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PROCEEDINGS

OF THE

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VOLUME II

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PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

ILLUSTRATIONS OF HITHERTO UNFIGURED
LEPIDOPTERA.

BY A. G. WEEKS, JR.

PART I.

BELIEVING that, when circumstances permit, colored illustrations should accompany the descriptions of new species of Lepidoptera, I take pleasure in submitting the first of a series of papers in which I intend to publish illustrations, with descriptive text, of previously unfigured species from my collection. Several of the descriptions in this issue are reprinted, unaltered but for a few verbal corrections, from the publications noted below.

Myscelia streckeri Skinner was received by me from my collector, and it remained for Dr. Henry Skinner to distinguish it as a new species. As it was one from a very interesting lot, I am glad to furnish illustrations of both sexes, doing so by Dr. Skinner's consent and request.

I wish to acknowledge my indebtedness to Dr. Herman Strecker, who has for several years devoted much time to my material and has been of very great help to me in determining new species; also to Prof. E. T. Owen, who did some work for me in connection with the species herein described.

Hypolycæna festata A. G. Weeks, Jr.¹

(Plate I, Figures 1 and 2.)

Habitat: Lower California (San José del Cabo). Expanse: ♂ and ♀, 1.00 to 1.10 inches.

Male.—Front and summit of head covered with light gray, nearly white hairs, deepening in shade as they approach thorax. Antennæ blackish, with white annulations at the base of each joint; club blackish brown, tipped with orange at base; the white extends nearly half way to apex. Thorax, above, presents generally the same color as wings, and is covered with grayish hairs; beneath, it is almost pure white. Legs covered with white hairs, shading into gray at ends. Abdomen, above, same color as wings, the blue disappearing toward end, where it is replaced by deepening gray; underneath, white shading into yellowish gray at end.

Upper side of fore wings a deep rich purplish blue, with some lustre; a large discoidal spot of the original ground color but inclining to blackish; the base very slightly dusted with blackish gray scales; the costa edged with blackish gray, almost linear over discoidal cell, and broadening toward apex, then extending down hind margin, of varying width, and covering one third of marginal area; inner margin without any border. Hind wings: ground color same as fore wings; inner margin light gray; costa and hind margin with a linear edge of blackish gray, inside of which, on the hind margin, is a fine thread-like line of white, broadening somewhat toward anal angle; inside of this is an almost imperceptible shading of dark blackish gray, bordering the ground color; two thread-like tails from termination of submedian nervure and first median nervule, the former more than thrice the length of the latter, blackish gray, very slightly edged and tipped with white; between these tails the dark shading inside of white line broadens into a dark spot, and this broadening is repeated below the submedian nervure, but in less degree; at anal angle is an orange spot of small size, bordered at top with white, and bearing a few light blue scales at lower edge.

Beneath, both wings are light gray with slight intermingling of whitish scales, and near base a slight shading of darker gray, which latter is wanting in some specimens. The costa of the fore wing is edged with orange near base about one quarter the distance to apex; edge of hind margin with a delicate line of dark brownish gray; the dark edging which appears on upper side and occupies one third of marginal area, manifests itself underneath by a very slight yellowish tinge, scarcely perceptible on the gray background; on the inner edge of this, one sixteenth inch from margin, is a transverse stripe of darkish gray elongated streaks extending from the costal border to the lower median nervule, bordered on each side with lighter gray, and always very indistinct,

¹ Entomological News, Vol. II, No. 6.

imperceptible on some specimens; inside of these and one third the distance from margin to base is a series of more or less distinct transverse streaks extending from costa to lower median nervule, bordered with white or very light gray on the outside, and with orange on the inside, the orange being nearly absent at upper part near costa, but becoming more prominent below; this line is the prominent feature of the markings; within this and parallel to it is a line of very indistinct darkish transverse streaks extending to inner margin. On the edge of hind margin of hind wing is a delicate line of dark brownish gray, bordered on inner side with white, or very light gray; within this and one sixteenth inch from margin is a line of nearly semicircular darkish gray lines extending from costa to inner margin, occasionally with a few orange scales enclosed and bordered with a little lightish gray; in the middle of the outer two thirds of the wing is an irregular, but nearly straight series of transverse streaks of dark gray, forming a continuance of the streaks on fore wing, but more strongly bordered with orange on inner side and white on outer side, and running parallel to the margin and terminating at inner margin about one third the distance from anal angle to base; in the lower median interspace is a prominent orange spot, bordered above with a black line and enclosing at its base a nearly circular black spot, almost touching hind margin; in the next space below is a similar orange and black spot, less than half the size of the first and less distinctly marked, extending over the nervule to the anal angle; between these spots there is a sprinkling of light bluish scales, sometimes absent.

Female.—Head, antennæ and legs, same as male. Thorax and abdomen the same, except the blue of the male is replaced by the ground color of the wings. Ground color of wings a light grayish blue, near light slate color; some specimens being brighter and with considerable lustre; markings the same as male, except that the discoidal spot is wanting (although slightly apparent on some specimens), and the border of blackish gray on fore wings, especially on hind margins, is more suffused, and covers one half the area of the wing, extending from lower angle to a point on costa midway between apex and base. Beneath, identical with male.

The specimens described were taken near San José del Cabo, at extreme end of the cape, in the month of August. They were flitting about the flowering vines near sea-level. Described from sixteen males and seven females in my collection, taken by Mr. M. Abbott Frazer in 1888.

Lemonias maxima A. G. Weeks, Jr.¹*(Plate I, Figure 4.)*

Habitat: Lower California. Expanse: 1.60 inches.

Front of head covered with white hairs, shading into blackish brown at summit; between head and thorax a "collar" of fulvous hairs. Palpi white, shading into blackish brown at ends. Antennæ blackish, with white annulations at base of each joint; club blackish, tipped with fulvous. Thorax, above, black, covered with blackish brown hairs; beneath white. Abdomen the same as thorax.

Primaries, above, fulvous and dark brown, with white spots; margins dark brown. Costa dark brown, with a linear fulvous dash near base. The dark brown along hind margins covers marginal area; near hind margin a row of seven white spots in interspaces, the upper two elongated, and all bordered with a soft dash of blackish brown on basal and outer sides, more apparent on basal side. Within these, and one third distance from margin to base, a second row of seven white spots, larger than the first and cone-shaped (apex outward), bordered with black on basal side only, arranged, the upper three in a line at right angle to costa, the next three at right angle with inner margin, and the lower one not in line, but placed nearer hind margin; the upper three are placed in the dark brown of marginal area, the lower four in the fulvous ground color. Above this row and nearly in costal edge, is a small white speck; at the end of cell a large white spot edged on each side with black; below this, extending from median nervule to submedian nervure, another large white spot, bordered with black on basal side only and irregular in shape; between these two, in notch formed by junction of median nervule and median nervure, a small blackish brown spot. In centre of cell a round white spot bordered with black, and below this, below nervure, another white spot bordered with black; between these and base two slight dashes of white; nervures and nervules dark brown. Secondaries are marked the same, except that in second row of white spots the second two are much elongated, with basal ends joining and forming a **V**; also, on the costa over centre of cell, a larger elongated white spot with no border.

Wings, beneath, much the same as above, except general coloring is much lighter and brighter and there is some lustre. Costa of primaries edged with white near base, broader at base, and tapering off to a point half way up the wing. White spots more suffused; those forming the **V** on the upper side of secondaries blended in one irregular spot, and elongated or suffused enough to join with white spot in cell. Base of hind wings, and inner margin of same, generously dashed with silvery scales.

Described from two specimens in my collection, taken near San José del Cabo, Lower California, by Mr. M. Abbott Frazar.

¹ Entomological News, Vol. II, No. 6.

Pyrgus pelagica A. G. Weeks, Jr.¹*(Plate I, Figure 5.)*

Habitat: San José del Cabo, Lower California. Expanse: 1.25 inches.

Under side of palpi and head covered with whitish hairs; top of same blackish-brown gray; forehead with some whitish hairs mixed with the darker. Thorax and abdomen blackish above, end of abdomen shading into gray, beneath whitish. Legs covered with whitish hairs, brownish at ends. Antennæ blackish, with small white annulations at base of each joint; club above blackish, tipped with light brown, below light brown down to joint. Wings, above, dark brownish gray, with white and grayish white spots, hind margins with a fringe of dark brownish gray. Hind margin of primaries edged with a dark line, just within which, in interspaces, is a row of indistinct darkish spots, absent in some specimens. The dark brownish gray covers marginal area, and is dusted and irregularly shaded with grayish scales. On costa one fourth distance from tip to base, between the subcostal nervules, three (sometimes two or one) small white spots. Across centre of wing, extending from edge of costa across end of discoidal cell down to submedian nervule, a whitish band of consecutive spots, of irregular form and varying distinctness, sprinkled more or less with brownish scales. In some specimens this space shades off into ground color, in others the edges between spots and ground color are distinctly marked, and bordered with a darkish line. In centre of cell, an irregular whitish spot of same character; between this spot and the spot at end of cell, and below submedian nervule, an irregular whitish spot, dusted more with brownish scales. Base dark brownish gray, with some grayish scales. The suffusion of the ground color is more marked in some specimens than others, rendering an accurate general limitation of the spots difficult. Some specimens show a slight yellowish tinge on white spots. Ground color of secondaries a blackish brown, of more distinct character than the ground color of primaries. Costa white. Hind margin edged with a dark line, within which, in interspaces, is a row of white specks, sometimes absent, which, at anal angle, are transversely elongated, forming an indistinct line from inner margin to submedian nervule. Within these, one third distance to base, a row of brownish spots, extending from costa to inner margin, parallel to hind margin, but not in line, and the one near centre larger than the others, and drawn nearer to cell. Within these, across centre of wing, a prominent whitish band, forming an extension of the same on primaries, but of purer white, ending at submedian nervure. Basal area, of ground color, but toward inner margin covered with light grayish hairs, which extend along margin to anal angle. Beneath, general color is grayish white, with a very slight yellowish brown tinge, and showing shadows of the markings above. Costa of primaries

¹ Canadian Entomologist, Vol. XXIII, No. 6.

marked with darkish brown and white, reflecting markings above. Hind margin edged with blackish brown, and within, covering one third of marginal area, darkish brown, with a row of white specks in interspaces. Costa of secondaries white, same as ground color. Hind margin edged with a line of blackish brown, shading off into ground color. In space below submedian nervule, the dark markings of upper side show more prominently than elsewhere.

Described from twelve specimens in my collection, taken near San José del Cabo, Lower California, by Mr. M. Abbott Frazar, 1888.

***Myscelia streckeri* Skinner.¹**

(*Plate I, Figure 3, ♀. Plate II, ♂.*)

Habitat: Lower California. Expanse: male, 2.12 inches; female, 2.50 inches.

The superior wings are of a rich black with a purplish cast, a broken line of bluish purple marginal dots runs very close to the exterior margin. There are three white apical spots surrounded by the same heliotrope color; running from the base for about one quarter inch into the discoidal cell are two of heliotrope or purple-blue; starting from the base is a large blotch of the same color extending into the wing for nearly one half inch. The inferior wings are emarginate and of the same color as the superiors only somewhat lighter, and have the same marginal spots with a faint indication of a submarginal band. There is a heliotrope blotch on the inferiors similar to that on the superiors; the under side of the inferiors and the apices of the superiors on the under side look very much like the under side of the inferiors of *Pyrameis atalanta*, and I think cannot be described in words.

The female is larger, lighter in color, and in addition to the three apical spots has two on the wing near the centre of the costa, and three which are submarginal. The three apical spots are not surrounded by heliotrope color as in the male, and the others are plain white. The under side is the same as in the male.

Described from five specimens from Lower California through the kindness of Mr. A. G. Weeks, Jr.

I take pleasure in dedicating this species to my friend, Dr. Herman Strecker.

¹ Dr. Henry Skinner, Trans. Amer. Ent. Soc., Vol. XVI, p. 87.

Colias hecate sp. nov.

(Plate III.)

I have received the following description, in manuscript, from Dr. Herman Strecker, and have his permission to publish it here.

Habitat: Congo, West Africa. Expanse: 1.88 inches.

Size and shape of *Eurytheme*.

Male.—Body, above, black with yellow hairs. Some red or pinkish hairs on the head and collar. Wings above pale yellow orange; at costa of secondaries lemon yellow. Primaries with a black marginal band, which is parallel with the exterior margin from the inner margin to middle of wing, whence it widens to the costa at a point about one third in from the apex. A good-sized black discal spot. Secondaries with a moderate black marginal band, widest from middle toward the apex and narrowing toward the anal angle, which it does not reach. A pale orange geminate discal spot. Fringe of primaries pinkish brown, paler at inner angle; of secondaries more yellowish. Under surface lemon yellow, costa edged with pink. On primaries two small brown spots on costa, and four submarginal ones. A black discal spot, centred with a white dot. Secondaries with silver discal spots encircled with reddish brown, the anterior one much the smallest. A brown mark on the costa, and a submarginal row of small brown spots, one in each cell.

Female.—Lemon yellow, primaries with a very pale orange shade on the inner part of disk between the median vein and inner margin; some black scales along the costal margin and at base. A black marginal band much as in the male but wider on its inner half, and enclosing three inconspicuous yellow spots, one between veins 2 and 3, and two, almost geminate, half way between the latter and the costa. A black discal spot. Secondaries with a black exterior margin more even in width than in the male but not as sharply defined on the inner edge. A double orange discal spot. All fringes pink. Under surface as in the male, but the discal spots smaller, the anterior one of secondaries being little more than a dot.

Types, two males, one female, from Ovim-Bunda, Congo, West Africa. Except the red *C. electra* of the Cape regions, this is the only African *Colias* so far known to occur south of the Great Desert.

Pandora prola Doubl.—Hew.

FEMALE.

(Plate IV.)

Habitat: Colombia, Bogota District. Expanse: 3.12 inches.

Front and summit of head of bluish slate color, with touchings or spottings of white bordering the eyes. Antennæ black; club black, shading to gray at extreme tip. Thorax generally black with a blue-slate lustre, brick-red beneath. Palpi black above, white beneath; legs the same. Abdomen, above, black with blue-slate lustre, shading to mouse color underneath.

Upper side of primaries prominently crossed by a band of blue steel color, having much lustre, and a third of an inch wide, extending from costa, curving outwards and striking inner margin just within the angle. This band extends across the secondaries also. Outside of this band, plain soft black slightly tinged with blue, excepting that midway between the band and tip of wing is another band of blue steel color, rather indistinct, starting in a whitish spot on the subcostal vein and extending across to centre of hind margin, and then continuing down in an almost imperceptible line to the angle, there joining the larger band.

Inside of the large band, the ground color is lustrous deep blue steel color, with heavy transverse black lines. Of these lines there are six in the discoidal space, equidistant. The first two extend to the submedian vein, the third crosses the space only, the fourth continues to the inner margin, the fifth crosses the space only, and the sixth extends downward to the inner margin, meeting the large band at the second median veinlet, showing considerable suffusion then toward the base. The costa is of the same blue steel color, tapering to black as it approaches the tip, but crossed by the large band.

The secondaries have the same general appearance, the large band extending to the anal angle, following the curve of the hind margin, one quarter to one third of an inch within it. This space or border of the hind margin is plain blue-black. The band on the secondaries is more blue, not showing the slight greenish lustre of the same band on the primaries. Beginning at the subcostal vein, the band is bordered on the inside by a black line, showing suffusion toward base and tapering to a thread toward anal angle. The space is crossed by two heavy black lines, with a suggestion of another line between them.

Beneath, the discoidal space of primaries only, shows the blue steel ground. At the apex of the space this shades into a band or space of blue-black which extends from centre of costa to submedian vein, covering one third of the wing. This space of blue-black shades into a band of lustrous silvery white, which extends across the tip of the wing from the costa to near the centre of the

hind margin and is one quarter inch wide. The space beyond this to tip is *brick-red*. In the discoidal space are two brick-red spots bordered with black, one near the base and showing suffusion toward the base; the other larger and crossing centre of discoidal space; beyond this larger spot are two black lines. The lower portion of the wing, from a line drawn from anal angle to apex of the discoidal space and thence down the median vein, is mouse color.

The under side of secondaries is brick-red, with a slight blue lustre in certain lights. The hind and inner margins are bordered by a thread of black. One quarter inch within the hind margin is an indistinct line of black, following the contour of the margin, with suffusion toward base of wing. In the centre of the discoidal space are two small black spots. Beyond these, in the discoidal space, is an indistinct black line extending up to costa. One quarter inch beyond this line is another, running downward from costa, just beyond discoidal space, and fading away towards median veinlets.

This female was received by me from the Bogota District in 1898. Its general appearance is identical with that of the male, although somewhat larger than most of the hundreds of males in my collection. The main feature, its distinctive mark, is the brick-red tip on under side of primaries, the space being blue-black in the male.

ERRATUM.

The authority for the name *Colias hecate* on Plate III should be Weeks, not Strecker.





1. *Phalaena (Gnathocentrus) vindex* (Cramer)
2. *Phalaena (Gnathocentrus) vindex* (Cramer)
3. *Phalaena (Gnathocentrus) vindex* (Cramer)
4. *Phalaena (Gnathocentrus) vindex* (Cramer)







J. Henri Blake del.

E. Muesel lith.

1. COLIAS HEGATE strecker ♂ 2. COLIAS HEGATE Strecker ♀
3. COLIAS HEGATE albina ♀





J. Henry Blake, ad nat.

5700-100

PANDORA PROLA Doubt-New ♀

PROCEEDINGS
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DESCRIPTION OF A NEW RICE GRACKLE.

BY OUTRAM BANGS.

WHEN I was in Washington this spring, Mr. Robert Ridgway and I got together and compared a large series of rice grackles; when it at once became apparent that the Colombian bird needs a name, differing much from either true *Cassidix oryzivora* (Gml.) or *C. oryzivora mexicana* (Lesson).

Cassidix oryzivora oryzivora inhabits Guiana, Trinidad, and the Amazon Valley, including central Ecuador, and probably also Venezuela. The new form occurs throughout Colombia, north to the Isthmus of Panama. The Panama specimens are not typical, but incline toward *C. oryzivora mexicana* of southern Mexico.

The Colombian form may be known by the following diagnosis.

***Cassidix oryzivora violea*¹ subsp. nov.**

Type, from La Concepcion, Sierra Nevada de Santa Marta, 3000 feet altitude, Colombia, adult ♂, no. 5855, coll. of E. A. and O. Bangs, collected Feb. 12, 1899, by W. W. Brown, Jr.

Subspecific characters.—Similar to *Cassidix oryzivora oryzivora*, but larger, and the adult male with the plumage glossed with violet instead of bronzy (it

¹ *Violeus* — of a violet color.

is bronzy on back and sometimes on neck ruffs, but not elsewhere). Similar to *C. oryzivora mexicana*, but *larger*, bill stouter, and back bronzy instead of violet like under parts; feathers of under parts more narrowly tipped with violet. "Iris straw color."¹

MEASUREMENTS (in millimeters).

No.	Sex		Wing	Tail	Tarsus	Exposed culmen
5855	♂ ad.	Type.	209.	158.	46.6	39.0
5856	♂ ad.	Topotype.	211.	155.	47.0	36.4
5857	♂ ad.	Topotype.	207.	153.	47.0	38.0
5710	♀ ad.	From Palomina, Colombia.	160.	119.	39.4	31.4

¹ Note made from fresh specimen by Mr. Brown.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

LIST OF BIRDS COLLECTED BY W. W. BROWN, JR.,
AT LOMA DEL LEON, PANAMA.

BY OUTRAM BANGS.

FOR twenty-eight days in March, 1900, Mr. W. W. Brown, Jr., collected birds and mammals, for my brother and me, at Loma del Leon (Lion Hill Station), Panama,—preparing in this time 752 skins.

