightly muscular on its circumference, membranous on its middle, and adhering by means of fibrous network to the muscles of the lower belly, and to the different parts which surround it. It is besides much smaller and better proportioned in a young bird reared by a red-breast or pettychaps than in one bred and tamed by man; in the latter, the stomach, being distended by excessive feeding, is as large as a common hen's egg, and occupies all the anterior part of the cavity of the belly, from the sternum to the anus, and sometimes stretches under the sternum five or six lines*, and, at other times, it conceals the

* See Mémoires de l'Académie Royale des Sciences, *année*, 1752, p. 420. The Cuckoo of M. Herissant was domestic, to judge by the quantity of flesh with which its stomach was filled. In the nutcracker the stomach is also very bulky, situated likewise in the middle of the belly, and not covered by the intestines.

whole

whole of the intestines ; whereas in the wild Cuckoo, which I directed to be killed the instant they were brought to me, it never extended quite to the sternum, but left uncovered, between its lower part and the anus, two circumvolutions of the intestines, and three on the right side of the abdomen. I should add, that in most of the birds which I dissected, nothing was required to be compressed or displaced in order to perceive one or two circumvolutions of intestines in the cavity of the belly on the right side of the stomach, and one between the lower part of the stomach and the anus. This difference of conformation, therefore, consists but in degree, since, in the greater number of the winged tribes, not only is the posterior surface of the stomach separated from the spine by a portion of the intestinal tube which is interposed, but the left side is never covered by any portion of these intestines ; and this single difference is far from proving that the Cuckoo is incapable of hatching, as an ornithologist alleges. It is not, probably, because the stomach is too hard, since the sides being membranous, its tenseness proceeds from accident or repletion ; nor is the reason because the bird avoids cooling its stomach, which is less shielded than that of other birds ; for it is evident, that it would be much less liable to be affected by cold, if employed hatching than in fluttering and perching on trees. The nut-hatch has the same structure, and yet
it

it sits. Besides, not only the stomach, but the whole of the lower part of the body, rests upon the eggs, otherwise most birds which, like the Cuckoo, have a long sternum, could not cover above three or four at once, which falls much short of the usual number.

I found in the stomach of a young Cuckoo, which I reared, a lump of raw flesh almost dry, and which had not passed through the *pylorus*; it was decomposed, or rather divided into exceedingly fine *fibrillæ*. In another, which was picked up dead in the woods about the beginning of August, the internal membrane of the ventricle was hairy, the bristles being about a line in length, and directed towards the orifice of the *œsophagus*: in general, one meets with very few pebbles in the stomach of young Cuckoos, and there are hardly any which have not some vestige of vegetable matter in their stomach. Perhaps these have been bred by the greenfinches, the larks, and other birds, which nestle on the ground; the sternum forms a re-entrant angle.

Total length thirteen or fourteen inches; the bill thirteen lines and a half; the edges of the upper mandible scolloped near the point (but not in all the young ones); the nostrils elliptical, encircled by a projecting margin, and in the centre there is a small whitish speck which rises almost as high as the margin; the tongue is white at the point, and not forked; the tarsus ten lines; the thigh less than twelve; the inner

inner one of the hind nails is the weakest and the least hooked; the two fore toes are connected together at their base by a membrane; the under side is of a very fine texture, like shagreen; the alar extent about two feet; the tail is seven inches and a half, consisting of ten tapered quills*, and exceeding the wings by two inches [A].

VARIETIES of the CUCKOO.

It might be regarded as singular that the figure and aspect of a bird, which lives in the state of nature, should be so inconstant and variable. But as the Cuckoos never pair, they are stimulated only by vague and general appetite unrestrained by personal attachment, and contract irregular alliances; which has given rise to diversity in the bulk, in the shape, and in the plumage, and which, in the opinion of many, has converted them into falcons, merlins, gos-hawks, sparrow-hawks, &c. But, not to enter into a detail of these exhaustless varieties, which appear to fluctuate, I shall only

* Ray reckons only eight in one which he observed in 1693; but assuredly two were wanting.

[A] Specific character of the *Cuculus Canorus*: "Its tail is rounded, blackish, and dotted with white." In England it arrives about the middle of April, and retires in the end of July; its appearance is a month later in the cold climate of Sweden. Its retreat is absolutely unknown.

observe

observe that in Europe Cuckoos are found differing greatly in size; that the colours, ash-gray, rufous, brown, and whitish, are distributed differently in different individuals, so that each of these predominates more or less, and, by the multiplicity of their shades, increases the variations of the plumage. With regard to the foreign Cuckoos, I find two which seem to be varieties of the European kind, occasioned by the influence of climate; and perhaps I should add several others, if I had an opportunity of surveying them more closely.

I. The Cuckoo from the Cape of Good Hope* resembles that of Europe both in its proportions and in the transverse bars below the belly, and in its size, which is not much smaller.

The upper side of the body is brown green; the throat, the cheeks, the fore part of the neck, and the superior coverts of the wings, are deep rufous; the quills of the tail are of a lighter rufous, terminated with white; the breast, and all the rest of the under side of the body, are barred transversely with black on a white ground; the iris is yellow; the bill deep brown; and the legs reddish brown. The total length is somewhat less than twelve inches.

May not this be the bird known at the Cape of Good Hope under the name of *edolio*, be-

* *Cuculus Capensis*, Gmel.
The Cape Cuckoo, Lath.

cause it repeats that word in a low melancholy tone? It has no other song, and many inhabitants of that country, not Hottentots but Europeans, believe that the soul of a certain ship-master, who often pronounced the same word, entered into the body of this bird; for modern ages have also their metamorphoses. This is no doubt as true as the story of *Jupiter cuculus*, and yet we probably owe to it our knowledge of the bird's cry. It were fortunate if every error conveyed some truth.

II. Travellers speak of a Cuckoo of the kingdom of Loango in Africa, which is rather larger than ours, but having the same colours, and differing chiefly in its song; this must be understood of its tone, for it pronounces *cuckoo* as ours does. The cock begins, it is said, with sounding the gamut, and sings alone the three first notes; then the hen strikes in, and accompanies him through the rest of the octave. She differs from our female Cuckoo, which calls much less than the male, and in a different manner. This is still another reason for distinguishing the Loango Cuckoo from our species, and considering it as a variety.

The FOREIGN CUCKOOS.

THE principal characters of the European Cuckoo are, as we have seen, a large head, a broad wide bill, the toes placed two before and two behind, the legs feathered and short, the thighs still shorter, the nails slender and slightly hooked, the tail long and consisting of ten tapered quills. It is discriminated from the curucuis by the number of tail-quills, these being twelve, and particularly by the greater length of its bill, and the greater convexity of its upper mandible: it is also distinguished from the barbus, by having no bristles round the base of the bill. But the whole must be received with a degree of latitude, nor must we expect to find all the characters exactly combined in each bird that ought to be classed with the Cuckoo of Europe. The various tribes of animals melt into each other, and no absolute limits can be assigned. It is enough if the birds which we shall refer to the genus of the Cuckoos be more closely related to it than to any other genus. Our object is to trace nature as she actually exists, not to form artificial arrangements; and to facilitate the progress of knowledge, by condensing and abridging the detail of facts, which serves as the foundation. Among the foreign Cuckoos, therefore,

therefore, we shall meet with some species that have even tails, as the spotted Cuckoo of China, that of the island of Pannay, the vourou-driou of Madagascar, and a variety of the brown Cuckoo spotted with rufous, from the East Indies; with some, that are in some degree forked, such as the Cuckoo which has two long shafts instead of the two outer quills; with others, which have the tail exceedingly tapered, like the widow birds, such as the *fanhia* of China, and the crested collared Cuckoo; with others, wherein it is only partly tapered, as the old-man with rufous wings from Carolina, which has only two pairs of quills tapered, and as a variety of the crested jacobine from Coromandel, which has only the outer pair tapered, that is, shorter than the four other pairs, which are equal to each other in length; with others, which have twelve quills in the tail, such as the honey-guide of the Cape; with others, which have only eight, as the *guiracantara* of Brasil, if Maregrave was not deceived in counting them; with others, which spread their tail even when in a state of repose, as the Madagascar coua, the gold-green and white Cuckoo of the Cape of Good Hope, and the second coukeel of Mindanao; with others, which have all the quills close and imbricated, both the middle and lateral ones; with others, which have some hairs about the bill, as the *fanhia*, the honey-guide, and a variety of the greenish

Cuckoo of Madagascar; with others, which have a proportionally longer and slenderer bill, as the tocco of Cayenne; with others, wherein the internal and posterior toe is armed with a long spur, like that of our larks, as the houhou of Egypt, the Cuckoo of the Philippines, the green Cuckoo of Antigua, the toulou and the rusty-white; and lastly, with others, wherein the legs are more or less short, more or less feathered, or even without any feather or down. Even what is regarded as the most fixed and certain character, I mean the disposition of the toes, two placed before and two behind, is also liable to vary; since I have observed, in the Cuckoo, that one of the hind toes sometimes turns forwards, and others have found, in the owls, that one of the anterior toes sometimes turns backwards; but these slight differences, far from confounding the genus of the Cuckoos, display the true order of nature; as they shew the richness of her plans, and the ease with which they are executed; exhibiting the endless variety of shades, the infinite diversity of features which distinguish the individual, and yet without obliterating the general family likeness.

It is a remarkable circumstance with regard to the tribe of Cuckoos, that the branch settled in the new world seems less subject to the variations which I have mentioned, and retains a greater resemblance to the European species

considered as the common trunk, and from which it was perhaps later separated. In fact, the European Cuckoo visits the northern countries, and pushes its excursions as far as Denmark and Norway, and consequently might cross the narrow straits which divide the continents at these high latitudes: but it could much more easily pass the isthmus of Suez, or some narrow inlets, to spread through Africa; and nothing could oppose or retard its progress into Asia. In these countries, therefore, the settlement must have been more early, and a greater deviation from the primitive stock may be expected. Accordingly, though there are scarcely two or three exceptions or exterior anomalies in fifteen species or varieties found in America, there are fifteen or twenty in thirty-four species that occur in Asia and in Africa; and no doubt there are more, if all the Cuckoos were known, which is so far from being the case, that it is still undecided whether, among so many, there be one that drops its eggs in the nests of other birds; we know only that many of these foreign kinds build their nest, and hatch their own eggs. But though we are commonly acquainted with the superficial differences only, some general and radical ones must obtain, especially between the two branches settled in the old and in the new world, which must undoubtedly receive an impression from the climate. I have noticed that the American
species

species are in general smaller than those of the old continent, probably owing to the same causes which check the growth and expansion of quadrupeds in the new world, whether those be indigenous, or introduced. There are at most two species of Cuckoos in America of nearly the same size with ours; but the others exceed not our blackbirds and thrushes. In Africa and Asia, there are a dozen species as large as the European, or larger, and some of them equal to hens in bulk.

This statement will I hope justify the plan which I have adopted, of separating the Cuckoos of America from those of Asia and Africa. Time and observation, the two great sources of information, are still wanting to illustrate the habits and economy of these birds, and to point out their true differences, external or internal, general or particular.

B I R D S
OF THE OLD CONTINENT,
WHICH ARE RELATED TO THE CUCKOO.

I.

The Great SPOTTED CUCKOO.

Cuculus Glandarius, Linn. Gmel. and Bor.

Cuculus Andalusie, Briff.

I BEGIN with this Cuckoo, which is not entirely foreign to Europe, since one was killed on the rock of Gibraltar. It would seem to be migratory, wintering in Asia or in Africa, and appearing sometimes in the south of Europe. Both this and the following species may be considered as intermediate between the common and the foreign kinds: it differs, however, from the common not only by its size and plumage, but by its proportions.

The most remarkable ornament of this Cuckoo is a silky tuft of a bluish gray, which can be erected at pleasure, but in the ordinary state lies flat on the head; there is a black bar on the eyes, which gives it a marked aspect; brown predominates on all the upper parts, including the wings and the tail, but the middle quills, and almost all the coverts of the wings, the
four

four lateral pairs of the tail, and their superior coverts, are terminated with white, which forms a pleasant enamel; all the under surface of the body is brown orange, which is pretty bright on the anterior parts, and duller on the posterior; the bill and legs are black.

It is as large as a magpie; the bill fifteen or sixteen lines; the legs short; the wings not so long as in the ordinary Cuckoo; the tail about eight inches, consisting of ten tapered quills, and exceeding the wings about four inches and a half[A].

II.

The BLACK- and WHITE CRESTED
C U C K O O.

Cuculus Pisanus, Gmel.

Cuculus ex nigro et albo mixtus, Gerini.

The *Pisan Cuckoo*, Lath.

THIS Cuckoo likewise must be regarded as only half foreign, since it was seen once in Europe. The authors of the Italian Ornithology inform us that in 1739 a male and female of this species nested in the vicinity of Pisa, and that the hen laid four eggs, which

[A] Specific character of the *Cuculus Glandarius*: "Its tail is wedge-shaped, its head somewhat crested, with a black bar on its eyes."

she hatched, &c *. It must, therefore, be very different from the ordinary Cuckoo, which undoubtedly never recur to incubation in our climates.

The head is black, and ornamented with a tuft of the same colour, which lies backwards; all the upper side of the body, including the superior coverts, is black and white; the great quills of the wings rufous, terminated with white; the quills of the tail are blackish, terminated with light rufous; the throat and breast are rufous; the inferior coverts of the tail are rusty; the rest of the under side of the body white, and even the feathers on the lower part of the thigh, which descend to the tarsus; the bill is greenish-brown, and the legs green.

This Cuckoo is rather larger than the ordinary kind, and its tail is proportionally longer; its wings are also longer, and its tail more tapered than in the Great Spotted Cuckoo, which it resembles in other respects [A].

* These authors say expressly that neither before nor since that time have these birds been seen in the neighbourhood of Pisa.

[A] Specific character of the *Cuculus Pflanus*: "Its tail is wedge-shaped; its body variegated with black and white above, and white below; its head crested with black; its throat and breast, rufous."

III.

The GREENISH CUCKOO of
MADAGASCAR.*Cuculus Madagascariensis*, Gmel.

The Great Madagascar Cuckoo, Lath.

THIS Cuckoo is chiefly distinguished by its magnitude: all the upper side of the body is deep olive, variegated with waves of a darker brown; some of the lateral quills of the tail are terminated with white; the throat is light olive, shaded with yellow; the breast, and the top of the belly, fulvous; the lower belly brown, and also the inferior coverts of the tail; the thighs are of a gray wine colour; the iris orange; the bill black; the legs yellowish brown; the tarsus not feathered.

Total length twenty-one inches and a half; the bill twenty-one or twenty-two lines; the tail ten inches, and composed of ten tapered quills, and extending more than eight inches beyond the wings, which are not long [A].

I find a note of Commerson on a Cuckoo from the same country, and very similar to the present:—I shall only remark the differences.

It is nearly as large as a hen, and weighs thir-

[A] Specific character of the *Cuculus Madagascariensis*: "It is olive, waved with brown; below fulvous; the throat olive, diluted with yellow."

teen ounces and a half ; on the head there is a naked space, furrowed slightly, tinged with blue, and encircled by fine black feathers ; those of the head and neck are soft and silky ; there are some bristles around the base of the bill, whose inside is black ; the tongue is also black and forked ; the iris reddish ; the thighs and the inside of the wing-quills blackish ; the legs black.

Total length twenty-one inches and three quarters ; the bill nineteen lines, its edges sharp ; the nostrils like those of the gallinaceous tribe ; the outer of the two hind toes can turn backwards or forwards (as I have observed in the European Cuckoo) ; the alar extent twenty-one inches, and each wing contains eighteen quills.

All that Commerſon ſays with regard to the habits of this bird is, that it associates with the other Cuckoos. It would appear to be a variety of the greenish Cuckoo ; perhaps it differs only in sex, in which case I should reckon it the male.

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THE MADAGASCAR CRESTED CUCKOO.

IV.

The C O U A .

Cuculus Cristatus, Linn. and Gmel.

Cuculus Madagascariensis Cristatus, Briss. and Ger.

The *Madagascar Crested Cuckoo*, Lath.

I RETAIN the name given by the inhabitants of Madagascar, because it certainly denotes the bird's call. It has a tuft which reclines back, whose feathers, and also those of the rest of the head and of all the upper side of the body, are greenish cinereous; the throat and forepart of the neck are cinereous; the breast red wine colour; the rest of the under side of the body whitish; the legs barred almost imperceptibly with cinereous; what appears of the quills of the tail and of the wings is light green, changing into blue and shining violet, but the lateral quills of the tail are terminated with white; the iris is orange; the bill and legs black; it is rather larger than the ordinary Cuckoo, and is differently proportioned.

Total length fourteen inches; the bill thirteen lines; the tarsus nineteen lines; and the toes are also longer than in our Cuckoo; the alar extent is seventeen inches; the tail is seven inches, consisting of quills that are a little tapered, and exceeds the wings six inches.

Commerson made this description in the month

month of November, from the living subject, and in its native climate; he adds that its tail diverges, or rather expands, that its throat is short, its nostrils oblique and uncovered, that its tongue terminates in a cartilaginous tip; its cheeks naked, wrinkled, and bluish.

The flesh is excellent. The bird is found in the woods near Fort Dauphin [A].

V.

The HOUHOU of EGYPT.

Cuculus Ægyptius, Gmel.

The *Egyptian Cuckoo*, Lath.

THIS Cuckoo has named itself; for its cry, *hou, hou*, is repeated several times successively, in a hollow tone. It is seen frequently in the Delta; the male and female seldom separate from each other; but it is more rare to find several pairs collected together. They are *acridophagites** in the full sense of the word; for they seem to subsist mostly, if not entirely, on grass-hoppers. They never alight on large trees, and far less on the ground; but perch on bushes near some brook. They have two un-

[A] Specific character of the *Cuculus Cristatus*: "Its tail is rounded; its head crested; its body of a glossy greenish ash-colour."

* i. e. locust-eaters, from *acridæ*, locustæ.

common

common characters: the first is, that all the feathers which cover the head and neck are thick and hard, while those on the belly are soft and loose; the second is, that the nail of the inner hind toe is long and straight, like that of the lark.

In the female (for I have no certain account of the male) the head and upper side of the neck are dull green, with polished steel reflections; the superior coverts of the wings are greenish rufous; the quills of the wings rufous, terminated with shining green, except the two last, which are entirely of that colour, and the two or three preceding these, which are mixed with it; the back is brown, with greenish reflections; the rump brown, and also the superior coverts of the tail, whose quills are shining green, with the gloss of burnished steel; the throat and all the under side of the body are rusty white, which is lighter under the belly than on the anterior parts, and on the flanks; the iris is bright red; the bill black, and the legs blackish.

Total length from fourteen inches and a half to sixteen and a half; the bill sixteen or seventeen lines; the nostrils three lines, and very narrow; the tarsus twenty-one lines; the inner hind nail nine or ten lines; the wings six or seven inches; the tail eight lines, consisting of ten tapered quills, and exceeding the wings five inches.

M. de Sonini, to whom I am indebted for the
account

account of this bird, adds that the tongue is broad, and slightly cut at the tip; the stomach is like that of the European Cuckoo; the intestines are twenty inches, and there are two *cæca*, of which the shortest is an inch.

After attentively comparing the description of this female, in all its details, with the bird represented No. 824, *Planches Enlumineés*, under the name of *Philippine Cuckoo*, I am of opinion that it is the male, or at least a variety, of that species: the same size, the same proportions, the same lark's spur, the same stiffness in the feathers of the head and neck, and the same tapered tail; only the colours are duller, for, except those of the wings, which are rufous, as in the Houhou, all the rest of the plumage is glossy black. The bird described by Sonnerat in his Voyage to New Guinea, under the name of the *green Antigua Cuckoo*, resembles the preceding so much, that what I have said equally applies to it: the head, the neck, the breast, and the belly, are of a dull green verging on black; the wings are of a deep brown rufous; the nail of the inner toe is more slender, and perhaps rather longer; all its feathers are in general hard and stiff; the webs are ragged, and each fibre is a new shaft, to which shorter fibres are attached. The tail does not indeed appear tapered in the figure, but this was perhaps an oversight. This Cuckoo is hardly larger than that of Europe.

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THE LONG HEELED CUOKOO.

Lastly, the Madagascar bird, called *Toulou*, resembles the female of the Egyptian Houhou in the same properties as the Cuckoo of the Philippines; its plumage is not so dark, especially on the anterior part, where the black is softened by spots of light rufous; in some individuals the olive assumes the place of the black on the body, and it is sprinkled with whitish longitudinal spots, which appear also on the wings. I should therefore suppose that they are young ones of the year's hatch, especially as, in the birds of this genus, the plumage undergoes considerable change, it is well known, at the first moulting [A].

VI.

The RUFIOUS-WHITE CUCKOO.

Le Rufalbin, Buff.

Cuculus Sanguinalis, Linn. Gmel. Briss. and Bor.

The *Straight-beaked Cuckoo*, Lath.

THE two prevailing colours of its plumage are rufous and white. When it perches, the tail spreads, as that of the *Coua*, like a fan; it is almost perpetually in motion; its cry is precisely the sound made by two or three jerks of

[A] Specific character of the *Cuculus Ægyptius*: "It is brown, below rufous white; its head and neck dull green; its tail wedge-shaped, and bright green; its wing-quills rufous."

the

the tongue upon the palate. Like the two preceding, it has a straight long nail on the inner hind claw, similar in form to that of the lark's; the upper surface of the head and neck blackish; the sides of each feather deeper coloured, and yet more brilliant; the wings rufous, and their coverts rather darker near the tip; the back is of a very brown rufous; the rump and the superior coverts of the tail barred transversely with light brown on a deeper brown ground; the throat, the fore part of the neck, and all the under side of the body, are dirty white, only the feathers of the throat and neck have a more brilliant shaft, and the rest of the under side of the body is radiated transversely with delicate stripes of a lighter colour; the tail is blackish; the bill black, and the legs gray brown; the body is scarcely larger than that of a blackbird, but it has a much longer tail.

Total length fifteen or sixteen inches; the bill fifteen lines; the tarsus nineteen; the nail of the inner hind toe is above five lines; the alar extent a foot and seven or eight inches; the tail eight inches, consisting of ten tapered quills, and exceeding the wings about four inches [A].

[A] Specific character of the *Cuculus Senegalensis*: "Its tail is wedge-shaped; its body gray, white below; its cap and its tail-quills blackish."

VII.

The BOUTSALLICK, *Buff.*

Cuculus Scolopaceus, Linn. and Gmel.

Cuculus Bengalensis Nævius, Briss. and Klein.

The *Brown and Spotted Indian Cuckoo*, Edw.

The *Indian Spotted Cuckoo*, Lath.

EDWARDS perceived so much resemblance between this Bengal Cuckoo and the European, that he particularly marked the points of disparity, which, in his opinion, were sufficient to constitute a distinct species. I shall here state these differences.

It is above one third smaller, though it has a longer shape, and though its body measures, between the bill and the tail, half an inch more than that of the ordinary Cuckoo. Its head is larger, its wings shorter, and its tail longer in proportion.

The prevailing colour is brown, which is deeper and spotted with a lighter brown on the upper part, more dilute and spotted with white, orange, and black, on the lower part; the light brown or rusty spots form, by their arrangement on the quills of the tail and wings, a transverse barring, which is a little inclined towards the point of the quills; the bill and legs are yellowish.

Total length thirteen or fourteen inches; the bill twelve or thirteen lines; the tarsus eleven

or

or twelve; the tail about seven inches, composed of ten tapered quills, and exceeding the wings by near five inches [A].

VIII.

The VARIEGATED CUCKOO of
MINDANAO.

Cuculus Mindanensis, Gmel.
The *Mindanao Cuckoo*, Lath.

THIS bird is so much variegated, that, at first sight, we might take its coloured figure as designed for the young Cuckoo of Europe. Its throat, head, neck, and all the upper part of the body, are spotted with white or rufous, which is more or less dilute on a brown ground, which is itself variable, and verges on a gold green more or less brilliant on all the upper part of the body, including the wings and tail; but the disposition of these spots is changed on the quills of the wings, where they form transverse bars of pure white externally, and tinged internally with rufous, and on the quills of the tail, where they form transverse bars of a rusty co-

[A] Specific character of the *Cuculus Scolopaceus*: "Its tail is wedge-shaped; its body clouded on both sides with gray and brown."

lour ;

lour; the breast and all the under side of the body, as far as the extremity of the lower coverts of the tail, are white, barred tranſverſely with blackiſh; the bill is alſo blackiſh above, but ruſty below, and the legs are brown gray.

This Cuckoo is found in the Philippines; and it is much larger than the European kind.

Total length fourteen inches and a half; the bill fifteen lines; the longeſt toe ſeventeen lines; the ſhorteſt ſeven lines; the alar extent nineteen lines and a half; the tail ſeven inches, conſiſting of ten quills, which are nearly equal, and exceeds the wings four inches and a half [A].

IX.

The C U I L.

Cuculus Honoratus, Linn. and Gmel.

Cuculus Malabaricus Nævius, Briff.

The Sacred Cuckoo, Lath.

THE name *Cuil* is applied to this bird by the inhabitants of Malabar. It is a new ſpecies introduced by M. Poivre, and differs from the preceding by its ſmallneſs, by the ſhortneſs of its bill, and by the unequal length of its tail quills.

[A] Specific character of the *Cuculus Mindanensis*: "Its tail is rounded; its body green gold, spotted with brown white; below waved with white and blackiſh."

The head and all the upper side of the body are blackish cinereous, spotted regularly with white; the throat and all the under side of the body white, barred transversely with cinereous; the quills of the wings blackish, those of the tail cinereous; and both are barred with white; the iris light orange; the bill and legs of a dilute ash colour.

The Cuil is rather smaller than the ordinary Cuckoo; it is held sacred on the Malabar coast, because, no doubt, it destroys the pernicious insects. General superstition originates from error; but some particular ceremonies and observances may have their foundation in reason.

Total length eleven inches and a half; the bill eleven lines; the tarsus ten; the tail five and a half, consisting of ten tapered quills, the outer pair being scarcely half the length of the inner, and it exceeds the wings three inches and a half [A].

[A] Specific character of the *Cuculus Honoratus*: "Its tail is wedge-shaped; its body blackish, spotted with white; below striped with white and cinereous."

X.

The BROWN CUCKOO, variegated
with BLACK.*Cuculus Tabitius*, Gmel.*Cuculus Taitensis*, Lath. Ind.The *Society Cuckoo*, Lath. Syn.

ALL that we know of this bird beside what is contained in the appellation, is that it has a long tail, and that it is found in the Society Isles, and there called the *ara wereroa*. The only account given of it is contained in Capt. Cook's second voyage, from which we have extracted this short indication with the view of inducing travellers addicted to natural history to procure fuller information concerning this new species [A].

XI.

The RUFIOUS SPOTTED CUCKOO.

Le Coucou Brun Piquete de Roux, Buff.*Cuculus Punctatus*, Linn. and Gmel.*Cuculus Inaicus Nævius*, Briss.

THIS is found in the East Indies, and as far as the Philippines. The head and all the

[A] Specific character of the *Cuculus Tabitius*: "It is brown, below white, striped with brown; its eye-brows white; its wing-quills spotted with ferruginous."

upper part of the body are dotted with rufous on a brown ground, but the quills of the wings and tail, and its superior coverts, are barred transversely; all the quills of the tail are terminated with light rufous; the throat and all the under side of the body are barred transversely with blackish brown, on a rufous ground; there is an oblong spot of light rufous below the eyes; the eyes are yellowish rufous, the bill horn colour, and the legs brown gray.

In the female the upper side of the head and neck is less dotted, and the under side of the body is of a lighter rufous.

This Cuckoo is much larger than the ordinary kind, and almost equal to a Roman pigeon.

Total length sixteen or seventeen inches; the bill seventeen lines; the tarsus the same; the alar extent twenty-three inches; the tail eight inches and a half, consisting of ten tapered quills, and exceeding the wings four inches and one third.

The subject described by Sonnerat* had not the rufous spot under the eyes, and what is still more different, the quills of the tail were equal, as in the spotted Chinese Cuckoo; so that it

* *Cuculus Panayus*, Linn. and Gmel.

The *Panayan Spotted Cuckoo*, Lath.

Specific character: "It is black brown, with spots of rufous yellow; below rufous, with black transverse stripes; its throat black; its tail equal."

ought

ought perhaps to be viewed as a variety of the above species [A].

XII.

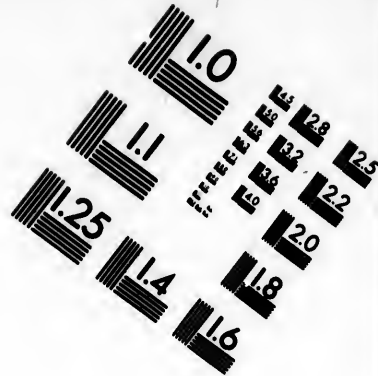
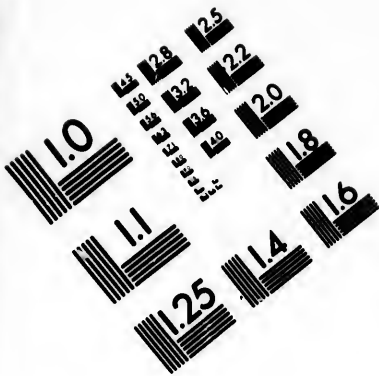
The CHINESE SPOTTED CUCKOO.

Cuculus Maculatus, Gmel.

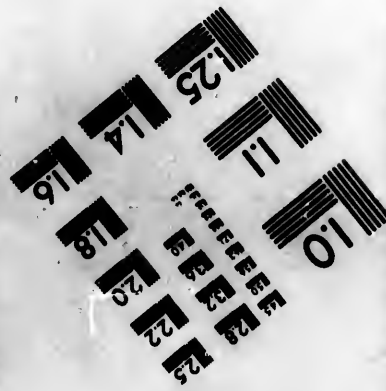
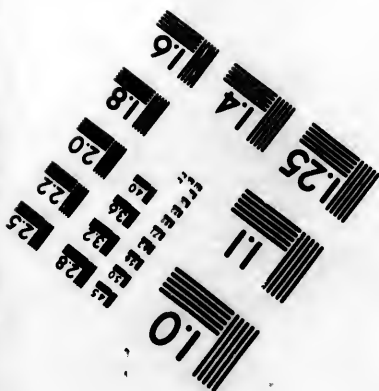
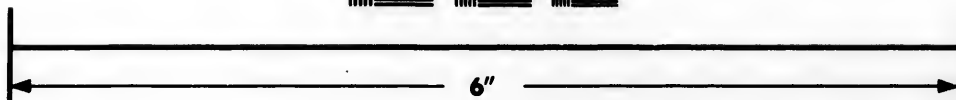
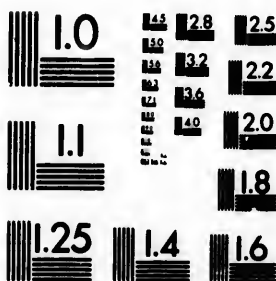
WE know nothing more of this bird than its external shape and its plumage: it is one of the small number of Cuckoos in which the tail is not tapered; the upper side of the head and neck is of an uniform blackish, except a few whitish spots that occur on the front and above the eyes; all the upper side of the body, including the quills of the wings and their coverts, is of a greenish deep gray, variegated with white, and enriched by brown gold reflections; the quills of the tail are barred with the same colours; the throat and breast variegated pretty regularly with brown and white; the rest of the under surface of the body and the thighs are variegated with the same colours, and also the feathers which fall from the lower part of the thigh on the tarsus and as far as the origin of the

[A] Specific character of the *Cuculus Punclatus*: "Its tail is wedge-shaped; its body blackish, dotted with rufous; below rufous, with black streaks; its tail quills barred with rufous."





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toes ; the bill is blackish above, yellow below, and the legs yellowish.

Total length about fourteen inches ; the bill seventeen lines ; the tarsus one inch ; the tail six inches and a half, consisting of ten nearly equal quills, and exceeding the wings by four inches and a half [A].

XIII.

The BROWN and YELLOW CUCKOO,
With a radiated Belly.

Cuculus Radiatus, Gmel.
The *Panayan Cuckoo*, Lath.

THE throat and the sides of the head resemble the colour of the lees of wine ; the upper part of the head is blackish gray ; the back and the wings are of a dull dark brown ; the under side of the quills of the wings next the body is marked with white spots ; the tail is black, radiated, and terminated with white ; the breast is of a dull orpiment colour ; the belly is light yellow ; the belly and breast radiated with black ; the iris pale orange ; the bill black, and the legs reddish.

[A] Specific character of the *Cuculus Maculatus* : " Its tail is wedge-shaped ; its body above greenish gray, with white spots ; below variegated with brown and white."

This

This Cuckoo is found in Panay, one of the Philippines; it is almost as large as the common Cuckoo, and its tail is composed of ten equal quills [A].

XIV.

The CRESTED JACOBINE
of COROMANDEL.

Cuculus Melanoleucus, Gmel.

The *Coromandel Crested Cuckoo*, Lath.

THIS bird is termed *Jacobine*, because it is black above and white below; its crest, consisting of several long narrow feathers, lies on the crown of the head, and projects a little backwards. It is probable that the bird erects its crest when excited by passion.

With regard to the colours of its plumage, we might say that there is a sort of black hood thrown over a white tunic; the white on the lower part is pure and unmixed, but the black on the upper part is interrupted, on the edge of the wing, by a white spot immediately below the superior coverts, and by spots of the same

[A] Specific character of the *Cuculus Radiatus*: "It is brown black; below yellow, lined with black; its throat and cheeks wine-colour; its top blackish gray."

colour, which terminate the quills of the tail; the bill and legs are black.

This bird is found on the coast of Coromandel; it is eleven inches in total length, its tail is composed of ten tapered quills, and exceeding the wings by one half its length [A].

There is in the King's Cabinet a Cuckoo brought from the Cape of Good Hope, and pretty much like this; the only differences are, that it is an inch longer, that it is entirely black both above and below, except the white spot on the wing, which occupies its exact place, and that, of the ten middle quills of the tail, eight are not tapered, the remaining outer pair being eighteen lines shorter than the rest. It is probably a variety produced by climate.

XV.

The **LITTLE CUCKOO**,
with a Gray Head and Yellow Belly.

Cuculus Flavus, Gmel.

The *Yellow-bellied* Cuckoo, Lath.

THIS species is found in the island of Panay; and we owe the account of it to Sonnerat:

[A] Specific character of the *Cuculus Melanoleucus*: "It is black, below white; its tail wedge-shaped, tipped with white; a white spot on its wings; its head somewhat crested."

the

the upper side of the head and throat is light gray; the upper side of the neck, back, and wings, umber coloured; the belly, the thighs, and the inferior coverts of the tail, are pale yellow, tinged with rufous; the tail is black, striped with white; the legs are pale yellow, and so is the bill, only blackish at the point.

This bird is as large as a blackbird, not so bulky, but much longer, being eight inches and some lines, and the tail, which is tapered, occupies more than one half of this length [A].

 XVI.

The C O U K E E L S.

I FIND in systems of ornithology, three birds of different sizes, which are made into as many distinct species; but they appear so analogous in their plumage, that I am disposed to regard them as the same, only varying in bulk, especially as they are all natives of the eastern parts of Asia. Edwards infers from the resemblance between their names, that the call of the Bengal Coukeel must resemble that of the European Cuckoo.

[A] Specific character of the *Cuculus Flavus*: "It is brick-coloured, below yellowish; its top and throat dilute gray; its tail wedge-shaped, and black, lined with white."

The

The first and largest* of the three is very near equal in size to the pigeon; its plumage is entirely of a shining black, changing into green and also into violet, but only under the quills of the tail; the under and inner side of the quills of the wings black; the bill and legs brown gray; and the nails blackish.

The second comes from Mindanao, and is hardly larger than our Cuckoo; it is intermediate in regard to size between the preceding and the following one; all its plumage is blackish, verging on blue; the bill is blackish at the base and yellowish at the point; the first of the quills of the wings is almost one half shorter than the third, which is one of the longest; the tail is generally spread.

The third Coukeel, and the smallest †, is scarcely equal to the blackbird; it is entirely black, like the two foregoing, without mixture of any other permanent colour; but, according to the various angles of the incidental rays, the plumage glows with all the fugitive tints of the

• *Cuculus Orientalis*, Linn. and Gmel.

Cuculus Indicus Niger, Briss.

The *Eastern Black Cuckoo*, Lath.

Specific character: "Its tail is rounded; its body glossy greenish black; its bill brown."

† *Cuculus Niger*, Linn. Gmel. and Klein.

Cuculus Bengalensis Niger, Briss. and Gerini.

The *Black Indian Cuckoo*, Lath.

Specific character: "It is wedge-shaped; its body shining black; its bill bright yellow."

rainbow.

rainbow. It is thus that Edwards, the original observer, describes it, and I know not why Brisson mentions only green and violet. As in the first Coukeel, the inner and under side of the quills of the wing are black; the bill is bright orange, rather shorter and thicker than in the European Cuckoo; the tarsus is thick and short, and of a reddish brown, which is also the colour of the toes.

We must observe that the name *Coukeel*, bestowed in Bengal, is peculiarly applicable to this bird, and therefore the inferences drawn between the similarity of names and the resemblance of calls, will be more conclusive with regard to it than with regard to the other two. The edges of the upper mandible are not straight, but undulated.

In all the three the tail consists of ten tapered quills. Their dimensions are as follow :

	FIRST COUKEEL.		SECOND.		THIRD.	
	Inches.	Lines.	In.	Lin.	In.	Lin.
Total length	- - -	16 0	14	0	9	0
Bill	- - - - -	0 16	0	15	0	10
Tarsus	- - - - -	0 17			0	7
Alar extent	- - - - -	23 0	0	16	wings pretty long.	
Tail	- - - - -	8 0	7	0	4	3
Length beyond the wings		4 0	3	6	2	9

XVII.

The GOLD-GREEN and WHITE
C U C K O O .

Cuculus Auratus, Gmel.
The *Gilded Cuckoo*, Lath.

ALL that we know of this bird is that it is found at the Cape of Good Hope, and carries its tail spread like a fan. It is a new species.

All the upper surface from the base of the bill to the end of the tail is gold-green, waving and rich, whose uniformity is interrupted on the head by five white bars, one on the middle of the front, two others above the eyes, like eyebrows, and stretching backwards, and two others, which are narrower and shorter, below the eyes; most of the superior coverts also, and the middle quills of the wings, all the quills of the tail, and its two largest superior coverts, are terminated with white; the two outermost of the quills of the tail, and the outermost of those of the wings are streaked with white on the outside; the throat is white, and also the whole under surface of the body, except some green stripes on the flanks, and the ruffles which fall from the lower part of the thigh upon the tarsus; the bill is brown green, and the legs gray.

This Cuckoo is nearly of the size of a thrush;
its

its total length about seven inches; the bill seven or eight lines; the tarsus the same, clothed with white feathers as far as the middle; the tail three inches and a few lines, and consisting of ten tapered quills, which in their natural position diverge; it exceeds by only fifteen lines the wings, which are very long in proportion.

XVIII.

The LONG-SHAFTED CUCKOO*.

Cuculus Paradiseus, Linn. and Gmel.

Cuculus Siamenfis Crijlatus Viridis, Briff.

The *Paradise Cuckoo*, Lath.

THE plumage of this bird is entirely of a dark green, which appears on the head, the body, the wings, and the tail. Yet it has not been neglected by nature, but, on the contrary, it is decorated by unusual feathers. Beside the tuft which distinguishes the head, the tail has a remarkable form; the outermost pair of quills is near six inches longer than all the rest; and they have no webs except for the space of three inches at their extremity. It was on account of these two shafts that Linnæus gave the bird the appellation of *Paradise Cuckoo*: for the same reason the two following might be termed *Wi-*

* This species is new, and introduced by M. Poivre.

dow

dow Cuckoos. The iris is of a fine blue; the bill blackish; and the legs gray: it is found at Siam, where Poivre saw it alive; it is nearly as large as the jay.

Total length seventeen inches; the bill fourteen lines; the tarsus ten; the tail ten inches and nine lines, and rather forked, and exceeding the wings about nine inches [A].

 XIX.

 The COLLARED CRESTED-
 C U C K O O *.

Cuculus Coromandus, Linn. and Gmel.
Cuculus Coromandelanensis Cristatus, Briss.
 The *Collared Cuckow*, Lath.

THIS bird is also ornamented with a crest, and is remarkable for the length of two quills of its tail; but these are the middle ones, which project beyond the lateral ones, as also obtains in some species of widow-birds.

All the upper side is blackish, from the head inclusively to the end of the tail, except a white collar about the neck, and two round spots of

[A] Specific character of the *Cuculus Paradiseus*: "The two outermost quills of its tail are very long, and dilated at the tip; its head crested, and its body green."

