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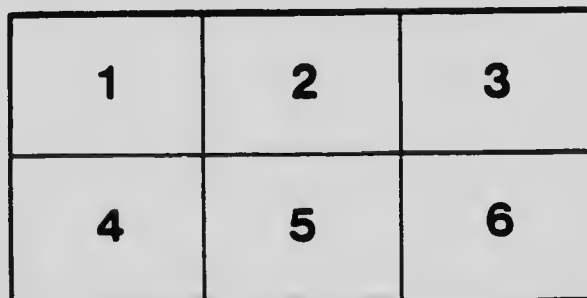
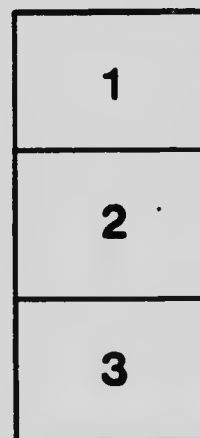
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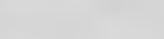
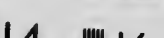
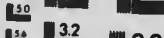
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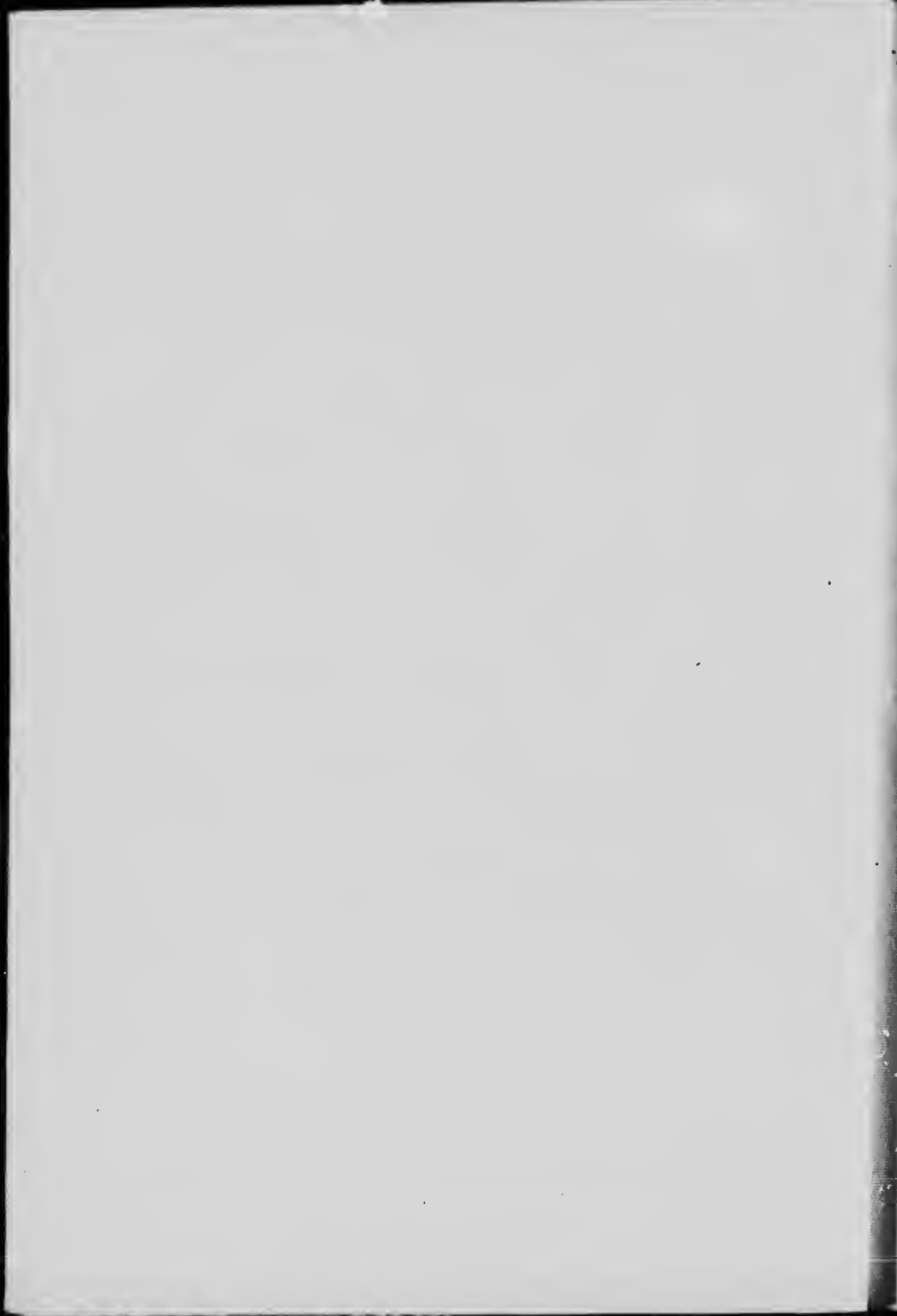
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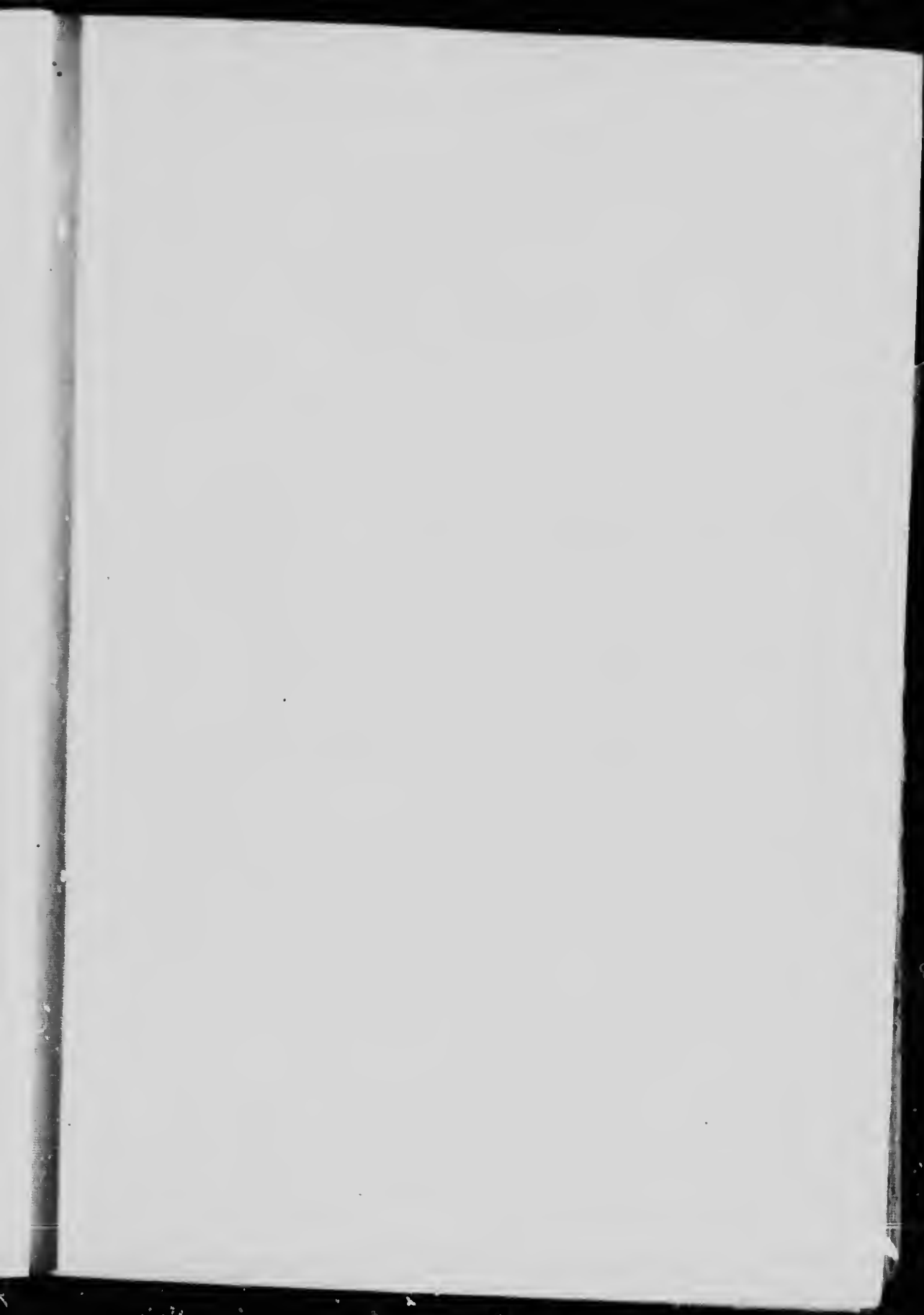


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BIRDS OF LA PLATA

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RED-BILLED GROUND-FINCH
Embernagra b. alpinus (Linn.)

BIRDS OF LA PLATA

BY
W. H. HUDSON



*WITH TWENTY-TWO COLOURED
ILLUSTRATIONS BY
H. GRONFOLD*

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INTRODUCTION

THE matter contained in this work is taken from the two volumes of the *Argentine Ornithology*, published in 1888-9, and was my first book on the subject of bird life. The late Philip Lutley Sclater, who was at that time the chief authority in this country on South American Ornithology, collaborated with me in the work to the extent of arranging the material in accordance with the most popular system of classification, and also adding descriptions, synonymy, etc., of the species unknown to me. All this matter which he contributed in order to make the work a complete list, I have thrown out, along with the synonymy of the species described by me. And there was good reason for this simplification, seeing that we cannot have a complete list owing to the fact that fresh species are continually being added to it by the collectors; these species, new to the list, being mostly intruders or visitors found on the subtropical northern limits of the country. The original work (*Argentine Ornithology*) was thus out of date as soon as published, and the only interest it still retains for the reader is in the account of the birds' habits contributed by me. The work thus being no longer what it was, or was intended to be, a different title had to be found, and I cannot think of a more suitable one than *The Birds of La Plata*, which

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indicates that the species treated here are of the Plata country—a district of Argentina. Furthermore, it gives the book its proper place as a companion work to *The Naturalist in La Plata*. That book, also now old in years, has won a permanent place in the Natural History libraries, and treats of all forms of life observed by me; but as it was written after *Argentine Ornithology*, I kept bird subjects out of it as far as possible, so that the two works should not overlap. I may add that *Argentine Ornithology* was issued in a limited edition, and that copies are not now obtainable.

One would imagine that during the long thirty years which have elapsed since these little bird biographies were first issued, other books on the same subject would have seen the light. For since my time many workers in this same field have appeared, Natural History Societies have been formed, and one among them, exclusively a bird-lovers' association, issues a periodical founded on the *Ibis* pattern, and entitled *El Hornero—The Oven-Bird*.

That, at all events, is what I supposed. But I hear that it has not been so: naturalists out there have been saying that my book of 1889 and that of Azara, composed a century earlier—*The Birds of Paraguay and the River Plate*—are the only works yet published which treat of the life habits of the birds in that region.

This, I take it, is a good and sufficient reason for the re-issue of so old a work. The lives of birds is a subject of perennial interest to a large and an

ever-increasing number of readers—to all those, in fact, who love a bird, that is to say, the living bird, not the dead stuffed specimen in a cabinet. It was well and wisely said by Professor Mivart in his great anatomical work that "there is no such thing as a dead bird." For the body is but the case, the habit, and when the life and soul have gone out of it, what is left is nothing but dust.

To return for a few moments to the writer on birds who came so long before me. Don Felix de Azara, a Spanish gentleman, a person of importance in his time, a traveller and author of several works, was yet able to find his chief pleasure in "conversing with wild animals in desert places in a remote land."

The bird life of those then little-known countries had a special attraction for him, and he was a most excellent observer and described them carefully. His brief notes on their habits are all the better to read on account of his simple natural diction, so rare to find in the Spanish language, the beauty and sonority of which perpetually tempts the writer to prolixity and a florid style.

Azara had one great advantage over me. He had his friend Nosedá, a village priest in Paraguay, who shared his interest in the bird life of the district, and made copious notes of his observations, and these Azara could draw upon. Nosedá was, indeed, a sort of Gilbert White (his contemporary), and had his "parish of Selborne" in a barbarous country rich in bird life. I had no Nosedá to compare notes

with, nor in all the years of my life in the pampas did I ever have the happiness to meet with anyone to share my interest in the wild bird life of the country I was born in.

So far the book and its history. It remains to add something concerning its subject—the character of the bird life of the district where my observations were made. It is like that of South America generally, but differs in the almost total absence of tropical forms, such as Trogons, Toucans, Puff-birds, Motmots, Todies, Jacamars, and Barbets.

The bird world has been divided by Ornithologists into several geographical regions, and undoubtedly birds differ in widely-separated portions of the earth and, like the races of men, have the stamp of their country or continent on them. But the bird is a volatile being, and vast numbers refuse to belong to any particular region. Some are migratory, and travel to distant lands outside of the region assigned to them, the return journey in many cases covering a distance of 12,000 miles. That a bird should have its breeding and feeding, or summer and winter areas, 6,000 miles apart, seems almost incredible. Thus, in South America, which is called the Neotropical Region, there are numerous species that come from the adjoining region of North America, and among these are several species which breed in the arctic regions as high as latitude eighty to eighty-three or four degrees, yet after breeding fly south as far as the southern extremity of Patagonia.

Besides the strict migrants there are many birds

of a wandering disposition, like the European Crossbills, the Waxwing, and the Short-eared Owl. They have the gipsy habit or the Columbus-like spirit of the poet's Stork, who goes forth to explore heavens not his own and worlds unknown before.

Finally, we have a multitude of species, both resident and migratory, belonging to families that have a world-wide distribution. Among these are the Thrushes, Wrens, Pipits, Swallows, Finches, Crows, Swifts, Goatsuckers, Woodpeckers, Cuckoos, Owls, Hawks, Vultures, Herons, Storks, Plover, Snipe, Duck, Rails, Gulls, Cormorants and Grebes.

These universally distributed families are always more numerous in the temperate zones than in the tropics in relation to the entire number of species. Thus they are relatively more numerous in the temperate district of La Plata than in the Brazilian Forest region.

Undoubtedly South America is richer in bird life than any other region of equal extent. The species number considerably over 2,000, and one half or something over a half belong to a single order—Passeres, or Perchers. Half of these again are included in the Sub-Order Oscines, or birds with a developed vocal organ—the song birds. We see thus how rich this region is in bird life in which the songsters alone equal in number, if they do not exceed, all the species of birds in Europe together.

About a quarter of the entire number of South American species inhabit Argentina, and about half that number are found in the Plata district, which

belongs to the Patagonian Sub-region of the Neotropical Region.

The species known to me personally number 233, but many more have been added since I left the country. The exclusively Neotropical types in my list include Tanagers, Trupials, Tyrant-birds, Plantcutters, Wood-hewers, Ant-birds, Gallito birds, Humming-birds, Screamers, Courlans, Jacanas, Seed-snipe, Tinamus, and Rheas — in all eighty-four species.

Thus in this district the exclusively South American forms, or families, are in a minority; but if we take the whole of the Argentine country, these exclusive forms and the widely-distributed forms are pretty evenly balanced. Finally, if we take the entire Neotropical Region we find the exclusively South American forms in a majority. The Hummingbird family alone numbers over four hundred species, the Tanagers about the same number, while two other Passerine families, Tyrants and Woodhewers, count together five hundred at least.

We have also to take into account that in the families that are universal in their distribution there are groups, genera and sub-families greatly modified in form. Thus, in the Thrush family we have the Mocking-birds, and as in the Thrush family so do we find divergent types in Wrens, Finches, Cuckoos and other families.

To sum up. We have in the universally distributed families, groups and genera, which exhibit the peculiar impress of the region they inhabit (in this

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instance the Neotropical or South American character), existing side by side with the unmodified forms: a Thrush, a Siskin, a Swallow, an Owl, a Duck, a Dove, a Plover, etc., hardly (and sometimes not at all) distinguishable specifically from Old World forms. And along with those modified and unmodified forms—Asiatic, European and North American—the distinctly Neotropical forms. Among these last there are species that have a profound interest to the student of the evolution of the bird life of the globe. They are survivals of an incalculably remote period in the earth's history when the greater part of the Southern Hemisphere was land; when South America, South Africa and Australasia were parts of one continent. Among these forms, which have struthious and even older affinities, are the Rheas, the Crypturi (the Partridges of South America) and the Crested Screamer, which Huxley supposed to be related by descent to the Archæopteryx.

To go back to the statement made at the beginning of this Introduction—that the one interest of this book is in the account of the birds' habits—I am tempted in conclusion to add a purely personal note—a memory of an incident of thirty years ago.

About the time of the publication of *Argentine Ornithology* (1889) a small book of a different kind by me was issued—a fictitious record of romantic adventures, entitled *The Purple Land*. It happened that a copy was sent to an elder brother of mine, living in the city of Cordova, in the Western Argentine province of that name. It was sent by another

brother, residing in Buenos Ayres. In acknowledging the book he charged his brother with a message to me, and his letter, written in Spanish, was sent on to me in London. The message, translated, was as follows :

"Why are you staying on in England, and what can you do there? I have looked at your romance and find it not unreadable, but this you must know is not your line—the one thing you are best fitted to do. Come Jack to your own country and come to me here in Cordova. These woods and sierras and rivers have a more plentiful and interesting bird life than that of the pampas and Patagonia. Here I could help you and make it possible for you to dedicate your whole time to observation of the native birds and the fauna generally."

I read the letter with a pang, feeling that his judgment was right : but the message came too late ; I had already made my choice, which was to remain for the rest of my life in this country of my ancestors, which had become mine.

Now after so long a time the pang returns, and when I think of that land so rich in bird life, those fresher woods and newer pastures where I might have done so much, and then look back at this—the little I did as shown in these volumes—the reflection is forced on me that, after all, I probably made choice of the wrong road of the two then open to me.

October, 1920.

W. H. H.

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<p>MILITARY STARLING, <i>Trupialis defilippii</i>, Bp.</p> <p style="padding-left: 2em;">One-half natural size</p>	<p>.. . . .</p>	<p>" 128</p>
<p><i>Note.</i>—On page facing 128, for "<i>militaris</i>, Linn.," read "<i>defilippii</i>, Bp."</p>		
<p>CHOCOLATE TYRANT, <i>Myiotheretes rufiventris</i>, Vieill.</p> <p style="padding-left: 2em;">Three-fifths natural size</p>	<p>.. . . .</p>	<p>" 135</p>
<p>MANY-COLOURED KINGLET, <i>Cyanotis azaræ</i>, Naum.</p> <p style="padding-left: 2em;">Two-thirds natural size</p>	<p>.. . . .</p>	<p>" 173</p>
<p><i>Note.</i>—On page facing 173, for "Knight" read "Kinglet."</p>		
<p>BIENTEVEO TYRANT, <i>Pitangus bolivianus</i>, Lafr.</p> <p style="padding-left: 2em;">One-half natural size</p>	<p>.. . . .</p>	<p>" 177</p>
<p>RED OVEN-BIRD, <i>Furnarius rufus</i>, Gm.</p> <p style="padding-left: 2em;">One-third natural size</p>	<p>.. . . .</p>	<p>" 197</p>
<p>GALLITO (LITTLE COCK), <i>Rhinocrypta lanceolata</i>, Geoffr.</p> <p style="padding-left: 2em;">Two-thirds natural size</p>	<p>.. . . .</p>	<p>" 238</p>



BIRDS OF LA PLATA

DUSKY THRUSH

Turdus leucomelas

Above olive-grey; beneath pale grey, throat white striped with brown; under wing-coverts and inner margins of wing-feathers fulvous; bill yellow; length 9 inches.

EIGHT Thrushes are found in Argentina, three being Mocking-birds—*Miminæ*, a group restricted to America. The other five are true Thrushes, and of these I describe the three which are known to me from personal observation.

The Dusky Thrush, the best singer, which most nearly resembles our Thrush or Song-Thrush, is widely distributed in South America, and ranges as far south as Buenos Ayres, where it is quite common in the woods along the Plata river. It is a shy forest-bird; a fruit, earth-worm, and insect eater; abrupt in its motions; runs rapidly on the ground with beak elevated, and at intervals pauses and shakes its tail; pugnacious in temper; strong on the wing, its flight not being over the trees, but masked by their shadows. It can always be easily distinguished, even at a distance, from other species by its peculiar short metallic chirp—a melodious sound indicating alarm or curiosity, and uttered before flight—so unlike

the harsh screams and alarm notes of the other Thrushes in this district.

Whether it is a fine singer or not within the tropics I am unable to say, its vocal powers having received no attention from the naturalists who have observed it. With us in the temperate climate of Buenos Ayres, where it commences to sing in September, it has the finest song of any bird known to me in this region, excepting the White-banded Mocking-bird, *Mimus triurus*. Like the English Song-Thrush, but unlike its near neighbours the Red-bellied Thrush and the Magellanic Thrush, it perches on the summit of a tree to sing. Its song is, however, utterly unlike that of the English bird, which is so fragmentary and, as Burroughs describes it, made up of "vocal attitudes and poses." The two birds differ also in voice as much as in manner. The strains of the Dusky Thrush are poured forth in a continuous stream, with all the hurry and freedom of the Skylark's song; but though so rapidly uttered, every note is distinct and clear, and the voice singularly sweet and far-reaching. At intervals in the song there recurs a two-syllabled note twice repeated, purely metallic, and its clear bell-like *te-ling te-ling* always comes as a delightful surprise to the listener, as it sounds like an instrumental accompaniment to the song.

The song is altogether a very fine one, its peculiar charm being that it seems to combine two opposite qualities of bird-music, plaintiveness and joyousness, in some indefinable manner.

I have never heard this species sing in a cage or

RED-BELLIED THRUSH

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anywhere near a human habitation ; and it is probably owing to its recluse habits that its excellent song has not been hitherto noticed. Azara perhaps mistook the song of this species for that of *Turdus rufiventris*, a very inferior vocalist.

The nest is made in the centre of a thick bush or tree six or eight feet above the ground, and is a deep elaborate structure, plastered inside with mud, and lined with soft dry grass. The eggs are four in number, oblong ; the ground-colour light blue, abundantly marked with reddish-brown spots.

This Thrush has, I believe, a partial migration in Buenos Ayres. In the autumn and winter I have frequently observed it in localities where it is never seen in summer.

RED-BELLIED THRUSH

Turdus rufiventris

Above olive-grey, throat to breast white, striped with dark brown ; under surface and under wing-coverts rufous red, deepest on the belly ; bill dull yellow ; feet brown ; length 9 inches.

THE Red-bellied Thrush, distinguished from the species just described by its larger size and the bright rufous colour of its under plumage, is common everywhere in the Plata district, and does not appear to be migratory. It is a noisy, strong-winged, quarrelsome bird, closely resembling the Dusky Thrush in its manners. It inhabits forests, runs on the ground

in search of food, and when approached darts away with loud chuckling notes, flying close to the surface. They are also often seen pursuing each other through the trees with loud, harsh screams. They remind one in their habits now of the Missel Thrush, now of the Blackbird.

The song has a faint resemblance to that of the Thrush, being composed of a variety of disconnected notes with frequent pauses; but it is, both in sweetness and strength, inferior to that of the English bird. A poor song for a Thrush, and the bird perhaps knows it, as he sings concealed in a thick bush or tree.

The nest is deep, well made, plastered inside with mud, and concealed in the centre of a large bush or low tree. The eggs are four, pale blue in colour, and thickly spotted with brown.

MAGELLANIC THRUSH

Turdus magellanicus

Head, wings, and tail brownish black, rest of upper surface olive-brown; under surface pale rufous; white throat striped with black; bill and feet dull yellow; length 10.5 inches.

THIS fine Thrush inhabits Patagonia and Chili, and is hardly distinguished from the preceding species by casual observers, but it is a larger bird, with a darker upper and paler under plumage. Its nest and eggs are also precisely like those of its northern representative. The song is, however, even poorer, and

CALANDRIA MOCKING-BIRD 5

reminds one of the first attempts of a young bird. That a member of so melodious a family should have so inferior a song I attribute to the fact that Thrushes (unlike the songsters of other genera) sing only in the warm season and when the air is calm. In the southern portion of the South-American continent violent winds prevail in summer, so that this southern Thrush sings perhaps less frequently than any other song-bird, and appears to be losing the faculty of song altogether.

The two remaining Argentine Thrushes are the Black-headed Thrush, *Turdus nigriceps*, and the Argentine Blackbird, *Turdus fuscater*, both inhabitants of the North-Western provinces. The Blackbird is of a uniform brownish black with yellow feet and bill, and is larger than the home bird, being 11.5 inches long. The song, it is said, resembles that of our bird, and is liked even better by some who have heard it.

CALANDRIA MOCKING-BIRD

Mimus modulator

Above dark grey, rump tinged with brown; wings nearly black; tail black, the feathers, except the two middle ones, broadly tipped with white; under surface dull white; bill and legs black; eye olive-green; length 11 inches.

AZARA has not failed to remark that it would be well to find a more appropriate name for this species, which was absurdly called *Calandria* (i.e., Skylark)

by the early colonists of the Plata. Moreover, by a curious irony of fate, the Spanish naturalist himself, by employing this unsuitable name in his *Birds of Paraguay*, even while protesting against it, has been the cause of its introduction into scientific nomenclature.

It would be impossible to improve on the account Azara gives of the bird's appearance and manners. The prevailing colour of the plumage is grey, the irides are deep green, the beak black, slender and curved. The tail is long, jerked and elevated when the bird is at rest, spread open and depressed in flight. The Calandria's movements are measured and dignified, its flight low and never extends far, the bird usually passing from one tree to another in a long graceful curve. It goes alone or with its mate only; feeds chiefly on the ground; does not penetrate into deep forests, nor is it seen on the treeless plains. It frequents the borders of woods and open grounds abounding in isolated shrubs and trees; is fond of coming about houses, and invariably perches itself on the most conspicuous places. It sings chiefly in spring, and its really wonderful vocal powers have made it one of our best-known and most admired songsters. To sing, it usually places itself on the summit of a bush or tree, and occasionally, as if carried away by excitement, it darts upwards three or four yards into the air, and then drops back on to its perch. So varied are its notes, and so frequently suggestive of the language of other species, that the listener finds himself continually asking whether the

CALANDRIA MOCKING-BIRD 7

Calandria is really an original singer or merely a cunning plagiarist, able to steal scraps of fifty different melodies and to blend them in some sort into one complete composition. As a whole the song is in character utterly unlike that of any other bird (birds of the *Mimus* genus of course excepted), for the same notes are never repeated twice in the same order; and though the Calandria has many favourite notes, he is able to vary every one of them a hundred ways. Sometimes the whole song seems to be made up of imitations of other singers, with slight variations—and not of singers only, for now there will be clear flute-like notes, only to be succeeded by others reedy and querulous as the hunger-calls of a young Finch; then there will be pretty flourishes or Thrush-like phrases, and afterwards screams, as of a frightened Swallow hurrying through the sky to announce the approach of a Falcon; or perhaps piteous outcries, as of a chicken in the clutches of a Kite.

Nevertheless Azara says truly that the Calandria does not mock or mimic the songs of other birds; for though the style and intonation of a score of different singers are reproduced by him, one can never catch a song, or even a portion of a song, of which he is able to say that it is absolutely like that of any other species. This much, however, can be said of the Calandria: he has a passion for endless variety in singing, a capacity for varying his tones to almost any extent, and a facility in reproducing the notes of other birds, which, in the Virginian Mocking-bird of North, and in the White-banded Mocking-bird

of South America, has been developed into that marvellous faculty these two species possess of faithfully imitating the songs of all other birds. The two species I have just named, while mockers of the songs of other birds, also retain their own original music—their "natural song," as an American ornithologist calls it.

The *Calandria* makes its nest in the middle of a large bush or low thorn-tree standing by itself; it is deep, like the nest of a Thrush in form, built of sticks, thorns, and grass, and lined with thistle-down or some other soft material. The eggs are four or five, pale blue, and thickly marked with reddish-brown spots.

When the nest is approached the parent birds demonstrate their anxiety by uttering loud, harsh, angry notes.

It is generally believed that the *Calandria* will not live in captivity. I have, however, seen a few individuals in cages, but they never sang.

PATAGONIAN MOCKING-BIRD

Mimus patagonicus

Above and beneath grey, paler on the under surface and tinged with rufous on the belly; throat and eye-mark white; wings black; tail black, tipped with white; bill and feet black; eye olive-green; length 9.2 inches. Female smaller in size and lighter in colour.

THE Patagonian Mocking-bird, which I met with during my sojourn on the Rio Negro of Patagonia, closely resembles the species just described, but is

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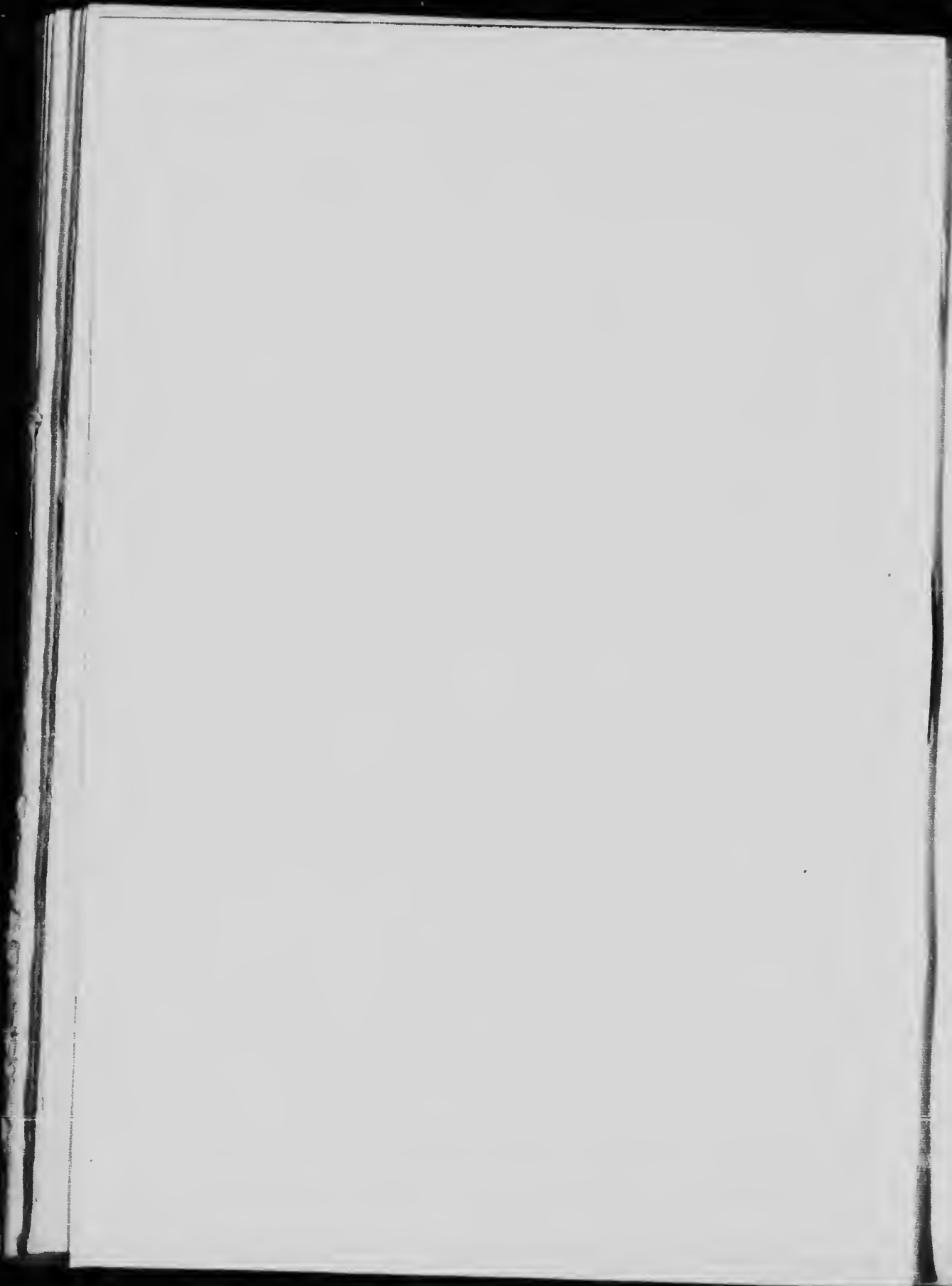
smaller, the plumage is of a darker grey, and the irides are also of a darker green. It is a common bird, resident, lives alone or with its mate, feeds on insects and berries, and in its manner of flight and habits is like *Mimus modulator*. The nest is made in the centre of a bush of thorns and sticks, and lined with dry grass, cow-hair, or other soft material; the eggs are four in number, bluntly pointed, and thickly marked with dark flesh-coloured spots. When the nest is approached the parent birds come close to the intruder, often perching within a yard of his head, but without uttering any sound, differing in this respect from *M. modulator*.

The song of the Patagonian bird is in character like that of the northern species, the variety of its notes being apparently infinite; there are, however, some differences worth mentioning. The singing of the Patagonian species is perhaps inferior, his voice being less powerful, while his mellow and clear notes are constantly mingled with shrill ones, resembling the cries of some of the Dendrocolaptine birds. While incapable of notes so loud or so harsh as those of the northern bird, or of changes so wild and sudden, he possesses an even greater variety of soft notes. Day after day for many months I have heard them singing, yet never once listened to them for any length of time without hearing some note or phrase I had never heard before. The remarks I have made concerning the Calandria's mocking-faculties also apply to this bird: but though he does not actually repeat the notes and songs of other

species, he certainly does mock the notes of individuals of his own species; for it must be borne in mind that no two individuals sing quite alike, and that the same bird constantly introduces new notes into his song, and never repeats his notes in the same order. I have often observed that when a bird while singing emits a few of these *new* notes, he seems surprised and delighted with them; for, after a silent pause, he repeats them again and again a vast number of times, as if to impress them on his memory. When he once more resumes his varied singing, for hours and sometimes for days the expression he has discovered is still a favourite one, and recurs with the greatest frequency. But this is not all. If the new note or phrase happens to be a very striking one, it immediately takes the fancy of all the other birds within hearing, and often in a small thicket there will be a dozen or twenty birds near together, each sitting perched on the summit of his own bush. After the new wonderful note has been sounded they all become silent and attentive, reminding one in their manner of a caged Parrot listening to a sound it is trying to learn. Presently they learn it, and are as pleased with its acquisition as if they had discovered it themselves, repeating it incessantly. I noticed this curious habit of the bird many times, and on one occasion I found that for three entire days all the birds in a small thicket I used to visit every day did nothing but repeat incessantly two or three singular notes they had borrowed from one of their number. The constant repetition of this one



WHITE-BANDED MOCKING-BIRD
Mimus triurus (Vieill.)



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sound had an irritating effect on me; but a day or two later they had apparently got tired of it themselves, and had resumed their usual varied singing.

This bird usually sits still upon the summit of a bush when singing, and its music is heard in all seasons and in all weathers from dawn till after dark: as a rule it sings in a leisurely, unexcited manner, remaining silent for some time after every five or six or a dozen notes, and apparently listening to his brother-performers. These snatches of melody often seem like a prelude or promise of something better coming; there is often in them such exquisite sweetness and so much variety that the hearer is ever wishing for a fuller measure, and still the bird opens his bill to delight and disappoint him, as if not yet ready to display his whole power.

V. . . E-BANDED MOCKING-BIRD

Mimus triurus

Above grey, brown on the rump; beneath light grey; wing black, crossed with a broad white band; tail white, except the two middle feathers which are black; bill and feet black; eye orange yellow; length 9.5 inches.

AZARA first met with this king of the Mocking-birds in Paraguay a century ago; he named it *Calandria de las tres colas*, and described the plumage accurately, but was, I think, mistaken about the colour of

the eye, which is orange-red and not olive-green. He says that it is a rare species, possessing no melodious notes, which proves at once that he never heard it sing. D'Orbigny obtained it in Bolivia, Bridges in Mendoza, and more recently it has been found by collectors in various parts of the Argentine country, even in Buenos Ayres, where, however, it is probably only an occasional visitor. But they have told us nothing of its song and of its miraculous mocking-powers. For my part I can think of no other way to describe the surpassing excellence of its melody, which delights the soul beyond all other bird-music, than by saying that this bird is among song-birds like the diamond among stones, which in its many-coloured splendour represents and exceeds the special beauty of every other gem.

I met with this species on the Rio Negro in Patagonia; it was there called *Calandria blanca*, a name not strictly accurate, since the bird is not all white, but certainly better than Azara's strange invention of "Lark with three tails."

The bird was not common in Patagonia, and its only language was a very loud harsh startled note, resembling that of the *Mimus calandria*; but it was past the love-season when I first met with it, and the natives all assured me that it possessed a very wonderful song, surpassing the songs of all other birds; also that it had the faculty of imitating other species. In manners and appearance it struck me as being utterly unlike a *Mimus*; in its flight and in the conspicuous white and black of the wings and

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tail it looked like a Tyrant of the *Taniptera* group. It was extremely shy, had a swift, easy, powerful flight, and when approached would rise up high in the air and soar away to a great distance. In February it disappeared from the Rio Negro and did not return till the following October, after the arrival of all the other migrants. It was then that I had the rare good fortune to hear it sing, and I shall never forget the sensation I experienced when listening to its matchless melody.

While walking through a *chañar*-wood one bright morning, my attention was suddenly arrested by notes issuing from a thicket close by, to which I listened in delighted astonishment, so vastly superior in melody, strength, and variety did they seem to all other bird-music. That it was the song of a *Mimus* did not occur to me; for while the music came in a continuous stream, until I marvelled that the throat of any bird could sustain so powerful and varied a song for so long a time, it was never once degraded by the harsh cries, fantastical flights, and squealing buffooneries so frequently introduced by the *Calandria*, but every note was in harmony and uttered with a rapidity and joyous abandon no other bird is capable of, except, perhaps, the Skylark; while the purity of the sounds gave to the whole performance something of the ethereal rapturous character of the Lark's song when it comes to the listener from a great height in the air.

Presently this flow of exquisite unfamiliar music ceased, while I still remained standing amongst the trees, not daring to move for fear of scaring away

the strange vocalist. After a short interval of silence I had a fresh surprise. From the very spot whence that torrent of melody had issued, burst out the shrill, confused, impetuous song of the small Yellow-and-Grey Patagonian Flycatcher (*Stigmatura flavocinerea*). It irritated me to hear this familiar and trivial song after the other, and I began to fear that my entertainer had flown away unobserved. But in another moment, from the same spot, came the mellow matin-song of the Diuca Finch, and this was quickly succeeded by the silvery bell-like trilling song of the Churrinche, or little Scarlet Tyrant-bird. Then followed many other familiar notes and songs—the flute-like evening call of the Crested Tinamu, the gay hurried twittering of the Black-headed Siskin, and the leisurely-uttered delicious strains of the Yellow Cardinal, all repeated with miraculous fidelity. How much was my wonder and admiration increased by the discovery that my one sweet singer had produced all these diverse strains! The discovery was only made when he began to repeat songs of species that never visit Patagonia. I knew then that I was at last listening to the famed White Mocking-bird, just returned from his winter travels, and repeating in this southern region the notes he had acquired in sub-tropical forests a thousand miles away.

