

The Canadian Entomologist.

VOL. XXXIII. LONDON, NOVEMBER, 1901.

No. 11

TWO NEW SPECIES OF LUCANIDÆ FROM CALIFORNIA.

BY H. C. FALL, PASADENA, CALIF.

Some two years ago I received from Mr. E. A. Schwarz a single example of a curious Lucanide bearing labels "Kaweah, Cal.," and "*Ceruchus* (?), n. sp." This specimen, as I have since learned, was one of a considerable number taken by Mr. Ralph Hopping six years ago on grain and wild grasses growing near the grain on a small sandy hill at the locality indicated. In a letter just received from Mr. Hopping, he states that he has this year taken four fresh specimens, May 17-20, at the same place, one flying in the bright sunshine shortly after noon, the others at twilight. Mr. Hopping has kindly sent me three more specimens, and I have seen two others in the collection of Mr. Fuchs, also from the same source. These specimens are all males, and I have little doubt that Mr. Hopping's entire catch is of this sex.

It is probable that Mr. Schwarz had given the species little or no study, inasmuch as no lengthy examination is needed to convince so experienced a coleopterist that it can not possibly be a *Ceruchus*. On further investigation it appears equally certain that it is not assignable to any of the known genera of the family. Scarcity of material, together with the small size of the insect, has prevented a satisfactory examination of the oral organs, a fact which makes somewhat difficult the determination of its affinity with described genera as at present classified. It is, however, questionable if the characters drawn from the ligula and maxillæ are of any greater significance than several others much more easily observable, and a knowledge of their precise form in the present instance would, I believe, throw little light on the relationship of this remarkable Californian species.

Following the classification adopted by LeConte and Hern, our species would, by the structure of the mentum, the straight antennæ, and the nearly contiguous front coxæ, fall into the *Ceruchini*; but the differences in other respects are too numerous and too radical to permit a

close association with *Ceruchus*, and the new form must, I think, stand as the representative of at least a new sub-tribe, which may for the present be placed between the Ceruchini and Sinodendrini.

With the exception above noted, the following generic diagnosis is believed to be sufficiently full for comparative purposes :

PHYLLOSTOMA, gen. nov.

Mentum longer than wide, narrowly rounded in front, mental suture scarcely traceable. Palpi moderate in length, their supports visible; third joint of maxillary slightly transverse, fourth fusiform and as long as the second and third combined; joints of labial palpi increasing in length. Mandibles small, with a conspicuous externally bidentate process. Head small, less than half the width, and with the mandibles but little more than half the length of the prothorax. Labrum connate with the epistoma, the suture very fine. Eyes very prominent, subglobular, not emarginate. Antennæ straight, first joint stout, elongate oval, second similar but smaller, forming with the first joint about one-third the length of the organ; joints 3-7 small, becoming transverse; club three-jointed, subequal in length to joints 3-7. Prothorax transverse, widest a little behind the middle, sides strongly rounded. Elytra a little wider than the prothorax and about twice as long, sides parallel. Front coxæ transverse, subconical and strongly prominent; middle coxæ transverse, much less prominent; hind coxæ flat. Legs long; hind femora very stout; front tibiæ strongly bidentate externally, with three or four small denticles above the upper tooth; middle and hind tibiæ not dentate, but with a transverse ridge fringed with spinules on the outer and posterior side, the apex also fringed with short, close-set spinules; tibial spurs as usual in the family; tarsi unusually long. Abdomen with six distinct segments.

P. fimbriata, sp. nov.

Elongate, cylindrical, brown, side margins of thorax and elytra fimbriate with long hairs, under surface and legs sparsely hairy. Head coarsely, rather closely, punctate; clypeus reflexed, quadridentate; front concave at middle, the concavity limited by ridges which converge backward; inner margin of the eyes elevated, especially posteriorly, and forming minute, but prominent, tempora. Prothorax convex, finely margined, a little wider than long, widest two-fifths from the base, sides strongly rounded, front angles obtuse but defined, hind angles wanting, the sides rounding into the base; surface rather finely and sparsely

punctate. Elytra finely moderately closely punctate, the surface finely but not closely rugulose, owing to the irregular coalescence of the punctures; sutural stria alone evident; disc with two costæ faintly indicated anteriorly, the punctures defining them being more nearly serial in arrangement than elsewhere. The marginal fringe consists of two series of hairs, one superior and directed upward, the other epipleural and horizontal. Prosternum carinate at middle, polished and impunctate except near the side margins. Metasternum and abdomen rather sparsely punctate.

Length, 7-7.5 mm. Width, 2.8-3 mm.

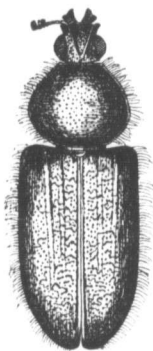


FIG. 10.

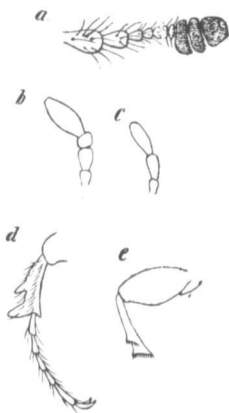


FIG. 11.

The accompanying figure (Fig. 10) represents fairly well the general aspect of the insect, but the cephalic ridges are somewhat exaggerated and the antenna is a little short. The antenna is, moreover, more correctly represented in (a) Fig. 11, while b, c, d and e illustrate respectively the maxillary palpus, labial palpus, front tibia and tarsus, and hind femur and tibia.

Platycerus latus, sp. nov.

Stout, convex, nearly black, shining. Head small, coarsely confluent punctured; mandibles small, not differing in the sexes. Scape of

antennæ nearly twice as long as the funicle, the latter slightly but distinctly shorter than the club; funicular joints, except the first, transverse, the outer ones gradually slightly wider; club three-jointed, distinctly wider in the male than in the female, its basal joint more than twice as wide as the preceding one. Prothorax large, one-half to four-fifths wider than long, widest but little behind the middle, sides strongly rounded but not angulate, deeply sinuate posteriorly, the hind angles right or somewhat acute; side margins moderately reflexed; disc closely and strongly punctate, the punctures less close toward the middle, where they are separated by from one-half to quite their own diameters. Elytra from one-third to two-fifths longer than wide, distinctly more than twice as long as the prothorax, width at base a trifle less than the latter at its widest part; disc not distinctly striate, the punctures strong, close and subserial in arrangement. Tarsi about three-fourths as long as the tibiæ in the male, scarcely more than half the tibial length in the female.

Length, 9-11 mm.

Described from 3 ♂'s and 6 ♀'s taken in Placer Co., California, and 1 ♀, apparently not different, from Alameda Co.; all collected by Dr. E. C. Van Dyke.

Latus is evidently similar in its robust convex form to *thoracicus*, Casey, but of this species Casey says: "Scape of antennæ slightly longer than the funicle, the latter a little longer than the club," while in *latus* the scape is sensibly twice as long as the funicle, and the latter is shorter than the club. In *thoracicus* the thorax is said to be widest at the basal third, which is not the case in any of the ten examples of *latus*.