Loma del Leon lies in the rain-soaked, swampy country of the eastern side of the Isthmus (the western coast being much drier, with a scrubby growth). It is a station from which many birds have been sent to the larger collections of both England and America, and a number of specimens obtained there by Mr. Brown are practically topotypes—in some cases actual topotypes—of species of Lawrence, Salvin and Godman, and others.

The collection of birds is a very fine one; but the birds of the region are so well known that the present paper takes much the form of a list, in most cases merely the name and the number of specimens taken by Mr. Brown being given, comment being unnecessary; and but three forms receive new names.

I am under the greatest obligation to Drs. Ridgway and Richmond for allowing me the unrestricted use of the collection of birds in the National Museum and for helping me identify specimens.

Crypturus soui modestus (Cab.).

Three specimens, a pair of adults taken March 25, and a young bird about two thirds grown. This form is readily distinguished from true *C. soui* by the dark color of the under side of the neck.

Helodromas solitarius (Wils.).

One male, taken March 11.

Jacana nigra (Gmel.).

One male, March 30. "Frontal plate, loreal flaps, and basal part of bell, poppy red."¹

Aramides cayanea chiricote (Hartl.).

One male, March 16.

Porzana carolina (Linn.).

One male, March 18.

Porzana albigularis (Lawr.).

One male, March 26.

Ionornis martinica (Linn.).

One male, March 23.

Ortalis cinereiceps (Gray).

One female, March 21.

¹ Note made by Mr. Brown from fresh specimen.

Leptoptila cassini Lawr.

Five specimens, all males.

Claravis pretiosa (Ferrari-Perez).

Seven specimens, both sexes.

Columbigallina rufipennis (Bp.).

Two males.

Cochlearius zeledoni Ridg.

One female.

Tigrisoma lineatum (Bodd.).

One male.

Buteo latissimus (Wils.).

One immature male.

Asturina nitida (Lath.).

One adult male.

Busarellus nigricollis (Lath.).

One adult male.

Spizaëtus tyrannus (Max.).

One adult male.

Micrastur melanoleucus (Vieill.).

One immature male.

Strix guatemalæ Ridg.

One adult male.

Pulsatrix torquata (Daud.).

Two adults—male and female.

Brotogerys jugularis (Müll.).

Three specimens.

Pionus menstruus rubrigularis (Cabanis).

One adult male. In this northern form of the blue-headed parrot the rose-colored spot on the throat is larger, and the blue of the head and neck is duller.

Crotophaga ani Linn.

One male.

Diplopterus nævius (Linn.).

Four males. Panama birds seem to average a little smaller than Mexican, but larger than South American, specimens.

Piaya cayana thermophila (Scl.).

Three specimens, all males.

Piaya minuta (Vieill.).

Four specimens, both sexes.

Nyctidromus albicollis (Gmel.).

Three specimens,— one male, two females. One of these is in the usual reddish brown plumage, the other two are extremely dark-colored individuals.

Urospatha martii (Spix).

Three fine males.

Ceryle inda (Linn.).

Three males.

Ceryle superciliosa (Linn.).

Five specimens, both sexes.

The Panama form is true *C. superciliosa*, showing no approach to *C. superciliosa stictoptera* Ridg. of Yucatan, and differing in no way from specimens from Surinam. One Panama skin, no. 7102, has green spots on the upper sides of the white belly patch, but no green spots on under tail-coverts. One adult male from Surinam, no. 9932, Bangs collection, has the under tail-coverts spotted with green, but no green breast spots. A combination of these two specimens would make an exact counterpart of the plate of *Ceryle equatorialis* Sharp, of Ecuador.

Bucco dysoni Scl.

Two specimens, male and female.

Nonnula frontalis Scl.

Two specimens, male and female.

Rhamphastos brevicarinatus Gould.

Two females.

Pteroglossus torquatus (Gmel.).

One male.

Capito maculicoronatus Lawr.

Two adult males.

Picumnus olivaceus Lafr.

Two adult males. These are true *P. olivaceus*.

Celeus squamatus Lawr.

Three males.

Celeus squamatus Lawr. of Panama is a very well-marked form, differing in many ways from *C. loricatus* that surrounds it.¹ *C. squamatus* differs from *C. loricatus* (Costa Rica specimens, and the type of *C. mentalis* from Turbo, Colombia) in being smaller, the wing averaging 118.5 mm. as against 123.5 mm., in having the upper parts a paler shade of rufous, the under parts much paler, pale buff instead of dull ochraceous rufous, and very much more conspicuously marked with scale-like black markings, which are quite as heavy on belly and sides as on breast. In *C. loricatus* the black markings become much smaller and less noticeable posteriorly.

Melanerpes wagleri Salv. and Godm.

Eight specimens, both sexes. These are topotypes.

The form I described from Santa Marta as *M. wagleri sanctæ-martæ* is a miniature of true *wagleri*, but differs, besides, slightly in color, the frontal band in the Santa Marta bird being whiter, and the inner rectrices more heavily marked with white.

¹ *Celeus loricatus* Reich. was described from a specimen from northwestern Peru. I have seen no specimens from nearer the type locality than Turbo, Colombia,—this one the type of *C. mentalis* Cassin. Birds from Costa Rica are much the same; and while more material may show several geographical races, none of them are much like *C. squamatus* of Panama.

Melanerpes pucherani (Malh.).

Two males.

Ceophlœus lineatus (Linn.).

One male.

Trogon caligatus Gould.

Eleven specimens, both sexes.

Trogon atricollis tenuellus (Cab.).

Three specimens, two males and a female.

Trogon chionurus Scl. and Salv.

Four specimens, both sexes.

Trogon melanurus macrurus (Gould).

Two males.

Trogon massena Gould.

Two specimens, male and female.

Phaëthornis longirostris (Less. and Delatt.).

Four specimens, all males.

Aphantochroa cirrhochloris (Vieill.).

Nine specimens, both sexes.

Lampornis violicauda (Bodd.).

Six specimens, both sexes.

Amizillis fuscicaudata (Fraser).

Three specimens, one male and two females.

Damophila panamensis Berl.

Two specimens, male and female.

Copurus leuconotus Lafr.

Four specimens, one male and three females.

Todirostrum cinereum (Linn.).

Two specimens, male and female.

Todirostrum schistaceiceps Scf.

One female.

Oncostoma olivacea Lawr.

One male.

Mionectes oleagineus parvus¹ subsp. nov.

Two males.

Type, from Loma del Leon, Panama, ♂ adult, no. 7187, coll. of E. A. and O. Bangs, collected March 30, 1900, by W. W. Brown, Jr.

Subspecific characters.—Similar in general to true *M. oleagineus* of South America, but smaller; bill rather smaller and with more black on lower mandible; darker in color throughout, back and pileum much darker green, and throat much darker, more grayish, less olivaceous.

MEASUREMENTS (in millimeters).

No.	Type	Sex and age	Wing	Tail	Tarsus	Exposed culmen
7187	Type	♂ adult	57.0	45.0	13.2	10.2
7188	Topotype	♂ adult	56.0	44.5	13.4	10.0

¹ *Parvus*—small, slight.

Remarks.—In my opinion *Mionectes assimilis* Scl. of Central America is a very distinct species. It is larger than true *M. oleagineus*, and is very different in color, having a much paler belly, gray throat, and dusky grayish olive head, and the under side of the tail much darker, less reddish brown. In the series in the National Museum I find no sign of intergradation.

M. oleagineus parvus, however, probably intergrades with true *M. oleagineus*, of which it is a small, dark, northern race.

Capsiempis flaveola (Licht.).

Two specimens, a pair, taken March 10.

Elanea pagana subpagana Scl. and Salv.

Six specimens, both sexes.

Legatus albicollis (Vieill.).

One male.

Myiozetetes cayennensis (Linn.).

Eight specimens, both sexes.

Myiozetetes similis superciliosus (Bp.).

Four specimens, both sexes.

Myiozetetes granadensis Lawr.

Nine specimens, both sexes.

Pitangus lictor (Licht.).

Three specimens, a male and two females.

Myiodynastes audax nobilis (Scl.).

Eleven specimens, both sexes.

Muscivora mexicana (Scl.).

One adult female.

Myiobius atricaudus Lawr.

One adult female.

Empidonax traillii (Aud.).

One adult male, taken March 17.

Blacicus brachytarsus (Scl.).

Two males.

Myiarchus panamensis Lawr.

Five specimens, both sexes.

Tyrannus melancholicus satrapa (Licht.).

Sixteen specimens, both sexes.

Tyrannus tyrannus (Linn.).

Three specimens, two males, and a female, taken March 20, 26, and 30.

Manacus vitellina Gould.

Fifteen specimens, both sexes.

Tityra semifasciata personata (Jard. and Selb.).

Four specimens, three males and a female.

Pachyrhamphus cinereus (Bodd.).

Four specimens, both sexes.

Pachyrhamphus cinnamomeus Lawr.

Four specimens, both sexes.

Pachyrhamphus sp.?

One female, clearly not either of the preceding, and belonging to a species I have not been able to identify.

Laniocera rufescens (Scl.).

One adult male.

Attila sclateri Lawr.

Two adult males.

Querula cruenta (Bodd.).

Four specimens, both sexes.

Myrmotherula surinamensis (Gmel.).

Three specimens, a female and two males.

Cercomacra tyrannina (Scl.).

Four specimens, three males and one female.

Cercomacra maculicaudis (Scl.).

Three specimens, two males and a female.

Gymnocichla nudiceps (Cassin).

Seven specimens, five males and two females.

Hypocnemis nævioides (Lafr.).

Two specimens, male and female.

Phlogopsis macleannani Lawr.

Two specimens, male and female.

Formicarius hoffmanni Cab.

One adult female.

Cymbilanius lineatus fasciatus Ridg.

Two specimens, male and female.

Thamnophilus tranandeanus Scl.

Eight specimens, both sexes.

Thamnophilus nævius (Gmel.).

Four females.

Thamnophilus doliatus (Linn.).

Eight specimens, both sexes.

Myrmelastes intermedius (Cherrie).

Four specimens, both sexes.

Myrmelastes ceterus¹ sp. nov.

Type (and only specimen in the collection) from Loma del Leon, Panama, ♂ adult, no. 7323, coll. of E. A. and O. Bangs, collected March 30, 1900, by W. W. Brown, Jr.

Specific characters.— Similar to *M. lawrencii* Salv. and Godm. of Nicaragua and Chiriqui, except that the Panama form has white-tipped greater wing-coverts and rectrices, and much larger and more prominent concealed white patch on back.

Color.— Adult male (type): black all over; wings rather brownish black; a large, concealed, white patch on back; wing-coverts broadly tipped with white and rectrices narrowly tipped with white; lining of wing mostly whitish.

Measurements.— Adult male (type): wing, 73.; tail, 55.; tarsus, 30.4; exposed culmen, 18.2 mm.

Remarks.— *M. ceterus* is the bird Lawrence described as *Myrmelastes corvinus* from an immature male from Panama. Salvin and Godman, finding that the name *corvinus* had already been used in connection with *Myrmelastes*, renamed the species *lawrencii* and described one of the Chiriqui examples from their collection. Now it appears that two species enter into the question — one inhabiting Nicaragua and Chiriqui, the other Panama, the Panama form (*corvinus* Lawr. = *ceterus*) distinguished by having white tips to the rectrices and greater wing-coverts and a prominent concealed white patch on back, the Nicaragua and Chiriqui form (*lawrencii* Salv. and Godm.) by having no white on wings or tail and the concealed dorsal patch almost obsolete.

Dendroornis nana Lawr.

Twelve specimens, both sexes.

Picolaptes lineaticeps Lafr.

One adult male.

¹ *Ceterus* — the other, that which exists besides.

Xiphorhynchus trochilirostris (Licht.).

Two specimens, male and female.

Sclerurus mexicanus Scl.

Two specimens, males.

Sclerurus guatemalensis (Hartl.).

Two specimens, male and female.

Automolus pallidigularis Lawr.

One adult female.

Xenops genibarbis Ill.

Three males.

Synallaxis pudica Scl.

Five specimens, both sexes.

Stelgidopteryx uropygialis (Lawr.).

One adult male.

Progne chalybea (Gmel.).

Three males.

Troglodytes inquietus Baird.

Two males.

Thryothorus fasciatoventris albigularis (Scl.).

Four specimens, all males.

Thryophilus modestus (Cab.).

Two specimens, male and female.

Thryophilus galbraithi Lawr.

Seven specimens, both sexes.

Thryophilus castaneus (Lawr.).

One adult male.

Cyphorhinus lawrencii Scl.

Three specimens, two males, one female.

Rhodinocichla rosea (Less.).

Two females.

Galeoscoptes carolinensis (Linn.).

One female, taken March 6.

Merula grayii casius (Bp.).

Ten specimens, both sexes.

Hylocichla ustulata swainsonii (Cab.).

One female, taken March 25.

Geothlypis formosa (Wils.).

One male, taken March 29.

Seiurus noveboracensis (Gmel.).

One male, taken March 27.

Dendroica pensylvanica (Linn.).

One male, taken March 21.

Dendroica æstiva (Gmel.).

One male, taken March 8.

Cœreba mexicana (Scl.).

One adult female.

Cyanerpes cyaneus (Linn.).

Eight specimens, seven males, one female.

Dacnis ultramarina Lawr.

One adult female.

Euphonia crassirostris Scl.

Seventeen specimens, both sexes.

As there seemed to be some difference of opinion as to the distinctness of *E. laniirostris* Lafr. and Daub. from the Colombian bird (*E. crassirostris* Scl.), I examined the cotypes of the former, now in the collection of the Boston Society of Natural History.

The cotypes are two adults, both males, in fine condition, nos. 2848 and 2849, from Yuracares, Bolivia.

Without doubt they represent a different form from the common species of Colombia and Central America. *E. crassirostris* is glossed on head and hind neck with purple, which gradually becomes steel blue on lower back and rump. The cotypes of *E. laniirostris* are wholly glossed with purple above; below they are deeper yellow—more orange. *E. laniirostris* is also larger (no. 2848, adult ♂, cotype: wing, 65.; no. 2849, adult ♂, cotype: wing, 66.5), and has a heavier, stouter bill. In *E. crassirostris* the wing, in the adult male, measures about 62 mm., a large number of examples that I measured varying but little from this, either one way or the other.

Eucometis cristata (Du Bus).

Five specimens, both sexes. A female taken March 25 had an egg in the oviduct.

Mitrospingus cassini (Lawr.).

Two specimens, a pair, taken March 27.

Heterospingus rubrifrons Lawr.

One male.

Tachyphonus rufus Bodd.

Twenty-seven specimens, both sexes.

Tachyphonus luctuosus Lafr.

One male.

Phœnicothraupis fuscicauda erythrolæma (Scl.).

Ten specimens, both sexes.

This, the southern form of *P. fuscicauda*, extending from Santa Marta to Panama, differs from true *fuscicauda* of Costa Rica in its generally paler and redder coloring. The back, in *erythrolæma*, is redder, and the belly and sides are much paler and decidedly redder.

Piranga rubra (Linn.).

Two males, both taken March 29.

Rhamphocelus dimidiatus Lafr.

Ten specimens, both sexes.

Rhamphocelus icteronotus Bp.

Twenty-five specimens, both sexes.

Tanagra cana diaconus (Less.).

Twenty-four specimens, both sexes.

Tanagra palmarum melanoptera (Scl.).

Thirty specimens, both sexes.

Calospiza larvata fanny (Lafr.).

Fifteen specimens, both sexes.

Calospiza inornata (Gould).

Nine specimens, both sexes.

Saltator lacertosus¹ sp. nov.

Six specimens, both sexes.

Type, from Loma del Leon, Panama, ♀ adult, no. 7524, coll. of E. A. and O. Bangs, collected March 10, 1900, by W. W. Brown, Jr.

Specific characters.—Nearest to *S. atriceps* Less. of Mexico and Central America, differing from that species in being smaller; tail shorter; bill much larger and stouter; white superciliary stripe much more pronounced; no black band across lower throat; under tail-coverts much darker—more rusty; sides and flanks browner; sides of face gray (blackish in *S. atriceps*); sexes similar in color.

Color.—Pileum black; back, wings and tail, bright, yellowish, olive green; inner webs of primaries and secondaries dusky; a white superciliary stripe reaching some distance behind eye; cheeks slate gray; chin black; throat pure white, bordered at lower sides by black, and sometimes a few black spots on the feathers of breast just behind white throat patch, but *never* a black band separating throat patch and breast (as in *S. atriceps*); breast and belly gray (no. 6 of Ridgway); sides and flanks dull olive brown; under tail-coverts dull ferruginous; bend of wing yellow.

MEASUREMENTS (in millimeters).

No.		Sex and age	Wing	Tail	Tarsus	Exposed culmen
7524	Type	♀ ad.	111.	112.	29.	24.6
7525	Topotype	♀ ad.	110.	106.5	29.6	25.
7526	"	♂ ad.	107. ²	110.	29.	25.2
7527	"	♂ ad.	116.	—	30.	25.
7528	"	♂ ad.	118.5	121.	29.6	25.2
7529	"	♂ ad.	117.	121.	30.	24.6

Remarks.—In Washington I examined a splendid series of *Saltators*. The National Museum contains specimens of *S. atriceps* from a great many different places in southern Mexico and Central America, and also a few skins of the new form from Panama. I could not find the slightest indication that the two forms intergrade and must therefore regard the Panama bird as a distinct species. It is, in truth, such a very different bird in so many ways that I cannot understand how the two have for so long been confused and run together under one specific name.

¹ *Lacertosus*—powerful.

² Primaries growing, after moult, and not of full length.

Saltator intermedius Lawr.

Nineteen specimens, both sexes.

This is another very well-marked form, occurring in Chiriqui and Panama, that has lately not been recognized as distinct. In the very large series I have just examined I find no intergrades between it and *S. magnoides* of southern Mexico, Nicaragua and Costa Rica; in fact, specimens from the last-named country are quite as extreme *magnoides* as are Mexican examples. The chief differences between the two forms are as follows. In *S. magnoides* the black band behind the throat patch is very broad, often extending back over the breast; the under parts are dark gray. In *S. intermedius* the black band behind the throat patch is very narrow, often reduced to a series of black spots, and sometimes wholly wanting; the under parts are dull brownish (not gray).

S. intermedius may or may not intergrade with *S. magnus* of northern South America. I have seen no specimens, however, that show any tendency to such an intergradation. *S. magnus* is so much smaller and has such a weak bill (in comparison to the bill of *S. intermedius*), besides differing much in color, that, even if intergradation does take place, all three must stand as strongly characterized forms.

Saltator albicollis isthmicus (Scl.).

Fifteen specimens, both sexes.

Arremon aurantirostris Lafr.

Nine specimens, both sexes.

Arremonops conirostris (Bp.).

Twenty-three specimens, both sexes.

Euethia pusilla (Swains.).

One male.

Sporophila minuta (Linn.).

Three males.

Sporophila aurita (Bp.).

Seven specimens, six males, one female. The males are, as usual, very variable in the amount of black and white below.

Pitylus grossus (Linn.).

Four specimens, three males, one female.

Cyanocompsa concreta cyanescens Ridg.

Six skins, two adult females, three adult males, and a young male in mottled blue and brown plumage.

Spiza americana (Gmel.).

One male, taken March 17.

Amblycercus holosericeus (Licht.).

Fourteen specimens, both sexes.

Icterus galbula (Linn.).

Two specimens, a male, taken March 17, and a female, taken March 18.

Icterus mesomelas salvini (Cassin).

Thirteen specimens, both sexes.

Cacicus microrhynchus Scl. and Salv.

Four specimens, both sexes.

Zarhynchus wagleri (Gray).

Six skins, both sexes.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

THREE NEW RODENTS FROM SOUTHERN
LABRADOR.