* This species is new, and was observed and figured in its native country by M. Poivre.

a gray colour behind the eyes, one on each side, which in some measure resemble ear-pendants: we must also except the wings, of which the quills and their middle coverts are variegated with rufous and blackish; and so are the shoulders, though their great quills and coverts are entirely blackish; the throat and the thighs are blackish; all the rest of the under side of the body is white; the iris yellowish; the bill deep cinereous; the legs also cinereous, but lighter coloured. This Cuckoo is found on the coast of Coromandel, and is nearly of the size of the red-wing.

Total length twelve inches and a quarter; the bill eleven lines; the tarsus ten; the wings short; the tail six inches and three quarters, consisting of ten quills, the two middle ones much longer than the lateral ones, which are tapered; and it exceeds the wings by five inches and a half [A].

[A] Specific character of the *Cuculus Coromandus*: "Its tail is wedge-shaped; its body black, below white; a bright white collar."

XX.

The SAN-HIA of CHINA*.

Cuculus Sinenfis, Linn. and Gmel.*Cuculus Cæruleus*, Briff.

The Chinese Cuckoo, Lath.

THIS Cuckoo resembles the preceding species, and consequently the widow birds, by the length of the two middle quills of the tail; its plumage is remarkable, though it consists of only two principal colours, blue on the upper side, and snowy white on the under side; but it would seem that nature, happy always in her careless mood, has suffered a few drops that are snowy white to fall from her pallet upon the crown of the head, where it forms a spot through which the blue appeared in a thousand points; and also upon the cheeks a little behind, where two sorts of ear-pendants are represented, as in the preceding species; and upon the quills and coverts of the tail, each of which is marked by a round white speck near the tip: besides, it appears melted into the azure of the rump and of the base of the great quills of the wing, and has considerably diluted the tinge; the whole is set off to advantage by the dark blackish colour of the throat and the sides of the head; and lastly, the beautiful colour of the iris,

* This species is new, and seen and figured by M. Poivre in its native country.

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THE BLUE CUCKOO.

the bill, and the legs, adds to the richness of the garb.

Total length thirteen inches ; the bill eleven lines, and there are some hairs about its upper base ; the tarsus ten lines and a half ; the tail seven lines and a half, consisting of ten very unequal quills, of which the two middle ones exceed the two adjacent lateral ones by three inches and a quarter ; they exceed the outermost by five inches and three lines, and the wings by almost their whole length [A].

XXI.

The TAIT-SOU.

Cuculus Cæruleus, Linn. and Gmel.

Cuculus Madagascariensis Cæruleus, Briss.

The *Blue Cuckoo*, Lath.

As usual, I retain the savage name, which is generally the best and the most characteristic.

The Tait-Sou, so called in its native country, is wholly of a fine blue, and the general uniformity is relieved by very dazzling tints of violet and green, reflected by the quills of the wings ; and by tints of pure violet, without the

[A] Specific character of the *Cuculus Sinensis*: " Its tail is wedge-shaped and long ; its body blue, below white ; a white spot on the tips of the tail-quills."

least cast of green, which are reflected by the quills of the tail; lastly, the black colour of the legs and bill gives shade to the picture.

Total length seventeen inches; the bill sixteen lines; the tarsus two inches; the alar extent near twenty inches; the tail nine inches, and composed of ten quills, of which the two middle ones are a little longer than the lateral ones; it exceeds the wings six inches [A].

 XXII.

The POINTER CUCKOO.

Cuculus Indicator, Gmel. and Bor.
 The *Honey-Guide*, Sparrman.
 The *Hony Cuckoo*, Lath.

IT is in the interior part of Africa, at some distance from the Cape of Good Hope, that this bird is found, which is known by its singular instinct of pointing out the nests of wild bees*. In the morning and evening it utters its cry, *cherr, cherr, cherr*, which is very shrill, and

[A] Specific character of the *Cuculus Cæruleus*: "Its tail is rounded; its body blue."

* According to some travellers, the cry of this bird is *wieki, wieki*; and this word *wieki* signifies honey in the language of the Hottentots. It sometimes happens that the hunter in following the call of this Cuckoo, is devoured by wild beasts; which has given occasion to say that the bird concert with them to conduct their prey.

seems

seems to invite the hunters and others, who search for honey in the wilderness; they answer it in a more hollow tone, and continue always advancing: as soon as it perceives them it flies onward, and hovers over the hollow tree where the swarm is lodged; if the hunters are too tardy in following it, it redoubles its cries, returns back to them, stops and flutters about, to rouse their attention. It omits nothing to induce them to profit by the little treasure which it discovers, but which it probably could not enjoy without the assistance of man; either because the entrance into the nest is too narrow, or on account of some other circumstances. While the party are employed in plundering the honey, the bird sits in a neighbouring bush, watching eagerly and expecting its share of the booty, which is commonly left for it, though never in sufficient quantity to satiate its appetite, or extinguish or blunt its ardour in this kind of pursuit.

This is not the idle tale of a common traveller; it is the observation of an enlightened man, who assisted at the destruction of several republics of bees, betrayed by this little spy, and who communicates an account of what he saw to the Royal Society of London. I shall add the description of the female, which he made from the only two subjects that he could procure, and which he shot to the great scandal of

the Hottentots; the existence of a useful creature is every where precious.

The upper side of the head is gray; the throat, the fore part of the neck, and the breast, are whitish with a green tinge, which grows more dilute as it spreads, and is scarcely perceptible on the breast; the belly is white; the thighs the same, marked with an oblong black spot; the back and rump are rusty gray; the superior coverts of the wings are brown gray, those next the body marked with a yellow spot, which, on account of its situation, is often concealed under the scapular feathers; the quills of the wings are brown; the two middle quills of the tail are longer and narrower than the rest, and of a brown verging on rust colour; the two following pairs are blackish, their inside dirty white; those which succeed are white, terminated with brown, and marked with a white spot near their base, except the last pair, where this spot almost vanishes; the iris is rusty gray; the eye-lids black; the bill brown at its base, yellow at the end, and the legs are black.

Total length six inches and a half; the bill about six lines, and there are some bristles about the base of the lower mandible; the nostrils are oblong, with a projecting margin, placed near the base of the upper mandible, and separated only by its ridge; the tarsus is short; the

nails slender ; the tail tapered, and composed of twelve quills ; it exceeds the wings by three-fourths of its length [A].

XXIII.

The VOUROU-DRIOU*.

Cuculus Afer, Gmel.

Cuculus Madagascariensis Major, Briss.

The *African Cuckoo*, Lath.

THIS species and the preceding differ from all the rest, in the number of quills in the tail ; these amounting to twelve, though commonly they are only ten. The differences peculiar to the Vourou-driou consist in the shape of its bill, which is longer, straighter, and not so convex above ; in the position of the nostrils, which are oblong, and placed obliquely near the middle of the bill ; and in a character which belongs also to the birds of prey, viz. that the female is larger than the male, and of a very

[A] Specific character of the *Cuculus Indicator*: " It is ferruginous gray, below white ; its eye-lids naked and black ; a bright yellow spot on its shoulders ; its tail wedge-shaped and ferruginous."

* The natives of Madagascar call it *Vouroug-driou*. We are indebted to M. Brisson for the account of this species, which is not the largest in that island, witness the *Greenish Cuckoo* already noticed.

different plumage. This bird is found in the island of Madagascar, and no doubt on the corresponding part of Africa.

In the male the crown of the head is blackish, with reflections of green and rose copper; there is a streak of black placed obliquely between the bill and the eye; the rest of the head, the throat, and the neck, are cinereous; the breast, and all the rest of the under side of the body, are of a handsome white gray; the upper side of the body, as far as the end of the tail, is of a green colour, changing into rose-copper; the middle quills of the wing are nearly of the same colour; the large ones blackish, verging on green; the bill is deep brown; and the legs reddish.

The female is so different from the male, that the inhabitants of Madagascar have called it by a different name, *Cromb*. The head, the throat, and the upper side of the neck, are striped transversely with brown and rufous; the back, the rump, and the superior coverts of the tail, are of an uniform brown; the small superior coverts of the wings are brown, edged with rufous; the great ones dull green, edged and terminated with rufous; the quills of the wing are the same as in the male, only the middle ones are edged with rufous; the fore part of the neck, and all the rest of the under side of the body, are variegated with blackish; the quills of the tail are of a glossy brown, terminated with

with rufous; the bill and legs are nearly as in the male [A].

Their relative dimensions are as follow :

	MALE.		FEMALE.	
	Inch.	Lin.	Inch.	Lin.
Total length - - - -	15	0	17	6
Bill - - - -	2	0	2	4
Tarsus - - - -	1	3	1	3
Alar extent - - - -	25	8	29	4
Tail - - - -	7	0	7	9
Excess above the wings	2	4	2	7

[A] Specific character of the *Cuculus Afer*: "It is copper-green, below shining gray; its head and neck cinereous; its top copper blackish; its tail equal and gold-green, below black."

A M E R I C A N B I R D S ,

WHICH ARE RELATED TO THE CUCKOO.

I.

The OLD-MAN, or RAIN-BIRD.

Cuculus Pluvialis, Gmel.*Cuculus Jamaicensis*, Briss.*Picus Major Leucophæus*, Ray.*Cuculus Jamaicensis Major*, Sloane, Brown, and Klein.The *Rain Cuckoo*, Lath.

THE name of *Old-Man* has been given to this bird, because, under its throat, there is a sort of white down or beard, the attribute of age: it is also called the *Rain-Bird*, because it never calls, except before rain. It continues the whole year in Jamaica, and haunts not only the woods, but the straggling bushes: it suffers the hunters to approach very near before it takes flight. Its ordinary food consists of seeds and worms,

The upper side of the head is covered with downy or silky feathers of a deep brown; the rest of the upper side of the body, including the wings and the two middle quills of the tail, is olive cinereous; the throat is white, and the fore part of the neck the same; the breast, and the rest of the under surface of the body, rufous; all the lateral

lateral quills of the tail are black tipped with white, and the outermost is edged with white; the upper mandible is black; the lower one is almost white; the legs bluish black: it is somewhat larger than the blackbird.

The stomach of the one dissected by Sloane was very large in proportion to the size of the bird, in which respect it resembles the European species; it was lined by an exceedingly thick membrane; the intestines were twisted like a ship's cable, and covered with a quantity of yellow fat.

Total length six inches and three quarters; the bill one inch; the tarsus thirteen lines; the alar extent equal to the total length; the tail from seven and a half to eight inches, composed of ten tapering quills, and projecting almost entirely beyond the wings [A].

VARIETIES of the RAIN CUCKOO.

I. THE RUFIOUS-WINGED OLD MAN*. The same colours as in the preceding appear on the

[A] Specific character of the *Cuculus Pluvialis*: "It is cinereous olive, below rufous; its throat white."

* *Cuculus Americanus*, Linn. and Gmel.

Cuculus Carolinensis, Briss. and Klein.

The *Carolina Cuckoo*, Catesby, Penn. and Lath.

Specific character: "It is wedge-shaped; its body cinereous above, and white below; its lower mandible yellow."

upper

upper surface and on the tail, and almost the same on the bill; but the white of the under surface of the body, which in the Rain-bird was confined to the throat and breast, extends in this bird over all the lower part: the wings have a rusty cast, and are longer in proportion; lastly, the tail is shorter and of a different shape.

This Cuckoo is solitary; it resides in the darkest forests, and on the approach of winter it leaves Carolina to find a milder air.

Total length thirteen inches; the bill fourteen lines and a half; the tail six inches, consisting of ten quills, of which the three middle ones are longer than the rest, but equal to each other, and the two lateral pairs are shorter, and the more so in proportion to their distance from the centre; the longest project four inches beyond the wings.

II. THE LITTLE OLD MAN*, known at Cayenne by the name of Mangrove Cuckoo (*Coucou des Paletuviers*). This bird, the female especially, resembles the Jamaica Rain-bird so much, both in its colours and in its general conformation, that the description of the one may serve for the other; the only difference consists in the size, the Cayenne bird being

* *Cuculus Minor*, Gmel.

Cuculus Seniculus, Lath. Ind.

The *Mangrove Cuckoo*, Lath. Syn.

Specific character: "It is cinereous olive, below tawny, its chin white."

much

much smaller, its tail is also rather longer in proportion; but we may still suppose that it is a variety resulting from climate. It feeds on insects, and particularly on the larger caterpillars* that gnaw the leaves of the mangroves; and hence it is fond of lodging among these trees, where it renders an useful service.

Total length one foot; the bill thirteen lines; the tarsus twelve; the tail five inches and a half, consisting of ten tapering feathers, and exceeds the wings three inches and one third.

II.

The T A C C O †.

Cuculus-Vetula, Linn. Gmel. and Bor.

Cuculus Jamaicensis, Briss. Klein, and Ger.

Picus, seu Pluviae Avis canescens, Ray and Sloane.

The Long-bellied Rain Cuckoo, Lath.

SLOANE positively asserts that, except the bill, which in the Tacco is longer, more slender, and whiter, it resembles the Rain-bird precisely; he ascribes to it the same habits, and ap-

* These large caterpillars are four inches and a half long, and seven or eight lines broad. In the years 1775 and 1776, they multiplied so excessively, that they devoured almost entirely most of the mangroves and many other plants. It was then that the islanders regretted their not having multiplied this species of Cuckoo.

† In the Antilles it is named *Tacco* from its cry; the negroes call it *Cracra* and *Tacra-Bayo*. In St. Domingo it is termed *Colivicon*.

plies

plies the same names. But Brisson, resting probably on this remarkable difference in the length and conformation of the bill, has made this bird a distinct species. This separation is the more proper, as it appears from closer inspection that the plumage is not the same, and that even the white beard is wanting, which gave name to the preceding species: besides, the Chevalier Lefebre Deshayes, who has observed the Tacco with attention, finds that its habits are different from those ascribed by Sloane to the Rain-bird.

Tacco is the usual cry of this Cuckoo, but is seldom heard. It pronounces the first syllable hard, and descends a whole octave on the second; it never utters this till after it has given a jerk with its tail, which it commonly does when it shifts its place, or perceives any one approach. It has also another cry *qua, qua, qua, qua*, but which is never heard unless it be alarmed by the sight of a cat, or some other dangerous enemy.

Sloane says that this Cuckoo, like the one which he terms *Rain-bird*, forebodes rain by its loud calls; but the Chevalier Deshayes discovered no such habit*.

Though the Tacco lives generally in cultivated grounds, it also frequents the woods, because it there finds its proper food, which con-

* To the Chevalier Deshayes I owe my information with regard to the habits and economy of the Tacco.

sifts of caterpillars, beetles, worms and vermin, *ravets* *, wood-lice, and other insects, which unfortunately are too common in the Antilles, both in the cleared lands and in the forests. It also preys upon small lizards, called *anolis* †, small snakes, frogs, young rats, and sometimes, it is said, upon small birds. It surprises the lizards when they are eagerly watching on the branches for flies, and therefore off their guard. With regard to snakes, it seizes them by the head, and in proportion as the part swallowed digests, it sucks up the rest of the body, which hangs out from the bill. It is thus useful, since it destroys the pernicious animals: it would prove of still greater utility, could it be domesticated; and this might be possible, for it is not shy, but even suffers the young negroes to catch it in the hand, though it has a strong bill, and could make a stout defence.

Its flight is never lofty; it begins flapping with its wings, and, then spreading its tail, it shoots along, or rather skims than flies. It flutters from bush to bush, and hops from bough to bough: it even springs upon the trunks of trees, to which it clings like the wood-peckers; and sometimes it alights on the ground, and hops about like the magpye, always in pursuit of

* A sort of cock-chaffers, very offensive and pernicious, frequent in the West Indies. T.

† Written also *anulys*. They have a fine, sleek skin, and are sometimes eaten by the people of the French West India islands. T.

, insects

insects or reptiles. It is said to exhale continually a rank smell, and that its flesh is unpalatable; which is very probable, considering the kind of substances upon which it feeds.

These birds retire in the breeding season into the depth of the forests, and remain so well concealed, that no person has ever seen their nest. One might almost be induced to suppose that they have none, and that, like the European Cuckoo, they lay their eggs in other birds' nests; but if this were the case, they would differ from all the other American Cuckoos, which themselves build and hatch.

The Tacco has no brilliant colours in its plumage, but it has always a neat and becoming air: the upper side of its head and body, including the coverts of the wings, is gray, which is pretty deep, with greenish reflections on the great coverts only; the fore side of the neck and breast is ash gray, and over all these shades of gray there is spread a faint reddish tint; the throat is light fulvous; the rest of the under side of the body, including the thighs, and the inferior coverts of the wings, are more or less of a lively fulvous; the ten first quills of the wing are of a bright rufous, terminated with greenish brown, which, in the following quills, approaches constantly to a rust colour; the two middle quills of the tail are of the colour of the back, with greenish reflections; the eight others are the same about their middle, dark brown,

with blue reflections, near their base, and terminated with white; the iris is brown yellow; the eyebrows red; the bill blackish above, and of a lighter colour below; the legs are bluish. This Cuckoo is not so large as the European one; it is found in Jamaica, in St. Domingo, &c.

Total length fifteen inches and a half (seventeen and one-third, according to Sloane); the bill is eighteen lines according to Sloane; twenty-one according to the Chevalier Deshayes, and twenty-five according to Brisson; the tongue is cartilaginous, terminated by filaments; the tarsus about fifteen lines; the alar extent equal to the total length of the bird; the tail eight inches, according to Deshayes, and eight inches and three quarters, according to Brisson, and consisting of ten tapering quills; the intermediate ones overlap the lateral ones; it projects about five inches and a half beyond the wings [A].

[A] Specific character of the *Cuculus Wetula*: "Its tail is wedge-shaped; its body dusky, below brick coloured; the eye-lids red."

III.

The GUIRA-CANTARA.

Cuculus-Guira, Gmel.

Cuculus Brasiliensis Cristatus, Briss.

Guira Acangara, Ray and Will.

The *Brazilian Crested Cuckoo*, Lath.

THIS Cuckoo is very noisy; it lives in the forests of Brazil, and makes them echo to its cry, which is louder than pleasant. It has a kind of tuft, whose feathers are brown, edged with yellowish; those of the neck and wings are, on the contrary, yellowish, edged with brown; the upper and under sides of the body are of a pale yellow; the quills of the wings are brown; those of the tail brown also, but terminated with white; the iris is brown; the bill dun-yellow; the legs sea-green. It is as large as the European magpye.

Total length fourteen or fifteen inches; the bill about an inch, a little crooked at the end; the tarsus one inch and a half, and clothed with feathers; the tail consisting of eight quills, according to Marcgrave; but were not some of them wanting? they appear equal in the figure.

IV.

The QUAPACTOL, or the LAUGHER.

Cuculus Ridibundus, Gmel.*Avis Ridibunda Quapachtotol*, Will. and Ray.*Cuculus Mexicanus*, Briss.The *Laughing Cuckoo*, Lath.

THIS Cuckoo is called the *Laughing-bird*, on account of its call; and for the same reason, says Fernandez, it was reckoned unlucky by the Mexicans before the true religion was introduced among them. With regard to the Mexican name *Quapachtotol*, which I have contracted and softened, it alludes to the fulvous colour which is spread over all the upper surface of its body, and even on the quills of the wings; those of the tail are also fulvous, but of a darker cast; the throat is cinereous, and also the forepart of the neck and breast; the rest of the under side of the body is black; the iris is white, and the bill bluish black.

The size of this Cuckoo is nearly equal to that of the European kind; it is sixteen inches in total length, and the tail alone occupies the one half of this.

[A] Specific character of the *Cuculus Ridibundus*: "It is fulvous; its throat and breast cinereous; its belly, its thighs, and the lower coverts of its tail, black."

V. .

The HORNED CUCKOO,
Or the ATINGACU of BRAZIL.

Cuculus Cornutus, Linn. and Gmel.

Cuculus Brasiliensis Cornutus, Briff.

Atinga guacu mucu, Ray and Will.

THE singular property of this Brazilian Cuckoo is, that there are long feathers on the head, which it can erect at pleasure, and form a double tuft; and hence the epithet of *horned*, which has been bestowed by Brisson. The head is large, and the neck short, as usual in this genus; all the upper surface of the head and body is sooty; the wings are the same, and even the tail, though this has a darker cast, and the feathers at its extremity are marked with a rusty white spot, shaded with black, which melts into a pure white; the throat is cinereous, and so is all the under side of the body; the iris is blood coloured; the bill yellowish green, and the legs cinereous.

This bird is distinguished too by the length of its tail; for though not larger than a field-fare or large thrush, and its body only three inches long, its tail is nine; it consists of ten tapering quills, the intermediate ones overlapping the lateral ones; the bill is a little hooked

at

at the end; the tarsufes are rather short, and feathered before [A].

VI.

The BROWN CUCKOO,
variegated with Rufous.

Cuculus Nævius, Linn. and Gmel.

Cuculus Cayanensis Nævius, Briff.

The *Spotted Cuckoo*, Lath.

THE upper side of the body is variegated with brown and with different shades of rufous; the throat is light rufous variegated with brown; the rest of the under side of the body is rusty white, which assumes a distinct light rufous on the inferior coverts of the tail; its quills and those of the wings are brown, edged with light rufous, having a greenish cast, particularly on the lateral quills of the tail; the bill is black above, rufous on the sides, rusty below, and the legs cinereous. It is observed as a singular property, that some of the superior coverts of the tail extend almost to two-thirds of its length. With regard to size, this Cuckoo is compared to the red-wing.

Total length ten inches and two thirds; the bill nine lines; the tarsus fourteen lines;

[A] Specific character of the *Cuculus Cornutus*: "Its tail is wedge-shaped; its crest cleft; its body footy."

the alar extent above an inch ; the tail about six inches, consisting of ten tapering quills, and exceeding the wings by four inches.

The Cuckoo known at Cayenne by the name of the *Barrier-bird* is nearly as large as the preceding, and very similar in regard to plumage : in general, it has rather less rufous, gray occupying its place, and the lateral quills of the tail are tipped with white ; the throat is light gray, and the under side of the body white ; the tail too is longer. But notwithstanding these trifling differences, we must consider it as a variety of the preceding, perhaps only sexual.

The name *Barrier-bird* alludes to its habit of perching upon the palisades round plantations ; in that situation it continually shakes its tail.

These birds, though not very wild, never gather in flocks ; yet many live in the same district at once ; they seldom haunt the forests : they are more common, we are assured, than the *Piaye* Cuckoos, both in Cayenne and Guiana.

[A] Specific character of the *Cuculus Nævius*: " Its tail is wedge-shaped; its body brown and ferruginous; its throat marked with brown furrows; its tail-quills tipped with tawny."

VII.

The ST. DOMINGO CUCKOO.

*Le Cendrillard**, Buff.*Cuculus Dominicus*, Linn. Gmel. and Briss.

THE prevailing colour of its plumage is ashy gray, which is more intense above, as far as the two middle quills of the tail inclusively, more dilute below, and intermixed with more or less rufous on the quills of the wings; the three pairs of lateral quills in the tail are blackish, terminated with white, and the outermost pair is edged with the same white colour; the bill and legs are dun gray. This bird is found in Louisiana and St. Domingo, in different seasons, no doubt; it is said to be nearly of the size of the red wing.

I have seen in M. Mauduit's Cabinet a variety named the *Little Gray Cuckoo*, which differed not from the preceding, except that all the under surface was white, that it was rather larger, and that its bill was not so long.

Total length from ten to twelve inches; the bill fourteen or fifteen lines, the two mandibles bent downwards; the tarsus one inch; the alar extent five inches and a half; the tail five inches and one third, consisting of ten tapered feathers;

* So termed by M. Montbelliard, on account of its cinereous plumage.

it exceeds the wings from two inches and a half to three inches [A].

VIII.

The PIAYE CUCKOO.

Cuculus Cayanus, Linn. and Gmel.

Cuculus Cayanensis, Briss.

The *Cayenne Cuckoo*, Lath.

I ADOPT the epithet *Piaye*, applied to this Cuckoo in the island of Cayenne; but I adopt not the superstition which gave it birth: *Piaye* signifies *devil* in the language of the natives, and also *priest*, that is among an idolatrous people, *minister* or *interpreter of the devil*. This obviously shews that it is looked upon as an unlucky bird: for this reason the Indians and negroes are said to have an abhorrence of its flesh; but may not its perpetual leanness and unpalatable quality account for their aversion?

The *Piaye* is not shy; it allows a person to get very near it, and does not fly away till the moment he is about to seize it: its flight is compared to that of the king-fisher; it commonly frequents the banks of rivers, and lodges

[A] Specific character of the *Cuculus Dominicanus*: "Its tail is wedge-shaped; its body gray-brown, below partly white; its three lateral tail-quills tipped with white."

beneath

beneath the low branches of trees, where it probably watches the insects which constitute its food; when perched it wags its tail, and perpetually shifts its place. Persons who have lived at Cayenne and seen this Cuckoo several times in the fields, have never yet heard its call. It is nearly as large as a blackbird; the upper side of its head and body is purple chestnut, including the wings of the tail, which are black near the end, terminated with white, and the quills of the wings, which are terminated with brown; the throat and the fore part of the neck are also purple-chestnut, but of a lighter tinge, and which varies in different individuals; the breast and all the under side of the body are cinereous; the bill and legs are brown gray.

Total length fifteen inches and nine lines; the bill fourteen lines; the tarsus fourteen lines and a half; the alar extent fifteen inches and one third; the tail ten lines, consisting of ten tapered and very unequal quills; it exceeds the wings about eight inches. N. B. The specimen in Mauduit's Cabinet is rather larger.

I have seen two varieties of this specie. The one nearly of the same size, but of different colours; the bill was red; the head cinereous; the throat and breast rufous; and the rest of the under side of the body blackish ash-colour.

The other variety has nearly the same colours, only the cinereous of the under side of the body is shaded with brown; it has also the same

natural habits, the only difference consisting in the size, which is almost equal to that of the red-wing.

Total length ten inches and a quarter; the bill eleven lines; the tarsus eleven lines and a half; the alar extent eleven inches and a half; the tail near six inches, consisting of ten equal quills, and exceeding the wings about four inches [A],

 IX.

The BLACK CUCKOO of CAYENNE.

Cuculus Tranquillus, Gmel.

ALMOST the whole plumage is black, except the bill and iris, which are red, and the upper coverts of the wings, which are edged with white; but the black itself is not uniform, for it is lighter below than above.

Total length about eleven inches; the bill seventeen lines; the tarsus eight lines; the tail composed of ten quills, a little tapered, and exceeding the wings about three inches.

M. de Sonini assures me that this bird has a tubercle on the fore part of its wing. It lives solitary and tranquil, generally perched upon

[A] Specific character of the *Cuculus Cayanus*: "Its tail is wedge-shaped; its body purplish-chestnut, below cinereous; all its tail-quills tipped with white."

the trees which grow on the sides of creeks, and it is by no means so active as most of the Cuckoos: in short, it may be regarded as the intermediate shade between these and the barbets,

X.

The LITTLE BLACK CUCKOO
of CAYENNE*.

Cuculus Tenebrosus, Gmel.

The *White-rumped Black Cuckoo*, Lath.

THIS Cuckoo resembles the preceding, both in the colour of its plumage, and in its habits and economy. It does not frequent the woods, yet it is no less wild; it remains whole days perched upon a detached branch in a cleared spot, without making any exertion beyond what is necessary to catch the insects on which it feeds; it nestles in hollow trees, and sometimes in the ground, when it finds holes ready formed.

This Cuckoo is entirely black, except on the hind part of the body, which is white, and this white, which extends to the legs, is separated from the back of the fore part by a sort of orange cincture. In the specimen which I

* We are indebted to M. de Sonin for the account of this bird,

saw

saw at Mauduits', the white did not stretch so far.

Total length eight inches and a quarter; the bill nine lines; the tarsus very short; the tail is not three inches, it is a little tapered, and projects not much beyond the wings [A].

[A] Specific character of the *Cuculus Tenebryfus*: "It is black; its belly and thighs ferruginous; its rump and crest white; its tail equal."

The A N I S.

ANI is the name which the natives of Brazil give to this bird*, and which we retain, though the French travellers† and our modern nomenclators call it *Tobacco-end*‡, a ridiculous appellation bestowed on account of the resemblance of its plumage to the colour of a tobacco roll. Father Dutertre asserts, indeed, as the reason of that denomination, that it seems to articulate the words *petit bout de petun*, which is false and improbable; especially as the Creoles of Cayenne have an appropriated designation for its ordinary warble, *Canary boiler*, because it resembles the noise of a kettle boiling. It has also the name *Devil*, and one of the species is called the *Savanna devil*, and the other the *Mangrove devil*; the former living constantly in the savannas, and the latter frequenting the sea shores and the margins of salt marshes, where the mangroves grow.

Their generic characters are these:—Two toes before and two behind, the bill short, hooked, thicker than broad; the lower mandible straight, the upper one raised into a semicircle at its origin, and this remarkable convexity extends over all the upper part of the bill till

* Marcgrave.

† Dutertre.

‡ *Bout de Petun*, or *Bout de Tabac*.

within

within a little distance of its extremity, where it is hooked; this convexity is compressed on the sides, and forms a sort of sharp ridge quite along the upper mandible; below and round there rise small ragged feathers as stiff as hogs' bristles, about half an inch long, and all pointed forwards: this singular conformation of the bill is sufficient to discriminate these birds, and seems to constitute a separate genus, though it includes only two species.

The SAVANNA ANI.

FIRST SPECIES.

Crotophaga-Ani. Linn. Gmel. and Bor.

Crotophagus, Briss. and Gerini.

Pfittaco congener Ani, Ray and Will.

Monedula tata nigra major, Sloane and Brown.

Cornix garrula major, Klein.

The *Razor-billed Blackbird*, Catesby.

The *Lesser Ani*, Lath.

THIS Ani is as large as a blackbird, but its large tail gives it a longer form; for this is seven inches, which is more than half the total length of the bird: the bill is thirteen lines long, and rises nine lines and a half; it is black, and so are the legs, which are seventeen lines in height. The description of its colours shall be very short: all the body is black, faintly shaded with some violet reflections, except a small

small edge of deep shining green, which borders the feathers on the upper part of the back and the coverts of the wings, and which cannot be perceived at a certain distance, for then the bird appears entirely black. The female differs not from the male; they constantly keep in troops, and are of so social a disposition that they lodge and lay their eggs together in the same nest. They construct it with dry sticks, but use no lining; it is exceedingly wide, often a foot in diameter, and its capacity is said to be proportioned to the number of fellow-lodgers which they intend to admit. The females hatch in company, and five or six are often seen in the same nest. This instinct, which would prove useful in the cold countries, seems to be at least superfluous in the southern regions, where the nest will easily preserve its heat. It originates entirely from the impulse of social temper; for they are constantly together, both when they fly and when they repose and settle on the branches of trees as near as possible to each other. In this situation they all warble in concert, and almost through the whole day; and their smallest troops consist of eight or ten, and they sometimes amount to twenty-five or thirty. They fly low, and to short distances; and hence they oftener alight among bushes and thickets than upon trees. They are neither timorous nor shy, and never make any remote retreat. They are hardly scared by the report of fire arms, and it is easy
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to kill many, one after another. But they are in no request, for their flesh cannot be eaten, and the birds have an offensive smell: they feed on seeds and small serpents, lizards, and other reptiles; they also alight upon oxen and cows to feed on the ticks, maggots, and insects, which nestle in their skin [A].

The MANGROVE ANI.

L'Ani des Palituviers, Buff.

SECOND SPECIES.

Crotophaga Major, Gmel.

Crotophagus Major, Briss.

The *Great Ani*, Lath.

THIS bird is larger than the preceding, and almost equal to the jay; it is eighteen inches long, including the tail, which occupies the half of that extent: its plumage is nearly of the same brownish black colour as that of the former, only it is somewhat more variegated with brilliant green, which terminates the feathers of the back and the coverts of the wings; inasmuch that if we rested our opinion solely on the difference of size and colours, we might regard these two birds as only varieties of the same

[A] Specific character of the *Crotophaga-Ani*: "It is smaller; its feet scansory."

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THE ANI.

species. But what proves that they are really two distinct species is, that they never intermingle; the one kind constantly inhabits the open savannas, the other lodges among the mangroves only: yet the latter have the same natural habits with the former; they likewise keep in flocks; they haunt the brinks of salt marshes; they lay and hatch, many of them together in the same nest, and seem to be only a different race accustomed to live in more wet situations, where the abundance of insects and reptiles affords an easier subsistence.

Since writing the above, I have received a letter from the Chevalier Lefebre Deshayes concerning these St. Domingo birds, and I shall here extract what he says with regard to the Mangrove Ani.

“ This bird,” says he, “ is one of the most common in the island of St. Domingo The negroes give it different appellations, *Tobacco end*, *Amangoua*, *Black Parrot*, &c. . . . If we attentively consider the structure of the wings of this bird, the shortness of its flight, and the weight of its body compared to its bulk, we shall not hesitate to conclude that it is a native of the new world: how, with its feeble narrow wings, could it traverse the vast ocean that divides the two continents? . . . The kind is peculiar to south America. When it flies it spreads its wings; but its motion is not so quick nor so continued as the parrot’s . . . It cannot withstand

withstand the violence of the wind, and the hurricanes destroy numbers of these birds.

“ They inhabit the cultivated grounds, or such as have once been in the state of cultivation, and they are never found in the lofty forests. They feed on various sorts of seeds and fruits, such as small millet, maize, rice, &c. and when reduced to want, they eat caterpillars and some other insects. We cannot say that they have a song or warble; it is rather a whistling or chirping: sometimes, however, this becomes more varied, but it is always harsh and disagreeable; it receives different inflexions according to the passions which incite it. If the bird perceives a cat, or other dangerous animal, it informs its companions by a very distinct scream, which it prolongs or repeats until its apprehensions are quieted: its fears are most remarkable when it has young, for then it flutters and beats about its nest. These birds live in society, though they do not form into such large flocks as the stares; they seldom part from one another . . . and even previous to their hatching, we see several males and females working together at the construction of the nest, and afterwards the females hatch beside each other, each sitting on her eggs and rearing her young. This harmony is the more admirable, since love commonly dissolves all other ties but what it forms . . . Their amours commence early: in February the males ardently court
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the females, and in the following month the happy couple are busy in collecting materials for the nest These birds are more lascivious than even sparrows; and, during the whole season of their ardour, they are much more lively and cheerful than at any other time . . . They breed in shrubs, coffee-trees, bushes, and hedges; and they place their nests in the cleft where the stem divides into several branches When several females associate together, the one readiest to lay does not wait till the nest be completed, but sits on her eggs while the rest are employed in enlarging the fabric. They employ a precaution which is unusual with other birds, viz. to cover their eggs with leaves and grass-stalks, as fast as they lay them And during incubation, they cover the eggs in the same manner, if they are obliged to leave them in quest of food The females which thus hatch beside each other are not quarrelsome, like hens that breed in the same crib; they take their stations in order: some, however, before they lay, make a partition in the nest with stalks of herbs, to contain their own eggs; but if the eggs happen to be jumbled together, one female hatches them indiscriminately; she collects them, heaps them, and covers the whole with leaves, so as to diffuse the heat equally, and prevent its dissipation . . . Yet each female lays several eggs . . . These birds build their nest very solid, though rude, with

the small stems of filamentous plants, the branches of the citron trees, and other shrubs; the inside only is covered with tender leaves that soon wither; and upon this bed the eggs are deposited: these nests are wide, and much raised at the margin; sometimes the diameter is more than eighteen inches, but its size depends on the number of females which it is destined to receive. It would be difficult to decide with accuracy whether all the females contained in the same nest have each their male; perhaps these birds are polygamous, in which case it would, in some measure, be necessary to enlarge the nests, and thus, even without any friendly social principles, they might be constrained to unite in performing the work . . . The eggs are as large as those of a pigeon; they are of an uniform beryl, and have none of those little spots on the ends, which are usual on most of the eggs of wild birds . . . It is probable that the females hatch twice or thrice a year, according to circumstances; if the first succeeds, they do not make another till autumn; if on the contrary, the eggs are robbed, or eaten by snakes or cats, they make a second, and towards the end of July, or during the course of August, they hatch a third time: certain it is, that their nests are found in the months of March, May, and August . . . They are gentle, and easily tamed; and it is said, that if they are taken young, they may be educated and taught to speak,

Speak, though their tongue is flat, and terminates in a point, while that of the parrot is fleshy, thick, and round . . .

“The same frier Whip and concord which appears during incubation, continues after the broods are hatched; when the mothers have covered together, they feed successively all the little family . . . The males assist in bringing supplies; but when the females hatch separately, they rear their young apart, yet without shewing any jealousy or ill temper; they carry the food by rotation, and the young ones receive it from all the mothers. The nature of the food depends upon the season, sometimes consisting of caterpillars, maggots, and insects, and sometimes of fruits and seeds, such as millet, maize, rice, and wild oats, &c. . . . In a few weeks the young ones are able to try their wings, but they do not venture far; soon afterwards they perch beside their parents among the bushes, and then are exposed to the ravages of the birds of prey . . .

“The Ani is an innocent bird; it does not plunder the rice plantations, like the blackbird; it does not feed upon the nuts of the cocoa-tree, like the woodpecker; nor does it consume the patches of millet, like the parrots or parakeets.”

[A] Specific character of the *Crotophaga Major*: “It is larger; its feet scanfory.”

The HOUTOU or MOMOT, *Buff.*

Rampastos-Momota, Linn. Gmel. and Bor.

Momotus Brasiliensis, Lath. Ind.

Motmot & *Yayauquitotl*, Fernandez.

Motmot & *Avis Caudata*, Nieremberg.

Guiraguainumbi Brasiliensis, Johnst.

Ispide, seu *Meropis affinis*, Ray and Will.

The *Brazilian saw-billed Roller*, Edw.

The *Brazilian Motmot*, Lath. Syn.

WE retain the name *Houtou*, which has been given by the natives of Guiana, since it is expressive of the cry. Whenever the bird makes a spring, it briskly and distinctly articulates *Houtou*; the tone is deep, and resembles a man's voice: that character alone sufficiently discriminates the living bird, whether it be in the state of freedom or of domestication.

Fernandez, who first noticed the *Houtou*, has inadvertently mentioned it by two different names, and this mistake has been copied by all the nomenclators: Marcgrave is the only naturalist who has not been misled. It would seem that Fernandez was deceived by the sight of a mutilated specimen, which induced him to admit two species; for the single naked quill which he observed could not be natural, since in all birds the feathers grow constantly by pairs, just as other animals have two legs or two arms.

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THE BRASILIAN MOTMOT.

The Houtou is about the size of the magpie; it measures seventeen inches and three lines from the point of the bill to the end of the great quills of the tail; its toes are placed as in the kingfishers, the manakins, &c. But it is distinguished from these, and even from all other birds, by the form of its bill, which, though proportioned to the body, is conical and incurvated, and the edges of the two mandibles indented. This character would discriminate the Houtou; but it has another more singular one peculiar to itself; to wit, near the ends of the two long quills of the middle of the tail there is a space of about an inch, absolutely bare or shaved, so that the shaft is naked in that part. This appearance, however, belongs to the adult; for when the bird is young these quills are, like the other feathers, webbed their whole length. It has been supposed that this naked space is not a natural production, and that it is perhaps owing merely to the caprice of the bird, which plucks the feathery fibres. But it is observed that in young subjects the webs are continuous and entire, and as they grow up these become shorter by degrees, so as at last to disappear. We shall not stop to describe more particularly the plumage of this bird, for the colours are so much intermingled that it would be impossible by words to convey a distinct idea of them; they are also affected by age or sex.

They are difficult to rear, though Piso asserts the contrary; and as they feed upon insects, it is not easy to choose what will suit their taste. Those caught old cannot be bred; they are extremely shy, and refuse all sustenance. The Houtou is a wild solitary bird, never found but in the gloomy recesses of forests; it associates not in flocks, or even in pairs; it is almost continually on the ground, or among the low branches, for it never properly flies, but leaps nimbly, pronouncing smartly *hou-tou*. It is early in motion, and its cry is heard before the warble of the other birds. Piso was ill informed when he said that it builds on lofty trees; for it never constructs a nest, nor does it rise to any considerable height: it is contented with some hole of the *armadillos*, of the *cavies*, or of other small quadrupeds, which it finds on the surface of the ground; it lines this with dry herb stalks, and there lays its eggs, which are generally two in number. The Houtous are common in the interior parts of Guiana; but they seldom frequent the neighbourhood of plantations. Their flesh is hard and unpalatable food. Piso is mistaken too, in saying that they live upon fruits. As this is the third time he has been misled, it is probable that he has applied the attributes of another bird to the present, which he describes only from Marcgrave, and with which he was perhaps

perhaps unacquainted; for it is certain that the *Houtou* is the same bird with the *Guira-guainumbi* of Marcgrave, which is difficult to tame, which is unfit for eating, and which neither perches nor nestles upon trees, nor feeds on fruits.