The following notes, contained in a letter from Dr. Van Dyke, are of especial interest. He says, speaking of the species above described: "My Placer Co. specimens were from Forest Hill, altitude about 2,700 ft. Inasmuch as I found several about old Libocedrus stumps, and one quite well into the heart of one, I surmise that it feeds on this. I would wish to find the larvæ before being certain, though. It flies only at dusk and at night. My *P. Agassizii* were all found in broad daylight resting on leaves or wandering over tanbark oak stumps. *P. Oregonensis* and *depressus* I have caught flying in the hottest part of the day. Our two species of *Ceruchus* are both night fliers like the new *Platycerus*. Another resemblance in habit, if it should prove true that this feeds on the Libocedrus, is the fact that both species of *Ceruchus* feed on conifers. All the other species of *Platycerus* that I have observed feed on non-

coniferous trees; *P. Oregonensis* on California laurel and alder and on Madrone (Rivers); *P. depressus* on the California mountain Aspen, and *P. Agassizii* on oak, the tanbark—*Q. densiflora*—preferred, though I have found it on the live oak—*Q. agrifolia*."

NEW DIURNAL LEPIDOPTERA FROM BOLIVIA.

BY A. G. WLEKS, JR., BOSTON, MASS.

*(Continued from page 269.)**Pedaliodes primera*, sp. nov.

Habitat: Bolivia, near Cusilluni. Expanse, 2.25 inches.

Head and palpi, dark brown, nearly black. Antennæ, above, nearly black; beneath, dark rust colour. Legs, brownish. Thorax, black with brownish hairs. Abdomen, the same but lighter beneath.

Upper side of fore wings, entirely dark blackish brown. The hind margins are dentated, especially so on lower wings. The marginal interspaces of fore wings have a prominent white thread.

The ground colour of under side of fore wings is dark brown. The marginal interspaces have a prominent white thread. There is a silvery-white dash near apex, starting on costa, practically at the apical point, extending towards base for one quarter inch and suffusing into the wing for one quarter inch. Below this is an interspatial white speck. Nearer the base, one sixteenth inch inwards from this silvery-white area, the subcostal interspaces show whitish owing to a generous dashing of white scales. The discoidal space is rather light rusty brown, suffusing into lower interspaces. Under the first disco-cellular nervule, practically in the centre of hind marginal area, is a rusty circle, one quarter inch across, of same colour as discoidal space. Inner margin is somewhat grayish.

Ground colour of under side of hind wings is dark brown with dashes and wavy lines of silvery white, hard to describe accurately. The lower third of the wing, covering anal angle area, is heavily covered by silvery-white scales, and between the second and third median nervules, one-third inch from hind margin, is a prominent white dot, repeated in next lower interspace, but smaller. Above the anal area which bears the silvery-white scales, and inwards toward base, the ground colour is

transversely crossed by a more or less prominent series of silvery-white wavy lines, interspacial. Midway between base and apex on costa, is a prominent dash of silver white, repeated directly below in the next subcostal interspace, and half way from this to base is another dash of silvery white. The discoidal space at its outer portion has two patches of silver-white scales, the balance of the space being of the ground colour, with a suggestion of silvery-white, transverse, wavy lines. The interspaces, one-quarter inch within hind margin, bear a white speck, wanting in some specimens, but fairly prominent in others.

The general marking of under side varies greatly in the eight specimens in my collection. The prominent and most regular markings are the silvery-white space near apex of fore wings, the rust colour of discoidal space (which in some specimens suffuses very generously into adjoining interspaces), the subcostal silvery-white dashes on hind wings, and the silvery-white anal area with the interspacial white dots.

Taken near Cusiluni in May, 1899, and although one or two specimens have been found in European collections, I believe no description has ever been published.

Thecla Harrietta, sp. nov.

Habitat: Bolivia, near Corioco. Expanse, 1.50 inches.

Head, thorax and abdomen above, dark, covered with green-blue hairs; below, dark mouse colour. Antennæ, black. Legs, dark mouse colour, tarsi having white annulations at base of each joint.

Fore wings, above, dark lustrous blue. Basal area dusted with greenish blue. Hind margin with a slight fringe of black hairs, and edged with a black thread. A slight suffusion of black extends one eighth inch inwards from hind margin.

Lower wings, above, dark lustrous blue, matching fore wings. Hind margin, same as on fore wings. At anal angle is an addition to the wing area, one sixteenth inch wide, running from angle to lower submedian nervule (black suffusing somewhat into wing area) and then extending outwards as a tail at nearly right angles to the nervule. This tail is black, one quarter inch long. Across this anal black space is a bluish-white thread, running from end of lower submedian nervule straight to the submedian nervule, then forming a "V" in inner marginal space. At the end of the second submedian nervule is another tail, black, one eighth inch long, being a continuation of the nervule in its direction.

Under side of fore wings, mouse colour. Hind margin edged with a black thread. Starting at second subcostal nervule at a point one quarter distance from apex to base, is a jet-black line, running downwards parallel to hind margin, and ending at lower submedian nervule. Three sixteenths inch within this line is another running from costa to lower submedian nervule, not quite parallel to the first line but approaching it somewhat at its lower part; at the lower submedian nervule this line turns at a right angle and crosses inner marginal space. Across end of discoidal space is a black line. Nervures and nervules are somewhat darker than ground colour.

Under side of hind wings same colour as fore wings. Hind margin edged with a black thread. Beginning at costal nervure at a point one third distance from base to apex is a heavy jet-black line running downwards, *towards* anal angle, crossing subcostal nervure at its junction with first subcostal nervule, and ending at median nervure. Outside of this about one eighth inch, is a second heavy jet-black line, starting at first subcostal nervule, and running down to lower submedian nervule, striking it one eighth inch above hind margin. Another similar line starts at apex and runs downwards, one quarter inch within hind margin, joining the last-mentioned line at lower submedian nervule. Betwixt this and hind margin, but much nearer the margin, is a black line, scarcely visible at apex, but becoming more prominent as it approaches anal angle. The area at lower angle described on upper surface is black, the tails also. The blue line crossing it is the same as on upper surface. Just above this, in interspace, above submedian nervure, is a black line forming a circle, dusted with blue at its lower inside edge. In the inner marginal space are two parallel black threads, starting near base and crossing downwards to submedian nervure; the first is edged with blue on its lower side, the second edged with blue on its upper side. The nervures and nervules are black.

Type.—One specimen, taken April 19th, 1899.

Pyrrhopygopsis Reedii, sp. nov.

Habitat: Bolivia, Cochabamba District. Expanse, 2.05 inches.

Head, antennæ and legs, black. Thorax, black, with an orange spot at each shoulder. Abdomen, black, with a tawny tip.

Fore wings, above, entirely black excepting a slight dusting of orange scales on costa. Hind margin, fringed with orange hairs, short at apex, but lengthening at lower angle.

Hind wings, the same as fore wings, the orange fringe extending from upper angle to anal angle is more prominent than on fore wings.

Under side of both wings, of dark bronze. The lower half of discoidal space, darker, the dark suffusing into three lower interspaces. Nervules and nervures, black. Hind margin fringed with orange, same as on upper side.

Under side of hind wings, the same, except the darker area borders the inner margin, one eighth to one fourth inch wide, not intruding on discoidal space.

Described from species taken five days' travel north from Cochabamba. It is very near *P. tenebricosa*, Hew., except in the cilia, which is orange instead of pure white.