BY OUTRAM BANGS.

OF the three rodents here described as new subspecies, one is the Labrador porcupine, which is now represented in our collection by sixteen splendid specimens, skins and skulls, and one other skull, all taken by Ernest Doane at Black Bay and Lance au Loup. I have known for some time that this porcupine was different from true *Erethizon dorsatus*, but have been waiting for ample material before naming it. Its chief external difference lies in its uniform black or brownish black color, without the white hairs that are so conspicuous a mark of the more southern form, *E. dorsatus dorsatus*.

Another is the very large form of *Phenacomys celatus*¹ represented by a series of sixteen specimens from Hamilton Inlet, taken by C. H. Goldthwaite, and one from Lance au Loup, taken by Ernest Doane.

In his synopsis of the voles of the genus *Phenacomys*² Mr. Gerrit S. Miller, Jr., says: "The specimens from Hamilton Inlet

¹ *P. ungava* and *P. celatus* were described by Merriam in the same article and have been proved by Miller to be the same, but as *celatus* appears first it is the name that should be used for the species.

² Proc. Biol. Soc. of Washington, Vol. XI, p. 85, April 21, 1897.

average considerably larger than the type of *P. ungava* or the two adults from Godbout, Quebec, but as they agree in all other characters it seems unwise to separate them on the basis of the material now at hand." Since then I have talked the matter over with Mr. Miller, and he thoroughly agrees with me that the form needs a name.

The specimens from Godbout, Quebec, and from Fort Chimo, Ungava, agree in size and unquestionably belong to the same form. The new form inhabits the coastal strip of eastern Labrador, on the other side of the height of land. The height of land lying some distance back from the coast and extending parallel to it makes a natural division, that separates the forms of the coastal forest from those of the western watershed. This division appears to have an effect on some of the smaller mammals, the *Phenacomys* being a case in point; and although too little is known about the distribution of mammalian life in interior Labrador to allow of any definite statement, still it seems safe to say that the coastal forest lies in a slightly different faunal area from the northern and western parts of the Labrador peninsula.

The third new form is a lemming of the very interesting subgenus *Mictomys*. So rare are these animals in eastern North America, that four specimens, belonging to three forms, are all that at the present time are known to exist in collections. The first of these was brought to notice by Mr. True, and was the type of the subgenus and of his species, *Mictomys innuitus*, from Fort Chimo; then I recorded one specimen from Hamilton Inlet, taken by Goldthwaite, calling attention to its not being typical *innuitus*; next Mr. Preble made his astonishing discovery of a very distinct species in the White Mountains of New Hampshire, taking a single individual, the type of his *Mictomys sphagnicola*; and now I record a fourth example from Lance au Loup, Labrador, and make it the type of a new subspecies. It and the Hamilton Inlet specimen belong to the same form, which differs from true *innuitus* in being larger, with a skull larger and slightly flatter, and with both incisor and molar teeth heavier. The new form is very different from *sphagnicola*,¹ with which it needs no

¹ New Lemming Mouse from White Mountains, New Hampshire, Edward A. Preble, Proc. Biol. Soc. Washington, Vol. XIII, pp. 43-45, May 29, 1899.

comparison, and, although showing good characters to distinguish it from *innuitus*, is perhaps best treated as a subspecies of that species.

Mr. Preble has compared, with great kindness, my two Labrador examples with the types of *innuitus* and *sphagnicola*, and agrees with me that the form of southern Labrador is different from either of the previously named forms of eastern North America.

For nearly a year Mr. Doane trapped in vain for this elusive little lemming in every kind of place about Black Bay and Lance au Loup, taking the vole and the red-backed mouse by the hundred. On the night of April 15, 1899, as Mr. Doane was coming home after dark through the woods, he saw a little mouse-like animal run along the snow in front of him, and reaching out, he trod on it with his snow-shoe. When he picked it up, he thought in the darkness that it was only the common vole, but fortunately he carried it home, and on again looking at it found to his delight that it was the long-sought-for lemming.

***Erethizon dorsatus picinus*¹ subsp. nov.**

Type, from Lance au Loup, Labrador, ♂, old adult, no. 8839, coll. of E. A. and O. Bangs, collected Feb. 16, 1899, by Ernest Doane.

Subspecific characters.—Size rather larger than in true *E. dorsatus*; tail averaging a little shorter; color plain black or brownish black, without white-tipped or white-ringed hairs; skull rather larger; rostral portion stouter; incisor teeth broader and stronger, and usually dull yellow (the incisors of true *E. dorsatus* are usually orange); molariform teeth smaller.

Color and pelage.—Hairs jet black in color, or in some specimens dull brownish or rusty black,² very long and rather wooly, entirely or nearly concealing the quills except on rump and tail; a few of the stiff quill-like hairs on sides of tail and rump, tipped with yellowish; quills on head and fore part of body white basally and rusty brown at ends; quills on rump and tail white with brownish black ends.

¹ *Picinus*—pitch-black.

² These brownish specimens, four in number, have the appearance of being faded. They are all youngish individuals taken in winter or early spring, and have, perhaps, carried the coat of the previous summer over without moult. There are in the series two young of about the same age as the brownish ones, that are entirely black, showing that the brownish color is not a constant juvenile character.

MEASUREMENTS (in millimeters).

No.	Sex and age	Locality	Total length	Tail vertebrae	Hind foot	Ear
8839 (type)	♂, old ad.	Lance au Loup	790	166	124	36
8837	♂, old ad.	" " "	757	192	106	35
8838	♂, old ad.	" " "	753	195	97	36
8834	♂, old ad.	" " "	757	204	97	34
8835	♂, old ad.	" " "	725	172	115	40
8836	♀, old ad.	" " "	762	182	112	40
8840	♀, old ad.	" " "	697	183	104	32
8832	♀, old ad.	Black Bay	702	196	104	31
8843	♀, adult	Lance au Loup	652	151	97	31
8844	♀, adult	" " "	650	172	94	33
8841	♀, adult	" " "	643	148	98	35
8842	♀, adult	" " "	633	157	100	31
8845	♂, youngish	" " "	615	146	85	27
8846	♂, youngish	" " "	580	149	90	33
8833	♀, youngish	Black Bay	585	178	81	26
8847	♂, young	Lance au Loup	568	134	88	29

(Note.—On account of their obesity, the troublesome quills and the thickness and rigidity of their tails, porcupines are extremely troublesome animals to measure in the flesh, and collectors' measurements must always be taken with a good deal of allowance one way or the other.)

Skull, type, old adult male: basal length, 99.6; occipitonasal length, 104.; zygomatic width, 76.; mastoid width, 47.8; least interorbital width, 34.; length of nasals, 35.6; width of nasals, 23.6; length of palate, to palatal notch, 49.2, to end of pterygoid, 78.; upper tooth row, alveoli, 25.; length of mandible, 83.; lower tooth row, alveoli, 30. mm.

Cranial characters.—*E. dorsatus picinus* has a rather heavier skull, with wider, stronger rostral portion, than *E. dorsatus dorsatus*; incisor teeth are heavier and decidedly paler in color—yellowish instead of orange; molariform teeth smaller; the nasals average shorter; palate narrower between molariform teeth, shorter and more cut away posteriorly; posterior narial aperture decidedly smaller.

Remarks.—The Labrador porcupine differs from true *E. dorsatus* of the upper Transition and Canadian zones, of eastern North America, chiefly in its uniform black color, the grayish white hairs that are so conspicuously sprinkled over the back and head of the Canadian animal never being present in Labrador specimens. It also seems to be larger, though the porcupines grow slowly and apparently take several years to gain full size. Comparisons in size and proportions are therefore not easy to make without very large series.

I find a very decided individual variation in the skulls of both forms, so much so in fact that average differences must be used to distinguish them. The Labrador series compared with an equally good series in our collection, from New Hampshire, Maine, and Nova Scotia, shows good characters of this sort, as pointed out above.

*Phenacomys celatus crassus*¹ subsp. nov.

Type, from Rigoulette, Hamilton Inlet, Labrador, ♂, old adult, no. 3959, coll. of E. A. and O. Bangs, collected Aug. 15, 1895, by C. H. Goldthwaite.

Subspecific characters.—Like true *P. celatus*, except very much larger, with a similar, but bigger, skull.

Color.—Upper parts rich cinnamon brown, much mixed along back and on head with dark brown (about Prout's brown) hairs; sides, and usually region behind ear, paler—approaching wood brown; rump and flanks rather more russet; snout, back to base of whiskers and eye, clear cinnamon to cinnamon rufous; under parts grayish white; under fur slate-color; feet and hands grayish white; tail bicolor—whitish below, brown above.

Adult specimens taken at Hamilton Inlet in summer do not differ essentially in color from the one example from Lance au Loup, which was killed in May, and is in full winter pelage. In some of the former the fur is rather ragged, but the colors are little changed.

MEASUREMENTS (in millimeters).

No.	Sex and age	Locality	Total length	Tail vertebrae	Hind foot	Ear
3946	♂, ad.	Hamilton Inlet	160	37	20	15
3960	♀, ad.	" "	147	37	20	15
3958	♀, ad.	" "	157	37	21	17
3959 (type)	♂, ad.	" "	157	37	20	16
3961	♀, ad.	" "	158	40	20	15
8851	♂, ad.	Lance au Loup	145	33	20	14

Skull, type, ♂ adult: basal length, 26.; occipitonasal length, 28.; zygomatic width, 15.6; mastoid width, 11.8; least interorbital width, 3.4; length of nasals, 8.; length of palate, to palatal notch, 13.8, to end of pterygoid, 19.4; length of incisive foramina, 5.4; length of upper tooth row, alveoli, 6.2; length of single half of mandible, 17.2; length of lower tooth row, alveoli, 6. mm.

¹ *Crassus*—thick, large, fat.

Remarks.—No comparison of colors can be made between this, the largest *Phenacomys* yet described, and true *P. celatus*. The new form, however, differs in color but little from *P. latimanus*, which is otherwise very distinct, and the chances are that, in color, all the yellow-faced forms are much alike.

P. celatus crassus is a very much larger animal than true *P. celatus*. Young specimens from Hamilton Inlet, just emerging from the nursing pelage, are about the size of adults of *P. celatus celatus*; thus no. 3967 from Hamilton Inlet, wholly in the pelage of a nursling and with a baby skull, measures: total length, 133.; tail vertebræ, 34.; hind foot, 20.; ear from notch, 14.5 mm.

Synaptomys (Mictomys) innuitus medioximus¹ subsp. nov.

Type, from Lance au Loup, Labrador, ♂ adult, no. 8852, coll. of E. A. and O. Bangs, collected April 15, 1899, by Ernest Doane.

Subspecific characters.—Larger than true *S. innuitus*; skull larger in every way, except that it is proportionally flatter, and differing slightly otherwise.

Color and pelage.—Type, April, full winter pelage: fur very long and soft,—almost fluffy,—nearly concealing the ears, with scattering, longer, stiffer hairs projecting beyond it, which are most numerous on rump and flanks. Upper parts rich brown—back and head dull russet, very thickly set with black-tipped hairs, rump and flanks shading decidedly toward hazel and with fewer black-tipped hairs; long hairs on ears, and in front of and behind ears, hazel; patches at base of whiskers, meeting across nose, dull hazel. Under parts dull smoke gray; under fur slate-color; feet and hands dusky; tail dusky above, grayish below.

No. 3972, ♂, youngish adult, from Hamilton Inlet, July 12, is in very short summer pelage, with the colored portion of the hairs much worn down. Otherwise it differs little from the type; and where enough of the colored portion of the hair remains, the decidedly russet hazel coloring is plainly shown.

Cranial characters.—Skull much larger than that of true *S. innuitus*, but proportionally flatter; rostrum less deflected; visible portion of posterior end of frontals much larger (much less encroached upon by the overlapping edges of squamosals); edge of the maxillary portion of zygoma bounding the ante-orbital foramen, much more convex, so that the ante-orbital foramen, viewed from the side, is more rounded and larger; incisor teeth and molar teeth heavier, and the molar series longer.

¹ *Medioximus*—middlemost, holding a middle place.

Measurements.—Type, ♂, adult, but not old: total length, 120; tail vertebrae, 22; hind foot, 21. No. 3972, ♂, young adult, from Hamilton Inlet: total length, 114; tail vertebrae, 25; hind foot, 21 mm.

Skull, type, ♂ adult: basal length, 24.4; occipitonasal length, 26.; zygomatic width, 15.6; mastoid width, 11.8; least interorbital width, 3.6; length of nasals, 6.6; length of palate, to palatal notch, 14.2, to end of pterygoid, 18.8; length of incisive foramina, 5.; length of upper tooth row, alveoli, 7.4; length of single half of mandible, 17.6; length of lower tooth row, alveoli, 6.8 mm.

Remarks.—As the type of *P. innuitus medioximus* is younger than the type of true *S. innuitus*, but even so is larger, the new form must be a considerably bigger animal. No comparison can be made between the colors of true *S. innuitus* and *S. innuitus medioximus*, the type of the former having been kept in alcohol for a long time. *S. innuitus medioximus* differs widely in color from *S. sphagnicola*, which is hardly distinguishable in this respect from *S. cooperi* or *S. fatuus* and very different from the russet hazel coloring of the new form.

I am much indebted to Mr. E. A. Preble of the Biological Survey at Washington, who with great kindness made minute comparisons for me, with the types of *S. innuitus* and *S. sphagnicola*.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

DESCRIPTION OF A NEW SQUIRREL FROM
PANAMA.

BY OUTRAM BANGS.

IN the small collection of mammals made last March at Loma del Leon (Lion Hill Station), Panama, by Wilmot W. Brown, Jr., are six squirrels of a form, belonging to the *variabilis* series, that appears to have no name.

So far as one can judge by descriptions and plates, the Panama form is most like *Sciurus gerrardi* Gray of "New Granada." It differs from that animal in being bright rusty red below (*S. gerrardi* having white under parts), and is of different general color, darker and less red, above, and probably is smaller with a shorter tail. *S. gerrardi* was also said to have a small, long skull. The skull of the new form does not differ much from that of true *S. variabilis* from the Santa Marta region of Colombia, but, if anything, it is shorter and broader, with flatter, less rounded inter-orbital region.

The new form may be known as:

***Sciurus variabilis morulus*¹ subsp. nov.**

Type, from Loma del Leon, Panama, ♀ adult (breeding), no. 8420, coll. of E. A. and O. Bangs, collected March 13, 1900, by W. W. Brown, Jr.

¹ *Morulus* — dark-colored.

Color and pelage.—Coat short and rather stiff, with very little under fur. Upper parts, including upper surface of legs, mixed dull yellowish ferruginous and blackish brown, darkest along middle of back, where there is an irregular darker dorsal stripe, which becomes blackish at base of tail; upper surface of arms more strongly ferruginous. Most of the hairs, above, are ringed—blackish at base, then ferruginous, and blackish again at tip, the difference in tone of the different parts being due to the width of the ferruginous ring on the hairs. Cheeks, lips and chin dull tawny olive; rest of under parts, including under surface of legs and arms, clear, bright ferruginous. Tail, above, blackish at base and at end, and bright ferruginous in the middle; below, hairs ringed with tawny olive and blackish all along to the black tip, the red of the middle of the upper surface showing as an outer fringe of intense ferruginous. Ears dusky, nearly naked.

Cranial characters.—Skull of about the size of that of *Sciurus variabilis variabilis* from Santa Marta, Colombia, and essentially similar to it, differing only in being a little wider and heavier throughout, with the interorbital region slightly flatter, less rounded.

MEASUREMENTS (in millimeters).

No.		Sex and age	Total length	Tail vertebrae	Hind foot	Ear
8422	Topotype	♀, old ad.	490	235	55	21
8421	"	♀, old ad.	460	215	55	20
8418	"	♂, old ad.	435	200	55	25
8420	Type	♀, adult	450	215	56	24
8419	Topotype	♀, young ad.	410	180	55	23
8423	"	♂, young	400	170	50	22

(Note.—Hind foot measured *with* claw; ear measured from notch.)

Skull, type, ♀ adult: basal length, 46.2; occipitonasal length, 55.2; zygomatic width, 34.; mastoid width, 23.6; interorbital width, 17.8; width behind postorbital processes, 20.2; length of nasals, 17.; length of palate to palatal notch, 25.; length of upper tooth row, 9.4; length of mandible, 32.2; length of lower tooth row, 10. mm.

Remarks.—The six examples of *Sciurus variabilis morulus* vary very little in color, even the young one, no. 8423, being like the others. None of the names given to members of the *variabilis* series seem to apply to this form, though probably *Sciurus gerrardi* is its nearest relation. It differs from the Panama animal in having pure white under parts and in being not so dark above, but has a similarly colored tail—black at base and at end, and red in the middle.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

ILLUSTRATIONS OF HITHERTO UNFIGURED
LEPIDOPTERA.

BY A. G. WEEKS, JR.

PART II.

Lasaia rosamonda sp. nov.

(*Plate V.*)

Habitat: Colombia, Bogota District. Expanse: 1.45 inches.

Front and summit of head covered with brownish gray hairs. Antennæ black with white annulations at base of joints, but scarcely perceptible. Club black. Thorax covered with brownish gray hairs above, beneath pinkish white, bordering to gray, and matching the wing coloring. Legs the same. Abdomen practically the same coloring as the thorax.

The ground color of upper side of wings is a bluish slate with some lustre, the marking being confined to a series of transverse black lines.

Costa of primary blue slate with black dusting near base. Hind margin somewhat dentated, interspaces being white with a thread-like black border. One sixteenth of an inch within this a black wavy line following contour of margin, suffusing the space at very tip, extending downward to submedian vein. An equal distance within this another wavy line exactly similar, and again a third line. These three lines with the interspaces of the ground color cover the outer third of the wing and form what, at a hasty glance, might be termed a broad wing border. Within these, at a somewhat greater distance, is a black line beginning at the subcostal vein and extending downward to

the second median veinlet. The space from this line to the base of the wing is broken by two more dark lines, a little less heavy than the others, which extend from the subcostal vein to the submedian vein.

The markings of the secondaries are identical, except that the outer line is broken into elongated spots and the second line is less prominent than on the primaries. The costa and upper marginal space are brownish. The inner margin is covered with dark grayish hairs, which are quite prominent on close investigation.

The under side presents a different coloring, the space on both wings from hind margin to the third line being of a pinkish white with a mother-of-pearl lustre. The lines, instead of being black, are a dark mouse brown and show some suffusion. Within the third line the space to the base is heavily suffused with the color of the line; thus the wings are divided into two sections, the inner, of dark brown mouse color, and the outer, or border portion, of pinkish white as above noted. On the fore wings the first and second lines are less marked on the lower portion of the wing, while near the tip they are suffused, encroaching on the pinkish white ground color to such an extent that it takes the appearance of a transverse bar cutting across the tip.

On the under side of the secondaries the first two lines are merely a series of spots in the interspaces, while the third line, bordering the inner suffused half of the wing, is strongly marked.



PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

ON AN OVERLOOKED SPECIES OF *AITHURUS*.

BY WILLIAM BREWSTER AND OUTRAM BANGS.

WHILE at work recently in the Museum of Comparative Zoölogy, getting ready for cataloguing the fine collection of birds made in Jamaica, in the autumn and winter of 1890-1891, by W. E. D. Scott, we were astonished to find that the large series of *Aithurus* from this island contains two very different species. Our surprise was the greater from the fact that all modern reviewers of the Trochilidæ have supposed this highly differentiated genus to be monotypic.

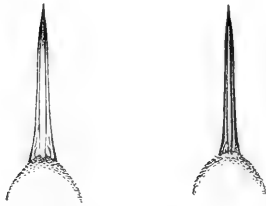
The two species appear to have different and well-marked geographic ranges. With the exception of one young male, all of the fifty-three specimens of the old species, *Aithurus polytmus*, in the Scott collection, come from the neighborhood of Kingston; while all of the new species, ninety-one in number, with the exception of one young male and one female, are from Priestman's River and Port Antonio in Portland Parish. It is probable, therefore, that the two examples of the new bird from Kingston, and the one of *A. polytmus* from Priestman's River, were stragglers.