[A] Specific character of the *Ramphastos-Momota*: "Its feet are gressory (*i. e.* the toes disposed three before and one behind)."

The HOOPOES, the PROMEROPS,
and the BEE-EATERS.

COMPARISON is the great source of knowledge. When objects have many common properties, their contrast throws mutual light; it points out the real differences which obtain, and destroys those false analogies which are apt to be formed when they are viewed separately. For this reason, I have ranged in a single article the general facts with regard to the three contiguous genera of the Hoopoes, the Promerops, and the Bee-eaters.

Our Hoopoe is well known by its beautiful double tuft, which is almost *unique* in its kind, since it resembles no other, except that of the cockatoo: its bill is long, slender, and incurvated, and its legs are short. The black and white Hoopoe of the Cape differs from ours in several particulars, and especially because its bill is shorter and more pointed, as will be found in the descriptions. But it ought to be referred to that genus, being more related to it than to any other.

The Promerops resembles the Hoopoes so much that, were we for a moment to adopt the principles of the system-makers, we should say that they are Hoopoes without the crest*. But

* *Huppés sans Huppe.*

the fact is that they are rather taller, and their tail is much longer.

The Bee-eaters resemble, in the shortness of their legs, the Hoopoe and king-fisher, more especially the latter, by the singular disposition of their toes, of which the middle one adheres to the outer as far as the third phalanx, and to the inner one as far as the first phalanx only. The bill of the Bee-eaters, which is pretty broad and strong at its base, holds a middle rank between the slender bills of the Hoopoes and Promerops on the one hand, and the long, straight, thick, and pointed bills of the king-fishers on the other; but, on the whole, it rather inclines to the former, since the Bee-eaters live upon insects like the Hoopoes and the Promerops, and not upon small fish like the king-fishers; and it is well known how much the force and conformation of the bill serve to regulate the choice of the food.

There are also some traces of analogy between the genus of the Bee-eaters and that of the king-fishers. In the first place, the beautiful beryl, which is by no means common in the European birds, decorates alike the plumage of our king-fisher and of our Bee-eater. In the second place, the greatest number of the species of Bee-eaters have their two middle quills of the tail projecting far beyond the lateral ones; and the genus of the king-fisher contains also some species in which these two middle quills project
also.

also. And in the third place, there are some species of king-fishers in which the bill is a little incurvated, which, in this respect, resembles that of the Bee-eaters.

On the other hand, how close soever the Bee-eaters and Promerops be related, nature, ever rich and unexhausted, has still separated them ; or rather she has melted them into one another by imperceptible shades. These intermediate birds incline sometimes more to the one genus, and sometimes more to the other ; I shall denominate them *Merops*.

All these different birds, which resemble each other in so many respects, are similar also in point of size. The largest species exceed not the thrushes, and the least are scarcely smaller than the sparrows and the warblers. The exceptions are few, and obtain equally in the different genera.

With regard to climate, a discrimination takes place. The Promerops inhabit Asia, Africa, and America ; and never occur in Europe : if they are natives of the old continent, they must have migrated into the new by the north of Asia. The Hoopoe is peculiar to the old world, and I may assert the same thing of the Bee-eaters, though there is a bird termed the *Cayenne Bee-eater* : for ornithologists who have frequently visited that island have never seen this bird. And with regard to the two Bee-eaters depicted by Seba, the one from Brazil and the other from
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THE COMMON HOOPOE.

Mexico, the authority of that compiler is too suspicious to have much weight; particularly as these would be the only two species of Bee-eaters that are natives of the new continent.

THE H O O P O E*.

La Huppe, Buff.

Upupa Epops, Linn. and Gmel.

Upupa, Fris. Briff. Scop. Kram. Klein, Mul. Sibb. &c.

The *Dung-bird*, *Hooper*, or *Hoopoop*, Charleton.

A RESPECTABLE ornithologist, Belon, says, that this bird has derived its name from its large beautiful tuft (*buppe*); but a little attention would have convinced him that it is really formed from the Latin *Upupa*.

This

* In Arabic, *Al Hudud Garefol*: In Egyptian, *Cucufa*: In Hebrew, *Kaath*, *Cos*, *Hakocoz*, *Ataleph*, *Racba*, *Anaba*, *Chajida*, *Dukipbat*: In Greek, *Ἐρωψ*: In Latin, *Upupa*; which name, according to Plautus and St. Jerome, was given also to girls of pleasure: In Italian, *Buba*, *Upega*, *Gallo di Paradiso*, *Galletto di Maggio*, *Puppula*, *Cristella*, *Putta*: In Spanish, *Abubilla*: In Portuguese, *Popa*: In German, *Wyd-Hopff*, *Wede-Eloppe*, *Katbaan*: In Flemish, *Hupetup*: In Brabantish, *Hucron*: In Norwegian, *Ær-fugl*: In Danish, *Her-fugl*: In Swedish, *Hær-foget*: In Scanian, *Popp*.

Varro, *Lingua Lat.* lib. IV. says, that the Latin name *Upupa* is formed from the cry of the bird, *po, po*; and a fable explains the origin of this cry. Tereus, king of Thrace, having ravished Philomela, the sister of his wife Progne, the latter, in revenge, killed her son by him, and served up the flesh at her husband's table.

Upon

This tuft, in its ordinary position, reclines backwards, both when the bird flies or feeds; in short, whenever it is free from the agitation of passion *. I had occasion to see a Hoopoe, which was caught in a net, and which was old, or at least grown up, and consequently had acquired its natural habits. Its attachment for its mistress was already strict and ardent; it seemed uneasy unless it alone enjoyed her company; if strangers happened to break in upon its domestic society, it erected its tuft, through surprise or disquietude, and fled to the top of a bed which was in the same room; sometimes it had the resolution to descend from its asylum, but then it flew directly to its mistress, who enjoyed exclusively all its regard and affection. It had two very different kinds of cries; the one soft and tender, flowing from sentiment, and directed to its mistress; the other harsh and shrill, and expressing anger or fear. It was never confined in its cage, either by day or night, but ran about the house; and, though the windows were often open, it never shewed any desire of effecting its escape. At last, happening to be scared, it disappeared suddenly; it flew but a short distance, and not being able to find its way back again, it

Upon the discovery of this horrid repast, Progne was changed into a swallow, Philomela into a nightingale, and Tereus into a Hoopoe, who, still bemoaning his loss, screams *πυ, πυ,* or *where, where;* *where, my son.*

* It is said also to seek to get near the fire, and to be fond of sleeping before the chimney.

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threw itself into a nun's cell, where the window had been left open; so necessary was human society become to its existence and comfort! It died in this retreat, where it could only be fed, and where its proper mode of treatment was unknown. Yet it lived three or four months in its first condition, its sole subsistence being a little bread and cheese. Another Hoopoe was fed for eighteen months upon raw flesh*; it was excessively fond of this, and hastened to eat it out of the hand; it rejected, on the contrary, what had been cooked. This predilection for raw flesh seems to indicate an analogy to the rapacious birds and those which live upon insects.

The ordinary food of the Hoopoe is insects in general, and especially such as grovel on the surface †, either their whole life, or during a part of it; beetles, ants ‡, worms, wild bees, and many kinds of caterpillars §, &c. Hence
this

* Gesner fed one with hard eggs: Olina with worms, or with the hearts of oxen and sheep, cut into little longish shreds, nearly like worms; but, above all, he advises not to shut it up in a cage.

† The Hoopoe seldom perches upon trees; but, when it does, it prefers ozers, willows, and probably all such as grow in wet grounds.

‡ Frisch says that it digs with its long bill into the ant-hills, to extract the eggs: and, in fact, the one fed by Gesner was very fond of the eggs or nymphs of ants, but rejected the ants themselves.

§ Salerne adds that it clears the house of mice; but this is undoubtedly by driving them away, for with a bill so slender, with
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this bird haunts wet grounds *, where its long and slender bill can easily penetrate; and hence, in Egypt, it follows the retreat of the Nile: for, in proportion as the waters subside †, the plains are left covered by a coat of slime, which, being heated by a powerful sun, quickly swarms with immense numbers of all kinds of insects ‡. Accordingly, the migratory Hoopoes are very fat and delicious. I say the migratory Hoopoes, for there are others in the same country often seen on the date trees, in the neighbourhood of Rosetta, which are never eaten: the same is the case with those which are very frequent in Grand Cairo §, where they breed with full se-

claws so weak, and with a throat so narrow, it could neither seize nor devour them, still less swallow them entire. It also eats vegetable substances, and among others, myrtle-berries and grapes. See Olinia and the ancients. I found in the gizzard of those which I dissected, besides insects and worms, sometimes grass, small seeds, and buds, sometimes round grains of an earthy matter, sometimes small stones, and sometimes nothing at all.

* It is because it runs thus in the mud that its feet are almost always bedaubed.

† Hence the appearance of the Hoopoe in Egypt announced the retreat of the waters of the Nile, and consequently the seed time: This bird is accordingly represented often in the Egyptian hieroglyphics.

‡ Among others a kind of insect peculiar to Egypt, and which resembles a wood-louse. The Nile leaves also, in its retreat, the young and spawn of frogs, which, in case of want, may supply the place of insects.

§ They are eaten in Bologna, Genoa, and in some other parts of Italy and of France. Some prefer them to quails. It is true that all our Hoopoes are birds of passage.

curity

curity on the house-tops*. It is easy, indeed, to conceive that Hoopoes which live remote from man, in forsaken plains, are better food than such as haunt the streets or the environs of a large city: the former subsist upon the insects that lodge among the clay or mud; the latter prowl among all sorts of filth, which abounds wherever vast numbers of men are collected; a circumstance which cannot fail to beget an aversion to the city Hoopoes, and even communicate an offensive odour to their flesh †. There is a third intermediate class, which settling in our gardens, live upon caterpillars and earth worms ‡. It is universally agreed that the flesh of the Hoopoe, which feeds so nastily, has no fault but that of tasting strongly of musk, which is perhaps the reason that cats, which are generally so fond of birds, will not touch it §.

In Egypt the Hoopoes gather, it is said, in

* These two last notes were communicated to me by M. de Sonnini, in two letters, dated from Cairo and Rosetta, the 4th and 5th of September, 1777.

† It is to these stationary, city Hoopoes that we must refer what Belon asserts, perhaps with too great latitude, "that their flesh is good for nothing, and that no person in any country will taste it." They were also held to be unclean by the Jews.

‡ Olina, *Uccelleria*. Albin speaks of a Hoopoe that lived in a garden in the middle of Epping Forest.

§ Several expedients are mentioned for removing this savour of musk; the most general advice is to cut the head from the bird the moment it is killed: yet the hind parts taste more of musk than the fore parts.

small

curity

small flocks, and if one happens to stray, it calls on its companions with a very shrill cry of two notes, *zi, zi**. In most other countries they appear either single, or at most in pairs. Sometimes in the season of their passage numbers are found in the same district; but these are solitary individuals, unconnected by any social tie, so that when they are hunted, one rises after another. Yet as they have all the same organization, they must be actuated by the same views; hence they direct their flight towards the same country, and follow nearly the same rout. They are scattered through almost the whole of the ancient continent, from Sweden, where they inhabit the great forests, and even from the Orkneys and Lapland †, as far as the Canaries and the Cape of Good Hope on the one hand, and the islands of Ceylon and Java ‡ on the other. They are migratory in every part of Europe, and even in the delicious climates of Greece and of Italy §: they are sometimes found at sea ||; and excellent observers † class them with those birds which pass the isle of Malta twice a year. It must, however, be confessed, that they do not constantly hold the same course; for it often happens, that though they appear numerous in a

* Note communicated by M. de Sonini.

† Schœffer. ‡ Edwards. § Belon and Pliny.

|| "On the 18th of March, while we were passing through the Canaries, a Hoopoe alighted on our vessel, and flew towards the west." *Voyage à l'Isle de France & de Bourbon, par un Officier du Roi.* Merlin, 1773, t. I.

‡ Among others, Comander *Desmazys*.

place one year, very few or none of them can be found there in the following year. In some countries too, such as England, they are very rare, and never nestle; in others, as in Bugey, they never occur at all. And since Bugey is mountainous, it follows that they are not attached to mountains, at least not to that degree which Aristotle supposed*. But this is not the only fact which contradicts the assertion of that philosopher; for the Hoopoes settle in the midst of our plains, and are frequently seen on the straggling trees which grow on sandy islands, such as those of Camargue in Provence †. Frisch says that they can creep on the bark of trees like the woodpeckers; which is perfectly consistent with analogy, since, like these birds, they nestle in the hollow trunks. In these they usually lay their eggs, and also in the holes of walls upon the mould or dust which is usually collected at the bottoms of such cavities, but do not line it with straw, as Aristotle says. Yet there are some exceptions, at least what are apparently such: of six hatches that were brought to me, four of them had no litter, but the two others had a very soft bedding composed of leaves, moss, wool, feathers ‡, &c. These seem

seeming

* Hist. Anim. Lib. I. 1.

† Note communicated by the Marquis de Piolenc.

‡ In the bottom of one of these nests was more than two litrons of moss (a litron is a measure, the 16th part of a bushel) fragments

seeming disparities may be reconciled ; for it is very probable that the Hoopoe sometimes lays her eggs in nests that were, in the preceding year, occupied by woodpeckers, wrynecks, titmice, and other birds, which had lined them according to their different instincts.

It has been long said and often repeated, that the Hoopoe besmears her nest with the excrements of the wolf, of the fox, of the horse, of the cow, and of all sorts of animals, not excepting man * ; and that she does this with the view to defend her young by the loathsome stench †. But the fact is not more true than the intention ; for the Hoopoe never plasters the mouth of its nest like the nuthatch. At the same time, the nest is indeed very dirty and offensive,

of May-flies, and some worms that had no doubt dropt from the bill of the mother or of her young. The six trees in which these nests were found were three black cherries, two oaks, and a pear-tree ; the lowest of these nests was three or four feet above the ground, the highest ten.

* See Salerne, Gerini, &c. It is pretty singular that the ancients, who regarded the Hoopoe as an inhabitant of the mountains, of the forests, and of the deserts, should impute to it the employing human excrements for its nest. This is another particular fact injudiciously generalized : the mother, in collecting the insects for her young among filth, might dirty herself, and so pollute her nest ; and superficial observers would thence conclude that this was a habit common to the whole species.

† It has also been said that her object was to dispel the charms that might be cast upon her brood ; for the Hoopoe was reckoned very skilful in this way. She knew all the plants that defeat fascinations, those which give sight to the blind, those which open
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fensive, the necessary consequence of its great depth, which is often twelve, fifteen, or even eighteen inches: the young ones cannot throw out their excrements, and therefore grovel a long time among filth*. Hence undoubtedly the proverb, "Nasty as a Hoopoe." But it is only in rearing its young that this bird can be accused of nastiness; at other times it is very cleanly. The one which I before spoke of never soiled its mistress, nor the chairs, nor even the middle of the room, but always retired to the top of the bed, which was the remotest and most concealed place.

The female lays from two to seven † eggs,

barred gates; which last is propped by a fable equally absurd. Ælian gravely relates that a man having three times in succession closed the nest of a Hoopoe, and having remarked the herb with which the bird opened it, he employed the same herb with success to charm the locks of the strongest coffers. Death even does but heighten its virtues, and give them new energy; its heart, its liver, its brain, &c. eaten, with certain magical incantations applied, suspended to different parts of the body, occasioned pleasant or frightful dreams, &c. In England, it was formerly held an unlucky bird; and even at present, the people of Sweden regard its appearance as a presage of war. The ancients had better reason, methinks, to believe that when it was heard to sing before the time when they usually began to dress the vine, it promised a good vintage: in fact, its early song would imply a mild spring and a forward season, which is ever favourable to the maturity of the vine, and to the quality of its fruit.

* When Schwenckfeld was a child, he had his fingers dirtied in taking a brood of Hoopoes out of a hollow oak.

† Linnæus and the authors of the British Zoology mention only two eggs. But this case is as rare, at least in our climates, as that of seven eggs. In the more northern countries, such as that of Sweden, the Hoopoe may be less prolific.

but more commonly four or five; these eggs are greyish, somewhat larger than those of the partridge. They do not all hatch at the same time; for three young Hoopoes, taken out of the same nest, differed very much in size; in the largest one, the quills of the tail had sprouted seventeen lines, and in the smallest only seven lines. The mother has often been seen carrying food to the nestlings, but I never heard that the father paid them that attention. As these birds hardly ever appear in knots, it is most likely that the family disperses as soon as the brood are fledged; and this is the more probable, if, as the authors of the *Italian Ornithology* assert, each pair makes two or three hatches in the course of the year, those of the first hatch might fly as early as the end of June.—These are the few facts and conjectures that I am able to offer in regard to the incubation of the Hoopoe and the education of its young.

The cry of the male is *bou, bou, bou*; it is most frequent in the spring, and may be heard at a great distance*. Those who have listened attentively to these birds, pretend to have noticed different inflections and accents, corresponding to their different circumstances: some-

* Aristophanes thus expresses the cry of these birds: *εποποιε, ποποπο, ποποε, ποποε, ιο, ιο, ιτο, ιτο, ιτο, ιτο*. I suspect he inclines to make them speak Greek. Of all the names that have been given to them, that which imitates their song the best is *bou, bou*; by which they are known in Lorraine, and in some other provinces of France. *Ποπιζειν* in Greek, from *επιψ*, signifies *to sing like a Hoopoe*.

times a hollow moaning, which foreboded rain; sometimes a shriller cry, indicating a fox in sight, &c. This character bears some analogy to the two voices of the tame Hoopoe mentioned above. That bird seemed fond of music; whenever its mistress played on the harpsichord or the mandoline, it kept as near the instruments as possible during the whole time.

It is said that this bird never drinks at springs or brooks; and that, for this reason, it is seldom caught in snares. It is true that the Hoopoe killed in Epping Forest in England shunned the numerous decoys laid for the purpose of taking it alive; but the one which I have frequently mentioned had been caught in a net, and drank, from time to time, by plunging its bill with a brisk motion, and without repeatedly lifting up its head, like many birds: it had probably a power of raising the water into its gullet by a kind of suction. The Hoopoes retain that brisk motion of the bill even at other times, when they neither eat nor drink; this habit must arise from their mode of living in the savage state; catching insects, cropping buds, boring into the mud for worms, or perhaps for earthy liquor alone, and searching ants' nests for the eggs. If they be difficult to ensnare, they are easy to shoot; for they suffer a person to come very near them*, and, though

* Those who have judged of the Hoopoe from mythology, have represented it as very shy, and as seeking the heart of forests and
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though they fly with sudden jerks and in a tortuous course, their motion is slow. They flap their wings in launching off, like the lapwing*; and when they alight on the ground they walk with an even pace, like common hens.

They leave our northern climate about the end of August, or the beginning of autumn, and never stay till the cold sets in. But though they are birds of passage in Europe, it may happen in certain cases that some remain through the winter; such, for instance, as are wounded, or sick, or too young, or in short too feeble to undertake the distant voyage. These Hoopoes, which are thus left behind, will continue to lodge in the same holes where they nestled; they will pass the winter in a half-torpid state, requiring little food, and being hardly able to repair the loss of feathers occasioned by moulting. Some hunters, discovering them in that condition, have asserted that all the Hoopoes winter in hollow trees, benumbed, and divested of plumage †, as has been said of the cuckoo, with as little foundation.

the summits of mountains, to avoid man. Sportsmen assure me that this bird will not suffer them to get quite so near it in autumn; it having then, no doubt, acquired a little more experience.

* Its resemblance, in its flight and in its crest and its size, to the lapwing, is certainly the cause why the same name Hoop has been applied to both birds.

† Albertus, and Schwenckfeld. It is for this reason, says Agricola, that they are seen in the spring almost featherless.

According

According to some, the Hoopoe was among the Egyptians esteemed an emblem of filial piety; they took care, it was said, of their aged parents, cherished them under their wings, and in case of a tedious moulting, lent them assistance in plucking the old feathers; they blew into their sore eyes, and applied healing herbs, and in a word repaid all the endearments they had received in their tender infancy. Something of this kind has been alleged of the stork. Would to God that we could give the same amiable character of all other species of animals.

The Hoopoe lives only three years, according to Olin; but this must be in the domestic state, where the term of life is abridged by improper food. It would be difficult to determine the extreme age of the free wild Hoopoe, particularly as it is a bird of passage.

As it has a great abundance of feathers, it appears thicker than in reality. It is about as large as a thrush, and it weighs from two ounces and a half to three or four, more or less, according to its plumpness*.

Its crest is longitudinal, consisting of two rows of equal and parallel feathers; those in the middle of each row are longer than the rest, so that when they are erect they form a kind of

* "With all its feathers," says Belon, "it looks like a very large pigeon, but when plucked it appears scarce bigger than a stare."

femi-circle of two inches and a half in height *. All these feathers are rufous, terminated with black; the middle ones, and those next them, have a shade of white between these two colours. There are also six or eight feathers behind, which belong to the crest, and which are entirely rufous, and are shorter than the others.

The rest of the crest, and all the fore part of the bird, are gray, verging sometimes on wine colour, and sometimes on rufous; the fore part of the back is gray, and the hind part is striped transversely with dirty white on a dark ground; there is a white spot on the rump; the superior coverts of the tail are blackish; the belly and the rest of the under side of the body are tawny white; the wings and tail are black striped with white; the ground of the feathers is slate coloured.

All these different colours, thus spread over the plumage, form together a sort of regular picture, which has a good effect when the bird erects its crest, expands its wings, and raises and displays its tail; the part of the wings next the body then shews on each side a black and white cross stripe, perpendicular to the axis of the body; the highest of these stripes has a rusty cast, and joins a horse-shoe of the same colour traced on the back, the convex part of which approaches the white spot on the rump;

* Pliny, *Lib. X.* 29.

the lowest, which hems one half of the circumference of the wing, runs into another broader bar, which crosses the same wing two inches from its tip, and parallel to the axis of the body; this last white stripe corresponds also to a crescent* of the same colour that intersects the tail at an equal distance from the end, and forms the frame of the picture: lastly, if we conceive the whole crowned by a raised tuft of gold colour edged with black, we shall have a much better idea of the plumage than could be got by describing each feather separately.

All the white bars which appear on the upper face of the wing appear also on the lower face, so that the bird has the same aspect when seen flying over head, except that the white is less tarnished or mixed with rusty.

I have seen a female, discovered to be such by dissection, which had all the same colours, and those equally distinct; perhaps it was of an advanced age. It was rather larger than the male, though the authors of the Italian Ornithology assert the contrary.

Total length about eleven inches; the bill two inches and a quarter (more or less according to the age of the bird) slightly arched; the tip of the upper mandible projects a little beyond that of the lower mandible, and they are both pretty soft; the nostrils are oblong, and

† When the tail is entirely spread, this crescent changes into a straight bar,

hardly

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hardly shaded; the tongue is very short, almost lost in the gizzard, and forming a sort of equilateral triangle, whose sides are not three lines in length; the ears are placed five lines from the opening of the bill, and in the same continuation; the tarsus is ten lines; the middle toe is joined to the outer toe by the first phalanx; the hind toe is longer and straighter, especially in old subjects; the alar extent above seventeen inches, the tail near four inches, consisting of ten equal quills (and not twelve, as Belon asserts), and projecting twenty lines beyond the wings, which have nineteen quills, the first being the shortest, and the nineteenth the longest.

The intestinal tube, from the gizzard to the anus, is twelve or eighteen inches; the gizzard is muscular, lined with a loose membrane which projects like a scabbard into the *duodenum*; the great diameter of the gizzard is from nine to fourteen lines; the smaller diameter from seven to twelve lines, and these parts are larger in the young birds than in the old ones. They have all a gall bladder, though but slight vestiges of a *cæcum*; at the angle of the bifurcation of the *trachea arteria*, there are two holes covered by a very fine membrane; the two branches of the *trachea arteria* are formed behind by a similar membrane, and before by cartilaginous semicircular rings; the elevator muscle of the crest is implanted between the crown of the head and the base of the bill; when it is drawn back, the

the tuft rises, and when drawn towards the bill it collapses.

In the female which I opened on the 5th of June, there were eggs of different sizes, the largest of which was a line in diameter [A].

VARIETIES of the HOOPOE.

THE ancients said that this bird was liable to change its colour in different seasons, which might be occasioned by moulting. But people who have reared Hoopoes have not perceived this alteration.

Belon mentions his knowing two species, though he does not assign their discriminating qualities; unless, perhaps, *the handsome collar, partly black and partly white, and the reverted neck*, which do not belong to our species, were intended to mark the distinction.

Commerson and Sonnerat have brought a Hoopoe from the Cape of Good Hope very like ours, and which the traveller Kolben had found long before in the neighbourhood of the Cape. It has, upon the whole, the same plumage, the same shape, the same cry, the same gait, and eats nearly the same food; but on a closer inspection it will be perceived that it is rather smaller, its legs

[A] Specific character of the *Upupa-Epops*: "It is variegated and crested."

longer,

longer, its bill shorter in proportion, its tuft lower, and that there is no trace of white on the feathers that form the tuft; and in general, there is less variety in its plumage.

In another subject brought from the same country, the top of the back was of a pretty deep brown, and the belly variegated with white and brown; it was certainly a young one, for it was smaller than the rest, and its bill five lines shorter.

Lastly, the Marquis Gerini saw at Florence, and again on the Alps, near the town of Ronta, a very beautiful variety, whose tuft was edged with sky-blue.

FOREIGN BIRD,

WHICH IS RELATED TO THE HOOPOE.

—

The BLACK and WHITE HOOPOE
 of the CAPE OF GOOD HOPE *.
Upupa Capensis, Gmel.*The Madagascar Hoopoe*, Lath.

THIS bird is distinguished from our Hoopoe, and its varieties, by its size; by its short and pointed bill; by its crest, of which the feathers are lower in proportion, and also loose, as in the tufted cuckoo of Madagascar; by the number of quills in its tail, of which there are twelve; by the shape of its tongue, which is pretty broad, and the extremity divided into many threads; and lastly, by the colours of its plumage. The crest, the throat, and all the under side of the body, are white, without any spots; the upper side of the body, from the crest exclusively to the end of the tail, is brown, whose shades vary, and are much less intense on the fore parts; there is a white spot on the

* The bird of Madagascar, which Flacourt names *Tivouch*, seems to have some affinity to this: its head is ornamented with a beautiful crest, and its plumage consists of two colours, black and gray; we may suppose that this is light gray.

wing;

wing; the iris is of a bluish brown; the bill, the legs, and even the nails, are yellowish.

This bird inhabits the great forests of Madagascar, of the isle of Bourbon, and of the Cape of Good Hope. In its stomach are found the seeds and berries of the *pseudo-buxus*; its weight is four ounces, but varies much, and must be more considerable in the months of June and July, at which time the bird is very fat.

Total length sixteen inches; the bill twenty lines, very pointed, the upper mandible having its edges scolloped near the tip, and its ridge very obtuse; it is longer than the lower mandible, which is as broad; on the palate, which in other respects is very smooth, there are small tuberosities, varying in number; the nostrils are like those of the ordinary Hoopoe; and so are the feet, except that the hind nail, which is the largest of all, is very hooked; the alar extent is eighteen inches; the tail four inches six lines, consisting of nearly equal quills, but the two middle ones are rather shorter; it projects about two inches and a half beyond the wings, which have eighteen quills.

[A] Specific character of the *Upupa Capensis*: "It is crested and dusky, below white; a white spot on its wings."

The P R O M E R U P E.

Upupa Paradisæ, Linn. Gmel. and Bor.*Upupa Manucolliata*, Klein.*Promerops Inaiicus Cristatus*, Briss.*Avia Paradisiaca, cristata, orientalis, rarissima*, Seba.The *Crested Promerops*, Lath.

THIS species naturally assumes a place between the Hoopoes and the Promerops, since it bears on its head a tuft of long feathers reclined, but which seem capable of being erected like those of the Hoopoe; while, on the other hand, the excessive length of its tail marks an affinity with the Promerops.

Seba says that it comes from the eastern part of our continent, and that it is very rare; its throat, its neck, its head, and its beautiful large crest, are of a fine black; its wings and its tail are of a light bay colour; its belly light cinereous; its bill and legs lead colour: and the bird is nearly as large as a stare.

Total length nineteen inches; the bill thirteen lines, a little arched, and very sharp; the tarsus about nine lines; the wings short; the tail fourteen inches and a quarter, consisting of very unequal quills, the two middle ones exceeding the lateral ones by eleven inches and the wings by thirteen.

[A] Specific character of the *Upupa Paradisæ*: "It is crested and chefnut; its two tail-quills very long."

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The BLUE-WINGED PROMEROPS.

Upupa Mexicana, Gmel.

Promerops Mexicanus, Briss.

Avis Ani Mexicana, cauda longissima, Seba.

The Mexican Promerops, Lath.

THIS Promerops is attached to lofty mountains: it feeds on caterpillars, flies, beetles, and other insects. The prevailing colour of the upper part of its body is dull gray, changing into sea-green and purplish-red; the tail is of the same colour, but of a deeper shade, and having fine gold reflections; the quills of the wings are of a light brilliant blue; the belly light yellow; the bill blackish, edged with yellow. The bird is of the size of a thrush.

Total length eighteen inches and three quarters; the bill twenty lines, somewhat arched; the tarsus eight lines and a half; the wings short; the tail twelve inches and a half, consisting of very unequal quills, the four middle ones being longer than the lateral ones; it exceeds the wings eleven inches.

The BROWN PROMEROPS with a Spotted Belly.

Upupa Promerops, Linn. and Gmel.

Merops Cifer, Linn. and Gmel.

Promerops, Briff.

The *Cape Promerops*, Lath.

THE belly is spotted with brown upon a whitish ground, and the breast spotted with brown upon an orange-brown ground; the throat is dirty white, having on each side a brown line, which rises from the opening of the bill, passes under the eye, and descends upon the neck; the crown of the head is brown, variegated with rusty gray; the rump and the superior coverts of the tail are olive green; the rest of the upper side of the body, including the quills of the tail and of the wings, are brown; the thighs are brown; the inferior coverts of the tail are of a fine yellow; the bill and legs black.

The one figured, No. 637, *Planches Enluminees*, appears to be the male, since it is more spotted, and its colours better contrasted; there is a very narrow gray stripe on the wings, formed by a succession of small spots that terminate the upper coverts. The subject described by Briffon wants this stripe, its colours are feebler, and the under side of its body is less spotted; I suppose it to be a female; it was an eighteenth

part less than the male, and was scarcely larger than a lark.

Total length of the male eighteen inches; the bill sixteen lines; the tarsus ten lines and two-thirds; the wings short; the alar extent thirteen inches; the tail thirteen inches, consisting of twelve quills, of which the six middle ones are much longer than the six lateral ones, which are tapered; it exceeds the wings eleven inches [A].

The STRIPED-BELLIED BROWN PROMEROPS.

Merops Fusca, Gmel.

The New Guinea Brown Promerops, Lath.

THIS bird was brought from New Guinea by Sonnerat. In the male the throat, the neck, and the head, are of a fine black, that on the head glossed like burnished steel; all the upper part of the body is brown, with a tinge of deep green on the neck, back, and wings; the tail is of a more uniform and lighter brown, except the last of the lateral quills, which is black on the inside; the breast and all the under side of the body are striped transversely with black and white; the iris and legs are black.

[A] Specific character of the *Upupa Promerops*: "It has six tail-quills, the middle ones very long."

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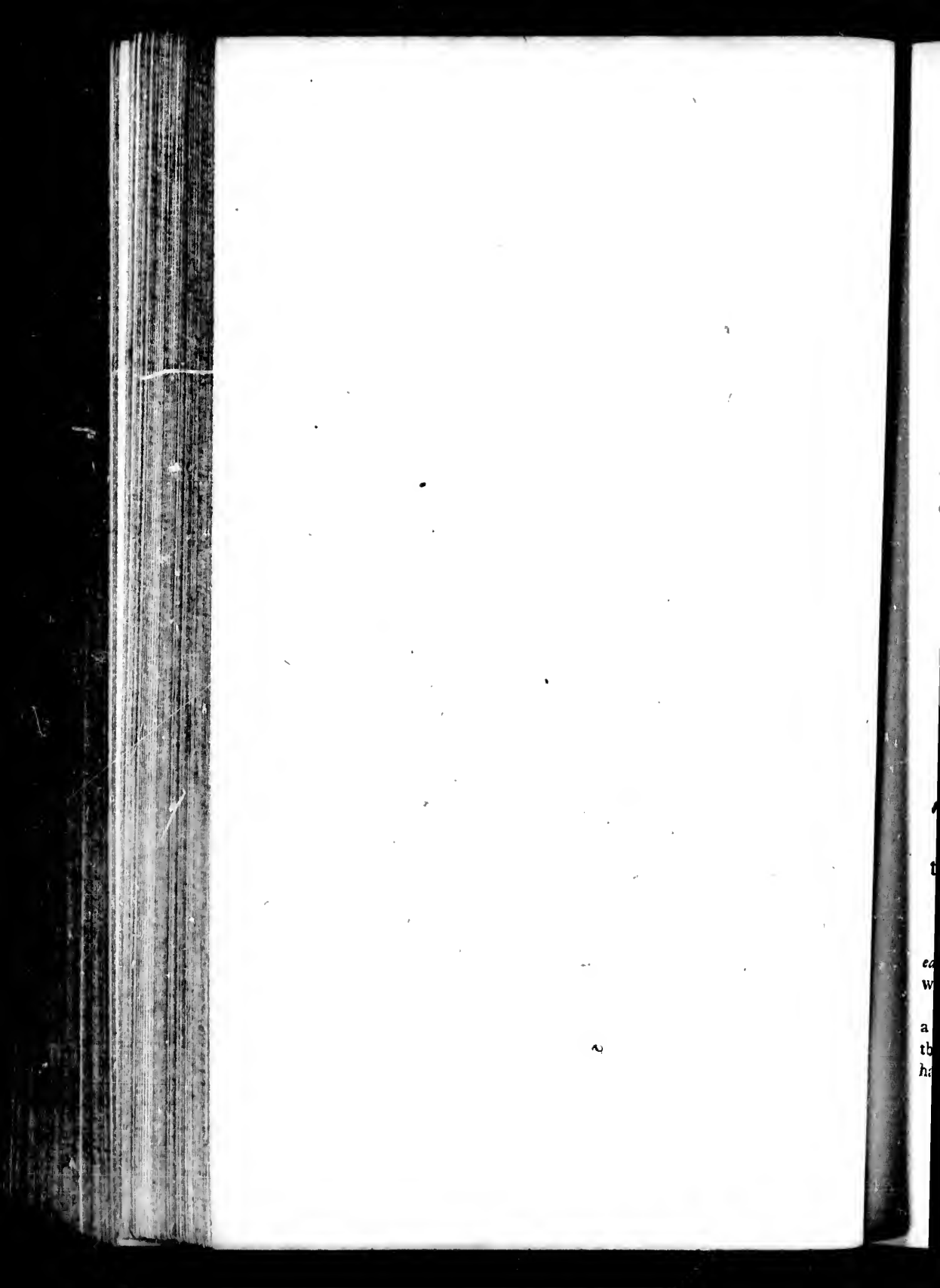
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THE RING-BELLED PROMEROPS



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I have seen one which had a rufous shade on the head. In the female, the throat, the neck, and the head, are of the same brown with the upper side of the body, and without any reflections; in every other respect it resembles the male.

Total length twenty-two inches; the bill two inches and a half, straight, round, and very much arched; the tail is thirteen inches, consisting of twelve tapered quills, very unequal, the shortest being four inches, and the longest exceeding the wings nine lines.

The GREAT PROMEROPS, with Frizled Flounces*.

Upupa Magna, Gmel.

Upupa Superba, Lath. Ind.

The *Grand Promerops* †, Lath. Syn.

THE frizled flounces which at once decorate and characterize this species †, consist of two thick tufts of frizled soft feathers, painted

* *Paremens*, i. e. Protuberant decorations in general.

† *Voyage a la Nouvelle Guinée*, p. 166. The name of *four-winged*, which has been given by voyagers to an African bird of prey, would agree very well with this Promerops.

‡ The whistler, described in a former part of this work, has also a sort of flounces, but neither their form, nor the feathers of which they consist, are the same; and those of the superb paradise bird have a contrary direction.

with the most beautiful colours, which project on either side of the body, and give the bird a distinguished figure. These bunches of plumage are composed of the long coverts of the wings, which are nine in number, that rise bending on their upper side, where the feathery fibres are very short, and display with more advantage the long fibres of the under side, which now becomes the convex side; the middle coverts of the wings, of which there are fifteen, and even some of the scapular feathers, partake of this singular arrangement, and rise into a fan-shape, their extremity ornamented with an edging of brilliant green, changing into blue and violet, which forms a kind of garland on the wings, spreading somewhat as it rises to the back.

In all the rest of the plumage the prevailing colour is glossy black, enriched with blue and violet reflections; and all the feathers, says Sonnerat, have the softness of velvet, not only to the eye, but to the touch: he adds that the body, though of a long shape, appears short and exceedingly little, compared with the great extent of its tail; the bill and legs are black. Sonnerat brought this bird from New Guinea.

Total length three feet and a half (four according to Sonnerat); the bill near three inches; the wings short; the tail twenty-six or twenty-seven inches, consisting of twelve tapered quills, which are broad and pointed, the shortest being six or seven inches, the longest exceeding the wings about twenty inches.

The ORANGE PROMEROPS.

Upupa Aurantia, Gmel.*Promerops Barbadenfis*, Briss.*Avis Paradisiaca Americana elegantissima*, Seba.

THE prevailing colour is orange, which receives different tints in different parts; a gold tint on the throat, the neck, the head, and the bill; a reddish tint on the quills of the tail and on the great quills of the wings; and lastly, a yellow tint on all the rest of the plumage; the base of the bill is surrounded with small red feathers.

Such, I conceive, to be the male of this species, which is nearly as large as the starc; I reckon the cohitotot! * of Fernandez to be the female, which is of the same size, inhabits the same country, and whose plumage differs not more from the Orange Promerops than in many species the plumage of the male differs from that of the female. The throat, the neck, the head, and the wings, are variegated, without any regularity, with cinereous and black; all the rest of the plumage is yellow; the iris is pale yellow; the bill is black, slender, arched, very pointed; and the legs are cinereous. The bird lives upon seeds and insects, and is found in the hottest

* *Upupa Aurantia*, Var. Gmel.*Promerops Mexicanus Luteus*, Briss.

parts of Mexico, where it is neither esteemed for the beauty of its song nor the delicacy of its flesh. The orange Promerops, which I suppose to be the male of the same species, occurs in the north of Guiana, in the small islands formed at the mouth of the river Berbice*.

Total length of the bird about nine inches and a half; the bill thirteen lines; the tarsus ten; the tail near four inches, consisting of equal quills, and exceeds the wings about an inch [A].

* Seba says, in *insulis Barbicenisibus*, which I think should be translated the islands of Berbice, and not the islands of Barbadoes.

[A] Specific character of the *Upupa Aurantia*: "It is fulvous; its head and neck gold-coloured; its tail equal."

The B A K E R.

Le Fournier, Buff.*Merops Rufus*, Gmel.*The Rufous Bee-eater*, Lath.

THIS is the name which Commerſon has given to this American bird, which forms the ſhade between the Promerops and the Bee-eaters. It differs from the Promerops, as its toes are longer and its tail ſhorter: it differs from the Bee-eaters, becauſe it has not, like them, its outer toe joined and as it were foldered into the middle toe almoſt its whole length. This bird is found in Buenos Ayres.

Rufous is the prevailing colour of its plumage, which is deeper on the upper parts, much lighter and verging on pale yellow on the lower parts; the quills of the wing are brown, with ſome rufous tints, more or leſs intense, on the outer edge.

Total length eight inches and a half; the bill twelve or thirteen lines; the tarſus ſixteen lines; the hind nail the ſtrongeſt; the tail rather leſs than three inches, and exceeds the wings about an inch.

[A] Specific character of the *Merops Rufus*: "It is rufous; its wing-quills brown, rufous on their outer edge."

The POLOCHION*.

Merops Moluccensis, Gmel.The *Molucca Bee-eater*, Lath. Syn.

POLOCHION is the name, and the incessant cry, of this Molucca bird; it sits on the highest branches and continually repeats it, and this word, in the language of those islands, invites to love and pleasure. I range it between the families of the Promerops and of the Bee-eaters, because it has the bill of the latter, and the feet of the former.