Pamphila argentea, sp. nov.

Habitat: Bolivia; Cusilluni District. Expanse, 1.20 inches.

Head, thorax, antennæ, abdomen and legs, bronzy-brown above; more grayish beneath.

Upper side of fore wings, bronzy brown. In subcostal interspaces, at apical area, are two whitish dots. Just above the second subcostal nervule, is a larger dot, and in interspace below, somewhat nearer base, is another still larger one, with its upper part nearer the hind margin than the lower part. In interspace below, is another longitudinal spot, of nearly similar size, resting on submedian nervure.

Upper side of hind wings, bronzy brown. In discoidal space is an indistinct lightish space, and running from near upper angle across the wing to near centre of inner margin, is a row of lightish interspatial dots, five or six in number.

Under side of fore wings, dark brown, central portion of hind margin being dashed with lighter scales. The whitish spots of upper surface are repeated.

Under side of hind wings, rich dark brown. In discoidal space is a prominent spot of silvery white. From upper angle across the wing to near the centre of inner margin is a row of silvery-white interspatial spots. These spots are very prominent, forming the noticeable marking of under side. Along hind margin of both wings, within the hairy fringe, is a dark thread.

Taken near Cusilluni in May, 1899.

NEW BEES OF THE SUBFAMILY ANTHOPHORINÆ FROM
SOUTHERN CALIFORNIA.

BY T. D. A. COCKERELL, E. LAS VEGAS, N. M.

(Continued from page 287.)

Anthophora catalinæ, n. sp.—♀. Length 14 millim., black (including face, mandibles and antennæ), with fulvous, yellowish-white and black pubescence. Pubescence of face dull yellowish-white, a few black hairs at the sides of the clypeus, a long pale fulvous tuft on each side of the anterior ocellus; hair of vertex long, erect and black, of occiput yellowish-white, of cheeks yellowish-white above and white below; hair of thorax pale fulvous, mixed with black on mesothorax and scutellum; lower half of pleura clothed with black hair; abdomen with dense pale fulvous hair-bands at the apices of the first four segments; apex with black hair; ventral surface of abdomen with black hair, except at the sides, where the pale apical bands of the upper surface are combined for a short distance; legs clothed beneath with black hair, above largely with pale; fringe of anterior tarsi wholly black; long hair on outer side of hind tibia and basal joint of tarsus black on the anterior half (extending longitudinally) and shining very pale yellowish on the posterior half.

Structure of *A. urbana*, Cresson, of which it is the insular representative.

Hab.—Catalina Island, California, Aug., 1901. (*Wilmatte P. Cockerell.*)

This bee differs strikingly in colour from *A. urbana*, which is common on the mainland. I found ordinary *urbana* flying on July 8th at San Pedro, which is on the coast nearly opposite Catalina.

Melissodes personatella, n. sp.—♂. Length 10 millim.; black; head much broader than long, facial quadrangle somewhat narrowed below; face entirely black, covered, as also the cheeks, with long white hair; mandibles black, with a ferruginous subapical spot; vertex on each side of the ocelli concave, smooth and shining, with minute, hardly noticeable punctures; antennæ very long, reaching to apex of second abdominal segment; scape short and stout, black; flagellum ferruginous beneath, second joint considerably longer than third; mesothorax shining and sparsely punctured, thinly clothed, as also the scutellum, with long black hair; hair on prothorax, pleura, post scutellum and metathorax

long and white; tegulae very dark brown; wings rather short, slightly dusky, more hairy than usual, nervures piceous; first recurrent nervure received by second submarginal cell not far from its end; third submarginal narrowed a little more than half to marginal; legs black, with white hair, small joints of tarsi becoming ferruginous; abdomen with short black hair, except on the first segment and extreme base of second (where it is white), at the apex (where it is pale), and clear white bands of hair near the apical margins of segments two to five; the first segment has some black hair dorsally near its apical margin; apical plate truncate, not notched at the sides.

Hab.—La Jolla, San Diego Co., Calif., August, 1901. A very distinct species, by its black face, black hair on mesothorax, and long antennae. For some account of other species with black faces in the male, see Entom., Oct., 1896, p. 304.

NOTES ON THE EARLY STAGES OF CATOCALÆ.

BY G. M. AND E. A. DODGE, LOUISIANA, MO.

(Continued from page 226.)

Catocala resecta, Grt.

Food-plant, hickory. Length of mature larva, two and one-half inches. Head rather flat, as broad as first segment, gray striped with dark brown, and with a broad black band, ragged in front, running up each side to top of lobe, but not continued over the summit.

The dorsal stripe consists of a series of rounded, brown patches with a black central line; tubercles, although not large, tipped with white, and conspicuous; subdorsal stripes brown, interrupted and indistinct.

The thoracic segments are blackish; on the fourth segment a pale brown band, much lighter than the general colour, crosses the body; the central segments are also blackish, but a shade paler than the first three; there is a slight black transverse ridge on the eighth segment, and the anterior part of this segment is pale brown like the fourth; the remainder of the eighth segment and all following are as black as the thoracic segments, except that the pale brown dorsal stripe is unusually developed on the eleventh segment. Filaments whitish, very numerous, simple and hair-like, but not very long. Venter white, tinged with pink, with large

black spots on all except the thoracic segments and segments eight and nine.

Catocala piatrix, Grt.

Larva taken on walnut, July 9, 1901. Length, two and seven-tenths inches. Colour pale gray, head the same, face dusky, bounded by a black stripe which passes over the summit and down each side to the mouth, the sides of head behind this stripe being pale gray. A rather broad, brown, continuous dorsal stripe. Cervical shield dark like the face, anal plate greenish. Brown stripes enclosing the dorsal tubercles are darkest on posterior part of each segment, where they are marked with short diagonal gray lines. Lateral stripes faint. Stigmatal stripes dark brown and distinct, fading on central segments. No filaments. Tubercles all very small and white, legs greenish.

Venter white, with a black spot on each segment except that bearing last pair of abdominal legs.

Catocala neogama, S. and A.

Described June 2nd. Food-plant, walnut. Head wide as thoracic segments, gray, as is also segment one; head with many dark brown markings; jaws black and a black patch at each side of the mouth.

Tubercles whitish, those on eleven quite large, ridge of eight slight. Dorsal median stripe very irregular; on the thoracic and anal segments its sides are nearly straight and closely approximate, on the central segments it alternately widens and contracts, forming a series of dumb-bell-like figures.

The subdorsal stripes are of the general colour, which is wood-brown, except on segment four, where they are black, and also on segment eight, where they form part of the transverse black band, which latter is divided by the dorsal stripe.

The stigmata are black and like in the dark brown stigmatal stripe, which is connected with the subdorsal stripes by dark diagonal lines on each of the central segments.

Filaments simple, not numerous. Legs pale, spotted with black and white. Venter strongly tinged with red and with black spots, except between thoracic and last two pairs of abdominal legs, where the spots are brownish red or, in some cases, obsolete.

Neogama larvæ vary in depth of colour, but the markings are quite constant, so far as observed, and we have bred many of them.

Piatrix larva may be recognized from its earliest stage, showing the

markings of the mature larva, but it also varies somewhat in depth of colouring.