These imitations at length ceased, after which the sweet vocalist resumed his own matchless song once more. I ventured then to creep a little nearer, and at length caught sight of him hardly fifteen yards away. I then found that the pleasure of listening to

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its melody was greatly enhanced when I could at the same time see the bird, so carried away with rapture does he appear while singing, so many and so beautiful are the gestures and motions with which his notes are accompanied. He passes incessantly from bush to bush, scarcely alighting on their summits, and at times dropping down beneath the foliage; then, at intervals, soaring to a height of a hundred feet above the thicket, with a flight slow as that of a Heron, or mounting suddenly upwards with a wild, hurried, zigzag motion; then slowly circling downwards, to sit with tail outspread and the broad glistening white wings expanded, or languidly waved up and down like the wings of some great butterfly—an object beautiful to see.

When I first heard this bird sing I felt convinced that no other feathered songster on the globe could compare with it; for besides the faculty of reproducing the songs of other species, which it possesses in common with the Virginian Mocking-bird, it has a song of its own, which I believed matchless; and in this belief I was confirmed when, shortly after hearing it, I visited England, and found of how much less account than this Patagonian bird, which no poet has ever praised, were the sweetest of the famed melodists of the Old World.

HOUSE-WREN

Troglodytes furvus

Warm brown; tail-feathers and outer webs of wing-feathers pencilled with dark wavy lines; beneath pale brown; length 4.8 inches.

THE common Argentine Wren is to all English residents the "House-Wren," and is considered to be identical with the species familiar to them in their own country. It is a sprightly little bird, of a uniform brown colour and a cheerful melodious voice; a tireless hunter after small spiders and caterpillars in hedges, gardens, and outhouses, where it explores every dark hole and cranny, hopping briskly about with tail erect, and dropping frequent little curtsies; always prompt to scold an intruder with great emphasis; a great hater of cats.

It was my belief at one time that the Wren was one of the little birds a cat could never catch; but later on I discovered that this was a mistake. At my home on the pampas we once had a large yellow tom-cat exceedingly dexterous in catching small birds; he did not, however, eat them himself, but used to bring them into the house for the other cats. Two or three times a day he would appear with a bird, which he would drop at the door, then utter a loud mew very well understood by the other cats, for they would all fly to the spot in great haste, and the first to arrive would get the bird. At one time I noticed that he brought in a Wren almost every day, and,

curious to know how he managed to capture so clever a bird, I watched him. His method was to go out into the grounds frequented by Wrens, and seat himself conspicuously amongst the weeds or bushes ; and then, after the first burst of alarm had subsided amongst the small birds, one or two Wrens would always take on themselves the task of dislodging him, or, at all events, of making his position a very uncomfortable one. The cat would sit perfectly motionless, apparently not noticing them at all, and by-and-by this stolid demeanour would have its effect, and one of the Wrens, growing bolder, would extend his dashing little incursions to within a few inches of pussy's demure face ; then at last, swift as lightning, would come the stroke of a paw, and the little brown body would drop down with the merry, brave little spirit gone from it.

The House-Wren is widely distributed in South America, from the tropical forests to the cold uplands of Patagonia, and, possessing a greater adaptiveness than most species, it inhabits every kind of country, moist or dry, and is as much at home on lofty mountains and stony places as in the everglades of the Plata, where it frequents the reed-beds and damp forests. About houses they are always to be found ; and though the traveller on the desert pampas might easily imagine that there are no Wrens in the giant grasses, if he makes himself a lodge in this lonely region, a Wren will immediately appear to make its nest in his thatch and cheer him with its song.

Even in large towns they are common, and I always

remember one flying into a church in Buenos Ayres one Sunday, and during the whole sermon-time pouring out its bright lyric strain from its perch high up somewhere in the ornamental woodwork of the roof.

The Wren sings all summer, and also on bright days in winter. The song is not unlike that of the European Wren, having the same gushing character, the notes strong and clear, uttered with rapidity and precision; but the Argentine bird has greater sweetness and power; although I cannot agree with Azara that it resembles or comes nearest to the Nightingale.

In spring the male courts his mate with notes high and piercing as the squeals of a young mouse; these he repeats with great rapidity, fluttering his wings all the time like a moth, and at intervals breaking out into song.

The nest is made in a hole in a wall or tree, sometimes in the forsaken domed nest of some other bird; and where such sites are not to be found, in a dense thistle or thorn-bush, or in a large tussock of grass. I have also found nests in dry skulls of cows and horses, in an old boot, in the sleeve of an old coat left hanging on a fence, in a large-necked bottle, and in various other curious situations. The nest is built of sticks and lined with horsehair or feathers, and the eggs are usually nine in number, of a pinkish ground-colour, thickly spotted with pale red.

ARGENTINE MARSH-WREN

Cistothorus platensis

Above pale brown, streaked with black ; head darker brown, streaked with black ; tail-feathers dark sandy brown, barred with blackish brown ; beneath pale sandy buff ; length 4.3 inches.

THIS small Wren is rarely seen, being nowhere common, although widely distributed. It prefers open grounds covered with dense reeds and grasses, where it easily escapes observation. I have met with it near Buenos Ayres city ; also on the desert pampas, in the tall pampas-grass. It is likewise met with along the Paraná river, and in Chili, Patagonia, and the Falkland Islands. In the last-named locality Darwin found it common, and says that it has there an extremely feeble flight, so that it may easily be run down and taken.

The Marsh-Wren has a sweet and delicate song, resembling that of the House-Wren (*Troglodytes furvus*) but much less powerful. It does not migrate ; and on the pampas I have heard it singing with great animation when the pampas-grass, where it sat perched, was white with frozen dew. Probably its song, like that of *Troglodytes furvus*, varies in different districts ; at all events, the pampas bird does not possess so fine a song as Azara ascribes to his *Todo Voz* in Paraguay, which is undoubtedly the same species.

South America is rich in Wrens, the known species

numbering no fewer than a hundred. In Argentina only four species are found, the two described and the Black-headed Reed-Wren, *Donacobius atricapillus*, a common Brazilian species, and the Eared Wren, *Troglodytes auricularis*, found in the province of Tucuman.

CACHILA PIPIT

Anthus correndera

Above pale sandy buff, with black centres to the feathers; wing- and tail-feathers dark brown, edged with buff; the outer tail-feathers almost entirely white; below sandy buff with large triangular black spots; length 6 inches.

AZARA'S only reason for calling this bird *La Correndera* was that he thought it resembled a Titlark known by that name in his own country, but of which he merely had a confused recollection. It is therefore to be regretted, I think, that *correndera* has been adopted as a specific name by naturalists instead of *Cachila*, the vernacular name of the bird, familiar to every one in the Argentine country. Azara's Spanish bird was probably *Arthus pratensis*, which closely resembles *A. correndera* in general appearance, and has, moreover, as wide a range in the northern as the last-named species has in the southern hemisphere. In the volume on Birds in the *Voyage of the Beagle* it is said that a species of *Anthus* ranges further south than any other land-bird, being the

only land-bird found on Georgia and South Orkney (lat. 61 deg. S.).

In colour and language, possibly also in size, the Cachila is variable. It is a very common bird, widely and plentifully distributed over the pampas, found alike on marshy and dry grounds, but rare in the region of giant grasses. While abundant it is also very evenly dispersed, each bird spending its life on a very circumscribed plot of earth. Those frequenting marshy or moist grounds are of a yellowish-cream colour, thickly mottled and striped with fuscous and black, and have two narrow parallel pure white marks on the back, very conspicuous when the bird is on the ground. The individuals frequenting high and dry grounds are much paler in hue, appearing almost grey, and do not show the white marks on the back. They also look larger than the birds on marshy lands; but this appearance is probably due to a looser plumage. The most strongly marked pale and dark-plumaged variations may be found living within a few hundred yards of each other, showing how strictly each bird keeps to its own little "beat"; for this difference in coloration is no doubt due entirely to the amount of moisture in the ground they live on.

The Cachilas are resident, living in couples all the year round, the sexes being faithful. Several pairs frequent a small area, and sometimes they unite in a desultory flock; but these gatherings are not frequent. In the evening, at all seasons, immediately after the sun has set, the Cachilas all

rise to a considerable height in the air and fly wildly about, chirping for a few minutes, after which they retire to roost.

When approached they frequently rise up several feet from the ground and flutter in the air, chirping sharply, with breast towards the intruder. This is a habit also found in *Synallaxine* species inhabiting the grassy plains. But as a rule the *Cachilas* are the tamest of feathered creatures, and usually creep reluctantly away on their little pink feet when approached. If the pedestrian is a stranger to their habits they easily delude him into attempting their capture with his hat, so little is their fear of man.

To sing, the *Cachila* mounts upwards almost vertically, making at intervals a fluttering pause, accompanied with a few hurried notes. When he has thus risen to a great height (but never beyond sight as Azara says) he begins the descent slowly, the wings inclining upwards; and, descending, he pours forth long impressive strains, each ending with a falling inflection of with two or three short throat-notes as the bird pauses fluttering in mid-air, and then renewed successively until, when the singer is within three or four feet of the earth, without alighting he re-ascends as before to continue the performance. It is a very charming melody, and heard always on the treeless plains when there is no other bird-music, with the exception of the trilling and grasshopper-like notes of a few *Synallaxine* species. But in character it is utterly unlike the song of the Skylark with its boundless energy, hurry,

and abandon ; and yet it is impossible not to think of the Skylark when describing the Cachila, which in its manners, appearance, and in its habit of soaring to a great height when singing, seems so like a small copy of that bird.

The Cachila rears two broods in the year ; the first is hatched about the middle of August, that is, one to three months before the laying-season of other Passerine species. By anticipating the breeding-season their early nests escape the evil of parasitical eggs ; but on the other hand, frosty nights and heavy rains are probably as fatal to as many early broods as the instinct of the *Molothrus bonariensis*, or Cow-bird, is to others at a later period.

There is another species of Pipit found in Argentina, the Fork-tailed Pipit, *Anthus furcatus* ; it inhabits the grassy pampas and the moist valleys in Patagonia, but so closely resembles the Cachila in its plumage, language, and habits as to be generally taken for that species. The only difference I have noted is that it is shy, and has a somewhat shriller song.

PURPLE MARTIN

Progne furcata

Deep purple-blue ; tail black marked with blue ; length 7.7 inches. Female, upper parts dull purple ; head, neck, and lower parts blackish brown.

THE Purple Martin is occasionally seen in the eastern provinces of La Plata when migrating, but has not been found nesting anywhere so far north as Buenos Ayres. I met with it breeding at Bahia Blanca on the Atlantic coast, and on the Rio Negro, where it is very common. It arrives in Patagonia late in September, and leaves before the middle of February. On the fourteenth of that month I saw one flock flying north, but it was the last. It breeds in holes under the eaves of houses or in walls, and its nest is like that of *P. chalybea* ; but many also breed in holes in the steep banks of the Rio Negro. They do not, however, excavate holes for themselves, but take possession of natural crevices and old forsaken burrows of the Burrowing Parrot (*Conurus patachonicus*). In size, flight, manners, and appearance the Purple Martin closely resembles the following species, the only difference being in the dark plumage of the under surface. The language of the two birds is also identical ; the loud excited scream when the nest is approached, the various other notes when the birds sweep about in the air, and the agreeably modulated and leisurely-uttered song are all possessed by the two species without the slightest

difference in strength or intonation. This circumstance appears very remarkable to me, because, though two species do sometimes possess a few notes alike, the greater part of their language is generally different; also because birds of the same species in different localities vary more in language than in any other particular. This last observation, however, applies more to resident than to migratory species.

I am inclined to believe that the Purple and Domestic Martins form one dimorphic species, like the Carrion and Hooded Crows of Europe, and that, like these two Crows, they would inter-breed should their nesting areas overlap.

DOMESTIC MARTIN

Progne chalybea

Upper parts deep purple-blue; wing- and tail-feathers black, glossed with steel-blue; throat and chest ash-colour; breast, abdomen, and under tail-coverts pure white; length 8 inches. Female similar.

THIS species, distinguished from the Purple Martin by its white underparts, ranges from Mexico to Buenos Ayres, the extreme limit of its range being about 250 miles south of that city. It was well called *Golondrina domestica* by Azara, being pre-eminently domestic in its habits. It never breeds in banks as the Purple Martin often does, or in the domed nests of other birds in trees, a situation always resorted to by the Tree Martin, and occasionally by the Common

Swallow ; but is so accustomed to the companionship of man as to make its home in populous towns as well as in country houses. It arrives in Buenos Ayres about the middle of September, and apparently resorts to the same breeding-place every year. A hole under the eaves is usually selected, and the nest is roughly built of dry grass, hair, feathers, and other materials. When the entrance to its breeding-hole is too large, it partially closes it up with mud mixed with straw ; if there be two entrances it stops up one altogether. The bird does not often require to use mud in building ; it is the only one of our Swallows that uses such a material at all. The eggs are white, long, pointed, and five in number.

In the season of courtship this Martin is a noisy pugnacious bird, and always, when quitting its nest, utters an exceedingly loud startling cry several times repeated. It also has a song, uttered both when resting and on the wing, composed of nine or ten agreeably modulated notes, invariably repeated in the same order. It is a pleasing song with something of that peculiar human-like quality in the sound which is so engaging in our Barn Swallow. But it is a voice of much greater power and may be heard when the bird sings flying at so great a height as to be invisible.

Before leaving in February these birds congregate in parties of from twenty to four or five hundred, their congregating place being usually on the broad leafy top of an old ombú tree.

TREE-MARTIN

Progne tapera

Upper parts dull brown ; tail-feathers blackish brown ; throat ashy white ; fore neck and chest ashy brown ; abdomen white ; length 7 inches. Sexes alike.

THE Tree-Martin is more slender and has a greater extent of wing than the Purple Martins ; and instead of the beautiful dark purple (their prevailing colour) its entire upper plumage is dusky brown, the under surface white. But if these differences of structure and hue merely serve to show that it is not a very near relative of the other species, those exhibited in its habits remove it very far indeed from them.

The Tree-Martin is a garrulous bird, and no sooner arrives early in September, than we are apprised of the circumstance by the notes which the male and female incessantly sing in concert, fluttering and waving their wings the while, and seeming quite beside themselves with joy at their safe arrival ; for invariably they arrive already mated, and they probably pair for life. Their language is more varied, the intonation bolder and freer than that of our other Swallows. The length of the notes can be varied at pleasure ; some are almost harsh, others silvery or liquid, as of trickling drops of water : all have a glad sound ; and many have that peculiar character of some bird-notes of shaping

themselves into words ; but unlike the other Swallows the Martin has no set song.

This Martin is never seen to alight on the ground or on the roofs of houses, but solely on trees ; and when engaged in collecting materials for its nest, it sweeps down and snatches up a feather or straw without touching the surface. It breeds only in the clay ovens of the Oven-bird (*Furnarius rufus*). I at least have never seen them breed in any other situation after observing them for many summers. An extraordinary habit, for, many as are the species that possess the semi-parasitical custom of breeding in other birds' nests, they do not confine themselves to the nest of a single species excepting the bird I am describing. It must, however, be understood that my knowledge of this bird has been acquired in Buenos Ayres, where I have observed it ; and as this Martin possesses a wider range in South America than the Oven-birds, there is no doubt that in other districts it builds in different situations.

On arriving in spring each pair takes up its position on some tree, and usually on a particular branch ; a dead branch extending beyond the foliage is a favourite perch. Here they spend much of their time, never appearing to remain long absent from it, and often, when singing their notes together, fluttering about it with a tremulous, uncertain flight, like that of a hovering butterfly. About three weeks after first arriving they begin to make advances towards the Oven-bird's nest that stands on the nearest post

or tree ; and if it be still occupied by the rightful owners, after much time has been spent in sporting about and reconnoitring it, a feud begins which is often exceedingly violent and protracted for many days.

In seasons favourable to them the Oven-birds build in autumn and winter, and breed early in spring ; so that their broods are out of their clay houses by the end of October or earlier ; when this happens the Swallow that breeds in November quietly takes possession of the forsaken fortress. But accidents will happen, even to the wonderful fabric of the Oven-bird. It is sometimes destroyed and must be rebuilt ; or its completion has perhaps been retarded for months by drought, or by the poor condition of the birds in severe weather ; or the first brood has perhaps perished, destroyed by some tree-climbing enemy ; a young opossum for instance, less than a rat in size, and able to squeeze itself into the nesting chamber. November, and even December, may thus arrive before some pairs have hatched their eggs ; and it is these unfortunate late breeders that suffer the violence of the marauding Swallows. I have often witnessed the wars of these birds with the deepest interest ; and in many ovens that I have opened after the builders had been expelled I have found the eggs of the Oven-bird buried under the nest of the Swallows. After the Swallows have taken up a position near the coveted oven, they occasionally fly towards and hover about it, returning again to their stand. By-and-by, instead of returning as at

first, they take to alighting at the entrance of the coveted home ; this is a sort of declaration of war, and marks the beginning of hostilities. The Oven-birds, full of alarm and anger, rush upon and repel them as often as they approach ; they retire before this furious onset, but not discomfited, and only warbling out their gay, seemingly derisive notes in answer to the outrageous, indignant screams of their enemies. Soon they return ; the scene is repeated ; and this desultory skirmishing is often continued for many days.

But at length the lawless invader, grown bolder, and familiar with his strength and resources, will no longer fly from the master of the house ; desperate struggles now frequently take place at the entrance, the birds again and again dropping to the ground clutched fiercely together, and again hurrying up only to resume the combat. Victory at last declares itself for the aggressors, and they busy themselves carrying in materials for their nest, screaming their jubilant notes all the time as if in token of triumph. The brave and industrious Oven-birds, dispossessed of their home, retire to spend their childless summer together, for the male and female never separate ; and when the autumn rains have supplied them with wet clay, and the sense of defeat is worn off, they cheerfully begin their building operations afresh.

This is not, however, the invariable result of the conflict. To the superior swiftness of the Martin the Oven-bird opposes greater strength, and, it might

be added, a greater degree of zeal and fury than can animate its adversary. The contest is thus nearly an equal one; and the Oven-bird, particularly when its young are already hatched, is often able to maintain its own. But the Martins never suffer defeat; for, when unable to take the citadel by storm, they fall back on their dribbling system of warfare, which they keep up till the young birds leave the nest, when they take possession before it has grown cold.

The Martin makes its own nest chiefly of large feathers, and lays four eggs, long, pointed, and pure white.

It will be remarked that in all its habits above-mentioned this bird differs widely from the two preceding species. It also differs greatly from them in its manner of flight. The Purple Martins move with surprising grace and celerity, the wings extended to their utmost; they also love to sail in circles high up in the air, or about the summits of tall trees, and particularly during a high wind. At such times several individuals are usually seen together, and all seem striving to outvie each other in the beauty of their evolutions.

The Tree-Martin is never seen to soar about in circles; and though when hawking after flies and moths it sweeps the surface of the grass with amazing swiftness, at other times it has a flight strangely slow and of a fashion peculiar to itself: the long wings are depressed as much as those of a Wild Duck when dropping on to the water, and are constantly agitated

with tremulous flutterings, short and rapid as those of a butterfly.

Neither is this bird gregarious like all its congeners, though occasionally an individual associates for a while with Swallows of another species; but this only when they are resting on fences or trees, for as soon as they take flight it leaves them. Once or twice when for some mysterious cause the autumnal migration has been delayed long past its usual time, I have seen them unite in small flocks; but this is very rare. As a rule they have no meetings preparatory to migration, but skim about the fields and open plains in un-Swallow-like solitude, and in a little while are seen no more.

RED-BACKED ROCK-MARTIN

Petrochelidon pyrrhonota

Above glossy dark steel-blue; lower back and rump cinnamon rufous; upper tail-coverts brown; wing black; tail black, glossed with green; crown steel-blue; forehead sandy buff; cheeks and sides of face chestnut; chin chestnut and lower throat steel-blue; fore-neck, chest, and flanks ashy brown; middle of breast and abdomen white, tinged with brown; length 5.3 inches. Sexes alike.

THIS species does not breed in the Plat district, and is only seen there in spring, flying north or southwest, and again in much larger numbers on its return journey in autumn. Nor does it breed anywhere in South America, so far as we know, but in Arizona and other districts in the northern division of the



RED-FACED ROCK MARTIN

Petrochelidon pyrrhonota (V. ell.)

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Continent, and has a migration similar to that of many species of the *Limicolæ* order. Thus, flying south in the autumn of the northern hemisphere, it crosses the tropics and extends its enormous journey to the southernmost parts of South America. On the Rio Negro, in Patagonia, I did not meet with it, and suppose its summer resort must be south of that locality; and, judging from the immense numbers visible in some seasons, I should think that they must, in their non-breeding ground in Patagonia, occupy a very extensive area. They do not seem to be as regular in their movements as other Swallows here; some years I have observed them passing singly or in small parties during the entire hot season: usually they begin to appear, flying north, in February; but in some years not until after the middle of March. They are not seen passing with a rapid flight in close flocks, but straggle about, hawking after flies; first one bird passing, then two or three, and a minute or two later half a dozen, and so on for a greater part of the day. So long as the weather continues warm they journey in this leisurely manner; but I have known them to continue passing till April, after all the summer migrants had left us, and these late birds flew by with great speed in small close flocks, directly north, as if their flight had been guided by the magnetic needle.

While flying this species continually utters sharp twitterings and grinding and squealing notes of various lengths.

COMMON SWALLOW

Tachycineta leucorrhoa

Above glossy dark green; rump white; quills black, washed with green; tail black with greenish gloss; base of forehead, cheeks, and whole under surface white; flanks and sides washed with smoky brown; length 5.5 inches.

THIS is the most abundant and best known of our Swallows; a pretty bird in its glossy coat of deep green, and rump and under surface snowy white; exceedingly restless in its disposition, quick and graceful in its motions; social, quarrelsome, garrulous, with a not unmusical song, beginning with long, soft, tremulous notes, followed by others shorter and more hurried, and sinking to a murmur. They are the last of all our migrants to leave us in autumn, and invariably reappear in small numbers about the houses on every warm day in winter. Probably many individuals in Buenos Ayres remain through the winter in sheltered situations, to scatter over the surrounding country whenever there comes a warm bright day. I once saw three together, skimming over the plains, on one of the coldest days I ever experienced on the pampas, the thermometer having stood at 29 deg. Fahrenheit that morning.

Further south their migration is more strict; and on the Rio Negro, in Patagonia, from March to

August I did not meet with a single individual. In Buenos Ayres the autumnal migration of the Hirundines begins about the middle of February, and from that date vast numbers of this Swallow are seen travelling north, and, in some seasons, they continue passing for over a month. One autumn, in April, several days after the Swallows had all disappeared, flocks of the Common Swallow began again to appear flying north, and for ten days afterwards they continued to pass in large numbers. They would stoop to dip themselves in a pool where I observed them, and then alight on the reeds and bushes to rest, and appeared quite tired with their journey, rising reluctantly when approached and some allowing me to stand almost within arm's length of them without stirring. I had never before observed any later or supplementary migration like this; for as a rule the causes which in some years delay the departure of birds seem to affect them all alike. Possibly these late birds come from some remote district, where exceptionally cold weather had retarded breeding operations.

The Common Swallow sometimes lays in a tree, in the large nest, previously abandoned, of the Leñatero (*Anumbius acuticaudatus*). Its favourite site is, however, a hole in a wall, sheltered by the overhanging tiles or thatch; for though it does not go much into towns, as Azara has remarked, it is very domestic, and there is not a house on the pampas, however humble it be, but some of these birds are about it, sportively skimming above the roof, or

curiously peering under the eaves, and incessantly uttering their gurgling happy notes.

For a period of a month to six weeks before building begins they seem to be holding an incessant dispute, reminding one in their scolding tones of a colony of contentious English House-Sparrows, only the Swallow has a softer, more varied voice, and frequently, even when hotly quarrelling, he pauses to warble out his pretty little song, with its sound like running water. However many eligible chinks and holes there may be, the contention is always just as great amongst them, and is doubtless referable to opposing claims to the best places. The excited twittering, the incessant striving of two birds to alight on the same square inch of wall, the perpetual chases they lead each other round and round the house, always ending exactly where they began, tell of clashing interests and of great unreasonableness on the part of some amongst them. By-and-by the quarrel assumes a more serious aspect; friends and neighbours have apparently intervened in vain; all the arguments of which Swallows are capable have been exhausted, and, a compromise of claims being more impossible than ever, fighting begins. Most vindictively do the little things clutch each other and fall to the earth twenty times an hour, where they often remain struggling for a long time, heedless of the screams of alarm their fellows set up above them; for often, while they thus lie on the ground punishing each other, they fall an easy prey to some wily pussy who has made herself acquainted with their habits.

When these feuds are finally settled, they address themselves diligently to the great work and build a rather big nest. They are not neat or skilful workers, but merely stuff a great quantity of straw and other light materials into the breeding-hole, and line the nest with feathers and horsehair. On this soft but disorderly bed the female lays from five to seven pure white eggs.

All those species that are liable at any time to become the victims of raptorial birds are very much beholden to this Swallow, as he is the most vigilant sentinel they possess. When the hurrying Falcon is still far off, and the other birds unsuspecting of his approach, the Swallows suddenly rush up into the sky with a wild rapid flight to announce the evil tidings with distracted screams. The alarm spreads swift as light through the feathered tribes, which on all sides are in terrified commotion, crouching in the grass, plunging into thickets, or mounting upwards to escape by flight. I have often wondered at this, since this swift-winged and quick-doubling little bird is the least likely to fall a prey himself.

They possess another habit very grateful to the mind of every early riser. At the first indication of dawn, and before any other wild bird has broken the profound silence of night, multitudes of this Swallow, as if at the signal of a leader, begin their singing and twittering, at the same time mounting upwards into the quiet dusky sky. Their notes at this hour differ from the hurried twittering uttered during the day, being softer and more prolonged, and, sounding far

up in the sky from so many throats, the concert has a very charming effect, and is in harmony with the shadowy morning twilight.

BANK-MARTIN

Atticora cyanoleuca

Above dark glossy blue; quills and tail-feathers black; cheeks and under surface pure white; sides of the neck blue, descending in a half-crescent on the sides of the chest; length 4.7 inches.

THIS diminutive dark-plumaged species is the smallest of our Hirundines. In Buenos Ayres they appear early in September, arriving before the Martins, but preceded by the Common Swallow. They are bank-birds, breeding in forsaken holes and burrows, for they never bore into the earth themselves, and are consequently not much seen about the habitations of man. They sometimes find their breeding-holes in the banks of streams, or, in cultivated districts, in the sides of ditches, and even down in wells. But if in such sites alone fit receptacles for their eggs were met with, the species, instead of one of the commonest, would be rare indeed with us; for on the level pampas most of the water-courses have marshy borders, or at most but low and gently sloping banks. But the burrowing habits of two other animals—the Vizcacha (*Lagostomus trichodactylus*), the common large rodent of the pampas, and the curious little bird called Minera (*Geositta cunicu-*

laria)—have everywhere afforded the Martins abundance of breeding-places on the plains, even where there are no streams or other irregularities in the smooth surface of the earth.

The Minera bores its hole in the sides of the Vizcacha's great burrow, and in this burrow within a burrow the Martin lays its eggs and rears its young, and is the guest of the Vizcacha and as much dependent on it as the House-Wren and the Domestic Swallow on man; so that in spring, when this species returns to the plains, it is in the villages of the Vizcachas that we see them. There they live and spend the day, sporting about the burrows, just as the Common Swallow does about our houses; and to a stranger on the pampas one of these villages, with its incongruous bird and mammalian inhabitants, must seem a very curious sight in the evening. Before sunset the old male Vizcachas come forth to sit gravely at the mouths of their great burrows. One or two couples of Mineras, their little brown bird-tenants, are always seen running about on the bare ground round the holes, resting at intervals with their tails slowly moving up and down, and occasionally trilling out their shrill laughter-like cry. Often a pair of Burrowing-Owls also live in the village, occupying one of the lesser disused burrows; and round them all flit half a dozen little Martins, like twilight moths with long black wings. It is never quite a happy family, however, for the Owls always hiss and snap at the Vizcacha if he comes too near; while the little Martins never become

reconciled to the Owls, but perpetually flutter about them, protesting against their presence with long complaining notes.

The nest, made of dry grass lined with feathers, is placed at the extremity of the long, straight, cylindrical burrow, and contains five or six white pointed eggs. I have never seen these Martins fighting with the Minera to obtain possession of the burrows, for this industrious little bird makes itself a fresh one every spring, so that there are always houses enough for the Martins. After the young have flown, they sit huddled together on a weed or thistle-top, and the parents continue to feed them for many days.

As in size and brightness of plumage, so in language is the Bank-Martin inferior to other species, its only song being a single weak trilling note, much prolonged, which the bird repeats with great frequency when on the wing. Its voice has ever a mournful, monotonous sound, and even when it is greatly excited and alarmed, as at the approach of a fox or hawk, its notes are neither loud nor shrill. When flying they glide along close to the earth, and frequently alight on the ground to rest, which is contrary to the custom of other Swallows. Like other species of this family, they possess the habit of gliding to and fro before a traveller's horse, to catch the small twilight-moths driven up from the grass. A person riding on the pampas usually has a number of Swallows flying round him, and I have often thought that more than a hundred were before

my horse at one time ; but from the rapidity of their motions it is impossible to count them. I have frequently noticed individuals of the four most common species following me together ; but after sunset, and when the other species have long forsaken the open grassy plain for the shelter of trees and houses, the diminutive Bank-Martin continues to keep the traveller company. At such a time, as they glide about in the dusk of evening, conversing together in low tremulous tones, they have a peculiarly sorrowful appearance, seeming like homeless little wanderers over the great level plains.

When the season of migration approaches they begin to congregate in parties not very large, though sometimes as many as one or two hundred individuals are seen together ; these companies spend much of their time perched close together on weeds, low trees, fences, or other slightly elevated situations, and pay little heed to a person approaching, but seem pre-occupied or preyed upon by some trouble that has no visible cause.

The time immediately preceding the departure of the Martins is indeed a season of very deep interest to the observer of nature. The birds in many cases seem to forget the attachment of the sexes and their songs and aerial recreations ; they already begin to feel the premonitions of that marvellous instinct that urges them hence : not yet an irresistible impulse, it is a vague sense of disquiet ; but its influence is manifest in their language and gestures, their wild manner of flight, and their listless intervals.

The little Bank-Martin disappears immediately after the Purple Martins. Many stragglers continue to be seen after the departure of the main body; but before the middle of March not one remains, the migration of this species being very regular.

WHITE-CAPPED TANAGER

Stephanophorus leucocephalus

Uniform deep blue; cap silvery white with a small crimson crest above the forehead; length 7 inches. Female less bright.

THIS beautiful bird is one of the three species of Tanager which range south as far as Buenos Ayres. The Tanagers are, however, a numerous family (*Tanagridæ*), numbering about 400 species, mostly restricted to the forest-clad regions of Central and South America, between the tropics. They are an American family nearly related to the Finches, and the relationship is so close in at least one genus as to make it difficult for naturalists to determine its true place—whether in the Finch or Tanager family. In form they resemble Buntings and do not vary greatly in size; of the greater number it may be said that they are about as big as a Yellow or a Corn Bunting. But in their colouring they have diverged widely from their relations—the family they spring from as we must suppose. There are many bright-coloured Finches, but with a few rare exceptions they do not

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equal the Tanagers in this respect. Another difference is that while wearing a more brilliant dress they are less musical. They have not wholly forgotten that they are song birds; they all sing "after a fashion," but it is rare to find a species possessing a song comparable in beauty to that of the best singers in the Finch family.

Azara gave the generic name *Lindo* (beautiful) to the Tanagers, and this species he named the "Blue White-headed Beautiful," the entire plumage being of a very lovely deep cornflower blue, except a cap of silvery-white feathers on the head, with a crimson spot on the forehead, looking like a drop of blood.

It is a summer bird in Buenos Ayres, where it makes its appearance in spring in the woods bordering on the Plata river, and is usually seen singly or in pairs. The nest is built in a tree ten or twelve feet from the ground, and is somewhat shallow and lined with soft dry grass. The female lays four eggs, white and spotted with deep red. During incubation the male sits concealed in the thick foliage close by, amusing itself by the hour with singing, its performance consisting of chattering disconnected notes uttered in so low a tone as to make one fancy that the bird is merely trying to recall some melody it has forgotten, or endeavouring to construct a new one by jerking out a variety of sounds at random. The bird never gets beyond this unsatisfactory stage, however, and must be admired for its lovely colouring alone.

The second species of the three known to me is the Blue Tanager, *Tanagra sayaca*, the entire plumage of which is a pale glaucous blue. A few of these birds migrate as far south as Buenos Ayres and are seen in small parties of four or five in the woods on the shores of the Plata. The male emits a series of squealing sounds by way of song.

The third species is the Blue-and-Yellow Tanager, *Tanagra bonariensis*. The plumage is rich blue above and bright yellow beneath. The female is olive green above and buff colour beneath. This species also visits Buenos Ayres in small numbers in spring (October). Both sexes have a long reedy call-note, and the male has a song composed of a succession of sounds like the bleating of a kid.

There are eleven more species of Tanager in Argentina, all confined to the northern part of the country.

GLAUCOUS FINCH

Guiraca glaucocerulea

Uniform glaucous blue; wings and tail blackish, the feathers edged with light blue; length 5.7 inches.

THE Finches in Argentina number about fifty species and belong mostly to forms peculiar to the New World, the chief exception being the genus *Chrysomitris* (Siskins), which has perhaps the widest

SCREAMING FINCH

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range among Finches. From personal observation I can only speak of fifteen species.

The Glaucous Finch was to me a rare bird, and its massive beak and rich blue plumage give to it a highly interesting appearance; but about its habits I have little to tell, for it is essentially a bird of the wild forest, seldom coming near the abodes of man, and being, moreover, shy in disposition, it is difficult to observe even in its haunts. It is migratory, and is usually seen singly or in pairs, or in small companies of four or five individuals. The male sings, but his performance is merely a confused medley of chattering notes, uttered in so low a tone that they can scarcely be heard at a distance of twelve yards.

Another species of *Guiraca*, the Indigo Finch, *G. cyanea*, is found in the northern province of Catamarca.

SCREAMING FINCH

Spermophila caerulea

Above pale smoky brown; front and lores black; beneath, upper part of throat black, with white mystical stripe on each side; fore-neck white; broad black band across the chest; abdomen and under wing-coverts white; length 4.8 inches. Female pale olive-brown; beneath lighter, tinged with ochraceous.

THIS species is a summer visitor in Buenos Ayres, and is one of the last to arrive and first to depart of our migrants. These birds are always most abundant in plantations, preferring peach-trees, but do not associate in flocks: they are exceedingly swift and

active, overflowing with life and energy, their impetuous notes and motions giving one the idea that they are always in a state of violent excitement. The male has a loud, startled chirp, also a song composed of eight or ten notes, delivered with such vehemence and rapidity that they run into each other and sound more like a scream than a song. There is not a more clever architect than this species; and while many *Synallaxes* are laboriously endeavouring to show how stately a mansion of suicks a little bird can erect for itself, the Screaming Finch has successfully solved the problem of how to construct the most perfect nest for lightness, strength, and symmetry with the fewest materials. It is a small cup-shaped structure, suspended hammock-wise between two slender upright branches, to which it is securely attached by fine hairs and webs. It is made of thin, pale-coloured, fibrous roots, ingeniously woven together—reddish or light-coloured horsehair being sometimes substituted; and so little material is used that, standing under the tree, a person can easily count the eggs through the bottom of the nest. Its apparent frailness is, however, its best protection from the prying eyes of birds and mammals that prey on the eggs and young of small birds; for it is difficult to detect this slight structure, through which the sunshine and rain pass so freely. So light is the little basket-nest that it may be placed on the open hand and blown away with the breath like straw; yet so strong that a man can suspend his weight from it without pulling it to pieces. The eggs are three in number, white and

CARDINAL FINCH

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spotted with black; sometimes bluish-brown spots are mingled with the black.

Two other species of *Spermophila*—*S. plumbeus* and *S. melanocephala*—are found in Argentina.

CARDINAL FINCH

Paroaria cucullata

Above light grey; wings and tail dark grey; head, crest, and throat brilliant scarlet, the scarlet extending downward to the chest; beneath pure white: length 8 inches.

THIS well-known species is perhaps the finest Finch the Argentines have. The entire upper plumage is clear grey, the under surface pure white; but its chief glory is its crest, which, with the anterior part of the head and throat, is of the most vivid scarlet. The song has little variety, but is remarkably loud, and has that cheerful ring which most people admire in their caged pets, possibly because it produces the idea in the listener's mind that the songster is glad to be a prisoner. As a cage-bird this Finch enjoys an extraordinary popularity; and a stranger in Buenos Ayres, seeing the numbers that are exposed for sale by the bird-dealers in the markets of that city, might fancy that a Cardinal in a cage is considered a necessary part of the *ménage* of every house in the country. This large supply of caged birds comes from South Brazil, Paraguay, and the north-eastern part of the Argentine country, where the

Cardinals are most abundant and unite in large flocks. As a rule they are not snared, but taken when young from the nest; thus most of the birds when first exposed for sale are in immature plumage.

The Cardinal in a wild state is found as far south as the province of Buenos Ayres, but it is there a scarce bird. It breeds at the end of October, and makes a shallow nest of twigs, vine-tendrils, and horsehair. The eggs are four; ground-colour white or tinged with faint brown or greenish, and spotted with brown, more densely at the large end.

The Lesser Cardinal Finch, *P. capitata*, common in Bolivia and Paraguay, is also found in Northern Argentina.

LONG-TAILED REED-FINCH

Donacospiza albifrons

Above yellowish grey, the back striped with blackish; lesser wing-coverts clear grey; greater coverts and quills black; head like back, greyish in the cheeks; eye-stripe and under surface buff; length 6 inches.

THE slender body, great length of tail, and the hue of the plumage, assimilating to that of sere decaying vegetation, might easily lead one into mistaking this Finch for a *Synallaxis* where these birds are abundant.

I have met with it in the marshy woods and reed-beds along the shores of the Plata, but it is a shy, rare bird in Buenos Ayres. I have followed it about, hoping to hear it utter a song or melodious note, but it had only a little chirp. I would not, however, on

WARBLING FINCH

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this account pronounce it to be the one silent member of a voiceful family, as my acquaintance with it is so very slight.

BLACK-AND-CHESTNUT WARBLING FINCH

Poospiza nigrorufa

Above black, faintly washed with olive; eye-stripe pale straw-colour; two outer tail-feathers on each side tipped with white; beneath bright chestnut; under tail-coverts pale buff; length 5.8 inches. Female: above not so dark as in male; beneath light buff striped with blackish.

THIS sweet-voiced little songster appears in Buenos Ayres at the end of September; it is a common bird in grounds abounding in bushes and scattered trees, and in its bright ruddy breast and dark upper plumage has some resemblance to the English Robin; only it has a very conspicuous straw-coloured line above the eye. Its voice also, in purity and sweetness of tone, is not unlike that of the Robin; but the song, composed of six unvarying notes, is uttered in a deliberate, business-like manner at regular intervals, and is monotonous. Never more than two birds are seen together; they feed on the ground in humid situations, the male frequently seeking a perch to sing. The nest is made on the ground, or in a close bush near the surface; the eggs have a pale bluish ground-colour, irregularly marked with black and very dark brown spots, and in some instances clouded with faint grey.