All its plumage is gray, but this colour is deeper on the upper parts, and lighter on the under; the cheeks black; the bill blackish; the eyes encircled by a naked skin; the back of the head variegated with white; the feathers of the tuft make a re-entrant angle on the front, and those at the origin of the neck terminate in a kind of silk. The subject which Commerçon described came from the island of Bouro, one of the Moluccas belonging to the Dutch; it weighed five ounces, and was nearly as large as the cuckoo.

Total length fourteen inches; the bill very pointed, two inches long, five lines broad at its

* This word, in the language of the Moluccas, signifies *let us kiss*; and M. Commerçon therefore proposes to call it *Philemon*, or *Philedon*, or *Deosculator*. I think it better to retain the original name, especially as it expresses the cry of the bird.

base, two lines at its middle, and seven lines thick at its base, three and a half at the middle, its edges scalloped near the point; the nostrils oval and open, invested by a membrane behind, and placed nearer to the middle of the bill than to its base; the tongue equal to the bill, terminated by a pencil of hair; the middle toe joined at its base to the outer toe; the hind one strongest; the alar extent eighteen inches; the tail five lines and two thirds, consisting of twelve quills, which are equal, except that the outer pair are rather shorter than the rest; it projects three inches beyond the wings, which consist of eighteen quills; the outer one is one half shorter than the three following, which are the longest of all [A].

The RED and BLUE MEROPS.

Merops Brasiliensis, Gmel.

Apiaster Brasiliensis, Briss.

Pica Brasiliensis amenissimis coloribus, Seba.

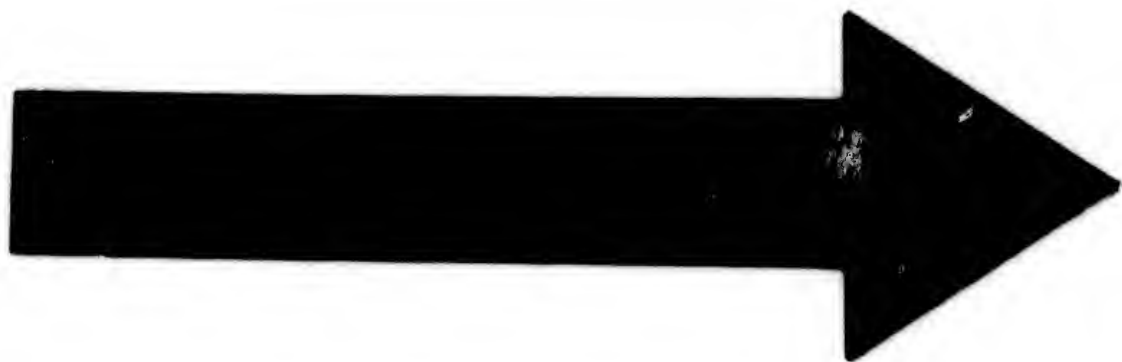
The *Brasilian Bee-eater*, Lath.

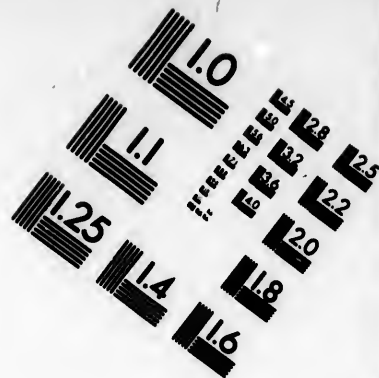
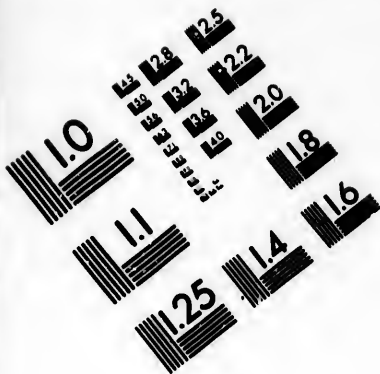
SEBA, from whom we borrow the account of this bird, seems to have been charmed with its plumage. Ruby colour sparkles on its head, on its throat, and on all the under side of the

[A] See the character of the *Merops Moluccensis*: "It is gray; its orbits naked; its cheeks black; its tail nearly equal."

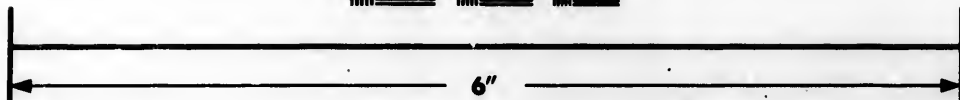
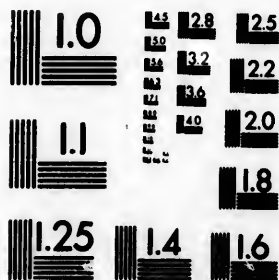
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body;





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body ; it also appears on the upper coverts of the wings, but of a deeper hue ; a light brilliant blue is spread on the quills of the wings and on those of the tail ; the lustre of these fine colours is heightened by the contrast of darker shades, and by black and white spaces scattered on the upper surface ; the bill and legs are yellow, and the wings are lined with the same colour ; the red feathers of the under side of the body are of a silky nature, as soft to the feel as they are brilliant to the eye.

This bird is a native of Brazil, if we believe Seba, who in matters of this kind can hardly ever be relied on. It is nearly as large as the Bee-eater ; its legs too are as short, but I can perceive nothing either in the description or figure that shews the toes to be placed in the same way : its bill is more analogous to that of the Promerops, for which reason I make it an intermediate species.

[A] Specific character of the *Merops Brasiliensis*: "It is fire-coloured, above variegated with brown and black ; its tail and wing-quills pale blue."

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THE COMMON BEE-EATER.

The BEE-EATER.

Le Guespier *, Buff.

Merops Apiaſter, Linn. and Gmel.

Merops, Gefner. Aldrov. Ray, &c.

Merops Galileus, Haſſelquiſt.

Apiaſter, Briſſ.

Iſpida cauda molli, Kram.

Gnat-Snapper, Kolben †.

THIS bird feeds not only upon common bees and waſps, but alſo upon humble-bees, locuſts, gnats, flies, and other inſects, which it catches like the ſwallows on the wing. Such are the prey to which it is moſt attached, and which ſerve the boys of the iſland of Candia as baits for lines to fiſh it in the air; they paſs a bent pin through the body of a living locuſt, and faſten to it a long thread; the Bee-eater flies at it, and ſwallows it with the hook. When inſects fail, it contents itſelf with ſmall ſeeds, and even wheat †; and, in collecting that

* i. e. *Waſp-eater*.

† Aristotle calls the Bee-eater *Μεροψ*, which Pliny writes in Roman characters *Merops*: it was alſo termed *Αεροψ*, *Φλωρος*, *Μελισοφαγος*, contracted for *Μελισοφαγος* (honey-eater), and in Latin *Apiaſter*, from *Apis*, a bee. In Italy it has the appellations, *Dardo*, *Dardaro*, *Barbaro*, *Gaulo*, *Jevolo*, *Lupo dell' Api* (bee-wolf): In Sicily, *Piccia Ferro* (iron-bill): In Spain, *Juruco*: In Germany, *Bienen-Freſſer* (bee-eater); *Heu-Vogel* (hay-bird); and *Gelber Bienen-Wolf* (the yellow bee-wolf): In Auſtria, *Meer-ſchwalbe* (the ſea-ſwallow): In Poland, *Zotna*, *Zotcarwa*.

‡ The only one I had occaſion to open with Dr. Remond had five

that food on the ground, it seems also to gather small pebbles like all the granivorous birds, and with the same view. Ray suspects, from many analogies, both internal and external, that the Bee-eater, as well as the king-fisher, feeds sometimes on flesh.

The Bee eaters are very common in the island of Candia, inasmuch that Belon, who was an eye-witness, says that they are seen flying in every part of it. He adds that the Greeks on the main land are unacquainted with it, which he could accurately learn from his travelling in that country; but he asserts, on too slight foundations, that they are never seen in Italy; for Aldrovandus, who was a citizen of Bologna, assures that they were common in the neighbourhood of that city, where they were usually caught both with nets and lime-twigs. Willughby saw them frequently at Rome, exposed to sale in the public markets; nor is it probable that they are strangers to the rest of Italy, since they are found in the south of France, where they are not regarded even as birds of passage*. Thence they sometimes penetrate in small flocks

five large drones in its throat: Belon found, in the stomach of those which he opened, rape, parsley, and colewort seeds, wheat, &c.

* Belon doubts whether they remain the whole winter in the isle of Candia, but he had no observation on that head. What I have said of those of Provence was communicated by the Marquis de Piolenc. I know not why Prisch says that these birds are fond of deserts.

of

of ten or twelve into the more northern provinces; and we saw one of these flocks that had arrived in the vale of Sainte-Reine in Burgundy, on the 8th of May 1776: they kept constantly together, and called incessantly on each other; their cry was very noisy but agreeable, and resembled somewhat the whistling that one might make with a bored nut*; they emitted it both when perched and when on the wing; they preferred the fruit trees which were then in blossom, and consequently frequented by the bees and wasps; they often dived from the branch to catch the little winged prey; they appeared always very timorous, and scarce suffered a person to get near them: however one was shot separate from the others, perched upon a fir; the rest of the flock, which were in a neighbouring vineyard, frightened at the report, flew away all screaming together, and took shelter among some chestnuts that were at a little distance; they continued to harbour among the vineyards, but in a few days they took their final departure.

* Belon compares it to "the sound that a man would make by contracting his mouth into a round aperture and whistling *grulgrururul* as loud as an oriole." Others pretend that it seems to say *crou, crou, crou*. The author of the poem *Philomela* represents its song as resembling much that of the gold crested wren and of the swallow.

Regulus atque Merops & rubro pectore Progne

Consimili modo zizibulare solent.

But it is well known that almost always the naturalist must in some measure modify the expressions of the poet.

Another

Another flock was seen in June 1777, in the vicinity of Anspach*. Lottinger informs me that these birds seldom appear in Lorraine, that there are never more than two together, that they sit on the longest branches of trees and shrubs, and seem to feel embarrassed, as if they had strayed. They appear still seldomer in Sweden, where they haunt the sea-coast †. But they hardly ever visit England, though not so far north as Sweden, and to which they could easily pass from Calais ‡. In the east, they are spread through the temperate zone, from India § to Bengal ||, and undoubtedly farther, though their course has not been traced.

These birds nestle, like the shore swallow and the king-fisher, in the bottom of holes, which they form with their short and strong feet and their iron bill, as the Sicilians term it, in little hillocks where the soil is loose, and sometimes in the shelving sandy brinks of large rivers †: these holes are made more than six inches deep, and as wide. The female deposits, on a bedding of moss, four or five, or even six or seven white eggs, rather smaller than those of the blackbird. But their economy in these dark caverns cannot be observed; we know only that the young fa-

* La Gazette d'Agriculture, No. 55, année 1777.

† Fauna Suecica.

‡ Charleton and Willughby.

§ M. Hæffelquist says that they occur in the woods and plains between Acre and Nazareth.

|| Edwards,

‡ Aristotle, and Kramer.

mily does not disperse; indeed several families must unite to form those numerous flocks which Belon saw in the island of Candia, settled among the ridges of the mountains, where the abundance of thyme affords rich pasture to the bees and wasps.

The flight of the Bee-eater has been compared to that of the swallow, which we have seen to resemble it in many other respects; it is also analogous to the king fisher, particularly in the beautiful colours of its plumage, and in the singular conformation of its feet; and lastly Dr. Lottinger, who is a close and accurate observer, finds that, in some particulars, it is akin to the goat-sucker.

A property which, were it well ascertained, would distinguish this bird from every other, is the habit, ascribed to it, of flying backwards. Ælian mightily admires this*; but he had better called it in question, for it is an error arising from some oversight. Such too is the filial piety that has been so liberally bestowed on birds, but most remarkably on the Bee-eater; since, if we believe Aristotle, Pliny, Ælian, and those who have copied them, the young ones do not wait till the parents need their assistance; as soon as they are flown they give a cheerful attendance, and carry provisions to their holes. It is easy to see that these are fables, but the moral at least is good.

* *De Nat. Anim. Lib. I. 49.*

The

mily

The male has small eyes, though of a vivid red, and which derive additional lustre from a black bar; the front is of a sea-green; the upper side of the head is chestnut tinged with green; the hind part of the head and of the neck is chestnut, without any admixture, but which grows continually more dilute as it approaches the back; the upper side of the body is of a pale fulvous, with green and chestnut reflections, which are more or less apparent, according to the position; the throat is of a shining gold-yellow, terminated in some subjects by a blackish collar; the fore part of the neck, the breast, and the under side of the body, are of a blue beryl, which grows lighter on the hind parts; the same colour is spread over the tail with a light rufous tinge, and on the outer edge of the wing without any admixture; it runs into green, and receives a shade of rufous on the part of the wings next the back; almost all the quills are tipped with black, their small superior coverts are tinged with dull green, the middle ones with rufous, and the great ones shaded with green and rufous: the bill is black, and the legs reddish brown (black according to Aldrovandus); the shafts of the quills of the tail are brown above and white below. Besides, all these different colours are very variable, both in their tint and their distribution; and hence the difference among descriptions.

This bird is very nearly as large as the
redwing,

redwing, its shape longer, and its back rather more convex. Belon says that nature has made it hunch-backed.

Total length ten or twelve inches; the bill twenty-two lines, broad at its base, a little arched; the tongue thin, terminated by long threads, the nostrils shaded by a sort of rusty hairs; the tarsus five or six lines, and pretty thick in proportion to its length; the outer toe adheres to the middle one almost its whole length, and to the inner one by its first phalanx only, as in the king-fisher; the hind nail is the shortest of all and the most hooked; the alar extent sixteen or seventeen inches; the tail four inches and a half, consisting of six pairs of quills, of which the five lateral ones are equal; the middle pair projects nine or ten lines beyond them, and about eighteen lines beyond the wings, which consist of twenty-four quills, according to some, and of twenty-two according to others: the one I observed contained twenty one quills.

The œsophagus three inches long, and dilates at its base into a glandulous bag; the stomach is rather membranous than muscular, and of the size of an ordinary nut; the gall bladder is large and of an emerald colour; the liver is pale yellow: there are two *cæca*, the one fifteen lines, the other sixteen and a half; the intes-

tinal tube could not be measured, being too much injured by the shot [A].

THE
YELLOW and WHITE BEE-EATER.

Merops Flavicans, Gmel.

Manucodiata Secunda Aldrovandi, Ray. and Will.

Apiaster Flavicans, Briss.

The Yellow Bee-eater, Lath.

ALDROVANDUS saw this species at Rome; it is remarkable for the length of the two middle quills of its tail, and the proportional shortness of its bill; its head is white, variegated with yellow and gold colour; its eyes yellow; its eye-brows red; its breast reddish; its neck, its belly, and the under side of its wings, are whitish; its back yellow; its rump, its tail, and its wings, are of a bright rufous; its bill is greenish-yellow, somewhat arched, two inches long; and its tongue is long, and pointed nearly like that of woodpeckers.

This bird was much larger than the ordinary Bee-eater, and its alar extent was twenty inches; the two middle quills projected eight lines beyond the lateral ones. The Signior Cavalieri, to whom it belonged, was uncertain what country it commonly inhabits.

[A] Specific character of the common Bee-eater, *Merops Apiafer*: "Its back is ferruginous, its belly and tail bluish-green, two of the tail-quills longer than the rest, its throat yellow."

The GRAY-HEADED BEE-EATER.

Merops Cinereus, Linn. Gmel. and Klein.*Apiaster Mexicanus*, Briss.*Avicula de Quaubcilui*, Seba.'The *Cinereous Bee-eater*, Lath.

PERHAPS this bird has nothing else American but the Mexican name *quaubcilui*, which Seba has been pleased to bestow upon it. It is as large as the sparrow of Europe, and is included in the genus of the Bee-eaters on account of the length and shape of its bill, the length of the two middle quills of the tail, and by the thickness and shortness of its legs. It probably resembles also in the disposition of its toes.

Its head is of a fine gray; the upper side of its body the same, variegated with red and yellow; the two long middle quills of its tail are pure red; its breast and all the under side of its body are orange yellow, and the bill is of an handsome green.

Total length nine or ten inches; the bill and tail occupy the one half of it.

[A] Specific character of the *Merops Cinereus*: "It is variegated with red and yellow, below reddish-yellow; two of its tail-quills very long and red."

THE
GRAY BEE-EATER of ETHIOPIA.

Merops Casir, Linn. and Gmel.

LINNÆUS is the only naturalist who has taken notice of this species, which he does from a drawing of Burmann. His indication, to which I can add nothing, is, that the plumage is gray; that there is a yellow spot near the anus; and that its tail is very long.

THE
CHESNUT and BLUE BEE-EATER.

Merops Badius, Gmel.

Merops Castaneus, Lath. Ind.

Apiaster ex Franciæ Insula, Briff.

The *Chestnut Bee-eater*, Lath. Syn.

CHESNUT predominates on the anterior parts of the upper side of the body, including the top of the back, and beryl on the rest of the upper side of the body, and on all the lower part, but which is much more beautiful and more conspicuous on the throat, the fore part of the neck, and the breast, than any where else; the wings are green above, fulvous below, terminated with blackish; the tail is of a pure blue; the bill black; and the legs reddish.

This

This bird is found in the Isle of France; it is hardly larger than the crested lark, but much longer.

Total length near eleven inches; the bill nineteen lines; the tarsus five and a half; the hind toe the shortest of all; the alar extent fourteen inches; the tail five inches and a half, consisting of twelve quills, of which the two middle ones project two inches and two lines beyond the lateral ones, and three inches and a half beyond the wings; these consist of twenty-four quills, of which the first is the shortest, and the third the longest.

VARIETY.

THE Chestnut and Blue Bee-eater of Senegal is a variety produced by climate. No more than these two colours are found in the whole of its plumage, but their distribution is different from that of the preceding. The chestnut is spread on the coverts and the quills of the wings, except the quills next the back, and on the quills of the tail, except the projecting part of the two middle ones, which is blackish.

This Bee-eater is found in Senegal, whence it was brought by Adanson. Its total length is about a foot, and it has nearly the same proportions as that from the Isle of France.

The P A T I R I C H .

Merops Superciliofus, Linn. and Gmel.

Apiaster Madagascariensis, Briff.

The *Supercilious Bee-eater*, Lath.

THE natives of Madagascar call this bird *Patirich tirich*, which is manifestly formed from its cry, and which I have shortened and retained. The principal colour of its plumage is dull green, changing into brilliant chestnut on the head, not so dark on the upper side of the body, growing more dilute on the hind parts, still lighter on the lower parts, and continually melting away towards the tail: the wings are terminated with blackish; the tail is dull green; the throat is yellowish white at its origin, and fine chestnut at its lower part. But what best characterizes this bird and gives it a singular aspect, is a broad blackish bar, edged round its whole circumference with greenish white; this border bends about the base of the bill and grasps the origin of the neck, assuming a yellowish tinge, as I have before said; the bill is black, and the legs are brown. This bird is found in Madagascar; it is rather larger than the chestnut and blue Bee-eater.

Total length eleven inches and one-third; the bill twenty-one lines; the tarsus five lines; the hind toe the shortest; the alar extent fifteen
teen

teen inches and two thirds; the tail five inches and a half, consisting of twelve quills; the two middle ones project more than two inches beyond the lateral ones, and two inches and three quarters beyond the wings, which consist of twenty-four quills, of which the first is very short, and the twelfth is the longest.

I have seen another Bee-eater from Madagascar, much like this in regard to the size, the colours of the plumage, and their distribution, though less contrasted; the bill was weaker, and the two middle quills of the tail exceeded not the lateral ones. It was undoubtedly a variety occasioned by age or sex; its bar was edged with beryl, and the rump and tail were of the same colour as in the subject brought home by Sonnerat; but in the latter, the two middle quills of the tail were very narrow and much longer than the lateral ones [A].

[A] Specific character of the *Meops Superciliaris*: "It is green, "a white line on its front above and below the eyes, its throat "yellowish, two of its tail quills elongated."

The GREEN BLUE-THROATED BEE-EATER.

Merops Viridis, Linn. Gmel. and Bor.

Apiaster Madagascariensis Torquatus, Briss.

The *Indian Bee-eater*, Edw. Penn. and Lath.

A LITTLE accident which happened to a bird of this species, long after it was dead, affords an instance of the mistakes which are apt to embarrass the nomenclature. It belonged to Mr. Dandridge, and was described, delineated, engraved, and coloured by two English naturalists, Edwards and Albin: a Frenchman, well skilled in ornithology, and though he had a specimen beside him, has supposed that these two figures have represented two distinct species, and has in consequence described them separately and under different denominations.

The bird of Mr. Dandridge observed by Edwards was one-third smaller than the European Bee-eater, and the two middle quills of its tail were much longer and narrower; the front was blue, there was a great spot of the same colour on the throat, included in a sort of black frame formed below by a half-collar like a reversed crescent, and above by a bar which passed over the eyes and descended on both sides of the neck, stretching towards the two extremities of the half collar; the upper surface of the head and neck was orange; the back, the small coverts, and the last quills

quills of the wings, were green, like the plumage of the parrot; the superior coverts of the tail were beryl blue; the breast and belly were light green; the thighs reddish brown; the inferior coverts of the tail dull green; the wings variegated with green and orange, and terminated with black; the tail of a fine green above and dark green below; the two middle quills exceeding the lateral ones by more than two inches, and the projecting part deep brown and very narrow; the shafts of the quills of the tail very brown, and so were the legs; the bill, black above, and whitish below, at its base.

In the subject described by Brisson, which is also delineated in the *Planches Enluminees*, there was no blue on the front, and the green of the under side of the body partook of the beryl cast; the upper side of the head and of the neck was of the same gold green as the back; in general, there was a tint of gold yellow thrown loosely on the whole of the plumage, except on the quills of the wings and the superior coverts of the tail; the black bar did not extend across the eyes, but below them. Brisson has remarked besides, that the wings were lined with fulvous, and that the shafts of the tail, which were brown above, as in Edwards' bird, were whitish beneath. Lastly, there were several quills and coverts of the wings, and many quills of the tail, edged near the end and tip with gold yellow. But it is obvious

obvious that all these minute differences are not more than might be expected in individuals of even the same species, but only diversified by age or sex; the slight variation of size may be imputed to the same causes.

The bird called by Brisson *the little Philippine Bee-eater*, is of the same size and plumage with the collared Bee-eater of Madagascar; the chief difference remarked between them is, that in the former the two middle quills of the tail, instead of being longer than the lateral ones, are, on the contrary, rather shorter. But Brisson himself suspects that these middle quills were not yet fully grown, and that in those subjects where they were complete they projected far beyond the lateral ones: this is the more probable, as these two middle quills appear, in the present case, to be different from the lateral ones, and even nearly akin to the projecting part of the middle quills in the blue-throated green Bee-eater. The other differences are these; that the bar was not black, but of a dull green, and that the legs were brown red: but still it ought to be referred to the same species. This bird is spread from the coast of Africa to the most eastern of the Asiatic islands; it is nearly as large as our sparrow.

Total length six inches and a half, (probably it would be about eight inches and three quarters, as in the blue-throated green Bee-eater, if the two middle quills had been fully grown) the
bill

bill fifteen lines; the tarsus four lines and a half; the alar extent ten inches; the ten lateral quills of the tail two inches and a half, exceeding the wings fourteen lines [A].

The GREEN and BLUE YELLOW-THROATED BEE-EATER, *Buff.*

Merops Chrysocephalus, Gmel.

The Yellow-throated Bee-eater, Lath.

THIS is a new species introduced by Sonnerat. It is distinguished from the preceding in its plumage, its proportions, and above all, in the length of the middle quills of the tail; its throat is of a fine yellow, which extends on the neck under the eyes, and even farther, and is terminated with blue in its lower part; the front, the eye-brows, and all the under part of the body, are glaucous; the quills of the wings are green, edged with glaucous from their middle; their small superior coverts are dun green, some snuff-coloured, the longest next the body are of a light yellow; the upper side of the head and neck is snuff-coloured; all the upper side of the body gold green; the superior coverts of the tail green.

[A] Specific character of the *Merops Viridis*: "It is greenish, a black stripe on its breast, its throat and tail blue, two of its tail quills elongated."

Total

Total length ten inches; the bill twenty lines; the tarsus six lines; the hind nail the shortest and most hooked; the tail four inches and a quarter, consisting of twelve quills, the ten lateral ones nearly equal to each other; the two middle ones exceed the lateral ones by seven or eight lines, and the wings by eighteen.

The LITTLE GREEN and BLUE TAPER-TAILED BEE-EATER.

Merops Angolensis, Gmel.

Apiaster Angolensis, Briff.

The *Angola Bee-eater*, Lath.

Its smallness is not the only property that distinguishes this from the preceding; it differs also in the colour of its head, in its proportions, and, above all, by the conformation of its tail, which is tapered, and of which the two middle quills do not project much. With regard to its plumage, the upper surface is gold green, the under beryl blue; the throat is yellow; the fore part of the neck, chestnut; there is, across the eyes, a zone dotted with black; the wings and tail are of the same green as the back; the iris is red; the bill black, and the legs cinereous:—These are the chief colours of this bird, which is the smallest of the Bee-eaters. It

is found in the kingdom of Angola in Africa; it is the only one of the genus that has a tapered tail.

Total length about five inches and a half; the bill nine lines; the tarsus four lines and a half; the hind toe the shortest; tail two inches and more, consisting of twelve quills; it exceeds the wings about an inch.

The AZURE-TAILED GREEN BEE-EATER, *Buff*.

Merops Philippinus, Gmel.

Apiaster Philippinensis Major, Briss.

The *Philippine Bee-eater*, Lath.

ALL the upper surface of the head and body is of a dull green colour, changing into rose copper; the wings are of the same colour, terminated with blackish, lined with light fulvous; the nineteenth and twentieth quills, marked with glaucous on the outside, and the twenty-second and twenty-third, on the inside. All the quills and coverts of the tail are of a beryl blue, which is lighter on the inferior coverts; there is a blackish bar on the eyes; the throat is yellowish, verging on green and fulvous; this last tint is more intense below; the under side of the body and the thighs are of a yellowish green changing into fulvous; the bill is black,

black, and the legs brown. This bird is found in the Philippines, and is larger than the common Bee-eater.

Total length eight inches and ten lines; the bill twenty-five lines; the angle of its aperture at a considerable distance from the eye; the tarsus five lines and a half; the hind toe the shortest; the alar extent fourteen inches and ten lines; the tail three inches and eight lines, consisting of twelve quills nearly equal, and it projects eleven lines beyond the wings, which have only twenty-four quills, the first being the shortest, and the second the longest of all [A].

THE

BLUE-HEADED RED BEE-EATER.

Merops Nubicus, Gmel.

The *Blue-headed Bee-eater*, Lath.

A FINE beryl glows on the head and on the throat, where it becomes deeper, and also on the rump and on all the coverts of the tail; the neck, and all the rest of the under side of the body, as far as the legs, are crimson, shaded with rufous; the back, the tail, and the wings, are brick colour, which is dunner on the coverts

[A] Specific character of the *Merops Philippinus*: "It is green, below yellowish, its rump blue, its tail equal."

of

of the wings; the three or four quills of the wings nearest the back are of a brown green, with bluish reflections; the great quills terminated with bluish gray, melted with red; the middle ones are of a blackish brown; the bill black, and the legs light cinereous. This is a new species found in Nubia, where it was delineated by Mr. Bruce; it is not quite so large as the European species.

Total length about ten inches; the bill twenty-one lines; the tarsus six lines; the hind toe the shortest; the tail about four inches, a little forked, and it exceeds the wings about twenty-one lines [A].

The RED and GREEN BEE-EATER of SENEGAL*.

Merops Erythropterus, Gmel.

The Red-winged Bee-eater, Lath.

THE upper surface of the head and body, including the superior coverts of the wings, and those of the tail, is dun-green, browner on the head and back, lighter on the rump and the superior coverts of the tail; there is a dark spot

[A] Specific character of the *Merops Nubicus*: "It is blue green, below red; its back, its wings, and its forked tail, brick colour."

* We owe this species to M. Adanson. The description and figure are as accurate as they could be made from the skin of the bird dried and prepared between two leaves of paper.

behind the eye; the quills of the tail and of the wings are red, terminated with black; the throat is yellow; all the under surface of the body is dirty white; the bill and legs black.

Total length about six inches; the bill one inch; the tarsus three lines and a half; the tail two inches, and it exceeds the wings about one inch [A].

The RED-HEADED BEE-EATER.

Merops Erythrocephalus, Briss.

Apiaster Indicus Erythrocephalus, Briss.

IF the name, *cardinal*, can ever be applied to any of the bee-eaters, it certainly belongs to the present; for it has a sort of hood that covers, not only the head, but also a part of the neck: it has also a black bar on the eyes; the upper side of the body is of a fine green; the throat yellow; the under side of the body light orange; the inferior coverts of the tail yellowish, edged with light green; the tail is green above, cinereous below; the iris red, the bill black, and the legs cinereous.

This bird is found in the East Indies, and is

[A] Specific character of the *Merops Erythropterus*: "It is olive, below partly whitish, its throat bright yellow; its wings and tail red, tipped with black."

nearly

nearly as large as the blue-throated green bee-eater.

Total length six inches; the bill sixteen lines; the tarsus five lines; the hind toe the shortest; the tail twenty-one lines, consisting of twelve equal quills, and exceeding the wings by ten lines [A].

The GREEN BEE-EATER with RUFOUS WINGS and TAIL.

Merops Cayanensis, Gmel.
The Cayenne Bee-eater, Lath.

THE denomination which we have bestowed on this species almost describes it: we need only to add, that the green is deeper on the upper part of the body and lighter below the throat than on any other part; that the quills of the wings are white at their origin; that their shafts as well as those of the tail quills are blackish; that the first are of a yellowish brown, and rather longer than usual in this genus of birds, and the bill black.

This Bee-eater resembles much the yellow and white-headed one in the colour of its tail and wings; but the rest of its plumage is en-

[A] Specific character of the *Merops Erythrocephalus*: "It is green, below yellowish, its head and neck red, its throat bright yellow; its wings and tail equal, and cinereous below."

tirely different. It is besides much smaller, and the two middle quills of the tail do not project.

I am assured that it is not found in Cayenne; and am the more inclined to think that this is really the case, as the genus of the bee-eaters appears to me peculiar to the ancient continent, as I have already said. But M. de la Borde, who is at present in Cayenne, will soon send me the solution of this little problem.

The ICTEROCEPHALE, or YELLOW-HEADED BEE-EATER*.

Merops Congener, Linn. and Gmel.

Apiaſter Icterocephalus, Briff.

The other Bee-eater of *Aldrovandus*, Will.

THE yellow colour of the head is only interrupted by a black bar, and extends on the throat and all the under side of the body; the back is of a fine chefnut; the rest of the upper side of the body is variegated with yellow and green; the small superior coverts of the wings are blue; the middle ones variegated with yellow and blue, and the great ones entirely yellow; the quills of the wings are black, ter-

* In German it is called *See-Schwalm*, or sea-swallow; which name is, in parts of Italy, given to the king-fisher: Nor is this surprizing, when we consider the analogy between that bird and the Bee-eaters.

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minated with red; the tail has both colours, black at its base and green at its extremity; the bill is black, and the legs yellow.

This bird is rather larger than the ordinary Bee-eater, and its bill is more hooked. It is seen very seldom near Strasburg, according to Gesner [A].

[A] Specific character of the *Merops Congener*: "It is yellowish, its rump greenish, its wing-quills tipped with red, its tail-quills yellow at the base."

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The EUROPEAN GOAT-SUCKER*.

L'Engoulevent, Buff.

Capr. mulgus Europæus, Linn. Gmel. &c. &c.

The *Night Raven*, Sibbald.

The *Dorr-hawk*, *Goat-sucking Owl*, or *Night Jarr*, Charleton.

In Shropshire, the *Fern-Owl*, and in Yorkshire, the *Churn-Owl*, Ray.

The *Night Hawk*, Edwards.

The *Nocturnal Goat-sucker*, Penn.

THE Goat-sucker feeds chiefly on nocturnal insects †. It begins to wheel only a little before

* Aristotle calls it *Αιγούθλας*, from *Αιξ*, a goat, and *θηλάω*, to milk: The name which Pliny bestows is a literal translation of this, *Caprimulgus*. Hence, too, are derived many of its designations in the modern languages: In Italian, *Succia-Capre*; in French, *Tette-Chevre*; in German, *Geiß-Melcher*, *Milch-Ziegen-Suger*, *Kinder-Melcher*; and in Norwegian, *Gede-Malcher*. As it never appears but in the twilight, this circumstance has also procured it a class of names. In Greek, *Νυκτοραξ*; in Latin, *Fur Nocturnus*; in English, *Night-Raven*; in Italian, *Notiola*; in German, *Nacht-Schade*, *Nacht-Raebin*, *Nacht-Vogel*; in Danish, *Nat-Raun*, *Nat-Ska. e*; in Swedish, *Nattkrafawa*, *Nattkiarra*. It is also called *Cova-Terra* (ground-hatcher) in Italian; *Chasse-Crapaud* (hunter-toad) in French; *Nacht-Schwalbe* (night-swallow) and *Groß-Bartige Schwalbe* (great-bearded swallow) in German.

M. de Montbeillard, author of this article, remarks with great justice, that the names ¹ *Goat-sucker*, ² *Flying-toad*, ³ *Great Black-bird*, ⁴ *Night Crow*, and ⁵ *Square-tailed Swallow*, ought to be rejected as founded on prejudice and inaccurate observation. The first of these appellations, though ancient and generally admitted,

¹ *Tette-Chevre*; ² *Crapaud Velant*; ³ *Grand Msrle*; ⁴ *Corbeau de Nuit*; ⁵ *Hirondelle a Queue Carrée*.

† Such as moths, gnats, dorrs or chaffers, beetles, may-bugs, and no doubt night-flies.

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THE GOAT SUCKER.

before sun-set *, and it never takes wing in the middle of the day, except in dark cloudy weather, or when obliged to make its escape. Its eyes are so delicate as to be dazzled and overpowered by the meridian effulgence, and they perform their office only in a weak light. But we must not suppose that it can distinguish objects and fly in total darkness; the proper time for its excursions, and indeed for those of all the other nocturnal birds, is the dusk of the evening.

The Goat-sucker needs not shut its bill to secure the winged insects; for a sort of glue oozes from the palate, which entangles them †.

The Goat-suckers are widely scattered, yet in no place are they common. They are found in almost all the countries of our continent,

is highly improbable, and contradicted by fact; for Schwenckfeld made particular enquiries in a country where numerous flocks of goats are kept in folds, but could never discover that they were sucked by any bird whatever. The other names ought equally to be rejected; it is surely not a toad, or a blackbird, or a crow, or an owl. Nor is it even a swallow, though much akin to it; for its external figure and its habits are different: its legs are short, its bill small, its throat wide; its food too, and its mode of preying, are not the same. M. de Montbeillard adopts the appellation *Eng-ulevent* (guttler), given in some provinces of France, which, though vulgar, conveys a distinct idea of the bird in its state of activity; its wings spread, its look haggard, its throat extended to its utmost width, and wheeling with a hoarse buzzing noise in pursuit of insects, which it seems to *guttle* (*engouler*) by drawing in its breath.

* Hence Aristotle calls it a lazy bird.

† Note communicated by M. Hebert.

from Sweden, and even the more northern tracts, to Greece and Africa, on the one hand; and to India, and, no doubt, still farther, on the other. Sonnerat has sent a specimen for the Royal Cabinet, from the coast of Coromandel; which is certainly either a young one or a female, since it, in no respect, differs from the common kind, except that it wants those white spots on the head and wings which Linnæus regards as the peculiar character of the adult male. The commander de Godeheu informs us, that, in the month of April, the south west wind brings these birds to Malta*; and the Chevalier Desmazis, an excellent observer, writes to me that they repass in as great plenty in autumn. They occur both in flat and in mountainous countries; in Brie, in Bugey, in Sicily †, and in Holland, and almost always under a bush, or in young copses, or about vineyards; they seem to prefer the dry stony tracts, the heaths, &c. In the cold countries they arrive later, and retire earlier ‡. They breed on their progress, as the

* See *Savans Etrangers*, t. III. 91.

† A well-informed traveller informs me, that on the mountains of Sicily these birds appear an hour before sun-set, and spread in search of food in company with the bee-eaters, and that sometimes five or six fly together.

‡ In England they appear about the end of May, and retire about the middle of August, according to the British Zoology. In France M. Hebert saw them in the month of November; and a sportsman assured me that he has met with them in winter.

situations invite *; sometimes more southerly, at other times more northerly. They are at little trouble in forming their nest; they are content with any small hole which they happen to find in the earth, or among small stones, at the foot of a tree or the bottom of a rock. The female lays two or three eggs, larger than those of the blackbird, and of a darker colour †; and though the affection of parents is in general proportioned to the care bestowed in providing for their accommodation, the Goat-sucker is not wanting in tender attentions: on the contrary, I am assured that she hatches with the greatest sollicitude, and, when she perceives the threats or keen observation of an enemy, she changes her site, pushing the eggs dexterously, it is said, with her wings, and rolling them into another hole, which, though not better fashioned, will, she imagines, afford a safer concealment.

The season when these birds appear most frequent, is autumn; they fly nearly like the woodcock, and they have the gestures of the owl. Sometimes they tease and disturb sportsmen who are on the watch. They have an odd

* The fowlers whom I have consulted affirm that they never breed in the canton of Burgundy which I inhabit (l'Auxois), and that they appear there only in the time of vintage.

† They are oblong, whitish, and spotted with brown, says M. Salerne; marbled with brown and purple on a white ground, says the Count Ginanni, in the Italian Ornithology: the latter adds, that the shell is extremely thin.

fort of habit, which is peculiar to them; they wheel an hundred times in succession round some large naked tree, with a very irregular and rapid motion; at intervals they dive briskly, as if to catch their prey, and then rise as suddenly. In such cases they are undoubtedly engaged in pursuit of the insects that flutter about the aged trunks; but it is then difficult to get within gun-shot of them, for they quickly disappear, nor can their retreat be discovered.

As the Goat-sucker flies with its bill open, and with considerable rapidity, the air continually strikes against the sides of its throat, and occasions a sort of buzzing, like the noise of a spinning-wheel: this whirring infallibly takes place whenever the bird is on the wing, but it varies according to the celerity of the flight. Hence the name of *wheel-bird*, by which it is known in some counties of England*. But is this noise generally regarded unlucky, as Belon, Klein, and others who have copied them, assert? Or is it not rather a mistake occasioned by confounding the Goat-sucker with the white owl? When it sits, it utters its true cry, which is a plaintive tone repeated three or four times in succession; but we are not quite certain whether this is ever heard while the bird is on the wing.

It seldom perches, and when it does, it is said

* Our author means Wales, where this bird is called *Aderyn y droell*, which in fact signifies *wheel-bird*. T.

not to cling across the branch, like most other birds, but to sit lengthwise, resembling the posture of the cock in *treading* (*cochant* or *chochant*) the hen; and hence the name *chaucubranche*. It is a solitary bird, and is, for the most part, single; seldom two are found together, and, even then, they are ten or twelve paces from one another.

I have said that the Goat-sucker flies like the woodcock; their plumage also is similar, for all the upper side of the neck, of the head, and of the body, and even the under side, is gaily variegated with gray and blackish, with more or less of a rusty cast on the neck, the scapular feathers, the cheeks, the throat, the belly, the coverts, and the quills of the tail and wings; but the deepest shades appear on the upper surface of the head, of the throat, of the breast, on the fore part of the wings, and on their tips: there is such variety that the ideas would be lost in the *minutiæ* of description; I shall therefore only add the characteristic properties. The lower jaw is edged with a white stripe that extends behind the head; there is a spot of the same colour on the inside of the three first quills of the wing, and at the ends of the two or three outmost quills of the tail; but these spots are peculiar to the male, according to Linnæus*: the head is large; the eyes very protuberant;

* Willughby observed an individual in which these spots were
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protuberant; the hole of the ears pretty considerable; the aperture of the throat ten times wider than that of the bill; the bill small, flat, and somewhat hooked; the tongue short, pointed, not divided at the tip; the nostrils round, and their edge projecting towards the bill; the skull transparent; the nail of the mid-toe indented, as in the heron; and lastly, the three fore toes are connected by a membrane as far as the first phalanx. It is said that the flesh of the young Goat-suckers is tolerable food, though it leaves a taste of ants.

Total length ten inches and a half; the bill fourteen lines; the tarsus seven lines, feathered almost to the sole; the middle toe nine lines; the hind toe the shortest of all, and it can be turned forwards, and often has that position; the alar extent twenty-one inches and a half; the tail five inches, square, and composed of ten quills only; it exceeds the wings fifteen lines [A].

of a pale yellow, tinged with purple, and obscurely marked: I perceived the same thing in two subjects; they are probably females, and the one, which is smaller than the other, I judge to be younger.