The most constant of all is the larva of *illecta*, which at any stage after the first day or two may be recognized by its black and white, narrow and transverse stripes, its broad, white stigmatal stripe, and the spots, like red sealing-wax, which ornament each segment.

We bred over one hundred *illecta* this year, and noted no variation in either larva or imago.

NEW SPECIES OF EVANIIDÆ.

BY WILLIAM H. ASHMEAD, ASSISTANT CURATOR, DEPARTMENT OF INSECTS,
U. S. NATIONAL MUSEUM.

Mr. J. Chester Bradley has begun, in the May number of the "Entomological Student," a monographic revision of the *Evaniidæ* of North America, a work badly needed by our students.

On learning from me that I had several new species in this family, he has requested that I should publish them at once, so that they may be incorporated in his monograph, which will be published in the Transactions of the American Entomological Society of Philadelphia.

I begin, therefore, by publishing three new species in Abbe Provancher's rare genus, *Pammegischia*, a genus suppressed by Dr. Schletterer, but revived in my classification of the superfamily Ichneumonoidea.

It is interesting to record that the habits of this genus are quite different from other Evaniids; Dr. E. P. Felt, State Entomologist of New York, having bred a species from the larvæ of a horn-tail *Xiphydria Provancheri*, Cresson.

Mr. Bradley has done me the honour to accept my ideas on the classification of the *Evaniidæ*, but has been unfortunate in not paying more attention to the characters used in separating the genera, for he has placed in the genus *Aulacus* species which should be placed in Abbe Kieffer's genus *Pristaulacus*, viz., *Aulacus occidentalis*, *A. melleus*, *A. pacificus*, *A. rufitarsis*, *A. fasciatus*, *A. firmus*, *A. resutorivorus*, *A. Abbottii*, *A. stigmaterus* and *A. pallipes*.

Pammegischia xiphydriæ, sp. nov.

♀.—Length, 7.5 mm.; ovipositor about two-thirds the length of the abdomen. Black, with the first segment of abdomen red, the second

joint of front trochanters, the middle trochanters and basis of their tibiæ testaceous, the rest of the legs remaining black (all being broken off about the middle of the tibiæ). The head is quadrate, above smooth and highly polished, with only a few scattered punctures; in front, below the front ocellus to the insertion of the antennæ, it is transversely rugulose; face beneath the antennæ, except the lower inner angles of the cheeks, which are smooth and polished, is closely irregularly punctate; mandibles black, with a rufo-piceous tinge; while the palpi are fuscous. The thorax is rugosely punctate, the mesonotum with numerous transverse ridges and with complete parapsidal furrows. Wings almost hyaline or only faintly tinged, the stigma and veins being black or brown-black, the first recurrent nervure being received by the first cubital cell at about the middle, the second recurrent nervure received by the second cubital cell a little beyond its middle, while the third cubital cell is more or less divided into two by a spurious stump of a vein which originates from the cubitus a little before the apex of the second recurrent nervure. All coxæ are black and rugulose, the hind pair being elongate and produced beneath at apex into a triangular process that extends far beyond the insertion of the trochanters. The abdomen is highly polished, impunctate, except at the extreme base, and is shaped as in *Aulacus*, only it is not so distinctly petiolate; the first segment occupies fully half the whole surface of the abdomen.

Type.—Cat. No. 5782, U. S. N. M.

Hab.—Saranac Inn, New York.

Host.—Hym.: *Xiphydria Provancheri*, Cresson, living in birch.

Bred by Dr. E. P. Felt, State Entomologist of New York.

Pammegischia Lovei, sp. nov.

♀.—Length, 4 mm. Ferruginous; eyes, mesonotum, base of metathorax, hind coxæ toward apex, the flagellum and the ovipositor, which is a little longer than the abdomen, brown or brown-black; all femora and the hind tibiæ, except at base, dusky, rest of legs honey-yellow. Wings hyaline, the subcostal vein brown, the stigma and rest of veins pale ferruginous.

Type.—Cat. 5857, U. S. N. M.

Hab.—Palisades, New Jersey. Taken in May by Mr. E. E. Love.

Pammegischia Weedi, sp. nov.

♂.—Length, 5.5 mm. Black; face below insertion of antennæ, mandibles except teeth, first joint of antennæ, first segment of abdomen

except extreme base and apex, and legs except coxæ, pale ferruginous or honey yellow.

Antennæ straight, as long as the body; brownish and 13-jointed, the second and third flagellar joints subequal, nearly twice as long as the first. The head is nearly smooth, the face below the front ocellus transversely rugulose, the cheeks feebly punctate; the thorax is rugosopunctate, the mesonotum with coarse transverse rugæ; the abdomen is smooth and polished, the three or four terminal segments at apex and the claspers being rufo-piceous, while the wings are hyaline, with the stigma and veins ferruginous.

Type.—Cat. No. 5858, U. S. N. M.

Hab.—Hanover, New Hampshire. Captured by Dr. Clarence M. Weed.

HYPTIA *Illiger*.

Hyptia Fuchi, new species.

♂.—Length, 5.5 to 6 mm. Ferruginous, the abdomen, except the petiole or first segment, being black; the forehead from the ocelli to the base of the antennæ, except the orbits, is black or blackish; the pro-mesosternum, the meso- and metapleura, all coxæ except the hind pair toward apex beneath, the trochanters and the hind legs, are black, while the middle femora above and the hind tibiæ toward apex, and the flagellum, except the three or four basal joints beneath, are fuscous. Wings clear hyaline, without cells, the stigma, the costal and subcostal and the median veins being brownish-black.

Type.—Cat. No. 6075, U. S. N. M.

Habitat.—San Jose del Cabo, Baja, California.

Described from 2 ♂ specimens received from Mr. Charles Fuch.

Hyptia Weithi, new species.

♂.—Length, 5 mm. Black and coarsely closely umbilicately punctate, the metapleura coarsely reticulate, the scape, the prothorax, upper part of the mesopleura anteriorly, the mesonotum, the scutellum, the anterior legs from apex of coxæ, and the middle tarsi, testaceous; rest of legs black. Wings hyaline, the veins black, the discoidal cells entirely obliterated.

Type.—Cat. No. 6076, U. S. N. M. (Ashmead Collection).

Habitat.—Hayti.

Described from a single specimen received from Mr. R. J. Weith.

Hyptia Trinidadensis, new species.

♂.—Length, 3.5 mm.—Black; the head except the face below the antennæ, the mesonotum and the mesopleura, are smooth, polished and impunctate; the metathorax is rather closely punctate, the metapleura more coarsely punctate; the face below the insertion of the antennæ is rather finely punctate, and one may detect a few small punctures on the forehead; the antennæ, except some dark stains at the apex of the joints, the front coxæ, their femora beneath and their tibiæ and tarsi, middle trochanters except at apex, an annulus at base of their tibiæ, the hind coxæ except at apex, base of first joint of trochanters, all tibial spurs, and an annulus before the apex of the abdominal petiole, all yellow-testaceous; rest of legs black. Wings clear hyaline, the stigma and veins brownish-black, the discoidal cells wanting.

Type.—Cat. No. 6077, U. S. N. M. (Ashmead Collection).

Habitat.—Trinidad, W. I.

Described from a single specimen.

Hyptia Floridana, new species.