There are six more species of *Poospiza* found in the Argentine country, all of them in the northern parts.

The English generic name of Warbling Finches was invented for this group by the late Dr. P. L. Sclater, and although I retain it here I am by no means sure that it is the right one. Of the seven Argentine species we only know the song of one—the Black-and-Chestnut Finch, and its song is not exactly a warble in the sense in which we use the word of the performance of the Garden-Warbler, Blackcap, Willow-Wren, and other European species.

MOURNING FINCH

Phrygilus fruticeti

Grey, with minute black markings on head and neck and broader stripes on the back; greater coverts and wings black, a band of white across the coverts; tail black; beneath, throat and upper breast black, faintly mottled with grey; lower breast and belly grey with a few black spots; beak yellow; feet flesh-colour; length 7.3 inches. Female obscure grey without black throat and breast.

THIS Finch is common on the western slopes of the Andes as far north as Peru; it is also found in the Mendoza district and throughout Patagonia. It is very abundant on the Rio Negro, especially in the immediate neighbourhood of the Carmen settlements, for, like the Chingolo and other fringilline species, it is beneficially affected by cultivation. Though not possessing any bright tints, it is a very charming bird,

YELLOW CARDINAL

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tuneful, elegant in form, graceful and buoyant in its motions. When approached it utters a series of low ticking sounds, and at intervals a peculiar long squealing note. The song of the male is very agreeable, and curiously resembles that of the Cachila Pipit (*Anthus correndera*). It usually sits on a twig near the ground, and at intervals soars up to a height of ten or twenty yards, and utters its song while gliding slowly downwards with depressed wings and outspread tail. It sings throughout the year; in bright weather its notes are heard all day long, but on cold, cloudy, or wet days only after sunset, on going to roost. In the warm season they live in pairs, and in the autumn unite in flocks of as many as two or three hundred individuals, and have a strong undulating flight.

There are five more species of *Phrygilus* in Argentina.

YELLOW CARDINAL

Gubernatrix cristatella

Above light olive-green, the back marked with a few black stripes; four middle tail-feathers black, edged with olive; all the others bright yellow, tipped with olive; superciliaries and lower part of head bright yellow; crown, crest, and throat velvet black, the black extending to the chest; beneath, yellow, washed with olive-green on the breast and sides; length 8 inches. Female less brightly coloured; white on the head where the male is yellow; breast grey.

THE Yellow Cardinal is one of the most charming of the Argentine Finches; a lively graceful bird, beautiful in its yellow-and-black dress, with a loud

and musical voice. Unfortunately these qualities have made it a favourite cage-bird, and the young are diligently sought after in the forests in northern Argentina and Paraguay and taken from the nest to be reared by hand. In Buenos Ayres it is somewhat rare and is a summer visitor in pairs and small flocks. Its song is composed of four or five notes of great power and of a sweet quality.

LESSER DIUCA FINCH

Diuca minor

Clear grey; head, neck, and back faintly washed with brown; wings blackish, the feathers edged with grey; tail-feathers black, tipped with white on the inner webs; beneath white, the upper part of breast grey; a bright chestnut spot on the flanks; length 6.5 inches. Female similar but less bright.

THIS pretty little grey and white Finch is common on the Chilian side of the Andes and throughout Patagonia, and also occurs in the Mendoza district. It is a tuneful bird, lively, social, and frolicsome in disposition; in autumn and winter uniting in flocks of from fifty to three or four hundred individuals; swift of flight, and when on the wing fond of pursuing its fellows and engaging in mock battles. The song of the male is very pleasing, the voice having more depth and mellowness than is usual with the smaller fringilline singers, which as a rule have thin, reedy, and tremulous notes. In summer it begins singing very early, even before the faintest indication of

coming daylight is visible, and at that dark silent hour the notes may be heard at a great distance and sound wonderfully sweet and impressive. During the cold season, when they live in companies, the singing-time is in the evening, when the birds are gathered in some thick-foliaged tree or bush which they have chosen for a winter roosting-place. This winter-evening song is a hurried twittering, and utterly unlike the serene note of the male bird heard on summer mornings. A little while after sunset the flock bursts into a concert, which lasts several minutes, sinking and growing louder by turns, during which it is scarcely possible to distinguish the notes of individuals. Then follows an interval of silence, after which the singing is again renewed very suddenly and as suddenly ended. For an hour after sunset, and when all other late singers, like the *Mimus*, have long been silent, this fitful impetuous singing is continued. Close by a house on the Rio Negro, in which I spent several months, there were three very large chañar bushes, where a multitude of Diuca Finches used to roost, and they never missed singing in the evening, however cold or rainy the weather happened to be. So fond were they of this charming habit, that when I approached the bushes or stood directly under them the alarm caused by my presence would interrupt the performance only for a few moments, and presently they would burst into song again, the birds all the time swiftly pursuing each other amongst the foliage, often within a foot of my head.

The eggs, Darwin says, are pointed, oval, pale dull green, thickly blotched with pale dull brown, becoming confluent and entirely coloured at the broad end.

CHINGOLO SONG-SPARROW

Zonotrichia pileata

Above dusky grey, striped with blackish brown; a whitish stripe from the eye to the nape; between the stripe and the grey on the crown, black; a narrow chestnut ring round the neck, widening to a large patch on the sides of the chest, the patch bordered with black on its lower part; beneath ashy white; length 5.7 inches. Female duller in colour and rather smaller.

THE common, familiar, favourite Sparrow over a large portion of the South American continent is the "Chingolo." Darwin says that "it prefers inhabited places, but has not attained the air of domestication of the English Sparrow, which bird in habits and general appearance it resembles." As it breeds in the fields on the ground, it can never be equally familiar with man, but in appearance it is like a refined copy of the burly English Sparrow—more delicately tinted, the throat being chestnut instead of black; the head smaller and better proportioned, and with the added distinction of a crest, which it lowers and elevates at all angles to express the various feelings affecting its busy little mind.

On the treeless desert pampas the Chingolo is rarely seen, but wherever man builds a house and

CHINGOLO SONG-SPARROW 55

plants a tree there it comes to keep him company, while in cultivated and thickly settled districts it is excessively abundant, and about Buenos Ayres it literally swarms in the fields and plantations. They are not, strictly speaking, gregarious, but where food attracts them, or the shelter of a hedge on a cold windy day, thousands are frequently seen congregated in one place; when disturbed, however, these accidental flocks immediately break up, the birds scattering abroad in different directions.

The Chingolo is a very constant singer, his song beginning with the dawn of day in spring and continuing until evening; it is very short, being composed of a chirping prelude and four long notes, three uttered in a clear thin voice, the last a trill. This song is repeated at brief intervals, as the bird sits motionless, perched on the disc of a thistle-flower, the summit of a stalk, or other elevation; and where the Chingolos are very abundant the whole air, on a bright spring morning, is alive with their delicate melody; only one must pause and listen before one is aware of it, otherwise it will escape notice, owing to its thin ethereal character, the multitudinous notes not mingling but floating away, as it were, detached and scattered, mere gossamer webs of sound that very faintly impress the sense. They also sing frequently at night, and in that dark silent time their little melody sounds strangely sweet and expressive.

The Chingolos pair about the end of September, and at that time their battles are frequent, as they are

very pugnacious. The nest is made under a thistle or tuft of grass, in a depression in the soil, so that the top of the nest is on a level with the surface of the ground. The nest is mostly made and lined with horsehair, the eggs four or five, pale blue, and thickly spotted with dull brown. Sometimes, though very rarely, a nest is found in a bush or on a stump several feet above the ground. Two broods are reared in the season, the first in October, the second in February or March. I have known these birds to breed in April and May, and these very late nests escape the infliction of parasitical eggs. When the nest is approached or taken the Chingolos utter no sound, but sit in dumb anxiety, with tail expanded and drooping wings.

There are three more species of the charming *Zonotrichia* Song-Sparrows within the Argentine country, one of which, the Patagonian Song-Sparrow, *Z. canicapilla*, I found very abundant in Bahia Blanca and on the Rio Negro. In appearance and habits it was not distinguishable from the Chingolo Song-Sparrow, but differed slightly in its song, this being without the concluding trill.

RED-BILLED GROUND-FINCH

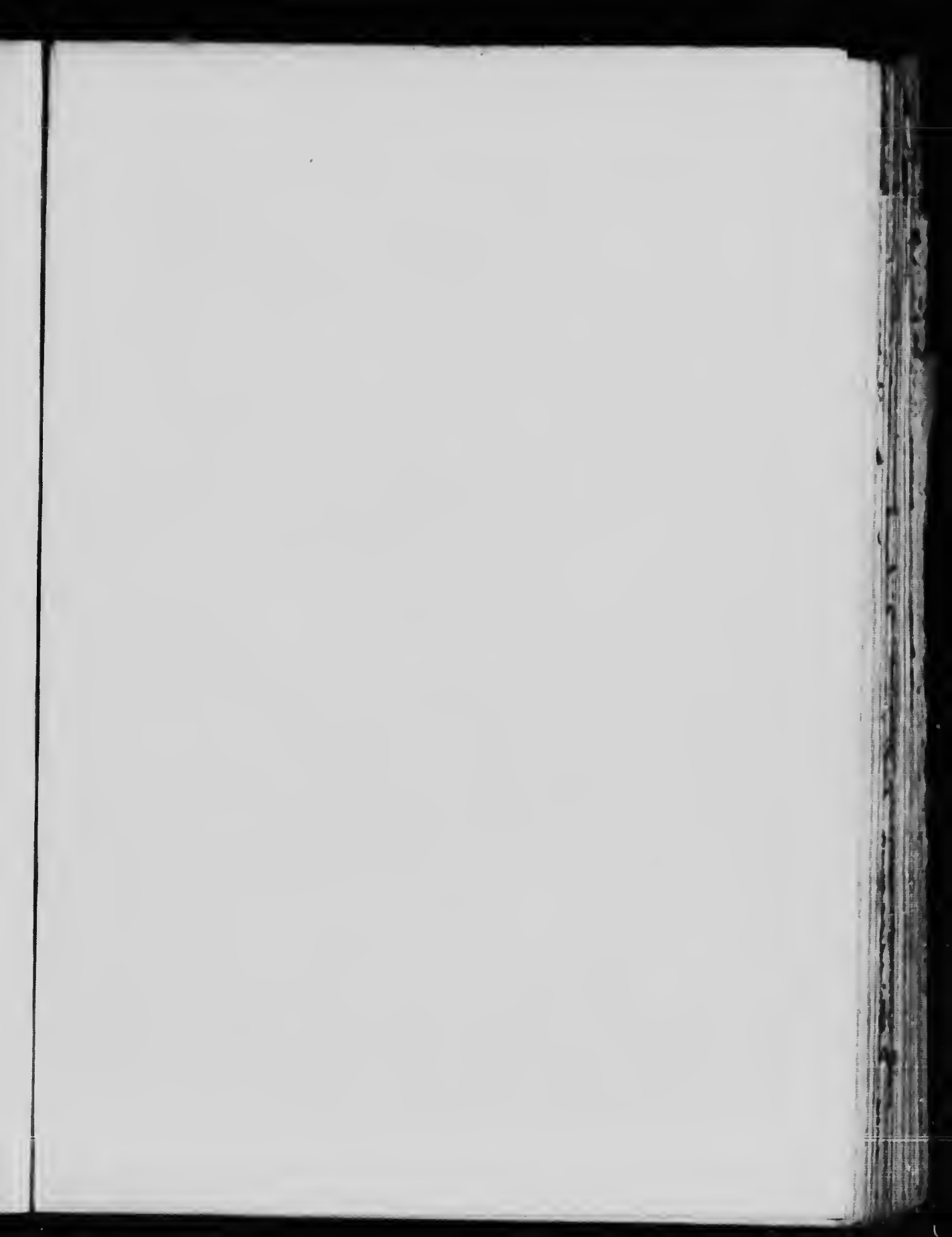
Embernagra platensis

Above dull olive-green, striped with blackish; wings silky olive-green, the inner webs of the feathers black; edge of wings yellow; tail-feathers dull olive-green; beneath grey, belly buff; beak bright red; length 8.8 inches.

In this Finch the plumage is alike in both sexes. Above it is dusky olive-green, beneath grey; the beak is of a fine bright red. In Argentina this bird is most common in the littoral forests along the Plata, but ranges as far south as the Rio Negro in Patagonia. It does not migrate, nor associate in flocks; but the sexes are faithful, and the male and female are invariably together, and appear to be very fond of each other's society. They have a loud, sharp alarm chirp or cry, which bursts from the bird with the startling suddenness of a sneeze from a human being; also a confused unmelodious song, which always reminds me, in its hurry, vehemence, and peculiar sound, of the gobbling of a turkey-cock. They are not shy, but when approached sit jerking their tails about, and uttering loud chirps as if greatly excited. The flight is very curious; the bird springs up with great suddenness, and with tail erect, the long legs dangling down like a Rail's, and proceeds by a series of irregular jerks, violently shutting and opening its wings. They breed on the ground under the grass, and conceal their nest so well that I doubt whether the parasitical *Molothrus* ever finds it. I

have at all events never seen them followed by the young of *Molothrus* demanding food.

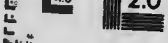
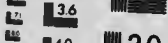
As a rule small seed-eating birds are beneficially affected by the presence of man ; thus our common *Zonotrichia* and other sparrows and finches have become excessively numerous in the most thickly-settled districts. With the Red-billed Finch, however, just the contrary has happened ; and since I have known this species it has disappeared from many localities where it was once quite common. Azara's name for this species, *Habia de bañado*, signifies that it is a marsh bird ; but though now found chiefly in marshy situations, it was once common enough over the entire pampas region, before the great plains were settled on by Europeans. The bird is very badly protected by nature against raptorial species, owing to its very conspicuous red beak, its habit of perching on the summit of tall plants and other elevated positions, its loud impetuous voice, which invites attention, and the weak eccentric flight, which challenges pursuit. It is essential to its safety that it should have, in the open country it frequents, a dense grass cover into which it can plunge on the slightest alarm. Where cattle are introduced, the original pampas-grass which afforded the suitable conditions disappears, giving place to the soft, perishable grasses, clovers, and thistles of Europe. Where these changes take place, the bird cannot escape from its enemies and quickly disappears ; while many *Dendrocolaptes* species inhabiting the same situations are saved by their





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BLACK-HEADED SISKIN
Chrysomitris icterica (Licht.)

BLACK-HEADED SISKIN

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inconspicuous protective colouring, sharp wedge-like bodies, and swift mouse-like motions on the ground. In marshy places on the pampas, abounding with long aquatic grasses and reed-beds, the Red-bill still maintains its existence, but from its old habitat on the open grassy plains, where it was once the dominant Finch, it has utterly vanished.

BLACK-HEADED SISKIN

Chrysomitris icterica

Above light olive-green; wings black, a broad bright yellow band across the base of the feathers; rump yellow; upper tail-coverts olive-green; tail-feathers yellow at the base and black at the ends; head and throat velvety black; beneath and under wing-coverts bright yellow; length 5 inches. Female without the black head.

THIS beautiful little golden-plumaged Finch, the male distinguished from his consort by a brighter yellow colour and a black head, is common throughout the entire length of the Argentine country from Brazil to Patagonia. In the Buenos-Ayrean district it probably has a partial migration, as small flocks are seen to arrive in spring; but further south, in Patagonia, it appears to be strictly resident. In settled districts they are always more abundant than in the woods, and they have a special predilection for poplar groves, and always prefer a poplar to build in. They go in small flocks, seldom more than about a dozen birds together, have a rapid,

undulating flight, feed chiefly on the ground like most Finches, and also frequently alight in the seeding-time on plants like the lettuce and *Sonchus asper* (a common weed), and, clinging to the stem, dexterously pick off the seed, scattering the down about them in a little cloud. They are very tuneful, restless, quick in their motions, apparently always in a light-hearted merry mood. Being much admired for their song they are often kept in cages; and certainly for cheerfulness and constancy in singing they take the foremost place amongst the Finches; but there is little expression in the song, which is composed of a variety of short twittering notes, uttered with great rapidity, as the bird sits perched on a twig or undulates from tree to tree. Usually the notes flow in a continuous stream, but occasionally the bird sings in a different manner, making a pause of two or three seconds of silence after every eight or ten short notes. When the female is on the nest the male sometimes perches near her amongst the leaves and sings *sotto voce*, apparently for her hearing only, this whisper-song being so low that at a distance of ten yards it is hardly audible.

The nest is usually placed between the angle formed by a small branch and the bole of the tree, and is a deep, well-made structure composed of many materials, and lined with horsehair, down, or feathers. The eggs are five, very small for the bird, pure white, and so frail that it is not easy to take them from the nest without breaking them.

While engaged in building, the birds constantly

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utter a low, soft, trilling note; and when the nest is approached they break out into long, somewhat reedy notes, resembling those of the Canary, expressive of alarm or curiosity.

There is but one other Siskin in Argentina, the Half-black Siskin, *C. atrata*, found in Bolivia and North-West Argentina, but of its habits and language nothing has been recorded.

YELLOW HOUSE-SPARROW

Sycalis pelzelni

Above yellowish olive-green, the back sparsely striped with blackish; wing- and tail-feathers black, edged with yellow; forehead bright orange, the rest of the head like the back; below bright yellow; under surfaces of wings and tail also yellow; length 5.4 inches. Female dull brownish grey mottled with blackish above; under surface whitish grey, striped with dusky brown on the breast; wing- and tail-feathers edged with yellow.

THE Yellow "House-Sparrow," as this species is called, is the town-bird of Buenos Ayres, but does not multiply greatly, nor is he familiar with man, like his rough, sooty-plumaged, far-away London relation.¹

The forehead of the male is bright orange, the prevailing colour of the entire plumage yellow, clouded with other hues. The female is grey, marked

since this was first written in 1888 the "far-away" relation has invaded Buenos Ayres, and as in so many other countries has become a pest. One result of its appearance has been the vanishing of the pretty and engaging Yellow House-Sparrow.

with pale fuscous, and is less in size than her mate. They remain with us all the year and live in pairs, the sexes in this species being faithful. Sometimes they are seen associating in small flocks, but I am inclined to believe that only the young unmated birds are gregarious. In 1867-8, during the cholera epidemic in Buenos Ayres, the Sparrows all disappeared from the town, and I was told by the manager of a large steam flour-mill in the town that the birds had not gone away, but had died. They were found dead all about the mill, where they had been very abundant. My informant was a careful observer, and I have no doubt that he was correct in what he told me.

In spring and summer the male sings frequently with great energy, but without much melody. After a hurried prelude of sharp chirps and trills, he pours out a continuous stream of sound, composed of innumerable brief notes, high and shrill as those of a bat, wounding the ear with their excessive sharpness, and emitted so rapidly that the whole song is more like that of a cicada than of a bird. This piercing torrent of sound is broken at intervals by a long, grave note, or half a dozen short rapid notes in a lower key, which come as an agreeable relief.

In towns they build in walls, like the English Sparrow; in country places they always select the domed nest of some Dendrocolaptine species to breed in. Possibly in some districts where I have not been, this Sparrow selects other breeding-sites; my experience is that outside of a town it never lays

anywhere but in some domed nest, and at home I frequently put up boxes for them in the trees, but they would not notice them, though the Wrens and Swallows were glad to have them. Sometimes they make choice of the large fabric of the *Anumbius acuticaudatus*, called Leñatero in the vernacular; but their claim to this nest (even when the Leñateros are out of it) is frequently disputed by other species which possess the same habit as this Sparrow, but are more powerful than he. Their favourite breeding-place is, however, the solid earthen structure of the Oven-bird; and it is wonderful to see how persistently and systematically they labour to drive out the lawful owners—birds so much larger and more powerful than themselves. Early in spring, and before the advent of the Tree-Martins, the pair of Sparrows begin haunting the neighbourhood of the oven they have elected to take possession of, usually one pretty high up in a tree. As the season advances their desire towards it increases, and they take up their position on the very tree it is in; and finally a particular branch near the oven, commanding a good view of the entrance, is chosen for a permanent resting-place. Here they spend a great portion of their time in song, twitterings, and loving dalliance, and, if attentively observed, they are seen with eyes ever fixed on the coveted abode. As the need for a receptacle for the eggs becomes more urgent they grow bolder, and in the absence of the owners flit about the oven, alight on it, and even enter it. The Oven-bird appears to drive them off with screams

of indignation, but the moment he retires they are about it again, and, even when it contains eggs or young birds, begin impudently carrying in feathers, straws, and other materials for a nest, as if they were already in undisputed possession. At this stage the Tree-Martins (*Progne tapera*) perhaps appear to complicate matters; and even if these last comers do not succeed in ousting the Oven-birds, they are sure to seize the oven when it becomes vacant, and the Sparrows, in spite of their earlier claim, are left out in the cold. But they do not take their defeat quietly, for, rather, they do not know when they are beaten, but still remain to harass their fellow pirates, just as they did the Oven-birds before, bringing straws and feathers in their bills, and when forced to drop these materials and chased from the neighbourhood with great noise and fury by the Tree-Martins, it is only to return undaunted in a few minutes, bringing more straws and feathers.

This Sparrow makes a rather large nest, neatly lined with horsehair, and lays five eggs, long, pointed, the entire surface thickly matted with deep chocolate brown.

In rural districts this species is comparatively rare, not more than one or two couples being seen about each habitation; and I scarcely think it would be too much to say that there are four or five thousand Chingolos for every individual Yellow Sparrow. Yet it is a hardy little bird, well able to hold its own, subsists on the same kind of food and lays as many eggs as the *Zonotrichia*; and it possesses, moreover,

a great advantage over the dominant species in placing its nest out of the reach of the parasitical *Molothrus*, the destroyer of about fifty per cent. of the Chingolo's eggs. I can only attribute the great disparity in the numbers of the two species to the fact that the Yellow House-Sparrow will breed only (out of towns) in nests not easily taken, and to the stubborn pertinacity which leads it to waste the season in these vain efforts, while the other species is rearing its brood. This is a blunder of instinct comparable to that of the Miner (*Geositta cunicularia*), mentioned by Darwin in the *Voyage of a Naturalist*, where the bird made its hole in a mud wall a few inches wide, and on coming out on the other side simply went back and made another hole, and then another, unable to understand that the wall had not the requisite thickness.

In such a case as the Yellow House-Sparrow presents, in which the colour of the sexes differs, the female being without any of the brighter hues found in the male, and which makes an elaborate nest and lays deeply-coloured eggs, it is impossible not to believe that the bird originally built in exposed situations, and subsequently—perhaps in very recent times—acquired the habit of breeding in dark holes. The frequent destruction of the exposed nest, and an abundance of vacant domed nests, into which some individuals occasionally penetrated to breed, would lead to the acquisition of such a nesting-habit; for the birds inheriting it would have an advantage and be preserved, while those persisting

in the old habit of building exposed nests would perish. Domed nests made by Dendrocolaptine birds are very abundant even now, and it is probable that, before the country became settled by Europeans, they were very much more numerous. Darwin, speaking of the Oven-bird's habit of always placing its oven in the most conspicuous and (to man) accessible places, predicts, and truly I believe, that this habit will eventually cause the extinction of the species; for when the country becomes more thickly settled, the bird-nesting boys will destroy all the ovens. Probably when the Oven-birds were more abundant the Sparrows could always find vacant ovens to breed in, until a habit of breeding almost exclusively in these safe and convenient bird-built houses was acquired; and the present seemingly stupid persistence of the birds in struggling to get possession of those already occupied by stronger species, only shows that the habit or instinct has not been modified to suit a change in the conditions—*i.e.*, a diminishing number of ovens to breed in, with perhaps the increase of other stronger species possessing the same habit. But while the instinct thus survives too strongly in the country birds, many individuals have taken to a town life, and acquired the new habit of breeding in holes in brick walls. Probably this race of town birds will eventually colonise the rural districts, and usurp the place of the country birds, which will then be placed at a disadvantage.

MISTO SEED-FINCH

Cyralis luteola

Above light olive-green, marked with dusky stripes; wing- and tail-feathers blackish; throat and chest dusky buff; lower breast and belly yellow; length 5 inches.

THIS is a slender, graceful bird, less than the Canary in size, the whole upper plumage yellowish olive, with dun markings, the lower surface of a dull yellow. The female is a little smaller than the male, and her colours are somewhat dimmer.

This species is resident and gregarious in the Argentine Republic, and in autumn frequently congregates in flocks of several thousands. They are not so universally distributed as the Chingolo, and are not wood-birds, but frequent open plains abounding in thistles and other coarse herbage, which affords them shelter. In cultivated districts, where their food is most abundant, they are excessively numerous, and after the harvest has been gathered frequent the fields in immense flocks. While feeding, the flocks scatter over a large area of ground, being broken up into small companies of a dozen or more birds, and at such times are so intent on their food that a person can walk about amongst them without disturbing them. They take flight very suddenly, bursting into a thousand chirping, scolding notes, pursue each other through the air, and after wheeling about the field for a minute or two, suddenly drop down into the grass again and are silent as before.

In August they begin to sing, here and there an individual being heard in the fields ; but when the weather grows warmer they repair to the plantations in vast numbers, and, sitting on the branches, sing in a concert of innumerable voices, which produces a great volume of confused sound, and which often continues for hours at a time without intermission.

By-and-by these pleasant choirs break up, the birds all scattering over the plains and fields to woo and build, and it is then first discovered that the male has a peculiar and very sweet song. Apart from his fellows he acquires a different manner of singing, soaring up from his stand on the summit of a bush or stalk, and beginning his song the moment he quits his perch. Ascending he utters a series of long melodious notes, not loud but very distinctly enunciated and increasing in volume ; at a height of fifty or sixty yards he pauses, the notes becoming slower ; then, as he descends with a graceful flight, the wings outstretched and motionless, the notes also fall, becoming slower, sweeter, and more impressive till he reaches the earth. After alighting he continues the song, the notes growing longer, purer, and clearer, until they dwindle to the merest threads of sound, and cease to be audible except to a person standing within a few yards of the singer. The song is quite unique in character, and its great charm is in its gradual progress from the somewhat thick notes at the commencement to the thin, tremulous tones with which the bird returns to earth, and which

ARGENTINE COW-BIRD 69

change again to the excessively attenuated sounds at the close.

The nest is deep, well built, and well concealed, sometimes resung on the ground, but frequently raised above it. It contains five long, pointed eggs, with a white or bluish-white ground-colour, and thickly spotted with brown. I have frequently found the eggs of the *Molothrus* in its nest, but have never been able to see this Sparrow feeding, or followed by, a young *Molothrus*. Possibly, if it ever hatches the parasitical egg at all, the young Cow-bird is starved by the food supplied by its foster-parents, as this Finch may feed its young on seed instead of grubs.

ARGENTINE COW-BIRD

Molothrus Bonariensis

Uniform shining purple-black; beak and feet black; length 7.5 inches. Female slightly smaller; plumage uniform mouse-colour.

We have now come to a remarkable family of Icterine birds, the *Icteridæ* or Troupials, which includes the Hang-nests and so-called Orioles of North and South America and the parasitical Cow-birds. They are the Starlings of the New World and appear to be an offshoot of the true Starlings, just as the Tanagers are of the Finches, but Tanagers and Finches exist together throughout South America, whereas the true Starling is unknown in that continent. Many

of the Troupials, like the European Starling, have a glossed metallic plumage, and in a majority of species there is some brilliant colour—scarlet, purple, orange, and yellow. The whole family numbers about 130, and of these fifteen or twenty are found in Argentina. Among these are the three species of the genus *Molothrus* which I describe. These three, in their shape and hard conical bills, outwardly resemble Tanagers and Finches rather than Starlings. I was familiar with all of them from childhood, and as I spent a good deal of time in watching them and succeeded in discovering some interesting facts about their singular breeding habits, I have devoted more space to this group than to any other one in this volume.

The species here described, the commonest in southern Argentina, is the *Tordo común* of Azara, and is usually called *Tordo* or *Pájaro negro* (black-bird) by the natives, and *Blackbird* by the English-speaking Argentines. A more suitable name is Argentine Cow-bird, given to it by some ornithological writers, Cow-bird being the vernacular name of the closely allied North American species, *Molothrus pecoris*.

This Cow-bird is widely distributed in South America, and is common throughout the Argentine country, including Patagonia, as far south as Chupat. In Buenos Ayres it is very numerous, especially in cultivated districts where there are plantations of trees. The male is clothed in a glossy plumage of

deep violaceous purple, the wings and tail being dark metallic green; but seen at a distance or in the shade the bird looks black. The female is inferior in size and has a dull mouse-coloured plumage, and black beak and legs. The males are much more numerous than the females. Azara says that nine birds in ten are males; but I am not sure that the disparity is so great as that. It seems strange and contrary to Nature's usual rule that the smaller, shyer, inconspicuous individuals should be in such a minority; but the reason is perhaps that the *male* eggs of the Cow-bird are harder-shelled than the *female* eggs, and escape destruction oftener, when the parent bird exercises its disorderly and destructive habit of pecking holes in all the eggs it finds in the nests into which it intrudes.

The Cow-birds are sociable to a greater degree than most species, their companies not breaking up during the laying-season; for, as they are parasitical, the female merely steals away to drop her egg in any nest she can find, after which she returns to the flock. They feed on the ground, where, in their movements and in the habit the male has of craning out its neck when disturbed, they resemble Starlings. The male has also a curious habit of carrying his tail raised vertically while feeding. They follow the domestic cattle about the pastures, and frequently a dozen or more birds may be seen perched along the back of a cow or horse. When the animal is grazing they group themselves close to its mouth, like chickens round a hen when she scratches up the ground, eager

to snatch up the small insects exposed where the grass is cropped close. In spring they also follow the plough to pick up worms and grubs.

The song of the male, particularly when making love, is accompanied with gestures and actions somewhat like those of the domestic Pigeon. He swells himself out, beating the ground with his wings, and uttering a series of deep internal notes, followed by others loud and clear; and occasionally, when uttering them, he suddenly takes wing and flies directly away from the female to a distance of fifty yards, and performs a wide circuit about her in the air, singing all the time. The homely object of his short-lived passion always appears utterly indifferent to this curious and pretty performance; yet she must be even more impressionable than most female birds, since she continues scattering about her parasitical and often wasted eggs during four months in every year. Her language consists of a long note with a spluttering sound, to express alarm or curiosity, and she occasionally chatters in a low tone as if trying to sing. In the evening, when the birds congregate on the trees to roost, they often continue singing in concert until it is quite dark; and when disturbed at night the males frequently utter their song while taking flight. On rainy days, when they are driven to the shelter of trees, they will often sing together for hours without intermission, the blending of innumerable voices producing a rushing sound as of a high wind. At the end of summer they congregate in flocks of tens of thousands, so that the ground

where they are feeding seems carpeted with black, and the trees when they alight appear to have a black foliage. At such times one wonders that many small species on which they are parasites do not become extinct by means of their pernicious habit. In Buenos Ayres, where they are most numerous, they have a migration, which is only partial however. It is noticeable chiefly in the autumn, and varies greatly in different years. In some seasons it is very marked, when for many days in February and March the birds are seen travelling northwards, flock succeeding flock all day long, passing by with a swift, low, undulating flight, their wings producing a soft musical sound; and this humming flight of the migrating Cow-birds is as familiar to everyone acquainted with nature in Buenos Ayres as the whistling of the wind or the distant lowing of cattle.

The procreant instinct of this *Molothrus* has always seemed so important to me for many reasons that I have paid a great deal of attention to it; and the facts, or at all events the most salient of them, which I have collected during several years of observation, I propose to append here, classified under different headings so as to avoid confusion and to make it easy for other observers to see at a glance just how much I have learnt.

Though I have been familiar with this species from childhood, when I used to hunt every day for their wasted eggs on the broad, clean walks of the plantation, and removed them in pity from the nests of little birds where I found them, I have never ceased

to wonder at their strange instinct, which in its wasteful destructive character, so unlike the parasitical habit in other species, seems to strike a discordant note in the midst of the general harmony of nature.

MISTAKES AND IMPERFECTIONS OF THE PROCREANT
INSTINCT OF *Molothrus bonariensis*

1. The Cow-birds, as we have seen, frequently waste their eggs by dropping them on the ground.

2. They also occasionally lay in old forsaken nests. This I have often observed, and to make very sure I took several old nests and placed them in trees and bushes, and found that eggs were laid in them.

3. They also frequently lay in nests where incubation has actually begun. When this happens the Cow-bird's egg is lost if incubation is far advanced ; but if the eggs have been sat on three or four days only, then it has a good chance of being hatched and the young bird reared along with its foster-brothers.

4. One female often lays several eggs in the same nest, instead of laying only one, as does, according to Wilson, the *Molothrus pecoris* of North America. I conclude that this is so from the fact that in cases where the eggs of a species vary considerably in form, size, and markings, each individual of the species lays eggs precisely or nearly alike. So when I find two, three, or four eggs of the Cow-bird in one nest all alike in colour and other particulars, and yet in half a hundred eggs from other nests

cannot find one to match with them, it is impossible not to believe that the eggs found together, and possessing a family likeness, were laid by the same bird.

5. Several females often lay in one nest, so that the number of eggs in it frequently makes incubation impossible. One December I collected ten nests of the Scissor-tail (*Milvulus tyrannus*) from my trees; they contained a total of forty-seven eggs, twelve of the Scissor-tails and thirty-five of the Cow-birds. It is worthy of remark that the *Milvulus* breeds in October or early in November, rearing only one brood; so that these ten nests found late in December were of birds that had lost their first nests. Probably three-fourths of the lost nests of *Milvulus* are abandoned in consequence of the confusion caused in them by the Cow-birds.

6. The Cow-birds, male and female, destroy many of the eggs in the nests they visit, by pecking holes in the shells, breaking, devouring, and stealing them. This is the most destructive habit of the bird, and is probably possessed by individuals in different degrees. I have often carefully examined all the parasitical eggs in a nest, and after three or four days found that these eggs had disappeared, others, newly laid, being in their places. I have seen the female Cow-bird strike her beak into an egg and fly away with it; and I have often watched the male bird perched close by while the female was on the nest, and when she quitted it have seen him drop down and begin pecking holes in the eggs. In some nests found full

of parasitical eggs every egg has holes pecked in the shell, for the bird destroys indiscriminately eggs of its own and of other species.

ADVANTAGES POSSESSED BY *M. bonariensis* OVER
ITS DUPES

After reading the preceding notes one might ask : If there is so much that is defective and irregular in the reproductive instinct of *M. bonariensis*, how does the species maintain its existence, and even increase to such an amazing extent ? for it certainly is very much more numerous, over an equal area, than any other parasitical species. For its greater abundance there may be many reasons unknown to us. The rarer species may be less hardy, have more enemies, be exposed to more perils in their long migrations, etc. That it is able to maintain its existence in spite of irregularities in its instinct is no doubt due to the fact that its eggs and young possess many advantages over the eggs and young of the species upon which it is parasitical. Some of these advantages are due to those very habits of the parent bird which at first sight appear most defective ; others to the character of the egg and embryo, time of evolution, etc.

1. The egg of the Cow-bird is usually larger, and almost invariably harder-shelled than are the eggs it is placed with ; those of the Yellowbreast (*Pseudoleistes virescens*) being the one exception I am acquainted with. The harder shell of its own egg,

considered in relation to the destructive egg-breaking habit of the bird, gives it the best chance of being preserved; for though the Cow-bird never distinguishes its own egg, of which indeed it destroys a great many, a larger proportion escape in a nest where many eggs are indiscriminately broken.

2. The vitality or tenacity of life appears greater in the embryo Cow-bird than in other species; this circumstance also, in relation to the egg-breaking habit and to the habit of laying many eggs in a nest, gives it a further advantage. I have examined nests of the Scissor-tail, containing many eggs, after incubation had begun, and have been surprised at finding those of the Scissor-tail addled, even when placed most advantageously in the nest for receiving heat from the parent bird, while those of the Cow-bird contained living embryos, even when under all the other eggs, and, as frequently happens, glued immovably to the nest by the matter from broken eggs spilt over them.

The following instance of extraordinary vitality in an embryo *Molothrus* seems to show incidentally that in some species protective habits, which will act as a check on the parasitical instinct, may be in the course of formation.

Though birds do not, as a rule, seem able to distinguish parasitical eggs from their own, however different in size and colour they may be, they often do seem to know that eggs dropped in their nest before they themselves have begun to lay ought not to be there; and the nest, even after its completion,

is not infrequently abandoned on account of these premature eggs. Some species, however, do not forsake their nests; and though they do not throw the parasitical eggs out, which would seem the simplest plan, they have discovered how to get rid of them, and so save themselves the labour of making a fresh nest. Their method is to add a new deep lining, under which the strange eggs are buried out of sight and give no more trouble. The *Sisopygis icterophrys*—a common Tyrant-bird in Buenos Ayres—frequently has recourse to this expedient; and the nest it makes being rather shallow, the layer of fresh material, under which the strange eggs are buried, is built upwards above the rim of the original nest; so that this supplementary nest is like one saucer placed within another, and the observer is generally able to tell from the thickness of the whole structure whether any parasitical eggs have been entombed in it or not. Finding a very thick nest one day, containing two half-fledged young birds besides three addled eggs, I opened it, removing the upper portion or additional nest intact, and discovered beneath it three buried *Molothrus* eggs, their shells encrusted with dirt and glued together with broken-egg matter spilt over them. In trying to get them out without pulling the nest to pieces I broke them all; two were quite rotten, but the third contained a living embryo, ready to be hatched, and very lively and hungry when I took it in my hand. The young Tyrant-birds were about a fortnight old, and as they hatch out only about twenty days after the parent-

bird begins laying, this parasitical egg with a living chick in it must have been deeply buried in the nest for not less than five weeks. Probably after the young Tyrant-birds came out of their shells and began to grow, the little heat from their bodies, penetrating to the buried egg, served to bring the embryo in it to maturity; but when I saw it I felt (like a person who sees a ghost) strongly inclined to doubt the evidence of my own senses.

3. The comparatively short time the embryo takes to hatch gives it another and a great advantage; for whereas the eggs of other small birds require from fourteen to sixteen days to mature, that of the Cow-bird hatches in eleven days and a half from the moment incubation commences; so that when the female Cow-bird makes so great a mistake as to drop an egg with others that have already been sat on, unless incubation be far advanced, it still has a chance of being hatched before or contemporaneously with the others; and even if the others hatch first, the extreme hardiness of the embryo serves to keep it alive with the modicum of heat it receives.

4. Whenever the *Molothrus* is hatched together with the young of its foster-parents, if these are smaller than the parasite, as usually is the case, soon after exclusion from the shell they disappear, and the young Cow-bird remains sole occupant of the nest. How it succeeds in expelling or destroying them, if it indeed does destroy them, I have not been able to discover.