[A] Specific character of the common Goat-sucker, *Caprimulgus Europæus*: "It is black, variegated with cinereous, brown, ferruginous, and white; its nostrils obscurely tubulated." It is most frequent in the wooded and mountainous parts of this island.

FOREIGN BIRDS,

WHICH ARE RELATED TO THE GOAT-SUCKER.

THERE is only one species of this genus settled in the three divisions of the old continent; but ten or twelve are found in the new. We might therefore regard America as their original and chief abode, from which the European Goat-sucker has been expelled by some fortuitous event: and as the colony ought ever to be subordinate to the mother-state, the order of nature would require that the American species should precede those of Europe. This arrangement we would have followed; but a more cogent reason recommends a different plan. The order of the understanding is to proceed from what is well ascertained to what is more obscure: we therefore begin with the European birds, which are best known to us, and which will tend to illustrate those of other climates; leaving to the American philosophers to begin their natural history (and would to God that they would compose one!) with the productions of America.

The principal attributes of the Goat-suckers are these: the bill is flat at its base, the point being slightly hooked, apparently small, but having a gape wider than the head, according
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to some authors ; large protuberant eyes, like those of nocturnal birds ; and long black whiskers about the bill : the effect of the whole gives it a dull, stupid aspect, and declares it a slothful, ignoble race, allied to the martins and the nocturnal birds, and yet so nicely characteristic, that it is easy at the first sight to distinguish the Goat-sucker from every other bird : their wings and tail are long, the latter seldom forked, and then in a very slight degree, and is composed of ten quills only : their legs are short, and, for the most part, rough ; the three fore toes are connected together by a membrane as far as the first joint : the hind toe is moveable, and turns forward sometimes ; the nail of the middle toe is commonly indented on the inner edge : the tongue is pointed, and not divided at the end : the nostrils are tubulated, that is, the projecting brims form on the bill the beginning of a small cylinder : the opening of the ear is wide, and probably its hearing is very acute ; and we might even expect this to be the case in a bird which has a weak sight and hardly any smell, for, the ear being thus alone capable of intimating what passes at a distance, the bird will naturally be led to improve that organ. The properties now enumerated are not, however, found in all the species ; some there are which have no whiskers ; others that have more than ten quills in the tail ; others in which the middle nail is not indented ; in some it is indented, not

on

on the inner edge, but on the outer; in others the nostrils are not tubulated; in others the hind nail seems incapable of being turned forwards. But, what is common to all the species, their organs of sight are too delicate to support the light of day; and from this single property are derived the chief circumstances which discriminate the Goat-suckers from the swallows. Hence they appear not till sun-set in the evening, and retire in the morning a little after sun-rise; hence they live solitary, disquieted by gloomy apprehensions; hence the difference of their cry; hence, too, in my opinion, is owing their not building a nest, for the weakness of their sight does not permit them to choose and arrange, and interweave, the materials. In fact, I know not of any bird that builds during the night, and the Goat-sucker can, in our latitudes, have only three hours of twilight, which is entirely consumed in pursuing their humble fugacious prey. Of all the owls the eagle one is said alone to make a nest; and it the least deserves the appellation of nocturnal bird, since it can fly to considerable distances in broad daylight. The little owl, which hunts and catches small birds before the setting and after the rising of the sun, gathers only a few leaves, or stalks of herbs, and upon these drops the eggs in the holes of rocks or of old walls. Lastly, the long-eared, the white, the aluco, and the brown, owls, which of all the

nocturnal birds are the least capable of supporting the light of the sun, lay also in similar crevices, or in hollow trees, but without any lining, or sometimes in the nests of other birds which they find ready formed. And I might assert the same thing in general of all birds whose eye is excessively delicate.

Another consequence resulting from the too exquisite mechanism of the organ of sight, is that the Goat-suckers, like the other nocturnal birds, have no brilliant colour in their plumage, and are denied even the rich varying gloss which glistens on the sober attire of the swallow: black, and white, and gray, arising from the mixture of these, and rufous, form the whole garb of the Goat-suckers, and these are so intermingled that the general complexion is dusky and confused. They shun the light, and light is the source of all the fine colours. Linnets, kept in the cage, lose that charming red which glowed in all its beauty when in free air they imbibed the direct influence of the solar beams. It is not in the frozen tracts of Norway, or in Cimmerian shades of Lapland, that we find the birds of paradise, the cotingas, the flamingos, the humming birds, and the peacocks; those dreary neglected climates never produce the ruby, the sapphire, or the topaz. And lastly, those fowls which are forced at great expence in the hot-house, acquire but a sickly hue that cannot compare with the brilliant colours which a vernal

nal sun sheds on the spontaneous growth of the painted meadow. The night-flies, it is true, are sometimes decked with charming tints; but this apparent exception seems even to corroborate my idea: for intelligent observers* remark that those of them which flutter sometimes in the day are more gaudily attired than such as appear not until evening. I have myself perceived, that in those insect tribes which issue forth at sun-set, the colours resemble the dusky cast of the Goat-suckers; and, if among the vast number there be some with dazzling wings, we may suppose that the tints were already formed in their *larvæ*, which enjoy the enlivening influence of the sun-beams in an equal degree as those of the diurnal flies. Lastly, the chrysalids of these, which are constantly disclosed and exposed to the open air, shine for the most part with brilliant colours, and some of them appear decorated with scales of gold and of silver, which we should in vain expect to find in the chrysalids of the nocturnal flies, enveloped, as they are, with shells, or buried in the earth. I conceive, therefore, that I am warranted to infer, that if a series of observations were made upon the plumage of birds, the wings of insects, and perhaps the hair of quadrupeds†, those species

* Roefel. *Insecten belustigung*, t. I. *Vorbericht zu der nachst-voelgend ersten classe.*

† The plumage of the king-fisher is much more brilliant between the tropics than in the temperate zone, as we learn from Forster, in Captain Cook's second Voyage.

would

would be discovered to have the richest and most brilliant colours, which, other circumstances being alike, were most exposed to the action of the light.

If my conjectures have some foundation, the intelligent reader will not be surprised that different degrees of sensibility in the same organ may produce considerable differences in the natural habits of an animal and in its properties both external and internal.

I.

The CAROLINA GOAT-SUCKER.

Caprimulgus Carolinensis, Gmel. and Briss.

The *Rain Bird*, Brown.

The *Short-winged Goat-sucker*, Penn.

IF, as in all probability, Europe owes its Goat-suckers to America, this undoubtedly is the species which crossed the northern straits to found a colony in the ancient continent. It inhabits North America, and its size and plumage are similar to those of the European kind: its lower jaw is edged with white, and there is a spot of the same colour on the margin of the wing. The chief difference consists in this, that the under part of the body is variegated, not with small cross lines, but with small longitudinal

itudinal ones, and that the bill is longer. And would not the great change of climate be sufficient to produce such change in the shape and plumage of the bird?

Of the habits of this bird we learn the following particulars from Catesby: it appears in the evening, but never so frequently as in dark cloudy weather, whence it derives the appellation of *Rain-bird*; it pursues with open jaws the insects on which it feeds, and it flies with a whirring noise; lastly, it lays on the ground, and its eggs are like those of the lapwing. This account corresponds exactly with the history of the European species.

Total length eleven inches and a quarter; the bill nineteen lines, beset with black bristles; the tarsus eight lines; the middle nail indented on the inside; the three fore toes connected by a membrane which does not extend beyond the first joint; the tail is four inches, and exceeds the wings sixteen lines.

[A] Specific character of the *Caprimulgus Carolinensis*: "It is variegated above by transverse angled lines, alternately black and gray; below rufous gray, with blackish longitudinal lines; its tail gray, latticed with black." In Carolina it is usually called *Chuck*, *chuck Will's Widow*. It seems to have the same habits with the *Whip-poor-Will* of Virginia. Its egg is olive, with blackish spots.

II.

The WHIP-POOR WILL.

Caprimulgus Virginianus, Briss. and Gmel.

The *Long-winged Goat-sucker*, Penn.

The *Virginian Goat-sucker*, Lath.

THESE birds arrive in Virginia about the middle of April, particularly in the back parts of the country. There they cry the whole night in a voice so shrill and so loud, and repeated and increased to such a degree by the echoes of the mountains, that one can hardly sleep in their neighbourhood. They begin a few minutes after sun-set, and continue till dawn. They seldom appear near the coast, and still seldomer during the day. They lay two eggs of a dirty green, variegated with small spots, and small blackish streaks; the female drops them carelessly in the middle of a path, without forming any nest, without gathering moss or straw, and even without scraping the ground; and when she hatches, one may approach very near before she takes to flight.

Many believe the Whip-poor Will to be of ill omen. The savages are persuaded that the souls of such of their ancestors as were massacred by the English have passed into the bodies of these birds, and allege as a proof, their being never seen prior to the settlement of the colony. But
this

this fact shews only that the strangers introduced new species of cultivation, which invited new tribes of birds.

The upper side of the head and of all the body, as far as the superior coverts and quills of the tail inclusively, and even the middle quills of the wings, are of a deep brown, radiated transversely with a lighter brown, and sprinkled with small spots of the same colour, with a very irregular mixture of cinereous; the superior coverts of the wings are the same, only sprinkled with a few spots of light brown; the great quills of the wings are black, the five first marked with a white spot near the middle of their length, and the two outer pairs of the tail are marked similarly near the end; the circle of the eye is light brown, verging on cinereous; there is a series of orange spots, which begins at the base of the bill, passes above the eyes, and descends upon the sides of the neck; the throat is covered with a broad reversed crescent, white at the top and tinged with orange at the bottom, and whose horns point on both sides to the ears; all the rest of the lower part is white, tinged with orange, and striped across with blackish; the bill is black, and the legs flesh coloured. This Goat-sucker is a third smaller than the European, and its wings are longer in proportion.

Total length eight inches; the bill nine lines and a half, its base beset with black bristles;

the tarsus five lines; the nail of the mid-toe is indented on its inner edge; the tail three inches and a quarter, and does not project at all beyond the wings [A].

 III.

The GUIRA-QUERA.

Caprimulgus Jamaicensis, Gmel.

The *Wood Owl*, Sloane.

The *Mountain Owl*, Brown.

The *Jamaica Goatucker*, Lath.

THOUGH Brisson makes no distinction between the *guira* described by Sloane and the one described by Marcgrave, I conceive that they ought to be discriminated and regarded as at least varieties of climate: I shall state my reasons when I treat of Marcgrave's Guira. In that of Sloane the head and neck are variegated with the colour of Spanish tobacco, and with

[A] Specific character of the *Caprimulgus Virginianus*: "It is brown, variegated transversely with gray-brown, and here and there with cinereous; below it is striped transversely with reddish white; there is a triangular white spot on its chin; the space about its eyes and its neck are variegated with orange spots." It received the name of *Whip-poor-Will* on account of its note: but it really sounds *Wiperi-wip*, laying the stress on the last syllable, and sliding lightly over the second. It sits on the bushes, the fence-rails, or the steps of houses, where the insects are most abundant; it makes a spring at them as they pass, and settles again to renew its song. In the state of New York it appears in May, and retires in August.

black ;

black; the belly and the superior coverts of the tail and of the wings, variegated with whitish; the quills of the tail and of the wings variegated with deep brown and white; the lower jaw almost featherless; the head, on the contrary, is over-charged with them; the eye-balls protrude from the socket about three lines; the pupil is whitish, and the iris orange.

This bird is found in Brazil; it inhabits the woods, lives upon insects, and flies only in the night.

Total length sixteen inches; the bill two inches, and of a triangular shape; its base is three inches, somewhat hooked, and edged with long whiskers; the nostrils are placed in a pretty large groove; the throat is wide; the tarsus three lines; the alar extent thirty inches; the tail eight inches; the tongue small and triangular; the stomach whitish, slightly muscular, containing half-digested beetles; the liver red, divided into two lobes, the one on the right, and the other on the left; the intestines are rolled into many circumvolutions.

The Guira of Marcgrave has two very obvious characters which are not found in the description of Sloane, but which could not have escaped so accurate an observer. These are the gold collar and the two middle quills of the tail, which are much longer than the lateral ones: besides, it is smaller, for Marc-

grave reckons it not to exceed the lark; and it is difficult to suppose that such a bird would measure thirty inches across the wings, as Sloane states it. There are also some differences in the plumage, which conspire to show that it is a variety from climate. Its head is broad, flat, and large; its eyes large; its bill is small, with a wide aperture; its body is round; its plumage is ash-brown, variegated with yellow and whitish; it has a gold collar tinged with brown; the edges of the bill, near its base, are beset with long black whiskers; the fore toes are connected by a short membrane; the nail of the mid-toe is indented; the wings have six quills; the tail eight, including the two middle ones, which project beyond the rest.

[A] Specific character of the *Caprimulgus Jamaicensis*: "It is variegated with longitudinal ferruginous and black streaks; the space about its eyes clothed with a disk of plumules; its wings brown and spotted; its tail cinereous, variegated with black spots and dark brown stripes."

IV.

The IBIJAU.

Caprimulgus P. Lianus, Gmel.*Caprimulgus Brasiliensis Nævius*, Briff.*Caprimulgus Americanus Minor*, Ray.The *Brasilian Goat-sucker*, Lath.

THIS Brazilian bird has all the characters of the Goat-suckers: its head is broad and flat, its eyes large, its bill small, its throat wide; its legs short, the mid-toe indented on its inner edge, &c.; but what is peculiar to it, is the habit of expanding its tail from time to time. Its head and all the upper side of its body are blackish, sprinkled with small spots, mostly white, some of them tinged with yellow; the under side of its body white, variegated with black, as in the sparrow-hawk, and its legs are white.

It is nearly as large as the swallow; its tongue very small; its nostrils open; the tarsus six lines; the tail two inches, and exceeds not the wings.

VARIETIES of the IBIJAU.

I. THE LITTLE SPOTTED GOAT-SUCKER OF CAYENNE*. It bears a strong resemblance

* *Caprimulgus Cayanensis*. Gmel.The *White-necked Goat-sucker*, Lath.

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to the Ibijau in its size, in the length of its wings, and in the proportions of its other dimensions, and in the blackish cast of its plumage spotted with a lighter colour; these spots are rufous or gray, except on the neck, whose fore part has a sort of white collar, not mentioned by Maregrave in his description of the Ibijau, and which chiefly distinguishes this variety; the under side of the body is also darker.

Total length eight inches; the bill fifteen lines, black, beset with small bristles; the tail two inches and a half.

II. THE GREAT IBIJAU *. The difference of bulk is very considerable, it being as large as an owl, and its bill so wide as to admit the hand; in other respects the colours and proportions are the same as in the little Ibijau. Maregrave does not inform us whether it also spreads its tail; nor does he mention that there is a horn on the fore part of the head and behind it a small tuft, as his figure seems to represent. But it is well known that Maregrave's figures are inaccurate, and that more reliance ought to be had on the text.

With this species we should also range the great Goat-sucker of Cayenne, both on account of its bulk, and of its plumage, which is spotted with black, with fulvous and with white,

* *Caprimulgus Grandis*, Gmel.

Caprimulgus Brasiliensis Major Naevius, Briss.

The Grand Goat-sucker, Lath.

principally

principally on the back, the wings, and the tail; the upper side of the head and of the neck, and the under side of the body, are striped transversely with different shades of the same colours; but the general cast of the breast is browner, and forms a sort of cincture. M. de Sonni saw one whose plumage was darker, and which had been found in the hollow of an exceeding large tree; this is its ordinary abode, but it prefers those trees which grow near water. It is at once the largest of the Goat-suckers known in Cayenne, and the most solitary.

Total length twenty-one inches; the bill three inches long, and as broad, the upper mandible has a deep scalloping on both sides near the point, the lower mandible fits into these scallops, and its edges are reflected outwards; the nostrils are flat and shaded by the feathers of the base of the bill, which grow forwards; the tarsus is eleven lines, feathered almost to the toes; the nails are hooked, hollowed below by a furrow, which is parted into two by a longitudinal ridge; the mid-toe is not indented, but is very large, and appears even more so on account of a membranous ledge on each side; the tail nine inches, a little tapered; the wings project some lines beyond it.

Briff.

principally

The SPECTACLE GOAT-SUCKER, or the HALEUR.

Caprimulgus Americanus, Linn. Gmel. and Bor.

Caprimulgus Jamaicensis, Briss. and Ray.

Hirundo Jamaicaensis, Klein.

The Screech-Owl, Brown.

The Small Wood-Owl, Sloane.

The American Goat-sucker, Lath.

THE protuberant nostrils of this bird have some resemblance to a pair of spectacles, and hence its name of *Spectacle Goat-sucker* (*Enjoulevent à Lunettes*): that of *Haleur* evidently alludes to its cry.

This Goat-sucker lives upon insects, like all the others; and, in its internal conformation, it resembles the *guira* of Sloane, with which it consorts: it inhabits both Jamaica and Guiana; its plumage is variegated with gray, with black, and with the colour of withered leaves; its bill is black; its legs brown; and there is abundance of feathers in the head and under the throat.

The length, according to Sloane, is seven inches; the bill is small but wide; the upper mandible somewhat hooked, three lines long (reckoning, no doubt, from the root of the feathers on the front) edged with black whiskers;

ers; the tarsus, together with the foot, eighteen lines; the alar extent ten inches [A].

VI.

The VARIEGATED GOAT-SUCKER
of CAYENNE.

Caprimulgus Cayannensis, Gmel.
The White-necked Goat-sucker, Lath.

ALL the birds of this genus are variegated, but this is more so than the rest; it is the most common in Cayenne; it frequents the plantations, the roads, and other cleared parts. When on the ground it utters a feeble cry, attended constantly with a shivering of the wings, and resembling the croaking of the toad: It has also another cry like the barking of a dog. It is not shy, and when scared, it never flies to any great distance.

The head is delicately striped with black on a gray ground, with some shades of rufous; the upper side of the neck is striped with the same colours, but not so nicely: on each side of the head are five parallel bars, striped with black on a rufous ground; the throat is white, and

[A] Specific character of the *Caprimulgus Americanus*: "Its nostrils are tubulated and projecting."

also

also the fore part of the neck; the back is striped across with blackish on a rufous ground; the breast and belly are striped also, but less regularly, and sprinkled with a few white spots; the lower belly and the thighs are whitish, spotted with black; the small and middle coverts of the wings are variegated with rufous and black, so that rufous predominates on the small ones, and black on the middle ones; the great ones are terminated with white, which forms a cross bar of that colour; the quills of the wings are black; the five first marked with white two thirds or three fourths of their length; the superior coverts and the two middle quills of the tail are striped across with blackish on a gray ground, clouded with black; the lateral quills edged with white; and this edging is broader as the quill is more exterior; the iris is yellow, the bill black, and the legs yellowish-brown.

Total length about seven inches and a half; the bill ten lines, beset with bristles; the tarsus five lines; the tail three inches and a half, and projecting about an inch beyond the wings.

VII.

THE

SHARP-TAILED GOAT-SUCKER.

*L'Engoulevent Acutipenne de la Guyana, Buff.**Caprimulgus Acutus, Gmel.*

THIS bird differs from the preceding not only in its dimensions, but in the shape of its tail feathers, which are pointed. It is distinguished also by the colours of its plumage. The upper surface of the head and neck is striped transversely, but not delicately, with tawny brown and black; the sides of the head are variegated with the same colours, only rufous predominates; the back is striped with black on a gray ground, and the under surface of the body on a rufous ground; the wings are nearly as in the preceding species; the quills of the tail are striped across with brown on a pale cloudy rufous, terminated with black, but a little white precedes this black tip; the bill and legs are black.

It is said that these birds sometimes associate with the bats; which is not very extraordinary, since they leave their retreats at the same hours, and pursue the same prey. Probably these are the same with the small species mentioned by M. de la Borde, which nestle like the wood pigeons,

pigeons, the turtles, &c. in October and November, that is, two or three months before the rainy season, which begins about the fifteenth of December, and during which most of the birds breed.

Total length about seven inches and a half; the tail three inches, consisting of ten equal quills, and projecting a few lines beyond the wings.

VIII.

The GRAY GOAT-SUCKER.

Caprimulgus Griseus, Gmel.

I SAW in Manduit's cabinet a Goat-sucker from Cayenne much larger than the preceding; it had more gray in its plumage, and its proportions were somewhat different, and the quills of the tail were not pointed. The quills of the wings were not so black as in the preceding species, and were striped across with gray; those of the tail were striped with brown on a gray ground variegated with brown, without any white spots; the bill was brown above, and yellowish below.

Total length thirteen inches; the bill twenty lines; the tail five lines and a quarter, and projecting a little beyond the wings.

IX.

The MONTVOYAU of GUIANA:

Caprimulgus Guianensis, Gmel.

The Guiana Goat-sucker, Lath.

MONTVOYAU is the cry of this bird, which pronounces distinctly the three syllables, and repeats them very often in the evening among the bushes. Like the European Goat-sucker, it has a white spot on each of the five first quills of the wing, of which the ground is black, and another white spot or bar which rises from the corner of the bill, and stretches forwards, but extends also under the neck, in which circumstance it differs; and besides it has in general more of the fulvous and rusty colours in its plumage, which is almost wholly variegated with these two colours; yet these assume different shades and modifications in different parts; cross stripes on the lower region of the body, and the middle quills of the wings; longitudinal stripes on the upper side of the head and neck; oblique stripes on the top of the back; and lastly, there are irregular spots on the rest of the upper side of the body, where the fulvous assumes a gray cast.

Total length nine inches; the bill nine lines and a half, beset with bristles; the tarsus naked; middle nail indented on its outside, the tail three inches, exceeding the wings one inch.

X.

The RUFIOUS GOAT-SUCKER of
CAYENNE.*Caprimulgus Rufus*, Gmel.

RUFIOUS clouded with blackish forms almost all the ground of the plumage; and black variously intense constitutes its whole ornament: it is disposed in longitudinal, oblique, irregular bars, on the head and the upper side of the body; it makes a fine irregular transverse striping on the throat, a little broader on the fore part of the neck, the under side of the body, and of the legs; then a little broader on the superior coverts and on the inner edge of the wing near its extremity; lastly, broadest of all on the quills of the tail. Some spots are scattered here and there on the body, both above and below. In general, blackish predominates on the top of the belly; rufous on the lower belly, and still more on the inferior coverts of the tail; the middle part of the great quills of the wings presents small squares alternately rufous and black, checkered almost as regularly as spots on a chess board; the iris is yellow, the bill light brown, and the legs flesh coloured.

Total length ten inches and a half; the bill twenty-one lines; the tail four inches and two thirds, exceeding the wings six lines.

I have seen at M. Mauduits' a Goatfucker, from Louisiana, of the same size with this, and very similar, only the cross stripes had more intervening spaces, and the rufous was lighter, which formed a kind of collar; the rest of the under side of the body was striped as in the preceding; the bill black at the point, and yellowish at the base.

Total length eleven inches; the bill two inches, edged with eight or ten stiff bristles, bending forward; the tail five inches, and projecting a very little beyond the wings.

The S W A L L O W S*.

WE have seen that the goat-fuckers may be reckoned night Swallows, and that the only essential difference between them and the real Swallows consists in the excessive delicacy of their eyes, and its influence on their structure and habits. In both tribes of birds the bill is small, and the throat wide; the legs short, and the wings long; the head flat, and the neck scarce visible; and both live upon insects which they catch in the air. But, 1. The Swallows have no bristles about the bill; the nail of the mid-toe is not indented; their tail contains two more quills, and, in most of the species, it is forked; and they are in general smaller than the goat-fuckers.

2. Though the colours are nearly the same

* In Hebrew, *Agur, Sus, Chauraf, Thartaf, Chatas, Chataf*: in Greek, the Swallow is denominated *Χελιδων*, derived perhaps from *χειλος, the cheek*, and *διδω, to whirl*, alluding to their rapid flutter, and the continual motion of their bill. It had the epithets *καλιδων, chatterer*; *ολοθυγων, meaner*; *αυνοπιερη, swift-winged*. The Latin, *Hirundo*, was first written *helundo*, and evidently borrowed from *χελιδων*. In Italian it is termed *Rondina, Rondinella, Cesila*: In Spanish, *Golondrina, Andorinba*: In German, *Schwalbe*: In Swifs, *Schwalbm*: In Flemish, *Swaluwe*: In Swedish, *Swala*: In Polish, *Jaskotka*. The English word *Swallow* perhaps comes from the verb, but more probably from the German *Schwalbe*, which is softened in the parent Saxon into *Swale*. The French *Hirondelle* is evidently formed from the Latin *Hirundo*.

in both, consisting of black, of brown, of gray, of white, and of rufous, they are disposed in large spots on the Swallows, and better contrasted; and the plumage has a bright varying gloss.

3. The goat-suckers entangle the night-flies with the viscous saliva that trickles within their mouth; but the Swallows, and also the martins, snare the winged insects, and the sudden closing of their bill occasions a sort of crackling noise.

4. The Swallows are more social than the goat-suckers; they often gather in numerous flocks; and in certain circumstances they lend mutual assistance, as in building their nests.

5. In this construction they generally display much attention and art; and if a few species lay in the holes of walls, or in such as they form in the ground, they choose excavations of a sufficient depth to afford protection for their young, and they provide whatever will contribute to convenience, warmth, and ease.

6. The manner in which the Swallows fly differs in two principal points from that of the goat-suckers. It is not attended with that whirring noise which I have before mentioned, because the bill is not kept open: and though their wings seem not better calculated for motion, they wheel with much greater boldness, celerity, and continuance; because the distinctness of their vision permits them to exert all

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their force. They live habitually in the air, and perform their various functions in that element. The flight of the swallow is perhaps less rapid than that of the falcon, but it is easier and more unrestrained; the one darts forward with vigour, the other glides smoothly through the air: she shoots in every direction to survey, as it were, her aerial domain; and her shrill slender notes express the cheerfulness of her condition: sometimes she pursues the fluttering insects, and nimbly follows their devious winding tracks, or leaves one to hunt another, and snaps a third as it passes: sometimes she escapes the impetuosity of the bird of prey by the quick flexures of her course. She can always command her swiftest motion, and in an instant change its direction; and she describes lines so mutable, so varied, so interwoven, and so confused, that they can hardly be pictured by words.

7. The Swallows seem not to be peculiar to either continent, and as many species nearly are diffused through the old as through the new. They are found in Norway and in Japan*, on the coasts of Egypt and those of Guinea, and at the Cape of Good Hope†. What country is inaccessible to their easy swift course? But seldom they remain the whole year in the same climate; those of Europe continue only during

* Kæmpfer.

† Villaut and Kolben.

the summer months, appearing at the vernal equinox, and retiring at the autumnal. Aristotle, who wrote in Greece, and Pliny, who copied him in Italy, assert that the Swallows pass into the milder climates to winter, when these are not very distant; but that, in other cases, they seek a lodgment in the warm sheltered dales. Aristotle adds that many of them have been found thus concealed with not a single feather on their body*. This opinion, countenanced by the authority of great names, and supported by facts, became popular, insomuch that even poets drew their comparisons from it †. Several modern observations seemed to confirm it ‡; and, with some modifications, it might have been brought to the truth. But a bishop of Upsal, *Olaus Magnus*, and a Jesuit, named *Kircher*, amplifying the assertion of Aristotle, already too general, have asserted that, in the northern countries, the fishermen often find in their nets heaps of Swallows grouped together and close entangled with each other, bill to bill, feet to feet,

* Arist. *Hist. Anim.* Lib. VIII. 12 and 16. Plin. *Hist. Nat.* Lib. X. 24.

† *Vel qualis gelidis, pluma labente, pruinis
Arboris immoritur trunco brumalis hirundo.*

CLAUD.

‡ Albertus, Augustinus Nyphus, Gaspar Heldelin, and some others, aver that they frequently found during winter, in Germany, Swallows torpid in hollow trees, and even in their nests, which is not absolutely impossible.

and wings to wings; that when these birds are carried to stoves they quickly recover from their torpor, but die soon after; and that none survive the renovation of their vital powers, except such as gently feel the growing warmth of the season, and, rising slowly from the bottom of the lakes, are, with all the successive gradations, restored by nature to their true element. This assertion has been repeated, embellished, and loaded with more extraordinary circumstances; and, as if it were not sufficiently marvellous, some have added that, about the beginning of autumn, these birds plunge in crowds into the wells and cisterns*. I must confess, that many authors and other persons, respectable by their character or rank, have believed in this phenomenon. Linnæus himself has given a sort of sanction to it by his authority; only he restricts it to the chimney Swallow and the common martin, but does not impute it to the sand martin, which was more natural. On the other hand, the number of naturalists who reject the opinion is fully as great †; and their proofs seem to be much more cogent. I know that it is sometimes imprudent to judge of a particular fact by what are called the general laws of nature; because these, being found-

* *P. Ant. Tolentinus.*

† Marfigli, Ray, Willughby, Catesby, Collinson, Wager, Edwards, Reaumur, Adanson, Frisch, Tetsdorf, Lottinger, Vallisneri, the authors of the Italian Ornithology, &c.

ed on observation, are true only so far as they comprehend all the facts; but the submerſion of Swallows appears by no means aſcertained; and I ſhall here ſtate my reaſons.

Moſt of thoſe who atteſt this marvellous tale*, particularly Hevelius and Schœffer, who were appointed by the Royal Society of London to examine and weigh the proofs, adduce nothing but vague reports †, and a ſuſpicious tradition, to which the work of Olaus Magnus might have given origin. Even thoſe who aſſert their having ſeen the phænomenon, as Etmuller, Wallerius, and ſome others ‡, only repeat the words of the biſhop of Uplâl, without joining any circumſtantial remarks which give probability to a relation.

If it were true that all the Swallows which

* Schœffer, Hevelius, Aldrovandus, Neander and Bartius, Gerard, Schwenckfeld, Rzaczynſki, Derham, Klein, Regnard, Ellis, Linnæus, &c. We might enlarge the liſt, but the number of partisans in reality weakens the opinion which they maintain; ſince among ſo many obſervers not one can produce a ſingle circumſtantial and authentic fact.

† See *Philoſophical Tranſactions*, No. 10, and judge if the Royal Society ever verified the fact, as aſſerted by the journaliſts of *Tre-voux*, the *Abbe Pluche*, and ſome others.

‡ Chambers cites Dr. Colas, who ſays that he ſaw ſixteen ſwallows taken out of the lake Sameroth, thirty taken out of the Royal Pool at Roſineilen, and two others at Schledelten, the moment they came out of the water: he adds that they were very wet and feeble, and that he had obſerved that theſe birds are uſually very weak on their firſt appearance. But this is contrary to daily obſervation; beſides Dr. Colas mentions neither the ſpecies, nor the date, nor the circumſtances, &c.

inhabit a country plunge into the water or mud annually in October, and rise from their subaqueous bed in the following April, there must have been frequent opportunities of observing them, either in the instant of their immersion, or, what is much more curious, in the moment of their emersion, or during their long repose at the bottom of the pool. These would have been notorious facts, confirmed by the united testimony of persons of all conditions, by fishermen, hunters, farmers, travellers, shepherds, mariners, &c. No one doubts that the marmots, the dormice, and the hedge-hogs, sleep benumbed during the winter in their holes; no one doubts that the bats pass that cold season in the same torpid state, clinging to the roofs of subterraneous caves, and muffled in their wings. But it is hard to believe that Swallows can live six months without breathing, and all that time under water. Their emersion has never been observed*, though, if it were true, it must happen frequently in the season when the pools are fished. The account is suspected even on the shores of the Baltic: Dr. Halmann, a Russian, and M. Brown, a Norwegian, who were at Florence, assured the authors of the *Italian Ornithology* that, in their northern climates, the Swallows appeared and retired at the same times

* I know that Heerkens, in his poem entitled *Hirundo*, has described in Latin verses this emersion; but at present we have nothing to do with poetical descriptions.

as in Italy, and that their pretended submerſion under water was a fable current only among the vulgar.

M. Teſdorf of Lubec, a man who joins much philoſophy to extenſive and various information, has written to the Count de Buffon, that, notwithstanding forty years attention to the ſubject, he could never ſee a ſingle Swallow drawn out of the water.

M. Klein, who has been at ſuch pains in ſupporting the opinion of immerſion and emerſion of Swallows, confeſſes that he was never fortunate enough to catch them in the fact *.

M. Hermann, a learned profeſſor of natural hiſtory at Straſburgh, and who ſeems even to lean to Klein's idea, owns to me in his letters, that he was never gratified with a ſight of the ſuppoſed phænomenon.

Two other obſervers of the moſt undoubted authority, M. Hebert and the Viſcount Querhoent, aſſure me that they knew the ſubmerſion of Swallows only from hearſay, and could never verify it by their own obſervations.

Dr. Lottinger, who has much ſtudied the economy of birds, and who does not always coincide with me in opinion, regards this ſubmerſion as an incredible paradox.

In Germany, a reward of an equal weight of

* In Nivernois, Morvand, Lorraine, and many other provinces where pools abound, the people have no idea of the immerſion of the Swallows.

ſilver

silver was offered publicly to whoever should produce Swallows found under water; yet no person ever claimed the prize*.

Many persons of learning or rank †, who believed in this strange phænomenon, and wished to persuade others, offered to exhibit clusters of Swallows fished up in winter, but never fulfilled their promise.

Klein produces certificates; but almost all of them are signed by a single person, and refer only to one occurrence, which happened long prior, and either founded upon mere report, or seen when the observer was a child. They seem to be fervilely copied from the text of Olaus, and want those little minute incidents which mark an original relation; and this uncertainty alone is sufficient to overturn the assertion ‡.

But it is not enough that we invalidate the proofs on which this paradox rests, we must shew that they are inconsistent with the known laws of animal economy. When any quadruped or bird has once breathed, and the *foramen ovale*, which in the *fœtus* formed the communication between the two ventricles of the heart, is shut, respiration becomes ever after necessary

* Frisch.

† A Grand Marshal of Poland and an Ambassador of Sardinia had promised them to M. de Reaumur; the Governor of R. and many others had promised them to M. de Buffon.

‡ The periodical publications have also recorded observations favourable to the hypothesis of Klein; but the least examination of them will convince us that they are incomplete and indecisive.

to the continuance of life. Swallows kept under water, with all the due precautions, die in a few minutes*, and even when shut up in an ice-house †, do not survive many days; how then could they live six months at the bottom of a lake? I know that in some animals this may be possible; but shall we, as Klein has done, compare the Swallows to insects ‡, to frogs, or to fishes, which have their internal structure so different? Shall we infer that, if marmots, dormice, hedge-hogs, and bats, continue, as we have just said, torpid in winter, the Swallows will also in a similar state outlive the rigours of the seasons? But not to mention, that these quadrupeds can be supported by re-absorption of the superabundant fat with which they are provided in the autumn, and which is wanting to the Swallows; not to mention the low temperature of their bodies, as observed by the Count de Buffon, in which respect they differ from the Swallow §; not to mention, that they

* See the Italian Ornithology, t. III. p. 6. The authors assert positively that all the Swallows which they plunged into water, even at the time of their disappearance, expired in a few minutes; and though these recent drowned Swallows might have been recovered, yet if they had lain some days, and still more, several weeks or months, they would have been totally past recovery.

† This experiment was made by the Count de Buffon.

‡ Caterpillars die in water after a certain time, as M. de Reaumur proved; and the same is probably the case with other insects that have *tracheæ*.

§ Dr. Martin found the heat of birds, and particularly that of

they often perish in their holes when the rigours of the season are of uncommon duration, and that the hedge-hogs are also torpid in Senegal, where the winter is hotter than our finest summers, but where the Swallows are perpetually active* : I shall only observe, that these quadrupeds are in air, and not under water ; that they can still breathe, though numbed ; and that the circulation of the blood and of other fluids, though more sluggish than usual, goes on in the same manner. Nay, according to the observations of Vallisnieri, these functions are performed in frogs, which sleep through the winter in the bottom of marshes. But circulation is effected by a different mechanism in amphibious animals from that in quadrupeds or in birds †. In these, respiration is essential to life.

There

of Swallows, to exceed two or three degrees that of the warmest quadrupeds. See his *Essay on Thermometers*.

* Consult *Atanfon's Voyage to Senegal*.

† The circulation of the blood in quadrupeds and in birds is nothing but the perpetual motion of that fluid, determined by the systole (or contraction) of the heart, to pass from its right ventricle, through the pulmonary artery, into the left ventricle ; to pass from this ventricle, which has also its systole, through the trunk of the *aorta* and its branches, into all the rest of the body ; to return by the branches of their veins into their common trunk, which is the *vena cava* ; and finally into the right auricle of the heart, where it again begins to repeat its round. From this mechanism it follows that, in quadrupeds and in birds, respiration is necessary to open for the blood the passage through the breast, and consequently is necessary to circulation ; whereas in the amphibious animals, as the heart has only a single ventricle, or several ventricles which, communicating

There is a well-known experiment of Dr. Hook's: having strangled a dog, and having made incisions in the ribs, in the diaphragm, in the pericardium, and in the top of the wind-pipe, he renewed or stopped, as often as he pleased, the vital action, by blowing into the lungs or closing the passage. It is impossible, therefore, that Swallows or storks, for they also have been ranked among the diver-birds*, could live six months under water without any communication with the external air; the more so, as this seems to be necessary even for fishes and frogs, which is evinced by several experiments that I have lately made.

Of ten frogs, which were found beneath the ice on the second of February, I put three of the liveliest into three glass vessels full of water, where they could move freely, but not rise to the surface; though a part of this even was

communicating with each other, perform the function of one, the lungs afford not a passage to the whole mass of blood, but only receive a quantity sufficient for their nourishment; and by consequence their motion, which is that of respiration, is much less necessary to that of circulation. This inference is confirmed by experiment: a tortoise, which had the trunk of its pulmonary artery tied, lived, and its blood continued to circulate for the space of four days, though its lungs were open and cut in several places. See *Animaux de Perrault, part II. p. 196.*

* See Schwenckfeld, *Aviarius Silesiæ*, p. 181. Klein, *Ordo Avium*, pp. 217, 226, 288, & 229. St. Cyprian, *contra Bodinum*, p. 1459. Luther, *Comment. ad Genes. cap. I.* But Hasselquist, when in the neighbourhood of Smyrna, saw about the beginning of March the storks pass in their way to the north.

immediately

immediately in contact with the external air. Three others were thrown, at the same time, each into an earthen pot half-filled with water, and permitted to breathe at the surface; and the four remaining ones were placed together at the bottom of a large open empty vessel.

I had previously noticed their respiration, both in air and in water, and found it to be very irregular *. When suffered to swim about at will, they often rose to the surface, and even protruded their nostrils: I could then perceive a vibratory motion in the throat corresponding nearly to the alternate dilatation and contraction of the nostrils. As soon as they plunged again into the water, both motions suddenly ceased. If hastily forced to descend, they shewed a manifest uneasiness, and allowed a number of air-bubbles to escape. The vessel was filled with water to the brim, and covered by a weight of twelve ounces; yet the frog, to get air, pushed off the cover. The three frogs which were kept under water constantly struggled hard to gain the surface, and they all died, the one in twenty-four hours, and the others in the course of two days †. But of the seven others, five escaped,

* "Frogs, tortoises, and salamanders, sometimes swell themselves suddenly, and remain in that state . . . a full quarter of an hour: sometimes they suddenly make an entire expiration, and remain very long in that state." *Animaux de Perrault, part II. p. 272.*

† It is proper to remark that frogs are very vivacious, that they
can

escaped, and the remaining two, which had been allowed both air and water, are male and female, and, at present (22d April, 1779) more lively than ever; since the sixth the female has layed about one thousand three hundred eggs.

The same experiments were made with equal attention on nine small fishes of seven different species, viz. the gudgeon*, the bleak†, the barbel‡, the minow§, the bull-head||, the dog-fish‡, and another known by the name of *bouziere* in Burgundy. Eight of the first six species having been held under water died in less than twenty-four hours**; but those which were kept in similar bottles, and permitted to rise to the surface, lived, and retained their usual vivacity. The *bouziere* indeed lived longer under water than the rest, and I found that the

can endure a month's abstinence, and that they show motion and life several hours after their heart and bowels are detached from their body. See Collection Academique. *Hist. Nat. t. I. p. 320.*

* *Cyprinus-Gobio*, Linn.

† *Cyprinus Alburnus*.

‡ *Cyprinus Barbus*.

§ *Cyprinus-Phoxinus*.

|| *Cottus Gobio*.

‡ *Squalus-Canicula*.