♂.—Length, 2.5 to 2.75 mm. Wholly black, except the sutures of the joints of the middle and front legs, their tarsi and all tibial spurs, which are testaceous. The head and the mesonotum are distinctly punctate, but more sparsely punctate on the vertex and on the disk of the mesonotum; the mesopleura anteriorly are smooth and polished, while the metathorax, except sparsely on the disk, is coarsely umbilicately punctate. Wings hyaline, the tegulæ yellowish, the veins brownish.

Type.—Cat. No. 6078, U. S. N. M. (Ashmead Collection).

Habitat.—Jacksonville and Biscayne Bay, Florida.

Described from 2 specimens. The specimen from Biscayne Bay was collected by Mrs. Annie Trumbull Slosson.

Hyptia Johnsoni, new species.

♂.—Length, 5 mm. Black, except the metanotum above and surrounding the abdominal petiole. The head and thorax are distinctly but not closely punctate, the punctures being separated; the face has a sericeous pubescence; the mesopleura are smooth, polished and impunctate, except a few, minute, faint punctures toward the coxæ; while the wings are hyaline, without discoidal cells, the tegulæ and the veins being black or brown-black.

Type.—Cat. No. 6079, U. S. N. M. (Ashmead Collection).

Habitat.—Philadelphia, Pa.

Described from a single specimen received from Mr. C. W. Johnson.

EVANIA *Fabricius*.*Evania Neomexicana*, new species.

♂.—Length, 3.5 mm. Black, the metathorax at apex and sometimes the mesopleura below, rufo-testaceous; the head and the mesonotum are shining and only sparsely punctate; the mesopleura superiorly are smooth and impunctate, but posteriorly they are lineate, and below, or toward the mesosternum, they are sparsely punctate; while the metathorax is rather coarsely and irregularly reticulate. Wings hyaline, the tegulæ, stigma and veins being black or piceous, the internal veins sometimes brown.

Type.—Cat. No. 6080, U. S. N. M.

Habitat.—Las Cruces, N. Mex.

Described from 2 specimens received from Prof. T. D. A. Cockerell.

Evania Californica, new species.

♂.—Length, 4.6 mm. Black, the face around the insertion of the antennæ, the clypeus, the mandibles, the sutures of the trochanters, the tibial spurs, front knees, base of front and middle tibiæ and the sutures of their tarsal joints or the front tarsi beneath, testaceous or brownish. The head and the thorax above are smooth and impunctate, or at most with only a few minute, scarcely perceptible punctures; the prothorax at the sides is lineate; the mesopleura, except a small, smooth spot, are reticulate and lineate superiorly, while the metathorax, except *above*, is rather coarsely reticulate. Wings hyaline, the tegulæ testaceous but brownish basally, the veins being brown-black.

Type.—Cat. No. 6081, U. S. N. M.

Habitat.—Natoma, Southern California.

Described from a single specimen taken by Mr. Albert Koebele.

Evania unicolor, Say.

This species I have recently recognized, and it is certainly distinct from *E. appendigaster*, Linne, although agreeing with it very closely in size and colour. It was described by Say long before railroads were built and before *Evania appendigaster* could have reached the interior of the country.

It is readily separated from *E. appendigaster* by punctuation and sculpture, the head being distinctly punctured and clothed with a sericeous pubescence, whereas in the former it is smooth and impunctured.

NOTES ON THE BUTTERFLIES OF SIOUX COUNTY,
NEBRASKA.

BY MERRITT CARY, NELIGH, NEB.

While connected with expeditions sent out by the Department of Entomology and Ornithology, University of Nebraska, it has been the writer's good fortune to spend a portion of the summers of 1900* and 1901† in the extreme north-western corner of Nebraska in collecting the insects, birds and mammals of the region. Naturally the butterflies, the study of which has been something of a "hobby" with him for some years past, came in for no little share of attention.

That a region so interesting as Pine Ridge and the Hat Creek and White River Basins are geologically, is also of the greatest interest as regards its zoogeography and phytogeography, goes without saying. The general topography of a region, whether it be a high plateau, deeply cleft by numerous well-wooded canons, or a prairie region containing large areas of bad lands and buttes, cannot fail to have its effect upon the distribution of life, and to leave a strong impress upon the indigenous fauna and flora. Both of these conditions obtain in north-western Sioux County.

Pine Ridge, which reaches an altitude varying from 4,000 to 5,000 feet above sea level, crosses the Wyoming-Nebraska line about fifteen miles south of the north-western corner of Nebraska, and runs in a south-easterly direction through the northern part of Sioux County. On the north side the Ridge is broken up into numerous deep and well-wooded canons, and slopes abruptly into the Hat Creek Basin, 1,300 feet lower.

The latter region consists of a rolling prairie, well watered by a large number of small streams which have their sources in the canons on the north slope of Pine Ridge, and embraces large areas of bad lands and buttes.

The yellow pine (*Pinus ponderosa*) is the prevailing forest tree, and

* In 1900 the expedition was encamped in Monroe Canon, Sioux County, during the last two weeks in May, and consisted of Prof. Lawrence Bruner, J. C. Crawford, Jr., and J. S. Hunter, of the University of Nebraska, besides the writer.

† In 1901, two months, beginning with May 25th and ending with July 27th, were spent in the region, with a base camp in Warbonnet Canon, by M. A. Carriker, Jr., and the writer. Prof. Bruner and J. C. Crawford, Jr., spent a week or two each in the region.

clothes the canon sides, although in the bottoms of canons such trees as aspen, black birch, box-elder, cottonwood and a few elms fringe the streams.

It will readily be seen that the Ridge, while on the border line between the Upper Austral and Transition life zones, contains a great many elements of the latter. Among the breeding birds which belong to the Transition are Audubon's Warbler, Lewis's Woodpecker, Sharp-shinned Hawk, Western Warbling Vireo, and Solitaire; among the mammals usually occurring in the Transition may be mentioned the Yellow-haired Porcupine, Black-tailed Deer, and Beaver.

The semi-mountainous area has also a corresponding effect upon the insect fauna, and accounts for the presence of a large number of western species. The occurrence of *Argynnis hesperis*, *Phyciodes camillus pallidus*, *Satyrus charon*, *Colias Alexandra Edwardsii*, *Lycaena antiaicis*, *L. sagittigera*, and *L. acmon**, *Papilio zolicaon*, *P. indra*, and *P. rutulus*, *Terias Mexicana*, and *Pamphila rhesus* in north-west Nebraska will no doubt be something of a surprise to eastern lepidopterists.

Danais plexippus, Linn.—Battered specimens numerous, but no fresh ones taken until July 10 to 25, when a new brood appeared.

Euptoieta claudia, Cramer.—Flying all the time I was in the region. Especially abundant in the Bad Lands.

Argynnis cybele, Fabr.—Common on *Monarda* blossoms in the canons, July 10 to 27.

Argynnis aphrodite, Fabr.—Several examples taken in July.

Argynnis aphrodite, var. *cypris*, Edw.—The most abundant Argynnid, flying abundantly from June 25 until July 27. Fresh specimens were taken until July 15, after which battered specimens were the order. *Cypris* was taken in the canons, on *Monarda*.

Argynnis aphrodite, var. *alcestis*, Edw.—A very few taken in valley meadows.