5. To all these circumstances favourable to the

Molothrus may be added another of equal or even greater importance. It is never engaged with the dilatory and exhaustive process of rearing its own young; and for this reason continues in better condition than other species, and moreover, being gregarious and practising promiscuous sexual intercourse, must lay a much greater number of eggs than other species. In our domestic fowls we see that hens that never become broody lay a great deal more than others. Some of our small birds rear two, others only one brood in a season—building, incubation, and tending the young taking up much time, so that they are usually from two to three months and a half employed. But the Cow-bird is like the fowl that never incubates, and continues dropping eggs during four months and a half. From the beginning of September until the end of January the males are seen incessantly wooing the females, and during most of this time eggs are found. I find that small birds will, if deprived repeatedly of their nests, lay and even hatch four times in the season, thus laying, if the full complement be four, sixteen eggs. No doubt the Cow-bird lays a much larger number than that; my belief is that every female lays from sixty to a hundred eggs every season, though I have nothing but the extraordinary number of wasted eggs one finds to judge from.

Before dismissing the subject of the advantages the *Molothrus* possesses over its dupes, and of the real or apparent defects of its instinct, some attention should be given to another circumstance, viz., the

new conditions introduced by land-cultivation and their effect on the species. The altered conditions have, in various ways, served to remove many extraneous checks on the parasitical instinct, and the more the birds multiply, the more irregular and disordered does the instinct necessarily become. In wild districts where it was formed, and where birds building accessible nests are proportionately fewer, the instinct seems different from what it does in cultivated districts. Parasitical eggs are not common in the desert, and even the most exposed nests there are probably never overburdened with them. But in cultivated places, where their food abounds, the birds congregate in the orchards and plantations in great numbers, and avail themselves of all the nests, ill-concealed as they must always be in the clean, open-foliaged shade and fruit trees planted by man.

DIVERSITY IN COLOUR OF EGGS

There is an extraordinary diversity in the colour, form, and disposition of markings, etc., of the eggs of *M. bonariensis*; and I doubt whether any other species exists laying eggs so varied. About half the eggs one finds, or nearly half, are pure unspotted white, like the eggs of birds that breed in dark holes. Others are sparsely sprinkled with such exceedingly minute specks of pale pink or grey, as to appear quite spotless until closely examined. After the pure white, the most common variety is an egg with a white

ground, densely and uniformly spotted or blotched with red. Another not uncommon variety has a very pale, flesh-coloured ground, uniformly marked with fine characters, that look as if inscribed on the shell with a pen. A much rarer variety has a pure white shell with a few large or variously sized brown and chocolate spots. Perhaps the rarest variety is an egg entirely of a fine deep red; but between this lovely marbled egg and the white one with almost imperceptible specks, there are varieties without number; for there is no such thing as characteristic markings in the eggs of this species, although, as I have said before, the eggs of the same individual show a family resemblance.

HABITS OF THE YOUNG *M. bonariensis*

Small birds of all species, when first hatched, closely resemble each other; after they are fledged the resemblance is less, but still comparatively great; grey, interspersed with brown, is the colour of most of them, or at least of the upper exposed plumage. There is also a great similarity in their cries of hunger and fear—shrill, querulous, prolonged, and usually tremulous notes. It is not then to be wondered at that the foster-parents of the young *Molothrus* so readily respond to its cries, understanding the various expressions denoting hunger, fear, pain, as well as when uttered by their own offspring. But the young *Molothrus* never understands the language of its foster-parents as other young birds understand

the language of their real parents, rising to receive food when summoned, and concealing themselves or trying to escape when the warning note is given. How does the young *Molothrus* learn to distinguish, even by sight, its foster-parent from any other bird approaching the nest? It generally manifests no fear even at a large object. On thrusting my fingers into any nest I find the young birds, if still blind or but recently hatched, will hold up and open their mouths expecting food; but in a very few days they learn to distinguish between their parents and other objects approaching them, and to show alarm even when not warned of danger. Consider the different behaviour of three species that seldom or never warn their offspring of danger. The young of *Synallaxis spixi*, though in a deep domed nest, will throw itself to the ground, attempting thus to make its escape. The young of *Mimus patagonicus* sits close and motionless, with closed eyes, mimicking death. The young of our common *Zenaida*, even before it is fledged, will swell itself up and strike angrily at the intruder with beak and wings; and by making so brave a show of its inefficient weapons it probably often saves itself from destruction. But anything approaching the young *Molothrus* is welcomed with fluttering wings and clamorous cries, as if all creatures were expected to minister to its necessities.

I found a young *Molothrus* in the nest of a Screaming Finch, *Spermophila cærulescens*; he cried for food on seeing my hand approach the nest; I took him out and dropped him down, when, finding

himself on the ground, he immediately made off, half flying. After a hard chase I succeeded in re-capturing him, and began to twirl him about, making him scream, so as to inform his foster-parents of his situation, for they were not by at the moment. I then put him back in, or rather upon, the little cradle of a nest, and plucked half a dozen large measure-worms from an adjacent twig. The caterpillars were handed to the bird as I drew them from the cases, and with great greediness he devoured them all, notwithstanding the ill-treatment he had just received, and utterly disregarding the wild excited cries of his foster-parents, just arrived and hovering within three or four feet of the nest.

Last summer I noticed a young Cow-bird in a stubble-field, perched on the top of a slender dry stalk; as it was clamouring at short intervals, I waited to see what bird would come to it. It proved to be the diminutive Flycatcher, *Hapalocercus flaviventris*; and I was much amused to see the little thing fly directly to its large foster-offspring and, alighting on its back, drop a worm into the upturned open mouth. After remaining a moment on its singular perch, the Flycatcher flew away, but in less than half a minute returned and perched again on the young bird's back. I continued watching them until the *Molothrus* flew off, but not before I had seen him fed seven or eight times in the same manner.

In the two foregoing anecdotes may be seen the peculiar habits of the young *Molothrus*. As the nests in which it is hatched, from those of the little *Serpo-*

phaga and Wren to those of the Mocking-bird, vary so much in size and materials, and are placed in such different situations, the young *Molothrus* must have in most of them a somewhat incongruous appearance. But in the habits of the young bird is the greatest incongruity or inadaptation. When the nest is in a close thicket or forest, though much too small for the bird, and although the bird itself cannot understand its foster-parents, and welcomes all things that, whether with good or evil design, come near it, the unfitness is not so apparent as when the nest is in open fields and plains.

The young *Molothrus* differs from the true offspring of its foster-parents in its habit of quitting the nest as soon as it is able, trying to follow the old bird, and placing itself in the most conspicuous place it can find, such as the summit of a stalk or bush, and there demanding food with frequent and importunate cries. Thus the little Flycatcher had acquired the habit of perching on the back of its charge to feed it, because parent birds invariably perch above their young to feed them, and the young Cow-bird prevented this by always sitting on the summit of the stalk it perched on. The habit is most fatal on the open and closely cropped pampas inhabited by the Pipit (*Anthus correndera*). In December when the Cachila Pipit rears its second brood, the common and abundant Carrion Hawk also has young, and feeds them almost exclusively on the young of various species of small birds. At this season the Chimango destroys great numbers of the young of the Pipit

and of the Spine-tail, *Synallaxis hudsoni*. Yet these birds are beautifully adapted in structure, coloration, and habits to their station. It thus happens that in districts where the *Molothrus* is abundant, their eggs are found in a majority of the Pipits' nests; and yet to find a young Cow-bird out of the nest is a rare thing here, for as soon as the young birds are able to quit the nest and expose themselves they are mostly carried off by the Hawk.

CONJECTURES AS TO THE ORIGIN OF THE PARASITIC
INSTINCT IN *M. bonariensis*

Darwin's opinion that the "immediate and final cause of the Cuckoo's instinct is that she lays her eggs not daily, but at intervals of two or three days" (*Origin of Species*) carries no great appearance of probability with it; for might it not just as reasonably be said that the parasitic instinct is the immediate and final cause of her laying her eggs at long intervals? If it is favourable to a species with the instinct of the Cuckoo (and it probably is favourable) to lay eggs at longer intervals than other species, then natural selection would avail itself of every modification in the reproductive organs that tended to produce such a result, and make the improved structure permanent. It is said (*Origin of Species*, chapter vii.) that the American Cuckoo lays also at long intervals, and has eggs and young at the same time in its nest, a circumstance manifestly disadvan-

tageous. Of the *Coccyzus melanocoryphus*, the only one of our three *Coccyzi* whose nesting habits I am acquainted with, I can say that it never begins to incubate till the full complement of eggs are laid—that its young are hatched simultaneously. But if it is sought to trace the origin of the European Cuckoo's instinct in the nesting-habits of American *Coccyzi*, it might be attributed not to the aberrant habit of perhaps a single species, but to another and more disadvantageous habit common to the entire genus, viz., their habit of building exceedingly frail platform-nests from which the eggs and young very frequently fall. By occasionally dropping an egg in the deep, secure nest of some other bird, an advantage would be possessed by the birds hatched in it, and in them the habit would perhaps become hereditary. Be this as it may (and the one guess is perhaps as wide of the truth as the other) there are many genera intermediate between *Cuculus* and *Molothrus* in which no trace of a parasitic habit appears; they belong to different orders, and it seems more probable that the analogous instincts originated independently in the two genera. As regards the origin of the instinct in *Molothrus*, it will perhaps seem premature to found speculations on the few facts here recorded, and before we are acquainted with the habits of other members of the genus. That a species should totally lose so universal an instinct as the maternal one, and yet avail itself of that affection in other species to propagate itself, seems a great mystery. Nevertheless I cannot refrain from all conjecture

on the subject, and will go so far as to suggest what may have been at least one of the many concurrent causes that have produced the parasitic instinct. The apparently transitional nesting-habits of several species, and one remarkable habit of *M. bonariensis*, seem to me to throw some light on a point bearing intimately on the subject, viz., the loss of the nest-making instinct in this species.

Habits vary greatly; were it not so they would never seem so well adapted to the conditions of life as we find them, since the conditions themselves are not unchangeable. Thus it happens that, while a species seems well adapted to its state in its habits, it frequently seems not so well adapted in its relatively immutable structure. For example, without going away from the pampas, we find a *Tringa* with the habits of an upland Plover, a Tyrant-bird (*Pitangus bellicosus*) preying on mice and snakes, another Tyrant-bird (*Myiotheretes rufiventris*) Plover-like in its habits, and finally a Woodpecker (*Colaptes campestris*) that seeks its food on the ground like a Starling; yet in none of these—and the list might be greatly lengthened—has there been anything like a modification of structure to keep pace with the altered manner of life. But however much the original or generic habits of a species may have become altered—the habits of a species being widely different from those of its congeners, also a want of correspondence between structure and habits (the last being always more suited to conditions than the first) being taken as evidence of such alteration—

traces of ancient and disused habits frequently reappear. Seemingly capricious actions too numerous, too vague, or too insignificant to be recorded, improvised definite actions that are not habitual, apparent imitations of the actions of other species, a perpetual inclination to attempt something that is never attempted, and attempts to do that which is never done—these and other like motions are, I believe, in many cases to be attributed to the faint promptings of obsolete instincts. To the same cause many of the occasional aberrant habits of individuals may possibly be due—such as of a bird that builds in trees occasionally laying on the ground. If recurrence to an ancestral type be traceable in structure, coloration, language, it is reasonable to expect something analogous to occur in instincts. But even if such casual and often aimless motions as I have mentioned should guide us unerringly to the knowledge of the old and disused instincts of a species, this knowledge of itself would not enable us to discover the origin of present ones. But assuming it as a fact that the conditions of existence, and the changes going on in them, are in every case the fundamental cause of alterations in habits, I believe that in many cases a knowledge of the disused instincts will assist us very materially in the enquiry. I will illustrate my meaning with a supposititious case. Should all or many species of *Columbidæ* manifest an inclination for haunting rocks and banks, and for entering or peering into holes in them, such vague and purposeless actions, connected with the fact

that all Doves that build simple platform-nests (like *Columba livia* and others that build on a flat surface) also lay white eggs (the rule being that eggs laid in dark holes are white, exposed eggs coloured), also that one species, *C. livia*, does lay in holes in rocks, would lead us to believe that the habit of this species was once common to the genus. We should conclude that an insufficiency of proper breeding-places, *i.e.*, new external conditions, first induced Doves to build in trees. Thus *C. livia* also builds in trees where there are no rocks; but, when able, returns to its ancestral habits. In the other species we should believe the primitive habit to be totally lost from disuse, or only to manifest itself in a faint uncertain manner.

Now in *Molothrus bonariensis* we see just such a vague, purposeless habit as the imaginary one I have described. Before and during the breeding-season the females, sometimes accompanied by the males, are seen continually haunting and examining the domed nests of some of the *Dendrocolaptidæ*. This does not seem like a mere freak of curiosity, but their persistence in their investigations is precisely like that of birds that habitually make choice of such breeding-places. It is surprising that they never do actually lay in such nests, except when the side or dome has been accidentally broken enough to admit the light into the interior. Whenever I set boxes up in my trees, the female Cow-birds were the first to visit them. Sometimes one will spend half a day loitering about and inspecting a box, repeatedly climbing round and over it, and always ending at

the entrance, into which she peers curiously, and when about to enter starting back, as if scared at the obscurity within. But after retiring a little space she will return again and again, as if fascinated with the comfort and security of such an abode. It is amusing to see how pertinaciously they hang about the ovens of the Oven-birds, apparently determined to take possession of them, flying back after a hundred repulses, and yet not entering them even when they have the opportunity. Sometimes one is seen following a Wren or a Swallow to its nest beneath the eaves, and then clinging to the wall beneath the hole into which it disappeared.

I could fill many pages with instances of this habit of *M. bonariensis*, which, useless though it be, is as strong an affection as the bird possesses. That it is a recurrence to a long disused habit I can scarcely doubt; at least to no other cause that I can imagine can it be attributed; and besides it seems to me that if *M. bonariensis*, when once a nest-builder, had acquired the semi-parasitical habit of breeding in domed nests of other birds, such a habit might conduce to the formation of the instinct which it now possesses. I may mention that twice I have seen birds of this species attempting to build nests, and that on both occasions they failed to complete the work. So universal is the nest-making instinct that one might safely say that the *M. bonariensis* once possessed it, and that in the cases I have mentioned it was a recurrence, too weak to be efficient, to the ancestral habit.

Another interesting circumstance may be adduced as strong presumptive evidence that *M. bonariensis* once made itself an open exposed nest, as *M. badius* occasionally does—viz., the difference in colour of the male and female; for whilst the former is rich purple, the latter possesses an adaptive resemblance in colour to nests and to the shaded interior twigs and branches on which nests are usually built. How could such an instinct have been lost? To say that the Cow-bird occasionally dropped an egg in another bird's nest, and that the young hatched from these accidental eggs possessed some (hypothetical) advantage over those hatched in the usual way, and that the parasitical habit thus became hereditary, supplanting the original one, is all conjecture, and seems to exclude the agency of external conditions. Again, the want of correspondence in the habits of the young parasite and its foster-parents would in reality be a disadvantage to the former; the unfitness would be as great in the eggs and other circumstances; for all the advantages the parasite actually possesses in the comparative hardness of the egg-shell, rapid evolution of the young, etc., already mentioned, must have been acquired little by little through the slowly accumulating process of natural selection, *subsequently* to the formation of the original parasitical inclination and habit. I am inclined to believe that *M. bonariensis* lost the nest-making instinct by acquiring that semi-parasitical habit, common to so many South American birds, of breeding in the large covered nests of the *Dendrocolaptidæ*. We

have evidence that this semi-parasitical habit does tend to eradicate the nest-making one. The *Synalaxes* build great elaborate domed nests, yet we have one species (*S. ægithaloides*) that never builds for itself, but breeds in the nests of other birds of the same genus. In some species the nesting-habit is in a transitional state. The Tyrant-bird, *Machetornis rixosa*, sometimes makes an elaborate nest in the angle formed by twigs and the bough of a tree, but prefers, and almost invariably makes choice of, the covered nest of some other species or of a hole in the tree. It is precisely the same with our Wren, *Troglodytes furvus*. The Yellow House-Sparrow (*Sycalis pelzelni*) invariably breeds in a dark hole or covered nest. The fact that these three species lay coloured eggs, and the first and last very deeply coloured, inclines one to believe that they once invariably built exposed nests, as *M. rixosa* still occasionally does. It may be added that those species that lay coloured eggs in dark places construct and line their nests far more neatly than do the species that breed in such places but lay white eggs. As with *M. rixosa* and the Wren, so it is with the Bay-winged *Molothrus*; it lays mottled eggs, and occasionally builds a neat exposed nest; yet so great is the partiality it has acquired for large domed nests that whenever it can possess itself of one by dint of fighting it will not build one for itself. Let us suppose that the Cow-bird also once acquired the habit of breeding in domed nests, and that through this habit its original nest-making instinct was completely eradicated, it is not difficult to imagine how

in its turn this instinct was also lost. A diminution in the number of birds that build domed nests or an increase in the number of species and individuals that breed in such nests, would involve *M. bonariensis* in a struggle for nests, in which it would probably be defeated. In Buenos Ayres the Common Swallow, the Wren, and the Yellow Seed-Finch prefer the ovens of the *Furnarius* to any other breeding place, but to obtain them are obliged to struggle with the Tree-Swallow, *Progne tapera*; for this species has acquired the habit of breeding exclusively in the ovens. They cannot, however, compete with the *Progne*; and thus the increase of one species has, to a great extent, deprived three other species of their favourite building-place. Again, *Machetornis rixosa* prefers the great nest of the *Anumbius*; and when other species compete with it for the nest they are invariably defeated. I have seen a pair of *M. machetornis* after they had seized a nest attacked in their turn by a flock of six or eight Bay-wings; but in spite of the superior numbers the fury of the *Machetornis* compelled them to raise the siege.

Thus some events in the history of our common *Molothrus* have perhaps been accounted for, if not the most essential one—the loss of the nest-making instinct from the acquisition of the habit of breeding in the covered nests of other birds, a habit that has left a strong trace in the manners of the species, and perhaps in the pure white unmarked eggs of so many individuals; finally, we have seen how

this habit may also have been lost. But the parasitic habit of the *M. bonariensis* may have originated when the bird was still a nest-builder. The origin of the instinct may have been in the occasional habit, common to so many species, of two or more females laying together; the progenitors of all the species of *Molothrus* may have been early infected with this habit, which eventually led to the acquisition of the present one. *M. pecoris* and *M. bonariensis*, though their instincts differ, are both parasitic on a great number of species; *M. rufoaxillaria* on *M. badius*; and in this last species two or more females frequently lay together. If we suppose that the *M. bonariensis*, when it was a nest-builder or reared its own young in the nests it seized, possessed this habit of two or more females frequently laying together, the young of those birds that oftenest abandoned their eggs to the care of another would probably inherit a weakened maternal instinct. The continual intercrossing of individuals with weaker and stronger instincts would prevent the formation of two races differing in habit; but the whole race would degenerate, and would only be saved from final extinction by some individuals occasionally dropping their eggs in the nests of other species, perhaps of a *Molothrus*, as *M. rufoaxillaris* still does, rather than of birds of other genera. Certainly in this way the parasitic instinct may have originated in *M. bonariensis* without that species ever having acquired the habit of breeding in the covered dark nests of other birds. I have supposed that they once

possessed it only to account for the strange attraction such nests have for them, which seems like a recurrence to an ancestral habit.

SCREAMING COW-BIRD

Molothrus rufoaxillaris

Silky black glossed with purple; wings and tail with a slight greenish gloss; bill and feet black; length 8 inches. Female the same; slightly smaller.

THIS bird has no vulgar name, not being distinguished from the Common Cow-bird by the country people. The English name of Screaming Cow-bird, which I have bestowed on it, will I think commend itself as appropriate to those who observe it, for they will always and at any distance be able to distinguish it from the species it resembles so nearly by listening to its impetuous screaming notes, so unlike anything in the language of the Common Cow-bird.

The Screaming Cow-bird is larger than the allied species. The female is less than the male in size, but in colour they are alike, the entire plumage being deep blue-black, glossy, with purple reflections, and under the wing at the joint there is a small rufous spot. The beak is very stout, the plumage loose, with a strong musky smell; the œsophagus remarkably wide.

It is far less common than the other species of *Molothrus*, but not rare, and ranges south to the





Upper—BAY-WINGED COW-BIRD
Molothrus badius (Vieill.)

Lower—SCREAMING COW-BIRD
Molothrus rufoaxillaris, C. C. M.

Buenos-Ayreal pampas, where a few individuals are usually found in every large plantation; and, like the Bay-winged Cow-bird, it remains with us the whole year. It is not strictly gregarious, but in winter goes in parties, seldom exceeding half a dozen individuals, and in the breeding-season in pairs. One of its most noteworthy traits is an exaggerated hurry and bustle thrown into all its movements. When passing from one branch to another, it goes by a series of violent jerks, smiting its wings loudly together; and when a party of them return from the fields they rush wildly and loudly screaming to the trees, as if pursued by a bird of prey. They are not singing-birds; but the male sometimes, though rarely, attempts a song, and utters, with considerable effort, a series of chattering unmelodious notes. The chirp with which he invites his mate to fly has the sound of a loud and smartly given kiss. His warning or alarm note when approached in the breeding-season has a soft and pleasing sound; it is, curiously enough, his only mellow expression. But his most common and remarkable vocal performance is a cry beginning with a hollow-sounding internal note, and swelling into a sharp metallic ring; this is uttered with tail and wings spread and depressed, the whole plumage raised like that of a strutting turkey-cock, whilst the bird hops briskly up and down on its perch as if dancing. From its puffed-out appearance, and from the peculiar character of the sound it emits, I believe that, like the Pigeon and some other species, it has the faculty of

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filling its crop with air, to use it as a "chamber of resonance." The note I have described is quickly and invariably followed by a scream, harsh and impetuous, uttered by the female, though both notes always sound as if proceeding from one bird. When on the wing the birds all scream together in concert.

The food of this species is chiefly minute seeds and tender buds; they also swallow large caterpillars and spiders, but do not, like their congeners, eat hard insects.

I became familiar, even as a small boy, with the habits of the Screaming Cow-bird, and before this species was known to naturalists, but could never find its nest though I sought diligently for it. I could never see the birds collecting materials for a nest, or feeding their grown-up young like other species, and this might have made me suspect that they did not hatch their own eggs; but it never occurred to me that the bird was parasitical, I suppose because in summer they are always seen in pairs, the male and female being inseparable. Probably this is the only parasitical species in which there is conjugal fidelity. I also noticed that when approached in the breeding-season the pair always displayed great excitement and anxiety, like birds that have a nest, or that have selected a site on which to build one. But year after year the end of the summer would arrive, the birds re-unite in parties of half a dozen, and the mystery remain unsolved. At length, after many years, fortune favoured me, and while ob-

servicing the habits of another species (*Molothrus badius*) I discovered by chance the procreant habits of the Screaming Cow-birds; and as these observations throw some light on the habits of *M. badius* I think it best to transcribe my notes here in full.

A pair of Leñateros (*Anumbius acuticaudatus*), or Firewood-Gatherers, have been nearly all the winter building a nest on an acacia tree sixty yards from the house; it is about 27 inches deep, and 16 or 18 in circumference, and appears now nearly finished. I am sure that this nest will be attacked before long, and I have resolved to watch it closely.

September 28.—To-day I saw a Bay-wing (*M. badius*) on the nest; it climbed over it, deliberately inspecting every part with the critical air of a proprietor who had ordered its construction, taking up and re-arranging some sticks and throwing others away from the nest. While thus engaged, two Common Cow-birds (*M. bonariensis*), male and female, came to the tree; the female dropped on to the nest, and the male also to examine it, peering curiously into the entrance and quarrelling with the first bird. After a few minutes she flew away, followed by her glossy consort. The Bay-wing continued its strange futile work until the owners of the nest appeared, whereupon it hopped aside in its usual slow leisurely manner, sang for a few moments, then flew away. The similarity in the behaviour of the two birds struck me very forcibly; in the great interest they take in the nests of other birds, especially large

covered nests, the two species are identical. But when the breeding-season comes their habits begin to diverge ; then the Common Cow-bird lays in nests of other species, abandoning its eggs to their care ; while the Bay-wings usually seize on the nests of other birds and rear their own young. Yet, as they do occasionally build a neat elaborate nest for themselves, the habit of taking possession of the nests of other birds is most likely a recently acquired one, and probably its tendency is to eradicate the original building instinct.

October 8.—This morning, while reading under a tree, my attention was aroused by a shrill note, as of a bird in distress, issuing from the neighbourhood of the Firewood-Gatherer's nest ; after hearing it repeated at intervals for over twenty minutes, I went to ascertain the cause. Two Bay-wings flew up from the ground under the nest, and on searching in the rank clover growing under the tree, I discovered the female Leñatero, with plumage wet and draggled, trembling and appearing half dead with the rough treatment she had experienced. I put her in the sun, and after half an hour, hearing her mate calling, she managed to flutter feebly away to join him. The persecutors had dragged her out of the nest, and would, no doubt, have killed her had I not come so opportunely to the rescue.

Since writing the above I have continued to watch the nest. Both the Bay-wings and their victims left it for some days. Six days after I had picked up the ill-treated female, the builders of the nest came back

and resumed possession. Four days later the Bay-wings also came back ; but on finding the nest still occupied they took possession of an unfinished oven of an Oven-bird on another tree within twenty yards of the first, and immediately began carrying in materials with which to line it. When they had finished laying I took their five eggs, at the same time throwing down the oven, and waited to see what their next move would be. They remained on the spot, singing incessantly, and still manifesting anxiety when approached. I observed them four days, and then was absent from home as many more ; on returning I found that the Leñateros had once more disappeared, and that the nest was now held by the Bay-wings. I also noticed that they had opened an entrance very low down at the side of the nest which they were using ; no doubt they had killed and thrown out the young birds.

It was now early in November, the height of the breeding-season, and numbers of Common Cow-birds constantly visited the nest ; but I was particularly interested in a pair of Screaming Cow-birds that had also begun to grow fond of it, and I resolved to watch them closely. As they spent so much of their time near the nest, showing great solicitude when I approached it, I strongly hoped to see them breed in it, if the Bay-wings could only be got rid of. The Screaming Cow-birds would not, or dare not, attack them. I therefore resolved to take the Bay-wings' eggs, hoping that that would cause them to leave in disgust.

When I was satisfied from their movements that they had finished laying, I got up to the nest, and was astonished to find *ten* eggs instead of five as I had confidently expected; for though the Common Cow-birds had paid a great deal of attention to the nest, I knew the Bay-wings would not allow *them* to lay in it.

The ten eggs in the nest were all unmistakably Bay-wings' eggs; and having observed before that several females do occasionally lay together, I concluded that in this case two females had laid in the nest, though I had only seen two birds—male and female. After taking the ten eggs the Bay-wings still remained, and in a very short time they appeared to be laying again. When I had reason to think that the full complement was laid, I visited the nest and found five eggs in it; these I also took, and concluded that the second female had probably gone away, after having been deprived of her first clutch. During all this time the Screaming Cow-birds remained in the neighbourhood and occasionally visited the tree; but to my very great surprise the Bay-wings still stubbornly remained, and by-and-by I found that they were going to lay again—the fourth time! When I next visited the nest there were two eggs in it; I left them and returned three days later, expecting to find five eggs, but found seven! certainly more than one female had laid in the nest on this occasion. After I had taken these last seven eggs the Bay-wings left; and though the Screaming Cow-birds continued to make occasional visits to

the nest, to my great disappointment they did not lay in it.

April 12.—To-day I have made a discovery, and am as pleased as if I had found a new planet in the sky. The mystery of the Bay-wings' nest twice found containing over the usual complement of eggs is cleared up, and I have now suddenly become acquainted with the procreant instinct of the Screaming Cow-bird. I look on this as a great piece of good fortune; for I had thought that the season for making any such discovery was already over, as we are so near to winter.

The Bay-wings are so social in their habits that they always appear reluctant to break up their companies in the breeding-season; no sooner is this over, and while the young birds are still fed by the parents, all the families about a plantation unite into one flock. About a month ago all the birds about my home had associated in this way together, and went in a scattered flock, frequenting one favourite feeding-spot very much, a meadow about fifteen minutes' walk from the house. The flock was composed, I believe, of three families, sixteen or eighteen birds in all: the young birds are indistinguishable from the adults; but I knew that most of these birds were young, hatched late in the season, from their incessant strident hunger notes. I first observed them about the middle of March. A week ago, while riding past the meadow where they were feeding, I noticed among them three individuals with purple spots on their plumage. They were at a distance

from me, and I naturally concluded that they were young Common Cow-birds (*M. bonariensis*), casually associating with the Bay-wings. I was surprised to see them, for the young male *M. lonariensis* always acquires the purple plumage before March, so that these individuals were changing colour five weeks after the usual time.

To-day, while out with my gun, I came upon the flock, and noticed four of the birds assuming the purple plumage, two of them being almost entirely that colour; but I also noticed with astonishment that they had bay- or chestnut-coloured wings, also that those with least purple on them were marvelously like the Bay-wings in the mouse-coloured plumage of the body and the dark tail. I had seen these birds before the purple plumage was acquired, and there was then not the slightest difference amongst them, the adults and their supposed offspring being alike; now some of them appeared to be undergoing the process of a transmutation into another species! I at once shot the four spotted birds, along with two genuine Bay-wings, and was delighted to find that the first were young Screaming Cow-birds.

I must now believe that the extra eggs twice found in the nest of the Bay-wings were those of the Screaming Cow-bird, that the latter species lays chiefly in the nests of the former, that the eggs of the two species are identical in form, size, and colour, each bird also laying five, and that, stranger still, the similarity is as perfect in the young birds as it is in the eggs.

April 15.—This morning I started in quest of the Bay-wings, and observed one individual, that had somehow escaped detection the day before, assuming the purple dress. This bird I shot; and after the flock had re-settled a short distance off, I crept close up to them, under the shelter of a hedge, to observe them more narrowly. One of the adults was closely attended by three young birds; and these all, while I watched them, fluttered their wings and clamoured for food every time the old bird stirred on its perch. The three young birds seemed precisely alike; but presently I noticed that one of them had a few minute purple spots, and on shooting this one I found it to be a young *M. rufoaxillaris*, while the other two were true young Bay-wings.

The hunger-cry of the young *M. badius* (Bay-wing) is quite different from that of the young *M. bonariensis*: the cry of the latter is a long, shrill, two-syllabled note, the last syllable being prolonged into a continuous squeal when the foster-parent approaches with food; the cry of the young *M. badius* is short, reedy, tremulous, and uninflected. The resemblance of the young *M. rufoaxillaris* to its foster-brothers in language and plumage is the more remarkable when we reflect that the adult bird in its habits, gestures, guttural notes, also in its deep purple plumage, comes much nearer to *M. bonariensis* than to *M. badius*. It seems impossible for mimicry to go further than this. A slight difference in size is quite imperceptible when the birds are flying about; while in language and plumage the keenest

ornithologist would not be able to detect a difference. It may, however, be questioned whether this is really a case of an external resemblance of one species to another acquired by natural selection for its better preservation. Possibly the young *M. rufoaxillaris*, in the first stage of its plumage, exhibits the ancestral type—that of the progenitor of both species. If *M. badius* belonged to some other group—*Sturnella* or *Pseudoleistes* for instance—it would scarcely be possible to doubt that the resemblance of the young *M. rufoaxillaris* to its foster-brothers resulted from mimicry; but as both species belong to the limited well-defined group *Molothrus*, the resemblance may be ascribed to community of descent.

Formerly I believed that though *M. badius* is constantly seen rearing its own young, they also occasionally dropped their eggs in the nests of other birds. I could not doubt that this was the case after having witnessed a couple of their young following a Yellow-breast, *Pseudoleistes virescens*, and being fed by it. I must now alter my opinion, for what then appeared to be proof positive is now no proof at all, for those two birds were probably the young of *M. rufoaxillaris*. There are, however, good reasons for believing that *M. rufoaxillaris* is parasitical almost exclusively on *M. badius*. I have spoken of the many varieties of eggs *M. bonariensis* lays. Those of *M. badius* are a trifle less in size, in form elliptical, densely and uniformly marked with small spots and blotches of dark reddish colour, varying to dusky brown; the ground-colour is white, but sometimes, though

rarely, pale blue. It is not possible to confound the eggs of the two species. Now ever since I saw, many years ago, the Yellow-breast feeding the supposed young Bay-wings, I have looked out for the eggs of the latter in other birds' nests. I have found hundreds of nests containing eggs of *M. bonariensis*, but never one with an egg of *M. badius*, and, I may now add, never one with an egg of *M. rufoaxillaris*. It is wonderful that *M. rufoaxillaris* should lay only in the nests of *M. badius*; but the most mysterious thing is that *M. bonariensis*, indiscriminately parasitical on a host of species, never, to my knowledge, drops an egg in the nest of *M. badius*, unless it be in a forsaken nest! Perhaps it will be difficult for naturalists to believe this; for if the *M. badius* is so excessively vigilant and jealous of other birds approaching its nest as to succeed in keeping out the subtle, silent, grey-plumaged, omnipresent female *M. bonariensis*, why does it not also keep off the far rarer, noisy, bustling, conspicuously coloured *M. rufoaxillaris*? I cannot say. The only explanation that has occurred to me is that *M. badius* is sagacious enough to distinguish the eggs of the common parasite and throws them out of its nest. But this is scarcely probable, for I have hunted in vain under the trees for the ejected eggs; and I have never found the eggs of *M. badius* with holes pecked in the shells, which would have been the case had a *M. bonariensis* intruded into the nest.

With the results just recorded I felt more than satisfied, though much still remained to be known;

and I looked forward to the next summer to work out the rich mine on which I had stumbled by chance. Unhappily when spring came round again ill-health kept me a prisoner in the city, and finding no improvement in my condition, I eventually left Buenos Ayres at the close of the warm season to try whether change of climate would benefit me. Before leaving, however, I spent a few days at home, and saw enough then to satisfy me that my conclusions were correct. Most of the birds had finished breeding, but while examining some nests of *Anumbius* I found one which Bay-wings had tenanted, and which for some reason they had forsaken, leaving *ten* unincubated eggs. They were all like Bay-wings' eggs, but I have no doubt that five of them were eggs of *M. rufo-axillaris*. During my rides in the neighbourhood I also found two flocks of Bay-wings, each composed of several families, and amongst the young birds I noticed several individuals beginning to assume the purple plumage, like those of the previous autumn. I did not think it necessary to shoot more specimens.

The question why *M. badius* permits *M. rufo-axillaris* to use its nest, while excluding the allied parasite *M. bonariensis*, must be answered by future observers; but before passing from this very interesting group (*Molothrus*) I wish to make some general remarks on their habits and their anomalous relations to other species.

It is with a considerable degree of repugnance that we regard the parasitical instinct in birds; the reason it excites such a feeling is manifestly that it

presents itself to the mind as—to use the words of a naturalist of the eighteenth century, who was also a theologian and believed the Cuckoo had been created with such a habit—"a monstrous outrage on the maternal affection, one of the first great dictates of nature." An *outrage*, since each creature has been endowed with this all-powerful affection for the preservation of its own, and not another, species; and here we see it, by a subtle process, an unconscious iniquity, turned from its purpose, perverted and made subservient to the very opposing agency against which it was intended as a safeguard! The formation of such an instinct seems indeed like an unforeseen contingency in the system of nature, a malady strengthened, if not induced, by the very laws established for the preservation of health, and which the *vis medicatrix* of nature is incapable of eliminating. Again, the egg of a parasitical species is generally so much larger, differing also in coloration from the eggs it is placed with, whilst there is such an unvarying dissimilarity between the young bird and its living or murdered foster-brothers that, unreasoning as we know instinct, and especially the maternal instinct, to be, we are shocked at so glaring and flagrant an instance of its blind stupidity.

In the competition for place, the struggle for existence, said with reason to be most deadly between such species as are most nearly allied, the operations are imperceptible, and the changes are so gradual that the diminution and final disappearance of one species is never attributed to a corresponding in-

crease in another more favoured species over the same region. It is not as if the regnant species had invaded and seized on the province of another, but appears rather as if they had quietly entered on the possession of an inheritance that was theirs by right. Mighty as are the results worked out by such a process, it is only by a somewhat strained metaphor that it can be called a *struggle*. But even when the war is open and declared, as between a raptorial species and its victims, the former is manifestly driven by necessity, and in this case the species preyed on are endowed with peculiar sagacity to escape its persecutions ; so that the war is not one of extermination, but, as in a border war, the invader is satisfied with carrying off the weak and unwary stragglers. Thus the open declared enmity is in reality beneficial to a species ; for it is sure to cut off all such individuals as might cause its degeneration. But we can conceive no necessity for such a fatal instinct as that of the Cuckoo and Cow-bird, destructive to such myriads of lives in their beginning. And inasmuch as their preservation is inimical to the species on which they are parasitical, there must also here be a struggle. But what kind of struggle ? not as in other species, where one perishes in the combat that gives greater strength to the victor, but an anomalous struggle in which one of the combatants has made his adversary turn his weapons against himself, and so seems to have an infinite advantage. It is impossible for him to suffer defeat ; and yet, to follow out the metaphor, he has

so wormed about and interlaced himself with his opponent that as soon as he succeeds in overcoming him he also must inevitably perish. Such a result is perhaps impossible, as there are so many causes operating to check the undue increase of any one species; consequently the struggle, unequal as it appears, must continue for ever. Thus, in whatever way we view the parasitical habit, it appears cruel, treacherous, and vicious in the highest degree. But should we attempt mentally to create a perfect parasitical instinct (that is, one that would be thoroughly efficient with the least possible prejudice to or injustice towards another species; for the preservation of the species on which the parasite is dependent is necessary to its own) by combining in imagination all known parasitical habits, eliminating every offensive quality or circumstance, and attributing such others in their place as we should think fit, our conception would still probably fall short in simplicity, beauty, and completeness of the actual instinct of *M. rufoaxillaris*. Instead of laying its eggs promiscuously in every receptacle that offers, it selects the nest of a single species; so that its selective instinct is related to the adaptive resemblance in its eggs and young to those of the species on which it is parasitical. Such an adaptive resemblance could not of course exist if it laid its eggs in the nests of more than one species, and it is certainly a circumstance eminently favourable to preservation. Then, there not being any such incongruity and unfitness as we find in nests into which other parasites

intrude, there is no reason here to regard the foster-parents' affection as blind and stupid ; the similarity being close enough to baffle the keenest sagacity. Nor can the instinct here appear in the light of an outrage on the maternal affection ; for the young *M. rufoaxillaris* possesses no advantage over its foster-brothers. It is not endowed with greater strength and voracity to monopolise the attentions of the foster-parent or to eject the real offspring ; but being in every particular precisely like them, it has only an equal chance of being preserved. To this wonderful parasitical instinct we may well apply Darwin's words, when speaking of the architecture of the hive-bee : " Beyond this stage of perfection natural selection could not lead."

BAY-WINGED COW-BIRD

Molothrus badius

Dull grey, or mouse-colour, slightly tinged with olive ; wings chestnut ; tail blackish ; bill and feet black ; length 7.6 inches. Female similar.

IN this species the sexes are alike ; the plumage of the body is grey-drab colour, with a black spot between the eye and beak ; tail dark, the quills cinnamon-colour ; beak and legs black. Azara, describing it under the name of *Tordo pardo roxiso*, says it is a rare bird, so that it has probably greatly

increased since his time, as it is now quite common in the Plata district.