** The bleak died in three hours, the two little barbels in six hours and a half, one of the gudgeons in seven hours, the other in twelve hours, the minow in seven hours and a half, the bull-head in fifteen hours, the dog-fish in twenty-three hours, and the *bouziere* in near four days. The same fishes, kept in air, die in this order: the bleaks in thirty-five or forty-four minutes, the *bouziere* in forty-four, the dog-fish in fifty or fifty-two, the barbels in fifty or sixty, one of the minows in two hours and forty-eight minutes, the other in three hours, one of the gudgeons in an hour and forty-nine minutes, the other in six hours and twenty-two minutes. The biggest of these fish did not measure twenty lines from the eye to the tail.

one

one which was not confined appeared seldom at the surface; and it is probable that these fishes reside more constantly than the others at the bottom of brooks, which implies some difference of structure *. However, it often tried to reach the surface, and, on the second day, it seemed uneasy and oppressed, its respiration grew laborious, and its scales pale and whitish †.

But it will appear more extraordinary, that of two carps ‡ equal in size, the one, which was kept constantly under water, lived a third shorter time than the other, which was not put into water, though in its flouncing it had fallen from a chimney-piece four feet to the ground §. And in two other experiments compared together and made on larger barbels than employed before, those kept in the air lived longer, and

* This fish was smaller than a little bleak; it had seven fins, the scales on the upper side of the body yellowish, edged with brown, and those of the under side resembling mother of pearl.

† Such is the general appearance of fishes dying under water; but it is greatly inferior to those singular changes of colour exhibited at the death of a fish, known formerly to the Romans by the name of *Mullus* (mullet), whose hues afforded entertainment to the gluttons of those days (*proceres gula*). See Pliny, *Hist. Nat. Lib. IX.* 17, and Seneca, *Quæst. Nat. Lib. III.* 18. [Nothing can be more beautiful than the successive changing tints that appear on the surface of the expiring dolphin, and the gradual progress of the final livid hue, from the extremities to the head; a spectacle which I have frequently witnessed. T.]

‡ *Cyprinus-Carpio*, Linn.

§ The first lived eighteen hours under water, the second twenty-seven hours in the air.

some

some twice as long as those confined under water*.

It may be objected, that, as frogs are found beneath ice, they may subsist a considerable time without air. But it is well known that, when water freezes, the air usually contained in it is disengaged, and gathers below the superficial crust; so that the frogs may still inhale the vital breath.

If, therefore, the foregoing experiments evince that frogs and fish cannot exist without air, and if the experience of all ages and nations proves that, at certain intervals, at least, every amphi-

* Of the two barbels that were left to die out of the water in a room without a fire, the thermometer being seven degrees above nought (about 48° of Fahrenheit), the one was a foot long, weighed thirty-three ounces, and lived eight hours; the other measured a little more than nine inches and a half, weighed seventeen ounces, and lived four hours and seventeen minutes: whereas the two fishes of the same species lived under water, the one only three hours and forty-six minutes, and the other but three hours and a quarter. But such was not the case with the dog-fish, for the largest, which was five inches and nine lines long, lived only three hours in the air; and the other, which was four inches nine lines, lived three hours and three quarters under water. During the course of these observations, I thought that I could perceive the agony of the fish marked by the cessation of the regular motion of the gills and by a periodical convulsion in these organs, which returned twice or thrice in a quarter of an hour: the large barbel had thirteen of these in seventy-seven minutes, and the last seemed to denote the instant of its death. In one of the small ones, the final moment was marked by a convulsion of the ventral fins; but, in most of them, that, of all the external and regular motions, which lasted longest, was the motion of the lower jaw.

bious animal* whatever requires respiration; how could Swallows, those daughters of the air, which seem destined to circle in that subtle fluid, live six months without breathing?

An animal which has been suffocated by drowning, may frequently indeed be recovered by stimulating the lungs, and applying gentle warmth †; but the experiment never succeeds unless the immersion is recent. And such instances are not at all analogous to the supposed resuscitation of Swallows from the bottoms of lakes. Their appearance or disappearance has no relation to the quality of the season; they leave us in autumn, when the weather is generally warmer than in spring, the period of their return. In the memorable year 1740 ‡, the Swallows made their appearance during the severe frosts, and many perished for want of

* Beavers, tortoises, salamanders, lizards, crocodiles, hippopotamuses, whales, as well as frogs, rise often out of the water in order to respire. Even shell-fish, which are, of all, the most aquatic, seem to require air, and mount from time to time to the surface, as in the pool-muscle. See Mery in the Memoirs of the Academy of Sciences for 1710.

† I have thought it proper to insert this sentence, and omit the long detail which M. de Montbeillard gives of his recovering, by the simple application of heat, a Swallow that had fallen into a basin of water and was taken out stiff and apparently dead. The methods used in this country for the recovery of drowned persons are well known: warmth, gentle motion, and friction; the application of stimulants to the nostrils, the inflation of the lungs, &c. T.

‡ Coll. Acad. part. etran. t. XI. Acad. of Stock. p. 51.

food;

food; and in the mild, and even warm, spring of 1774, they arrived no earlier than usual.

The opinion that Swallows pass the winter under water seems to have originated in this way: among the number which flock together at night among the rushes and aquatic plants, on their arrival and previous to their retreat, some may have been drowned by accident*; and the fishermen, finding them in their nets, would carry them to a stove, and thus restore them to life. And a passage in Aristotle induced the learned to ascribe this submersion to those of the northern countries only †, as if the distance of four or five hundred leagues would prove any bar to birds which can fly through the space of two hundred leagues in a day, and which, by advancing farther south, may always find a milder temperature, and a more abundant provision of their insect food. That philosopher indeed believed that the Swallows and some other birds lay hid during the winter; but his assertion was too general. There are instances, however, of chimney-swallows, sand-martins, &c. being seen in mild winters: two sand-martins were observed to circle about the castle of Mayac, in Perigord, the whole of the 27th of December, 1775, when there was a southerly wind, attended with light rain: I

* In summer they are sometimes found drowned in the meers.

† Hist. Anim. *Lib. VIII.* 12 & 16.

have a certificate signed by many respectable names to attest this fact. These had, no doubt, been detained by late hatching, or were young birds unable to perform the migration, but fortunate enough to obtain a convenient retreat, a warm season *, and the proper food. Some such occurrences, which are probably more frequent in Greece than in the north of Europe, might dispose Aristotle to think that all the species of Swallows remained concealed and dormant, during the winter months. Klein asserts, in fact, that the sand-martins lie torpid in their holes †; and these are often seen in the winter at Malta, and even in France. M. de Buffon conjectured that the sand-martins are less affected by cold than the other Swallows, since they haunt the brooks and rivers; and that, as they are probably of a colder temperament, and construct their holes like those animals which sleep during the winter, they also undergo the

* In this year, 1775, the autumn was fine and not cold in that part of Burgundy where I live, which is two degrees more northerly than Perigueux. Of ninety-five days till the 27th of December, there were only twenty-seven in which the sun did not shine: the thermometer never sunk more than five or six degrees below nought ($20^{\circ}\frac{3}{4}$ or $18^{\circ}\frac{1}{2}$ Fahrenheit), and was often five or six above that point ($43^{\circ}\frac{1}{4}$ or $45^{\circ}\frac{1}{2}$ F.), even at the end of December: on the 27th, at sun-rise, it was three degrees above. ($38^{\circ}\frac{3}{4}$ F.)

† To these are added, the swifts, the rails, the nightingales, the warblers; and M. Klein would wish to join many others. Were his system realized, the earth could not furnish caverns enow, nor the rocks holes. And the more general this hiding be supposed, the more would it be notorious. *See Ordo Avium, passim.*

same state of inaction. Besides, they may find insects in the ground at all seasons, and can therefore subsist when other Swallows must inevitably perish. Instances of this kind may happen; but we must not infer that in winter they generally lodge thus concealed. Collinson directed, in England, a bank which was quite bored by these birds to be carefully dug, in the month of October 1757, and yet not one could be found.

If, therefore, Swallows (I might say the same of all the birds of passage) can never obtain under water an asylum congruous to their nature, we must return to the most ancient opinion, and the most consonant to observation and experience. When the proper insects begin to fail, these birds remove into milder climates, which still afford that prey, so necessary to their subsistence*. This is the general and directing cause of migrations: those which live upon winged insects are the first to retire, because their provisions are soonest deficient: those which feed upon the *larvæ* of ants and other crawling insects, find a more lasting supply, and are later in disappearing. Those birds, again, which eat berries, small seeds, and fruits that ripen in autumn, and hang on the trees the whole winter, do not arrive until autumn, and settle among us the greatest part of the winter.

* Swammerdam.

Those which consume the same provisions with man, and live upon his superfluities, reside constantly in our vicinity. Lastly, when a new species of culture is introduced into a country, it in the end occasions new migrations. Thus after barley, rice, and wheat, were begun to be cultivated in Carolina, the colonists were surprised to see, regularly every year, numerous flocks of birds arrive, with which they were totally unacquainted, and hence denominated them *rice-birds*, *wheat-birds* *, &c. It is not unusual in the American seas to behold immense troops of birds collected to prey on those prodigious swarms of winged insects which sometimes darken the air †. In all cases, it would appear, that neither the climate nor the season, but the necessity of procuring subsistence ‡, directs the birds to migrate from one country to another, to traverse the ocean, or to fix their permanent residence.

There is another cause also, which influences the migrations of birds, or at least prompts them to return to their natal abode. Like all other

* Philosophical Transactions, No. 483, art. 35.

† Second Voyage of Columbus.

‡ It is probable that the migrations of fishes, and even those of quadrupeds, are subject to the same law, or rather to a law still more general, which tends to the preservation of each species and of each individual: for instance, I should suppose that the flying-fish would never have employed their gills to fly, if they had not been pursued by the bonitos, the dorados, and other voracious fish; and perhaps the passage of birds of prey, which takes place in September, has some influence on the departure of the Swallows.

sentient

sentient beings, they cherish a partial tenderness to the place that gave them birth; there they felt their faculties first expand; there they tasted the fresh pleasures of the morning of life: necessity compelled them to leave with regret the delicious spot; but its image still dwells in their bosom, and incessantly awakens the ardent craving to return and to renew the felicity of their infant days*. But, not to enter into a general discussion on the subject, it appears that our Swallows retire in the month of October to the southern countries; since they are observed about that time to leave Europe, and in a few days are found in Africa, and have even more than once been met with in their passage on the ocean. I know, says Peter Martyr, that the Swallows, the kites, &c. migrate from Europe on the approach of winter, and spend that season on the coasts of Egypt. Father Kircher, that advocate for the submersion of Swallows, but who confined it to the northern climates, affirms, from the accounts of the inhabitants of the Morea, that great numbers of Swallows pass annually with the storks, from Egypt and Lybia, into Europe †. Adanson tells us that

* In that part of Lybia where the Nile has its source, the Swallows and the kites are stationary, and remain the whole year. *Herodotus, Lib. II.* The same thing is said of some districts of Ethiopia. There may be migratory and stationary Swallows in the same country, as at the Cape of Good Hope.

† See the *Mundus Subterraneus* of this Jesuit. These two last facts confirm

that the Chimney-swallows arrive at Senegal about the ninth of October, and retire again in the spring; and that, on the 6th of October, when he was fifty leagues off the coast, between the island of Goree and Senegal, there alighted on his vessel four birds, which he found to be real European Swallows; and he adds that they were fatigued, and suffered themselves to be caught. In 1765, nearly in the same season, the Company's ship, *Penthièvre*, was over-spread, between the coast of Africa and the Cape de Verd islands, by a flight of white rumped Swallows (martins), which probably came from Europe*. Leguat, who was on the same seas on the 12th of November, also observed four Swallows which followed his vessel seven days, as far as Cape Verd. We may remark that this is precisely the time when bees swarm profusely in Senegal, and when the gnats called *maringouins* are most troublesome: in fact, this is the end of the rainy season, when humidity and warmth at once favour the multiplication of insects, especially such as the *maringouins*, which hover about wet places †. Christopher

confirm my notion, that, even in warm countries, there is a season for the generation of insects, of those at least which support the Swallows.

* Note communicated by the Viscount de Querhoent.

† Consult *Voyage au Senegal*, par M. Adanson, pp. 36, 82, 139, 141, 157. I see also that clouds of grasshoppers spread over these countries in the month of February (*ib.* p. 88). Is the generation of insects there fixed to a particular season?

Columbus,

Columbus, in his second voyage, saw one near his vessels on the 24th of December, though ten days before he discovered St. Domingo*. Other navigators have met with them between the Canaries and the Cape of Good Hope†. In the kingdom of Iffini, according to the missionary Loyer, multitudes of Swallows arrived from other countries in October and the following months‡. Edwards assures us that the Swallows leave England in autumn, and that the Chimney-swallow kind are found in Bengal§. Swallows are seen the whole year at the Cape of Good Hope, says Kolben, but they are more numerous in winter; which shews that some are there permanent settlers and others migratory, for it cannot well be said that they sleep under water or lurk in holes during summer. The Swallows of Canada, Father Charlevoix tells us, are birds of passage as well as those of Europe. Those of Jamaica, according to Dr. Stubbs, leave the island in the winter months,

* Herrera, *Lib. II. 1.*

† Voyage aux Iles de France & de Bourbon. *Merlin, 1773.*

‡ Hist. Gen. des Voyages, *t. III. p. 422.*

§ Other observers, who have examined more particularly, affirm, that the Swallows leave England about the 29th of September; that their general rendezvous is held on the coasts of Suffolk, between Orford and Yarmouth; that they alight on the roofs of churches, on old walls, &c.; that they remain several days when the wind is not fair for crossing the sea; that if the wind changes during the night, they all disappear at once, and not one can be found next morning.

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though ever so warm *. Every body knows the singular and happy experiment of Frisch, who fastened a dyed thread to the feet of some of these birds, and saw them the following year with this thread not in the least discoloured; a sufficient proof that these individuals, at least, did not winter under water, and a strong presumption that none of the species ever do. We may expect that when Asia and certain parts of Africa are better known, we shall discover the different stations not only of the Swallows, but of most of the birds which the inhabitants of the islands in the Mediterranean perceive every year advancing or retiring. They cannot undertake their distant voyages unless they be assisted by a favourable breeze; and when they are surpris'd, in the middle of their course, by contrary winds, they become exhausted with fatigue, and alight on the first vessel they meet with, as several navigators have witnessed in the season of migration †. They may sometimes chance to fall into the sea and perish in the waves; and then, if seasonably fished out and properly taken care

* Philosophical Transactions, No. 36.

† Admiral Wager thus writes Mr. Collinson: "Returning home in the spring of the year, as I came into soundings in our channel, a great flock of Swallows came and settled on all my rigging; every rope was covered; they hung on one another like a swarm of bees; the decks and carving were filled with them. They seem'd almost famished and spent, and were only feathers and bones; but being recruited with a night's rest, took their flight in the morning." The same thing happened to Mr. Wright, master of a ship, on his return from Philadelphia,

of,

of, they may be revived. But it is evident that such accidents cannot happen in lakes or narrow seas. In most countries the Swallows are held the friends of men, and very justly, since they destroy vast numbers of pernicious insects. The goat-suckers are entitled to the same regard; but themselves and their benefits are concealed and neglected in evening shades.

My first idea was to separate the martins from the Swallows, and to imitate nature, which has separated them by implanting reciprocal antipathies. They are never seen associated together, though the three species of Swallows join sometimes in the same flock. The martins are distinguished too by their shape, their habits, and their dispositions. 1. By their shape: their legs are shorter, and entirely unfit for walking or for rising on the wing from smooth ground; besides, their four toes are turned forward, and each of them has only two phalanges, including the nail. 2. By their habits: they arrive later and retire earlier, though they seem to shun more the heat; they breed in the crevices of old walls, and as high as they can get; they build no nest, but line the hole well with coarse litter, in which respect they resemble the bank-swallows (sand-martins); when they go a-foraging, they fill their craw with winged insects of all kinds, so that they need to feed their young only twice or thrice in the day. 3. By their

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their dispositions: they are more shy and timid than the Swallows; the inflections of their voice are less varied, and their instinct seems more confined.

Such obvious differences, therefore, subsisting between these birds, I should not hesitate to discriminate them; but there are many foreign species, which it would be difficult to refer each to its proper class. It will be more prudent, then, not to attempt the division, but to arrange them as their exterior conformation most readily suggests.

Nor shall we distinguish the Swallows of the old and of the new world, because they exactly resemble each other, and because the ocean can prove no barrier to birds that fly so swiftly, and can equally endure every climate.

The CHIMNEY, or DOMESTIC SWALLOW *.

Hirundo Rustica, Linn. Gmel. Klein. &c. &c.

Hirundo Domestica, Rav. Will. and Briss. †

THE instinct of this bird is really domestic; it prefers the society of man; it nestles on our chimney-tops, and even within our houses, especially when these are quiet and still. If the houses be too close and the vents covered above, as they are in Mantua and in mountainous countries, on account of the great falls of snow and rain, it changes its lodgment, without losing its attachment, and it finds a retreat in the roofs. But it never strays far from the dwellings of men; and the weary forlorn traveller is rejoiced

* In Swedish, *Ladu-Swala*, or Barn-swallow.

† Aldrovandus supposes that the *Ανοπαια* of Homer, *Odyss.* I. 320, which the commentators have been so much puzzled to interpret, is the common swallow. The lines in which the word occurs, are these:

Ἡ μὲν αἶψ' ὡς εἰπέσ' ἀπίθῃ γλαυκῶπις Ἀθῆναι,
ὄρνις δ' ὡς ἀνοπαια διέπτετο.

Eustathius supposes that *ανοπαια* is a species of eagle, and Mr. Pope prudently alters the expression:

“Abrupt, with eagle-speed she cut the sky;
“Instant invisible to mortal eye.”

It is the *Ποικιλή Χελιδὼν* (variegated swallow) of Aristophanes; the *Δαυλιδὴς ὄρνις* (Daulian bird) of Plutarch; the *Aredula* of Cicero; the *vaga volucris* of Ovid.

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to see the harbinger of safety. We shall soon find that the swift is more roving in its excursions.

The common Swallow is the first that appears in our climates, and generally a little after the equinox of spring; but rather earlier in the southern countries, and later in the northern. And yet though the month of February and the beginning of March be unusually mild, or the end of March and the beginning of April uncommonly cold, they hardly ever arrive in any place before their ordinary time *, and sometimes they glide through the thick flakes of descending snow. In 1740, the swallows suffered extremely; they gathered in great numbers about a brook which skirted a terrace then belonging to Mr. Hebert, where every minute some fell dead †, and the water was covered with their dead bodies: nor was excessive cold the cause of their death; it was evidently the want of food, and those picked up were reduced to mere skeletons; the walls of the terrace were their last

* Pliny, *Lib. XVIII. 26*, says that Cæsar mentions swallows seen on the eighth of the Calends of March (22 February); but this is a single fact, and perhaps the birds were Sand-Martins.

† "In 1767, they were found extended and lifeless on the brink of the pools and rivers of Lorraine." *Note communicated by M. Lottinger.* These facts render very suspicious at least the presentiment of temperatures which a pastor of Nordland and some others have thought proper to ascribe to the swallows. See *Collec. Acad. Part Etran. T. XI. Acad. Stock. p. 51.*

refort,

resort, and they greedily devoured the dried flies that hung from the old spiders webs.

A bird, which announces the return of the smiling season, and which is innocent and even useful, might be treated with gratitude; and by the bulk of mankind, it is venerated with a degree of affection bordering upon superstition*. Yet is the swallow often the subject of cruel sport; and the expert marksman is eager to display his skill in shooting it on the wing: and what is singular, the firing of the piece rather attracts than scares these harmless creatures; this war is worse than ridiculous, and the various insect tribes which prey in our gardens, in our fields, and in our forests, are thus suffered to extend their ravages †.

The experiment of Frisch ‡ and other similar ones, prove that swallows return to the same haunts. They build annually a new nest, and fix it, if the spot admits, above that occupied the preceding year. I have found them in the shaft of a chimney thus ranged in tires; counted

* The Swallows have been said to be under the immediate protection of the *Dii Penates*: When ill used, they bit the cows' udders, it was alleged, and made them lose their milk. These were useful illusions.

† See Journal de Paris, *annee* 1777. It is true that they sometimes also destroy useful insects, such as bees; but they can always be prevented from building their nests near the hives.

‡ In a castle near Epinal in Lorraine, a few years ago, a ring of brass wire was fastened to the foot of one of these Swallows, which it faithfully brought back on the following season. Heercken in his poem, *Hirunde*, cites another fact of this kind.

four one above another; and all of equal size, plastered with mud mixed with straw and hair. There were some of two different sizes and shapes: the largest resembled a hollow half cylinder*, open above, and a foot in height, and attached to the sides of the chimney; the smallest were stuck in the corners of the chimney, and formed only the quarter of a cylinder, or even an inverted cone. The first nest, which was the lowest, had the same texture at the bottom as at the sides; but the two upper tiers were separated from the lower by their lining only, which consisted of straw, dry herbs, and feathers. Of the small nests built in the corners, I could find only two in tiers, and I suppose they belonged to young pairs; they were not so well compacted as the large ones.

In this species, as in many others, it is the male that sings the amorous ditty †: but the female is not entirely mute; in the love-season she twitters more fluently, she warmly receives his caresses, and sometimes, by her sportive frisks, she rouses and stimulates his passion. They have two hatches in the year, the first

* Frisch says, that the bird gives to its nest this circular or rather semicircular form, by making its foot the centre.

† The Greeks express this note by these words, *ψιθυγιζεν*, *Τιττιβιζεν*, and the Latins by these other names, *Drinsare*, or *Trinsare*, *Zinzilulare*, *Fritinnire*, *Minurifare*. M. Frisch tells us, that, of all the swallows, the domestic one has a cry nearest resembling a song, though it consists only of three tones, terminated by a *finale*, which rises to a fourth, and it is little varied.

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containing five eggs, the second three: these are white according to Willughby, and spotted according to Klein and Aldrovandus: what I saw were white. While the female sits, the male spends the night on the brim of the nest; he sleeps little, for his twittering is heard at the earliest dawn, and he circles till almost the close of the evening. After the young are hatched, both parents perpetually carry food, and are at great pains to keep the nest clean, till the brood learn to save them that trouble. But it is pleasing to see them teaching their family to fly, encouraging them with their voice, presenting food at a little distance, and retiring as the young ones stretch forward; pressing them gently from the nest, fluttering before them, and offering, in the most expressive tone, to receive and assist them. Boerhaave tells us that a Swallow returning with provision to its nest, and, finding the house on fire, rushed through the flames to feed and protect her tender brood. How strong the attachment to their progeny!

It has been said that when their young had their eyes sunken or even torn out, the mothers cured them by the application of the herb *chelidonia* *, or swallow-wort †, deriving its

* From *Χελιδών*, a swallow. The common English name *celandine*, seems to be only softened from *chelidonia*. The plant is ranged by Linnæus next the poppy. T.

† *Ut quidam volunt, etiam erutis oculis.* Pliny, *Hist. Nat. Lib. XXV. 8.* Dioscorides says nearly the same thing, *Lib. II. 211.* Ælian restricts it to the white Swallows, *Lib. XVII. 20.*

name from that imaginary quality. But the experiments of Redi and De la Hire prove, that no simples are needed, and that, in the infant brood, the eyes, though burst and sunken, soon spontaneously recover *. Aristotle knew this fact †, Celsus repeats it ‡, and the observations of Redi and De la Hire, and some others §, incontestibly prove it.

Besides the different inflections of voice which I have already noticed, the common swallows have their cry of invitation, their cry of pleasure, their cry of fear, their cry of anger, that by which the mother warns her young of the dangers which threaten, and many other expressions compounded of these; a proof of their great susceptibility of the internal sentiments.

Since the winged insects fly higher or lower according to the greater or less degree of heat, the Swallows sometimes, in the pursuit of their prey, skim along the surface, and gather it on the stems of herbs, on the grass, and even on the pavement of streets. When the scarcity is great, they ravish the flies from the spider's web, and even devour the spiders themselves ||.

* Redi made his experiments on pigeons, hens, geese, ducks, and turkies. See Coll. Acad. Part Etran. T. IV. p. 544. also T. II. Part. Fran. p. 75.

† Hist. Anim. Lib. II. 17, and Lib. VI. 5, and De Generatione, Lib. IV. 6. Aristotle says the same thing of serpents.

‡ Lib. VI. De Re Medica.

§ For instance, Dr. J. Sigismond Elsholtius. Coll. Acad. Part. Etran. T. III. p. 324.

|| Frisch.

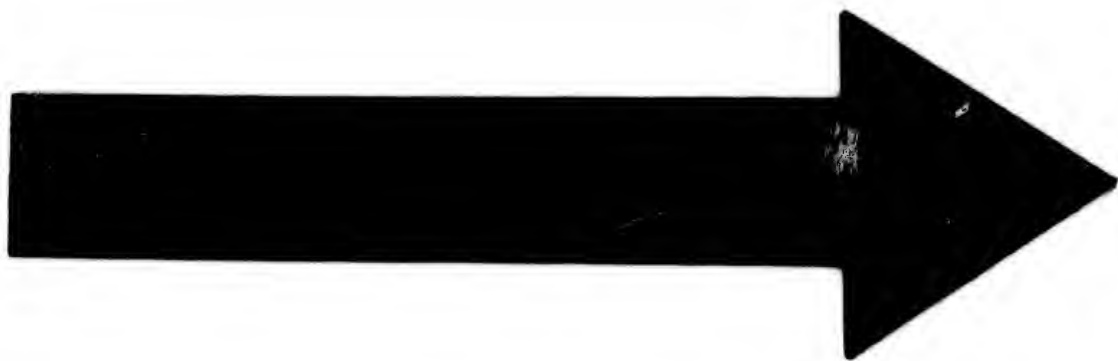
Their stomach is found to contain fragments of flies, grasshoppers, beetles, butterflies, and even bits of gravel *, a proof that at times they catch their prey on the ground: and in fact, though the domestic Swallows spend most of their lives in the air, they often alight on the roofs of houses, on iron bars, and even on the surface of the earth, and on trees. In our climate, they often pass the night about the end of summer perched on alders that grow on the banks of rivers; and in that season numbers are caught, which are eaten in some countries †. They prefer the lowest branches under the brinks, and well sheltered from the wind ‡; and it is remarked that the branches where they commonly sit during the night wither away.

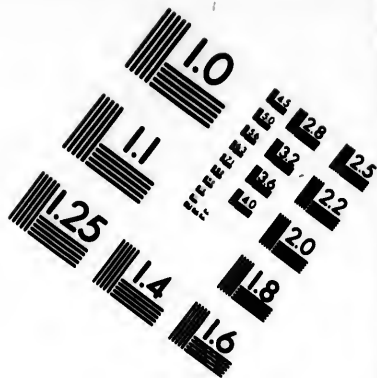
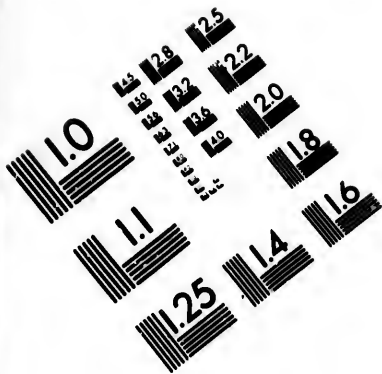
They also assemble on a large tree previous to their retreat; the flocks then amount only to three or four hundred, for the species is far from being so numerous as the window Swallows (martins). In this country they commence their expedition about the beginning of October, and usually steal off in the night to avoid the birds of prey, which seldom fail to harass them on their

* Belon and Willughby. Many absurdities have been told of these swallow-stones and their virtues, as of eagle-stones, cock-stones, and other bezoars, which seem ever to have been the favourite jewels of empiricism and of credulity.

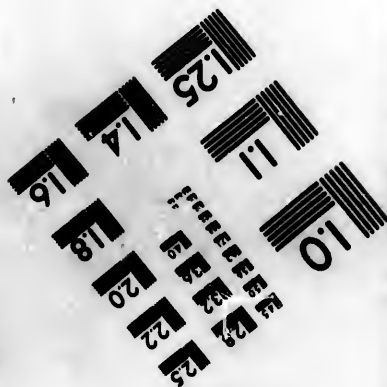
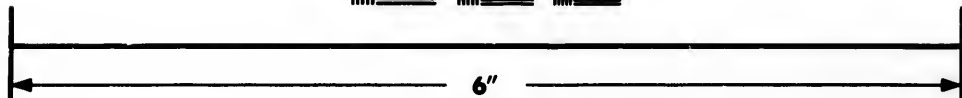
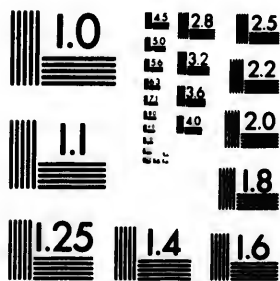
† At Valencia in Spain, at Lignitz in Silesia, &c. See Willughby and Schwenckfeld.

‡ Note of Hebert. Lottinger assures me that they also frequent sometimes the coppices.





**IMAGE EVALUATION
TEST TARGET (MT-3)**



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route. Frisch saw them frequently set out in broad day, and Hebert, more than once, observed, about the time of their retreat, parties of forty or fifty gliding aloft in the air, and remarked that their flight was not only much higher than ordinary, but more uniform and steady. They stretch towards the south, taking advantage, as much as possible, of favourable winds; and when no obstacles interfere, they usually arrive in Africa in the first week of October. If they be checked by a south-east wind, they halt, like the other birds of passage, in the islands that lie in their track. Adanson saw them arrive on the sixth of October, at half past six in the evening, on the coast of Senegal, and found them to be real European swallows; he afterwards discovered that they are never seen in those countries but in autumn and winter. He tells us that they lie every night single, or two by two, in the sand by the sea shore*; and sometimes numbers lodge on the huts, perching upon the rafters. Another important observation he adds, that they never breed in Senegal †; and accordingly Frisch remarks that young Swallows never arrive in the spring. Hence

* This habit of lying in the sand is entirely contrary to what we see in Swallows in our climate; it must depend on some particular circumstances that escaped the observer; for animals are more capable, than usually supposed, of varying their mode of life according to their situation.

† It is also said that no species of Swallow nestles in Malta.

we may infer that these birds are natives of more northern climates.

Though the Swallows are in general migratory, even in Greece and in Asia, some will remain during the winter, especially in the mild climates where insects abound; for example, in the isles of Hières and on the coast of Genoa, where they spend the night in the open country on the orange shrubs, which they injure greatly. On the other hand, they are said to appear seldom in the island of Malta.

These birds have sometimes been employed to convey important intelligence*: for this purpose, the mother is taken from her eggs and carried to the place whence the news is to be sent, and a thread is tied to the feet, with the number of knots and the colour previously concerted. The affectionate mother flies back to her brood, and transports the billet with incredible expedition.

The chimney Swallow has its throat and front of an orange tint, and there are two streaks above the eye, of the same colour; all the rest of the under side of the body is whitish, with an orange cast; all the rest of the upper part of the head and body is of a brilliant bluish black, the only colour which appears when the feathers are composed, though they are cinereous at the base, and white in the middle; the quills of the

* See Pliny, *Nat. Hist. Lib. X. 24.*

wings are, according to their different positions, sometimes of a bluish black, which is lighter than the upper surface of the body, and sometimes of a greenish brown; the quills of the tail are blackish, with green reflections; the five lateral pairs marked with a white spot near the end; the bill is black without, and yellow within; the palate and the corners of the mouth are also yellow, and the legs blackish. In the males the orange tint on the throat is more vivid, and the white of the under side of the body has a slight cast of reddish.

The average weight of all those which I have tried is about three gros. They are apparently larger than the window Swallows (martins), and yet they are lighter.

Total length six inches and a half; the bill forms a curvilinear isosceles triangle, whose sides are concave, and about seven or eight lines; the tarsus five lines, without any down; the nails thin, slightly curved, and much pointed, and the hind one is the strongest; the alar extent, a foot; the tail three inches and a quarter, much forked, though less so in the young birds, consisting of twelve quills, of which the outer pair exceeds the next by an inch, and the middle pair by fifteen or twenty lines, and the wings by four or five lines; it is generally longer in the male.

I have received, as varieties, some in which the

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the colours were all fainter, and the tail little forked; these were probably young ones.

Among the accidental varieties I place the following. *First*, The white Swallows: there is no country in Europe where these have not been seen, from the Archipelago to Prussia*. Aldrovandus tells how to obtain them of that colour; according to him, we need only rub their egg with olive-oil. Aristotle imputes this whiteness to weakness of constitution, want of food, and the action of cold. In a subject, which I had occasion to observe, there were some shades of rufous above the eyes and under the throat, and some traces of brown on the neck and the breast, and the tail was shorter; perhaps its faint colours were owing to moulting, for though white Swallows are frequently seen before their passage, it is unusual to find such on their return †. Some are observed to be only partly white, as was the one mentioned by Aldrovandus, which had its rump of that colour.

In the *second* place, I consider as an accidental variety, the rufous Swallow, of which the orange tint of the throat and eye-lids spreads over

* At Samos, according to the ancients; in Italy, in France, in Holland, in Germany, according to the moderns.

† In a hatch of five young, at the Trinitarians of la Motte, in Dauphiny, were two white Swallows which passed the whole year in the country, but returned not the following year. *Note of the Marquis de Piolenc.*

almost the whole of the plumage, but grows more dilute, and verges upon pink*.

The chimney Swallows are scattered through the whole of the ancient continent, from Norway to the Cape of Good Hope, and in the Asiatic regions, as far as India and Japan †. Sonnerat brought a specimen from the Malabar coast ‡, which differs only in being rather smaller, owing probably to the contraction in drying. Seven other Swallows brought from the Cape of Good Hope, by the same gentleman, were exactly similar in appearance to ours; but on a narrow inspection, it was found that the under part of the body was of a finer white, and the scalloping, which, in the ten lateral quills of the tail, divides the broad from the narrow part, was larger.

I shall now describe such as are to be regarded as varieties of climate [A].

* The Count de Riolet assured me that he saw two individuals of this colour in a flock of chimney Swallows.

† Edwards and Kämpfer.

‡ G. I. Camel had long before inserted the Swallow, under the name of *Layang-layang*, in the catalogue of European birds found in the Philippines. *Philos. Transf. No. 285. Art. III.*

[A] Specific character of the Common Swallow, *Hirundo Domestica*: "Its tail-quills, the two mid-ones excepted, are marked with a white spot." Mr. White has given a very accurate and distinct history of this bird. *Natural History of Selborne, pp. 167—172.*

N^o. 161



FIG. 1. THE CHIMNEY SWALLOW FIG. 2. THE MARTIN.

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VARIETIES of the COMMON SWALLOW.

I. THE ANTIGUA SWALLOW, with a rusty-coloured throat*. It is rather smaller than the common Swallow; its front bears a band of rusty yellow; under the throat there is a spot of the same colour, terminated below by a very narrow black collar; the forepart of the neck and the rest of the under surface of the body, white; the head, the upper side of the neck and back, velvet black; the small superior coverts of the wings of a changeable violet; the great coverts and also the quills of the wing and tail, are coal black; the tail forked and projects not beyond the wings.

II. THE RUFIOUS-BELLIED SWALLOW OF CAYENNE †. Its throat is rufous, and this colour extends over all the upper side of the body, gradually shading off; all the rest of the upper side of the body is of a fine shining black. It is rather smaller than the common Swallow.

* *Hirundo Panayana*, Gmel.

The *Panayan Swallow*, Lath.

Specific character: "It is black, below white; a spot on its front and its throat, ferruginous yellow; its collar black.

† *Hirundo Rufa*, Gmel.

The *Rufous-bellied Swallow*, Lath:

Specific character: "It is glossy black, below rufous, its feet whitish."

Total length about five inches and a half; the bill six lines; the tarsus four or five; the hind toe five.

Swallows of this kind also make their nest in houses; they give it a cylindrical form with small stalks, moss, and feathers, and suspend it vertically detached from the building; they lengthen the stack in proportion as they multiply; the aperture is placed below in one of the sides, and so nicely constructed that it communicates with all the stories. They lay four or five eggs.

It is not improbable that some of our swallows having migrated into the new continent, have there founded a colony, which still resembles the parent breed.

III. THE RUFIOUS-COWLED SWALLOW *.
This rufous is deepened and variegated with black; the rump is also rufous, terminated with white; the back and the superior coverts of the wings are of a fine black, verging upon blue, with the gloss of burnished steel; the quills of the wings brown, edged with a lighter brown; those of the tail blackish; all the lateral ones marked on the inside with a white spot, which does not appear unless the tail is spread; the throat is variegated with whitish and brown: lastly, the under side of the body is sprinkled

* *Hirundo Capensis*, Gmel.
The Cape Swallow, Lath.

with

with small longitudinal blackish spots on a pale yellow ground.

The Viscount Querhoent, who had an opportunity of observing this swallow at the Cape of Good Hope, informs us that it breeds in houses like the preceding varieties; that it fixes its nest against the ceilings of rooms; that it uses earth for the outer coat, and lines it with feathers; that the shape of its nest is roundish, with a sort of hollow cylinder fixed to it, which is the only aperture. He adds that the female lays four or five dotted eggs.

FOREIGN BIRDS,

WHICH ARE RELATED TO THE COMMON SWALLOW.

I.

The GREAT RUFOUS - BELLED
SWALLOW of SENEGAL.*Hirundo Senegalensis*, Linn. Gmel. and Briss.
The Senegal Swallow, Lath.

ITS tail is shaped like that of the common Swallow; and its plumage is marked with the same colours, though differently distributed: it is much larger, and moulded after other proportions; so that it may be regarded as a distinct species. The upper side of the head and neck, the back and the superior coverts of the wings, are of a brilliant black, with a steel gloss; the quills of the wings and of the tail are black, the rump rufous, and all the lower parts; but the throat and the inferior coverts of the wings are much diluter, and almost white.

Total length eight inches and six lines; the bill eight lines; the tarsus the same; the hind nail and toe the longest next to those of the middle; the alar extent fifteen inches three lines; the tail four inches, forked, and consist-
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II.

T H E

WHITE-CINCTURED SWALLOW.

Hirundo Fasciata, Gmel.*The White-bellied Swallow*, Lath.

IT has no rufous in its plumage, which is entirely black, except a white belt on the belly, conspicuous on that dark ground: there is also a little white on the thighs; the quills of the tail are black above and brown below.

It is a rare bird; found in Cayenne and Guiana in the interior parts of the country, on the banks of rivers. It delights to sweep along the surface of water, like the European Swallows; but, different from them, it alights on the trunks that float down the stream.

Total length six inches; the bill black, and measures six lines; the tarsus also six lines; the tail two inches and a quarter, and forked near eighteen lines; it exceeds the wings four lines [B].

[A] Specific character: " It is glossy black, below rufous; its rump rufous."

[B] Specific character: " It is black; a cross bar on its belly, and an external spot on its legs, white."

III.

The AMBERGRIS SWALLOW.

Hirundo Ambrosiaca, Gmel.

Hirundo Riparia Senegalensis, Briff.

Hirundo Marina Indigena, Seba.

Hirundo Ambram Griseam redolens, Klein.

SEBA says that these Swallows, like our sand martins, repair to the beach when the sea is agitated, and that they were sometimes brought to him both dead and alive, and smelt so strongly of ambergris, that one of them was enough to perfume a room. He thence conjectures that they feed on insects, and other odorous animalcules, or perhaps on ambergris itself. The one described by Briffon was sent from Senegal by Adanson; but the bird is sometimes seen likewise in Europe.

All its plumage is of a single colour, which is brown-gray, darker on the head and on the quills of the wings than on the other parts; the bill is black, and the legs brown; the size of the bird exceeds not that of the gold-crested wren.

I have hesitated whether I should not range it with the sand martins, which it resembles in some respects; but, as its economy is unknown, and as its tail is formed like that of the domestic Swallow,

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Swallow, I have meanwhile referred it to that species.

Total length five inches and a half; the bill six lines; the tarsus three; the hind toe the shortest; the alar extent above eleven inches, forked about eighteen lines, and consisting of twelve quills; it projects four lines beyond the wings.

[A] Specific character: "It is gray-brown; its bill blackish; its legs brown."

The MARTIN*.

L'Hirondelle au Croupion Blanc, ou L'Hirondelle de Fenetre, Buff. †

Hirundo Urbica, Linn. Gmel. Kram. Fris. &c.

Hirundo Rustica, sive Agrestis, Ray, Will. and Briss.

Hirundo Sylvestris, Gefner.

The *Martin, Martlet, or Martinet*, Will. Alb. Penn. and Lath.

THE epithet *rural* was by the ancients justly applied to this bird, which, though much more familiar than the sand martin, is slyer than the domestic swallow. It delights to build its nest against the crags of precipices that overhang lakes †; and it never breeds near our

* The Greek name, *Χελιδόν*, we are told by Ælian, signified a fig, and was transferred to the swallow, because the appearance of this bird announces the season of fruits. It was also called *Ακαθουλλίς*.

Pliny styles the Martin *Hirundo Rustica* and *Hirundo Agrestis*; Lib. X. 43, &c.