Argynnis hesperis, Edw.—Four examples of this species were taken in the middle of July, on *Monarda*. They are not typical, however, the apical half of the under side of the fore wings being heavily clouded with dark ferruginous, and the under side of secondaries very dark.

Argynnis coronis, Behr. (!).—A number of examples of an Argynnid

* On August 12th of the present year the writer took several examples of *acmon* at Neligh, in north-eastern Nebraska.

were secured which are very close to *coronis*, and I temporarily refer them here.

Argynnis Nevadensis, Edw.—A number of examples on Thistle, June 25 to July 15.

Argynnis Nevadensis, var *Meadii*, Edw.—Frequenting Thistles on the Divide and damp places in the canons, June 25 to July 15. Appears to be more of an upland species than any of the preceding *Argynnis*ids.

Argynnis Edwardsii, Reak.—This beautiful species was very numerous on the Divide from June 20 to July 10, feeding on Thistle blossoms; and from July 10 to 25 on *Monarda* in the canons. *Edwardsii*, *Meadii*, *Nevadensis* and *cypris* were frequently taken on damp ground around springs.

Argynnis eurynome, Edw.—On *Monarda*, July 5 to 27. Frequent examples.

Argynnis myrina, Cram.—Damp meadows in the valley, June 27 to July 20.

Melitæa sp.—A species of *Melitæa* which is close to *Editha* of California was very abundant on the Divide and grassy slopes of the Ridge from May 25 to June 5.

Melitæa minuta, Edw.—Two examples from damp ground in Warbonnet Canon, June 5 and July 22. In 1900 a number of specimens of *minuta* were taken.

Phyciodes nycteis, Dbl.-Hewit.—Monroe Canon in 1900, common.

Phyciodes ismeria, Bdl.-Lec.—Frequently captured in July.

Phyciodes ismeria, aber. *nigra*, n. aber.

♂—Expands 1.25 in.

Upper side black, lightly spotted with fulvous and pale ochraceous. Disc of primaries crossed by two irregular bars of fulvous, the basal bar broadest and nearly severed in the middle of the basal side by a narrow black area; the second one narrowly sinuate on right primary and a narrow straight line on the left one. The broad and sinuous discal series present in *ismeria* is entirely lost; extra-discal series consists of seven whitish ochraceous spots, the three nearest the costa being small and round, the fourth with a long, narrow prolongation towards the margin, fifth round-oblong and greatly enlarged, but the end nearest the margin concave; sixth and seventh spots large and irregular, the outer portion of the latter about two millimeters from inner angle. Basal portion of secondaries faintly suffused with fulvous scales; discal series faint;

second series large and enclosing round black dots; submarginal lunules entirely lost. Fringes black and white.

Under side fulvous on basal portion of the disc of primaries, outer portion of disc black; costa and portion of apex suffused with fuscous; sixth and seventh spots of extra-discal series fulvous; second bar across disc enlarged. Marginal arrow points much as in *ismeria*. Basal portion of secondaries greatly suffused with fuscous; sinuate discal band as well as extra-discal portion of wing similar to *ismeria*, but former much narrower.

This peculiar melanistic aberration was taken on damp sand in the bottom of Monroe Canon, June 10, 1901. It was in company with several typical specimens of *ismeria*.

Phyciodes tharos, Dru.

Winter form *marcia*, Edw.—Common in the canons, May 25 to July 1.

Summer form *morpheus*, Fabr.—Abundant, June 10 to July 27.

Phyciodes camillus, var. *pallidus*, Edw.—One example taken July 7 on *Symphoricarpos*.

Grapta interrogationis, var. *Fabricii*, Edw.—Taken by J. C. Crawford, Jr., June 23.

Grapta comma, var. *Harrisii*, Edw.—Frequently taken on the logs at an old sawmill; also on dead branches and trunks of trees in the canons, June 20 to July 29.

Grapta zephyrus, Edw.—The most abundant species of *Grapta*. Taken in same situations as two preceding species.

Grapta progne, Cram.—General in 1900. Monroe Canon.

Vanessa antiopa, Linn.—Infrequently met with.

Vanessa Milberti, Godt.—Four examples were taken during the fore part of June, three in Warbonnet Canon and one in an alkali meadow in the Bad Lands.

Pyrameis atalanta, Linn.—Common.

Pyrameis Huntera, Fabr.—Three examples late in July on *Monarda*.

Pyrameis cardui, Linn.—Extremely abundant from June 18 to July 27.

Junonia cænia, Hüb.—One battered specimen on *Symphoricarpos*, July 20.

Limenitis Weidemeyerii, Edw.—Common from June 1 to July 15.

Weidemeyerii was usually taken around chokecherry, but it was extremely difficult to secure specimens in perfect condition.

Limenitis misippus, Linn.—A few were secured.

Apatura celtis, Bd.-Lec.—Males were flying abundantly on July 1, and females a week or so later. This species would frequently alight on my hands or head as I was passing clumps of dead brush in the canons.

Anaea andria, Scud.—A single specimen was observed at Crawford, July 27.

Neonympha eurytus, Fab.—Abundant, July 2 to 27.

Cænonympha ochracea, Edw.—Flying abundantly, both on the Divide and in the canons, from May 25 to June 30.

Neominois Ridingsii, Edw.—From June 20 until July 15 this species was common on the Divide.

Satyrus alope, var. *nephele*, Kirby.—About a dozen perfect examples were secured in the latter part of July in the canons.

Satyrus Meadii, Edw. (?)—On July 19 Mr. Carriker reported having seen a Satyr with a large brick-red patch on each front wing.

Satyrus charon, Edw.—Common in the sage brush, July 2 to 20.

Chionobas chryxus, Dbl.-Hewit.—On Divide, May 25 to June 20, abundant.

Libythea Bachmani, Kirtl.—One example secured July 21 on *Symphoricarpos*.

Thecla melinus, Hüb.—July 15 to 29, abundant.

Thecla acadica, Edw.—Several taken in latter part of July.

Thecla liparops, Bd.-Lec.—Abundant on wild grape, same date as last.

Thecla eryphon, Bd.—A few secured in May.

Thecla titus, Fabr.—Common in July on grapevines.

Chrysophanus rubidus, Behr.—Taken on Yarrow, July 3 to 27.

Lycaena lycea, Edw.—The most abundant "blue." On the Divide this species frequented the flowers of a lupine. In the canons it was taken in damp places. Flying May 25 to July 29.

Lycaena antiacis, Bd.—May 19 to June 1, 1900, common. But two examples were secured in 1901.

Lycaena sagittigera, Feld.—Common in 1900, rare in 1901.

Lycaena shasta, Edw. (?)—A number of small *Lycaenas* were taken on gravelly exposures on the Divide early in July which appear to be much nearer *shasta* than *Scudderii*, and I temporarily refer them here.