The Bay-wings usually go in small flocks, numbering from ten to thirty individuals, and are not migratory, but in winter they travel about a great deal from place to place without extending their journeys more than a few miles in any direction. They are fond of coming about houses, and are frequently seen pecking at the fresh meat hanging out of doors; and, like other birds of the same tribe, feed chiefly on the ground. They spend a great portion of their time on trees, are familiar with man and inactive, and in their motions singularly slow and deliberate. Their language is varied. Curiosity or alarm is expressed by trilling notes, and before quitting a tree all the birds of a flock ceremoniously invite each other to fly, with long clear notes, powerful enough to be heard a quarter of a mile away.

They also sing a great deal in all seasons, the song being composed of soft, clear, rather sweet notes, variously modulated, uttered in a leisurely manner, and seeming to express a composed frame of mind, all the birds in a flock singing in concert. During the cold season the flock always finds some sheltered sunny spot on the north side of a wood-pile or hedge, where they spend several hours every day, sitting still and singing in their usual quiet, soft style.

Their extreme sociability affects their breeding habits, for sometimes the flock does not break up in spring, and several females lay in one nest together ;

but whether in such cases the birds are paired or practise a promiscuous intercourse I have not been able to discover. They have a great partiality for the large domed nests made by the *Anumbius acuticaudatus*, called Firewood-Gatherer in the vernacular. One summer a flock of about ten Bay-wings took possession of a nest on one of my trees, and after a few days I took fourteen eggs from it. Though the birds hopped chirping around me, manifesting great solicitude, the eggs were quite cold, and had I left them many more would have been laid, no doubt; but as they were piled up three or four deep in the nest they could never have been hatched.

As a rule, however, the flock breaks up into pairs; and then a neat, well-made nest is built in the fork of a branch, lined with horsehair; or, oftener still, a domed nest is seized, the Bay-wings fighting with great spirit to get possession, and in it, or on it, their own nest is made. Like their relation, the Common Cow-bird, they seem strongly attracted by domed nests, and yet shrink from laying in the dark interior; as a rule when they have captured a large domed nest they break a hole in the side and so admit the light and form an easy entrance.

The eggs of the Bay-wing are five in number, nearly round, and densely marked with dusky reddish brown.

YELLOW-SHOULDERED MARSH-BIRD

Agelæus thilius

Black ; lesser upper and under wing-coverts yellow ; bill and feet black ; length 5.5 inches. Female pale brown, striated with black ; eye-mark white ; paler beneath ; smaller.

THIS bird is abundant everywhere on the pampas, and does not migrate, but inhabits marshy situations in summer, building its nest amongst the rushes, and in winter ranges over the country. The male is entirely of an intense black, except the shoulders, which are pure yellow ; the female is dull grey with fuscous markings, and, as was long ago remarked by Azara, the grey-plumaged are very much more numerous than the black individuals. The young birds are like the females, and possibly do not acquire the full black plumage until the second year, which would account for the great number of grey birds.

These birds are extremely sociable, being seen in flocks all the year round, even during the breeding-season ; in winter a great many males separate themselves from the females, and are found associating together in flocks of from thirty to forty individuals.

They feed on the ground, keeping to the moist borders of marshes during summer ; they avoid woods, but occasionally alight on trees, where they all sing in concert. The song, when an individual is heard singing alone, is, though limited in its range, very sweet, some of the notes being remarkable for their purity and expression. The bird sits on a rush

or stalk while singing, and makes a long pause after every note or two, as if to make the most of its limited repertory. There is in the song one rich full note which, to my mind, is unequalled for plaintive sweetness, and I am therefore surprised that Azara says only of this species that it sings passably well—"canta razonablemente."

The nest is neatly made of dry grasses, and attached to the rushes growing in the water. The eggs are four, pointed, and spotted at the larger end with dull brown and black on a white ground.

I wish my dull brains had been able to find some shorter, more descriptive English name for this species, which of all this group of Troupials, the Marsh-birds or Bobolinks of South America, endeared itself most to me on account of its grace and lovely black and yellow livery, its pretty social habits, and, above all, its unforgettable song, or rather that one full, beautiful, passionate note on which it ends.

YELLOW-HEADED MARSH-BIRD

Agelaius flavus

Black; head, rump, bend of wing and under surface brilliant yellow; bill and feet black; length 6.7 inches. Female brown, slightly striated; eyebrows, rump, and under parts yellowish.

AZARA called this bird *Cabeza amarilla*, or Yellow-head, and I retain the name, though it is an unsatisfactory one as the bird has so much yellow on its

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other parts; the colour scheme being much as in the Golden Oriole.

The dull-plumaged birds are always very much more numerous than the bright-coloured males, though Azara strangely asserts that the sexes are alike. In Buenos Ayres, where it is called *Naranja* (orange-coloured) by the country people in allusion to its orange tints, it is very well known on account of its yellow plumage, which looks so wonderfully brilliant in the sunshine, and its partiality for cultivated districts, where it follows the plough to pick up worms, and frequents the orchard to sing, associating with the Common Cow-bird and Yellow-breast. It remains all the year, and is very sociable, going in flocks of from twenty to thirty individuals, which when they settle on the trees all sing in concert, pouring out their few peculiar notes with great power and emphasis.

Even in the breeding season these companies do not always break up, and frequently several pairs have nests near together. The nest is usually built in a cardoon thistle, two or three feet above the ground, and is made of dry grass. The eggs are four, pointed, white or with bluish tinge, and speckled irregularly with deep brown, the spots being closer and sometimes confluent at the broad end.

Concerning the plumage of this species Mr. Barrows, an American ornithologist, writes: "Late in March 1881, we found this species in large flocks on the Pigue, and it was a beautiful sight to see a hundred or more fluttering about among the snowy

plumes of the pampas grass, and displaying their rich black and yellow dress. Unlike most other birds obtained at that time, their plumage seemed nearly as bright as in summer."

SCARLET-HEADED MARSH-BIRD

Amblyramphus holosericeus

Black; head and neck and upper breast and thighs intense scarlet; feet and bill black; length 9.5 inches. Female the same, young all black.

AZARA named this species *Tordo negro cabeza roxa*; it is also called *Boyero* (ox-herd) by country people, from its note resembling the long whistle of a drover; and sometimes "Chisel-bill," from the peculiar conformation of the beak, which is long, straight, and broad at the end like a chisel. In both sexes the plumage of the head and neck is scarlet, of an exceedingly brilliant tint, all other parts intense black. These birds are lively, active, and sociable, going in flocks of from half-a-dozen to thirty individuals; they remain all the year, and inhabit the marshes, from which they seldom wander very far but seek their insect food in the soft decaying rushes. They are common on the swampy shores of the Plata, and when seen at a distance, perched in their usual manner on the summits of the tall rushes, their flame-coloured heads shine with a strange glory above the sere, sombre vegetation of the marshes.

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The long whistling note above mentioned is their only song, but it varies considerably, and often sounds as mellow and sweet as the whistle of the European Blackbird.

The nest is an ingenious structure of dry grasses, fastened to the upright stems of an aquatic plant, three or four feet above the water. The eggs are four, in size and form like those of the English Song-Thrush, spotted somewhat sparsely with black on a light blue ground.

The young birds are entirely black at first, and afterwards assume on the head and neck a pale terracotta red, which gradually deepens to vivid scarlet.

RUFOUS-HEADED MARSH-BIRD

Agelæus ruficapillus

Glossy blue-black; crown and middle of throat deep chestnut-red; bill and legs black; length 7.5 inches.

THE sexes are alike in this species: the crown of the head is rufous, and with this exception the whole plumage is a rich glossy blue-black. The beauty of the bird and its delicate plaintive voice would no doubt make it a favourite with man if he saw more of it, only it lives and breeds in marshes and does not come near his habitations. The Rufous-heads are gregarious and migratory. The flock can scarcely be said to break up in the breeding-season, as the

birds all make their nests near together in the reeds. The nest is placed about one or two feet above the water, is about six inches in depth, and made of leaves and aquatic grasses woven together. The eggs are four, pointed, with a white or pale bluish ground, and spotted with black at the larger end.

The song of the Red-head is quite unique in character. It begins with a low, hollow-sounding note, then the voice changes to a clear, plaintive tone, rising in a rapid succession of short notes, then falling again at the end.

After the breeding-season the birds fly about in flocks of two or three hundred individuals, and sing in concert on the trees.

Their chirp has a peculiar metallic sound, and can be imitated by tapping on the edge of a copper bell with the finger-nail.

RED-BREASTED MARSH-BIRD

Leistes superciliaris

Brownish black; superciliae pale brown; bend of the wing and body beneath from chin to middle of the belly deep scarlet; bill and legs black; length 7 inches. Female pale brown, variegated with black, faintly touched with red on the breast.

THE most interesting point concerning this species is the very great difference in habits, as well as appearance, existing between the sexes. In form it resembles the Starling of Europe, but is a trifle

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smaller and has a shorter tail. The male is black, the upper parts faintly mottled with yellowish grey; there is a straw-coloured stripe over the eye; the throat and breast bright crimson. The female is a smaller bird, and in colour dull fulvous grey, mottled with fuscous; the red tint on the breast scarcely perceptible.

These birds are migratory, and appear everywhere in the eastern part of the Argentine country early in October, arriving singly, after which each male takes up a position in a field or open space abounding with coarse grass and herbage, where he spends most of the time perched on the summit of a tall stalk or weed, his glowing crimson bosom showing at a distance like some splendid flower above the herbage. At intervals of two or three minutes he soars vertically up to a height of twenty or twenty-five yards to utter his song, composed of a single long, powerful, and rather musical note, ending with an attempt at a flourish, during which the bird flutters and turns about in the air; then, as if discouraged at his failure, he drops down, emitting harsh guttural chirps, to resume his stand. Meanwhile the female is invisible, keeping closely concealed under the long grass. But at length, attracted perhaps by the bright bosom and aerial music of the male, she occasionally exhibits herself for a few moments, starting up with a wild zigzag flight, like a Snipe flushed from its marsh, and, darting this way and that, presently drops into the grass once more. The moment she appears above the grass the male gives chase, and they vanish from

sight together. Thus, while in colour, habits, language, and even in its manner of soaring up like a rocket to let off its curious melody, the male is the most conspicuous of small birds, the female, acted on in an opposite direction by natural selection, has been, so to speak, effaced. While flying they do not look like birds of the same species: the male moves with wings rapidly fluttered, like a Starling, but with a slower, more laborious flight, and without deviating; the female, in her eccentric movements in the air, reminds one of a large moth, driven from its hiding-place and flying about confused with the glare of noon.

The nest is made of dry grass on the ground, so cunningly concealed that it is difficult to find. The eggs are four, white, spotted with reddish brown. When they have young I have never been able to detect the female flying about in search of food.

All through the summer these birds are solitary, but when migrating in the autumn, though many are seen travelling singly and appear very conspicuous as they fly laboriously in a straight line, at an altitude of about twenty yards from the surface, others are seen making their journey in small flocks or parties composed of six to a dozen individuals. These are the males. The females travel separately, in twos or threes or singly, flying nearer to the earth, with frequent pauses when the wings cease beating, and intervals of gliding, also darting occasionally to one side, as if the bird had suddenly taken fright.

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YELLOW-BREASTED MARSH-BIRD

Pseudoleistes virescens

Olive-brown and glossy; shoulders and breast bright yellow; length 9.5 inches. Female similar.

In both sexes in this species the plumage is deep olivaceous brown, the breast pure yellow. It is active, strong on the wing, sociable and noisy; and being, moreover, a pretty and elegant bird, very common in settled districts, and with a preference for man's neighbourhood, it is familiar to every one, and has won amongst many competitors the vernacular name of *Pecho-amarillo* (Yellow-breast), for with us yellow-breasted species are somewhat numerous. It remains all the year, invariably going about in flocks of from twenty to thirty birds, and feeds on the ground in the fields or on the open plain. While they are feeding, one bird takes up a position on a stalk or thistle-top to keep guard; when he flies down another bird takes his place; if a person approaches, the sentinel gives the alarm, and all the birds fly off in a very close flock, making the air resound with their loud ringing notes. After feeding they repair to the trees, where they join their robust voices in a spirited concert, without any set form of melody such as other song-birds possess, but all together, flinging out their notes at random, as if mad with joy. In this delightful hubbub there are some soft silvery sounds. Where they are never persecuted they have little fear of man, but they

invariably greet his approach with a loud vigorous remonstrance.

In October the birds break up their companies to pair. Sometimes they breed on the open plain in a large cardoon thistle, but a thick bush or low tree is preferred. The nest is like that of a Thrush, being deep, compactly made of dry grass and slender sticks, plastered inside with mud, and lined with hair or soft, dry grass. It is, however, deeper and more symmetrical than the Thrush's nest, and it is sometimes plastered with cow-dung instead of with mud. The eggs are four, very long, white, and abundantly spotted with deep red, the spots becoming confluent at the large end.

The Yellow-breast is never seen to quarrel with its fellows or with other birds, and it is possibly due to its peaceful disposition that it is more victimised by the parasitical *Molothrus* than any other bird. I have frequently found their nests full of parasitical eggs, as many as fourteen and in one case sixteen in one nest. In some seasons all the nests I found and watched were eventually abandoned by the birds on account of the number of parasitical eggs dropped in them. I have also so frequently found parasitical eggs on the ground under the nest that I believe the Yellow-breast throws out some of these foreign eggs, and in one instance I was quite sure that this had happened. The nest was in a cardoon bush and contained five eggs—two of the Yellow-breast and three parasitical. These three were of the variety most thickly mottled with red, and consequently

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closely resembling the eggs of the Yellow-breast. I was surprised to find five more eggs of the Cow-bird on the ground, close together, and about three feet from the bush; and these five eggs were all pure white and unspotted. Naturally I asked: How came these eggs in such a position? They had not fallen from the nest, which was very deep, contained few eggs, and was scarcely thirty inches above the ground. Then they were all white, while those in the nest were mottled. That the eggs had been laid in the nest I felt certain; and the only way I can account for their being in the place where I found them is that the Yellow-breast itself removed them, taking them up in its bill and flying with them to the ground. If I am right, we must believe that this individual Yellow-breast had developed an instinct unusual in the species, which enabled it to distinguish, and cast out of its nest, eggs very different from its own—an instinct, in fact, the object of which would be to counteract the parasitical habit of *Molothrus*. What would be the effect of such an instinct should the species acquire it? Doubtless it would be highly prejudicial to the parasitical birds laying white eggs, but favourable to those laying mottled eggs. This would be natural selection operating in a very unusual manner; for the Yellow-breast, or other species, would improve another to its own detriment, since the more the parasitical eggs assimilated to its own, the greater would be the likelihood of their being preserved. The perfect similarity of the eggs of *M. rufoaxillaris* to those of *M. badius* was possibly

brought about in this way. But, it may be added, if besides the Yellow-breast some one other species laying very different eggs (a *Zonotrichia* or *Tyrannus*, for instance) should also acquire this distinguishing habit and eject all eggs unlike its own from its nest, the habit in the two or more species would ultimately cause the extinction of the parasite.

It might throw some light on this obscure subject to examine, for several successive summers, a large number of nests, to ascertain whether the nests of the Yellow-breast are often found without any white unspotted eggs, or if the same proportional number of white (parasitical) eggs are found in the nests of the Yellow-breast, Scissor-tail, Song-Sparrow Pipit, and other species.

PATAGONIAN MARSH-STARLING

Trupialis militaris

Brown, variegated with black; superciliaries in front of eye red, behind the eye white; throat, middle of neck, and breast scarlet; under wing-coverts white; bend of wing red; length 10 inches. Female similar.

Two species of *Trupialis* inhabit the southernmost part of the Argentine Republic, the present being confined to Patagonia and South Chili, while its northern representative inhabits the pampas of Buenos Ayres and Uruguay. Probably the Colorado river, which separates two districts differing in soil

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and vegetation, is the boundary-line dividing their habitats. So nearly alike are these two birds in colour, language, and habits, that they seem rather like races than species; and they were so regarded by naturalists until recently, when the pampas bird was raised to the rank of a distinct species, with the name of *Trupialis defilippii*. Unfortunately the old name *militaris* fits the Pampas, and not the Patagonian, Starling best; but of this I shall speak when I describe the former species.

In its form *T. militaris* resembles the Common Starling of Europe, but differs from it in habits, flight, language, size, and colouring; its upper plumage being fuscous mottled with yellowish grey; the throat and bosom scarlet inclining to crimson. This hue varies greatly, the breast-feathers being often tipped with white, which subdues the intense red, and gives it a rosy tint in some individuals. The female is paler-plumaged than the male, and has less red on the breast.

It inhabits the whole of Patagonia to the Strait of Magellan, but is confined to the valleys or to the neighbourhood of water; and Durnford remarks that it is a useful bird to the traveller in that thirsty country, as its presence is a sure indication of water. It is resident, and is seen in small parties of four or five, or in small flocks seldom exceeding twenty or thirty in number. It feeds and lives on the ground, and only occasionally is it seen to perch on a low bush. Its flight is strong, and it flies about a great deal, and usually utters its song when on the wing.

The song is continued all the year, and is heard even on the coldest days in winter; the notes are few and not highly melodious, but are cheerful and vigorous.

The nest is made of dry grass and rootlets attached to the rushes in moist ground, and placed close to or resting on the surface. The eggs are five, the ground-colour white spotted or blotched with reddish brown.

MILITARY STARLING

Trupialis defilippii

Slightly smaller than last; plumage the same except the under wing-coverts, which are black.

THROUGHOUT the country where this species abounds it is called *Pecho colorado*, which is certainly better than Azara's barbarous, if picturesque, name of *Degollado*; but no happier name than *militaris* could have been invented for it, by which it was formerly known to naturalists; and though it was given to the bird merely on account of the red breast, and was therefore equally applicable to all the red-breasted species on the globe, in this case it accidentally seemed to describe a peculiar habit of the bird, as well as its bright livery.

In size, form, gait, flight, language, and colour the present bird very closely resembles the Patagonian Starling; but the crimson on the breast is brighter



MILITARY STARLING
Troglodytes aedon (Linn.)



and the upper parts are darker. Its nesting habits are also like those of the southern bird ; the number and colour of the eggs being the same in both species. One trivial difference in habit is that De Filippi's Starling occasionally soars up a few yards into the air when uttering its song. It inhabits the moist grassy pampas in the southern part of the Buenos Ayrean province, and is there abundant and unites in large flocks. At the approach of the cold season there is a general movement northwards of the birds, which does not, however, extend far, as the birds, although strong fliers, travel slowly and in a peculiar manner ; it is in this season when the birds are seen moving in large flocks, that the name of Military Starling strikes one as being peculiarly appropriate. They do not journey through the air like other migrants, but move over the ground, when the flock, composed of four or five hundred to a thousand or more individuals, is extended so as to present a very long front, and at intervals the hindmost birds fly over the others and alight just in front of them : the long front, the precision of their movements, and their scarlet bosoms all turned one way, suggest the idea of a disciplined army on its march.

They never perch on trees, but frequently alight on the roof of a rancho or other elevation affording a secure footing. They are tame birds and fly reluctantly ; when approached they usually crouch down, hiding their crimson bosoms, and remain motionless in order to escape observation. In disposition they are peaceful, and so fond of society

that when one becomes separated from his fellows he will unite with birds of another kind, even with Plovers or Tyrant-birds.

On the great monotonous plains, where most of the small birds are grey- or brown-plumaged, and in winter when there are no flowers to satisfy the desire of the eye for bright colour, it is delightful while travelling to meet with an army of these Starlings: their crimson bosoms, less bright than the hues of some tropical species, seem then to glow with a strange splendour on the sombre green of earth, and the sight produces an exhilarating effect on the mind.

CHESTNUT-SHOULDERED HANG-NEST

Icterus pyrrhopterus

Uniform black; upper lesser wing-coverts chestnut; length 7.7 inches. Female similar but smaller.

THIS interesting bird, the one member of the genus *Icterus* found in the Argentine, ranges south to Buenos Ayres, where it is migratory, and appears in small flocks of six or eight individuals in September; but soon after arriving these little companies break up, and the birds are subsequently found singly or in pairs in the woods along the Plata River.

The sexes are alike in colour, but the male is considerably larger; the whole plumage is an intense black, excepting a rufous spot on the shoulder

seen only when the bird is on the wing ; the bill is black and curved, the body slender, and the tail long. It is a loquacious bird, most of its tones being low and pleasing ; exceedingly restless in disposition, incessantly passing from tree to tree, jerking its long tail and clinging to the branches in various attitudes, while searching for insects in the decayed bark. While thus engaged it utters a great variety of chirping and guttural sounds, interspersed with short agreeable notes. It also has a song of considerable merit, low and varied in tone, with a peculiar ventriloquism in many of the notes which produce a confusing idea on the listener that the bird approaches and recedes alternately whilst uttering them. While singing the bird continues moving, but always concealed in the thick foliage, and it is probably this constant turning about of the singer, and the notes coming through leafy screens of varying density, which makes the ventriloquism and gives so much light and shade to its mysterious melody.

The first bird of this species I shot was wounded very slightly in one wing and fell into a stream ; to my very great surprise it began singing its usual song while floating about on the surface, making no attempt to swim. After I had fished it out it continued to sing at intervals in my hand ; how strange it was to hear this bleeding captive bird warbling out soft sweet notes which seemed to express only agreeable emotions ! Yet it was evident that the bird was fully alive to its danger, for it struggled violently to escape and bit my finger savagely with its sharp beak.

I subsequently found a nest ; it was about seven inches deep, composed entirely of lichens gathered from the boles of trees, ingeniously woven together and suspended from the small twigs and leaves at the extremity of a branch. There were no eggs in it, but the birds fluttered in great trouble about me, and, what greatly surprised me, uttered a variety of *singing* notes, unlike their usual song, but closely resembling the notes of other songsters, which made me think that the *Icterus* possesses the mimicking faculty to some extent. This, however, is a question it would be difficult to decide. It seems certain, however, that this species is incapable of expressing any distressing feeling, such as pain, fear, or parental anxiety, with loud harsh notes like other birds. It is much to be regretted that Azara, who found this species common in Paraguay, did not pay more attention to its habits and language, which make it specially interesting even in a family so rich in strange habits as the *Icteridæ*.

CHOPI

Aphobus chopi

Uniform black ; bill and feet black, lower mandible sulcated ; length 9.2 inches. Female similar but smaller and duller black.

THE Chopi, which is said to be quite common in Paraguay, is only found in the north-eastern part of the Argentine Republic, consequently I have

never seen it, except as a cage-bird ; nor is there anything about it in the notes of recent collectors and travellers who have visited the upper waters of the Plata. This however is not greatly to be regretted, since Azara gave a full and spirited account of this species in his *Birds of Paraguay*, although it does seem strange that the Chopi should have had two careful observers of its habits over a century ago, namely Azara and his friend and fellow naturalist, the priest Nosedá, and not one since. It is to give my English readers a specimen of Azara's writing that I have introduced the Chopi, the only bird described in this book which was not known to me from my own observation.

Evidently Azara was very familiar with it, for he described it lovingly and at great length, his history of it being one of the most charming things in his work. According to him the Chopi is a highly sagacious bird, and although a frequent visitor to courtyards and verandas of houses in Paraguay, too shy and suspicious to be caught with snares. It has a strong and easy flight, and readily attacks any large bird passing near, following it persistently in the air, or, pouncing down, fastens itself on its enemy's back. If the Caracara Eagle (*Polyborus*) alights in order to shake off its persecutor, the Chopi perches at a distance of a few feet, where it assumes an indifferent manner ; but no sooner does the Caracara allow its attention to wander from its adversary than it is again subjected to fresh insult. These attacks on so large and powerful a species

may be regarded as mere impertinences, but by practising them the Chopi is soon able to rid himself of the presence of any unwelcome bird. From a long distance he recognises an enemy, by its figure or even its shadow, and warns all birds of the coming danger with a loud whistle, which at once sends them into hiding, while the Chopi goes bravely out to the encounter; and the result is invariably a victorious song on his part, beginning with the sound of his own name, and running through a variety of whistled notes. He also sings well in captivity and when his mate is incubating; and his voice is first heard welcoming the dawn from the eaves and tiled roofs of houses where he roosts. The pairing-season is in November; and, Nosedá adds, the breeding-place is a hole in a bank or tree-trunk, or in a wall under the eaves, and occasionally the nest is made in the small branches of an orange or other close-leaved tree, and is built of sticks and straws carelessly disposed, with a few feathers for lining. The eggs are four, and white.

It may be added that between Azara and his friend Nosedá there was a great controversy respecting the parasitical habits of the Common Cow-bird (*Molothrus*), which were first discovered by the former and disbelieved in by Nosedá, who accounted for the fact that the Cow-bird is never seen to make a nest by supposing that species to be the year-old young of the Chopi, which, he further imagined, took three years to acquire the adult form and plumage. Such an idea might seem to discredit



CHOCOMAIIE TYRANT
Micellirotes rufiventris (Vieill.)

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Nosedá as a naturalist, if we did not remember that Gilbert White at the same period was trying to prove the hibernation of Swallows in England. The whole of the discussion appears in the *Birds of Paraguay*, under the description of the Chopi; and Nosedá is there allowed to state his own case; after which the better observer, Azara, gives five objections to the theory, any one of which would be sufficient to demolish it.

CHOCOLATE TYRANT

Myiotheretes rufiventris

Above and below smoky grey, clearer on the head and breast; belly, crissum, and under wing-coverts bright rufous; wings black, inner secondaries bright chestnut terminated with white, outer secondaries black, tipped with white; wing-coverts grey, margined with white; tail black, outer margins of external pair of rectrices and tips of all whitish; two outer primaries emarginated; bill and feet black; length 9.5 inches. Female similar, but outer primaries not emarginated.

THE Tyrant Birds (*Tyrannidæ*) are a family of insectivorous birds peculiar to America. They are the Flycatchers of the New World, and in very many of the smaller species are curiously like the Old World Flycatchers in appearance and habits. But structurally they are not nearly related to them. They belong to the sub-order *Olygomyodæ*, the Passerine birds which are (or ought to be) songless.

The songsters, all included in the sub-order *Oscines*, rank higher in the scale as having a developed vocal organ, and the Old World Flycatchers rank with Thrushes and Nightingales in this division. The fact remains, however, that many species in this highest sub-order are songless or are mere croakers or chatterers, whereas some of the Tyrant Birds have set songs and are sweet singers. The Tyrants in South America number over 360 known species—probably 400 would be nearer the right number now. There is a great variety in the size, form, and habits of different genera. There are among them birds with strong legs which seek their food on the ground, like Thrushes and Chats, which they resemble; and there are others, also ground feeders, that perch on bushes and trees and watch the ground below until they spy an insect, then drop upon and capture it and return to the same perch. Others watch for flying insects and capture them in the manner of our European Flycatchers, and many others have the food-seeking habits of our Leaf-Warblers.

Of the sixty or seventy species found in the Argentine country, I am acquainted with twenty-seven, and the largest of them is the Chocolate Tyrant first described.

There is a striking resemblance to a Thrush in this species, when one sees it running on the ground with its beak somewhat elevated; but when it stands or perches, opening and closing its broad tail with a graceful fan-like motion, the resemblance to the stiff automatic *Turdus* grows less, and when it flies

vanishes altogether—its long wings being as sharply pointed as those of the Peregrine Falcon, while its motions in the air have a Gull-like grace and buoyancy.

It is a very pretty bird ; the upper plumage is grey tinged with rufous, the throat pure dark grey, breast and belly rufous, wing-coverts light silvery grey, remiges and rectrices dark. Azara classed it under the name of *Pepoaza* (banded-wing) with the *Tæniopteræ*, to which it comes very near in form, flight, language, and habits, though it has longer legs and runs more on the ground. Its summer home is in Southern Patagonia, but its breeding-habits are not known ; in winter it migrates north, and in May is found scattered over the pampas, where it is usually called by the country people *Chorlo*, a name for all Plovers ; for while running swiftly about on the ground, often associating with flocks of Plover, it has a certain resemblance to them. From the hue of its plumage it is also called *El Chocolate*, a name I have thought it best to preserve.

These birds are very sociable, going in small flocks, usually of from half a dozen to twenty individuals ; they are restless and active, and quick and graceful in all their movements, and seek their food on the ground, chiefly coleopterous insects, on the great level plains they inhabit. While on the wing they pursue each other playfully in the air, and also attack and chase passing birds of other kinds, apparently in a sportive spirit. Occasionally they perch on a

thistle-top or low bush, but never on trees. Their only language is a long, low, plaintive whistle, heard usually on warm, still days in winter.

PEPOAZA TYRANT

Tænioptera nengetá

Above cinereous; lores white; wings black, coverts cinereous; a well-marked speculum at the base of the primaries and the edgings of the outer secondaries white; tail black, tipped with whitish cinereous, basal one-third of tail white; below pale cinereous, middle of throat white, with blackish stripe on each side; middle of belly, flanks, crissum, and under tail-coverts white; bill horn-colour; feet black; length 9 inches. Female smaller.

To this species Azara gives the name of *Pepoaza*, the Guarani for Barred-wing; and *Pepoaza* was used by him as a generic name for the small, well-defined group now placed in the genus *Tænioptera*, comprising eight known species. Most of these birds have some conspicuous wing-mark. They inhabit the southern portion of the South American continent, from South Brazil and Bolivia to the Straits of Magellan, and are most numerous on the open pampas and in Patagonia. In size they do not vary greatly, the largest being about nine inches long, the smallest about seven. In colour they are grey, or, more frequently, white relieved with black or grey, one species (*T. rubetra*) being rufous. Their legs are long, and they run on the ground like *Myiotheretes rufiventris*, feeding to some extent in the same

manner; but they also occasionally pursue and capture insects on the wing, like the typical Tyrant-birds that seldom or never alight on the ground. They have likewise another and a unique preying habit, intermediate between the Plover-like habits of *Agriornis*, *Myiotheretes*, and *Muscisaxicola*, and the Swallow- or Flycatcher-like habits of the true Tyrants. The bird perches itself on an elevation—the summit of a stalk or bush, or even of a low tree—to watch like a Flycatcher for its insect prey; only instead of looking about for passing insects, it gazes intently down at the ground, just as a Kingfisher does at the water, and when it spies a beetle or grasshopper darts down upon it, not, however, to snatch it up with the bill as other Tyrants do, but it first grasps it with its feet, then proceeds to despatch it, swaying about and opening its wings to keep its own balance, just as an Owl is seen to do when it grasps a mouse or other small animal in its claws. After devouring the insect on the spot, it flies back to its perch to resume its watch. They are very restless, active, playful birds, and seldom remain long on one spot, apparently finding it irksome to do so; but I have seen the *T. irupero* occupy the same perch for hours every day while looking out for insects.

As an English generic name for this small interesting group might be useful, I would suggest *Ground-gazers* or *Ground-watchers*, which describes the peculiar preying habit of these birds.

The Pepoaza is a swift, active, graceful bird, with a strong straight beak, hooked at the point, and a

broad tail four inches long, the total length of the bird being nine inches. The throat and space between the beak and eye are white ; all the rest of the body, also the wing and tail coverts, light grey ; tail and wing-quills black, with a pure white band across the base of the primaries. The tertiaries and rectrices are tipped with pale rufous grey.

It inhabits Brazil south of the equator, Bolivia, and Paraguay, also the northern provinces of the Argentine Republic. Mr. Barrows gives the following account of its lively habits in Entrerios : " They are commonly seen perched on fences or the tops of bushes or trees in open ground, frequently making sallies for winged insects, or dropping to the ground to catch a grasshopper or worm. When shot at while perched and watching you, they almost invariably leave the perch at the flash, pitching forward and downward, and usually evading the shot, even at short range. Several times I have secured them by shooting about a foot below and two feet in front of them as they sat, but they do not always fly in this direction. The rapidity of their flight when frightened, or when quarrelling, is simply astonishing. I have seen one chase another for three or four minutes, doubling, turning, twisting, and shooting, now brushing the grass, and now rising to a height of at least two or three hundred feet, and all the movements so rapid that the eye could scarcely follow them ; and at the end of it each would go back to the top of his own chosen weed-stalk, apparently without a feather ruffled."

BLACK-CROWNED TYRANT 141

Azara found this species breeding in a hole in a bank; and Mr. Dalglish has described a nest, taken from a tree in Uruguay, as a somewhat slight structure, four inches in diameter, formed of sticks and fibres, lined with fine grass and a few feathers. It contained three eggs, pear-shaped, white, with large well-defined spots of reddish brown.

BLACK-CROWNED TYRANT

Taenioptera coronata

Above cinereous; rounded summit of head black, broad front and band encircling the black of the head white; wings blackish, upper coverts cinereous, edgings of middle and greater coverts and of outer secondaries whitish; tail blackish, margins of outer webs of external tail feathers white; beneath white; under wing-coverts and a large portion of the inner webs of the remiges, except of the two outer primaries, white; bill and feet black; length 7.8 inches.

In this species the sexes are alike. The crown is black and composed of loose feathers; the forehead, and a broad line over the eye which extends nearly round the head, also all the under plumage, pure white; neck and back clear grey; quills black.

This Tyrant is a solitary bird, though often many individuals are found within call of each other, and they sometimes even unite in a loose flock. It is found throughout the Argentine country, ranging south to the Rio Negro, in Patagonia, but abounds most on the Buenos-Ayrean pampas, where it performs a partial migration. Most of the *Taenioptera*

seek their food by preference on the bare level ground, or where the vegetation is most scanty. This species varies somewhat in habits, and seldom runs on the ground, and chiefly inhabits the desert plains, where the large grasses flourish. On one occasion when I was with an expedition on the pampas for several weeks, every day a number of these birds would gather and follow us; perched here and there on the tall grasses with their bosoms towards us, they often looked at a distance like large white flowers. Old gauchos have told me that fifty years ago they were abundant all over the pampas, but have disappeared wherever the giant grasses have been eaten down and have given place to a different vegetation.

Their note is a long, low whistle, the usual language of the *Taniptera*; but in this species it is very like a human whistle, on account of which the bird is named *Boyero* (ox-driver) on the pampas. One severe winter great numbers of them appeared in the neighbourhood of Buenos Ayres, and it was amusing to see the dogs thrown into a great state of excitement by the low whistling notes heard perpetually from all sides. Every few moments they would start up and stare about them to ascertain where the deceptive call came from, and in spite of many disappointments they would occasionally all rush away, loudly barking, into the plantation, convinced that some person there was whistling to call them.

The Black-Crown makes a somewhat shallow nest in a bush or large clump of grass, and lays four

BLACK-CROWNED TYRANT 143

white eggs, with large dark red spots, chiefly at the big end.

I cannot refrain from quoting a passage from Mr. Barrows' paper, descriptive of the lively temper and habits of this bird :

" This species often persecutes smaller birds in a way which seems to imply pure love of mischief. One afternoon in July, when the river had fallen some feet after an unusual rise, I was walking along the lines of drift left by the falling water, and watching the different birds which were picking up insects or other food from the wind-rows. A score or two of the little chestnut-backed *Centrites* were running about, and here and there a *Tænioptera* was looking quietly on. Suddenly I heard a chirp of distress, and looking up saw one of these small birds apparently making every effort to escape from a *Tænioptera*, which was following in full chase. The two birds were hardly a length apart and both going at full speed, doubling and dodging in a way that would have done credit to a bat. The chase lasted perhaps for half a minute, when the smaller bird alighted, and at once the other also alighted and began running about unconcernedly and picking up food. But the instant the smaller one made a start his enemy was at his heels (or more properly his tail) again, and he was forced to alight. This was repeated so often that I was on the point of shooting the pursuer, when, without any notice, he flew quietly off, and resumed his usual demeanour. It looked like a case of simple spite, for even if there were twenty other birds

about, one seemed to be followed without regard to the rest."

I have often watched *Tæniopteræ* of different species, also *Myiotheretes rufiventris*, behaving in a similar way, and agree with Mr. Barrows that it is "an amusement in which the larger bird indulges simply for the pleasure derived from the exercise of his power."

DOMINICAN TYRANT

Tænioptera dominicana

Above pure white; wings black, with a broad whitish sub-apical band across the first six primaries, beyond which the tips are blackish; tail black; beneath pure white; length 8 inches. Female similar, but head above and back cinereous.

THIS bird ranges from South Brazil and Paraguay to the southernmost pampas of Buenos Ayres. Its total length is eight inches. The wings and tail are black, the former barred with white; all the rest of the plumage in the male is pure white; in the female the upper parts are grey.

It is to some extent migratory, and usually goes in flocks of a dozen or twenty birds, and frequents open situations where there are bushes and trees, also plains covered with giant grasses. They are more social in their habits than *T. coronata*, but in other respects closely resemble it, and are exceedingly active, lively birds, and when the flock is on the wing continually pursue each other in a playful manner.

LITTLE WIDOW TYRANT 145

Mr. Barrows observed them in autumn on the Pigue (southern pampas) preparing for their migration. "Late in March," he says, "we found them in large scattered flocks, which collected in one place toward evening, and went through a series of aerial evolutions accompanied with vocal exercises of a varied and entertaining kind, lasting half an hour or more.

"I presume this was in preparation for their northward (or westward?) migration, as we did not see them again after leaving this spot."

LITTLE WIDOW TYRANT

Tanioptera irupero

Above and beneath pure white; wings with the primaries black except the innermost, which are white at their bases and tipped with black, and secondaries which have narrow black shafts; broad end of the tail black; bill and feet black; two outer primaries acuminate; length 7 inches. Female similar.

THIS pretty species is found throughout the Argentine country, and is well known to the natives, and usually called *Viudita* (Little Widow) on account of its mourning colours. It is also sometimes curiously named *Anjelito de las ánimas*, from a superstitious notion due to the intense whiteness of its plumage and to its supposed habit of frequenting graveyards.

I have on a few occasions found the Little Widow



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in a village graveyard, and supposed that it had chosen the spot on account of its quietude. The superstitious notion about it varies: thus, some think the bird is a re-incarnation in bird form of a child buried there; others that it is a little angel in disguise, whose mission it is to keep watch and guard over the sleeping souls of little buried children. In both sexes the entire plumage is snowy white, except the primaries and the tip of the tail, which are black. In habits it is more sedentary than other *Tænipteræ*, and obtains its food chiefly by patiently watching the surface of the ground for its insect prey. Its marvellously white plumage, and the habit of sitting motionless on the summit of a bush or tree, make it a most conspicuous object, so that it is strange to find such a bird existing in districts which abound in raptorial species; for Hawks, I have frequently noticed, will always single out a white or conspicuously coloured bird for pursuit, and though the Little Widow, like the other members of its genus, is swift and strong of wing, the feeble and the young must often fall victims to their shining white plumage.

The Little Widow is a solitary bird, and not nearly so lively and playful in manner as *T. coronata* and *T. dominicana*, its surpassing whiteness being its most interesting feature. Its nesting habits are unlike those of other *Tænipteræ*, for it breeds only in holes, usually in the bole or branch of a tree; but sometimes it takes possession of the oven of *Furnarius* to lay in. The nest is composed chiefly of feathers and contains four eggs, creamy white, with a few

MOUSE-COLOURED TYRANT 147

very minute red spots, irregularly distributed. Mr. Dalgleish says, "Some eggs have only two or three spots, none have more than eight or ten."