The differences between the two species are, in brief, as follows:—

A. polytmus has a long, broad bill, in life coral-red with a black tip (in dried specimens, yellow with a black tip)¹; the back is

¹ As a matter of convenience, we shall speak of this bird as the yellow-billed species, because in the museum specimens with which one deals the bill is always of this color.

shining, coppery green; the under parts are luminous yellowish green; the wing averages, in the adult male, 66.03 mm., in the adult female, 57.69 mm.



A.—*Aithurus polytmus*, no. 37454,
♂ ad., Kingston, Jamaica.

B.—*Aithurus scitulus*, type, ♂ ad.

The new bird has a shorter, very slender, *wholly black* bill; the back is shining, dark, grass-green, without coppery tinge; the under parts are luminous, dark, emerald-green; the wing averages, in the adult male, 62.95 mm., in the adult female, 54.18 mm. All these differences show equally well when adult males, young males, or females, are compared, and are wholly

constant throughout the entire series of one hundred and forty-four specimens.

While *Aithurus* has quite an array of synonyms, all the names apply to the large, yellow-billed, light green species from the south side of the island, and the small, black-billed, dark green bird of the northeast coast is unnamed.

The synonymy appears to be as follows:

1758. *Trochilus polytmus* Linn., S. N., ed. 10, p. 120, based chiefly on the Long-tail'd Black-cap Humming Bird of Edwards, plate 34. This is an excellent figure of the yellow-billed species.
1758. *Trochilus forficatus* Linn., S. N., ed. 10, p. 120, has been used by Heine (J. f. Orn., Vol. II, p. 205, 1863) for the yellow-billed species. The name was, however, chiefly based on Edwards' plate 33, which, though wrongly attributed to Jamaica, and inaccurate in some details, appears to have been taken from the bird which Hartert (in Trochilidæ) now calls *Cyanolesbia cyanura* (Steph.), and further discussion of the question does not belong here.
1832. *Trochilus cephalatra* Less., Ind. Gén. Troch., p. xvi (*Ornismya cephalatra* Less., Hist. Nat. Ois.-Mouches, pp. xviii, 78, pl. 17) is a pure synonym of *T. polytmus* Linn.
1849. *Trochilus maria* Gosse, Ann. & Mag. N. H., Vol. III, p. 258, from the mountains of Manchester, Jamaica. This seems to be a slightly peculiar young male of the yellow-billed species. The bill, described from a dried specimen, was characterized as "blackish brown above, buff below, tip black," which is the way it appears in many skins of quite young male birds of the yellow-billed species.
1869. *Aithurus fuliginosus* Hill (*apud* Gray, Hand List, Vol. I, p. 134) is a nomen nudum.

1894. *Aithurus taylori* Rothschild, Bull. Brit. Orn. Club, Vol. III, p. 46, based on two males from the District of St. Andrew, just north of Kingston, Jamaica, each of which had a large ruby-colored spot on the throat. Mr. C. B. Taylor, who took the specimens, said he had frequently met with this ruby-throated variety in this locality. Hartert considers this "an aberration of the male," and of course of the yellow-billed species. In the large series of *A. polytmus* taken by Scott in the vicinity of Kingston, there is one young male with two or three ruby-colored feathers in the throat.

Gould, in his monograph, figured and described the red-billed species (the color of the bill being taken from accounts of the bird in life, and of course not from dried specimens). Elliot, in his Synopsis, appears to have known this form only, as did Salvin (in Cat. Birds Brit. Mus., Vol. XVI); and Hartert, in Das Tierreich, Trochilidæ, 1900, makes no mention of the small black-billed species, which apparently was unknown to him, too, even at this late date.

*Aithurus scitulus*¹ Brewster and Bangs, sp. nov.

Type, from Priestman's River, Portland Parish, Jamaica, ♂ adult, no. 37,405, coll. of Museum of Comparative Zoölogy, Cambridge, Mass., collected Feb. 11, 1891, by W. E. D. Scott.

General characters.—Color pattern and form as in *A. polytmus* (Linn.), except that the lengthened second rectrices are narrower; size considerably less; bill short, very slender, and *wholly black*; green color of back much darker and without a trace of coppery tinge; under parts, in the male, much darker, less yellowish green.

Color.—Adult male: pileum and elongate occipital crest black; back, rump, upper tail coverts, and wing coverts, shining dark grass-green (without a trace of the coppery green of these parts in *A. polytmus*); under parts luminous emerald-green (much darker, less yellowish, green than in *A. polytmus*); wing purplish brown, outer edge of first primary narrowly white; under tail coverts purple-black; tail purple-black with a slight greenish tinge on middle rectrices, above; bill short, slender, and wholly black. (The bill in the adult male of *A. polytmus*, in dried specimens, is clear yellow with a black tip.)

Adult female: pileum dark brown with slight green tips to some of the feathers; back, rump, upper tail coverts, and wing coverts, dark shining grass-green (without a trace of the coppery green of these parts in *A. polytmus*); under parts and under tail coverts white, with green spots on sides of neck and body; wing purplish brown, outer edge of first primary narrowly white;

¹ *Scitulus*—handsome, pretty, graceful.

tail—two middle rectrices dark bluish green (coppery green in *A. polytmus*), two outer rectrices deeply tipped with white, otherwise purple-black slightly edged and tipped with green; bill, slender, short, *wholly black*. (The bill in dried specimens of the adult female of *A. polytmus* is yellowish brown on basal half of upper mandible and yellow on basal half of lower mandible, these colors shading gradually into the black tip.)

The young male differs from the adult male in lacking the elongation of the second rectrices and in having the middle rectrices green; crown much spotted with green; under parts mixed with grayish; shade of green throughout as in the adult; bill as in the adult. (The bill in the young male of *A. polytmus* has a deeper black tip than in the adult, and the culmen is often brownish, not yellow; the basal portion of the lower mandible is always yellow, but in very young individuals it is sometimes darker and more buffy than in the adult.)

Size.—Judged by the series of skins of the two species, made in the same style by one collector, *A. scitulus* is a smaller, more delicately built bird, with a smaller head, than *A. polytmus*.

MEASUREMENTS (in millimeters).

Aithurus scitulus Brewster and Bangs.

	WING			EXPOSED CULMEN		
	Average	Smallest	Largest	Average	Smallest	Largest
20 adult males	62.95	60.5	64.0	19.20	18.6	20.2
20 adult females	54.18	53.5	56.0	19.32	18.6	20.0
20 young males	60.60	60.0	61.5	18.98	18.4	19.4

Aithurus polytmus (Linn.)

	WING			EXPOSED CULMEN		
	Average	Smallest	Largest	Average	Smallest	Largest
19 adult males	66.03	65.0	67.0	20.52	20.0	21.0
18 adult females	57.69	56.50	9.5	20.74	20.0	21.4
12 young males	62.50	61.0	64.0	20.48	20.0	21.2

(Note.—With the females it is not always possible to tell the age by the skins, and the range in the above measurements is probably greater, therefore, than it would be if this could be done with certainty. The young males, here measured, are of various ages, ranging from quite young individuals to those which are beginning to take on the characters of the adult; the specimens of *A. scitulus* are, however, much more nearly of an age than are the specimens of *A. polytmus*.)

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

A NEW HONEY CREEPER FROM SAN MIGUEL
ISLAND, PANAMA.

BY OUTRAM BANGS.

WHEN I wrote the list of birds collected by W. W. Brown, Jr., in San Miguel Island, Archipelago de las Perlas, in the Bay of Panama, one species—the yellow honey creeper—was not compared with sufficient care with related forms, and I discovered, much to my regret, too late to incorporate it in my paper, which appeared in the *Auk* for January, 1901, that this bird is a strongly characterized island species. Dr. Robert Ridgway, when at work on the genus *Cœreba* for his great book on American birds, compared the San Miguel Island specimens carefully with *C. luteola* and *C. mexicana*, and at once detected the differences. He most kindly wrote me about the matter, and gave me a chance to correct my mistake. Strangely enough, the affinities of the species lie much more closely with *C. luteola* of Venezuela, Trinidad, and northeastern Colombia, than with *C. mexicana* of the neighboring coasts of Panama and western Colombia.

The *Cœreba* of San Miguel Island, which in my paper on the birds of that island (*Auk*, Jan., 1901, p. 30) appears as *Cœreba mexicana columbiana* should instead be known as

Cœreba cerinoclunis¹ sp. nov.

Type, from San Miguel Island, Bay of Panama, ♂ adult, no. 4962, coll. of E. A. and O. Bangs, collected April 29, 1900, by W. W. Brown, Jr.

Specific characters.—Nearest to *C. luteola*; of about the size of that species or a trifle larger; back not such an intense black, but grayer and duller; rump patch much smaller and dull wax-yellow instead of bright gamboge-yellow; yellow of breast paler; gray of throat paler. From *C. mexicana* the new species differs in larger size; in grayish black, instead of olivaceous gray, back; in clear pale yellow, instead of greenish yellow, breast.

Color.—Type²: crown and sides of head black; broad superciliary streak white; back, wings and upper tail coverts dark grayish black; small rump patch wax-yellow; throat cinereous; breast and middle of belly canary-yellow (a little darker and brighter in some much worn specimens); sides and flanks dull olivaceous; under tail coverts soiled white; tail grayish black, two outer rectrices white-tipped on inner webs; bend of wing pale yellow; lining of wing white; white wing spots about as in *C. luteola*. Female similar to the male, but a trifle smaller.

Measurements.—Type, adult ♂: wing, 58.; tail, 35.; tarsus, 17.; culmen, 13.2 mm.

No. 4965, adult ♀, topotype: wing, 57.; tail, 33.; tarsus, 17.2; culmen, 13. mm.

¹ *Cerinus*—of the color of wax, and *clunis*—rump.

² The type and one or two others are in unworn plumage, with clear yellow breasts; many specimens have the plumage much abraded, and some are irregularly marked with deep orange on the yellow of the breast. This, I am inclined to think, is an artificial stain, got no doubt from the pollen of some flower.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

DESCRIPTION OF A NEW BÉCARD FROM LOWER
URUGUAY.

BY WILLIAM BREWSTER AND OUTRAM BANGS.

FROM various sources the Museum of Comparative Zoölogy has gradually accumulated a very fair collection of Middle and South American birds; many of these never have been identified, while others have been left with queries following the names written on the labels. Together, we have assumed the pleasant task of properly determining these specimens, and of publishing short descriptions of those which appear to us to be new.

In a list of the birds which he took or observed in Lower Uruguay¹ Walter B. Barrows recorded three specimens of a *Pachyrhamphus*, the species of which he could not determine. Two of these skins are in the collection of the Museum—nos. 31,130 and 31,131. On the labels, in Dr. J. A. Allen's handwriting, is "*Pachyrhamphus* sp. n., near *polychropterus*, but distinct." Dr. Allen, however, never described the species, which proves, on comparison, quite distinct from, though nearest to, *P. polychropterus*, and may be known as

Pachyrhamphus notius² Brewster and Bangs, sp. nov.

Type, from Concepcion del Uruguay, ♂ adult, no. 31,130, coll. of Museum of Comparative Zoölogy, collected Nov. 27, 1880, by Walter B. Barrows.

¹ Bull. Nuttall Ornith. Club, Vol. VIII, p. 203, 1883.

² *Notius*—southern.

Characters.—Nearest to *P. polychropterus* of Brazil, but larger and darker; rump and upper tail coverts sooty blackish, the feathers only slightly edged with dark gray; white edgings of wings much narrower; white spots (or patches) at sides of scapulars almost absent—just indicated by a white line or two; under parts darker, more sooty; under wing coverts and lining of wing darker gray; bill somewhat narrower and deeper.

Color.—Type, adult ♂ (♀ unknown): Pileum shining blue-black with a slightly scaly appearance; back black, and sides of head and neck nearly so; lower rump and upper tail coverts blackish, with dark gray edges to the feathers; two or three of the outermost scapulars with white outer edges; wings dark hair-brown with narrow white outer edges to the greater coverts, only the middle coverts being broadly edged with white; outer margins of secondaries narrowly edged with whitish, the inner margins with more or less yellowish white, especially near the bases of the feathers; under parts dark sooty gray, paler on belly and under tail coverts, where the feathers are also slightly tipped and varied with light grayish or grayish white; under wing coverts gray, slightly varied and streaked with whitish; rectrices brownish black, tipped with white—to a depth of 10 mm. on the outermost feathers, and scarcely perceptibly on the central pair; bill (in dried specimen) bluish black, tip of mandible and a spot in middle of culmen bluish white; foot and tarsus blackish.

No. 31,131, ♂, has the appearance of being younger than the type, and differs in having the rump and upper tail coverts more decidedly gray, with an olivaceous tinge, and in being paler gray below, the feathers more noticeably varied with light gray. It also has the inner web of the curious aborted second primary (characteristic of the males of this genus) pure white, except for a narrow space near the tip, whereas in the type this feather, like the other primaries, is of a nearly uniform dark hair-brown.

Measurements.—Type, ♂ adult: wing, 83.5; tail, 65.; tarsus, 19.; exposed culmen, 12.6 mm.

Topotype, no. 31,131, ♂: wing, 84.; tail, 64.; tarsus, 19.6; exposed culmen, 13. mm.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

A NEW MEADOWLARK FROM SOUTH AMERICA.

BY OUTRAM BANGS.

THE half dozen specimens of *Sturnella* taken by Mr. W. W. Brown, Jr., at San Sebastian and El Mamon in the Sierra Nevada de Santa Marta, I referred¹ provisionally to *S. meridionalis* Scl., with the remark that they had not the long bills peculiar to the Bogota birds. Since then I have awaited an opportunity for making careful comparisons, which a recent visit to Washington has afforded. Dr. Ridgway and I there examined critically a large series of South and Central American Meadowlarks, and found that there appear to be two distinct species in South America proper. One is *S. meridionalis* of the Bogota region of Colombia (exact limits of range unknown), distinguished at once by its immensely long bill and dark coloration. The other is a race of the *S. magna* series, locally distributed throughout the coastal region of eastern South America, from Colombia to Venezuela and Guiana,² with normal bill, and most nearly related to the dark-colored form of Central America, from which it differs chiefly in being exceedingly pale in color throughout.

¹ Proc. New England Zool. Club, Vol. I, p. 79, Dec. 27, 1899.

² We examined but one specimen each from the coasts of Venezuela and Guiana, and with this limited material cannot be certain that the bird from these regions is the same as the Santa Marta one, but it has every appearance of being so.

This pale, southern, coastal race appears to need a name, and may be known as

***Sturnella magna paralioides*¹ subsp. nov.**

Type, from San Sebastian, Sierra Nevada de Santa Marta, Colombia, 6600 feet altitude, ♂ adult, no. 6954, coll. of E. A. and O. Bangs, collected July 25, 1899, by W. W. Brown, Jr.

Characters.—Size small; bill stout, but not unusually long; crescent narrow; yellow of throat slightly extended onto lower malar region (less so than in *S. meridionalis*); general coloration very pale. Can be told from *S. meridionalis* by much shorter bill and paler colors, and from the very dark-colored race of *S. magna* of Central America by its exceedingly pale coloration.

Color.²—General color above light brownish cinnamon, the feathers with broad edging of pale buff and with dark brown centres—the latter color showing but little except when the feathers are disturbed; the three light-colored head stripes broad and pale buff, the central one extending broadly to base of culmen; sides of head below postocular streak very pale—buffy; breast, throat, stripe above, and in front of, eye, and bend of wing pale gamboge-yellow; black crescent narrow; middle of belly white; sides, flanks, and under tail coverts buff, streaked with dark brown; lining of wing grayish white.

MEASUREMENTS (in millimeters).

No.	Sex	Locality	Date	Wing	Tail	Tarsus	Culmen
6954	♂	San Sebastian	July 25, 1899	110.0	75.	39.0	34.0
6955	♂	" "	Aug. 10, 1899	108.0	—	38.0	34.6
6953	♂	El Mamon	July 11, 1899	108.5	72.	38.2	32.6
6952	♂	" "	July 2, 1899	108.0	73.	39.0	33.0
6956	♀	San Sebastian	July 11, 1899	98.0	65.	34.5	32.0

¹ Παράλιος—that grows or occurs by the seaside.

² The six specimens are in similar, fresh, unworn plumage, having just completed the moult.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

NOTES ON THE AMERICAN ROUGH-WINGED
SWALLOWS, WITH DESCRIPTION OF A
NEW SUBSPECIES.

BY OUTRAM BANGS.

THE rough-winged swallow of northeastern South America has been mentioned by several ornithologists, and its characters have been pointed out, but it seems never to have had a special name given it. Sclater in 1860,¹ in his list of birds collected by Fraser at Esmeraldas, Ecuador, mentioned the light color of the rump, as compared with true *Stelgidopteryx ruficollis*, and Sharpe in 1885,² under the head of *S. uropygialis*, described the form found in Colombia and British Guiana, but did not name it, adding that some, but not all, of the examples from Ecuador were the same.

This bird is the prettiest and most highly colored of the American rough-winged swallows. From *S. ruficollis* of Brazil it can be told by its ashy rump and paler general coloration, and from *S. uropygialis* of Panama by its strongly yellow belly and under tail coverts. It is an intermediate form between the two, but its characters are constant throughout an enormous area, and it must therefore be recognized in nomenclature as a subspecies.

¹ P. Z. S., 1860, p. 292.

² Cat. Birds British Museum, 1885, Vol. X, p. 210.

After studying a large amount of material I have become convinced that intergradation occurs between most, if not all, of the forms of *Stelgidopteryx*, and that the relationships of the various representative geographical races are best expressed in trinomials. Even the light-colored rump of the two central forms appears to be only a subspecific character. In a series from Divala, Chiriqui, some specimens have the rump as light as Panama birds, while in others it is only just perceptibly lighter than the back. The different races, each occupying a considerable area, are merely steps from the daintily colored South American forms to the plainly clad *S. serripennis* of North America.

The forms of the American rough-winged swallow that seem to me worthy of recognition may be arranged by the colors of the fully adult plumage (none of the forms differ much in size or proportions), as follows.

***Stelgidopteryx ruficollis ruficollis* (Vieill.).**

Hirundo ruficollis Vieill., Nouv. Dict. d'Hist. Nat., Vol. XIV, 1817, p. 523.

Type locality.—Brazil.

Geographic distribution.—La Plata region, Bolivia and Brazil (exact limits of range unknown).

Characters.—Upper parts sepia, the top of head darker, the rump not paler than back; primaries and rectrices clove-brown; tertials, usually, except in very worn plumage, edged with drab; throat orange buff; breast and sides pale grayish sepia—a little paler than back; belly and under tail coverts Naples yellow, the longer under tail coverts with large subterminal clove-brown marks across the feathers.

***Stelgidopteryx ruficollis æqualis*¹ subsp. nov.**

Type, from Santa Marta, Colombia, ♂ adult, no. 5458, coll. of E. A. and O. Bangs, collected Jan. 20, 1898, by W. W. Brown, Jr.

Geographic distribution.—Eastern South America from Guiana to Santa Marta region of Colombia, and south in the Andes through western Colombia to Ecuador. Probably intergrading all along the southern part of its range with *S. ruficollis ruficollis*.

¹*Æqualis*—looking alike, resembling.

Characters.—Differs from *S. ruficollis ruficollis* in pale ashy rump, in marked contrast to back, and in paler breast and sides, which have a yellowish gloss.

