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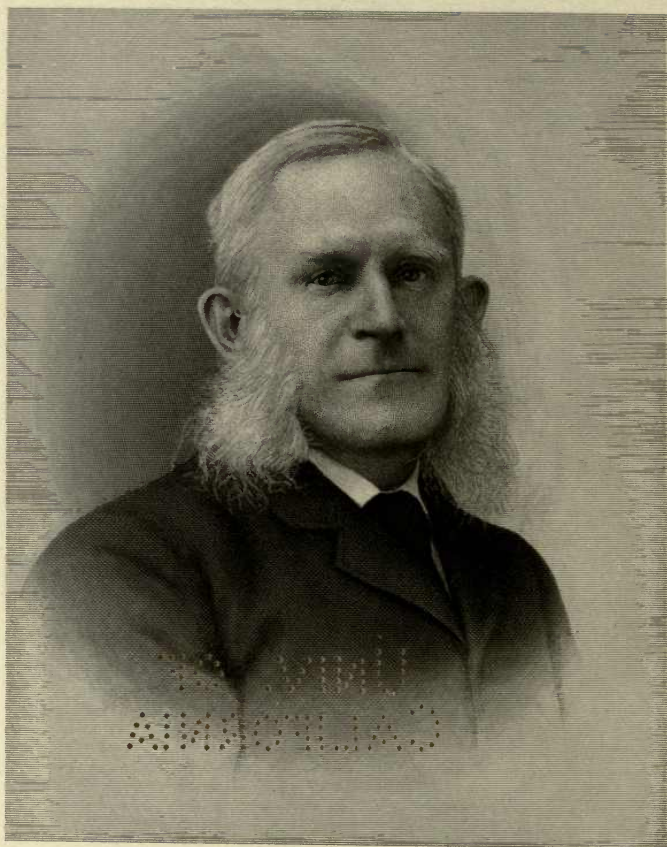




Illustrations  
of  
Diurnal Lepidoptera



Univ. of  
California



*Wm. A. Ludden*




# Illustrations of Diurnal Lepidoptera

**T**HERE are few who have contributed so much to entomological knowledge as SAMUEL HUBBARD SCUDDER, born in Boston April 13, 1837.

His life has shown a devotion to scientific research which should meet appreciation on account of his extreme thoroughness and minute attention to the really scientific side of the work. Among his more noted publications may be mentioned "Fossil Butterflies" (100 pp., 3 plates. Salem: 1875); "Historical Sketch of the Generic Names Proposed for Butterflies" (203 pp. Salem: 1875); "Butterflies" (322 pp. New York: 1881); "Fragments of the Coarser Anatomy of Diurnal Lepidoptera" (83 pp. Cambridge: 1882); "Butterflies of the Eastern United States and Canada" (3 vols. and many plates, 1889); "The Life of a Butterfly" (186 pp. New York: 1893); "Brief Guide to the Commoner Butterflies of the Northern United States and Canada" (217 pp. New York: 1893).

His minor contributions are numerous.





Illustrations  
of  
Diurnal Lepidoptera

With Descriptions

By  
Andrew Gray Weeks, Jr.

Boston  
Printed by The University Press  
Cambridge, U. S. A.

1905

ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA

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BY ANDREW GRAY WEEKS, JR.

TO  
A. G. W.  
AND  
H. P. W.



## PREFACE

THE following pages contain a series of plates and descriptions of butterflies which I believe are new to science.

My interest in general entomology was developed in my very early days, becoming restricted to one branch, diurnal lepidoptera, as the detail of all the branches overwhelmed me.

Far from posing as a scientist or an expert, I submit this work as a result of research prompted by a love of entomology as a pastime, and by the love of the study naturally attending it.

As above noted, the volume is simply a series of plates and descriptions, the latter requiring no literary effort. The artistic value of the plates is undoubtedly beyond question, and may the credit for these be properly placed.

The book as a whole, as a book of reference, must be of value; and I hope the interest I have taken in it, and shall take in continuing the work, will find its reward among the numerous students and collectors whom entomology is enticing to its folds.

I recorded my descriptions at the earliest opportunity, leaving the presentation of the plates for later work—my method resulting in a lack of family and generic arrange-

ment. The index, however, will aid in making the researches of those interested comparatively easy.