In German it has a variety of names, *Kirch-Schwalbe, Murschwalbe, Berg-Schwalbe, Dach-Schwalbe, Fenster-Schwalbe, Lauben-Schwalbe, Leim-Schwalbe* (*i. e.* the church, wall, rock, roof, window, leaf, lime Swallow), and *Mur-Spyren, Munster-Spyren, Wisse-Spyren* (*i. e.* the wall, cathedral, white Martlet). In Swedish, *Hus-Swala*: In Danith, *Bye-Swale, Tæg-Skiægs-Swale, Hvid-Swale, Rive-Skarsteens-Swale*: In Norwegian, *Haus-Swale*.

† *i. e.* The White-rumped or Window Swallow.

‡ This observation is M. Hebert's. These swallows are well known to nestle on rocks. See Gefner, *Aves*, p. 565. M. Guys, of Marseilles, has assured me of this fact; but we must abate from the exaggerated accounts of the ancients, of a very solid bank, a stadium in length, formed entirely by these nests, in the port of Heracleum in Egypt; and of another similar bank constructed also by these birds in an island sacred to Isis. See Plin. Lib. X. 33.

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houses, if it can elsewhere find a convenient situation.

The nest which I observed in the month of September, and which had been broken off from a window, was composed externally of earth, particularly of the soft mould thrown up in the morning by worms in new-delyed borders; the middle was strengthened by an intermixture of straw chips, and the inside was bedded with a heap of feathers*; the dust in the bottom swarmed with hairy worms, which writhed and crawled nimbly in all directions, and were most numerous where the feathers stuck into the sides; there were also some fleas, bigger and browner than ordinary, and seven or eight bugs, creeping at large, though none of these could come from the house. The three young ones, which were able to fly, and the parents, I am confident, slept together at night. The nest resembled the quarter of a hollow hemispheroid of a deep shape, its radius four inches and a half, sticking by its two lateral surfaces to the jamb and the window frame, and by its upper surface to the lintel; the entrance was near the lintel, placed vertically, very narrow and semicircular.

The same nests serve for several years, and probably to the same pair; but this is the case with regard to such only as are built in our

* I found four or five gros of these feathers in a nest that weighed in all but thirteen ounces.

windows, for I am assured that those constructed against rocks are renewed annually. Sometimes five or six days are sufficient for performing the work, and sometimes ten or twelve are required; the birds carry the mortar both with their little bill and with their toes, but plaster with their bill only. It often happens that several Martins are seen labouring at the same nest*; either from their complaisance in assisting each other, or because this species copulating only in the nest, all the males which court the same female are eager to hasten the fabric, and obtain the expected joy. Yet some have been observed as assiduous in pulling down the structure as others were forward to rear it. Perhaps it was a discarded lover, who gratified his malice by retarding the fruition of his more fortunate rivals.

The Martins arrive sooner or later, according to the latitude; at Upsal on the 9th of May, as Linnæus tells us; in France and England in the beginning of April †, eight or ten days after the domestic swallows, which, according to Frisch, as they fly lower, can more easily and earlier procure their food; they are sometimes
surprised

* I have counted five standing within the same nest or clinging round it, without reckoning the comers and goers: the more numerous they are, the more expeditious is the work.

† This year, 1779, the winter has been without snow, and the spring very fine; yet these swallows arrived not in Burgundy till the 9th of April, and on the lake of Geneva till the 14th. It is said
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surprised by the spring colds, and have been seen shooting through a thick fall of snow *. On their first arrival they haunt the wet places; I never saw them return to the nests which are in my windows before the 15th of April, and sometimes not till the beginning of May. They build in all aspects, but prefer such as look into the fields, especially when the scene is interspersed with rivers, brooks, or pools. They

that a shoemaker in Basil, having put a collar on a swallow with this inscription,

*Hirondelle,
Qui es si belle
Dis-moi, l'hiver ou vas-tu!*

(Pretty swallow, tell me whither thou goest in winter?)

Received, the spring following, by the same courier, this answer:

*A Athens
Chez Antoine,
Pourquoi t'en informes-tu!*

(To Anthony at Athens; why dost thou inquire?)

The most probable part of this anecdote is, that the verses were made in Switzerland. Belon and Aristotle assure us that the swallows live only half the year in Greece, and go to pass the winter in Africa.

* This proves that what Hoegstroem, the pastor of Nordland, says of the fore-knowledge of temperatures, which he ascribes to the swallows, is not more applicable to that of the window than to that of the chimney, and must be regarded as very doubtful. "In Lapland," says he, "swallows have been seen to depart, and abandon their young in very warm weather, and when there was no appearance of a change in the air. But this change speedily came, and one might travel in a sledge by the 8th of September. In certain years, on the contrary, they have staid very late, though the weather was not mild; whence it might be inferred that the cold was distant." In all this the reverend pastor seems to be only the echo of popular rumour, and to have taken no pains to ascertain the fact, which is besides contradicted by accurate observations.

breed, at times, within houses; but this is exceedingly rare, and even very difficult to obtain*. The young are sometimes hatched as early as the 15th of June; the cock and hen may be seen toying with each other on the brink of the half-formed fabric, and billing with a shrill expressive chirp †; but they are never observed to copulate, which makes it probable that this is done in the nest, since this chirping is heard early in the morning, and sometimes during the whole night. Their first hatch consists of five white eggs, with a dusky ring near the large end; the second hatch consists of three or four, and the third, when it does take place, of two or three. The male seldom or never removes from his mate

* "It rarely builds in houses," says Aristotle, which is confirmed by daily observation. The late M. Rousscau, of Geneva, after infinite pains, succeeded to make them nestle in his chamber. M. Hebert saw them build on the spring of a bell; the bottom of the nest rested on this spring, the upper brim, which was semicircular, leaned against the wall by its two ends, three or four inches below the eave: the cock and hen, during the time they were employed in the construction, passed the nights on the iron spike to which the spring was fastened. The frequent concussion given by this spring could not fail to disturb the action of nature in the development of the little embryos; the hatch accordingly did not succeed: yet the pair would not forsake their tottering mansion, but continued to inhabit it the rest of the season. The semicircular form which, on this occasion, they gave their nest, proves that they can sometimes change their order of architecture.

† Frisch pretends that the males of this species sing better than those of the domestic swallow; but in my opinion it is quite the reverse.

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during incubation; he watches for her safety and that of the young brood, and darts impetuously on the birds that chance to approach too near. After the eggs are hatched, both parents frequently carry food, and seem to bestow the most affectionate care*. In some cases, however, this paternal attachment appears to be forgotten: a young one which was already fledged, having fallen out of the nest upon the sole of the window, the parents took no heed of it; but, finding itself thus abandoned, it strove to escape, flapped its wings, and, after three or four hours exertions, it launched at last into the air. I broke off, from another window, a nest containing four young ones just hatched, and set it in the sole of the window; and yet the parents passed and repassed incessantly and fluttered about the spot, without regarding the imploring cries of their progeny †: a hen sparrow would, in such circumstances, have fed and tended her offspring a fortnight. It would seem, therefore, that the affection of the Martins for their young depends

* When the young are hatched, their excrements are said to be enveloped in a sort of pellicle; which enables the parents to roll them easily out of the nest. *Frysch.*

† A whole hatch having been put in the same cage with the parents, these passed the night sometimes on the bar of the cage, sometimes on the brim of the nest, almost always the one after the other, and at last one upon the other, without bestowing the smallest attention to their young: but it may be said, that in this case the paternal love was swallowed up by the regret for the loss of liberty.

on the local situation; however they continue to fetch them provisions for a long time, and even after they have begun to fly; these consist in winged insects, snapped in the air, which is so peculiarly their mode of catching*, that if they see one sitting on a wall, they will sweep past it to start the prey.

It has been said that the sparrows often occupy the Martins' nests, which is true. It has been added that the Martins thus thrust out return sometimes escorted by auxiliaries, and, in an instant closing up the aperture with the usual mortar, take vengeance on the usurpers†: whether this ever happened I cannot decide; but the instances which have come under my observation do not countenance the opinions. The Martins returned frequently in the course of the summer, quarrelled with the sparrows, and sometimes circled about for a day or two, but never attempted to enter the nest or to shut it up. Nor can we suppose any antipathy to subsist between these birds‡; the sparrows will lay wherever they find it convenient.

Though the Martins are shyer than the chimney swallows, and though philosophers have

* This is the general opinion, and the most consonant to daily observation; yet M. Guys assures me that these birds seek pine-wood, in which they find caterpillars.

† Albertus first broached this error; Rzaczynski repeated it; the Jesuit Batgowki asserts his being a witness of the fact; and Linnæus gives it as a truth ascertained.

‡ Albertus *apud Gesnerum*.

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believed that they were incapable of being tamed*, yet is it very easy to succeed. They must be supplied with the proper food, which consists of flies and butterflies †, and must receive it often; above all, they must befoothed into the loss of liberty, a sentiment common to all animals, but in none so lively or so acute as in the winged tribes ‡. A tame Martin § was known to grow extremely fond of its mistress; it sat whole days upon her knees, and, when she appeared after some hours absence, it uttered joyous accents, clapped its wings, and shewed every sign of lively feeling: it began to feed out of the hand, and its education would probably have com-

* M. Rousseau, of Geneva.

† Some authors pretend that they cannot exist on vegetable substances; yet we cannot suppose that these prove a poison to them: bread was part of the food of the tame swallow which I shall presently mention. But what is more singular, children have been seen to feed young swallows with dung that has dropt from the nest of another swallow of the same species. The brood lived very well for ten days on this diet, and in all probability they would have subsisted longer, had not the experiment been interrupted by a mother, who was sonder of cleanliness than of gaining knowledge.

‡ "I have often," says M. Rousseau, "had the pleasure of seeing them kept in my chamber while the windows were shut, and so tranquil as to chirp, frolic, and toy at their ease, waiting till I should open for them, confident that I would not delay; in fact I rose, for that purpose, every morning at four o'clock."

The voyager Leguat speaks of a tame swallow that he had brought from the Canaries to the island of Sal; he let it out every morning, and it faithfully returned in the evening. *Voyage aux Indes Orientales*, p. 13. Leguat does not say what species it was. Other persons have raised swallows. See Wolfgang Franzius, *Hist. Anim.* p. 456; and the *Journal de Paris* for 1778.

§ In the noble Chapter of Leigneux in Fores.

pletely succeeded, had it not escaped. It did not fly far; it alighted on a young child, and soon fell a prey to a cat. The Viscount Querhoent assures me, that he also trained, for several months, some young Martins taken out of the nest; but he could never bring them to eat by themselves, and that they always died when he gave over feeding them. When the one I have just mentioned attempted to walk, it moved ungracefully, on account of its short legs; and, for this reason, the Martins seldom alight but upon their nests, and only in cases where necessity obliges them: for instance, when they gather mud for building with, or when they spend the night among the reeds towards the end of summer, at which time they are become so numerous as not to be all contained in their former lodgments*; or, lastly, when they assemble upon the ridges and corners of houses previous to their migration. Hebert had a house in Brie, which was every year their general rendezvous; the number congregated was great, not only on account of their own multiplication, but because many others of their kindred species, the sand-martins and chim-

* About the end of summer, they are observed in the evenings circling in great numbers on the surface of water, almost till dark: it is probably in order to repair to such situations that every day they assemble an hour or two before sun-set. Add, that they are much less frequent in towns about the evening than during the course of the day.

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ney swallows, joined them: they had a peculiar cry, which seemed to call them together. It was remarked that shortly before they began their voyage they exercised themselves in soaring to the clouds, thus preparing to wing their course through the lofty regions*; a fact which agrees with other observations related in the preceding article, and which explains why the swallows are so seldom seen in the air during their passage from one country to another.

The Martins are widely diffused through the ancient continent; yet Aldrovandus asserts that they are never seen in Italy, particularly in the neighbourhood of Bologna. M. Hermann † tells me, that in Alsace they are caught with the staves, by spreading a net about the close of the evening over a marsh full of rushes, and by drowning next morning the birds that are entangled under it. Some of these drowned Martins may be restored to life, and a simple fact of that kind might have given rise to the fable of their annual immersion and emersion.

This species appears to hold a middle rank between the chimney swallow and the black Martin. It has little of the chirping and familiarity of the former; but it builds its nest si-

* Note communicated by M. Lottinger.

† This professor assures me that the White-rumps or Martins grow fat in autumn, and are then very good to eat. Franzius says nearly as much: yet I publish it with regret, as it tends to the destruction of an useful species.

imilarly,

milarly, and its toes consist of the same number of *phalanges*. It has the rough feet of the black Martin, and its hind toe also turns forward; like that bird, too, it flies through heavy rains, and then in larger flocks than usual; it clings also to the walls, and seldom alights on the ground, and, when it does so, it rather creeps than walks. Its bill is wider than that of the chimney-swallow, at least apparently so, because the mandibles open suddenly as high as the ears, and the edges form on each side a projection: lastly, though it is somewhat larger, it seems rather smaller, its feathers, and especially the inferior coverts of its tail, being not so fully webbed. The average weight of all that I have weighed was constantly from three to four gros.

The rump, the throat, and all the under surface of the body, are of a fine white; the side of the coverts of the tail is brown; the upper surface of the head and neck, the back, those of the feathers and of the primary coverts of the tail, are of a glossy black, with blue reflections; the feathers of the head and back cinereous at the base, white in the middle; the quills of the wings brown, with greenish reflections on the borders; the three last of those next the body are terminated with white; the legs clothed as far as the nails with a white down; the bill black, and the legs brown gray; the black of the female is less distinct, and its white not so pure,

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pure, even variegated with brown on the rump. In the young ones the head is brown, and there is a shade of the same colour under the neck: the reflections from the upper surface of the body are of a lighter blue, which has a greenish cast in certain positions, and, what is remarkable, the quills of the wings are of a deeper tint. They frequently wag their tail upwards and downwards, and the origin of the neck is bare.

Total length five inches and a half; the bill six lines; the inside pale red at the bottom, blackish near the point; the nostrils round and open; the tongue forked, a little blackish near the end; the tarsus five lines and a half, covered with down rather on the sides than before or behind; the middle toe six lines and a half; the alar extent ten inches and a half; the tail two inches, forked as far as six, seven, or even nine lines; in some subjects this forking reaches only five lines, but in others it does not occur at all.

The intestinal tube six or seven inches; the *caca* very small, and filled with a matter different from that contained in the true intestines; it has a gall bladder; the gizzard is muscular; the *œsophagus* twenty lines, it dilates into a little glandular bag before its insertion; the testicles are of an oval shape, and unequal; the greater diameter of the biggest ones four or five lines, the smaller diameter three; their surface was marked with many circumvolutions, like
a small

a small vessel twisted and rolled in all directions.

What is singular, the young Martins are heavier than the adults: five that were taken from the nest while they were scarcely covered with down, weighed together three ounces, which give three hundred and forty-five grains to each; whereas both the parents weighed exactly an ounce, or each was two hundred and eighty-eight grains. The gizzards of the young birds were distended with food, and weighed in all one hundred and eighty grains, which was equal to thirty-six each; but both the gizzards of the parents, which contained hardly any thing, weighed only eighteen, or they were four times lighter than those of their brood. This fact clearly proves that the parents neglect their requisite subsistence in order to supply their young, and that, during infancy, the organs concerned in nourishment predominate*, as in the adult period those subservient to generation.

Some individuals of this species have their whole plumage white; and of this I can produce two respectable vouchers, Hebert and Hermann. The white Martin of the last had red eyes, as is the case with so many animals whose hair or feathers are white; its legs were not covered with down, like the rest of the same hatch.

We may regard the fulvous bellied swallow

* I have observed the same disproportion both in the gizzards and in the intestines of young sparrows, nightingales, fauvelles, &c.
of

of Barrere as a variety of this species; and the whitish breasted brown sparrow of Brown *, as occasioned by the influence of climate.

* This author calls it a *house-swallow*, but it is more analogous to the white-rumped swallow.

[A] Specific character of the Martin, *Hirundo Urbica*: "Its tail-quills are not spotted, its back is bluish black, and the whole of its under side is white." The reader will find an excellent account of this bird by Mr. White in the Philosophical Transactions for 1774, or in his Natural History of Selborne, pp. 157, 162. We shall extract the following passage, as it further confirms the migration of the swallows.

"As the summer declines, the congregating flocks increase in numbers daily by the constant accessions of the second broods; till at last they swarm in myriads upon myriads round the villages on the Thames, darkening the face of the sky as they frequent the aits of that river, where they roost. They retire, the bulk of them I mean, in vast flocks together about the beginning of October; but have appeared of late years in a considerable flight in this neighbourhood, for one day or two, as late as November the 3d and 6th, after they were supposed to have been gone for more than a fortnight. They therefore withdraw with us the latest of any species. Unless these birds are very short lived indeed, or unless they do not return to the district where they have been bred, they must undergo vast devastations somehow and somewhere; for the birds that return yearly bear no manner of proportion to the birds that retire."

The SAND-MARTIN*.

Hirondelle de Rivage, Buff.

Hirundo Riparia, Linn. Gmel. Kram, Frif. Klein, &c.

Dardanelli, Aldrov.

The *Sand-western* or *Bank-western*, Charleton.

The *Sand-martin*, *Bank-martin*, or *Shore-bird*, Will.

WE have seen that the two preceding species bestow much industry and labour in constructing their little mansion; the two following species, we shall find, breed in holes in the ground, in walls or in trees, and are at little pains to form these, strewing coarsely some litter.

The Sand-martins arrive in our climates, and retire, nearly at the same time with the common martins. Towards the end of August they gradually come nearer those spots where they assemble, and about the end of September Hebert tells us that he saw a great number of both species collected together on the house which

* Aristotle, *Hist. Anim.* Lib. I. 1, calls it *Δεσπαις*, from *δεσπαιος*, a hook; probably because of its forked tail: In Greek, it had also the name of *Χελιδών Θαλαττία*, or sea-swallow.

Pliny terms it *Hirundo Riparia*, *Nat. Hist. Lib. XXX. 4.*

In Italian it has the names *Dardanelli*, *Rondoni*, *Tartari*: In German, *Rhyn-vogel* (Rhine-bird), *Rhyn-Schwalme* (Rhine-swallow), *Wasser-schwalme* (water-swallow), *Erd-schwalme* (earth-swallow), *Ufer Schwalbe* (shore-swallow): In Danish, *Dig-fvale*, *Jord-fvale*, *Blint-fvale*, *Sol-bakke*: In Norwegian, *Sand-ronne*, *Strand-fvale*, *Dig-sulu*, *Sand-sulu*: In Swedish, *Strand fwala*, *Back-fwala*: In Polish, *Jaskotka*: In Siberian, *Strefchis*.

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he possessed in Brie*, and particularly on the side of the roof that faced the south; and when the flock was formed, it entirely covered the building. But all the Sand-martins do not migrate. The commander Desmazys writes me that they are always to be found in Malta during the winter, and especially when the weather is inclement †: and, as that small rocky island has no lake or pool, we cannot suppose that in the interval of storms they plunge under water. Hebert has seen them as often as fifteen or sixteen times in the mountains of Bugey ‡, in the different winter months: it was near Nantua, in a pretty high situation, in a glen of a quarter of a league in length and three or four hundred paces in width; the spot was delicious, with a southern aspect, and sheltered from the north west by vast lofty rocks; it was clothed in perpetual

* This house was situated in the skirt of a small town, its principal aspect was towards a river, and it communicated with the country on several sides.

† "In St. Domingo," says the Chevalier Lefebvre Deshayes, "the swallows are seen to arrive on the approach of a storm; if the clouds disperse, they also retire, and probably follow the shower." They are, in fact, very common in that island during the rainy season. Aristotle asserted, two thousand years ago, that the shore-swallow appeared not in Greece but when it rained. Lastly, on all seas birds of every kind repair in storms to the islands, and sometimes seek shelter aboard vessels, and their appearance is almost always the portent of some furious gust.

‡ According to the same observer, it is much more unusual to see them during winter in the plains. These birds seem to be the species to which Aristotle alludes when he says, "Many swallows are seen in the narrow passes of mountains." *Lib. VIII.* 16.

verdure, its violets flowered in February, and, in that lovely recess, winter wore the smiles of spring. There these swallows might play, and circle, and catch their insect food; and if the cold becomes excessively severe, they could retire into their holes, where the frost can never penetrate, and where they may find earth-insects and crysalids to support them during their short confinement; or perhaps they pass into a torpid state, to which Gmelin and many others assert they are liable, though that they are not always so is proved by the experiments of Collinson*. The country people told Hebert, that they appeared after the snows of Advent were melted, if the weather was mild.

These birds are found in every part of Europe: Belon observed them in Romagna, where they breed with the king-fishers and bee-eaters in the brinks of the Marissa, anciently the *Hebrus*. Koenigsfeld found in his travels through the north, that the left bank of a brook which runs beside the village of Kakui in Siberia, was bored into a great number of holes, which served as retreats to small gray birds called *Streschis*, which must be Sand-martins: five or six hundred may be seen flying confusedly about these holes, entering them or coming out, but constantly in

* Klein. *Ordo Avium*, p. 202, 204. *Philos. Transf. Vol. LIII.* p. 101. *Gazette Litteraire*, T. V. p. 364. *Magasin de Stralsund*, &c.

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motion like flies *. The swallows of this species are very rare in Greece, according to Aristotle, but they are pretty common in some districts of Italy, Spain, France, England, Holland, and Germany †. They prefer steep banks, as affording the safest lodgment; the margin of stagnant water, which abounds most with insects; and a sandy soil ‡, where they can more easily form their little excavations, and settle themselves in them. Salerne tells us that on the sides of the Loire they breed in the quarries, others say in grottos; and both accounts may in part be true. The nest is only a heap of straw and dry grass, lined with feathers, on which the eggs are dropt ||. Sometimes they make their own holes, and at other times they take possession of those of the bee-eaters and king-fishers; the entrance of the cavity is eighteen inches in length. It has been alleged, that they can foresee inundations, and make a timely escape §: but the fact is, that they always dig their hole a little above the highest mark of the stream.

The Sand-martins only hatch once a year,

* Delisle's travels into Siberia.

† In the banks of the Rhine, of the Loire, of the Saone, &c.

‡ Lottinger and Hebert.

|| Schwenckfeld says that this nest is of a spherical form; but this seems to be true rather of the holes than of the nest built in them. "They make no nests," says Pliny. Aldrovandus is of the same opinion: Edwards says, that those which Collinson caused to be dug out were complete, but he does not specify their form. Lastly, Belon doubts whether they excavate the holes themselves.

§ Plin. *Lib. X.* 33.

according to Frisch; they lay five or six eggs, semi-transparent and without spots, says Klein; the young ones grow very fat, and may be compared for delicacy to the ortolans. The reason is, because they are able to procure a rich supply of food, since, besides the numerous tribe of winged insects, they find reptiles and chrysalids in the ground. In some countries, as in Valencia in Spain, there is a great consumption of Sand-martins*; which would induce me, notwithstanding the assertion of Frisch, to suppose that in those parts they hatch oftener than once a year.

The adults hunt their prey on the surface of the water with such activity that we might imagine them to be fighting; they often run upon each other in the pursuit of the same flies, and struggle with shrill cries † to obtain the plunder: but this conduct arises entirely from emulation.

Were we to judge from its manner of breeding, we should conclude, that this bird is the wildest of the European swallows; yet is it tamer than the black martin, which lives indeed in towns, but never mingles with any kindred species, whereas the Sand-martin associates with the common martin, and even the chimney swallow: this happens particularly about the time of migration, when the utility of uniting is most sensibly felt. It differs from these two

* See Willughby. The young birds are however subject to woodlice, which insinuate under the skin, but never to bugs.

† Gesner.

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species in its plumage, in its voice, and, as we have already seen, in some of its natural habits. It never perches, and it arrives much earlier in the spring than the black martin. I know not on what ground Gesner pretends that it clings and hangs by the feet when it sleeps.

All the upper surface is of a mouse gray; there is a sort of collar of the same colour at the lower part of the neck; all the rest of the under surface is white; the quills of the tail and of the wings are brown; the inferior coverts of the wings, gray; the bill blackish, and the legs brown, clothed behind as far as the toes with a down of the same colour.

The male is, according to Schwenckfeld, of a darker gray, and there is a yellowish tint at the rise of the throat.

It is the smallest of the European swallows. Total length four inches and nine lines; the bill a little more than five lines; the tail forked; the tarsus five lines; the hind toe the shortest; the alar extent eleven inches; the tail two inches and a quarter, forked eight lines, and consisting of twelve quills; the wings contain eighteen, of which the nine inner ones are equal; they project five lines beyond the tail [A].

[A] Specific character of the Sand-martin, *Hirundo Riparia*: "It is cinereous, its throat and belly white." These birds are not frequent in England. They are much smaller than those of their kindred species, and are mouse-coloured. They have a peculiar manner of flying; reeling and wavering, with odd jerks: Hence the peasants in Spain term them *Papiliones de Montagna*, or Mountain-butterflies.

The CRAG-SWALLOW.

L'Hirondelle Grise de Rochers *, Buff.

Hirundo Montana. Gmel †.

THESE Swallows constantly nestle in the rocks, and never descend into the plains, but in pursuit of their prey. It commonly rains in a day or two after their appearance; because, no doubt, the state of the air then drives the insects from the mountains. The Crag-swallows associate with the common martins, but are not so numerous. Both species are often seen in the morning, wheeling about the castle of Epine in Savoy; the Crag-swallows appear the first, and are also the first to retire to the heights; after half past nine o'clock none is found in the vale.

The Crag-swallow arrives in Savoy about the middle of April, and departs by the fifteenth of August; but some loiter till the tenth of October. The same may be said of those which inhabit the mountains of Auvergne and of Dauphiny.

This species seems to be intermediate to the common martin, whose cry and gestures it has, and the sand-martin, which it resembles in its

* i. e. The Gray Rock-swallow.

† My information with respect to this species was received from the Marquis de Piolenc, who sent me two birds.

colours :

colours: all the feathers on the upper surface of the head and body, the quills and coverts of the tail, the quills and superior coverts of the wings, are of a dun gray, edged with rufous; the middle pair of the tail is lighter; the four lateral pairs, included between this middle and the outermost one, are marked on the inside with a white spot, which is not visible unless the tail be spread; the under surface of the body is rufous; the flanks rufous, tinged with brown; the inferior coverts of the wings brown; the legs clothed with a gray down, variegated with brown; the bill and nails black.

Total length five inches ten lines; the alar extent ten inches and two-thirds; the tail twenty-one lines, a little forked, consisting of twelve quills, and exceeding the wings seven lines.

The only thing which appeared to me worth noticing in its internal structure is, that instead of a *cæcum*: there was a single *appendix* of a line in diameter, and a line and a quarter in length. I have observed the same in the night-heron.

The S W I F T*.

Le Martinet Noir †, Buff.

Hirundo-Apus, Linn. Gmel. &c.

The *Hufe-martin*, Charleton.

The *Black-martin*, or *Swift*, Will. and Penn.

THE Swifts are real swallows, and possess the characteristic qualities even in a higher degree: their neck, their bill, and their legs are shorter; their head and throat larger; their wings longer; their flight more lofty and rapid †. They are continually on the wing, and when they happen to fall by accident, they can hardly rise if the ground be flat; they must clamber up some clod or stone, that they may have room to wield their long pinions §, and

* Aristotle, *Hist. Anim.* Lib. I. 1. applies to it the general name of *Απυς*, or footless, meaning only that its feet are short and seldom used: It was also called *Κυψιλος*, from *κυψιλις*, a bee's cell, on account of its mode of nestling; for which reason it had likewise the appellation of *Πετροχειλιδων*, or rock swallow. The two first names have been adopted by Pliny, *Apodes*, *Cypselus*: In Arabic, *Abrific*: In Spanish, *Venceio*, *Avexaquo*: In German, *Geyr-Schwalb* (vulture-swallow): In Danish, *Steen, Soe, Kirke Muur-Svale*: In Norwegian, *Ring-Svale, Svart-Sulu, Field-Sulu*: In Swedish, *Ring-Swala*: In Dutch, *Steen-Swalemen*.

† i. e. The Black-martin.

‡ Aristotle says, that the Swifts may be distinguished from the swallows by their rough feet: he was therefore unacquainted with the singular disposition of their feet and toes, and with their habits and economy, still more singular.

§ A fowler assured me that they sometimes alight on heaps of horse-dung, where they find insects, and can easily take wing.

commence their motion. This is owing to their structure; for the tarsus is so short, that they sit almost on their belly *, and totter from side to side †. The Swifts have only two modes of life, that of violent exertion, or that of perfect inaction; they must either shoot through the air, or remain squat in their holes. The only intermediate state which they know, is that of clambering up walls and trunks of trees quite near their lodgment, and, by means of their bill, dragging themselves into the cavity. Commonly they enter it full speed, after having passed it and repassed it above an hundred times; they dart in in an instant, and with such celerity that we totally lose sight of them.

These birds are very social with each other, but never mingle with the other kinds of swallows; and we shall find, in the sequel, that their dispositions and instincts are different. It has been said that they have little sagacity; yet they can breed in our houses without depending on our indulgence, and without regarding our controul. Their lodgment is a hole in the wall,

* Belon.

† Two of these birds observed by M. Hebert, when set on a table or on the pavement, had only this motion: their feathers swelled if a person approached his hand; a young one found at the foot of a wall in which was the nest, had already this habit of bristling up its feathers, which were not yet half grown. I have lately seen two that took their flight, the one from the pavement, and the other from a gravel walk: they did not walk at all, and never changed their place but by flapping their wings.

which widens into a larger cavity, and is preferred in proportion to its height from the ground, as affording the safest retreat. They nestle even in belfries and the tallest towers, sometimes under the arches of bridges, where, though the elevation is not so great, they are better concealed. Sometimes they settle in hollow trees, or in steep banks beside the kingfishers, the bee-eaters, and sand-martins. After they have once occupied a hole, they return every year to it*, and easily distinguish it, though hardly perceptible. It is suspected, with much probability, that they sometimes take possession of the sparrows' nests, and when, on their return, they find the property reclaimed, they, with little ceremony, expel the owners.

The Swifts are, of all the birds of passage, those which arrive the latest in our climates and retire the earliest: in general they begin to appear about the end of April, or the beginning of May, and they leave us before the end of July †. Their progress is more regular than

* I know a church-porch and a belfry of which the Swifts have kept possession for time immemorial; M. Hebert, to whom I owe many good observations on this species, sees from his windows a hole of the wall above a high cope, to which they have regularly returned for thirteen years: the parents seem to transmit their mansion to their offspring.

† I am assured, that on the lake of Geneva they arrive not till May, and retire about the end of July or the beginning of August; and when the weather is fine and warm, as early as the fifteenth of July.

that of the other swallows, and appears to be more affected by the variations of temperature. They are sometimes seen in Burgundy as early as the twentieth of April, but these flocks push farther; the settlers seldom return to occupy their nest before the first days of May*. They are noisy on their appearance; rarely do two enter at once the same hole, and never without fluttering much about its mouth; still more uncommon it is for a third to follow them, nor does it ever settle.

I have in different times, and in different places, opened ten or twelve swifts' nests: in all of them I found the same materials, and these consisting of a great variety of substances; stalks of corn, dry grass, moss, hemp, bits of cord, threads of silk and linen, the tip of an ermine's tail, small shreds of gauze, of muslin, and other light stuffs, the feathers of domestic birds, those of the partridge, and of the parrot, charcoal, in short, whatever they can find in the sweepings of towns. But how can birds which never alight on the ground gather these materials? A celebrated observer supposes that they raise

* This year, 1779, though the spring was uncommonly fine, they appeared not in the district where I live till the first of May, and returned before the ninth to the holes from which I had caused their nests to be taken. At Dijon, they were seen on the nineteenth of April, but those *domiciliated* did not take possession of their holes till between the first and fourth of May.

them

them by glancing along the surface of the ground, as they drink by skimming close on the water. Frisch imagines that they catch the substances in the air as they are carried up by the wind. But it is evident that little could be collected in the latter way, and, if the former were true, it would not fail to have been observed in towns. I am inclined to think the account more probable which several plain people have told me; that they have often seen the Swifts coming out of swallows or sparrows' nests, and carrying materials in their claws. This observation is corroborated by several circumstances; first, the Swifts' nests consist of nearly the same substances with those of sparrows; secondly, we know that the Swifts enter sometimes into the nests of small birds to suck their eggs, which we may suppose they do for the sake of pillaging the materials. With regard to the moss which they employ, it is in very small quantity, and they may gather it with their little claws, which are very strong, from trees, on which they can clamber, and sometimes even they breed in their hollow trunks.

Of seven nests found under the head of a church porch fifteen feet from the ground, there were only three which had a regular cup-shape, and of which the materials were more or less interwoven, and with greater order than usual in sparrows' nests; they had also more moss,
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and fewer feathers, and were in general less bulky*.

Soon after the Swifts have taken possession of the nests, some plaintive cries issue continually from it for several days, and sometimes during the night; at certain times, two voices may be distinguished. Is it the expression of pleasure common both to the male and female? or is it the love song by which the female invites the male to accomplish the views of nature? The latter seems to be the most probable conjecture, especially as the ardent cry of the male, when he pursues the female through the air, is softer and less drawing. We are uncertain whether the female admits one or several males: we often see three or four Swifts fluttering about the hole, and even stretching out their claws to clamber on the wall; but these may be such as were hatched the preceding year, which still remember the place of their nativity. It is the more difficult to answer these questions, since the females have nearly the same plumage with the males, and since we can seldom have an opportunity of viewing their manœuvres.

These birds, during their short stay in our climates, have time only to make a single hatch;

* The best formed of all weighed two ounces and one gros and a half, the seven together thirteen ounces and a half, and the largest five or six times more than the smallest: some of them had a coat of dung, which could scarcely be otherwise, considering the situation of these nests, in holes of various depths.

this

this consists of five white eggs, pointed, and of a spindle shape: I have seen some not yet hatched on the twenty-eighth of May. When the young ones have pierced through the shell, very different from those of the other swallows, they are almost silent, and crave no food: happily the parents obey the voice of nature, and supply them with what is proper. They carry provision only twice or thrice a-day; but each time that they return to the nest they bring ample store, their wide throat being filled with flies, butterflies, and beetles*. They also eat spiders which they find near their holes; yet their bill is so weak that it cannot even bruise or hold that feeble prey.

About the middle of June the young Swifts begin to fly, and shortly abandon their nests, after which the parents seem no more to regard them. At every period of their lives they are subject to vermin, but which appear little to incommode them.

This bird, like all the rest of the kind, is excellent for the table when fat; the young ones, especially those taken out of the nest, are reckoned, in Savoy and Piedmont, delicate morsels. The adults are difficult to shoot, because they fly both high and rapidly; but as,

* The only Swift that M. Hebert could kill, had a quantity of winged insects in its throat. This bird catches these, according to Frisch, by darting impetuously above them, with its bill wide stretched.

on account of this very rapidity, they cannot readily alter their course, they may, from this circumstance, be hit not only by a fowling-piece, but also by the stroke of a switch. The only attention required, is to place one's self in their way by mounting to a belfry, a bastion, &c. and to meet them with the blow as they dart directly on, or as they come out of their hole *. In the island of Zant the boys catch them with a hook and line; they place themselves in the windows of some high tower, and use a feather for bait, which these birds try to snatch and carry to their nest †. A single person can catch in this way five or six dozen in a day ‡. Many of them appear at the sea-ports, and, as a person can there more easily choose his station, he is sure of killing some.

The Swifts avoid heat, and, for this reason, they pass the middle of the day in their nests in the crevices of walls or rocks and in the lowest row of tiles of tall buildings. In the morning and evening they go in quest of provision, or flutter without any particular object, but for exercise. They return at ten o'clock in the forenoon when the sun shines, and again at half

* Many are killed in this way in the little town which I inhabit, especially those which breed under the church-porch that I have mentioned.

† Perhaps also they mistake the feather for an insect; they have an acute sight, but the rapidity of their motion must render objects less distinguishable.

‡ Belon.

an hour after it sets in the evening. They rove in numerous flocks, describing an endless series of circles upon circles, sometimes in close ranks pursuing the direction of a street, and sometimes whirling round a large edifice all screaming together, and with their whole might; often they glide along without stirring their wings, and, on a sudden, they flap with frequent and hasty strokes. We behold their motions, but we cannot judge of their intentions.

A commotion may be perceived among these birds as early as the first of July, which announces their departure; their numbers increase considerably, and, in the sultry evenings between the tenth and twentieth, their large assemblies are held. At Dijon, they constantly gather round the same belfries*; and, though these meetings are numerous, the Swifts appear as frequent as usual about the other edifices: they are probably foreign birds, therefore on their passage to more southern climates. After sun-set they divide into small bodies, soar into the air with loud screams, and fly quite differently from ordinary. They may be heard long after they are gone out of sight, and they seem to bend their course to the country; they no doubt retire at night to the woods, for there it is known they breed and catch insects, and that those which haunt the plains during the day,

* Those of St. Philibert and of St. Benigne.

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and even some of those which live in towns, repair to the trees in the evening, where they continue till dark. The city Swifts assemble soon after, and all prepare to migrate into colder countries. M. Hebert scarce ever saw them later than the 27th of July; he supposes that they travel during the night, and proceed to no great distance, and cross not the sea. Indeed their aversion to heat is such that they would shun the scorching air of Senegal*. Many naturalists † pretend that they lie torpid in their holes during winter, and even before the end of the dog-days. But, in our climates, they are undoubtedly migratory, and in the nests which I searched, about the middle of April, twelve or fifteen days before their first appearance, I could not find a single bird.

Besides the regular periodical migrations, we sometimes see in autumn numerous flocks, which have by some accidents been separated from the main body. Such was the one that appeared to Hebert suddenly in Brie about the beginning of November: it circled long round a poplar, and then began to scatter, rose to a great height, and vanished with the close of the day. Hebert saw another flock about the end of September in the vicinity of Nantua, where

* What Aristotle says of his *Απερ*, which lived in Greece the whole year, would imply that it does not so much dread heat. But may not the *Απερ*, be our sand-martin?

† Klein, Heerkens, Herman, &c.

they

they are not common. In both these straggling flocks there were many birds that had a cry different from that usual to the Swifts; whether that their voice alters in winter, that they were young ones, or that they belong to a different branch of the same family.

In general, the Swift has no warble, but only a shrill whistle, which varies little in its inflections, and which is scarce ever heard except when on the wing. In its hole it remains still and silent, afraid, it would seem, of disclosing its retreat: love alone rouses it from lethargy. At other times it is very unlike those prattlers described by the poet*.

Birds which shoot through the air with such rapidity must have a quick eye, and, in the present case, the fact corroborates the general principle advanced in the "Discourse on the Nature of Birds." But every thing has its limits, and I cannot believe that they will descry a fly at the distance of half a quarter of a league, as Belon asserts; that is, at twenty-eight thousand times the fly's diameter, supposing that nine lines, or nine times farther than a man could see. The Swifts are not only spread through

* "Nigra velut magnas domini cum divitis ædes

"Pervolat, et pennis alta atria lustrat hirundo,

"Pabula parva legens, nidisque loquacibus escas.

"Et nunc porticibus vacuis, nunc humida circum

"Stagna sonat."

Virg. *Ænid.* XII. 473.

Virgil seems to refer, in this passage, to the house-swallow.

all Europe; the Viscount Querhoent saw them at the Cape of Good Hope, and I doubt not that they may be found also in Asia, and even in the new continent.

A moment's reflection will exhibit the singularity of this bird: its life is divided between the extremes of motion and rest; it never receives the impressions of touch, but during its short stay in its hole; its joys are either exquisite or totally suspended, nor can it have any idea of that languor which other beings feel from the dull continuance of even pleasurable sensations; and, lastly, its character is a compound of temerity and suspicion. It creeps by stealth into its hole like a reptile, and observes profound silence; but when it circles in its proper element, it feels its superiority, and, trusting to its powers, it overlooks or despises danger.

The Swift is larger than our other swallows, and weighs ten or twelve gros; the eye is hollow, the throat ash-white, the rest of the plumage blackish, with green reflections; the back and the inferior coverts of the tail are of a deeper cast; these coverts reach to the end of the two middle quills; the bill is black; the legs of a brown flesh colour; the fore part and the inside of the *tarsus* are covered with small blackish feathers.

Total length seven inches and three quarters; the bill eight or nine lines; the tongue three

lines and a half, forked; the nostrils like a long shaped human ear, the convexity being turned inwards, and their axis being inclined to the ridge of the upper; the two eye-lids naked, moveable, and shut near the middle of the ball of the eye; the tarsus is near five lines, the four toes turned forward*, and consisting each of two *phalanges* only (a singular conformation, peculiar to the Swifts); the alar extent about fourteen inches; the tail near three inches, composed of twelve unequal quills †, and forked more than an inch; it is exceeded eight or ten lines by the wings, which contain eighteen quills, that when closed resemble the blade of a scythe.