Head and back sepia, darkest on top of head; rump pale drab-gray, almost whitish in some examples and in marked contrast to rest of back; primaries and rectrices clove-brown; tertials, in fresh plumage, edged with drab; throat pale orange buff; breast and sides pale hair-brown, much lighter than color of back, with a yellowish gloss; belly and under tail coverts Naples yellow, the under tail coverts paler than the belly; longest under tail coverts with large subterminal clove-brown marks across the feathers.

***Stelgidopteryx ruficollis uropygialis* (Lawr.).**

Cotyle uropygialis Lawr., Ibis, 1863, p. 181.

Type locality.—Isthmus of Panama.

Geographic distribution.—Panama, Chiriqui and Costa Rica. Probably intergrading with *S. ruficollis aequalis* just south of the Isthmus.

Characters.—Similar to *S. ruficollis aequalis*, except in being darker on breast and sides, and in having the belly and under tail coverts yellowish white, usually but not always with a tinge of yellow in middle of belly.

Head and back sepia, head darker; rump pale drab gray, in marked contrast to color of back; primaries and rectrices clove-brown; tertials edged with drab; throat rich orange buff; breast and sides hair-brown (without yellowish gloss); belly and under tail coverts yellowish white, middle of belly sometimes slightly more yellowish; longer under tail coverts with large subterminal clove-brown marks across the feathers.

***Stelgidopteryx ruficollis fulvipennis* (Scl.).**

Cotyle fulvipennis Scl., P. Z. S., 1859, p. 364. (Based on a young specimen.)
Stelgidopteryx fulvipennis Baird, Review Amer. Birds, 1865, p. 316.

Type locality.—Jalapa, Mexico.

Geographic distribution.—Southern Mexico and Guatemala. Intergrading gradually with *S. ruficollis uropygialis* in Central America.

Characters.—Differs from *S. ruficollis uropygialis* in paler brown back, the head not noticeably darker and the rump scarcely paler than rest of upper parts; in the tertials being more narrowly edged with drab; in the throat being grayish, faintly suffused with orange buff; and in the under tail coverts and middle of belly being pure white; the longer under tail coverts with dusky shafts, and occasionally with dusky subterminal markings, though often immaculate.

Upper parts nearly uniform dark hair-brown, the head just perceptibly darker and the rump very slightly paler; primaries and rectrices pale clove-brown; tertials narrowly edged with drab; throat pale grayish hair-brown, faintly suffused with pale orange buff; breast and sides hair-brown — slightly paler than back; belly and under tail coverts white; the longer under tail coverts with dusky shafts and usually, but not always, with small dusky sub-terminal markings across the feathers.

***Stelgidopteryx ruficollis serripennis* (Aud.)**

Hirundo serripennis Aud., Orn. Biog., Vol. IV, 1838, p. 593.

Type locality.—South Carolina.

Geographic distribution.—Northern Mexico and North America. Intergrading with *S. ruficollis fulvipennis* at the southern part of its range.

Characters.—Differing from *S. ruficollis fulvipennis* in having the upper parts paler brown, the tertials less noticeably edged with drab, and the throat clear grayish brown without trace of orange buff.

Upper parts pale hair-brown, the head hardly darker, the rump just perceptibly lighter; primaries and rectrices pale clove-brown; tertials not edged with drab, though the edges are slightly paler than the rest of the feather; throat clear, pale, grayish hair-brown; breast and sides pale hair-brown, but slightly paler than back; belly and under tail coverts white; the longer under tail coverts sometimes with dusky shafts, and rarely with slight dusky sub-terminal spots.

This form is wonderfully constant in color throughout its range. I can detect no difference between birds from the southeastern States and those from Washington and British Columbia.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

A NEW *ORTALIS* FROM THE ARCHIPELAGO DE LAS
PERLAS, BAY OF PANAMA.

BY OUTRAM BANGS.

WHEN I published a list of the birds collected by Mr. W. W. Brown, Jr., in San Miguel Island (the largest of the islands that form the Archipelago de las Perlas) in the Bay of Panama,¹ I referred the two skins of *Ortalis* obtained by him, one in San Miguel, the other in Pedro Gonsales Island, to *Ortalis cinereiceps* (Gray), which they greatly resemble in color and general appearance. Since then I have had occasion to compare these specimens more carefully with better material from the mainland than I then had, and am astonished to find marked structural differences, as well as slight differences in color, that I had previously overlooked; the principal one is the exceedingly small foot and tarsus of the island bird.

The *Ortalis* of the Archipelago de las Perlas may, therefore, be known as

***Ortalis struthopus*² sp. nov.**

Type, from San Miguel Island, Bay of Panama, ♂ adult, no. 4883, coll. of E. A. and O. Bangs, collected April 29, 1900, by W. W. Brown, Jr.

Characters.—Similar to *Ortalis cinereiceps*, of Panama, in color pattern and color, but paler below, the olivaceous drab-gray of belly extending farther for-

¹Auk, Vol. XVIII, Jan., 1901, p. 25.

²στρουθόπους—sparrow-footed, having small feet.

ward, leaving the olive collar across neck and breast narrower; size rather smaller; bill slightly smaller and more slender; foot and tarsus *very much* smaller and weaker, all the toes much shorter; tail shorter and composed of much narrower feathers.

MEASUREMENTS (in millimeters).

Ortalis struthopus Bangs.

No.	Sex and age	Locality	Date	Wing	Tail	Width of outer rectrix	Tarsus	Middle toe with claw	Exposed culmen
4883	♂ ad.	San Miguel Isd.	Apr. 29, 1900	210	222	39	58.0	68.5	27.0
4882	♀ ad.	Pedro Gonsales Isd.	May 8, 1900	200	211	37	50.5	55.5	25.5

Ortalis cinereiceps (Gray).

No.	Sex and age	Locality	Date	Wing	Tail	Width of outer rectrix	Tarsus	Middle toe with claw	Exposed culmen
7647	♂ ad.	Divala, Chiriqui	Dec. 14, 1900	212	237	46	63	77	29.0
7064	♀ ad.	Loma del Leon, Panama	Mar. 21, 1900	202	— ¹	— ¹	59	64	27.5

¹ Most of the tail in this specimen was shot out.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

A NEW *PHAËTHORNIS* FROM THE SANTA MARTA
REGION OF COLOMBIA.

BY OUTRAM BANGS.

IN the latest review of the Trochilidæ¹ Ernst Hartert recognizes two forms of *Phaëthornis longirostris*—true *P. longirostris*, ranging from Guatemala to northern Colombia, and *P. mexicanus* of southern Mexico—and regards them as distinct species. He places *P. cassinii* Lawr. and *P. panamensis* Boucard in the list of synonyms of *P. longirostris*. I have just studied with great care a large suite of specimens of these hummingbirds and *P. superciliosus* of South America, which includes the type of *P. cassinii*; a small series of *P. mexicanus*, collected by Messrs. Nelson and Goldman; topotypes of true *P. longirostris* from Guatemala; specimens of the so-called *P. panamensis* from Loma del Leon, Panama, and Divala, Chiriqui; a large series of skins from the Santa Marta region, and examples of various of the representative forms, whether species or subspecies, of *P. superciliosus*. My conclusions are much the same as those of Mr. Hartert, except that the Santa Marta form, probably unknown to him, must be recognized, and that I do not regard *P. mexicanus* as a distinct species; it is an extremely well-marked form, but it appears to intergrade directly with true *P. longirostris*.

P. cassinii from Turbo is not distinguishable from examples from Loma del Leon, Panama, which in their turn are hardly different from true *P. longirostris* of Guatemala. The Panama

¹ Das Tierreich, Trochilidæ, Ernst Hartert, Berlin, 1900.

specimens, perhaps, average slightly grayer below, and their bills are slightly weaker and straighter, but the differences are so small that it is not worth while to recognize the form by name. Two skins collected by Mr. W. W. Brown, Jr., at Divala, Chiriqui, however, are decidedly darker below than any other Central American specimens I have seen, and if other specimens from the same region bear out the characters of these two, the form must be named as a local race. This would be a case parallel to that of *Agyrtria amabilis* and *A. decora*; *A. amabilis* ranges from Costa Rica through Panama and Colombia to Ecuador, while the very different *A. decora* is confined to a small area in Chiriqui—the same one from which these dark-colored examples of *Phaëthornis* come.

Phaëthornis longirostris (as a species) greatly resembles *P. superciliosus* (as a species), almost the only way of telling them apart being that the former has the gular stripe broader and more conspicuous, and the latter has a greener back and rump. The different representative forms of each vary much in size and in the length of the bill; and some of the races of the one approach very nearly to some of the races of the other, and it is doubtful if intergradation does not actually take place between some of them. At all events, the interrelationships of the numerous representative forms, into which these two species divide in the immense area occupied by them in tropical America, are very intricate and interesting.

While collecting in the Santa Marta region of Colombia, Mr. W. W. Brown, Jr., took a fine series of a race of *Phaëthornis longirostris* that I now describe as new. The bird is rather common in the mountains at an altitude of from 3000 to 8000 feet. Mr. Brown took adults at all seasons of the year and one young, February 9, 1899, at La Concepcion, 3000 feet, and one, March 17, 1899, at Chirua, 7000 feet.

***Phaëthornis longirostris susurrus*¹ subsp. nov.**

Type, from Chirua, Sierra Nevada de Santa Marta, Colombia, 7000 feet altitude, ♂ adult, no. 6806, coll. of E. A. and O. Bangs, collected March 17, 1899, by W. W. Brown, Jr.

¹*Susurrus*—humming, buzzing.

Characters.—Differs from true *P. longirostris* in being larger, wing longer, bill longer; gular stripe wider, strong buff-yellow instead of pale buff or buffy white, malar stripe also buff-yellow, the dusky areas between these stripes very much less marked, the whole throat being strongly buff-yellow; shorter rectrices more deeply tipped with buff.

Color.—Top of head dusky, a few of the feathers with green tips; cervix finely mixed green and buffy; interscapulum mostly shining green; lower back, rump and upper tail coverts ochraceous-buff, the feathers barred and marked with green; wings purplish brown, the wing coverts dark green; tail,—the two long central rectrices dark metallic green at base, then black, and with long white tips, the other rectrices green basally, then black and widely tipped with deep buff; auriculars black; superciliary, malar and gular stripes buff-yellow; a slightly more dusky area separating gular and malar stripes; breast and belly buff, the feathers dusky basally, this color usually showing through somewhat; under tail coverts buff, with indistinct central dusky markings.

MEASUREMENTS (in millimeters).

No.	Sex and age	Locality	Wing	Tail	Exposed culmen
6806	♂ ad., type	Chirua (7000 ft.)	66.0	74.0	42.0
6805	♂ ad.	" " "	66.0	75.0	42.0
6804	♂ ad.	" " "	65.0	72.0	43.0
6801	♂ ad.	Pueblo Viejo (8000 ft.)	65.0	75.5	42.5
6802	♂ ad.	San Francisco (6000 ft.)	66.0	75.0	41.5
6789	♀ ad.	La Concepcion (3000 ft.)	65.0	74.5	42.0
6791	♂ ad.	" " " "	65.0	72.0	42.5
6797	♂ ad.	" " " "	65.0	72.0	43.0
6795	♀ ad.	" " " "	64.5	71.0	41.5
6796	♂ ad.	" " " "	66.5	75.5	42.0

For comparison with these I give the following measurements of a few skins of true *P. longirostris* (Lesson and Delattre).

No.	Sex and age	Locality	Wing	Tail	Exposed culmen
50,260 ¹	—	Guatemala City	63.0	68.	40.0
149,312 ¹	—	Guatemala	63.5	67.	40.5
7158	♂ ad.	Loma del Leon, Panama	63.5	69.	—
7159	♂ ad.	" " " "	62.0	68.	40.0
7160	♂ ad.	" " " "	62.0	64. ²	39.5

I am much indebted to the authorities of the United States National Museum, for lending me specimens for comparison, and to Mr. E. W. Nelson of the U. S. Biological Survey, for the use of the series of *P. mexicanus* collected by himself and Mr. Goldman.

¹ Coll. of U. S. National Museum.

² Tail somewhat worn off at tip.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

ON AN APPARENTLY UNNAMED RACE OF
BUTEO BOREALIS.

BY OUTRAM BANGS.

VERY little is known of the red-tailed hawk in Florida, and although it appears in many of the lists of birds of the State, specimens are not to be found in most collections. It is, however, probable that the common Eastern form (*Buteo borealis borealis*) occasionally reaches Florida in winter, but the one breeding bird that I have seen from South Florida belongs to a quite different race. This specimen was taken by O. Tollin at Myakka, Manatee Co., in April, 1888. A comparison of this skin with a description published by Mr. Frank M. Chapman¹ of a red-tailed hawk collected by himself in Cuba, where, Mr. Chapman says, the bird is not uncommon, leaves little doubt that the red-tailed hawks of South Florida and of Cuba are the same. Perhaps the real home of this bird is Cuba, and its occurrence in South Florida is hardly more than casual, as is the case with some other Cuban birds,—for example, the Cuban sparrow hawk and the Cuban martin.

A red-tailed hawk also occurs in Jamaica, and may or may not be the same; and in this connection there is to be considered one of the extremely troublesome old names, *Falco jamaicensis*

¹ Chapman, Bull. Amer. Mus. of Nat. Hist., Vol. IV, p. 249, 1892. Description of a specimen doubtfully referred to *Buteo borealis calurus*.

Gmelin,¹ which is wholly based on the "Cream Coloured Buzzard" of Latham.² Latham describes a young hawk, that may have been a red-tailed hawk, and the specimen is said to have come from Jamaica. His description, however, would fit almost any other young hawk of about the same size quite as well, and the name "Cream Coloured Buzzard" hardly expresses the general coloration of the young of any of the races of *Buteo borealis* that I am acquainted with.

I should not give the bird I now describe a name if in my opinion it were advisable to use Gmelin's name for the red-tailed hawk of Jamaica, because, although the latter bird may prove to be a distinct island form, there is still a fair chance that the red-tailed hawks of South Florida, Cuba and Jamaica are all the same.

I believe it a very bad plan, in selecting names for the finely drawn subspecies of today, to resurrect, *wholly on geographic grounds*, long-forgotten names that evidently were based on birds not in characteristic plumage. The writings of the earlier ornithologists teem with instances where they were wholly misled as to the origin of their specimens, and I cannot bear to see one of their obscure names dug up and attached to some new race of bird, unless there is something or other that is characteristic of the form to which it is applied, either in the diagnosis or description, or in measurements. I, therefore, shall call the red-tailed hawk of South Florida, and undoubtedly of Cuba also,

***Buteo borealis umbrinus* subsp. nov.**

Type, from Myakka, Manatee Co., Florida, ♀ adult, no. 3314, coll. of E. A. and O. Bangs, collected in April, 1888, by O. Tollin.

Characters.— Size and proportions as in *Buteo borealis borealis*; color, above, darker; throat and middle of belly marked with broad, conspicuous striping and banding of deep chocolate-brown; tail-feathers with dark brown markings (the remains of bands) near the shafts. From *B. borealis calurus* the new form differs in being less suffused with reddish below, and in different general tone of coloration.³

¹ Gmelin, S. N., p. 266, 1789.

² Latham, Synopsis, I, 1, p. 49, No. 30.

³ I have compared this specimen with a very large number of specimens both of *B. borealis borealis* and of *B. borealis calurus*, and I cannot find one of either that approaches it. The differences are very evident on comparison, though hard to express in words.

Color.—Whole upper parts dark, rich sepia, the white bases of the feathers of occiput showing through, the wing feathers and scapulars somewhat banded and marked with whitish and rusty white, the feathers of hind neck slightly edged with dull rusty, and the shorter upper tail coverts tipped and banded with rusty; longer upper tail coverts white, somewhat banded and marked with rusty and dark brown; tail, above, rufous, with a broad blackish brown subterminal band, each feather marked along the shaft with blackish brown markings, which are larger with more the appearance of bands near the base, and smaller toward the tip of the feathers; the tail, below, dull grayish white, the color of the upper surface showing slightly through the feathers; throat white, each feather broadly tipped with chocolate; a broad chocolate malar stripe; sides of neck and sides of breast dark rusty brown; middle of breast white, the feathers slightly marked with pale rusty and with brownish shafts; belly chocolate, each feather somewhat barred and marked with white, the long feathers covering the thighs wholly white; thighs white, narrowly banded with pale rusty; under tail coverts white.

Measurements.—Type, adult ♀: wing, 421; tail, 225; tarsus, 95; culmen, 41 mm.



PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

DESCRIPTIONS OF THREE NEW BUTTERFLIES.

BY A. G. WEEKS, JR.

Lasaia kennethi sp. nov.

Habitat: Bolivia, two hundred miles north from Cochabamba.
Expanse: 1.25 inches.

Front and summit of head covered with steel-blue-colored hairs. Palpi gray. Eyes brown. Antennae nearly black, with white annulations at the base of each joint. Club nearly black, slightly tipped with fulvous. Thorax, above, presents the same color as wings, steel blue, with a suggestion of greenish; beneath, gray. Legs gray, somewhat darker on upper side. Abdomen, same as thorax.

Upper surface of wings steel blue with considerable lustre and a suggestion of greenish. The blackish markings are much less in evidence than on most species of this genus, being confined almost entirely to the tips of the fore wings and borders.

Upper surface of fore wings: costa, of ground color; hind margin dentated, and with a black linear border, the border in interspaces edged with white; inner margin without any border. Just within edge of hind margin is a row of interspacial black lines, extending from tip downward, and disappearing as they approach angle. At the tip they are somewhat suffused. Within this row, at the tip, is a black dash running from costa across to the fifth subcostal nervule, giving the tip a generally black appearance. The discoidal space is crossed by a black line in centre of wing, and between this and border the interspaces have a mere suggestion of a black line.

Upper surface of hind wings bears no markings, the borders being the same as on fore wings. Inner margin bears a quantity of blackish gray hairs.

Under surface strongly resembles that of *Lasaia rosamonda* Weeks. The tip of fore wing is dark mouse color. The border of hind margin is the same as the upper surface, and the interspacial black lines just within the border are repeated. The inner half of the wing is dark mouse color; the discoidal space has three black lines, the outer one extending downward to inner margin. The rest of the wing is Quaker gray, very slightly pinkish, forming a band extending from anal angle upward and thence across to costa.

Under surface of hind wings is much the same, except that the upper angle has no dark markings, and the Quaker gray band—it may be called the ground color—shows strongly through the lighter mouse color of inner half of wing.

Described from ten specimens in my collection, taken five days travel north from Cochabamba, in September, 1899, by my collector, Mr. William J. Gerhard.

***Heliconius spadicarius* sp. nov.**

Habitat: Bolivia, near Coroico. Expanse: 3.50 inches.

Head black, with four light yellow spots at "collar"; also a yellow speck above each eye. Palpi black above, light yellow beneath. Thorax, above, black, with a light yellowish white spot at base of each wing, and between these, close to "collar," two more; these are grayish in some specimens. Centre of thorax, above, tending to dark grayish, near end a semicircle of light yellowish. Thorax, below, black, with a light yellow dash running from shoulder to lower end. Abdomen black above, light yellow below; a light yellow thread runs from thorax joint to tip just above the yellow under side. Fore legs, above, black; below, light yellow; other legs black. Antennae black, turning to light tawny half-way to club.

The basal portion of upper side of fore wings, from a line drawn from centre of costa to lower angle, is dark tawny. Costa black. Through centre of discoidal space, starting at base, is a black dash, broadening out to a well-defined spot at longitudinal centre of the space. The black of the costa suffuses downward at end of the discoidal space, forming a band one quarter inch wide, running to lower edge of the discoidal space. Outside of this is a series of yellow, elongated spots, the first at the costa, the fourth extending out nearly to hind margin and having a black spot or dash at its inner end, bordering discoidal space. In interspace below this spot is another, of anvil shape, bordered on its inner and outer edge by black dashes. These black

dashes are prominent black spots in some specimens. The apical space outside this series of yellow marks, and covering one third of the wing, is black, with three transverse, light yellow marks, the upper one being a small subcostal dash, the lower two being prominent, interspacial, elongated spots. Outside of these, some specimens show signs of interspacial white spots just within the hind margin. The submedian nervure is distinctly black, suffusing considerably, in some specimens, upon the surrounding ground color (dark tawny), and broadening into a large spot at anal angle. The hind margin is, as above described, black, with a white thread showing at interspaces.