If my work adds a little to the value of the records covering lepidopteral study, I am content.

ANDREW GRAY WEEKS, JR.

BOSTON, May, 1905.



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The detached wings represent the under surface.

Water-color sketches from nature by J. Henry Blake.

Lithographed by B. Meisel.

Photographs in Bolivia, pages 10, 12, 14, 16, 22, 26.



ILLUSTRATIONS OF HITHERTO UNFIGURED  
LEPIDOPTERA.

BY A. G. WEEKS, JR.

---

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

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 Mr. Ernest Swinhoe, of Oxford, England, who has done much work for me in connection with the species herein described.

My gratitude is also expressed to collectors, both here and abroad, who have so kindly opened their collections for my investigations.

**Hypolycæna festata** A. G. Weeks, Jr.<sup>1</sup>

(*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

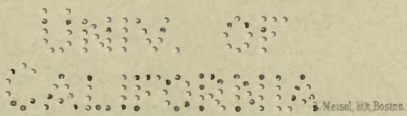
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<sup>1</sup> Entomological News, Vol. II, No. 6.

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, 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



J. Berry Blake, del. sculp.

Meisel, Hk., Boston.

1. *HYPOLYCÆNA FESTATA* A.G. Weeks, Jr. ♂ 2. *HYPOLYCÆNA FESTATA* A.G. Weeks, Jr. ♀  
3. *MYSCELIA STRECKERI* Skinner ♀ 4. *LEMONIAS MAXIMA* A.G. Weeks, Jr.  
5. *PYRGUS PELAGICA* A.G. Weeks, Jr.

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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 of 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 nervure 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 Frazar in 1888.

**Lemonias maxima** A. G. Weeks, Jr.<sup>1</sup>

(*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

<sup>1</sup>Entomological News, Vol. II, No. 6.

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.

### ***Pyrgus pelagica* A. G. Weeks, Jr.<sup>1</sup>**

(*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 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.<sup>1</sup>

(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.

**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.

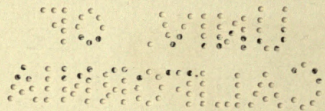
Size and shape of *Eurytheme*.

*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

<sup>1</sup> Dr. Henry Skinner, Trans. Amer. Ent. Soc., Vol. XVI, p. 87.



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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 large band.

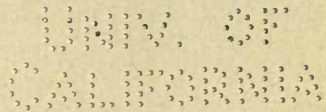
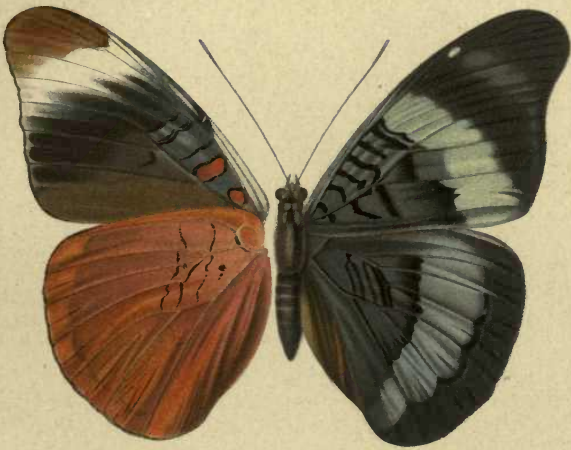
Inside of the large band, the ground color is lustrous deep blue steel color, with heavy transverse black lines. Of these lines there are six in the discoidal space, equidistant. The first two extend to the submedian vein, the third crosses the space only, the fourth continues to the inner margin, the 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 of 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.

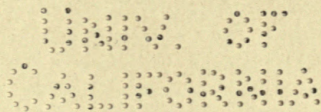
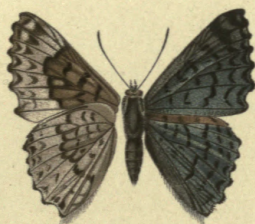


J. Henry Blake, ad nat.

B. Meisel, lith. Boston.

PANDORA PROLA Doubl.-Hew. ♀





THE UNIVERSITY OF CHICAGO  
PRESS

**Lasia rosamonda** A. G. Weeks, Jr.<sup>1</sup>*(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.

<sup>1</sup> Pr. New England Zool. Club, Vol. II, pp. 45-46, December 15, 1900.