Mr. Barrows says, "The adults have several of the primaries remarkably attenuated. Young birds appear to acquire these attenuate primaries only after a complete moult. But I took one specimen which showed one or more primaries with tips of ordinary shape but with a line apparently *worn* into the vane of the inner web, so as to mark out distinctly the attenuate tip, and it seemed as if a little more wearing would cut out a piece which would leave the primary as in the old bird."

MOUSE-COLOURED TYRANT

Taenioptera murina

Above sandy cinereous, whitish round the eyes; wings and tail blackish with whitish edgings; below much paler, throat whitish with slight black striations; belly and crissum tinged with ochraceous; under wing-coverts and flanks pale ochraceous; bill horn-colour; feet black; two outer primaries acuminate; length 7 inches. Female similar, but outer primaries normal.

THIS species inhabits the Mendoza district, and migrates south in spring. I met with it on the Rio Negro, in Patagonia, where it made its appearance in October. The sexes are alike. The entire upper plumage is dull grey with a pale rufous tinge; throat, breast, and belly pale buff tinged with grey. It is a solitary bird, restless in manner, has a swift flight,

and sits on a stalk or other slight elevation, from which it darts down to seize any insect it spies on the ground. Its only language is a very low whistling note.

CHAT-LIKE TYRANT

Tænioptera rubetra

Above sandy brown, lores and superciliaries white; wings black, greater coverts and outer secondaries edged with whitish, lesser coverts like the back, tail black, outer web of the outer tail-feathers and tips of others white; below white, with black striations on the sides of the throat and on the breast; flanks, under wing-coverts, and inner webs of the primaries deep rufous; two outer primaries acuminate; length 7.5 inches. Female rather paler, throat and breast washed with ochraceous, and outer primaries not acuminate.

I HAVE met with this bird at all seasons of the year in Patagonia on the Rio Negro, and think it probable that it has no migration. It is seen in flocks of twenty or thirty individuals, and in its lively actions when on the wing, and in its habit of perching on a bush or elevation of some kind, from which it pounces down on an insect seen on the ground, it resembles other *Tæniopteræ*; but it runs about on the ground a great deal, and in this respect is more like a *Myiotheretes* or *Muscisaxicola*. In its colour it also diverges widely from the typical *Tæniopteræ* in their black and white Dominican plumage. The whole upper parts are light chestnut, with a white mark on the side of the head; wings and tail dark, tipped with pale rufous; throat, breast, and belly whitish

SWALLOW-LIKE TYRANT 149

rufous, with dark lines on throat and bosom. The chestnut hue in the female is paler and mixed with grey.

SWALLOW-LIKE TYRANT

Fluvicola albiventris

Above black; front half of head, narrow band across the rump, and slight edgings to wing-coverts and outer secondaries white; below white; bill and feet black; length 5.5 inches.

THIS small black-and-white Tyrant is not uncommon in the marshes and on the river-margins in the Plata district, its spring migration extending south to Buenos Ayres. Like the Kingfisher, it haunts the waterside and is found nowhere else. It has a shy, retiring disposition, concealing itself in the close thickets overhanging a stream, so that one does not often see it, notwithstanding its conspicuous white plumage. When disturbed it emits a series of low ticking notes, or darts swiftly out from the thicket, showing itself for a moment over the water before disappearing once more into a hiding-place. When thus seen darting above the surface it has a strikingly Swallow-like appearance.

D'Orbigny says it makes a purse-shaped nest, of slender twigs, moss, and feathers neatly interlaced, and lays four white eggs, spotted at the large end with brown.

COCK-TAILED TYRANT

Alectru.us tricolor

Above black, rump greyish; sides of the head, scapularies, lesser wing-coverts, and outer margins of secondaries white; tail black, outer rectrix on each side produced, expanded, fan-shaped; below white, patch on each side of the breast (forming an incomplete collar) black; bill horn-colour; feet black; length 7.2 inches. Female: above brown, rump and lesser wing-coverts pale; beneath dirty white, sides of breast brown.

THIS species generally resembles the one next described, and has, like it, a black, white, and grey plumage. But the tail, although strange, is constructed on a different pattern. The total length of the bird is five and a half inches, the tail being only two and a half. The two outer tail-feathers have remarkably stout shafts, with broad coarse webs, and look like stumps of two large feathers originally intended for a bigger bird, and finally cut off near their base and given to a very small one. In the male these two feathers are carried vertically and at right angles to the plane of the body, giving the bird a resemblance to a diminutive cock; hence the vernacular name *Gallito*, or Little Cock, by which it is known.

I have not observed this species myself, but Azara has the following paragraph about its habits: "The male sometimes rises slowly and almost vertically, with tail raised, and rapidly beating its wings, and looking while ascending in this way more like a butterfly than a bird; and when it has reached a height of ten or twelve yards, it drops obliquely to

STRANGE-TAILED TYRANT 151

the earth, and perches on a stalk." He adds that the males are solitary, but several females are sometimes seen near together, and that the females are greatly in excess of the males.

STRANGE-TAILED TYRANT

Alectrurus risorius

Above black, rump grey; front varied with white; wings black, scapularies, outer margins of wing-feathers and coverts white; tail black, two outer rectrices much elongated, denuded at the base, with a broad inner and no outer vane; below white, broad band across the breast black; throat in the breeding season bare of feathers and of a bright orange; bill yellowish; feet black; length 11 inches. Female: above brown, wings varied with white; beneath white; breast-band pale brown; tail with the two outer rectrices slightly elongated and denuded, terminated with spatulations on the inner vane.

AZARA named this species *Cola estraña* (Strange-tail) but mentions incidentally that its Guarani name is *Guira-yetapá* (Scissor-tail), a term which the Indians apply indiscriminately to several species having the same sort of tail.

The *Guira-yetapá* is a very curious little bird, with a black, white, and grey plumage and the beak of a true Tyrant; but it differs from all its congeners in having the skin of the chin, throat, and sides of the head bare of feathers, and these parts in the breeding-season are a bright orange colour. It is a feeble flier, its wings being very short, while the two outer tail-

feathers are abnormally long and peculiar in form. Mr. Barrows says: "The remarkable condition of the outer pair of tail-feathers is interesting. In the male these two feathers reach a length of nearly ten inches, the rest of the tail being about three inches in length. The vane on the *inner* side of each is wanting for the first two inches, and then suddenly develops to a width of nearly two inches, which it maintains almost to the tip, when it gradually narrows. The vane on the *outer* side of the shaft is only about one quarter of an inch wide, and is folded so tightly against the shaft that it is quite inconspicuous. In the only two males of this species which I have seen flying, these long feathers seemed to be carried folded together *beneath* the rest of the tail, and stretches out behind like a rudder or steering-oar, their vanes at right angles to the plane of the rest of the tail."

Mr. Gibson gives a different account, and says the flight is singularly feeble, resembling the fluttering passage of a butterfly through the air, while the tail streams out behind.

It inhabits Paraguay, Uruguay, and the eastern portion of the Argentine Republic, ranging as far south as the pampas in the neighbourhood of Patagonia. It is usually seen singly or in pairs; Azara says he saw a flock of thirty individuals, but as they were all *females*, it may be that in this species, as in *Lichenops perspicillata*, the females are sometimes gregarious, and the males always solitary. It frequents open places, such as the borders of marshes, or plains

YELLOW-BROWED TYRANT 153

covered with tall grasses, and perches in a conspicuous place, from which it darts at passing insects like a Flycatcher.

Mr. Gibson found its nest on the ground amongst herbage, and describes it as a neat structure of dried grass, containing three white eggs with a faint cream-coloured tinge.

YELLOW-BROWED TYRANT

Sisopygis icterophrys

Above bright olive-green, head rather greyish, lores and superciliary stripes yellow; wings blackish, broad ends of coverts and outer edges of secondaries dirty white; tail blackish; beneath bright yellow, sides of breast and flanks olivaceous; under wing-coverts whitish; bill dark horn-colour; feet black; length 6.1 inches.

THIS small and pretty Tyrant-bird is quite common in the woods along the Plata, and is also seen a great deal in orchards and groves in the cultivated districts. In Buenos Ayres it is a summer visitor, appearing there in October, and is a shy, solitary bird, which catches insects on the wing, and rarely visits the ground.

The nest is placed in a tree, ill-concealed, and very shallow; it is built of fine sticks, and lined with fine grass, horsehair, and feathers. The eggs are four, pointed, pale cream-colour, with large dark red spots, chiefly at the larger end.

The only language of this species is a very low plaintive whistle, uttered as a faint protest when the nest is approached.

The upper plumage is olive-green; the entire under surface and a stripe on the side of the head pure yellow; wing and tail-quills dark.

ASHY-BLACK TYRANT

Cnipolegus anthracinus

Above dull black, a broad bar across the vanes of the inner webs of the wing-feathers white; bill plumbeous; feet black; length 6.3 inches. Female ashy brown; rump, upper tail-coverts, and basal portions of tail bright fulvous; wings blackish, with two white transverse stripes; beneath pale fulvous, white on the belly; bill and feet black.

UNFORTUNATELY very little is yet known about the habits of these interesting little Tyrant-birds, for which I should like to suggest the common name "Spectacular," for reasons I shall say more about when I come to describe the *Lichenops perspicillatus*, a species which undoubtedly belongs to this peculiar well-defined group. The plumage of the male is, in most cases, intensely black, and there is a pure white bar on the remiges, hidden when the bird is perched, and when it flies made doubly conspicuous by the peculiar motion of the wings. In all the known species the female has a dull brown plumage, lined or mottled with dusky tints, and with some portion

BLACK TYRANT

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of the wing-quills marked with rufous or chestnut colour.

The Ashy-black Tyrant inhabits the Mendoza district, and is also a summer visitor in Patagonia, where it was obtained by Dr. Doring. Speaking of its habits he says the male is solitary, perches on the summit of a bush or dry twig, emits at intervals a song or call composed of two syllables, plaintive and flute-like in character, and uttered while the bird rises up a few feet into the air. During this performance the white bands on the wings are displayed conspicuously and a humming sound is produced.

BLACK TYRANT

Cnipolegus hudsoni

Uniform dull black; a broad bar across the bases of the inner webs of the wing-feathers white; two outer primaries much pointed at their extremities; bill plumbeous; feet black; length 6 inches. At once distinguishable from the preceding species (*C. anthracinus*) by its smaller size and the peculiar narrowed outer remiges.

THIS species is found in the western provinces of the Argentine Republic, and, like *C. anthracinus*, which it closely resembles, is a summer visitor to Patagonia, where it makes its appearance in October. The plumage is intense black, with the inner webs of the remiges at their base white, but the wing-band, which is over an inch in breadth, shows only

when the bird flies. There is also a small white spot on the flank, scarcely visible, and excepting for this speck the bird at rest appears entirely black. When it flies the white band appears suddenly, producing a curious effect, for the wings are opened and shut successively and with great rapidity, making the white band appear like a succession of flashes. All the movements of the bird are eccentric to a degree. It selects a dead twig on the summit of a bush, and this perch it occupies during many hours every day. Occasionally it darts after a passing insect, but I believe it feeds principally on the ground, like *Lichenops perspicillatus*. At intervals it quits its perch very suddenly and revolves round it with the rapidity of a moth whirling round the flame of a candle, the wings producing a loud humming sound, and the bird uttering a series of sharp clicking notes. During this performance the white wing-band appears like a pale mist surrounding the bird. This fantastical dance over, it resumes its perch, and, until moved to a second display, sits as motionless as a bird carved out of jet.

Three more species of this curious genus have been found in Argentina, but unfortunately their discoverers have told us nothing of their habits.

SILVERBILL

Lichenops perspicillatus

Black; primaries white with black tips and bases; fleshy ring round eye and bill palest yellow; length 5.6 inches. Female: above dark brown with light edging to feathers; remiges chestnut, with dark brown tips; wing-coverts dark brown with fulvous tips; beneath fulvous white, breast with dark striations; bill yellowish.

NATURALISTS have said a great deal about the well-known Silverbill (the most important member of my "Spectacular" group), the question as to whether the black and red birds are sexes or two distinct species having long remained unsettled. Azara, writing in the last century, under the heading *Pico de Plata*, rightly described the red bird as the female of the black; but unfortunately, in another part of his work he described the female again as a different species, naming it *Suiriri chorreado*. Darwin also separated the sexes, and gave the name of *Lichenops erythropterus* to the red-plumaged bird. He made a minute examination of both, and proved to his own satisfaction that it was impossible to believe that two birds with so many structural differences could be one species.

When one considers the habits of the two birds, even where they are most abundant and seen continually, it is indeed difficult to believe that they are one and the same species. They are never seen associating together, even in the love season, and when I have watched a pair actually engaged in constructing their nest, they appeared to keep as far apart as possible.

More than that, the male, while unfriendly towards all other species, appears to cherish a special antipathy against the red bird; and when one comes near him never fails to pursue it with the greatest violence from the neighbourhood. He is also strictly solitary, but the red birds frequently unite in small parties, especially in autumn, when I have often seen as many as a dozen together. Evidently they have a more social temper than their black mates.

The native boys have discovered a strange weakness in the Silverbill. When the bird is running about seeking food on the ground, the boy approaches it and hurls a stick or clod and at the same time rushes at it, whereupon the bird as if paralysed remains motionless, and may be taken by the hand.

Altogether the Silverbill has been a puzzle in the past, and it would appear, from some observations made by Mr. Barrows, that we have not yet got to the end of all the curious points in its habits. Without doubt it is migratory. Its range extends from Paraguay to Patagonia, where it is not common. In Paraguay and the hotter parts of the Argentine country it is probably stationary; in Buenos Ayres, where it is most abundant, many individuals remain all the year in sheltered places, and the migration appears to become more definite the further south we get. Mr. Barrows travelled south across the pampas in the autumn, and says: "The species was met with at all points visited, but south of the Azul not a single male in the black plumage was seen, though the brown birds (pre-

sumably females or young) were met with almost every day for nine weeks, and frequently in large numbers. Of course I began to suspect that the males must moult into a brown suit after nesting, as do our Bobolinks and many other birds, but I shot specimens at various times, and all proved to be either females or young males, and as I was confident that at Concepcion black males were to be found through the year, I was at a loss for an explanation, and am so still."

The male Silverbill is entirely black, there is nothing in nature blacker than its plumage; and, to enhance the effect, the beak is of a very delicate primrose-yellow, which at a little distance appears white, hence the vernacular name. The eye, and broad free skin surrounding it, which is ruffed like an Elizabethan collar, are of the same faint primrose hue. The secondary wing-quills are pure white, but the white is only displayed when the bird flies. The female has the naked skin encircling the eye, but its colour, as also that of the beak, is much darker than in the male. Entire upper plumage dark brown; secondaries chestnut; lower parts fawn-colour, marked with brown. The young males are at first like the females in colour, and do not acquire the black plumage until the end of the summer.

The bird ranges over the whole of the Argentine Republic, and, according to Gay, is also common throughout Chili, where it is known as the *Colegial* (Collegian or learned person), on account of its stiff grave manner, black dress, and spectacled appearance.

The male is a solitary bird, and feeds chiefly on the ground, running rapidly about in open places like a *Muscisaxicola*. It is also frequently seen perched conspicuously on the summit of a tall stalk or bush, and occasionally making a dart into the air after passing insects, showing in this habit his relationship with the Tyrant-birds. But he perches on an elevation less to watch for insects than for the purpose of his curious spectacular performance. This highly eccentric habit is strikingly like that of *Cnipolegus hudsoni*; and I have no doubt that all the *Cnipolegi* possess similar habits. Both birds perch on a conspicuous place, upright, motionless, and looking more like grotesque little automata than living things; they both also leave the perch suddenly, as if shot from it by means of a steel spring. This singularly sudden movement, and the motion of the wings, rapid as in the Humming-bird, or shut and opened alternately and exhibiting the white wing-colour in a series of flashes, seems related to the conspicuous white mark. In both species also, the wings make a humming sound during flight. The motions of the Silverbill are, however, in some respects different from those of the *Cnipolegus*. Springing from its perch at intervals, it darts vertically to a height of about fifteen yards, then turns a somersault, uttering at the same moment a shrill-sounding little cry, after which it drops down again and alights on its perch suddenly, as if jerked back to it, and there remains stiff, erect, and motionless as before.

SHORT-WINGED TYRANT 161

The nest is made of dry grass in a thistle-bush or clump of reeds, and is rather deep and cup-shaped. The eggs are four in number, white, and spotted at the larger end with dark red.

SHORT-WINGED TYRANT

Machetornis rixosa

Above brownish olive; wings and tail brown, the latter terminated by a yellowish band; middle of cap occupied by a scarlet crest; beneath bright yellow, paler on the throat; bill and feet black; length 7.2 inches. Young without the scarlet crest.

THIS species, found in the open districts throughout South America, from Venezuela to Buenos Ayres, where it is quite common, has very interesting habits. It is seven inches and a half long, has a plump body, short wings, and long legs. The upper plumage is light brown, the throat, breast, and belly yellow, and the male has a concealed crest of a bright orange-red colour.

It resembles the true Tyrants in disposition, in its shrill piercing language, and in the habit of perching and breeding in trees. On the other hand, like the long-legged *Myiotheretes*, that lives on the open plains, it feeds exclusively on the ground, over which it runs with a speed possessed by few perching species. The general impression one forms is that in manners and appearance the Short-winged Tyrant is quite unlike any other species, though all its habits

are to be found in one or other of the various groups comprising the *Tyrannidæ*.

These birds have no migration, but pair for life, and always remain on the same spot, and will continue to breed in the same hole for many years, even where they are frequently deprived of their eggs. Azara saw them sometimes uniting in small flocks in Paraguay ; in Buenos Ayres they are always seen in pairs, or, after the young have left the nest, in families. They prefer to live near a human habitation, where there are trees : even one tree, in which they can breed and find shelter at night, will be sufficient to attach them to a dwelling, so great is their partiality for the clean-trodden ground where they can freely run about and catch insects. They haunt the cattle-pens, and become extremely familiar with the cows, horses, and sheep, following them to the pasture-grounds, where they are often seen perched on the back of a horse or other domestic animal, or stationed close to its nose on the ground, watching for insects. On the bare ground they run about with wonderful swiftness, and are able to overtake and capture flying insects without rising. The male and female invariably hunt together, and at intervals fly to some favourite perch to indulge in a duet composed of loud, rapid, shrill notes, somewhat metallic in sound. Though able to fly swiftly when in pursuit of a passing Hawk or other bird, at other times their flight is strangely slow ; the round body, short blunt wings and tail giving the bird a somewhat curious appearance as it progresses laboriously through the

CHIN-SPOTTED TYRANT 163

air. I have frequently seen them make the most unprovoked assaults on birds of an inoffensive kind ; possibly they are in these attacks moved by a playful rather than by a vindictive spirit. I once saw one drop like a stone from a height of fifty yards on to a Pigeon perched on a leafless tree. The Pigeon fell as if shot to the earth ; the Tyrant-bird then released his hold ; the Pigeon rushed away terrified through the trees, while its persecutor rose up high in the air and resumed its journey.

I have elsewhere spoken of the wars waged by this bird against other species, all seeking to gain possession of the large nest of *Anumbius acuticaudatus*. A hole in the trunk of a tree is also a favourite breeding-place. The nest is neatly built of slender twigs and leaves, and lined with horsehair. The eggs are slightly oval, and densely marked with dark brown spots or stripes on a white or brownish-white ground.

CHIN-SPOTTED TYRANT

Muscisaxicola macloviana

Above cinereous, lores blackish, cap brown ; tail-coverts and tail black, outer margins of outer tail-feathers white ; below pale cinereous, passing into white on lower belly, crissum, and under wing-coverts ; chin-spot brown ; bill and feet black ; length 6.1 inches. Female similar, but chin-spot not so well marked.

THIS South Patagonian species is one of a small group of Tyrant-birds which resemble in their habits and appearance the *Saxicolæ* of Europe. They

inhabit Patagonia, the Falkland Islands, and Chili, and on the Pacific side extend their range north to Peru and Bolivia. The plumage is generally grey, with more or less rufous colour on the crown; they have long legs, and run swiftly on the ground, frequent open sterile situations, and perch only occasionally on trees.

The present bird is about seven inches long; the upper parts are dull grey, except the crown, which is dark chestnut; under surface light grey, and tail nearly black. In the month of June I met with these birds on the Rio Negro, on their arrival there from the south. They went in flocks of a dozen or twenty birds; they had a swift easy flight, were shy and restless in their manner, and uttered low plaintive whistling notes. When a flock alights on the ground the birds all instantly scatter, running rapidly about in all directions over the bare ground. Occasionally one was seen to perch on some slight elevation, and dart like a Flycatcher after passing insects.

Darwin saw this bird as far north on the Atlantic coast as Bahia Blanca. He also found it at Tierra del Fuego, where it lives entirely on the sea-beaches; and in the sterile upper valleys of the Chilian Andes, at a height of ten thousand feet, where the last traces of vegetation occur and where no other bird lives.

LITTLE BLACK RED-BACK

Centrites niger

Intense black ; back, except the rump and scapularies, bright chestnut-red ; length 5 inches. Female, above brown ; back fulvous red ; tail black ; beneath ashy brown.

THE little Red-backed Tyrant comes nearest to *Muscisaxicola mentalis* in habits, but does not perch on bushes and trees, and is less gregarious than that bird. It is the smallest of all those varied members of the *Tyrannidæ* family which have abandoned forests and marshes and the pursuit of insects on the wing, to live on the wintry uplands of Patagonia, and on the sterile plains bordering on the Andes.

The male is only five and a quarter inches long. The entire plumage of the male is intensely black, except the back, which is bright chestnut. The inside of the mouth and tongue are vivid orange-yellow. The chestnut colour on the female is pale, the rest of the plumage grey, except the quills, which are dark.

Its summer home is in the southern portion of Patagonia, but its nesting-habits are not known. In March it migrates north, and is very common everywhere on the pampas throughout the winter. They arrive in small parties of three or four, or in little loose flocks of about a dozen individuals, travelling with a swift, low flight. Males, females, and young,

grey like the last, arrive together; shortly after arriving the young males become mottled with black, and before leaving acquire the adult plumage. They appear to leave in spring all together, but from a note by Durnford it would appear that the males travel in advance of the females. He says: "Males of this species were common at Chupat throughout September and during the first few days of October. On the 5th of the latter month I observed the first females, which gradually increased in number."

The Little Red-backs inhabit open unsheltered plains, and have so great a predilection for bare ground on which they can run freely about, that on their arrival on the pampas, where the earth is thickly carpeted with grass, they are seen attaching themselves to roads, sheep-pens, borders of streams, Vizcacha villages, and similar places. They are exceedingly restless, running swiftly over the ground, occasionally darting into the air in pursuit of small flies, and all the flock so scattered that there will be a dozen yards between every two birds. Mr. Barrows describes their lively habits very well: "I think this is one of the most restless birds I ever saw. You cannot depend upon him to be in the same place two consecutive half-seconds. He runs like a Sanderling, and whenever he keeps his feet still by accident, his wings are flitted in a way that shows his anxiety to be off. Several are usually found together, and sometimes a loose flock of a hundred or more is seen. They are very strong on the wing, sometimes mounting rapidly for several hundred

feet, if suddenly startled, and after a few moments spent in circling like a Snipe, they drop again almost as suddenly as a shot, and as if from the very clouds."

REED TYRANT

H. pallescens flaviventris

Above mouse-brown; wings and tail rather darker, with edgings like the back; vertex more or less tinged with rufous; beneath yellow; under wing-coverts pale yellow; bill and feet black; length 4 inches.

THIS little bird is rarely met with in the desert pampas, but throughout the settled portion of the Buenos-Ayorean province it is one of the most common species of the *Tyrannidæ*. It arrives from the north in September, and is very regular in its migrations, although apparently a very feeble flier. It frequents open grounds abounding in thistles, tall weeds, or bushes, and is consequently most abundant about houses. It is extremely active, and occasionally darts after a passing insect, and captures it on the wing, especially soft insects, like moths and butterflies, to which it is most partial. It subsists principally, however, on small caterpillars and spiders, for which it searches diligently among the leaves, after the manner of the Wren. Although belonging to the songless division of the *Passeres*, this small Tyrant-bird possesses a formal song, which the male utters with great frequency, the only other member of the Tyrant family that I am acquainted with which

really sings being the Scarlet Tyrant (*Pyrocephalus rubineus*). The music of the Reed Tyrant is weak but curious; it is composed of five brief percussive notes, distinctly metallic in sound, which may be imitated by gently and slowly striking *fa la mi sol fa* on the highest keys of the piano. To utter this quaint little song the bird perches itself on the summit of a reed or bush, where it solicits attention with a little chipping prelude, and then jerks its head vigorously with each note, delivering its few drops of sound with all the assurance of a master in the art of melody.

In October it builds a deep elaborate nest of fine dry grass, thistledown, webs, feathers, and other soft materials, usually in the fork of a weed or thistle three or four feet from the ground. It lays four cream-coloured eggs, the colour deepening to grey at the larger end.

LITTLE LONG-TAILED TYRANT

Stigmatura flavo-cinerea

Above greyish olive, lores and superciliary stripe whitish; wings blackish, with whitish edgings to the coverts and outer secondaries; tail blackish; outer web of the external rectrix and broad tips of the four external pairs white; beneath pale yellow; bill and feet black; length 5.8 inches, tail 3 inches.

THIS little bird inhabits the Mendoza and Patagonian districts, and does not appear to be migratory, for on the Rio Negro I found it at all seasons. It is

LITTLE CRESTED GREY TYRANT 169

slender in form, with a long tail, its total length being six inches. The sexes are alike in colour; the upper parts are yellowish grey, breast and belly light yellow. They are found living in pairs, all the year round, in thorn bushes, and are scarcely ever seen to rest, but hop incessantly from twig to twig, in a delicate leisurely manner, seeking on the leaves for the minute caterpillars and other insects on which they live. While thus engaged they utter a variety of little chirping and twittering notes, as if conversing together, and occasionally the two birds unite their voices in a shrill impetuous song.

LITTLE CRESTED GREY TYRANT

Serpophaga subcristata

Above cinereous, usually with a slight olivaceous tinge on the rump; crest-feathers white at their bases, tipped with cinereous, and slightly varied with black; wings blackish, wing-coverts tipped with whitish, forming two handsome bands; outer secondaries externally margined with the same colour; tail dark ashy; beneath ashy white, with more or less yellowish tinge on the belly and under wing-coverts; bill horn-colour; feet black; length 4.5 inches.

THIS species is one of the smallest members of our *Tyrannidæ*, its total length being only four and a half inches. The sexes are alike; the upper plumage is grey, with a greenish tinge on the back; the breast paler grey, becoming pale yellow on the belly. There is a white concealed spot under the loose feathers of the crown.

It is quite common in Buenos Ayres, and probably has a partial migration, as it is most abundant in summer. In its habits it closely resembles the species last described, being always found in pairs, living in thickets, where they hop incessantly about, exploring the leaves for small caterpillars, and always conversing in low chirping and twittering notes. They also sing together a little confused song. The nest is fastened to the slender twigs of a low bush, and is a deep cup-shaped and beautiful structure, composed of a great variety of soft materials bound together with spiders' webs, the interior lined with feathers or vegetable down, and the outside covered with lichen. The eggs are two, bluntly pointed, and cream-colour.

LITTLE RIVER-SIDE GREY TYRANT

Serpophaga nigricans

Above dull brownish cinereous; wings and tail blackish, the coverts and outer secondaries with slight edgings like the back; crest slight, with a well-marked white basal spot; beneath paler and rather purer cinereous; under wing-coverts pale cinereous; bill and feet dark horn-colour; length 4.7 inches.

THIS species differs markedly in habits, language, and appearance from the last. In both sexes the colour is a uniform slatey grey; the tail, which the bird incessantly opens and flirts like a fan, is black;

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as in *S. subcristata*, there is a hidden spot of white under the loose feathers forming the crest.

It frequents the borders of running streams, seldom being found far from a water-course ; and it alights as often on stones or on the bare ground as on plants. Male and female are always seen together, as it pairs for life, and the migration, if it has any, is only partial. It flits restlessly along the borders of the stream it frequents, making repeated excursions after small winged insects, taking them in the air, or snatching them up from the surface of the water, and frequently returning to the same stand. While thus employed it perpetually utters a loud, complaining *chuck*, and at intervals the two birds meet, and, with crests erect and flirting their wings and tails, utter a series of trills and hurried sharp notes in concert.

The nest is generally placed beneath an overhanging bank, attached to hanging roots or grass, a few inches above the water ; but it is sometimes placed in a bush growing on the borders of a stream. It is a neat, cup-shaped, but rather shallow structure, thickly lined inside with feathers. The eggs are four, pointed, white or pale cream-colour, with black and grey spots at the large end.

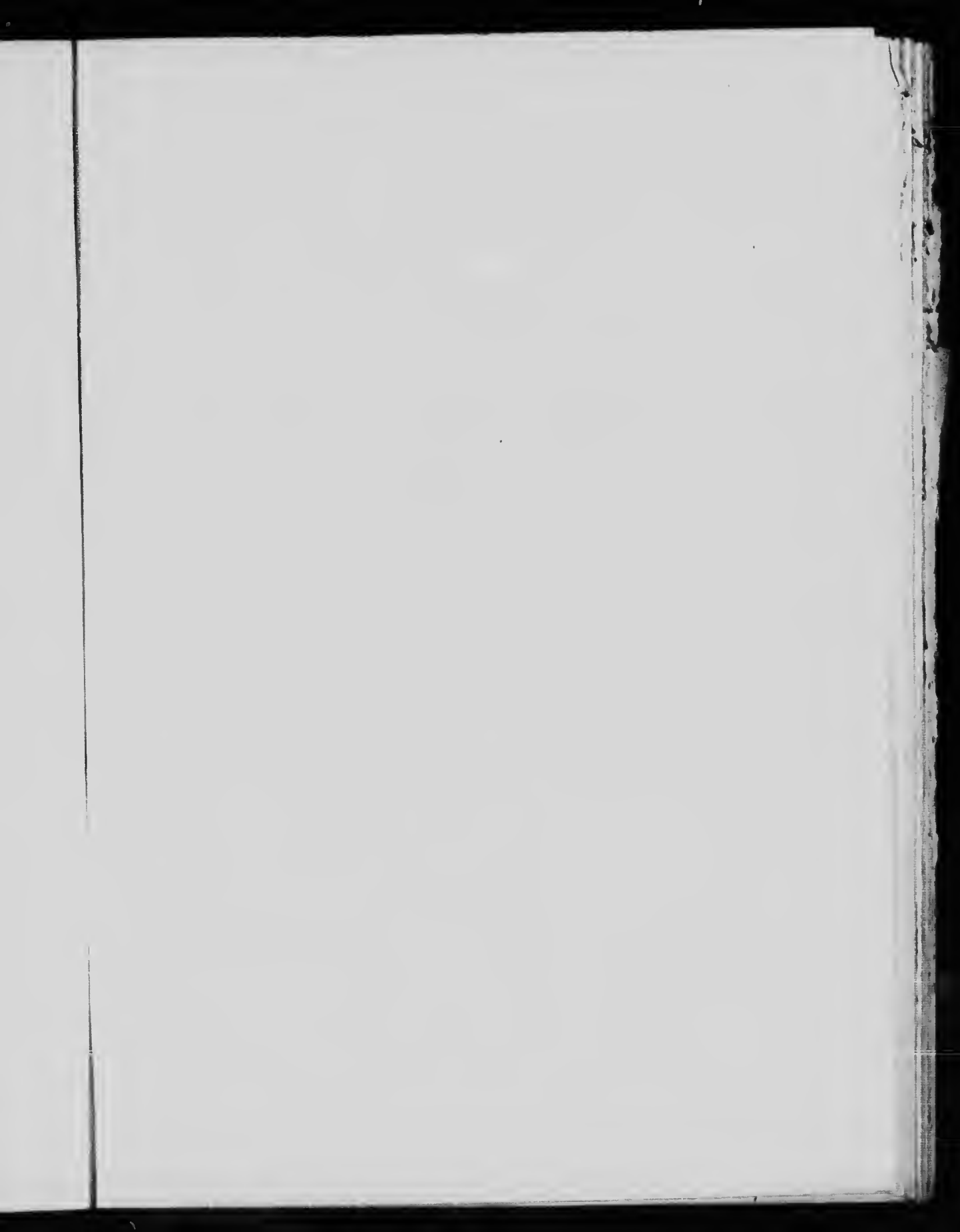
LITTLE TIT-LIKE GREY TYRANT

Anæretes parulus

Above cinereous, with an olivaceous tint on the lower back; head black, front varied with white, elongated vertical crest black, sometimes varied with white; wings blackish, with slight whitish tips to the coverts and whitish margins to the outer secondaries; tail blackish, outer webs of external rectrices whitish; below pale straw-colour, white on the throat; throat and breast with numerous and well-marked black striations; bill and feet black; length 4 inches.

THIS small bird is only four and a half inches long; in both sexes the colour on the upper parts is dull grey, on the throat and breast ash-coloured; the belly pale yellow. It has the distinction of a slender curling Lapwing-like crest, composed of a few narrow, long, black feathers. The eye is white. It is found in the thorny thickets on the dry plains of Mendoza, and is also common in Patagonia. In its habits it closely resembles *Serpophaga subcristata*; lives always in pairs, perpetually moves about in a singularly deliberate manner while searching through the bush for small insects, the two birds always talking together in little chirping notes, and occasionally bursting out into a little shrill duet. It builds a deep nest of fine dry grass, lined with feathers, in a low thorn, and lays two white eggs.

This diminutive Tyrant has a wide range on the west side of the continent, extending from Patagonia to the Ecuador Andes.





MANY-COLOURED KNIGHT
Cyanotis a. arca. Naum.

MANY-COLOURED TYRANT

Cyanotis azaræ

Above dark bronzy green; head black; superciliaries yellow; vertical spot crimson; wings black; broad tips of the lesser wing-coverts and broad edgings of some of the secondaries white, forming a large white bar on the wing; tail black, greater part of outer pair of rectrices and outer web and broad tip of next pair and narrow tips of third pair white; beneath bright ochreous yellow; chin whitish; crissum crimson; incomplete band across the lower breast black; under wing-coverts white; length 4.8 inches.

THIS charming little bird is variously called by the country people All-coloured or Seven-coloured. Azara calls it "The King"—a name which this species deserves, he says, not only on account of the crown of loose feathers on its head, but because it is exceeded by few birds in beauty. It is the most beautiful bird found in Chili, says Gay; and Darwin, who is seldom moved to express admiration, calls it "an exquisitely beautiful little bird." There are many species possessing a more brilliant plumage, none with so great a variety of distinct colours; for on its minute body, which is less than that of the House-Wren, are seen black, white, green, blue, orange, yellow, and scarlet; and all these hues are disposed and contrasted in such a manner as to produce a very pleasing effect—the olive-green and delicate yellow predominating, while the vivid scarlet is a mere spot, like the bright gem or ornament which serves to set off and enhance the beauty of the dress. The whole under plumage is pure lovely yellow,

while a broad mark of velvet-black extends belt-wise from the bend of each wing, but without meeting in the centre of the bosom. The sides of the head are deep blue; over the blue runs a bright yellow stripe, surmounted with the loose, slender, almost hair-like feathers of the crown, which stand partially erect, and are blue mixed with black, with vivid scarlet in the centre. Above, from the back of the head to the tail, the colour is deep green. The wings are black, crossed with a white band; tail also black, the two outer quills pure white, and the succeeding two partially white, the white colour appearing only when the bird flies. Moreover, as though this diversity of colour were not enough, the soles of the black feet are bright orange, the eye of the male delicate sky-blue, while the female has white eyes.

While on the subject of the colouring of this species, I will mention a curious phenomenon which I have observed many times. When the bird is flying away from the spectator in a strong sunlight, and is at a distance of from twenty to thirty yards from him, the upper plumage, which is dark green, sometimes appears bright blue. At first I thought that a distinct species of *Cyanotis*, cerulean blue in colour, existed, but finally became convinced that the green feathers of the *C. azaræ* appear blue in certain lights. This is curious, as the feathers of the back are not glossed.

The Many-coloured Tyrant is, apparently, a very feeble flier, rising reluctantly when frightened from the rushes, and fluttering away to a distance of a few

yards, when it again drops down. Yet it is strictly migratory. Darwin met with it at Maldonado in the month of June, and therefore concluded that it does not migrate; but he mentions that it was very rare. I have also occasionally seen one in winter on the pampas, but many migratory species leave a few stragglers behind in the same way. At the end of September they suddenly appear all over the pampas, in every swamp and stream where there are beds of rushes; for in such situations only is the bird found: and this migration extends far into Patagonia. They are always seen in pairs amongst the dense rushes, where they perch on the smooth stems, not near the summit, but close down to the surface of the water, and perpetually hop from stem to stem, deftly picking up small insects from the surface of the water. They also occasionally leave the rushes and search for insects in the grass and herbage along the border. They are very inquisitive, and if a person approach the rush-bed, they immediately come out of their concealment, both birds uttering their singular notes—a silvery, modulated sound, not meant for a song apparently, and yet I do not know any sweeter, purer sound in nature than this. All through the close-growing dark rushes the pretty little melodists may be heard calling to each other in their delicate gurgling notes.