Upper side of hind wings dark tawny. Costal space and hind margin bordered with black, one quarter inch deep. Running from upper angle transversely across to centre of inner margin, is a series of interspacial black dashes, forming a prominent black band across the centre of the wing. At upper angle there is a prominent light yellowish spot. Hind margin edged with an interspacial white thread.

Under side of fore wings the same as upper surface, except that the light yellow markings are more pronounced and suffused and the black showing within them and at their edges is, consequently, more prominent. The black of apical area is dark tawny brown in some specimens. The three subapical white spots are much larger. The inner marginal area tends to blackish gray.

The under side of lower wings has the same markings as above, with a few variations. The subcostal area is black. In the place of one apical white spot, there are two, interspacial. Under the costal nervure, is an anvil-shaped, light yellow spot. Below this the ground color is dark tawny brown, the transverse band of interspacial black dashes being well defined. The hind margin is edged with a white thread, and within this each interspace contains two white dashes, near the margin.

The ground color of the under side is variable (dark tawny to blackish), and the suffusion more or less pronounced. The general markings, however, maintain their proper limits, although the suffusions may alter the general appearance of the wing.

Described from specimens taken in May, 1899, in Bolivia, and also from specimens taken in the Bogota district of Columbia.

***Pamphila errator.* sp. nov.**

Habitat: Bolivia, Coroico district. Expanse 1.00 inch.

Head, palpi, thorax, abdomen and legs, bronzy brown above; grayish brown below.

Upper side of both wings bronzy brown with some lustre. Hind margin slightly fringed with hairs of a lighter shade. There are no markings except

on fore wings, where there is a line of almost imperceptible, interspacial, whitish spots, running from subcostal interspaces down to inner margin, starting at costal interspace about one third distance from apex to base, those at centre of wing being nearer the hind margin than the others.

Under side of fore wings grayish brown, tending to blackish toward base and inner marginal area. Hind margin has a blackish thread within the fringe. The lightish spots of upper surface are black, with whitish suffusion outwards. This row of spots is the prominent feature of the under surface.

Under side of hind wings grayish brown, tending to blackish toward inner margin, but *not* tending to blackish at basal area, as is the case in fore wings. The black spots of fore wing continue across the secondaries, following the contour of the hind margin. The spot beyond the end of discoidal space, however, is double the size of the others.

Taken near Coroico, April 20, 1899.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

GENERA AND FAMILIES OF THE CHIMÆEROIDS.

BY SAMUEL GARMAN.

THIS note is an abstract from the Bulletin of the Museum of Comparative Zoölogy, preliminary to the more extended discussion now in press, with illustrations of the form, anatomy and kindred, of a specimen purchased, March, 1900, in Japan by Dr. Alex. Agassiz from a dealer who pronounced it specifically identical with *Harriotta pacifica* Mits., having, as understood, had an identification by Professor Mitsukuri or a comparison with the type. On its arrival it was recognized at once to be a representative of a new genus and not to belong to *Harriotta*. Whether it was of the mentioned species could not have been determined from the original description and figure. Externally the individual here serving as the type of the new genus *Rhinochimæra* bears some resemblance to the types of *Harriotta raleighana* G. B., but on closer examination it is seen to possess radical differences in structure. The teeth of *Rhinochimæra* are of a much less differentiated form than those of any other of the recent genera of the group; that is their later stages are more like the earlier, and presumably more like the teeth of primitive chimæroids; they approach those of the extinct myriacanth and the very early conditions of the teeth of other living chimæroids, *Chimæra*, *Cal-*

lorhynchus and *Harriotta*. In advanced stages the teeth of *Harriotta* differ from those of *Rhinochimæra* in possessing several series of tritons which in superficial aspect resemble, in shapes and arrangement, crowns of certain placodont teeth. On the teeth of *Rhinochimæra* there are no tritons; the teeth of the very young of the other living genera are similar; this no doubt is a mutual resemblance to those of a common ancestor, an index to derivation. Not to mention further particulars, the forms of body being much alike, the new genus, established upon *Harriotta pacifica* Mits., may be distinguished from *Harriotta* thus:

Teeth without tritons, like the horny covers on jaws of reptiles and birds.

Rhinochimæra.

Teeth with several series of tritons, like groups of placodont molars.

Harriotta.

On both of them the rostrum is very long and pointed; it is the more depressed, broadened and weak on *Harriotta*; it is the more compressed and strong on *Rhinochimæra*. Their family characters are such as not to permit of separating them from one another. Yet they differ so from the other genera as to make it necessary to establish, under the name of *Rhinochimæridæ*, a distinct family for their inclusion. The shape of the body is much the same in all the living members of the group; for this reason the tendency is to throw them together, though the great differences between *Chimæra* and *Callorhynchus* have not passed unnoticed. These differences are really too great to admit of retention in a single family; they necessitate separation into two, which increases the number of families of recent chimæroids to three. Without extending this article further than is needed to indicate the conclusions, and not to anticipate more of general studies than of those of the genera, a sufficient array of the distinguishing characters may be indicated as below:

Proboscis absent;

Lateral canal system sulcate;

Notochord with ringlike segments;

Hemispheres fused with olfactory and distant from optic lobes.

Chimæridæ.

Proboscis short, ending in a leaflike appendage;

Lateral canal system tubular;

Notochord without rings;

Hemispheres far from olfactory and nearer optic lobes.

Callorhynchide.

Proboscis long, pointed;

Lateral canal system subtubular;

Notochord with rings;

Hemispheres distant from both olfactory and optic lobes.

Rhinochimeride.

The frontal holder is present on the males of *Harriotta* and of *Rhinochimæra*, as on those of *Chimæra* and of *Callorhynchus*, the published statements to the contrary notwithstanding; and it may be added that this holder is only acquired by the young male somewhat late in his existence, about the time he becomes sexually mature and the ventral claspers have approached functional maturity, the advent of the holder coinciding nearly with the beginning of its period of utility.

Museum of Comparative Zoölogy,

Cambridge, Mass., U. S. A.

Oct. 31, 1901.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

DESCRIPTIONS OF NEW BUTTERFLIES OF THE
GENERA *PAMPHILA*, *EPINEPHELE* AND
GORGYTHION.

BY A. G. WEEKS, JR.

Pamphila coroicana sp. nov.

Habitat: Bolivia, near Coroico. Expanse: 1.00 inch.

Upper side of head, palpi, thorax, and abdomen, black, with very dark bronzy brown hairs; beneath, lighter, with a slight greenish tinge. Antennae and club nearly black above, with slight whitish annulations at base of each joint; below, lighter, base of clubs tawny. Legs lightish brown, with a slight greenish tinge.

Upper side of both wings very dark bronzy brown, showing blackish toward base in some lights. The slight fringe of hind margins is a shade lighter than ground color.

Under side of fore wings reddish brown, except lower half, which is nearly black from a line drawn from base along median nervure to end of discoidal space, thence to a point on hind margin one third distance from lower angle to apex. From a point on costa one third distance from apex to base, and extending downward to submedian nervure, is a line of interspacial light brownish spots, bending outward toward hind margin opposite discoidal space.

Under side of hind wings reddish brown. One eighth inch within hind margin, extending from costa to submedian nervure, and following the contour of hind margin, is a line of interspacial light brownish spots, somewhat larger than those on fore wing, but less bright. Inner margin tends to blackish.

Described from six specimens taken in May, 1899. In some specimens the light spots of under side are scarcely visible.

Pamphila vesana sp. nov.

Habitat: Bolivia, Yacanachi district. Expanse: 1.13 inches.

Upper side of head, palpi, legs, antennae, thorax, and abdomen, light bronzy brown; beneath, a shade lighter.

Upper side of fore wings, light bronzy brown. Hairy fringe of hind margin the same, with darkish line within it. In the subcostal interspaces above the end of discoidal space are three whitish dots, barely perceptible. From end of median nervure a blackish streak runs downward to a point on submedian nervure about one third its distance from base to hind margin. In interspace between the upper end of median nervure and hind margin, midway, is a white dot.

Upper side of hind wings light bronzy brown. Subcostal area, toward base, slightly darker. Hairy fringe of hind margin, of ground color, with a slight line of black on margin.

Under side of fore wings light bronzy brown, a shade lighter than upper surface. The whitish spots of upper surface are repeated, but another and larger one is situated at the centre of wing, just above the lower median nervule. In interspace below this is a dash of lightish scales. The basal area below median nervure is blackish.

Under side of hind wings light bronzy brown, as on under side of fore wings. In the centre of discoidal space is a very slight whitish spot, and, between this and hind margin, an almost imperceptible line of interspacial whitish spots, extending from centre of costa to lower median nervule, following contour of hind margin. Inner marginal space more grayish brown than ground color.

Taken near Yacanachi, January 20, 1898. Others were taken near Chulumani in November.

Pamphila viridenex sp. nov.

Habitat: Bolivia, five days north from Cochabamba. Expanse: 1.00 inch.

Head, thorax, palpi, and abdomen, bronzy brown above; greenish brown beneath. Antennae black above, with white annulations at base of each joint; lighter beneath. Club black above; beneath, fulvous with dark tip. Legs greenish brown, tending to fulvous.

Upper side of fore wings bronzy brown. Hind margin has a fringe of tawny hairs. A dark line extends from end of discoidal space downward, ending at central point of submedian nervure. Midway between the upper end of this line and hind margin is a very indistinct lightish spot. The costa is lighter than ground color from its base upward to its centre, and the basal area is dusted with these lighter-colored scales.

Hind wings entirely bronzy brown, excepting the tawnyish fringe of hairs at hind margin and the dusting of lighter scales at basal area.

Under side of fore wings is greenish brown, excepting the lower area as bordered by median nervure and thence by a line drawn from its end to lower angle. This area is velvety black, shading to grayish toward inner margin. The hind margin, also, has a border of tawny hairs. There is a suggestion of a line of interspacial white spots in the four lower interspaces, beginning at end of discoidal space, and extending downward toward centre of submedian nervure.

Under side of hind wings greenish brown. Hind margin bordered as above, with a fringe of tawny hairs. Near end of discoidal space is a slight white dot, and midway between this and hind margin is an interspacial line of white extending from near apex down to centre of submedian nervure, following closely the contour of the hind margin. The inner marginal space is dusted with black scales.

Taken about two hundred miles north from Cochabamba, August 25, 1899.

***Epinephele imbrialis* sp. nov.**

Habitat: Bolivia, Alezuni district. Expanse: 1.30 inches.

Head, thorax and abdomen, above, bronzy brown; beneath, gray. Antennae dark, with white annulations at base of each joint. Club, above, dark; beneath, fulvous, with dark tip.

Fore wings bronzy brown. Hind margin slightly fringed with hair, edged with two fine dark threads very close together. From apex a dark brown jagged line runs downward to submedian nervure, then turns upward, just touching discoidal space, and meeting the costa at a point just beyond its centre, forming a triangular figure with its base resting on the costa. In the

centre of this, in apical area, is a double ocellus, its centre being black, with two silvery dots, all surrounded by a line of light brown.

Hind wings bronzy brown. Hind margin has a slight hairy fringe. One sixteenth inch from margin a dark line runs from apex to anal angle, parallel with the margin. In some specimens the space between this line and the margin is lighter colored than the ground color. In other specimens the color is the same. In anal angle area, above the lower submedian nervule, is a small ocellus, having a black centre with a white dot and a light brown border. Inner marginal space light brown.

Under side of fore wings brown, much lighter than upper surface. The dark line forming the triangle on upper surface is repeated. The double ocellus is larger, and its border is yellowish white. The fringe of hairs at hind margin shows lighter than ground color. Apical area is dusted with gray scales.

The under side of hind wings is divided between brown and gray, brown being the ground color. A space one eighth inch wide on hind margin, running from apex to anal angle, and thence upward to base of wing, is gray, generously dusted with brown scales. A straight gray band of nearly equal width runs from costa downward, grazing discoidal space, and ending at anal angle. The inner edge of this band has a line of dark brown. The basal area is heavily dusted with gray scales. The intervening spaces are brown, matching fore wings. In some specimens the gray band suffuses into the grayish portion of hind margin, making the outer half of the wing gray, with a line of large, interspacial, brown dashes along its centre. The basal area is also bordered by a dark line, within which the basal dusting of gray scales is confined.

Taken in August, 1899. Described from four specimens in my collection.

Gorgythion difficilis sp. nov.

Habitat: Bolivia, near Cochabamba. Expanse: 1.40 inches.

Head, thorax, abdomen and legs, very dark slate color with some lustre; beneath, light gray. Antennae black, lighter below.

Fore wings very dark slate color with some lustre, marked with velvety black and brownish.

Costa velvety black. Above centre of discoidal space, a band of ground color, and another similar band above end of discoidal space. Then velvety black for one eighth inch, *this* black portion branching downward and crossing apical area, as a line or dash, toward hind margin. There is a white dot on costa near apex.

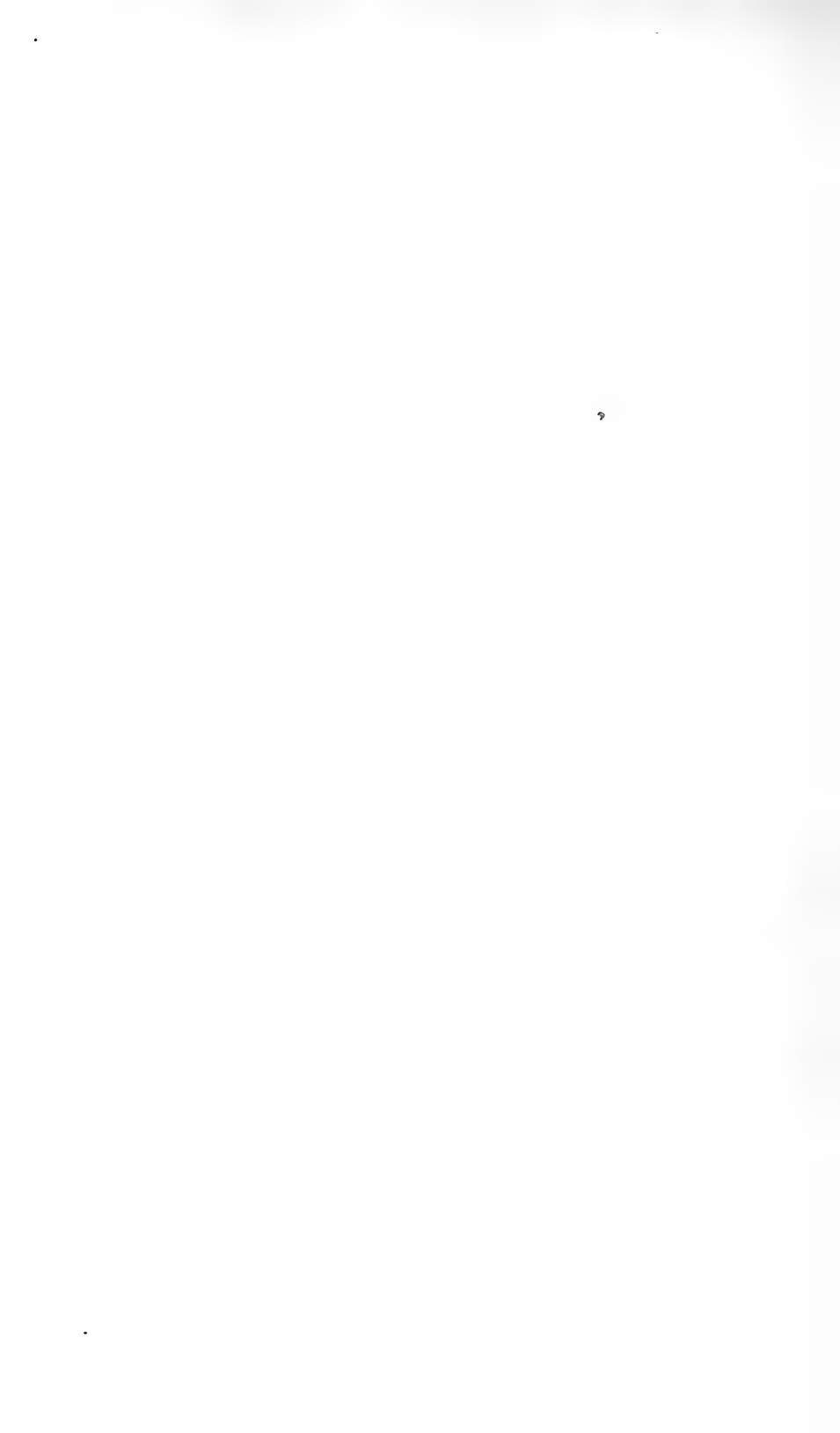
Hind margin bordered by brownish, the brown area being narrow at apex and broadening out to nearly a quarter inch deep at lower angle. This area is marked with velvety black: a dash on inner portion at apex; below this, in centre of margin, a larger velvety black mark, practically obliterating the brown; and below this, at lower angle, another patch of velvety black, pointing upward. The basal portion of discoidal space is crossed by a suffusing line of velvety black, with another similar line near end of space, and one thirty-second of an inch beyond this, a clear wavy black line, practically bordering the end of discoidal space. In the central portion of wing, just below the end of discoidal space, is a white spot. Below this, running down to inner margin, is a velvety black dash suffusing outward; and within this, one sixteenth inch nearer base of wing, is a similar dash, but suffusing toward base.

Hind wings, very dark slate color. Hind margin with a narrow border of velvety black, deeper at apex and anal angle, its inner edge being irregular. Running from costa, from a point one third the distance from apex to base, is an irregular black line (practically interspacial spots) extending downward to, and somewhat below, end of discoidal space. Midway between this and base there is another similar line. Basal area close to joint is velvety black.

Under side of fore wings dead brownish black with markings of yellowish. Costa dusted with yellowish scales upward. Above end of discoidal space, a yellowish dash, and a second similar one midway to apex. Apex, discoidal space, and upper portion of wing (excepting markings above noted), of ground color. The third of the wing at lower angle is yellowish, except that there is a dark line at hind margin and a jagged dash of blackish running upward for one eighth inch from lower angle. The white spot at centre of wing on upper surface is repeated.

Lower side of hind wing, yellowish, with dead brownish black markings. Costal interspace dead brownish black. Apical area the same. Hind margin with a blackish border and a row of suffusing spots just within it. Near base, under subcostal nervule, a blackish spot, repeated one eighth inch outward; below the latter, another, crossing discoidal space. Outside of this, midway to hind margin, is a series of interspacial blackish spots, five in number, starting at subcostal nervule and extending downward to first submedian nervule. At anal angle is a spot or dash of tawny yellow, practically of ground color, but lighter in appearance. Inner margin tends to yellowish gray.

Described from one specimen taken in September, 1899. From the nature of the markings and their apparent tendency to suffusion, other specimens of the same species should show considerable variation from this type. In describing such a specimen, or even series of specimens, a plate is indispensable.



PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

DESCRIPTIONS OF SEVEN NEW BUTTERFLIES FROM
BOLIVIA.

BY A. G. WEEKS, JR.

Pamphila alleni sp. nov.

Habitat: La Paz, Bolivia. Expand: 1.05 inches.

Head and palpi, above, dark bronze; beneath, dark grayish. Antennae and club, above, dark bronze with white (indistinct) annulations at base of each joint; beneath, lighter, club being light tawny.