Œsophagus two inches and a half, and forms near its bottom a small glandulous bag; the gizzard is muscular in its circumference, lined with a wrinkled loose membrane, and contains portions of insects, but no pebbles; it has a gall bladder, no *cæcum*; the intestinal tube from the gizzard to the anus seven inches and a half; the *ovarium* clustered with eggs of unequal sizes (this was on the 20th of May).

Having lately compared several Swifts of both sexes, I found that the males weighed more than the females, that their feet were stronger,

* How can the genus in which it is ranged be described to have three toes before and one behind?

† I know that Willughby reckons only ten; but perhaps he confounded this species with the following.

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that the white spot on the throat is broader, and that almost all the white feathers which form it have black shafts.

The insect which infests these birds is a kind of louse, of an oblong shape, and orange colour, but of different tints; having two thread-like *antennæ*, its head flat and almost triangular, and its body consisting of nine rings, beset with a few straggling hairs.

It is somewhat remarkable that during their stay with us their plumage loses its black gloss, and bleaches by continual exposure to the sun and the air. They arrive about the end of April, and retire before the end of August.

[A] Specific character of the Swift, *Hirundo-Apus*: "It is blackish, its throat white, all its four toes placed before." Mr. White avers from many years' observation, that the Swifts even copulate on the wing. In England they fly each day, in mid summer, at least sixteen hours. Nor do they seem to be at all incommoded by the heat of our meridian sun; nay, they are never so lively as in sultry thundery weather: so different is our climate to that of the south of France, where they are confined to their holes for some hours at noon.

The WHITE-BELLIED SWIFT.

Le Grand Martinet a Ventre Blanc *, Buff.

Hirundo-Melba, Linn. and Gmel.

Hirundo Major Hispanica, Briss.

Hirundo Maxima Freti Herculei, Klein.

The *Greatest Martin* or *Swift*, Edw.

I FIND, in this bird, both the general qualities of the swallow, and the peculiar characters of the Swift. Its legs are extremely short; its four toes are turned forward, and consist only of two *phalanges*; it never alights on the ground, and never perches on trees:— in these properties it agrees with the Swift: but there are considerable disparities that separate it; for, besides the differences in the plumage, it is twice as large, its wings are longer, and there are only ten quills in the tail.

These birds delight in mountains, and breed in the holes of crags. They appear annually among the cliffs which border the Rhone in Savoy, in those of the island of Malta, in the Swiss Alps, &c. The one described by Edwards was killed on the rocks of Gibraltar; but it is uncertain whether it resides there, or was only on its passage. And though it were a settler, this would not be a sufficient reason to call it *Spanish Swallow*, as Brisson has done: for, 1. it is found in many other countries, and probably

* *i. e.* The Great White-bellied Martin.

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in all those which abound with mountains and rocks. 2. It is rather a Swift than a swallow. One was killed, in 1775, in our districts on a pool, at the foot of a high mountain.

The Marquis de Piolenc (to whom I am indebted for my acquaintance with these birds, and who has sent me several) writes me that they arrive in Savoy about the beginning of April, and that they fly at first over the pools and marshes, and in a fortnight or three weeks they reach the high mountains; that they do not fly so lofty as the common Swifts, and that the time when they retire is not so precise or fixed as that of their appearance, and depends much on the state of the weather, and on the warmth or chillness of the air*: lastly, he subjoins that they live on beetles, spiders, &c. that they are difficult to shoot, that the flesh of the old ones is unpleasant †, and that the species is not numerous.

It is probable that these White-bellied Swifts breed also among the steep rocks on the sea-side, and that we may apply to them, as well as to the common Swifts, what Pliny says of certain birds without feet that fly in the open sea at all distances from the shore, circling round the vessels. Their cry is nearly the same with that of the common Swift.

* In the country of Geneva they remain a shorter time than the Swift or black Martin.

† Sportsmen usually say that these birds are hard both to kill and to eat.

The whole of the upper surface is brown-gray, but deeper on the tail and wings, with reddish and greenish reflections; the throat, the breast, and the belly, white; on the neck there is a brown-gray collar, variegated with blackish; the sides are variegated also with blackish and with white; the lower belly and the inferior coverts of the tail are of the same brown with the back; the bill black; the legs flesh coloured, covered with down before and on the inside; the ground of the feathers brown beneath the body, and light gray above; almost all the white feathers have a black shaft, and the brown ones are edged delicately with whitish at the tip. In one male which I observed, the feathers on the head were deeper coloured than in two others with which I compared it: it weighed two ounces five gros.

Total length eight inches; the bill an inch, slightly hooked; the tongue four lines, of a triangular shape; the iris brown; the eye-lids naked; the tarsus five lines and a half; the nails strong, the inner one the shortest; the alar extent above twenty inches; the wings composed of eighteen quills; the tail three inches and a half, consisting of ten unequal quills, forked eight or nine lines, and exceeded by the lines two inches at least.

The gizzard slightly muscular, very thick, lined with a loose membrane, containing fragments of insects, and some whole ones, and

among others was one whose skinny wings reached more than two inches; the intestinal tube nine or ten inches; the *æsofphagus* dilating below into a glandulous bag; no *cæcum*, nor could I perceive any gall bladder; the testicles very long and small (this was on the 18th of June). It appeared to me that the mesentery was stronger, the skin thicker, the muscles more elastic, and the brain firmer, than in other birds: every thing denoted strength, and indeed the swiftness of its motion necessarily implies that.

We may remark that the subject described by Edwards was smaller than ours. He asserts that it resembles the sand-martin so exactly that the same description will serve both. It is true that their plumage is nearly alike, and that all the swallow tribe are similar; but that naturalist should have noticed that the toes are differently disposed.

[A] Specific character of the White-bellied Swift, *Hirundo-Melba*: "It is brown; its throat and belly white; all its toes placed before."

FOREIGN BIRDS,

WHICH ARE RELATED TO THE SWALLOWS, THE MARTINS,
AND THE SWIFTS.

THOUGH the Swallows of the two continents form only one tribe, and are analogous in their shape and principal properties*, they have not all the same instincts and natural habits. In Europe, and on the nearest borders of Africa and of Asia, they are almost wholly birds of passage. At the Cape of Good Hope a part only migrate, and the rest are stationary. In Guiana, where the temperature is pretty uniform, they remain the whole year, without shifting their abodes; nor is the manner of life the same in them all; some prefer the settled and cultivated spots; others indifferently frequent inhabited places, or the wildest solitude; some inhabit the uplands, others the fens; some appear to be attached to particular districts; but none of them build their nest with earth like ours, though some breed in hollow trees, like the Swifts, and others in banks, like the Sandmartins.

It is remarkable, that almost all the late observers agree, that in this part of America and

* Perhaps we should except the bill, which is stronger in some American Swallows.

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in the adjacent islands, such as Cayenne, St. Domingo, &c. the species of Swallows are more numerous and various than in Europe, and that they reside there the whole year; while, on the contrary, Father Dutertre, who travelled through the Caribbees when the colonies were just planted, assures us that Swallows are very rare in these islands, and that they are migratory as in Europe*. If both these observations be regarded as well ascertained, they will shew the influence of civilized man on nature, since his presence is alone sufficient to invite whole species to settle and multiply. There is a curious remark made by Hagstroem in his *Swedish Lapland*, that corroborates this remark: he relates that many birds and other animals, whether from a predilection to human society or from views of interest, gather near the new settlements; he excepts, however, the geese and ducks, who observe a different conduct, and, both in the mountains and in the vallies, lead their migrations in a direction opposite to those of the Laplanders.

I shall conclude by remarking with Bajon and many other observers, that, in the islands and continent of America, there is often a great difference between the plumage of the male and female of the same species, and often a still greater in the

* "During the seven or eight years that I lived there, I never saw more than a dozen: they appear not (he subjoins) except in the five or six months that they are seen in France."

same

same individual at different ages. And this fact will justify the liberty which I shall take in ranging them.

I.

The BLACK SWALLOW.

Le Petit Martinet Noir *, Buff.

Hirundo Nigra, Gmel.

Hirundo Dominicanus, Briff.

THIS bird, which inhabits St. Domingo, is somewhat differently shaped from the Swift: the bill is rather shorter; the legs rather longer; so is the tail, and also less forked; the wings much longer; lastly, the feet do not seem in the figure to have their four toes turned forward, nor does Brisson tell how many *phalanges* the toes have.

This doubtless is the same with the species described by Bajon as almost quite black, which frequents the dry savannas, and breeds in holes in the ground, and perches often on withered trees. It is smaller than the Swift, and of a more uniform blackish, most of the individuals not having a single spot of any other colour in their whole plumage.

Total length five inches and ten lines; the

* *i. e.* The Little Black *Martinet* (Swift).

bill

bill six lines; the tarsus five lines; the alar extent fifteen inches and a half; the tail two inches and a half, forked six lines, and exceeded by the wings fourteen lines, and in some eighteen lines. In one specimen there was a small very narrow white bar on the front. I saw another in Mauduit's excellent cabinet, that had been brought from Louisiana; it was of the same size and nearly of the same plumage, being of a blackish gray without any gloss, and its legs not clothed with feathers [A].

 II.

The WHITE-BELLIED SWIFT*.

Le Grand Martinet Noir à Ventre Blanc, Buff.

Hirundo Dominicanensis, Gmel.

Hirundo cantu Alaudam referens, Klein.

The *St. Domingo Swallow*, Lath.

I CONCEIVE this bird to be a Swift from the account given by Father Feuillée, who saw it in St. Domingo. He calls it indeed a *Swallow*, but then he compares it to the Swifts, with regard to size, shape, and even colours. He saw it in the month of May sitting on a rock,

* i. e. The White-bellied great black *Martinet* (Swift).

[A] Specific character of the *Hirundo Nigra*: "It is entirely black."

and

and took its song for that of a lark, till the opening dawn enabled him to distinguish it. He assures us that numbers of these birds are seen in the American islands in the months of May, June, and July.

The predominant colour of the plumage is fine black, with the gloss of burnished steel; it spreads not only on the head, and all the upper side of the body, including the superior coverts of the tail, but also on the throat, the neck, the breast, the flanks, the thighs, the small coverts of the wings; the quills, the great superior and inferior coverts of the wings, and the quills of the tail, are blackish; the inferior coverts of the tail and of the belly are white; the bill and legs brown.

Total length seven inches; the bill eight lines; the tarsus six; the alar extent fourteen inches and two lines; the tail two inches and three quarters, forked nine lines, composed of twelve quills; it does not project beyond the wings.

Commerçon brought from America three birds much like the one described by Brisson, and which seem to belong to the same species [A].

[A] Specific character of the *Hirundo Dominicana*: "It is black, with a steel gloss; its belly white."

III.

The PERUVIAN SWALLOW.

Le Martinet Noir & Blanc à Ceinture Grise *, Buff.

Hirundo Peruviana, Gmel.

Hirundo Peruviana Major, Briff.

THE plumage of this bird consists of three principal colours; black is spread over the back, and as far as the superior coverts of the tail inclusively; snowy white on the under side of the body; light cinereous on the head, the throat, the neck, the superior coverts of the wings, their quills, and those of the tail: all these quills are edged with yellowish gray, and on the belly there is a light ash-coloured girdle.

This bird is found in Peru, where it was described by Father Feuillée. Like all the Swifts, it has short legs; the bill short and broad at its base; the nails hooked and strong, black like the bill; and the tail forked.

* i. e. The black and white Swift with a gray girdle.

IV.

The WHITE-COLLARED SWIFT.

Le Martinet a Collier Blanc, Buff.*Hirundo Cayanensis*, Gmel.

THIS is a new species which we received from the island of Cayenne. We have ranged it with the Swifts, because it has the four toes turned forward.

The collar which distinguishes it is of a pure white, and very conspicuous on the bluish black, which is the prevailing colour of its plumage. The part of this collar which passes under the neck forms a narrow band, and terminates on each side in a large white spot, which occupies the throat and all the upper side of the neck; from the corners of the bill rise two small diverging white bands, the one stretching above the eye to form an eye-lid, the other passes under the eye to some distance; lastly, on each side of the lower belly there is a white spot placed in such a manner, that it appears below and above; the rest of the upper and under sides, including the small and middle coverts of the wings, is of a velvet black with violet reflections; what appears of the great coverts of the wings next the body is brown edged with white; the great quills and those of the tail are black; the former bordered interiorly with rusty brown; the bill and legs

legs black; the feet feathered to the nails. Bajan says that this Swift breeds in houses. I have seen its nest at Mauduit's; it was very large, well stuffed, and constructed with the cotton of dog's-bane *; it had the shape of a truncated cone, of which one of the bases was five inches in diameter, and the other three inches; its length was nine inches; it appeared to have adhered by its large base, composed of a sort of pasteboard made of the same substance: the cavity of this nest was divided obliquely near its middle by a partition, which extended near the base where the eggs were lodged, and near that part there was a small heap of very soft dog's bane, which formed a kind of valve, and seemed intended to screen the young from the external air. Such precautions, in so warm a climate, shews that these Swifts feel acutely the sensation of cold. They are as large as the common Martins.

Total length, being the average of several specimens, five inches, and from three to eight lines; the bill six or seven; the tarsus three or five; the hind nail slender; the tail from two inches to two inches and two lines, forked eight lines, and exceeds the wings from seven to twelve lines.

* *Apocynum Cannabinum*, Linn.

V.

The ASH-BELLIED SWALLOW.

Le Petite Hirondelle Noire a Ventre Cendre *, Buff.

Hirundo Cinerea, Gmel.

Hirundo Peruviana, Briss.

THIS Peruvian Swallow, according to Father Feuillée, is much smaller than the European Swallows; its tail is forked, its bill very short and almost straight; the head and all the upper side of the body, including the superior coverts of the wings and tail, are of a shining black; all the under side of the body cinereous; lastly, the quills of the wings and of the tail are of a dull ash-colour, edged with yellowish gray [A].

VI.

THE

BLUE-SWALLOW of LOUISIANA.

Buff.

Hirundo Violacea, Gmel.

THE whole plumage is of a deep blue, yet not uniform, but glossed with different tints of violet; the great quills of the wings are

* The Ash-bellied little black Swallow.

[A] Specific character of the *Hirundo Cinerea*: "It is black, below cinereous; the quills of its wings and tail gray; its orbits brown."

also

also black, though only on the inside, and not seen unless the wings are spread; the bill and legs are black; the bill a little hooked.

Total length six inches and six lines; the bill seven lines and a half; the tail very forked, and exceeded five lines by the wings, which are very long.

M. Lebeaux has brought from the same country another specimen, which is evidently of the same kind, though larger, and the quills of the tail and wings, and the primary coverts of the wings, are blackish, without any steel gloss.

Total length eight inches and a half; the bill nine lines, pretty strong and somewhat hooked; the tail three inches, forked an inch, and falls a little short of the wings [A].

VARIETIES.

A. THE BLUE SWALLOW of Louisiana seems to be the principal stem which has given origin to four varieties, two of which are spread through the north, and the other two through the south.

I. The Cayenne Swallow * of the *Planches*

[A] Specific character of the *Hirundo Violacea*: "It is dark blue, tinged with violet; the inside of its greater wing-quills, its bill, and its legs, are black."

* *Hirundo Chalybea*, Gmel.

Hirundo Cayanensis, Briss.

The *Chalybeate Swallow*, Lath.

Enluminées. It is the most common species in the island of Cayenne, where it remains the whole year. It is said to sit frequently among brush wood, and on half-burnt trunks that bear no leaves. It does not build a nest, but breeds in hollow trees. The upper surface of the head and of the body is blackish, glossed with violet; the wings and the tail the same, but edged with a lighter colour: all the under surface of the body is rusty gray veined with brown, and growing more dilute on the lower belly and the inferior coverts of the tail.

Total length six inches; the bill nine lines and a half, stronger than that of the Swallows'; the tarsus five or six lines; the hind toe and nail are the shortest; the alar extent fourteen inches; the tail two inches and a half; forked six or seven lines, and exceeded by the wings about three lines.

II. I have seen four blue Swallows brought from South America by Commerson, which were of a middle size between those of Cayenne and Louisiana, and which differed only in the colours of the lower surface of the body. In three of them the throat was brown gray, and the under side of the body white. The fourth, which came from Buenos Ayres, had its throat and all the under side of its body white, sprinkled with brown spots, which are more frequent on the fore parts, and wider scattered on the lower belly.

III. The

III. The Carolina bird * which Catesby calls the *Purple Martin*. It belongs to the same climate, and is of the same bulk with the one from Buenos Ayres, just mentioned. A fine deep purple is spread over all its plumage, and still more intense on the quills of the tail and of the wings; the bill and legs are rather longer than those of the preceding varieties, and its tail, though short, projects somewhat beyond the wings. It nestles in holes made on purpose for it around the houses, and in gourds which are set on poles to invite it. It is esteemed useful because it scares away the birds of prey, and the ravenous beasts, or rather gives notice of their appearance. It leaves Virginia and Carolina on the approach of winter, and returns in the spring.

Total length seven inches and eight lines; the bill ten lines; the tarsus eight lines; the tail two inches and eight lines, and forked fourteen lines, projecting a little beyond the wings.

IV. The Swallow from Hudson's Bay, termed by Edwards *The Great American Martin* †. Like

* *Hirundo Purpurea*, Gmel.

The *Purple Swift*, Penn.

The *Purple-Swallow*, Lath.

Specific character: "It is entirely purple, its tail forked."

† *Hirundo Subis*, Linn. and Gmel.

Hirundo Freti Hudsonis, Briss.

The *Canada Swallow*, Lath.

Specific character: "It is bluish black; its mouth and its under side whitish cinereous."

the preceding varieties, it has a stronger bill than usual; the upper surface of the head and body is of a shining purplish black, and there is a little white at the base of the bill; the great quills of the wings, and all those of the tail, are black without any gloss, and edged with lighter colour; the upper edge of the wing whitish; the throat and breast deep gray; the sides brown; the under surface of the body white, shaded with a brown cast; the bill and legs blackish.

Total length near eight inches; the bill eight lines; the edges of the upper mandible scalloped near the point; the tarsus seven lines; the tail near three inches, forked seven or eight lines, and exceeding the wings three lines.

VII.

The BRASILIAN SWALLOW.

La Tapere, Buff.

Hirundo Tapera, Linn. Gmel. Ray, Sloane.

Hirundo Americana, Briss. and Klein.

Tapera, Marcgr.

THIS Brazilian Swallow, Marcgrave tells us, resembles much the European; its size the same; its manner of circling also the same; and its legs as short, and feet of a similar shape. The
upper

upper side of the head and body, including the wings and the tail, are brown gray, but the quills of the wings and the extremity of the tail browner than the rest; the throat and breast gray mixed with white; the belly white, and also the inferior coverts of the tail; the bill and the eyes are black; the legs brown.

Total length five inches and three quarters; the bill eight lines, and its opening extends beyond the eyes; the tarsus six lines; the alar extent twelve inches and a half; the tail two inches and a quarter, composed of twelve quills, forked three or four lines, and a little exceeded by the wings.

According to Sloane, this bird belongs to the Swifts, only its plumage is darker. It frequents mostly the meadows and savannas; and is said to perch, from time to time, on the bushes: and since none of our Swallows, Martins, or Swifts, have that habit, I am inclined, notwithstanding the opinion of Sloane and Oviedo*, to think that the *tapera* is a species peculiar to America; at least, it is distinct from those of Europe.

Edwards suspects it to be the same with his *great American Martin*; but on comparing the descriptions, I find differences in the plumage, in the size, and in the proportions [A].

* Oviedo reckons the *tapera* among the birds that are common to both continents.

[A] Specific character of the *Hirundo-Tapera*: "Its tail-quills are equal; its body blackish, and white below."

VIII.

THE

BROWN-COLLARED SWALLOW.

*Hirondelle Brune & Blanche a Ceinture Brune**, Buff.

Hirundo Torquata, Gmel.

IN general, all the upper surface is brown, and all the under white or whitish, except a broad brown girdle on the breast and thighs: there is a slight exception, however; it is a small white spot on each side of the head between the bill and the eye. This bird was brought from the Cape of Good Hope.

Total length six inches; the bill eight lines, stronger than usual in Swallows, the upper mandible a little hooked, its edges scalloped near the point; the tail twenty-seven lines and square, and falling eight lines short of the wings, which grow very narrow near the extremities, for the space of about two inches.

* *i. e.* The Brown and White Swallow with a brown cincture.

IX.

The WHITE BELLIED CAYENNE
SWALLOW, *Buff.*

Hirundo Leucoptera, Gmel.

The *White-winged Swallow*, Lath.

A SILVERY white spreads not only over all the under surface of the body, including the inferior coverts of the tail, but also on the rump, and it borders the great coverts of the wings; and this edging extends more or less in different individuals; the upper side of the head, neck, and body, and the small superior coverts of the wings, are cinereous, with reflections which are more or less conspicuous, and fluctuate between green and blue, and of which there are also some traces on the quills of the wings and of the tail, whose ground colour is brown.

This handsome Swallow skims along the ground like ours, circles in the overflowed savannas of Guiana, and perches on the lowest branches of leafless trees.

Total length from four and a quarter to five inches; the bill six or eight lines; the tarsus five or six; the hind nail strongest after the middle one; the tail an inch and a half, forked two or three lines, and exceeded, from three to six lines, by the wings.

We may regard the Spotted-bellied Cayenne

Swallow as a variety of this species, differing only in its plumage, and the ground colours being still nearly the same, always brownish-gray and white; but the upper side of the body, and of the quills of the wings and of the tail, is of an uniform brown, without any reflection or mixture of white; the under side, on the contrary, which in the other is of an uniform white, is in this bird white sprinkled with oval brown spots, thicker on the fore part of the neck and of the breast, and thinner towards the tail.—In some of the White-bellied Swallows there is a mixture of white on the upper coverts of the wings, and the gray or brown of the upper surface of the body is less glossy.

X.

The ESCULENT SWALLOW.

La Salangane, Buff.

Hirundo Esculenta, Linn. and Gmel.

Apus Marina, Rumphius and Olearius.

Hirundo Riparia Cochinchinensis, Briss.

Hirundo nido eduli, Bontius.

Layong-Layong, Marfd. Sumatra.

SALANGANE is the name which the inhabitants of the Philippines bestow on a small Sand-martin, celebrated for the singular quality of its nest, which is eaten and esteemed a great delicacy

delicacy in China, and in many of the other adjacent countries*. The high price which it bears tempts frequently to adulterate it, which, together with the fables that have been propagated on the subject, occasions much obscurity and contradiction.

These nests have been compared to those of the *Halcyons*, and many have hastily concluded that they were the same. The ancients conceived the latter to be real birds' nests, composed of slime, froth, and other impurities that float on the surface of the sea, and they distinguished them into several kinds. The one mentioned by Aristotle was of a spherical form, its mouth narrow, of a rusty colour, and of a spongy cellular substance, consisting chiefly of fish-bones †. But a slight comparison with the description which Doctor Vitaliano Donati gives of the *Alcyonium* of the Gulf of Venice ‡ will convince

* In China these nests are called *Saroi-Bouras*; in Japan, *Jen-wa*, *Jen ku*; in India, *Patong*.

† Arist. *Hist. Anim.* Lib. IX. 14. Plin. *Lib XXXII.* 8. There are always many of these bones and scales of fishes in the nest of our halcyon or king-fisher, but they are thinly scattered among the dust on which this bird lays its eggs, and do not enter into the composition of the nest; for our king-fisher never builds one.

‡ The *Alcyonium* is a marine body . . . approaches the round or convex figure above . . . its surface tuberosous . . . completely invested with very thick spines . . . of an earthy colour, but free from filth, of a wax-colour . . . the heart much softer . . . spongy and cavernous . . . with many spines much entangled and cloathed with flesh, &c." *Storia Naturale marina dell Adriatico*, p. 58.

us that they are exactly the same, and only the *nidi* of sea insects. The only difference is that Donati says its entrance is large, and Aristotle that it is small; but these terms are evidently vague: the Italian finds the mouth to be one sixth of the width of the whole.

But the *patong* of the East-Indies is the real nest of a species of Swallow. Writers are not agreed either with regard to its materials, its form, or the places where it is found: some assert that it is attached to rocks, close on the surface of the water*; others, that it is lodged in the hollows of these rocks †; and others, that it is concealed in holes made in the ground ‡. And Gemelli Carreri adds, “that the sailors are always in search along the beach, and when they find earth thrown up, they open the spot with a stick, and take the eggs and the young, which are reckoned equally delicate §.”

With regard to the form of these nests, some affirm that they are hemispherical ||, while others say, “that they have many cells, which are like large conglutinated shells, and marked as such with *striae* and rugosities †.”

* *Curiosites de la Nature & de l'Art*, p. 170.

† John de Laet, Van Neck, Kircher, &c.

‡ Gemelli Carreri, *Voyage round the World*, t. V. p. 268.

§ The same thing has been said of our Sand-martin. *Salerne, and Willughby*.

|| *Museum Worm*.

† Father Philip Marin. *Hist. de la Chine*, p. 42.

Of its substance, the accounts are still more various. Some assert that it is still unknown*; others, that it is the froth of the sea, or fish-spawn; others, that it is strongly aromatic; others, that it is insipid; others, that it is a juice gathered by the *Salanganes* from the tree called *calambouc*; others, that it is composed of a viscous substance discharged from the bill in the love season; others, that it is formed of the fish-plants found on the sea: but the greater number agree, that the substance of these nests is transparent and like isinglass, which is the fact. The Chinese fishers assured Kæmpfer that those usually sold were nothing but a preparation of the marine polypi, and he adds, that by his receipt the colour may be imitated. All these discordant relations prove that various substances, natural or artificial †, have at different times, and in different countries, been regarded as the nests of the *Salangane*. In this state of uncertainty, I could not do better than apply for in-

* Kircher, Du Halde, &c.

† Here is Kæmpfer's recipe: First skin the polypes, and steep the flesh in a solution of alum for three days; then rub, wash, and clean it till it become transparent, and afterwards pickle it. *Hist. du Japon*, t. I. p. 120. In those countries many other preparations are made of the same kind; in China, with the tendons of stags, and with the fins of sharks. See Olof Toren, *Voy. aux Indes Orient.* p. 76; *Etabliſſ. Europ. dans les Indes*, t. I. l. 2. (N. B. Isinglass is made of the swimming bladders of a fish common in the Russian seas.) In Tonquin fowls' eggs are seasoned in such manner as to preserve them, and to fit them for seasoning to other dishes. *History of Tonquin*, in Churchill's Collection, Vol. VI. p. 6.

formation to that philosophical traveller, M. Poirre, formerly *Intendant* of the Islands of France and Bourbon. That gentleman was so obliging as to send me the following account.

“ In 1741 I embarked in the ship *Mars*, bound for China, and in the month of July, the same year, we reached the straits of Sunda, very near Java, and between two small islets, called the *Great and Little Tocque*. We were there becalmed, and went ashore on Little Tocque to hunt green pigeons. While the rest of the party were clambering among the precipices, I walked along the beach to gather shells and jointed corals, which are found here in great abundance. After having made almost an entire circuit of the islet, it was growing late, when a sailor who accompanied me, discovering a deep cavern in the rocks on the brink of the sea, went into it, and scarce advanced two or three steps when he called aloud to me. I hastened to the mouth of the cavern, and found it darkened by an immense cloud of small birds, which poured out like swarms. I entered it, and knocked down with my cane many of these poor little birds, with which I was then unacquainted; as I penetrated farther, I perceived the roof of the cavern to be covered entirely with small nests shaped like holy-water-pots*. The sailor

* Each of these nests contained two or three eggs or young ones, which lay softly on feathers, like those which the parents had on their

failor had already broken off several, and had filled his frock with them and with birds. I also detached some of the nests, and found them glued firmly to the rock. Night now came on, and we returned to the ship with the fruits of our excursion.

“ The nests which we brought were known by many of our people on board, who had made several voyages to China, to be the same with those so highly valued in that country. The failor kept several pounds, which he sold to good account at Canton. For my part, I delineated and coloured these birds with their nests and their young; and I discovered them to be real Swallows: they were about the size of the larger kind of humming-birds (*colibris*).

“ Since that time I have observed, in several voyages, that, in the months of March and April, the seas which extend from Java to Cochin-China, and from the promontory of Sumatra to New Guinea, are covered with fish-spawn, which floats on the water like strong glue half-melted. I have learnt from the Malays, the Cochin-Chinese, and from the natives of the Philippines and Moluccas, that this is the substance of which the *Salangane* constructs its nest*. They all agree in this

their breast. As these nests soften in water, they could not withstand rain, or bear an exposure near the surface of the sea.

* It gathers the spawn either by razing the surface of the sea,

this account. On passing the Moluccas in April and the straits of Sunda in March, I fished up some of this spawn with a bucket, and after having drained off the water and dried it, I found it resembled exactly the substance of those nests.

“ About the end of July and the beginning of August, it is customary with the people of Cochin-China to rove the islets, which skirt their coast to the distance of twenty leagues, in search of the nests of these little Swallows . . .

“ The Salanganes are seldom ever found, but in that immense Archipelago which encircles the eastern extremity of Asia All that Archipelago, where the islets may be said almost to touch each other, is extremely favourable to the breeding of fish; their spawn is very abundant; the water is there warmer than in the ocean.”

I have observed several of these nests; they resembled the half of an oblong hollow ellipsoid, made by cutting it at right angles through the middle of the larger axis; and the plane of this section had stuck to the rock: they consisted of a yellowish white substance, semi-transparent; composed externally of exceeding thin and nearly concentric layers; the inside was formed of irregular net-work, the meshes very unequal,

or by alighting on the rocks on which it is cast and coagulated. Sometimes threads of this viscous substance are seen hanging at the bills of these birds, and which have been supposed, but without foundation, to be extracted from their stomach in the love-season.

and

and placed one above another, the threads being drawn from the same substance with the outer layers, and much interwoven.

In the nests which were entire, no feather could be perceived; but on cutting carefully into their substance, we found some entangled, which diminished the transparency of the part. Sometimes, though much more rarely, we discovered fragments of egg-shells; and almost all of them had vestiges of the birds' excrements*.

I held in my mouth, a whole hour, a scale detached from one of these nests; it had at first a slight saline flavour, afterwards it was insipid as paste; it did not dissolve, but softened and swelled. M. Poivre also found it had only the taste of isinglass, and he assures us that the Chinese value it solely for its nutritious invigorating quality; he adds, that he never ate any thing so rich and strengthening as the soup made with it and meat †. If the *Salanganes* feed on the same substance with which they build their nest, and which is so plentiful in those seas, and if it has the prolific property, which the Chinese ascribe to it, no wonder that the species is very numerous. It is said that a thou-

* Most of these observations were first made by Daubenton the younger, who communicated them to me with several nests of *Salanganes*, where I observed the same things.

† Might not this soup owe part of its qualities to the flesh used in making it?

and casks of these nests are annually exported from Batavia, having been procured from the islets of Cochin-China and the East. Each cask weighs one hundred and twenty-five pounds, and each nest half an ounce * ; hence the whole must amount to one hundred and twenty-five thousand pounds, and contain four millions of nests.

I must confess, however, that the philosopher Redi†, judging from experiments made by others, and perhaps incomplete, entertains great doubts with regard to the restorative virtue of these nests, which is attested by many other writers, who on that point agree with Poivre ‡.

Nothing better shews that the Salangane has remained long unknown, than the different names bestowed on it. It is called the *Sea-Swallow* and the *Halcyon*: its wings have been supposed to be blue, and it has been represented as sometimes equal in size to the ordinary Swallows, sometimes as larger, sometimes as smaller. In short, nothing accurate was known before M. Poivre.

* *Etablissmens Europeens dans les Indes Orientales, t. I. liv. 2.*

† See the observations of Redi in the *Coll. Acad. part. stran. t. IV. p. 567*. If it be true, as alleged, that the Hollanders begin to import these nests into Europe, the fact will be soon ascertained.

‡ *Comedunt in primis ii qui in castris veneris strenue se exercere volunt. Musæum Wormianum, Lib. III. 21.* "It is a great restorative to Nature, and the luxurious Chinese make much use of it." *Sprat's History of the Royal Society of London, p. 206.*

Kircher

Kircher had asserted that these birds appear on the coast only in the breeding season, and that it is uncertain where they live during the rest of the year; but M. Poivre informs us, that they remain constantly in those islets and rocks where they were hatched, and that they live like the European Swallows, only they circle rather less; in fact, their wings are somewhat shorter.

They have only two colours, blackish on the upper surface, and whitish on all the under surface, and also on the tips of the tail-quills; the iris is yellow, the bill black, and the legs brown.

It is rather smaller than the wren; its total length two inches three lines; the tarsus as many; the hind toe the shortest; the tail ten lines, forked three, composed of twelve quills, and projects three fourths of its length beyond the wings.

[A] Specific character of the *Hirundo Esculenta*: "All its tail-quills are marked with a white spot."

XI.

The WHEAT SWALLOW.

*La Grande Hirondelle Brune a Ventre Tacheté **, ou *Hirondelle des Bles*, Buff.

Hirundo Borbonica, Gmel.

THIS bird is usually called the Corn Swallow in the Isle of France; it haunts the wheat fields, the glades of the woods, and prefers the uplands; it frequently sits on trees and on stones; it follows the herds, or rather the insects which infest them: it is also seen, from time to time, flying in large troops behind the vessels lying in the roads, and constantly in the pursuit of winged insects; its cry is much like that of the common Swallow.

The Viscount de Querhoent observed that the Wheat Swallows circled frequently in the evening near a cut which had been made in a mountain; and he thence conjectures that, like our Sand-martins and Swifts, they pass the night in holes under ground, or in crevices of the rocks. They, no doubt, breed in the same retreats; which may be the reason that their nests are unknown in the Isle of France. The Viscount de Querhoent could procure no account of their incubation but from an old person of the Isle of Bourbon, and born in the country, who told him that they sat in September and Octo-

* *i. e.* The Great Brown Swallow with a spotted tail.

ber, that he had caught many on their nests in caverns and the holes of rocks, &c. that these are composed of straw and a few feathers, and that he never saw more than two eggs, which were gray and dotted with brown.

This Swallow is as large as our Swift; the upper surface of its body blackish brown; the under surface gray, sprinkled with long brown spots; the tail square; the bill and the legs black.

V A R I E T Y.

THE Little Brown Swallow with a spotted tail, from the Isle of Bourbon, must be regarded as a variety of size from the preceding species. It has also some slight differences of colours; the upper surface of its head, of its wings, and tail, is blackish brown; the three last quills of the wings are terminated with dirty white, and edged with greenish brown; this last colour spreads over all the rest of the upper surface; the throat and all the under side of the body, including the inferior coverts of the tail, are marked with longitudinal brown spots, on a gray ground.

Total length four inches nine lines; the bill seven or eight lines; the tarsus six lines; all the nails short and slightly hooked; the tail near two inches, square, and falls about seven lines short of the wings.

XII.

The GRAY-RUMPED SWALLOW.

La Petite Hirondelle Noire a Croupion Gris *, Buff.
Hirundo Francica, Gmel.

COMMERSION brought this new species from the Isle of France; it is scarce, though there are abundance of insects in that island; it is even lean, and its flesh unpalatable; it lives indifferently in the town or the country, but always near springs; it is never observed to sit; it flies with great celerity; it is as large as a tit-mouse, and weighs two gros and a half. The Viscount de Querhoent saw it frequently towards the evening in the skirts of the woods, and he thence infers that it chooses the sylvan shades for its nocturnal retreats.

All the upper surface is of an uniform blackish, except the rump, which is whitish, and this is likewise the colour of the under surface.

Total length four inches two lines; the bill five lines; the tarsus four lines; the alar extent nine inches; the tail near two inches, and, in the subject described by Commerson, it had only ten quills, which were nearly equal; it is ten lines shorter than the wings, which consist of seventeen or eighteen quills.

A specimen brought from the East Indies by

- *i. e.* The Little Black Swallow with a gray rump.
 Sonnerat,

Sonnerat, appears to me to belong to this species, or rather to form the shade between this species and the preceding variety; for the under side of the body was spotted like the latter, and it resembled the former in the colour of the upper side of the body, and in the dimensions; only the wings projected seventeen lines beyond the tail, and the nails were slender and hooked.

XIII.

THE

R UFOUS-RUMPED SWALLOW.

L'Hirondelle a Croupion Roux et Queue Carrée, Buff *.
Hirundo Americana, Gmel.

ALL the upper surface except the rump is blackish brown, with reflections fluctuating between brown green and deep blue; the rufous colour of the rump is a little mingled, each feather being edged with whitish; the quills of the tail brown; those of the wings also brown, with some greenish reflections; the primaries edged interiorly with whitish, and the secondaries edged with the same colour, which rises a little on the outside; all the under surface of the body is dirty white; and the inferior coverts of the tail rusty.

* i. e. The Swallows with a rufous rump and square tail.

Total

Total length six inches and a half; the bill nine or ten lines; the tarsus five or six; the toes disposed three one way and one the other; the alar extent about ten inches; the tail two inches, almost square at the end, and a little shorter than the wings.

Commerſon ſaw this Swallow on the banks of the De la Plata in May 1765. He brought from the ſame country another bird which may be regarded as a variety of this ſpecies; it differed in having its throat ruſty, more white than ruſous on the rump and the lower coverts of the tail; all the quills of the tail of the wings were deeper, with more diſtinct reflections; no white on the great quills of the wings, which projected ten lines beyond the tail, which was a little forked; the alar extent eleven inches.

XIV.

The SHARP-TAILED BROWN SWALLOW of LOUISIANA.

Hirundo Pelasgia, Var. Gmel.

THERE are ſome Swallows in America whoſe tail-quills are entirely deſtitute of webs at the ends, and terminate in a point.

The preſent was brought from Louiſiana by Lebeau; its throat and the fore ſide of the neck were

were dirty white, spotted with greenish brown; all the rest of the plumage appeared of a pretty uniform brown, especially at first sight; for, on a nearer inspection, we perceive that the head and the upper surface of the body, including the superior coverts of the wings, are of a deeper cast; the rump and the under surface of the body are lighter, the wings blackish, edged interiorly with black; the legs are brown.

Total length four inches and three lines; the bill seven lines; the tarsus six lines; the middle toe six lines; the hind toe the shortest; the tail seventeen or eighteen lines, including the pointed shafts, a little rounded at the end; these shafts black, and four or five lines long; those of the middle quills of the wings largest, and twenty-two lines shorter than the wings.

The American Swallow of Catesby, and the Carolina Swallow of Brisson *, is much shorter winged than that from Louisiana, but resembles it exactly in size, in its general proportions, in its plumage, and in the sharp shafts; and as the climate is nearly the same, if the great difference in the length of the wings were not constant, we might regard it as a variety of the same species. The times of its arrival in Carolina and Virginia, and of its departure from those countries, correspond, says Catesby, to the ap-

* *Hirundo Pelagica*, Linn. and Gmel.
The *Aculeated Swallow*, Penn. and Lath.

pearance and retreat of the Swallows in England. He suspects that they winter in Brazil, and he tells us that they breed in the chimneys in Carolina.

Total length four inches and three lines; the bill five lines, the tarsus the same, the mid toe six; the tail eighteen lines, and three lines shorter than the wings.

The Sharp-tailed Swallow of Cayenne, called *camaria*, resembles more that of Louisiana, in its size, than that of Carolina; its wings being longer than the latter and shorter than the former. On the other hand, it differs rather more in its colours, for the upper side of the body is deeper brown, and verging on blue; the rump gray; the throat and the fore part of the neck gray, with a rusty cast; the under side of the body grayish shaded with brown; in general, the colour of the higher parts is rather brighter and more distinct than that of the lower. Perhaps it is a sexual variety, especially as the Cayenne Swallow has been reckoned a male.

It is said in Guiana never to approach the settlements; and certainly it does not breed in the chimneys, for there are no chimneys in that country.

Total length four inches and seven lines; the bill four lines, the tarsus five; the tail twenty lines including the points, which are two or three lines; the wings extend about an inch beyond it.

XV.

The SHARP-TAILED BLACK
SWALLOW of MARTINICO.

Hirundo Acuta, Gmel.

Hirundo Martinicana, Briff.

The Sharp-tailed Swallow, Lath.

IT is the smallest of all the Sharp-tailed Swallows; not larger than a gold crested wren; the points which terminate the quills of the tail very fine.

All the upper side of the head and body black without any exception, the throat gray brown, and the rest of the under side of the body dull brown; the bill black and the legs brown.

Total length three inches and eight lines; the bill four lines, the tarsus the same; the mid toe four lines and a half; the alar extent eight inches and eight lines, and eight lines shorter than the wings.

END OF THE SIXTH VOLUME.