The nest is a marvel of skill and beauty. As a rule it is attached to a single polished rush, two or three feet above the water and about the middle of the stem. It is cup-shaped inside, and about four inches

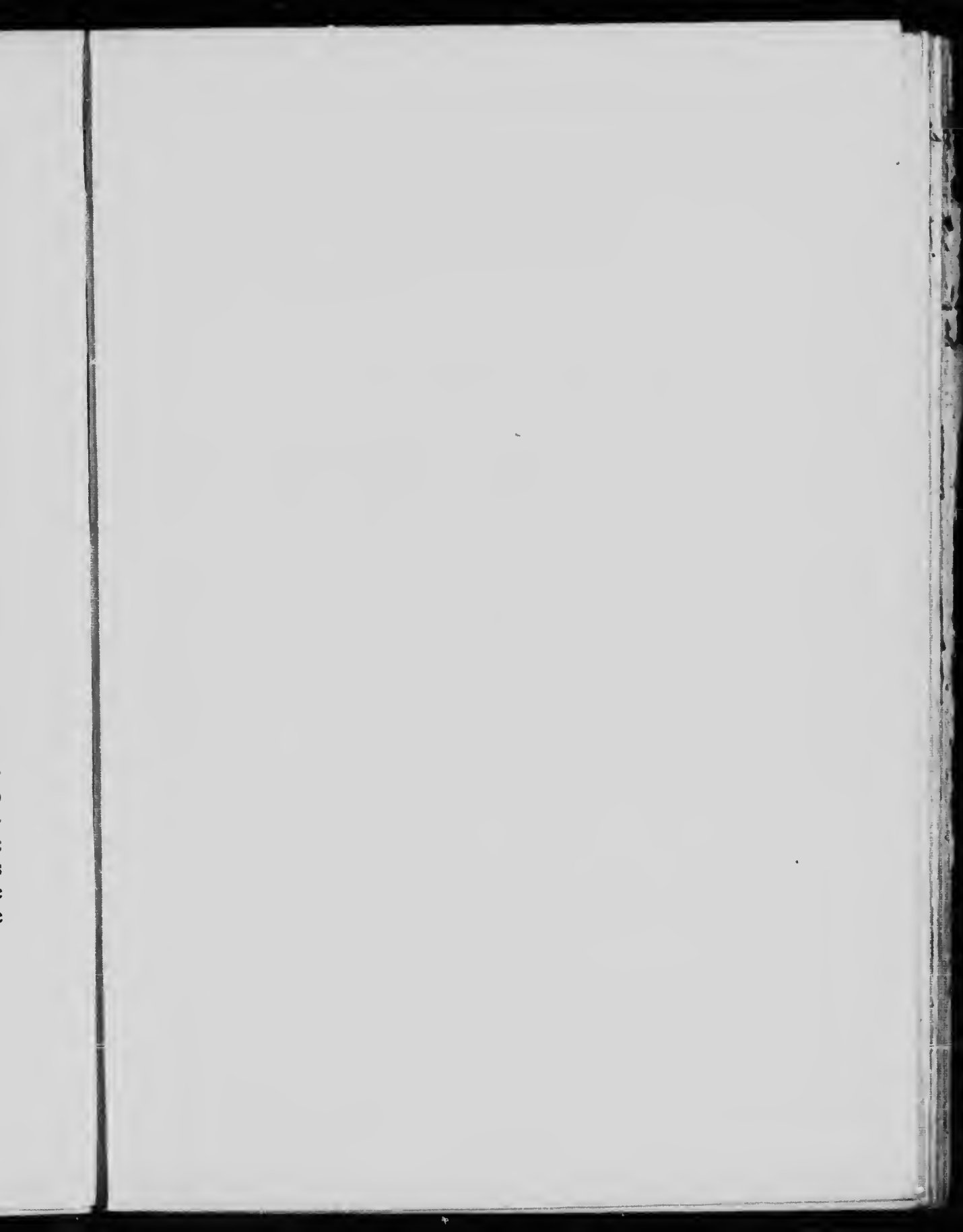
long, circular at the top, but compressed at the lower extremity, and ending in a sharp point. It is composed entirely of soft bits of dry yellow sedge, cemented together with gum so smoothly that it looks as if made in a mould. The eggs are two, oval, and dull creamy white, sometimes with a ring of colour at the large end.

BIENTEVEO TYRANT

Pitangus bolivianus

Above brown; head black; front, superciliaries, and line round the nape white; large vertical crest yellow, tipped with black; wings and tail brown with rufous margins; beneath sulphur-yellow, inner margins of wing- and tail-feathers pale rufous; bill and feet black; length 9 inches.

THE Bienteveo is in its habits the most interesting member of the Tyrannine family. It would be difficult to find two species more dissimilar in disposition than are the Silverbill, already described, and the Bienteveo; the former being like an automaton, having only a few set motions, gestures, and instincts, while the other is versatile in an extraordinary degree, and seems to have studied to advantage the various habits of the Kestrel, Flycatcher, Kingfisher, Vulture, and fruit-eating Thrush; and when its weapons prove weak it supplements them with its cunning. How strange it is that these two species, mentally as widely separated as the





BIENTEVEO TYRANI
Pitangus boliviensis (Latr.)

Humming-bird and Crow, should be members of the same family !

The Bienteveo has a wide range in South America, and inhabits the whole of the Argentine country down to Buenos Ayres, where it is very common. It is resident and lives in pairs, the sexes being always faithful. The body is stout, somewhat large for a Tyrant-bird ; the length being nine and a half inches, including the beak, which is a little over an inch in length. The wings are blunt and comparatively short, measuring when spread fourteen inches. The head is large, and a broad black band extends from the beak its entire length, and above this is a pure white stripe ; the crown is black, concealing in its loose abundant feathers a brilliant yellow crest, which shows only when the bird is excited. The upper plumage, including wings and tail, is pale brown ; the entire under-surface sulphur yellow. In both sexes the plumage is alike.

In Buenos Ayres the Bienteveo is found in every orchard and plantation ; it is familiar with man and invariably greets his approach with loud notes—especially with a powerful three-syllabled cry, in which people fancy there is a resemblance to the words *Bién-te-veo* (" I see you well ") ; while its big head and beak, and strongly contrasted colours, especially the black and white head-stripes, seem to give it a wonderfully knowing look, as it turns its head from side to side to examine the intruder. It is a loud-voiced garrulous bird, and has a great range of sounds, from grating screams to long, clear, almost

mellow call-notes. It has one pretty habit, which brings out an agreeable feature in its character. Though the male and female are greatly attached, they do not go afield to hunt in company, like the Short-winged Tyrant, but separate to meet again at intervals during the day. One of a couple (say the female) returns to the trees where they are accustomed to meet, and after a time, becoming impatient or anxious at the delay of her consort, utters a very long, clear call-note. He is perhaps three or four fields away, watching for a frog beside a pool, or beating, harrier-like, over a thistle-bed, but he hears the note and presently responds with one of equal power. Then perhaps for half an hour, at intervals of half a minute, the birds answer each other, though the powerful call of the one must interfere with his hunting. At length he returns; then the two birds, perched close together, with their yellow bosoms almost touching, crests elevated, and beating the branch with their wings, scream their loudest notes in concert—a confused jubilant noise that rings through the whole plantation. Their joy at meeting is patent, and their action corresponds to the warm embrace of a loving human couple.

I have frequently stood for the space of half an hour concealed amongst the trees where a Bienteveo was calling to her mate, cheered at intervals by the far-off faint response, for the pleasure of witnessing in the end the joyful reunion of the two birds.

Except when breeding the Bienteveo is a peaceful bird, never going out of its way to make gratuitous

attacks on individuals of its own or of other species ; but in the pursuit of its prey it is cunning, bold, and fierce. Like the true Tyrant-birds it preys a great deal on large insects when they are abundant in the warm season, and is frequently seen catching its prey in the air. A large beetle or grasshopper it invariably beats against a branch before devouring it. But even in summer, when insect prey is most abundant, it prefers a more substantial diet whenever such is to be had. It frequently carries off the fledglings of the smaller birds from their nests, in the face of the brave defense often made by the parents. It is also fond of fishing, and may be seen perched by the hour on a bank or overhanging branch beside a stream, watching the water like a Kingfisher, and at intervals dashing down to capture the small fry. In shallow pools, where there are tadpoles and other prey, the Bienteveo does not mind getting a little wet, but alights in the water and stands belly-deep watching for its prey. I have seen a Bienteveo standing in the water in the midst of a flock of Glossy Ibises. They are often seen, as Darwin remarks, hovering like a Kestrel over the grass and then dashing down to seize their prey. Small snakes, frogs, mice, and lizards all minister to its appetite, and with a capture of this kind it invariably flies to the nearest stone or branch, against which it beats out the life of its victim before devouring it. I once saw one fly out of some weeds carrying a little wriggling glass-snake about eight inches long in its beak. Alighting on a gate it proceeded to kill its capture, and at the

first blow on the wood the snake flew into two pieces. A mouse gives it a great deal of trouble, for after it has been killed it cannot be devoured until reduced by repeated blows to a soft pulp, after which it is with great labour pulled to pieces and eaten. Snails and *Ampullariæ* are also pounded until the shell breaks. In spring they sometimes join the train of Hooded Gulls, Guira Cuckoos, Cow-birds, and various other kinds which follow the plough to pick up worms and larvæ; but on the ground the Bienteveo is awkward in its motions, for it cannot run like the Tyrant-birds of terrestrial habits, but only hops. At estancia houses, when a cow is slaughtered, it comes in with the fowls, Carrion Hawks, and dogs, for small pickings, being very fond of fresh meat. It is a common thing to see a Bienteveo following a rural butcher's cart, and waiting for an opportunity to dash in and carry off any small piece of meat or fat it is able to detach. In the autumn they feed very much on ripe fruit, preferring grapes, which they can swallow whole, and figs, which are soft and easily devoured.

In its nidification the Bienteveo also departs widely from the, so to speak, traditional habits of its congeners; for whereas most Tyrants make shallow nests, this species makes a very big elaborate domed structure, and sometimes takes five or six weeks to complete it. It is placed in a tree, without any attempt at concealment, and is about a foot deep and eight or nine inches broad, and composed of a variety of soft materials, chiefly wool. The entrance

SCARLET TYRANT

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is placed near the top. Outside, the nest has a very disorderly appearance, as there are always long straws and sometimes rags hanging down; the cavity is deeply lined with feathers, and is the *hottest* nest I know. The eggs are five, very long, pointed, cream-coloured, and spotted, chiefly at the larger end, with chocolate and purple.

They are bold in defence of their nest; one pair which bred annually in my orchard always attacked me with the greatest fury whenever I ventured near the peach-tree in which they had their big nest of wool, darting down repeatedly and striking my head with beak and wings.

SCARLET TYRANT

Pyrocephalus rubinus

Above very dark cinereous, crested head and body below scarlet; bill and feet black; length 5.2 inches. Female, above pale cinereous, below white; breast striated with crimson; belly more or less rosy red.

THE Scarlet Tyrant is about five and a half inches long; the neck, back, wings, and tail are black; all the rest of the plumage the most vivid scarlet imaginable. The loose feathers of the crown, which form a crest, are especially brilliant, and seem to glow like a live coal amidst the green foliage. Beside this bright Tyrant-bird even the Rainbow Tanagers look pale, and the "Jewel Humming-birds," seen

in the shade, decidedly sad-coloured. It is not strange, therefore, that in South America, where it has a very wide range, it is a species well known to the country people, and that they have bestowed on it many pretty names, most of which have reference to its splendid scarlet colour. In the Argentine Republic it is usually called *Churinche*, from its note, also *Federal* and *Fuegéro* (Fireman); in other countries *Sangre de toro* (bull's blood), and, better still, *Sangre pura*. Little Soldier and Coal of Fire are also amongst its names. The Guarani tribes call it *Guira-pitá* (red bird); but another Indian name, mentioned by d'Orbigny, is the best—*Quarhi-rahi*, which means a child of the sun.

The *Churinche* appears in Buenos Ayres about the end of September, and is usually first seen in localities to which Tyrant-birds are partial, such as low grassy grounds, with here and there a stalk or bush, and near a wood or plantation. Insects are most abundant in such places; and here the *Churinche* is seen perched on a twig, darting at intervals to snap at the flies after the fashion of the Flycatchers, and frequently uttering its low, plaintive note. It is very common in the woods along the Plata; every orchard on the pampas is visited by a few of them; and they are very abundant about Buenos Ayres city. Going south they become rarer; but, strange to say, a few individuals find their way to the shores of the Rio Negro, though before reaching it they must cross a high, barren country quite unsuited to them. The natives of the Carmen have no name

for the Churinche, but speak of it as a bird wonderful for its beauty and seldom seen. Amongst the dull-plumaged Patagonian species it certainly has a very brilliant appearance.

A very few days after their arrival the Churinches pair; and the male selects a spot for the nest—a fork in a tree from six to twelve feet from the ground, or sometimes a horizontal bough. This spot the male visits about once a minute, sits on it with his splendid crest elevated, tail spread out, and wings incessantly fluttering, while he pours out a continuous stream of silvery gurgling notes, so low they can scarcely be heard twenty paces off, and somewhat resembling the sound of water running from a narrow-necked flask, but more musical and infinitely more rapid. Of the little bird's homely, grey, silent mate the observer will scarcely obtain a glimpse, she appearing as yet to take little or no interest in the affairs that so much occupy the attention of her consort, and keep him in a state of such violent excitement. He is exceedingly pugnacious, so that when not fluttering on the site of his future nest, or snapping up some insect on the wing, he is eagerly pursuing other male Churinches, apparently bachelors, from tree to tree. At intervals he repeats his remarkable little song, composed of a succession of sweetly modulated metallic trills uttered on the wing. The bird usually mounts upwards from thirty to forty yards, and, with wings very much raised and rapidly vibrating, rises and drops almost perpendicularly half a yard's space five or six times, appearing to keep time to

his notes in these motions. This song he frequently utters in the night, but without leaving his perch ; and it then has a most pleasing effect, as it is less hurried and the notes seem softer and more prolonged than when uttered by day. About a week after the birds have arrived, when the trees are only beginning to display their tender leaves, the nest is commenced. Strange to say, the female is the sole builder ; for she now lays-by her indifferent mien, and the art and industry she displays more than compensate for the absence of those beauties and accomplishments that make her mate so pleasing to the sight and ear. The materials of which the nest is composed are almost all gathered on trees ; they are lichens, webs, and thistle-down : and the dexterity and rapidity with which they are gathered, the skill with which she disposes them, the tireless industry of the little bird, who visits her nest a hundred times an hour with invisible webs in her bill, are truly interesting to the observer. The lichens firmly held together with webs, and smoothly disposed with the tops outside, give to the nest the colour of the bark it is built on.

After the Churinche's nest is completed, the Bienteveo (*Pitangus bolivianus*) and the Common Cow-bird (*Molothrus bonariensis*) are the troublers of its peace. The first of these sometimes carries off the nest bodily to use it as material in building its own ; the female Cow-bird is ever on the look-out for a receptacle for her eggs. Seldom, however, does she succeed in gaining admittance to the Churinche's

nest, as he is extremely vigilant and violent in repelling intruders. But his vigilance at times avails not; the subtle bird has watched and waited till, seizing a moment when the little Scarlet Tyrant is off his guard, she drops her surreptitious egg into his nest. When this happens, the Churinches immediately forsake their nest. The nest is sometimes lined with feathers, but usually with thistle-down; the eggs are four, pointed, and spotted at the broad end with black; usually each egg has also a few large grey spots. The young are at first grey, marked with pale rufous, but soon become entirely grey, like the female. In about a month's time the belly of the males begins to assume a pale mauve-red; this spreads upwards towards the breast and throat; and finally the crest also takes on this colour. The Churinches raise two broods in a season—but if the nest is destroyed, will lay as many as four times.

The Scarlet Tyrant is the first of our summer visitors to leave us. As early as the end of January and so soon as the young of the second brood are able to feed themselves, the adults disappear. Their going is not gradual, but they all vanish at once. The departure of all other migratory species takes place after a very sensible change in the temperature; but at the end of January the heat is unmitigated—it is in fact often greater than during December.

When the adults have gone, the silent young birds remain. Within a month's time the sexes of these may be distinguished. After another month the males begin to sing, and are frequently seen pursuing one

another over the fields. It is only at the end of April, three months after the old birds have disappeared, that the young also take their departure. This is one of the strangest facts I have encountered in the migration of birds. The autumnal cold and wet weather seems to be the immediate cause of the young birds' departure ; but in the adults, migration appears to be an instinct quite independent of atmospheric change.

BLACK-AND-YELLOW CRESTED TYRANT

Empidonomus aurantio-atro-cristatus

Above cinereous ; cap shortly crested, black, with a large vertical spot of bright yellow ; wings and tail brownish black, wing-coverts and secondaries slightly edged with whitish ; beneath as above but rather paler, and with a very slight yellow tinge on the crissum ; bill and feet black ; length 6.5 inches.

ALCIDE D'ORBIGNY met with this fine species in Corrientes, and Dr. Burmeister in Entrerios, and again near Mendoza. In the neighbourhood of Concepcion Mr. Barrows speaks of it as a " not very abundant summer resident, but one not easily overlooked, owing to its habit of perching on the topmost twig of any tree on which it alights, making forays from time to time, when tempted by its winged prey."

In the vicinity of Buenos Ayres, which may be

considered the southern limit of its range, it was far from common, two or three pairs being the greatest number I ever met with during a summer season. Like other birds of its genus, it has an easy, rapid flight, and perches on trees or other elevated places, from which it occasionally makes a dash at passing insects. The nest, as in *T. melancholicus*, is a very slight structure of slender sticks, and the eggs are four, parchment colour, and spotted at the large end with dark brown or chocolate. Mr. Barrows found a Cow-bird's egg in a nest of this species, which makes me think that it is less vigilant and warlike than *T. melancholicus*.

This Tyrant is distinguished (in the books) by the longest scientific name bestowed by ornithologists on any South American species.

BELLICOSE TYRANT

Tyrannus melancholicus

Above grey with a slight greenish tinge; head with a concealed vertical crest of scarlet and yellow; lores and ear-coverts blackish; wings and tail brownish black with more or less of paler margins; beneath yellow, throat greyish white, breast more or less greyish, under wing-coverts pale yellow; bill and feet black; outer primaries attenuated; tail deeply forked; length 8.5 inches.

THE violent and bold temper exhibited by most Tyrant-birds during the breeding-season, a quality from which is derived the name of the family, is perhaps carried to a greater degree in this species

than in any other ; and when one spends many days or weeks in the marshy, littoral forests, where the bird is most abundant, and hears its incessant distressful screams, the specific name *melancholicus* does not seem altogether inappropriate : that is the most that can be said of any specific name invented by science, which does not merely describe some peculiarity of form or colour.

Nevertheless it is not the right name : the bird's temper rather than the effect produced by its voice on the listener was probably in the French naturalist's mind when he bestowed it ; better than *melancholy* would have been *warring*, *violent*, *furious*, *bellicose*, or some such word. It therefore seems best in this as in several other instances to alter the English name I gave this bird in the *Argentine Ornithology* (1888). It was there called "Melancholy Tyrant," and I have now renamed it *Bellicose Tyrant*, and hope that future Anglo-Argentine naturalists will find some better designation for this and many other of the hundreds of species I have had to invent names for.

This Tyrant is one of the largest of its kind, its total length being nearly nine inches. The wings are long and suited for an aerial life ; the legs are exceedingly short, and the feet are used for perching only, for this species never alights on the ground. The throat and upper parts are grey, tinged with olive on the back ; the wings and tail dark ; the breast yellow tinged with green ; the belly pure yellow. Under the loose grey feathers of the crown

is a fiery orange crest, displayed in moments of excitement.

In Buenos Ayres these birds arrive in September, after which their shrill, angry cries are incessantly heard, while the birds are seen pursuing each other through the air or in and out amongst the trees—perpetually driven about by the contending passions of love, jealousy, and rage. As soon as their domestic broils are over, a fresh war against the whole feathered race begins, which does not cease until the business of propagation is finished. I have frequently spent hours watching the male, successively attacking, with scarcely an interval of rest, every bird, big or little, approaching the sacred tree where its nest was placed. Its indignation at the sight of a cowardly Carrion-Hawk (*Milvago*) skulking about in search of small birds' nests, and the boundless fury of its onset, were wonderful to witness.

They are extremely active, and when not engaged in their endless aerial battles, are pursuing large insects on the wing, usually returning after each capture to their stand, from which they keep a jealous watch on the movements of all winged things about them. They are fond of marshy places and water-courses, where they perch on a tall stalk to watch for insects, and also frequently skim over the water like Swallows to drink and dip their feathers.

A tall tree is usually selected for the nest, which is not infrequently placed on the very topmost twigs, exposed to the sight of every creature passing overhead, and as if in defiance of birds of prey. With

such an aggressive temper as this bird possesses it is not strange perhaps that it builds in the most exposed places, from which the female, in the absence of her vigilant consort, can keep a sharp eye on the movements of her feathered neighbours; but I have often thought it singular that they do not make a deeper receptacle for their eggs, for the nest is merely a slight platform of slender sticks, and very ill adapted to retain its burden during high winds. The parasitical Cow-bird never enters this nest, which is not strange.

The eggs are four in number, small for the bird, pointed, parchment-white, spotted with dark brown at the larger end.

SCISSOR-TAIL TYRANT

Milvulus tyrannus

Above cinereous, rump blackish; cap jet-black, with a concealed yellow vertical crest; wings dark brown; tail black, outer web of the outer rectrix white; bill and feet black; three outer primaries excised at the tips; length 14 inches. Female similar, but outer tail-feathers not so long.

THE *Tijereta* (Scissor-tail)—a name derived from the habit the bird has of opening and closing the two outer long feathers of the tail when flying—is found throughout South America, and in the summer of the Southern Hemisphere ranges as far south as Patagonia.

The tail is forked, and the two outer feathers exceed by over four inches in length the next two. The total length of the adult male is fourteen inches, the tail being ten inches long; this species is therefore one of the longest-tailed we know of. The tail of the female is about two inches shorter than that of the male. The head is intense black; the plumage of the crown is rather long and loose, and when raised displays a vivid yellow crest. The neck and upper surface is light, clear grey; the under surface pure white; the tail black. During flight the two long feathers of the tail stream out behind like a pair of black ribbons; frequently the bird pauses suddenly in its flight, and then the two long feathers open out in the form of the letter V.

The Scissor-tail is migratory, and arrives, already mated, at Buenos Ayres at the end of September, and takes its departure at the end of February in families—old and young birds together. In disposition and general habits it resembles the true Tyrant-birds, but differs from them in language, its various chirping and twittering notes having a hard percussive sound, which Azara well compares to the snapping of castanets. It prefers open situations with scattered trees and bushes; and is also partial to marshy grounds, where it takes up a position on an elevated stalk to watch for insects, and seizes them in the air like the Flycatcher. It also greedily devours elderberries and other small fruits.

The nest is not deep, but is much more elaborately

constructed than is usual with the Tyrants. Soft materials are preferred, and in many cases the nests are composed almost exclusively of wool. The inside is cup-shaped, with a flat bottom, and is smooth and hard, the thistle-down with which it is lined being cemented with gum. The eggs are four, sharply pointed, light cream-colour, and spotted, chiefly at the large end, with chocolate. In the breeding-time these Tyrants attack other birds approaching the nest with great spirit, and have a particular hatred to the Carrion Hawk, pursuing it with the greatest violence through the air with angry notes, resembling in sound the whetting of a scythe, but uttered with great rapidity and emphasis. How greatly this species is imposed upon by the Cow-bird, notwithstanding its pugnacious temper, has already been seen in my account of that bird.

The Scissor-tails have one remarkable habit; they are not gregarious, but once every day, just before the sun sets, all the birds living near together rise to the tops of the trees, calling to one another with loud, excited chirps, and then mount upwards like rockets to a great height in the air; then, after whirling about for a few moments, they precipitate themselves downwards with the greatest violence, opening and shutting their tails during their wild zig-zag flight, and uttering a succession of sharp, grinding notes. After this curious performance they separate in pairs, and perching on the tree-tops each couple utters together its rattling castanet notes, after which the company breaks up.

RED-BREASTED PLANT-CUTTER

Phytotoma rutila

Above plumbeous, washed with olive; front of head and whole under parts bright red; wings and tail blackish, two well-marked wing-bars and tips of lateral rectrices white; length 7 inches. Female, above grey, striated with black; beneath light buff with dense black striations.

THERE are four known species of this curious South American group, the Plant-cutters, the only members of the family *Phytotomidæ*. The older naturalists associated them with the Finches on account of their toothed Fringilline bill, but they are now placed at a great distance from that family, quite outside of the Sub-Order Oscines or Songsters. The Red-breasted Plant-cutter is the only species found in the Argentine Republic.

I found it quite common in Patagonia, where the natives call it *Chingolo grande*, on account of the superficial resemblance of the female to the common Song-Sparrow (*Zonotrichia pileata*). The colouring of the sexes differs considerably, the forehead and under surface of the male being deep brick-red; the upper parts dull grey, with a bar on the wing and the tips of the rectrices white; while in the female the upper parts are yellowish grey, obscurely mottled, and the breast and belly buff, with dark stripes. In both sexes the eye is yellow, and the feathers of the crown pileated to form a crest.

This bird is usually seen singly, but sometimes

associates in small flocks ; it is resident, and a very weak flier, and feeds on tender buds and leaves, berries and small seed. The male is frequently seen perched on the summit of a bush, and, amidst the dull-plumaged species that people the grey thickets of Patagonia, the bright red bosom gives it almost a gay appearance. When singing, or uttering its alarm notes when the nest is approached, its voice resembles the feeble bleatings of a small kid or lamb. When approached it conceals itself in the bush, and when flying progresses by a series of short jerky undulations, the wings producing a loud humming sound.

The nest is made in the interior of a thorny bush, and built somewhat slightly of fine twigs and lined with fibres. The eggs are four, bluish-green in colour, with brownish flecks.

This species is found throughout the Argentine country, in dry open situations abounding with a scanty tree and bush vegetation.

The solitary Plant-cutter described comes, in this book, between two numerous Passerine families, both also peculiar to America, and both differing widely from it in structure, appearance, habits, and language—more widely in fact than a Greenfinch from a Flycatcher on one side and a Treecreeper on the other. The astonishing thing to the uninformed person is how such a collocation is possible in any system. With such questions we are not concerned in this book. One can only say in passing, that in

our linear system of classification (and all systems must be linear) a species or a family unrelated to any other must be given a place *somewhere* in the line. The Tyrant-birds, which come nearest superficially to the Old World Flycatchers, although structurally differing from them, number at least 350 species; the Family we now come to, the Woodhewers or *Dendrocolaptidæ*, count about 250. Thus, these two South American families alone, both in the songless sub-order of the Passeres, outnumber all the species of birds in Europe from the Eagle to the Wren.

In Argentina the *Dendrocolaptidæ* number about fifty species, and of these I have to describe twenty known to me from personal observation.

LITTLE HOUSEKEEPER

Geositta cunicularia

Above nearly uniform earthy brown; wing-feathers pale cinnamon-red; greater part of the outer webs, excepting the inner secondaries, blackish; tail pale cinnamon-red, with a broad blackish band across the terminal half; beneath pale fulvous white, breast more or less variegated with blackish; under wing-coverts pale cinnamon; length 5.5 inches.

THE country people have a variety of names for this common and well-known species. In Buenos Ayres it is usually called *Manea-cola* (Shake-tail), in Patagonia *Caserita* (Little Housekeeper), and in other

places *Minera* (Miner), or *Caminante* (Traveller or Pedestrian), from its habit of running rapidly along a clean road or bridle-path before a person riding or walking.

It is a stout little bird, with very short toes quite unsuited for perching, and it does not, in fact, ever perch on a tree, though it manages to cling to a perpendicular bank very well when engaged in tunnelling. It is resident and pairs for life, and lives in sterile places, feeding on small insects and spiders. In manner it is very lively, and runs swiftly over the bare ground, stopping very abruptly, then running on again, and at every pause slowly moving its half-open tail up and down. It flies swiftly, close to the ground, and always during its short flight trills out its clear, ringing, rapidly reiterated cry, which in sound resembles the laughter of a child.

On the grassy pampas the *Mineras* invariably attach themselves to the *Vizcacheras*—as the groups of great burrows made by the large rodent, the *Vizcacha*, are called; for there is always a space free from grass surrounding the burrows where the birds can run freely about. In the sides of the deep pit-like entrance to one of these burrows the bird bores a cylindrical hole, from three to six feet long, and terminating in a circular chamber. This is lined with soft dry grass, and five white eggs are laid.

Though the birds inhabit the *Vizcacha* village all the year, they seem always to make a fresh hole to breed in every spring, the forsaken holes being given up to the small Swallow, *Atticora cyanoleuca*.

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RED OVEN-BIRD
Furnarius rufus (Gm.)

OVEN-BIRD

Furnarius rufus

Above earthy brown, with a slight rufescent tinge, wing-feathers blackish, margined with pale brown; whole of the outer secondaries pale brown, like the back; tail and upper tail-coverts bright ferruginous brown; below white, breast and flanks and under wing-coverts pale sandy-brown; under surface of the wing with a broad sandy bar across the basal portion; length 8 to 9 inches.

THE Red Oven-bird is an extremely well-known species in Argentina, and, where found, a great favourite on account of its familiarity with man, its loud, ringing, cheerful voice, and its wonderful mud nest, which it prefers to build near a human habitation, often on a cornice, a projecting beam, or on the roof of the house itself.

It is a stout little bird, with a slender, slightly-curved beak nearly an inch in length, and strong legs suited to its terrestrial habits. The upper plumage is uniform rufous-brown in colour, brightest on the tail; the under surface very light brown. It ranges throughout the Argentine Republic to Bahia Blanca in the south, and is usually named *Hornero* or *Casera* (Oven-bird or Housekeeper); in Brazil, *João de los barrios* (John of the Mud-puddles) or John Clay, as Richard Burton translates it. In Paraguay and Corrientes it is *Alonzo Garcia* or else *Alonzito*, the affectionate diminutive. Azara, that sensible naturalist, losing his mind for a moment, solemnly says that he can give no reason for such a name! He might have found the reason in his own

country in Europe, where as a boy he knew the wild bird life and where a bird which inspires affectionate admiration in the country people is sometimes called by a human name. As a rule it is a Christian name, as in the case of our Robin, in England, which in Norway is called Peter, and our Jack—we have several Jacks—and our Margaret or Mag, and our Peggy and Kitty and Jenny. The *Alonzo Garcia* is specially favoured in having both a Christian and a surname. I have often been assured by natives that the *Hornero* is a religious bird and always suspends his labours on a Sunday and on all holy days.

It is resident, pairs for life, and finds its food, which consists of larvæ and worms, exclusively on the ground. It delights in open places, where it can move freely about on the ground; and is partial to court-yards, clean garden-walks, etc., where, with head thrown back and bosom prominent, it struts along with an air of great gravity, lifting its foot high at each step, and holding it suspended for a moment in the air before setting it firmly down. I once saw one fly down on to a narrow plank about ten feet long lying out on the wet grass; it walked gravely to the end of the plank, then turned, and deliberately walked back to the other end, and so on for about twenty times, appearing to take the greatest pleasure in the mere act of promenading on a smooth, level surface. When disturbed, the Oven-bird has a loud monotonous note of alarm or curiosity, which never fails to bring all its fellows within hearing distance to the spot. The movements of a fox, weasel, or cat

in a plantation can always be known from the noisy turmoil among the Oven-birds. At frequent intervals during the day the male and female meet and express their joy in clear, resonant notes sung in concert—a habit common to a very large number of Dendrocolapine birds, including, I think, all those species which pair for life. In a majority of species this vocal performance merely consists of a succession of confused notes or cries, uttered with great spirit and emphasis; in the Oven-bird it has developed into a kind of harmonious singing. Thus, the first bird, on the appearance of its mate flying to the place of meeting, emits loud, measured notes, sometimes a continuous trilling note with a somewhat hollow, metallic sound; but immediately on the other bird joining, this introductory passage is changed to rapid triplets, strongly accented on the first and last notes, while the second bird utters a series of loud measured notes perfectly according with the triplets of the first. While thus singing they stand facing each other, their necks outstretched, wings hanging, and tails spread, the first bird trembling with its rapid utterances, the second beating on the branch with its wings. The finale consists of three or four notes uttered by the second bird alone, and becoming successively louder and more piercing until the end. There is an infinite variety in the tone in which different couples sing, also in the order in which the different notes are uttered, and even the same couple do not repeat their duet in precisely the same way; but it is always a rhythmical and, to some extent,

an harmonious performance, and as the voices have a ringing, joyous character, it produces a pleasing effect on the mind.

In favourable seasons the Oven-birds begin building in the autumn, and the work is resumed during the winter whenever there is a spell of mild, wet weather. Some of their structures are finished early in winter, others not until spring, everything depending on the weather and the condition of the birds. In cold, dry weather, and when food is scarce, they do not work at all. The site chosen is a stout horizontal branch, or the top of a post, and they also frequently build on the roof of a house ; and sometimes, but rarely, on the ground. The material used is mud, with the addition of horsehair or slender fibrous rootlets, which make the structure harder and prevent it from cracking. I have frequently seen a bird, engaged in building, first pick up a thread or hair, then repair to a puddle, where it was worked into a pellet of mud about the size of a filbert, then carried to the nest. When finished the structure is shaped outwardly like a baker's oven, only with a deeper and narrower entrance.

It is always placed very conspicuously, and with the entrance facing a building, if one be near, or if at a roadside it looks toward the road ; the reason for this being, no doubt, that the bird keeps a cautious eye on the movements of people near it while building. and so leaves the nest opened and unfinished on that side until the last, and there the entrance is necessarily formed. When the structure has assumed the

globular form with only a narrow opening, the wall on one side is curved inwards, reaching from the floor to the dome, and at the inner extremity an aperture is left to admit the bird to the interior or second chamber, in which the eggs are laid. A man's hand fits easily into the first or entrance chamber, but cannot be twisted about so as to reach the eggs in the interior cavity, the entrance being so small and high up. The interior is lined with dry, soft grass, and five white pear-shaped eggs are laid. The oven is a foot or more in diameter, and is sometimes very massive, weighing eight or nine pounds, and so strong that, unless loosened by the swaying of the branch, it often remains unharmed for two or three years. The birds incubate by turns, and when one returns from the feeding-ground it sings its loud notes, on which the sitting bird rushes forth to join in the joyous chorus, and then flies away, the other taking its place on the eggs. The young are exceedingly garrulous, and when only half-fledged may be heard practising trills and duets in their secure oven, in shrill tremulous voices, which change to the usual hunger-cry of young birds when the parent enters with food. After leaving the nest, the old and young birds live for two or three months together, only one brood being raised in each year. A new oven is built every year, and I have more than once seen a second oven built on the top of the first, when this has been placed very advantageously, as on a projection and against a wall.

A very curious thing occurred at the estancia house

of a neighbour of mine in Buenos Ayres one spring. A pair of Oven-birds built their oven on a beam-end projecting from the wall of a rancho. One morning one of the birds was found caught in a steel trap placed the evening before for rats, and both of its legs were crushed above the knee. On being liberated it flew up to and entered the oven, where it bled to death, no doubt, for it did not come out again. Its mate remained two days, calling incessantly, but there were no other birds of its kind in the place, and it eventually disappeared. Three days later it returned with a new mate, and immediately the two birds began carrying pellets of mud to the oven, with which they plastered up the entrance. Afterwards they built a second oven, using the sepulchre of the dead bird for its foundation, and here they reared their young. My neighbour, an old native, had watched the birds from the time the first oven was begun, feeling greatly interested in their diligent ways, and thinking their presence at his house a good omen; and it was not strange that, after witnessing the entombment of the one that died, he was more convinced than ever that the little House-builders are "pious birds."

PATAGONIAN EARTH-CREEPER

Upucerthia dumetoria

Above earthy brown; long superciliary stripe pale ochraceous; wings blackish, with a broad transverse cinnamon bar; tail blackish, lateral rectrices tipped with pale cinnamon; beneath dirty white, clear white on the throat and middle of the belly; breast feathers margined with blackish; under wing-coverts pale cinnamon; bill dark horn-colour, pale at the base; feet horn-colour; length 9 inches.

THESE birds are common in Patagonia, being resident there; some individuals, however, migrate north in winter, and I once obtained a pair, male and female, near Buenos Ayres city in the month of June.

Their legs are short, but on the ground their movements are very rapid, and, like the Miner (*Geositta*) already described, they fly reluctantly, preferring to run rapidly from a person walking or riding, and at such times they look curiously like a pigmy Curlew with an extravagantly long beak. They are active, lively birds, and live in pairs, sometimes uniting in small, loose flocks; they are partial to places where scattered bushes grow on a dry, sterile soil, and have a swift, low flight: when flying they frequently utter a shrill, trilling, rapidly reiterated note, in sound resembling laughter. In manners, flight, language, and colouring this bird closely resembles the smaller short-beaked (*Geositta cunicularia*), and like that species it also breeds in deep holes in banks; but I am not able to say whether it excavates the breeding-hole or takes possession of one already made. Durnford found it

breeding in a hole four feet deep in the bank of a dry lagoon. The nest was of dry grass and lined with the fur of the cavy. It contained three white eggs.

BROWN CINCLODES

Cinclodes fuscus

Above dark earthy brown, lores and superciliaries whitish; wings blackish, with a broad transverse cinnamon-colored bar; outer tail-feathers blackish, broadly tipped with pale cinnamon white; beneath pale cinereous, with a cinnamon tinge; throat white, slightly spotted with blackish; bill and feet horn-colour; length 7.3 inches.

THIS homely little species differs considerably from most Dendrocolaptine birds in colour and habits; and being of a uniform dull fuscous hue, its appearance is not strikingly interesting. It inhabits Patagonia, but is migratory, possessing, what is rare in this family, a powerful flight. In winter it is common all over the pampas and the Plata district, ranging north to Paraguay. It is always found near water, its favourite hunting-ground being the borders of a stream. On the ground its motions are quick and lively, but when perching on a tree it sits motionless in one position, and when attempting to move appears to lose its balance. These birds cannot be called strictly gregarious, but where abundant they are fond of gathering in loose flocks, sometimes numbering one or two hundred individuals, and when thus associating are very playful, frequently pursuing and

RUSH-LOVING SPINE-TAIL 205

wheeling about each other, and uttering a sharp, trilling note. On a warm day in winter they are occasionally heard attempting to sing, the bird darting up vertically into the air and pouring out with great energy a confused torrent of unmusical sounds.

Their habits, so much less sedate and strikingly in contrast with those of most of the birds in this family, are no doubt due to the greater powers of flight possessed by *Cinclodes*.

RUSH-LOVING SPINE-TAIL

Phlæocryptes melanops

Above, forehead brown, crown blackish, broad superciliaries buffy white; upper half of back black; marked with a few grey stripes; lower back and rump, also sides of back and neck, light brown; wings blackish, mottled with light chestnut on the coverts; and a broad band of the same colour occupying the basal half of the wing-feathers; tail blackish, the two middle feathers brownish grey, the others slightly tipped with the same colour; beneath white, more or less tinged on the throat, flanks, and under tail-coverts with pale brown; under wing-coverts fulvous; length 5.8 inches.

THIS is one of our few strictly migratory species in the family *Dendrocolaptidæ*. Probably it winters in South Brazil, as in the northern parts of the Argentine country it is said to be a summer visitor. On the pampas it appears in September, and all at once becomes very abundant in the rush-beds growing in the water, where alone it is found. The migration no doubt is very extensive, for in spring I found it

very abundant in the rush-beds in the Rio Negro valley, and Durnford met with it much further south on the river Sanguelen, a tributary of the Chupat. Migratory birds are, as a rule, very little given to wandering; that is to say, they do not go much beyond the limits of the little coppice, reed-bed, or spot of ground which they make their summer home, and this species is no exception. It spends the warm season secluded in its rush-bed: and when disturbed flies with great reluctance, fluttering feebly away to a distance of a few yards, and then dropping into the rushes again, apparently quite incapable of a sustained flight. How a bird so feeble on the wing, and retiring in its habits, is able to perform a long annual migration, when in traversing vast tracts of open country it must be in great peril from rapacious kinds, is a great mystery. No doubt many perish while travelling; but there is this circumstance in their favour: an incredible number of birds of various kinds, many as weak and exposed to attack as the *Phlæocryptes*, migrate simultaneously; Hawks are but thinly scattered along their route, and as a rule these birds feed only once or twice a day, if the meals are large enough to fill the stomach, so that while the Hawk is inactive, digesting his meal, thousands of migrants have sped by on their journey and are beyond his reach for ever.

The Spine-tail seldom ventures out of its rush-bed, but is occasionally seen feeding in the grass and herbage a few yards removed from the water. Its language is peculiar, this being a long cicada-like

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note, followed by a series of sounds like smart taps on a piece of dry wood. It frequents the same places as the small Many-coloured Tyrant (*Cyanotis azarae*), and these little neighbours, being equally inquisitive, whenever a person approaches the rushes often emerge together, one uttering wooden-sounding creaks and raps, the other liquid gurgling notes—a little brown bird and a little bird with many bright colours, both, in very different tones, demanding to know the reason of the intrusion.