Entire upper surface of both wings is dark bronze with a little lustre, dusted somewhat in all parts with scattering golden scales.

Under side of fore wing dark brown, the discoidal and apical areas being dusted with yellowish scales. The interspace above submedian nervure has a prominent space of light yellowish gray, about one eighth inch long, midway between base and hind margin. This is very slightly duplicated in the interspace above.

Under side of hind wing dark brown, quite generously dusted with golden scales throughout. There is a mere suggestion of a dark line running from apex across to inner margin to a point just above anal angle. Within this, midway to base, are two dark lines, close together, extending from costa across discoidal space. All of these lines, while breaking the regularity of the general ground color, are so indistinct that it is hard to determine their exact limits.

Described from twelve specimens taken April 5, 1899. It is evidently closely allied to *P. morsa* Stdgr.

Pamphila idee sp. nov.

Habitat: La Paz, Bolivia. Expanse: 1.15 inches.

Head, palpi, thorax, abdomen and legs, dark bronzy brown; somewhat lighter beneath. Antennae the same, with white annulations at base of each joint, the one at base of club much suffused.

Upper surface of both wings a dark bronzy brown, with some lustre, the hind marginal fringes being a shade lighter. There are no markings except a dark dash on fore wings, running from end of discoidal space to submedian nervule at an angle of forty-five degrees.

The under side of fore wing is dark brown. The costa, apex and a space along hind margin, are dusted with lightish scales. From centre of submedian nervule, extending upward through next two interspaces toward apex, is a dash of whitish scales, suffusing somewhat toward hind margin and quite prominent. The hind margin is bordered by a fine black thread. The hind marginal fringe is somewhat lighter than ground color, and the portions at ends of the veins are blackish.

The under side of hind wing is dark brown, but a little lighter than fore wing. The marginal fringe is the same. Across basal area, close to base, is an indistinct wavy black line, and there is another running from centre of costa down to discoidal space. Below the centre of costa, just outside of the above-mentioned line, is an indistinct patch of lightish, and below it is a series of four similar patches, interspacial, running across centre of wing on a line drawn from apex to anal angle just outside the discoidal space. The entire surface is dusted with lightish scales.

Described from three specimens taken in April, 1899, in the suburbs of La Paz.

Pamphila reedi sp. nov.

Habitat: Bolivia, Coroico district. Expanse: 1.28 inches.

Head, palpi, thorax, abdomen and legs, bronzy brown above; below, distinctly grayish.

Upper surface of both wings bronzy brown with some lustre. Fringes at hind margin, of same color. The markings of fore wing are indistinct and in many specimens are quite invisible. One third distance from apex to base are four white dots in successive interspaces, the first two in a line toward hind margin, the lower two in a line toward inner angle. There is a larger light

spot at end of discoidal space, and below it, under first median nervure, another larger one nearer the base. Below this, in next lower interspace and nearer the hind margin, is a whitish speck scarcely visible on the most pronounced types. The upper surface of hind wings is bronzy brown without markings.

The under surface of both wings is grayish, especially the hind wing. The basal area of fore wing is dark brown without lustre. The costal region is sprinkled with gray-brown scales, more prominent toward apex, and extending downward along hind margin, nearly disappearing at inner angle. The indistinct markings of upper surface are distinctly white and prominent and somewhat suffused. The small speck on lower submedian nervure of upper surface is suffused outward and inward, forming an extensive white dash, the most prominent feature of the under surface. The edge of inner margin is lightish brown.

The under side of hind wing is dark brown, but so heavily dusted with light brown or grayish scales that the general appearance is grayish brown. One sixteenth inch within hind margin is a dark brown line running from upper angle toward anal angle, not prominent. Just within this is another similar line, more prominent than the outer one. Both of these stop at the submedian nervule. Midway from apex to base at costa are two wavy lines, one sixteenth inch apart, extending downward across end of discoidal space and then diverging as they approach submedian nervure. The inner marginal space is somewhat lighter than general ground color.

While the markings of upper surface may vary in intensity, even to complete obliteration, the markings of under surface are less variable, and apparently are quite distinctive of this species.

Taken near Coroico in May, 1899.

***Pamphila briquenydan* sp. nov.**

Habitat: La Paz, Bolivia. Expanse: 1.12 inches.

Head and legs dark brown above; whitish beneath, tinged slightly with dead brick red. Abdomen dark brown above; whitish beneath, heavily tinged with dead brick red. Antennae dark brown above; lighter beneath and tipped with black.

Upper side of fore wing dark brown without lustre. Hind marginal fringe the same. The costa is dusted with light bronze from base midway to apex. In subcostal interspaces near apex are two white spots, one below the other. Near the end of discoidal space, and touching median vein, is a small white spot. In interspace outside of this is another somewhat larger spot. Below these, and between them, in next lower interspace, is a still larger white spot,

concave on its outer edge. Below this, but a little nearer the base and situated on the submedian vein, is another small white spot.

The upper surface of hind wing is of dark brown somewhat richer than the brown of fore wings. The portion of the wing below costal area is covered by light bronzy hairs. Near apex is a small dark tawny spot, very indistinct. Across the centre of the wing, running in a direction from apex to centre of inner margin, is a series of four interspatial spots of dark tawny, quite prominent.

The under side of fore wing is dark brown, blackish in basal and inner marginal area. The subcostal area is heavily dusted with dark brick-colored scales. The apical area is dusted with lightish gray scales, extending downward along hind margin toward inner angle. The white spots of upper surface are repeated, somewhat enlarged, but more subdued in color.

The ground color of under side of hind wing is dead brick red; it may be better to say, dark brown very heavily dusted with dark brick-colored scales. The tawny spots of upper surface are repeated, but very indistinctly; in addition, there are two more spots, one near end of discoidal space and the other below centre of costa. The inner marginal space and the portion of wing bordering hind margin are more brownish, showing less of the brick red.

Taken near La Paz, April 5, 1899.

***Pamphila milesi* sp. nov.**

Habitat: Bolivia, Coroico district. Expanse: 1.20 inches.

Head, palpi, thorax, abdomen and legs, bronzy brown above; grayish brown below.

Upper side of wings bronzy brown, with some lustre. Hind margins fringed with hairs of a slightly lighter shade.

At a point in costa of fore wing, one third the distance from apex to base, is a series of four white spots in a line running toward inner angle and placed in consecutive subcostal interspaces. These spots are small but well defined. In the interspace below the end of discoidal space is a white spot, its outer end being concave, and in the interspace below is another larger white spot, its outer edge being in line with the inner edge of the spot above it. Its outer edge is also concave, drawn out to a point at the lower portion. These two spots near the centre of the wing form the prominent markings of the upper surface. Below the larger spot, on a line with its inner edge, is a small white dot resting on the submedian nervule. The hind margin is edged with a line of dark brown within the fringe.

The surface of the hind wing is identical in ground color with the fore

wing, the only mark being a small white dot at the end of discoidal space just below the first median nervule. There is a slight suggestion of another dot in the interspace below it.

The under side of fore wing is of much the same color as upper surface, tending somewhat to grayish and lacking lustre. The basal area tends to blackish. The small spot resting on submedian nervule on upper surface is replaced by a generous dash of white scales suffusing outward toward margin. The spots above this are identical with those on upper surface. One sixteenth inch within the hind margin, running from apex to lower angle on both fore and hind wings, is a dash of brown somewhat lighter than the ground color.

The under side of hind wing is the same as upper surface, the ground color only differing as on under side of fore wings.

Taken near Coroico in May, 1899.

***Terias floscula* sp. nov.**

Habitat: Bolivia, Cusilluni district. Expanse: 1.05 inches.

Head black, with yellowish gray hairs. Eyes brown. Antennae black, with white annulations at base of each joint. Club brownish black. Thorax and abdomen, above, black with yellowish gray hairs; beneath, bright lemon yellow. Legs yellow.

Hind margin of fore wing has a black border, starting as a thread at lower angle and broadening to one twelfth inch as it approaches apex; turning at apex, it continues down costa in lessening degree, disappearing at one third distance from apex to base. Rest of wing is bright lemon yellow. Inner margin somewhat whitish.

Hind wing entirely bright lemon yellow, shading to whitish in subcostal space.

Under side of both wings bright yellow with no markings whatever.

Taken in May, 1899, in the mountains near Cusilluni.

***Butleria duovata* sp. nov.**

Habitat: Bolivia, near Coroico. Expanse: 1.00 inch.

Head, thorax and abdomen, above, blackish brown; beneath, very light tawny. Antennae black, with slight white annulations at base of each joint. Legs tawny.

Upper side of fore wing, very dark brown. At end of discoidal space is a very light tawny spot extending downward through the next two lower interspaces.

Upper side of hind wing much the same. The tawny spot in centre of wing is a little larger than that of fore wing and is a shade darker.

Under side of fore wing the same as upper surface, with the following exceptions. The tawny spot is more suffused toward inner margin. The ground color is more a dead blackish. The costa is very light tawny, nearly yellowish white. The apical area is nearly yellowish white, diminishing down hind margin to a point at lower angle.

The under side of hind wing is entirely very light tawny, matching same color of fore wings. The inner marginal area is somewhat dusted with darkish scales.

Described from one specimen taken in April, 1899. A specimen much the same as this was taken in Brazil and is in the Godman collection, unnamed. It is undoubtedly the same species.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

DESCRIPTIONS OF TEN NEW BUTTERFLIES OF
THE GENUS *PAMPHILA*.

BY A. G. WEEKS, JR.

Pamphila artiei sp. nov.

Habitat: Coroico, Bolivia. Expanse: 1.25 inches.

Head, antennae, thorax, abdomen and legs, above, very dark brown; beneath, somewhat lighter. Club yellowish beneath.

Upper side of fore wing very dark brown with slight lustre. Hind marginal fringe, of ground color, but lighter opposite interspaces. There is a dark dash running from centre of submedian nervure toward apex, ending at median nervure.

Upper side of hind wing very dark brown without markings. Hind marginal fringe the same as on fore wing.

Under side of fore wing very dark brown with slight lustre. Area at lower angle somewhat lighter. There are two small white dots in subcostal interspaces near apex, which do not appear on upper surface. Hind margin bordered by a thread lighter than ground color. Marginal fringe the same as on upper surface.

Under side of hind wing very dark brown. Hind marginal fringe the same as on fore wing. Hind margin bordered by a thread lighter than ground color. There is a black thread starting at centre of lower submedian nervule and running toward upper angle, ending at first subcostal nervule. In interspace above, and one sixteenth inch nearer base, is another black thread running to costa. In the basal area is a short black thread crossing basal portion of discoidal space. The hind marginal area, covering outer third of wing, is crossed at its centre by an indistinct line of light scales. The basal area also is slightly dusted with similar scales. Inner marginal area is of ground color.

Taken near Coroico in May, 1899.

Pamphila coroiconensis sp. nov.

Habitat: Coroico, Bolivia. Expanse: 1.60 inches.

Head and thorax dark brown. Abdomen, above, dark brown; below, somewhat lighter. Antennae dark brown, with a ring of light yellowish at base of club. Club black.

Upper side of both wings dark bronzy brown with slight lustre, tending to darker toward basal area.

Under side of fore wing dark bronzy brown; the inner marginal area light brown.

Under side of hind wing dark bronzy brown, darker than fore wing and without markings.

Taken in May, 1899.

Pamphila warreni sp. nov.

Habitat: Coroico, Bolivia. Expanse: 1.05 inches.

Head, palpi, thorax, abdomen and legs, above, dark bronzy brown; beneath, grayish. Antennae black, with white annulations at base of each joint. Club tipped with white.

Upper side of fore wing dark bronzy brown with slight lustre. Hind marginal fringe grayish, brown at ends of nervures and nervules. In apical area, one third distance from apex to base, in subcostal interspaces, are three very small but distinct white dots. At end of discoidal space, close to subcostal nervure, is a white spot. There is another somewhat larger white spot resting on next to lower submedian nervule, midway to hind margin. In interspace below and somewhat nearer base is a white spot.

Upper side of hind wing entirely brown, the same as fore wing. Hind marginal fringe the same as fore wing. Inner marginal area the same, but a shade lighter.

Under side of fore wing dark brown. The white spots of upper side are repeated. In addition to these is a spot just under the discoidal spot, and in interspaces below the subcostal spots are two spots nearer the hind margin. The costa and apical area are very heavily dusted with grayish scales very slightly tinged with blue. Inner marginal area light brown. Fringe same as upper side.

Under side of hind wing blackish, but so heavily dusted with the bluish gray scales that the general color appears dark gray with a very slight bluish tinge. In subcostal area, near the upper angle, is a dark gray spot, the same as ground color, but somewhat lighter. Below this but nearer hind margin is a series of similar spots or marks, interspacial, and extending downward to lower submedian nervule. The central one of these is the largest, and extends upward toward the base of wing. Near the centre of discoidal space is another similar spot, and there is also one in the centre of the basal area. The inner marginal area, up to lower submedian nervule, is brown, nearly matching the ground color of the fore wing. Fringe the same as fore wing.

Taken in the mountains near Coroico, April 20, 1899.

Pamphila serenus sp. nov.

Habitat: Bolivia, near Coroico. Expanse: 1.00 inch.

Entire upper surface bronzy brown with some lustre. Hind margins have a fringe slightly lighter than ground color.

Under side of head, thorax and abdomen, grayish brown.

Under side of both wings bronzy brown with some lustre, the shade being somewhat lighter than upper surface. Fringe at hind margins same color as ground color.

Basal area of fore wings blackish.

On fore wing of some specimens there is a small, subcostal, lightish dot near end of discoidal space. Just below end of discoidal space is another dot, and in interspace below that is another larger spot situated a little nearer base of wing.

Taken in May, 1899.

Pamphila alliancea sp. nov.

Habitat: Bolivia. Expanse: 1.50 inches.

Head, thorax and legs, nearly black above; beneath, somewhat lighter. Abdomen, above, nearly black; beneath, yellowish white. Antennae, above, black; beneath, black, with a yellowish space at base of club.

Upper side of fore wing rich dark brown with slight lustre. Near apex are three or four subcostal dots of lightish brown, but very indistinct. In the centre of wing, running across interspace above the lowest submedian nervule toward apex, is a lightish line, and in interspace above it is a light dot. All these markings are very indistinct. Hind marginal fringe of ground color.

Upper side of hind wing rich dark brown, matching fore wing. Hind marginal fringe lighter than ground color.

Under side of fore wing dead dark brown. The spots of upper surface are repeated, but less distinctly, being nearly imperceptible. In the costal, apical and hind marginal areas, in outer third of wing, the nervures and nervules are distinctly light brown, showing strongly against the ground color. Inner marginal area near lower angle light brown. The basal area has a very slight purplish tinge in some lights.

Under side of hind wing dead dark brown, matching fore wing. The nervures and nervules throughout are distinctly light brown. In interspaces across the wing, from apex to centre of inner margin, is a faint suggestion of a row of spots, but so indistinct that they are visible only on very close inspection. The inner marginal area near the base has a slight tinge of purplish in some lights.

The marginal fringes of under surface are of ground color.

Taken near Coroico in May, 1899.

***Pamphila septimanus* sp. nov.**

Habitat: Chulumani, Bolivia. Expanse: 1.25 inches.

Head, thorax, abdomen and legs, above, dark brown; beneath, grayish. Antennae blackish, with white annulations at base of each joint; a yellowish band at base of club.

Upper side of fore wing lightish brown with scarcely any lustre. In subcostal interspaces, one quarter distance from apex to base, are three white spots. At end of discoidal space is a prominent white mark, narrowed at its centre. In interspace below, nearer hind margin and resting on lower submedian nervule, is a large white mark, nearly square, its base drawn somewhat toward hind margin. In interspace above this, and nearer hind margin, is another white spot of smaller size, making seven in all. Hind marginal fringe lighter than ground color, darker opposite nervures and nervules.

Upper side of hind wing of the same ground color as fore wing, without markings.

Under side of fore wing of the same ground color as upper side. The white spots are the same as on upper side. The costal and apical areas are dusted with gray scales. Inner marginal area somewhat lighter than ground color.

Under side of hind wing of the same ground color as fore wing, but heavily dusted throughout with gray scales. There is a very slight suggestion of interspatial spots across the centre of the wing, owing to the increased number of the gray scales at these points. Hind marginal fringe lighter than ground color, darker opposite the nervures and nervules.

Taken January 10, 1899.

Pamphila planus sp. nov.

Habitat: Bolivia. Expanse: 1.25 inches.

Head, thorax, abdomen and legs, brownish black above; beneath, somewhat lighter. Antennae black, with a suggestion of a yellow band at base of club.

The upper surface of both wings is a rich blackish brown without lustre, markings, or shadings. Marginal fringe and all marginal areas the same.

Under side of fore wing the same ground color as upper surface. Inner marginal area light brown, especially at lower angle.

Under side of hind wing the same, but somewhat darker and showing in some lights a very slight purplish lustre. Inner marginal area lighter brown.

Taken near Cusilluni in May, 1899.

Pamphila taberi sp. nov.

Habitat: Cochabamba, Bolivia. Expanse: 1.15 inches.

Head, palpi, thorax, abdomen and legs, above, dark bronzy brown; beneath, somewhat lighter. Antennae the same, with indistinct white annulations at base of each joint.

Upper side of fore wing dark bronzy brown. In subcostal interspaces near apex are three indistinct lightish spots.

Upper side of hind wing dark bronzy brown without markings.

Under side of fore wing dead blackish brown. The three apical spots of upper surface are repeated. In interspace above submedian nervure, in centre

of wing, is a lightish dash, suffusing to ground color toward hind margin. In interspace above this is a lightish dot. The hind marginal area is lightish toward apex.

Under side of hind wing very dark blackish brown, darker than fore wing. The nervures and nervules are light bronze. The hind marginal area is light brown, somewhat as a narrow border suffusing into ground color. One eighth inch within the hind margin is a series of five interspacial spots, nearly white, tinged with blue, running from costa down to submedian nervure. At the very base the interspaces are of the same color. The inner marginal area is light brown.

Taken in September, 1899.

***Pamphila leopardus* sp. nov.**

Habitat: Bolivia. Expanse: 1.05 inches.

Head, thorax and abdomen, dead dark brown above; beneath, the same, tending to grayish. Antennae black, with yellow annulations at base of each joint and a yellow band at base of club. Legs yellowish.

Upper side of fore wing dead dark brown. Hind marginal fringe yellowish brown, but black at nervures and nervules. In subcostal interspaces, one third distance from apex to base, are five very indistinct spots just a shade lighter than ground color. These are continued in three lower interspaces, but are so indistinct that they are scarcely worth noting. Inner marginal and basal areas show no change from ground color.

Upper side of hind wing entirely of same ground color as fore wing. Marginal fringe the same as on fore wing.

Under side of fore wing dark brown, nearly black. The costa is nearly white. Hind marginal fringe same as upper surface, but more distinctly marked. The apical area is whitish. Very near apex, in subcostal interspaces, is a line of six black marks, in contact with hind margin at the fourth one and suffusing into ground color below. The indistinct lightish spots of upper surface are repeated, but are more prominent and are slightly edged on inner and outer sides by a dark thread. The inner marginal area tends to light brown.

The basal area of under side of hind wing, covering inner third of wing, is whitish. Outer portion beyond this is very dark brown. Across the centre of the light basal area runs a jagged black line from first subcostal nervule to lower submedian nervule. One sixteenth inch outside of this is another similar line, the space between them being the lighter portion of the wing and

resembling a light band across the wing. Outside of this line is a series of very indistinct interspacial dots or marks, slightly lighter than ground color. Between this and hind margin are interspacial dashes of lightish scales. The hind margin is bordered by a dark thread. Inner marginal area light brown.

Taken five days' journey north from Cochabamba, August 25, 1899.

Pamphila hurleyi sp. nov.