- Lycaena melissa*, Edw.—Abundant in the canons, May 25 to July 15. Taken also in the Bad Lands.
- Lycaena acmon*, Dbl.-Hewit.—Bad Lands, May 25 to June 10. Also one July 27.
- Lycaena pseudargiolus*, Bd.-Lec.
Var. *marginata*, Edw.—Several examples in 1900.
Var. *violacea*, Edw.—A single ♀ in July, 1901.
- Lycaena amyntula*, Bd.—Common in latter part of May and early in June.
- Lycaena comyntas*, Godt.—Early in June, rare.
- Lycaena isola*, Reak.—Nearly a dozen examples were captured on damp sand in the canons, June 24 to July 29.
- Neophasia menapia*, Feld.—Flying abundantly about the tops of pines late in July.
- Pieris sisymbri*, Bd.—Several in 1900.
- Pieris protodice*, Bd.-Lec.—Common.
- Pieris napi*, var. (?)—One secured.
- Pieris rapae*, Linn.—But two examples were taken.
- Nathalis iole*, Bd.—Several seen late in June.
- Anthocharis ausonides*, Bd.—A single specimen in 1900, and one again in July, 1901.
- Colias caesonia*, Stoll.—One seen July 10.
- Colias eurytheme*, Bd.—Abundant.
- Colias philodice*, Godt.—A number in May and again late in July.
- Colias philodice*, var. *anthyalae*, Hüb.—Mr. J. C. Crawford, Jr., secured a single example of this small variety in 1900.
- Colias Alexandra*, Edw.—Abundant on the Divide, May 25 to June 20. Females flying June 10 to 20.
- Colias Alexandra*, var. *Edwardsii*, Behr.—I secured two males in 1900.
- Terias Mexicana*, Bd.—On *Verbena hastata*, July 14. One specimen.
- Parnassius smintheus*, Dbl.-Hewit.—Frequenting gravelly exposures on the Divide, June 4 to July 6. Feeding on *Sedum stenopetalum*.
- Parnassius smintheus*, var. *hermodur*, H. Edw.—On June 27, Mr. Crawford secured an extremely dark ♀, which I shall refer here for the present.

Papilio Bairdii Oregonia, Edw.—I secured a battered ♂ on a high butte, July 12.

Papilio zolicaon, Bd.—Common in 1900, but rare in 1901. This and the following species were usually found around the rim-rock, seldom in the canons.

Papilio indra, Reak.—Two examples in 1900, one in 1901.

Papilio polyxenes, Fabr.—One specimen.

Papilio turnus, Linn.—Uncommon.

Papilio turnus, var. *glaucus*, Linn.—One seen July 22.

Papilio rutulus, Bd.—Several seen and one secured on *Pentstemon*, July 10.

Papilio daunus, Bd.—The common *Papilio* of the region. Usually seen in the canons on hot days.

Thymelicus Edwardsii, Barnes.—A species of *Thymelicus* which appears to be somewhat intermediate between *garita* and *Edwardsii*, but much nearer the latter species, was flying abundantly over the prairie on the Divide from June 26 to July 15.

Pamphila taxiles, Edw.—On *Monarda*, June 29 to July 27.

Pamphila rhesus, Edw.—One example on the Divide, May 22, 1900.

Pamphila uncas, Edw.—Common on flowers of *Opuntia* in June.

Pamphila sp.—On *Monarda* and grapevines.

Pamphila metacomet, Harr.—Several secured on *Monarda*, same dates as last.

Pamphila metacomet, var. *vestris*, Bd.—Fairly abundant.

Pamphila sp.—Not determined.

Pamphila hianna, Scud.—Several examples in 1900.

Pamphila sp.—Not specifically determined.

Amblyscirtes vialis, Edw.—Frequently taken in June.

Pyrgus montivagus, Reak.—Abundant in the sage brush.

Nisoniades martialis, Scud.—Damp places in the canons.

Nisoniades sp.—A few were taken in similar situations to the preceding.

Pholisora catullus, Fabr.—Abundant in July.

Eudamus pylades, Scud.—Monroe Canon, late in May, 1900.

Eudamus tityrus, Fabr.—Abundant.

A REPLY TO DR. WASMANN.

BY THOS. L. CASEY, VICKSBURG, MISS.

Truth may be likened to a bull's-eye—it is much more difficult to hit than to miss. The “splitters” frequently throw their shots too high and the “lumpers” too low, and there are many other sources of aberration which cause the careless worker to miss the bull's-eye. It has sometimes been my misfortune to aim a little too high in monographic work, where the familiarly engendered by long and close investigation may have led to the assignment of too great weight to certain differential characters, but, in the case of the genera allied to *Homæusa* (Journ. N. Y. Ent. Soc., VIII., p. 53), I feel myself obliged to dissent from the views advanced by Mr. Wasmann in the September number of this journal.

Myrmobiota differs so completely in habitus from *Homæusa*, that it is only by considering the general characters of the group that it can be discovered to be allied in any way to that genus. *Soliusa* resembles *Homæusa* in general habitus, but differs profoundly in abdominal structure, the basal tergites being strongly constricted at base in the latter and unconstricted in the former. It is rather unfair for Mr. Wasmann to cite other genera, in which such and such characters become valueless, because it is well known to every biological worker that characters perfectly suitable as generic criteria in one group of species may lose all taxonomic value in another group, which may not even be far removed in the series.

It is not, however, primarily the defence of the genera in question that moves me to make this reply, but rather a singular feature, allied to disingenuousness on the part of Mr. Wasmann, which appears from some recent personal correspondence, and which reappears in the third paragraph of his article. To properly show this forth, it is necessary to reproduce the three postal cards which I have received from Mr. Wasmann during the current year. The entire text only of each card is given, the salutation and endings being omitted. The first is as follows:

“LUXEMBURG, March 5th, 1901.

“I acknowledge the receipt of your kind letter from February 20th; also your paper on *Corylophidæ*, etc., has arrived, but I could not find time to inform you of its arrival till now. Your publications will be always welcome to me; also specimens of myrmecophilous or termitophilous species, especially of those which you describe.”

Nothing occurred after this acknowledgment of the receipt of my paper containing the table of the *Homœusa* group until the arrival of the following postal and little box :

“ LUXEMBURG, May 1st, 1901.

“ Will you have the kindness to name the species of *Myrmobiota* for me, which I send you by the same post in a little box? It was sent to me by one of my correspondents, who found it with *Lasius niger*.”

It seems quite evident that the crafty wording of this missive was intended to ensnare if not to delude me, and as I had taken particular care in the paper mentioned to show why *Myrmobiota* could not be the same as *Homœusa*, the tacit assumption here implied that I did not know one genus from the other caused me to answer Mr. Wasmann rather sharply, and I informed him in positive terms that the specimen sent was in no manner a *Myrmobiota*, but a true *Homœusa*, and alluded to my recently-published paper, which I stated he could not have examined. Thereupon, I received the following postal :

“ LUXEMBURG, June 1st, 1901.

“ Having not your ‘last paper,’ in which you explained the differences between *Homœusa* and *Myrmobiota*, I ask you to send it to me. Your letter has come to my hands, and I learned the existence of that paper only by your note in the letter. My specimens of ‘*Myrmobiota crassicornis*’ were from Wickham too ; I am curious to know how you explain the generic difference between *Myrmobiota* and *Homœusa* now.”

My astonishment on receiving this postal can well be imagined, but I nevertheless sent him another copy of the paper, and heard nothing more until the article in question appeared in this journal.

The fact that Mr. Wasmann still adheres positively to his original theory that *Myrmobiota* is congeneric with *Homœusa*, without having even a specimen, seems to savour of that form of narrow-mindedness which occasionally comes to light, even in men of acknowledged ability and reputation—a hesitancy to correct or withdraw a statement once made, although demonstrated to be untenable. I have always admired the work of Mr. Wasmann, and regret the necessity of going into print in dispute with him, but it will probably be admitted that there is at least some justification for it in this instance.