The nest is a very wonderful structure, and is usually attached to three upright stems; it is domed, oval-shaped, about nine inches deep, and the small circular aperture which is close to the top is protected by a sloping tile-like projection. It is built of tough grass-leaves, which are apparently first daubed with wet clay and then ingeniously woven in, with the addition, I think, of some kind of mucilage: the whole nest is, when finished, light but very strong, and impervious to wet. Until the rushes die and drop the nest remains securely fastened to them, and in winter affords a safe and comfortable retreat to the small, rush- or reed-frogs, of which sometimes as many as three or four are found living in one nest. The interior is very thickly lined with feathers; the eggs are three, pear-shaped, and a bright, beautiful blue colour, sometimes with a slight greenish tinge.

The bird is so abundant in extensive marshes that I have on several occasions, during a half-day's ramble, found as many as forty or fifty nests, sometimes a dozen or more being placed close together,

but I have never taken more than three eggs from one nest. I mention this because I have seen it stated that four or five eggs are sometimes found.

I trust that no reader of this sketch imagines that I robbed all the eggs contained in so many nests. I did nothing so barbarous, although it is perhaps "prattling out of fashion" to say so; but with the destructive, useless egg-collecting passion I have no sympathy. By bending the pliant rushes downwards the eggs can be made to roll out into the hand; and all those which I thus took out to count were put back in their wonderful cradles. I had a special object in examining so many nests. A gaucho boy once brought me a nest which had a small circular *stopper*, made of the same texture as the body of the nest, attached to the aperture at the *side* and when swung round into it fitting it as perfectly as the lid of the trap-door spider fits the burrow. I have no doubt that it was used to close the nest when the bird was away, perhaps to prevent the intrusion of reed-frogs or of other small birds; but I have never found another nest like it, nor have I heard of one being found by any one else; and that one nest, with its perfectly-fitting stopper, has been a puzzle to my mind ever since I saw it.

TIT-LIKE SPINE-TAIL

Leptasthenura ægithaloides

Above pale earthy brown; crown black, striped with clear brown; lores, sides of head, and throat white, with minute black spots; wings blackish, the edges of the outer webs of the primaries and the basal part of the secondaries light rufescent brown; tail black, lateral rectrices tipped and margined with pale grey; beneath pale grey, throat white; length 6.8 inches.

THIS is a restless little bird, seen singly or in parties of three or four. In manner and appearance it resembles the Long-tailed Titmouse (*Parus*), as it diligently searches for small insects in the trees and bushes, frequently hanging head downwards to explore the under surface of a leaf or twig, and while thus engaged continually uttering a little sharp querulous note. They are not migratory, but in winter seem to wander about from place to place a great deal; and in Patagonia, in the cold season, I have frequently seen them uniting in flocks of thirty or forty individuals, and associating with numbers of Spine-tails of other species, chiefly with *Synallaxis sordida*, and all together advancing through the thicket, carefully exploring every bush in their way.

D'Orbigny says that it makes a nest of rootlets and moss in a bush; but where I have observed this bird it invariably breeds in a hole in a tree, or in the nest of some other bird, often in the clay structure of the Oven-bird. But in Patagonia, where the Oven-bird is not known, this Spine-tail almost always selects the nest of the *Synallaxis sordida*. It

carries in a great deal of soft material—soft grass, wool, and feathers—to re-line the cavity, and lays five or six white, pointed eggs.

CHICLI SPINE-TAIL

Synallaxis spixi

Above, crown chestnut; lores and sides of head dark cinereous; hind neck, back, also wing- and tail-feathers olive-brown; upper wing-coverts chestnut; beneath dark cinereous, becoming whitish on the belly, throat blackish; under wing-coverts fulvous chestnut; length 6.7 inches.

I LIKE Azara's name *Chicli*, which, to one acquainted with the habits of this and of the following species, seems very appropriate, suggesting, as I imagine it does, a small creature possessing a sharp two-syllabled note; for although Hartlaub, in his *Nomenclature of Azara*, gives *S. ruficapilla* as the species meant by *Chicli*, the account of its habits in the *Birds of Paraguay* seems to point to *S. spixi* or to *S. albescens*.

Azara says: "I give it this name because it sings it plainly, in a loud sharp tone, which may be heard at a distance, repeating it so frequently that the pauses last no longer than the sound. It is resident (in Paraguay), solitary and not abundant: inhabits thickets of aloes and thorn, without rising more than two yards above the surface, or showing itself in open places. It moves about incessantly, but does not leave its thicket to visit the woods or

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open ground, its flight being only from bush to bush ; and though it is not timid, it is hard to detect it in its stronghold, and to hear it one would imagine that it was perched overhead on a tree, when it is hidden all the time in the brushwood at the roots."

This habit of concealing itself so closely inclines me to think that this species, rather than *S. albescens*, was the bird described by Azara, although in both species the language is nearly the same. I have nothing to add to the above account from Azara, except that in the love-season this species has a low, strange-sounding little song, utterly unlike its usual strident cry. When singing, it sits motionless on the summit of a low bush in a dejected attitude with head drawn in, and whispers its mysterious little melody at intervals of half a minute.

WHITE-THROATED SPINE-TAIL

Synallaxis albescens

Above, forehead grey, crown pale chestnut ; sides of head and neck, back, and tail pale earth-brown ; upper wing-coverts pale chestnut, wing feathers olive-brown ; beneath white, faintly washed with earthy brown, under wing-coverts fulvous ; length 5.3 inches.

THIS species, although by no means abundant in Buenos Ayres, is met with much more frequently than the *S. spixi*, which it closely resembles in size, colour, habits, and language. It is indeed an unusual

thing for two species so closely allied to be found inhabiting the same district. In both birds the colours are arranged in precisely the same way ; but the chestnut tint on *S. albescens* is not nearly so deep, the browns and greys are paler, and there is less black on the throat.

I am pretty sure that in Buenos Ayres it is migratory, and as soon as it appears in spring it announces its arrival by its harsh, persistent, two-syllabled call, wonderfully strong for so small a bird, and which it repeats at intervals of two or three seconds for half an hour without intermission. When close at hand it is quite as distressing as the grating song of a Cicada. This painful noise is uttered while the bird sits concealed amid the foliage of a tree, and is renewed at frequent intervals, and continues every day until the Spine-tail finds a mate, when all at once it becomes silent. The nest is placed in a low thorn-bush, sometimes only two or three feet above the ground, and is an oblong structure of sticks, twelve or fourteen inches in depth, with the entrance near the top, and reached by a tubular passage made of slender sticks, and six or seven inches long. From the top of the nest a crooked passage leads to the cavity near the bottom ; this is lined with a little fine grass, and nine eggs are laid, pear-shaped and pale bluish-white in colour. I have found several nests with nine eggs, and therefore set that down as the full number of the clutch, though I confess it seems very surprising that this bird should lay so many. When the nest is ap-

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proached, the parent birds remain silent and concealed at some distance. When the nest is touched or shaken, the young birds, if nearly fledged, have the singular habit of running out and jumping to the ground to conceal themselves in the grass.

I have no doubt that this species varies greatly in its habits in different districts, and probably also in the number of eggs it lays. Mr. Barrows, an excellent observer, says it lays three or four light blue eggs. He met with it at Concepcion, in the northern part of the Argentine Republic, and writes that it is "an abundant species in thorny hedges or among the masses of dwarfed and spiny bushes, which cling to each other so tenaciously amid the general desolation of the sandy barrens." The nests which he describes vary also in some particulars from those I have seen. "Entrance is gained by the bird," he says, "through a long tube, which is built on to the nest at a point about half way up the side. This tube is formed by the interlocking of thorny twigs, and is supported by the branches and twigs about it. It may be straight or curved; its diameter externally varies from two to four inches, and its length from one to two feet. The passage-way itself is but just large enough to admit the birds one at a time, and it has always been a mystery to me how a bird the size of a Chipping-Sparrow could find its way through one of these slender tubes, bristling with thorns, and along which I found it difficult to pass a smooth slender twig for more than five or six inches. Yet they not only pass in and out easily, but so easily

that I was never yet able to surprise one in the nest, or to see the slightest disturbance of it by the bird's hurried exit."

The bird has a very wide range in South America, and Mr. Salmon observed its breeding-habits in Antioquia in Colombia. There also the bird varies the form of its nest, making it as large as that of an English Magpie, and roofing the top with a mass of large leaves to protect it from the heavy rains. The eggs, he says, are very pale greenish blue, nearly white; but he does not give the number.

BLACK-AND-YELLOW THROATED SPINE-TAIL

Synallaxis phryganophila

Above, front brown, crown chestnut, superciliaries white; sides of head, neck, back and tail pale fulvous brown, with broad blackish striations on the neck and back; upper wing-coverts pale chestnut; wing feathers blackish, the outer webs edged with pale fulvous brown; beneath, upper half of throat sulphur-yellow, lower half black, with a white patch on each side of the black; breast and belly whitish, washed with earthy brown, slightly fulvous on the breast and flanks; under wing-coverts fulvous white; length 8.5 inches.

THIS pretty Spine-tail is nowhere common in the Argentine country, and in Buenos Ayres it is exceedingly scarce. It is rather large for a *Synallaxis*, the total length being nine inches. The two middle feathers of the acuminate tail greatly exceed the others in length, measuring five inches. The plumage

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is pale brown, marked with fuscous; the crown and wing-coverts rufous. The beauty of the bird is in the throat, which has three strongly contrasted colours, distinguishing it from all other *Synallaxes*. In the angle of the beak the colour is sulphur-yellow, under this is a patch of velvet black, and on each side of the yellow and black a pure white patch.

Mr. Barrows has the following interesting note on its nesting-habits: "A nest containing four white eggs, faintly tinted with blue, was found in a thorny tree, and some eight feet from the ground. The nest was quite similar to the one just described (of *S. albescens*), but the cavity in which the eggs were laid was near the top of the body of the nest, while the passage-way descended from it to the base of the nest, and there becoming external, rose gradually to the level of the eggs at a distance of almost three feet."

STRIPED SPINE-TAIL

Synallaxis striaticeps

Above earthy brown, darker on the crown, which has slight greyish striations; broad superciliaries white; upper wing-coverts pale chestnut; wing feathers blackish, glossed with olive; tail pale chestnut; beneath white; under wing-coverts pale fulvous; length 5.9 inches.

THIS species has a wide range south of the Equator, being found in Bolivia, Uruguay, and throughout the Argentine Republic, including Patagonia. In its habits it differs widely from other *Synallaxes*,

and in structure and coloration is also unlike its relatives.

The beak is longer and more curved, the claws more crooked, and the tail stiffer than in other *Synallaxes*, and this difference in structure corresponds to a different mode of life. The Striped Spine-tail creeps on the trunk and larger branches of trees, seeking its insect-food in the crevices of the bark, and when seen clinging to the trunk, supported by its tail in a vertical position, with head thrown far back, and progressing upwards by short, quick hops, it looks wonderfully like a small *Picolaptes* with shortened beak. Or it might be taken for a very near relation of *Certhia familiaris* by a visitor from Europe. It is very restless, and while searching for insects constantly utters a short, trilling, querulous-sounding note.

It builds an open nest in the fork of a branch, of soft grasses and hair, thickly lined with feathers, and lays four or five pure white eggs.

MODEST SPINE-TAIL

Synallaxis modesta

THIS species so closely resembles the following in size and dull earthy-brown colour, that when seen in the thickets it is impossible to distinguish them. In habits they also seem alike ; but this bird is, I

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think, less retiring, for I have seen it associating with other species of *Synallaxis*.

On comparing specimens together, however, it is easy to separate the present bird from *S. sordida* by noticing the colour of the external rectrices, which are black, externally edged with rufous, instead of being wholly rufous.

SORDID SPINE-TAIL

Synallaxis sordida

Above earthy brown; wing feathers blackish brown, their basal parts pale chestnut-brown, forming a transverse bar; tail blackish, the three outer rectrices and outer web of the fourth rectrix on each side wholly pale chestnut-brown; beneath pale earthy brown, clearer on the belly, and with a bright fulvous spot on the throat; under wing-coverts pale cinnamon; length 6.9 inches.

THIS species, which, on close comparison, is at once distinguishable from *S. modesta* by the absence of any black colour on the three exterior pairs of tail-feathers, ranges from the extreme north of the Argentine Republic to Patagonia, where it is quite common, and is invariably found in dry situations abounding in thorny vegetation.

It does not migrate, and lives with its mate in thorny bushes, but does not attempt to conceal itself, and sits much on the summit of a bush, where the male in spring utters at intervals a clear, trilling call. In its inactive disposition, slow deliberate movements, also in its language, it strikingly resembles

the *Phacellodomus ruber*. In its nidification it also comes nearest to that species. The nest is a large structure of sticks, eighteen inches to two feet long, placed upright among the twigs at the summit of a bush. From the top where the entrance is placed, a winding passage leads down to the chamber at the bottom of the nest; this is lined with soft dry grass and feathers, and four pure white eggs are laid.

YELLOW-SPOT SPINE-TAIL

Synallaxis sulphurifera

Above brown, slightly olivaceous; wings blackish; lesser wing-coverts, margins of the feathers of the greater wing-coverts, and outer webs of the basal halves of the wing-feathers pale chestnut; tail-feathers chestnut-brown, ends much elongated and pointed; beneath white, throat and breast mottled with grey, spot in middle of throat sulphur-yellow; flank washed with brown; bend of wing and under tail-coverts fulvous; length 6.5 inches.

I HAVE found this *Synallaxis*, which was first described by Prof. Burmeister from specimens obtained near Buenos Ayres, in the swamps along the Plata river; also on the Rio Negro, in Patagonia, where, however, it is rare. It inhabits the dense sedge- and rush-beds growing in the water, where the *Limnornis curvirostris* is also found. It closely resembles that species in habits and language, and is also like it in colour and in the rather long, curved beak, sharp claws, stout body, and short, stiff tail. It is stationary, pairs for life, and lives always closely concealed in its chosen bed of close-growing sedge. When a

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person approaches their hiding-place the two birds creep up to the summit of the sedges, protesting in peculiar, loud, angry, rattling notes. The *Limnornis*, which also pairs for life, has precisely the same habit.

Durnford describes the nest, found in a rush-bed, as a circular or domed structure of grass, with the aperture at the side ; the eggs white.

PATAGONIAN SPINE-TAIL

Synallaxis patagonica

Above greyish earthy brown ; wing-feathers blackish brown, basal halves of secondaries very pale clear brown, forming a transverse band ; tail blackish, edged with greyish brown ; outer web of outer feather on each side pale brown ; beneath cinereous, with an obscure blackish spot on the throat ; belly and flanks dull buff ; under wing-coverts cinnamon ; length 6 inches.

THIS dull-coloured little bird, which is found in Patagonia, and also near the Andes in the north-western provinces of the Argentine Republic, is one of those species which diverge greatly in habits from the typical Spine-tails. The body is stout, the tail, square and short, is carried vertically as in the House-Wren.

The Patagonian Spine-tail is a resident in the Rio Negro district. It is a silent, shy, solitary little bird, which lives on the ground and seeks its food after the manner of the Cachalote (*Homorus*). Being small and feeble, however, it does not hunt about the roots of trees and large bushes like the larger

and more powerful *Homorus*, but keeps under the diminutive scrubby plants in open, sterile situations. About the roots of these wiry little bushes, only twelve to eighteen inches high, the bird searches for small insects, and when disturbed has a feeble jerky flight, which carries it to a distance of about twenty yards. It flies with great reluctance, and when approached runs swiftly away, leaving a person in doubt as to whether he has seen a mouse or a little obscure bird. The only note I have heard it utter is a faint creaking sound when alarmed or flying.

HUDSON'S SPINE-TAIL

Synallaxis hudsoni

Above fulvous brown, mottled with black, each feather being marked with a large black spot; on the upper part of the back the feathers are faintly edged with whitish grey; wings blackish, basal halves of feathers pale clear brown, forming a transverse bar, the terminal part of the feathers slightly edged on the outer webs and tips with ochraceous; tail blackish, the outer pair of rectrices and broad tips of the next two pairs on each side very pale brown, the two middle feathers broadly margined on both webs with pale greyish brown; beneath pale ochraceous brown, with a pale sulphur-yellowish gular spot; flanks with a few black marks; under wing-coverts light cinnamon; length 7.8 inches.

THIS Spine-tail, which Sclater named after me, is the Argentine representative of *S. humicola* of Chili. It is common on the pampas, and is sometimes called by the gauchos *Ttru-rtru del campo*, on account of its resemblance in the upper plumage and in language to *Anumbius acuticaudatus*, which is named *Tiru-rtru* in imitation of its call-note.

The addition of *del campo* signifies that it is a bird of the open country. It is, in fact, found exclusively on the grassy pampas, never perching on trees, and in habits is something like a Pipit, usually being taken for one when first seen. It is quite common everywhere on the pampas, and specimens have also been obtained in Cordova, Uruguay, and Patagonia.

This Spine-tail is resident, solitary, and extremely timid and stealthy in its movements, living always on the ground among the long grass and cardoon-thistles. At times its inquisitiveness overcomes its timidity, and the bird then darts up three or four yards into the air, and jerking its tail remains some moments poised aloft with breast towards the intruder, emitting sharp little notes of alarm, after which it darts down again and disappears in the grass. This is a habit common to most Pipits. When driven up it has a wild zigzag flight, and after reaching a considerable height in the air darts down again with astonishing swiftness, and comes back to the very spot from which it rose. It is, however, incapable of sustained flight, and after being flushed two or three times refuses to rise again. In spring the male perches on the summit of a cardoon-bush, or other slight elevation, and at regular intervals utters a pleasing and melancholy kind of song or call, which can be heard distinctly at a distance of a thousand yards, composed of four long clear plaintive notes, increasing in strength, and succeeded by a falling trill. When approached it becomes silent, and dropping to the ground conceals itself in the grass. Under a

cardoon-bush or tussock it scoops out a slight hollow in the ground, and builds over this a dome of fine dry grass, leaving a small aperture arched like the door of a baker's oven. The bed is lined with dry powdered horse-dung, and the eggs are five, bluntly pointed and of a very pale buff colour. The interior of the nest is so small that when the five young birds are fledged they appear to be packed together very closely, so that it is difficult to conceive how the parent bird passes in and out.

The nest is always very cunningly concealed, and I have often spent days searching in a patch of cardoon-bushes where the birds were breeding without being able to find it. Something more will be said about the nesting-habits of this species in the account of the Carrion-hawk, *Milvago chimango*.

WREN-LIKE SPINE-TAIL

Synallaxis macrurus

Above, front and middle of crown chestnut; hind head, neck, and back pale fulvous brown, thickly marked with longitudinal black shaft-spots; lores white; wings blackish, the feathers edged with pale ochraceous, the basal part of secondaries very pale brown, forming a transverse bar; tail pale chestnut-brown, the two middle feathers with a broad black mark on the inner web; beneath white, breast and flanks washed with pale brown, and freckled with very small dark brown spots; under wing-coverts white; length 6.1 inches.

D'ORBIGNY discovered this small Spine-tail near Buenos Ayres city, but did not record its habits. Like the species just described it is abundant on the

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pampas, but in its habits resembles a Wren of the genus *Cistothorus* rather than a Pipit, being partial to moist situations, where there is a rank growth of grass and herbage. The wings are very short, and the flight so feeble that the bird refuses to rise after being pursued a distance of one or two hundred yards. And yet I am not prepared to say that it does not migrate, as I have found that in spring it all at once becomes very abundant, while in the cold season it is rarely seen. It is solitary, and in spring sits on a thistle or stalk, uttering at short intervals its small grasshopper-like song or call. The nest is a slight open structure of grass, lined with a few feathers, placed in a tuft of grass or reeds. The eggs are pure white in colour.

FIREWOOD-GATHERER

Anumbius acuticaudatus

Above earthy brown, forehead chestnut, superciliaries white; head, neck, and back marked with black striations; primaries blackish, secondaries pale chestnut-brown; tail black, all the feathers except the middle pair broadly tipped with cream-colour; beneath pale ochraceous brown, white on the throat, the white bordered on each side by numerous black spots; length 8.5 inches.

THIS is a common and very well-known species throughout the Argentine country and Patagonia, also in Uruguay and Paraguay, and is variously called *Espinero* (Thorn-bird), *Tiru-rtru*, in imitation

of its note, and *Añumbi* (the Guarani name); but its best-known name is *Leñatero*, or "Firewood-gatherer," from the quantity of sticks which it collects for building purposes.

The Firewood-gatherer is a resident in Argentina, and pairs for life. Sometimes the young birds remain with their parents for a period of three or four months, all the family going about and feeding in company, and roosting together in the old nest. The nest and the tree where it is placed are a favourite resort all the year round. Here the birds sit perched a great deal, and repeat at intervals a song or call, composed of four or five loud ticking chirps, followed by a long trilling note. They feed exclusively on the ground, where they creep about, carrying the body horizontally and intently searching for insects. When disturbed they hurry to their usual refuge, rapidly beating their very feeble wings, and expanding the broad acuminate tail like a fan. When the male and female meet at their nest, after a brief separation, they sing their notes in concert, as if rejoicing over their safe reunion; but they seldom separate, and Azara says that when one incubates, the other sits at the entrance to the nest, and that when one returns to the nest with food for the young the other accompanies it, though it has found nothing to carry.

To build, the *Añumbi* makes choice of an isolated tree in an open situation, and prefers a dwarf tree with very scanty foliage; for small projecting twigs and leaves hinder the worker when carrying up

sticks. This is a most laborious operation, as the sticks are large and the bird's flight is feeble. If the tree is to its liking, it matters not how much exposed to the winds it may be, or how close to a human habitation, for the bird is utterly unconcerned by the presence of man. I have frequently seen a nest in a shade or ornamental tree within ten yards of the main entrance to a house; and I have also seen several on the tall upright stakes of a horse-corral, and the birds working quietly, with a herd of half-wild horses rushing round the enclosure beneath them, pursued by the men with lassoes. The bird uses large sticks for building, and drops a great many; frequently as much fallen material as would fill a barrow lies under the tree. The fallen stick is not picked up again, as the bird could not rise vertically with its load, and is not intelligent enough, I suppose, to recover the fallen stick and to carry it away thirty yards from the tree and then rise obliquely. It consequently goes far afield in quest of a fresh one, and having got one to its liking, carefully takes it up exactly by the middle, and, carrying it like a balancing-pole, returns to the nest, where, if one end happens to hit against a projecting twig, it drops like the first. The bird is not discouraged, but, after a brief interview with its mate, flies cheerfully away to gather more wood.

Durnford writes wonderingly of the partiality for building in poplar trees shown by this bird in Buenos Ayres, and says that in a tall tree the nest is sometimes placed sixty or seventy feet above the ground,

and that the bird almost invariably rises with a stick at such a distance from the tree as to be able just to make the nest, but that sometimes failing it alights further down, and then climbs up the twigs with its stick. He attributes the choice of the tall poplar to *ambition*; but the *Añumbi* has really a much simpler and lowlier motive. In the rich Buenos-Ayreal soil all trees have a superabundance of foliage, and in the slim Lombardy poplar alone can the nest be placed where the bird can reach it laden with building-material, without coming in contact with long projecting twigs.

The nest of the *Añumbi* is about two feet in depth, and from ten to twelve inches in diameter, and rests in an oblique position amongst the branches. The entrance is at the top, and a crooked or spiral passageway leads down to the lower extremity, where the breeding chamber is situated; this is lined with wool and soft grass, and five white eggs are laid, varying considerably in form, some being much more sharply pointed than others.

The nest, being so secure and comfortable an abode, is greatly coveted by several other species of birds to breed in; but on this subject I have already spoken in the account of the genus *Molothrus*. When deprived of their nest, the birds immediately set to work to make a new one; but often enough without being ejected from the first they build a second nest, sometimes demolishing the first work to use the materials. I watched one pair make three nests before laying; another pair made two nests, and after

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the second was completed they returned to the first and there elected to remain. Two or three nests are sometimes seen on one tree, and Azara says he has seen as many as six. Mr. Barrows observed the bird at Concepcion, where it is very common, and writes that in that district the nest is sometimes four feet long with an average diameter of two feet, and that the same nest in some cases is used for several seasons successively; also that several nests are sometimes joined together and all occupied at the same time.

CURVED-BILL RUSH-BIRD

Linnornis curvirostris

Above rufous-brown, brighter on the rump; lores and superciliaries white; wings and tail chestnut-brown; beneath white; flanks and under tail-coverts pale brown; under wing-coverts white; length 7 inches.

THIS species is found everywhere in marshy places in the eastern part of the Argentine Republic, and is also common in Uruguay, where Darwin discovered it. It inhabits dense rush-beds growing in the water, and is not found in any other situation. It pairs for life, has a feeble flight, and flies with great reluctance, but lives always in close concealment in one spot. It is, however, very inquisitive, and when approached the two birds creep up to the summit of the rushes and utter peculiar loud, rattling, and jarring notes, as if angrily protesting against the intrusion.

The Rush-bird has a stout body and short graduated tail, strong claws, and a slender curved beak three-fourths of an inch long. The upper plumage is brown, the tail rufous, the under surface and a mark over the eye white.

RED THORN-BIRD

Phacelodorus ruber

Above olive-brown, front chestnut; tail brownish chestnut; beneath whitish, throat, breast, and flanks washed and mottled with bright reddish brown; under wing-coverts and inner margins of wing-feathers bright cinnamon; length 7.3 inches.

THIS is a common species throughout the eastern portion of the Argentine country, and extends as far south as the southern boundary of the Buenos-Ayreal province.

It is resident, living in pairs in places where there are scattered thorny trees and bushes, and is never found in deep woods. It never attempts to conceal itself, but, on the contrary, sits exposed on a bush and will allow a person to approach within three or four yards of it. Nor has it the restless manner of most Synallaxine birds which live in the same places with it, but moves in a slow, deliberate way, and spends a great deal of time sitting motionless on its perch, occasionally uttering its call or song, composed of a series of long, shrill, powerful notes in descending scale and uttered in a very leisurely manner. It

builds a large oblong nest of sticks, about two feet deep, and placed obliquely among the thorny twigs of a bush or low tree. Mr. Barrows writes: "There are commonly two cavities in the nest, one being half open to the weather, and forming the entrance, the other further back and connected with the former by only a short passage-way, which in many cases is reduced to a simple hole through a broad partition, which alone separates them." The eggs are four and of a pure white.

The bird described is one of a group of four species found in Argentina. Of these the smallest and most interesting in its nesting habits is the Whistling Thorn-bird, *Phacellodomus sibilatrix*.

It inhabits the thorny woods of the northern districts of the Argentine country, but I have no reason to regret that I have not personally observed this species, since Mr. Barrows' careful account of its nesting-habits leaves nothing to be desired. He writes: "An abundant species among the open woods along the Uruguay, and hardly distinguishable at ten paces from half a dozen others. Its nest, however, is unmistakable. The birds begin by fixing a few crooked and thorny twigs among the terminal sprays of some slender branch which juts out horizontally from a tree, or rises obliquely from near its base, and around these twigs as a nucleus more are gathered, until by the time the nest has reached the proper size, its weight has bent the branch so that its tip points directly to the earth. Nests which are thus begun at a distance of fifteen

or twenty feet from the ground are often only two or three feet from it when finished, and a thorough soaking by a heavy rain will sometimes weigh them down until they actually touch. They are more or less oval or cylindrical in shape, and commonly about two feet long by twelve or fifteen inches in diameter, and contain from a peck to a bushel of twigs and thorns. The nest-cavity within is small in proportion to the size of the nest, and occupies its upper part. It is reached by a more or less direct passage-way from below, the external opening being very nearly at the lowest part of the nest, though sometimes a little shelf, or even a pocket, is built on to the side, forming a resting-place in front of the door.

“The nests vary interminably in size and shape, but are pretty constant in the material used; this being almost always irregular and thorny twigs of various trees growing in the neighbourhood, while the interior is formed of less thorny twigs and with some wool and hair. Usually, also, if the material be at hand, a quantity of old dry horse-droppings is placed loosely on the top of the nest, and gradually becomes felted into it, rendering it more nearly waterproof. In place of this I have frequently found quantities of broken straw, weed-stalks, grass, and even chips; all doubtless collected from the ridges of drift which the last overflow of the river had left near at hand. So compactly is the whole nest built, that it often lasts more than one year, and may sometimes serve the same pair two successive

RUFOUS CACHALOTE

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summers. More often, however, a new nest is built directly above the old one, which serves as a foundation, and occasionally as many as three nests are seen thus on the same branch-tip, two of them at least being occupied. When other branches of the same tree are similarly loaded, and other trees close at hand also bear the same kind of fruit, the result is very picturesque. The eggs, which are white, are laid from 1st October to 1st January, but many of the birds work at nest-building all the winter, sometimes spending months on a single nest."

RUFOUS CACHALOTE

Homorus lophotes

Above bright brown, with olive tinge on the back; crest feathers dark brown; quills blackish; tail bright chestnut; beneath duller brown, throat rufous; bill bright blue, eye white; length 9.8 inches.

THIS interesting species inhabits the north and north-western parts of the Argentine territory; in the province of Buenos Ayres its presence is confined to the narrow strip of subtropical wood fringing the low shores of the Plata river.

When surprised, its white eye, blue dagger-like beak, and raised crest give it a strikingly bold and angry appearance, the effect of which is heightened by the harsh, rasping, jay-like scream it utters when disturbed. This resentful look is deceptive, however, for the bird is the shyest creature imaginable. Its

language has the shrill excited character common to this most loquacious family ; and at intervals throughout the day two birds, male and female, meet together and make the woods echo with their screaming concert. For many weeks after I had become familiar with these loud-sounding notes, while collecting in the littoral forest where it is found, the bird was still to me only a "wandering voice"; but I did not give up the pursuit till I had seen it several times and had also secured two or three specimens. I found one nest, though without eggs, a rough-looking domed structure, made with material enough to fill a barrow. I also discovered that the bird feeds exclusively on the ground, close to the boles of low-branching trees, where there is usually an accumulation of fallen bark, dead leaves, and other rubbish. Here the bird digs with its sharp beak for the small insects it preys on. When approached it does not fly away, but runs swiftly to the nearest tree, behind the trunk of which it hides, then scuttles on to the next tree, and so escapes without showing itself.

Mr. Barrows, who observed the Cachalote at Concepcion, says that it is a bird which cannot be overlooked, with an outrageous disposition and voice, and a nest the size of a barrel. He gives the following account of its nidification: "His nest is built entirely of sticks, and many of them of goodly size, frequently as large round as your little finger and two feet or more long. These are disposed in such a way as to form a structure three or four feet in

LAUGHING CACHALOTE 233

length by about two in breadth at the widest part, the whole very much resembling a gigantic powder-flask lying on its side among the lower branches of a spreading tree. It is quite loosely built and the nest-cavity is rather indefinite, being any portion of the floor of the nest which the bird selects for the reception of the eggs. These are usually three or four in number, pure white, and are laid from October until January. They can usually be counted through the loose floor of the nest, though sometimes its thickness prevents this."

LAUGHING CACHALOTE

Homorus gutturalis

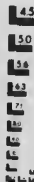
Nearly uniform earthy grey, faintly tinged with olivaceous brown above, and much paler beneath; lores and upper part of throat pure white, lower part of throat black, or white and black mixed; under wing-coverts white, faintly tinged with pale cinnamon; beak and feet bluish grey; length 9.4 inches.

I FOUND this bird quite common on the dry open plains in the neighbourhood of the Rio Negro in Patagonia. In size, form, and crest it is like the northern Cachalote, but has a white throat, while the rest of the plumage is of a pale earthy brown instead of rufous. Like the Rufous Cachalote it is also shy in disposition, and, being so dull in colour and without the bright beak and eye tints, has not the bold, striking appearance of that species; still I do not think any ornithologist can meet with it and fail to



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be strongly impressed with its personality, if such a word can be applied to a bird.

Dendrocolaptine birds are, as a rule, builders of big nests and very noisy ; *H. gutturalis* is, I believe, the loudest screamer and greatest builder of the family. Male and female live together in the same locality all the year ; the young, when able to fly, remain with their parents till the breeding-season, so that the birds are found occasionally in pairs, but more frequently in families of five or six individuals. When feeding they scatter about, each bird attaching itself to a large bush, scraping and prodding for insects about the roots ; and at intervals one of the old birds, ascending a bush, summons the others with loud shrill cries, on which they all hurry to the place of meeting, and from the summits of the bushes burst forth in a piercing chorus, which sounds at a distance like screams of hysterical laughter. At one place where I spent some months, there were some bushes over a mile and a quarter from the house I lived in, where these birds used to hold frequent meetings, and in that still atmosphere I could distinctly hear their extravagant cries at that distance. After each performance they pursue each other, passing from bush to bush with a wild jerky flight, and uttering harsh excited notes.

They select a low, strong, wide-spreading bush to build in ; the nest, which is made of stout sticks, is perfectly spherical and four to five feet deep, the chamber inside being very large. The opening is at the side, near the top, and is approached by a narrow

CLIMBING WOOD-HEWER 235

arched gallery, neatly made of slender sticks resting along a horizontal branch, and about fourteen inches long. This peculiar entrance no doubt prevents the intrusion of snakes and small mammals. The structure differs from all the domed nests of other species of Woodhewers in the spaciousness of the cavity where the eggs are laid. The dome removed, an eagle or vulture could breed in it quite comfortably. So strongly made is the nest that I have stood on the dome of one and stamped on it with my heavy boots without injuring it in the least, and to demolish one I had to force my gun barrel into it, then prize it up by portions. I examined about a dozen of these enormous structures, but they were all met with before or after the laying season, so that I did not see the eggs.

CLIMBING WOOD-HEWER

Picolaptes angustirostris

Above, head and neck blackish, with oblong whitish shaft-spots on the crown and neck; broad superciliaries white, extending nearly to the back and broken at their lower ends into shaft-spots; rest of upper surface dull brown, brighter on the rump; wing-feathers pale obscure chestnut; outer webs and broad tips of primaries blackish; tail chestnut; sides of breast and belly thickly marked with faint blackish stripes; under wing-coverts cinnamon; length 8.2 inches.

THIS is the only member of the genus *Picolaptes* as yet met with within the limits of the Argentine Republic. Azara found it abundant in Paraguay,

and on this account named it the Common Climber, *Trepador común*. In Buenos Ayres it is a summer visitant, appearing at the end of September. It is a solitary bird, never seen away from the woods, and invariably utters a loud melancholy cry when passing from one tree to another. It always alights on the trunk close to the ground, clinging to the bark in a vertical position, supported by the tail, and with head thrown far back in order to give free play to the extremely long beak. Having thus alighted, it progresses upwards by short hops, exploring the crevices in the wood for small insects, until it reaches the branches, when it flies off to the next tree. It is in fact a Tree-creeper in its manner of seeking its food.

RED-CAPPED BUSH-BIRD

Thamnopius ruficapillus

Above olive-brown tinged with rufous; lores yellowish-white; superciliaries and sides of head whitish grey; quills olive-brown; tail black, the rectrices, except the middle pair, tipped and broadly spotted on the inner webs with white; beneath whitish grey, every feather transversely barred with black; length 6.2 inches. Female like the male except that the tail is rufous brown and the markings beneath scarcely perceptible.

THE Red-capped Bush-bird, or Bush-lover, is one of four species of its genus, which range as far south as the Argentine country and are the only representatives in it of the Family *Formicariidæ* or Ant-

birds. Like the Tyrants and Wood-hewers it is confined to America, but less diffused than those two families, being mostly birds of the tropical forest region.

The present species is quite common in the eastern provinces of Argentina, and extends south to Buenos Ayres. It is a shy, solitary bird, found in woods and thickets along the shores of La Plata; and utters occasionally a singular low rasping note, its only language. The nest is a slight shallow structure placed in a low tree; the eggs are white, thinly spotted with reddish brown. Probably this species is to some extent migratory, as I have only observed it in the summer season.

Azara's account of another species, the Larger Bush-bird, *Thamnohilus major*, which inhabits Paraguay and North Argentina, is prefaced by the following interesting remarks on the birds of this genus known to him:

"These birds inhabit only the dense and tangled thickets, and never show themselves outside of their hiding-place, except for a few moments in the early morning and in the evening; but at no time do they perch high on the trees, but keep always within a few feet of the earth. They live in pairs; feed solely on insects caught in the bushes which they frequent, or on the ground, on which, however, the bird alights only to pick up its prey, and then returns to the twig to devour it. They are stationary, and fly only from one thicket to another. Many of the species have a similar voice or song, which is singular,

powerful, and heard only in the love-season. The call is a trill of a single note rapidly reiterated, and loud enough to be heard half a mile away; the cry being accompanied by vibratory motions of the wings."

LITTLE COCK

Rhinocrypta lanceolata

Above, head and upper neck reddish brown with a fine white shaft-stripe on each feather, the stripes being most conspicuous on the crest-feathers; lower neck, back, rump, and wings greyish olive; tail blackish; beneath, throat and upper part of breast grey, becoming pure white on the middle of the belly; sides of belly and flanks bright chestnut; lower part of belly and flanks and under tail-coverts like the back; bill horn-colour, feet black; length 9 inches.

THE last Passerine species to be described is the only one known to me belonging to the singular South American Family, *Pteroptochidæ*. They are mostly natives of Chili and the south-western extremity of the South American continent, but have representatives in the Andes of Ecuador and Columbia and the high plateau of Central Brazil.

The vernacular name *Gallito*, or "Little Cock," by which this species is familiarly known in Patagonia, cannot fail to strike every one who sees the bird as appropriate, for it struts and runs on the ground with tail erect, looking wonderfully like a minute domestic fowl. In the neighbourhood of

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GALITO (Little Cock)
Rhinocrypta lanceolata, Geoff.

Carmen, on the Rio Negro, it is very abundant, and when I went there its loud deep chirrup, heard from every side in the thicket, quickly arrested my attention, just as the perpetual chirping of the Sparrows did when I first landed in England. In the interior of the country it is not nearly so abundant, so that man's presence has probably in some way affected it favourably. Its habits amuse and baffle a person anxious to make its acquaintance; for it scarcely possesses the faculty of flight, and cannot be driven up, but it is so easily alarmed, so swift of foot, and so fond of concealment, that it is most difficult to catch a sight of it. At the same time it is extremely inquisitive, and no sooner does it spy an intruder in the bush than the warning note is sounded, whereupon every bird within hearing hops up into a thick thorn-bush, where it utters every three or four seconds a loud hollow chirp, and at intervals a violent scolding cry, several times repeated. When approached they all scuttle away, masked by the bushes, with amazing swiftness, to take refuge at a distance, where the loud protest is again resumed; but when the pursuer gives up the pursuit in disgust and turns away, they immediately follow him, so that he is perpetually encircled with the same ring of angry sound, moving with him, coming no nearer and never allowing its cause to be seen.

On three or four occasions I have seen one rise from the ground and fly several yards with a feeble fluttering flight; but when closely pursued in an open place they seem incapable of rising. They

generally fly down from the top of a bush, but always ascend it by hopping from twig to twig.

The nest is made in the centre of a thorny bush two or three feet from the ground; and is round and domed, with a small aperture at the side, and built entirely of fine dry grass. The eggs are four in number and pure white.

END OF VOL. I

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