Habitat: Bolivia. Expanse: 1.15 inches.

Head, thorax, abdomen and legs, above, dark brown; beneath, lighter, tending to grayish. Antennae dark brown, with white annulations at base of each joint; beneath, lighter, tending to yellowish.

Upper side of fore wing dark brown with some lustre. In the subcostal interspaces, just beyond end of discoidal space, are three small, light brownish, semi-transparent spots. In the three next lower interspaces are three more similar spots, but somewhat larger and nearer the hind margin. The lowest of these is the largest. In next lower interspace, resting on lowest submedian nervule, is another larger spot, nearer still to base and under the end of discoidal space. In the discoidal space, near its end, is another spot, making eight in all.

The upper side of hind wing is dark brown without markings. Marginal fringe, of ground color.

Under side of fore wing dark brown, nearly black. The costal area and hind marginal area are heavily dusted with light bronzy scales. Inner margin grayish. The spots of upper surface are repeated, but are yellowish white and very prominent. In interspace above submedian nervure is a large band of yellowish white. Marginal fringe of ground color.

Under side of hind wing light brown dusted with brighter scales. Inner marginal area light yellowish brown. One sixteenth inch within hind margin, running from upper angle nearly to anal angle, is a dark brown line, or rather a series of interspacial lunules. One sixteenth inch within this is another similar line running from upper angle across the wing toward inner margin. There is a suggestion of a line across the end of discoidal space, and also two more in subcostal area nearer the base. All of these lines are somewhat indistinct, and at first glance give the wing a mottled appearance.

Taken about two hundred miles north of Cochabamba in September, 1899.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

DESCRIPTION OF A NEW WOODPECKER FROM
CHIRIQUI.

BY OUTRAM BANGS.

IN the paper I lately published on the birds collected by Mr. W. W. Brown, Jr., at David and Divala, Chiriqui,¹ I followed other writers on the birds of this region, in referring the small scarlet-rumped *Veniliornis* to *V. cecilia* of Colombia and western Ecuador. Being struck by the peculiar distribution accorded this species, — the Bogota region of Colombia and western Ecuador, cropping out again in Chiriqui, in the vicinity of David, — I carefully compared our single specimen with the series of *V. cecilia* in the National Museum at Washington, and was not surprised to find that the Chiriqui bird is different.

So far as I have been able to learn, the new species is known only from the vicinity of David and Divala (these two towns are about thirty miles apart, and lie in precisely similar country, under the same faunal conditions, and have a common ornis), where it is a rare species. It may be known as:

***Veniliornis neglectus* sp. nov.**

Type, from Divala, Chiriqui, ♀ adult, no. 7802, coll. of E. A. and O. Bangs, collected Nov. 9, 1900, by W. W. Brown, Jr.

¹ Auk, Vol. XVIII, pp. 355-370, Oct., 1901.

Characters.— Similar to *V. ceciliae* (Malh.) of Colombia and western Ecuador, but smaller, with a much stouter bill; general coloration much darker, especially below; under side of tail darker; under surface of wing with much wider blackish bands.

Color.— Type, ♀ adult (♂ unknown to me): Pileum dusky mummy brown, slightly freckled with yellowish; occipital collar ochre yellow; back and outer edges of wings bright reddish olive, touched here and there with dull scarlet; lower rump and upper tail coverts scarlet; primaries and inner webs of secondaries and tertiaries dusky brown; throat grayish, marked with dull brown; breast dark purplish brown, each feather barred (two or three bars) with cinnamon; belly, sides and under tail coverts paler — the bars on the feathers becoming wider and isabella color instead of cinnamon; tail, above, dusky brown edged with reddish olive; tail, below, dark olivaceous brown, with a few obscure paler spots on inner webs of outer rectrices; under side of closed wing yellowish white crossed by broad bands of dusky, tips of primaries and secondaries uniformly dusky.

Measurements.— Type, ♀ adult: wing, 83.0; tail, 53.0; tarsus, 15.5; culmen, 20.0; width of bill at base, 8.0; depth of bill, 5.5 mm.

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

DESCRIPTIONS OF SOME NEW BUTTERFLIES OF THE
GENERA *THECLA*, *EUPTYCHIA*, *TELEGONUS*
AND *ACHLYODES*.

BY A. G. WEEKS, JR.

Thecla sadiei sp. nov.

Habitat: Bolivia, Coroico district. Expanse: .80 inch.

Head brown, with a white thread encircling eyes. Thorax dark blue above; beneath, dark rich brown, nearly black. Abdomen dark blue above; beneath, white, tending to brown toward end. Antennae black, with white annulations at base of each joint; tip tawny. Legs brown, with prominent white annulations at each joint.

Upper side of fore wing dead black. Below a line drawn from base upward to centre of discoidal space and thence to a sixteenth inch from hind margin, thence to inner margin, the color is a brilliant blue with some lustre.

The upper surface of hind wing is brilliant blue with some lustre, excepting the subcostal and apical area which is black above a line drawn from base straight to hind margin one quarter distance below apex. At end of submedian nervure is a short black tail tipped with white, and at end of next nervule above is a shorter tail. The hind margin is bordered by a black thread. The nervures and nervules are black at hind margin. Inner marginal area dark gray.

The under side of fore wing is brown. The inner marginal area, up to the lower submedian nervule, is light gray. The apex also is light gray, diminishing to a narrow line on hind margin toward lower angle. From the very apex, within the gray area extending downward from the costa, is a dash of very dark rich brown. Across the ground color, extending downward from costa, and just within the apical gray area, is a jagged thread of whitish, ending at

lower submedian nervule. The lower half of this is crossed by interspatial longitudinal dashes of very dark brown. The lower interspaces, also, bear dark dashes close to hind margin. These dark markings, excepting those at apex, are somewhat indistinct, but undoubtedly vary in their prominence and suffusion in various specimens. Below the discoidal space, in the centre of the wing, is a suggestion of a fine lightish dash extending toward apex. This is scarcely visible.

The lower side of hind wing is difficult to describe. The general appearance is mottled, very dark rich brown and lighter brown with jagged lines of brilliant blue. The coloring shows much darker than on fore wing. From the base a narrow line of brilliant blue extends upward along the costa. The immediate basal area is dark rich brown. Outside of this is a very irregular band of lighter brown, extending from near centre of costa across to centre of inner margin. The outer edge of this is bordered by a brilliant blue thread. The anal area is of very light brown with irregular dustings of darker brown. The hind margin is bordered by a white thread. The hind marginal fringe is whitish, broken by black at the ends of the nervules.

Taken April 20, 1899.

***Thecla lucaris* sp. nov.**

Habitat: Bolivia, near Cusilluni. Expanse: .72 to 1.10 inches.

Head, thorax and abdomen, above, grayish brown; below, grayish. Antennae, blackish above; gray beneath, with white annulations at base of each joint. Club blackish with tawny tip. Legs steel gray.

Upper side of fore wing grayish brown with a blackish shading at basal area in certain lights; also, under same conditions, there is the appearance of a discoidal spot of blackish. At first glance, however, the wing appears to have no markings. Hind margin fringed with hairs of a color slightly lighter than ground color.

General color of hind wing the same as of fore wing. The hind margin, within its fringe, has a slight darkish thread. At end of lower median nervule is a short delicate tail, nearly one sixteenth inch long, dark-colored, with a white point. At the margin, in interspace above this, is a black spot surrounded on basal side by a semicircle of reddish brown, and, in the interspace below, another similar spot, but much smaller than the first.

Under side of fore wing steel gray with a brownish tinge. Basal area dusted with bronzy scales. At hind margin, running from apex down to lower median nervule, is a double line of interspatial spots of a color slightly darker than ground color, but all of them very indistinct. On close examina-

tion these spots are seen to be edged with whitish. Beginning at subcostal space, at a point one third distance from apex to base, is a line of six interspatial semicircles of a rich red brown color, extending downward to lower median nervule. These are edged with whitish on outer edge.

Under side of hind wing same ground color as fore wing. Basal area dusted with bronzy scales. The marginal border and the double line of indistinct spots is the same as on fore wing, excepting that the spots in interspaces next above and below the tail are black, surrounded on basal side by a semicircle of reddish brown. Beginning near apex and extending across the wing to near the centre of inner margin, is an irregular line of rich red brown, having a white edge on outer side. At the submedian nervule this line forms a V.

Taken in May, 1899. This species is very variable in size.

***Euptychia monahani* sp. nov.**

Habitat: Bolivia. Expanse: 1.40 inches.

Head, thorax and abdomen, very dark brown above; beneath, a shade lighter. Antennae and legs, above, very dark brown; beneath, yellowish.

Entire upper surface of both wings rich dark bronzy brown. In a strong light the marginal third of wings is a little lighter.

Under side of fore wing blackish brown. Hind margin edged with a fine line of grayish. One sixteenth inch within the margin is a somewhat irregular line of very dark brown, starting at costa and disappearing at lower submedian nervule. At the apex, between this line and the hind margin, the space is heavily dusted with grayish scales, disappearing midway to lower angle. Above the lowest submedian nervule, one eighth inch from hind margin, is an ocellus of black with a white dot at its centre and encircled by a thread of light brown. Above this, and resting on the next two nervules, are two minute white specks; and in interspace above these, nearly in apical area, is a small spot of yellow. These markings are distinct, but not at all prominent. The inner marginal area near base is light brown.

The under side of hind wing is rich blackish brown. The hind marginal area, outside of a line drawn from the apex to centre of inner margin, is light brown tinged with gray. The portion of this above the anal angle suffuses upward into the ground color. The portion bordering the hind margin is slightly darker. The hind margin has a thread of grayish. One sixteenth inch within this is an irregular dark line running from costa to anal angle. One quarter inch within this line is another, running from same point at costa and ending at inner margin one quarter inch above anal angle. This line is very near the dark basal half of the wing. In anal angle, in interspace above the

submedian nervure, is a small yellow spot. In interspace above this, one eighth inch from hind margin, is a yellow ocellus with a white dot at centre, the same size as the ocellus on fore wing. From the submedian nervure, near its central point, runs a line of very dark brown to the junction of median nervure and lower submedian nervule, turning then and running upward across discoidal space. In some specimens the ocelli of under side are very indistinct and the marginal area of lower side of hind wing is not so grayish.

Taken near Alezuni in August, 1899.

***Euptychia therkelsoni* sp. nov.**

Habitat: Bolivia. Expanse: 1.50 inches.

Head, thorax and abdomen, black. Antennae and legs, above, black; beneath, light yellowish brown.

The upper surface of both wings is a very rich dark brown without any markings. In a strong light the hind marginal areas show somewhat lighter.

Under side of fore wing dark brown. Hind margin edged with a thread of lighter brown. Within this, one sixteenth inch within the margin, is a jagged line of very dark brown, running from apex to inner margin. One quarter inch within this is another similar line, running from subcostal nervure downward and disappearing toward lower submedian nervule. These lines are very indistinct, perceptible only in a strong light.

Under side of hind wing dark brown, matching fore wing. The two lines of fore wing are repeated, joining at anal angle. They are slightly more prominent than on fore wing. There is also a very indistinct line crossing centre of discoidal space and disappearing in interspace below.

Taken five days' travel north from Cochabamba, in August, 1899.

***Telegonus finitimus* sp. nov.**

Habitat: Bolivia. Expanse: 2.00 inches.

Head blackish brown above and below. Thorax blackish brown above, covered with light blue hairs of considerable lustre; beneath, light brown. Abdomen, above, blackish brown with light blue hairs near thorax; beneath, light tawny. Legs light brown, shading to tawny at ends. Antennae black. Club, below, tawny.

Upper side of fore wing dead blackish brown. The basal area below median nervure is in some lights bright lustrous blue. Hind marginal fringe at apex, of ground color. Hind marginal area at the apex, of ground color, but shading to tawny at lower angle. In discoidal space, near its end and touching subcostal nervure, is a small white dot. Below this, in discoidal space and slightly nearer base, is another somewhat larger dot resting on median nervure. In the interspace above the lowest submedian nervule, about one quarter inch from hind margin, is a semi-transparent white spot crossing the interspace, concave on its outer side. In interspace above this, slightly nearer hind margin, is another similar spot, somewhat smaller.

The upper side of hind wing is of same ground color as fore wing. The basal area in some lights is bright lustrous blue. The hind marginal fringe is bright tawny, thread-like at upper angle but broadening to one eighth inch wide at anal angle. This prominent fringe and the lustrous blue of basal areas form the prominent markings of upper surface.

The under side of fore wing is dark brown. The spots of upper surface are distinctly repeated. From costa, one third distance from apex to base, extends a soft suffusing band of grayish, running toward centre of hind margin and then turning at base of apical area and paralleling hind margin, disappearing toward lowest submedian nervule. The immediate apical area is of same color, suffusing gently toward this band. Inner marginal area light brown. Hind marginal fringe the same as on upper side.

Under side of hind wing same ground color as fore wing. Costal area, near base, grayish. From centre of costa, extending toward base, is a soft suffusing band of grayish. From apex, running across to inner margin, is a similar band, broken and made irregular by suffusions of the ground color. Running from apex toward anal angle, in hind marginal area, is another band or space of similar coloring, ending at lowest submedian nervule, concaved in interspaces just within hind margin, and somewhat broken along its central portion by the ground color. Hind marginal fringe bright tawny, as on upper side, but suffusing more toward the base at anal angle.

Taken near Cusilluni in May, 1899.

Telegonus tritonæ sp. nov.

Habitat: Bolivia, near Chulumani. Expanse: 2.50 inches.

Head, thorax, abdomen and legs, dark brown. Eyes encircled by a white thread. Antennae dark brown, tipped with light brown on under side.

Upper side of fore wing dark brown without lustre. From centre of costa, running toward inner angle and stopping at lower submedian nervure, is a band of pure silvery white, one quarter inch wide. A portion of this extends down-

ward into next lower interspace, at right angles to inner margin. In interspace below, nearer base, is a small white dot. Running from costa, midway from this band to apex, and parallel to it, is a series of three prominent interspatial white spots.

The upper side of hind wing is entirely dark brown, the same as fore wing, and without any markings.

The under side of fore wing is identical with upper surface, except that at the hind margin, in interspace below the lower submedian nervule, is a small area of very light brown suffusing somewhat into surrounding ground color.

The under side of hind wing is entirely brown, the same as upper surface.

Taken in December, 1898. This species is near *Telegonus cynapes* Hew., except that it has three apical white spots instead of six. These three spots are well defined and prominent, and my types show not the slightest indication of there being more; the two species are undoubtedly distinct.

Achlyodes guilfordi sp. nov.

Habitat: Coroico, Bolivia. Expanse: 1.40 inches.

Head, thorax, abdomen, legs and antennae, above, dark blackish brown; below, somewhat lighter.

Upper side of fore wing a rich dark brown, with markings of slate color of little prominence. Basal area slate color. From the costa, one third distance from base to apex, and extending downward to inner margin, is a broad band of slate color. At its lower half this band broadens and suffuses into ground color. A second similar band starts at costa, midway between the first band and the apex, and extends downward across outer edge of discoidal space, terminating there. Its inner lower edge joins the suffused portion of the first band. There is another similar band crossing apical area; and below it is a line of interspatial spots of same color, extending downward to submedian nervure. These slate-colored markings are not well defined or prominent, but seem rather to form a delicate change in the ground color.

Upper side of hind wing of same ground color as fore wing. The immediate basal area is of the slate color. From the centre of the costa, running downward into discoidal space, is a narrow indistinct band of slate color. The area at upper angle shows lighter brown than ground color. Marginal fringe, of ground color.

Under side of fore wing dark brown with a purplish lustre. Inner marginal area very light brown. The two outer bands of upper side may be traced on very close inspection, but are too indistinct to be considered.

Under side of hind wing dark brown with a purplish lustre similar to fore

wing. The inner marginal and anal angle areas are light brown. One eighth inch within hind margin, and following its contour, is a series of indistinct interspacial blotches of light brown, extending from costa to inner margin. One sixteenth inch within this is a band of light brown having a tinge of the slate color, running from subcostal nervure to submedian nervure, parallel to hind margin. These markings are very indistinct, and scarcely show above the ground color.

Taken in April, 1899. A specimen was found in the Hewitson collection, but without name, and I can find no record of its having been described.

Achlyodes fera sp. nov.

Habitat: Bolivia. Expanse: 1.50 inches.

Head, palpi, thorax, abdomen and legs, reddish brown above; beneath, light grayish brown. Antennae black above; light brown below, with indistinct white annulations at base of each joint.

General color of fore wing reddish brown. In some lights the basal area shows a decided purplish lustre. One quarter distance from base to apex is a dark band running from subcostal nervure downward to submedian nervure. This band is not at all prominent. Outside of this, at end of discoidal space, is another similar band which disappears by gradual suffusion as it reaches the submedian nervure. Outside of this, under the costa, is a small area somewhat lighter than the general ground color. In apical area, running downward from costa, are three white dots. Outside of these is a series of reddish brown spots, extending from subcostal interspace downward to inner margin, and one eighth inch within hind margin; in lower portion of wing they suffuse and form a band. The color of this band of spots is a shade lighter than ground color and is very indistinct. There is a white dot resting on lower submedian nervule at its centre; and just below it, in next interspace, is another. Hind marginal area, of ground color, including the fringe.

Upper side of hind wing of the same ground color as fore wing. The only fairly prominent marking is a broad band, somewhat lighter than ground color, running across the wing from centre of costa to centre of inner margin, bordered on its outer edge by a soft dark line. The area outside of this to hind margin is of the ground color, the interspaces having indistinct spots or dashes of lighter color. The basal area is of the ground color.

The most distinct markings of entire upper surface are the white dots. The rest of the surface is of ground color, suffusing into lighter shades in places, as above described. The markings are so indistinct and so ill defined that they hardly deserve to be called bands or spots.

Under side of fore wing is practically the same as upper side, except that the coloring is a shade lighter and the inner marginal area tends to grayish.

The basal area of hind wing, covering one third of the wing area, is dark brown. The rest of the wing, to hind margin, is brown of a lighter shade, crossed at its centre by a dark line running from a point near upper angle to just below the centre of inner margin. In the three lower interspaces this line bears dashes of white scales. Inner marginal area heavily dusted with light gray scales.

Taken five days' travel north from Cochabamba in September, 1899.

Achlyodes seatoni sp. nov.

Habitat: Bolivia, 200 miles north of Cochabamba. Expanse: 1.25 inches.

Head, palpi, antennae, thorax, abdomen and legs, nearly black above; beneath, dark brown.

Ground color of fore wing nearly black. Fringe of hind margin the same. One eighth inch within the hind margin, running from costa down to submedian nervure, is a line of light brown, broken by the nervules, each interspacial portion being concave on basal side. Within this, in subcostal interspaces, are two bluish green dots. In the interspaces below, these dots develop into prominent interspacial dashes increasing in area to submedian nervure, where the lowest one is one sixteenth inch wide. These dashes form, practically, a band of bluish green starting at submedian nervure and terminating in two dots at costa. The inner edge is distinctly marked; the outer edge suffuses into ground color. The basal half of the wing is of ground color, except that there is a dash of bluish green scales along the median nervure. At the base, just above submedian nervure, are a number of bluish green scales.

The hind wing has a marginal border of dark brown, nearly one quarter inch wide, dusted somewhat with light scales. The area within this, and covering one half the wing area, is rich purple with much lustre.

The under side of fore wing is dark brown tending to blackish in subcostal area. The brown line of upper surface is repeated, but is very indistinct, scarcely visible. There are no other markings.

Under side of hind wing the same ground color as of fore wing, although somewhat darker. There are no markings beyond a scattering of light scales covering the entire wing, more prominent on a line running from costa to anal angle, one quarter inch within hind margin.

Taken five days' travel north from Cochabamba in August, 1899.

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ERRATUM.

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