THE COCCIDÆ OF BRITISH NORTH AMERICA.

BY GEO. B. KING, LAWRENCE, MASS.

(Continued from page 200.)

Since writing my first paper on the *Coccidæ* of British North America, a very large amount of new and interesting scale insects have been sent to me for study by Dr. Fletcher and Mr. John Dearness. In nearly every instance the twigs sent showed beyond question that the insects occurred upon the food-plants infested in injurious numbers; especially so of those found on blackberry, hazel-nut, spiræa, viburnum and oak. The following are new to the Canadian list:

Pulvinaria tilie, King and Ckll., 1898. (Native.) Mr. John Dearness sent these from Thedford, Ont., on *Cephalanthus occidentalis*. It was first recorded from Mass., found on *Tilia Americana*, *Quercus* and *Ulmus*, and described as a sub-sp. of *P. innumerabilis*, but further study proves it to be quite different from that species, and it should stand as *P. tilie*.

Eulecanium capree, L., 1758. (Introduced.) Found on a peach tree growing in a conservatory at Dartmouth, Nova Scotia, June 20, 1901, by Dr. A. H. Mackay, of Halifax, N. S. Dr. L. Reh, of Hamburg, Germany, has sent me this species infesting the following food-plants: *Pyrus malus*, *P. communis*, *Alnus* sp., *Cratægus coccinea*, *Prunus domestica*, *Tilia* sp., and *Aesculus hippocastaneum*. The species was originally described as *Coccus capree*, and has been recorded as *Coccus cypræola*, Dalm.; *Coccus gibber*, Dalm., and *Lecanium salicis*, Bouché. Linnè described his from *Salix* sp.; it has since been found on *Salix alba* and rose in England.

Eulecanium corylifex*, Fitch, 1856. (Native.) Sent by Dr. Fletcher, infesting in a serious manner *Corylus rostrata* and *Viburnum pubescens*, growing intermingled at Aylmer, Prov. Quebec, 1901. Originally described from N. Y.

Eulecanium quercifex, Fitch, 1856. (Native.) Found on oak at Knowlton, Prov. Quebec, by Miss A. Wood. The species is a common one in the U. S., and was described from N. Y.

Eulecanium vini, Bouché, 1851. (Perhaps introduced.) Last spring I received a scale from Dr. Reh, of Hamburg, Germany, infesting *Vitis vinifera*, *Pyrus communis*, *P. malus*, *Prunus armenica*, *P.*

*The species of *Eulecanium* have hitherto been placed in *Lecanium*; it is here proposed to regard the genus as a valid one.

(*Armygdalus*) *persica* and *Robinia pseudacacia*, and on *Spiraea* and *Lonicera* sp. at Smolond, Sweden; coll. Mr. Sven Lampa. In 1851, Bouché described a scale from grapevines; his description, given to me by Prof. Cockerell, is as follows: "♀ kahforming in alten aber halbkuglig werden denkbraum. Die Eier ohne wallige Euhüllung Lang 3 Lnnen an Winstocke." The scale received from Dr. Fletcher on *Spiraea salicifolia*. I cannot separate it from those received from Germany. Bouché's specimens, however, seem to have been a little larger than those before me; but the slight difference in their size counts for little in this case. There is no doubt that this is the so-called "vine-scale" of Germany. Are these scales introduced, or are they indigenous to both Europe and North America?

Chionaspis corni, Cooley, 1899. (Native.) Found on dogwood (*Cornus stolonifera*), April 5, 1899, in a shallow, shrubby swamp at London, Ont.; coll. Dearness. This was described from Mass. in 1899, found at Reading on *Cornus paniculata* and *C. alternifolia*.

NOTES ON PREVIOUSLY RECORDED SPECIES.

The following notes are of interest, giving as they do several new food-plants and geographical range:

Eriopeltis festuce, Fonsc. Sent by Dr. Fletcher; found in the woods on *Carex pedunculata* at Ottawa. This is a new locality and food-plant.

Pulvinaria occidentalis, Ckll. This was found by Dr. Mackay, June 14, 1901, on gooseberry bushes at Dartmouth, Nova Scotia. The plants were kept covered with glass jars until the young leaves began to appear. It was under these conditions when the scales were observed. A new locality.

Eulecanium quercitronis, Fitch. Mr. John Dearness sent these on twigs of *Ulmus* sp., May 28, 1891, from London, Ont. This is a new food-plant and new locality for the species in Canada, but is a common food-plant for the species in the U. S.

(To be continued.)

CORRESPONDENCE.

CONCERNING LARVAL DESCRIPTIONS.

The July CAN. ENT. (Vol. XXXIII, p. 186) contains a full and valuable account of the larva of *Alsophila pomataria*, by W. E. Hinds. The numbering of the setæ in the figure on page 186 is unfortunately stated to

be "according to Dyar's classification." This is misleading. The essential part of that classification depends upon the homologies of the tubercles, which I indicated by certain arbitrary numbers. Of course, Mr. Hinds is at liberty to call tubercle ii.a of the thorax iv., or vii. of the abdomen vi. + vii., etc., as in his figure, or make any other numbering, but he will please not label the result "according to Dyar's classification," which it is not. No one could homologize the description on page 187 with my writings without changing the numbers. Uniformity seems desirable.

HARRISON G. DYAR, Washington, D. C.

NOT SURPRISED.

In reference to Mr. J. Alston Moffat's interesting account of the emergence of a *Telea polyphemus* cocoon, in the October number, and his query, "Is it double-brooded somewhere?" I would say that it is quite possible in localities and seasons. This year I caught a dark-coloured ♀ specimen early in May, and near the end of August I found emerging from a beautifully white and fresh-looking cocoon a light-coloured ♀. In 1898, I caught a large number of specimens at light throughout the months of May and June, and early in September found five specimens, two perfect, the other newly emerged, all resting on apple trees and distinctly paler in colour than those of the early part of the season. It struck me as remarkable, as I had seen no specimens flying during August or September, and concluded they were belated in their emergence. But on consideration it looks as if they were second broods, so hastened or prematurely emerged from their pupa state that they had not the strength and vitality of those that emerged in the proper season. Although kept alive for some time before killing, their wings crinkled up after being set, and made such unsatisfactory specimens for a collection that I threw them out. I now think that in some seasons there is a small second brood here, but so immature or weak that they do not fly.

CHARLES STEVENSON, Montreal.

THE NORTHWEST (CANADA) ENTOMOLOGICAL SOCIETY.

The third annual meeting of this Society has been convened for Saturday, November 9th, 1901, at 3 p. m., at Lacombe, Alberta, N.-W. T.

- (1) To review the past work of the Society.
- (2) To devise extension of the work.
- (3) To elect officers for 1902.

This meeting will, we understand, be of unusual interest, as prizes have been offered, two by Dr. James Fletcher, of Ottawa, and one by the Society, for competition by the young folk of Lacombe district for the best collections of insects of all orders, and the best of noxious and beneficial insects. As there are a considerable number of Agricultural Societies and farmers who are members of the N.-W. Entomological Society, this competition is a step in the right direction.

Mailed November 8th, 1901.