## A COLLECTING TRIP IN BOLIVIA.

Wishing to secure, if possible, a complete collection of the various forms of Diurnal Lepidoptera native to the districts near La Paz, Bolivia, I was fortunate in securing the services of Mr. Wm. J. Gerhard, assistant entomologist at the Academy of Natural Sciences in Philadelphia. Mr. Gerhard sailed from New York in September, 1898, planning, through letters of introduction to various officials in Bolivia, to complete his outfit without much delay, and to make trips inland of several months' duration each. He returned after sixty weeks' absence, in excellent health after his experiences.

Mr. Gerhard did not reach the low tropical district of eastern Bolivia, his collecting covering mostly the high altitudes of the western district. The first shipment of butterflies was very strong in Hesperidae, with scarcely any Papilios. As he collected thoroughly in districts offering little attraction compared with the tropical districts, his captures were perhaps more valuable scientifically than they would have been had he sought a more popular country. It is also interesting to note that the collection represents all seasons.

The following account of his travels is taken by me from his letters.

ANDREW G. WEEKS, JR.

Boston, February, 1901.





S. S. Allianca, New York Harbor.

Line of  
Colombia



Mollendo, Peru.



## MOLLENDO.

Rather sooner than I expected, we reached Mollendo, Peru, this morning, October 23d, after a most satisfactory voyage on both the Atlantic and the Pacific. The first four or five days out from New York were not enjoyable. A short, precise statement surely, but as the weather was rough, a more detailed account of those days is entirely unnecessary.

We expected to be detained on the isthmus several days, a common occurrence in making connections with the Pacific steamers, but owing to a special train and the fact that the steamer was held over for a day, we made no loss in time. The Pacific steamers running down the South American coast make stops at the more important cities, giving the traveller opportunity to land and see many interesting spots. The methods of loading and unloading being undeveloped, and high tide being at some places necessary, our stops often covered an entire day.

The weather along this west coast was much colder than I anticipated, especially near Cape Blanco, and overcoats were much needed. On the second day out from Panama, we sighted the coast of Ecuador, and thence on to Mollendo land was in sight most of the time. Only at a few places was the coast anything but a barren tract; sometimes hilly, sometimes terraced, sometimes low and flat, with mountains in the distance.

As above noted, we reached Mollendo Oct. 23d and without mishap. Mollendo is some forty feet above sea level, extending up the slopes of the hill, forming an obtuse angle with the coast to the north. The hills are barren, showing occasional patches of green and yellow, the latter, I afterwards discovered, being yellow flowers, no shrubs or trees, beyond those planted in the town, being in sight.

I will be delayed here two days, as trains to Arequipa run only three times a week. In the morning, I visited the hills, but secured only two species of butterflies, one a *Pamphila* (unidentified), the other a *Pieris* (*P. Blanchardii* Butl.), a few specimens of each.

## AREQUIPA.

On the following morning, I boarded the train for Arequipa. We ascended from sea level to a height of 7550 feet, the railroad winding about the mountains in a most bewildering way, constantly ascending. At the outset, were undulating hills covered with flower-bearing plants, then tracts covered in places with cacti, followed by a long tract nearly flat, barren and sandy. Toward the end of the journey, the ground became rough and broken on our right, while on the left was a refreshing green valley opening out before Arequipa. We stopped at many small stations on the way. It was only at these that trees or shrubs were seen, and about these, figs, strawberries and pears are occasionally grown.

My first day in Arequipa was spent in preparing for journeys to come. The remaining days here were devoted to tramping about the adjoining valley in search of butterflies which were extremely scarce. All the land that nourishes vegetation is irrigated, and it was only in this irrigated valley that any collecting was possible. Five species of butterflies, two of them the same as those taken at Mollendo, were all that were taken. (*Pieris Blanchardii* Butl., *P. Microdice* Blanch., *Pamphila Begga* Prittw., *Butleria Cypselus* Feld., and one unidentified Hesperid.)

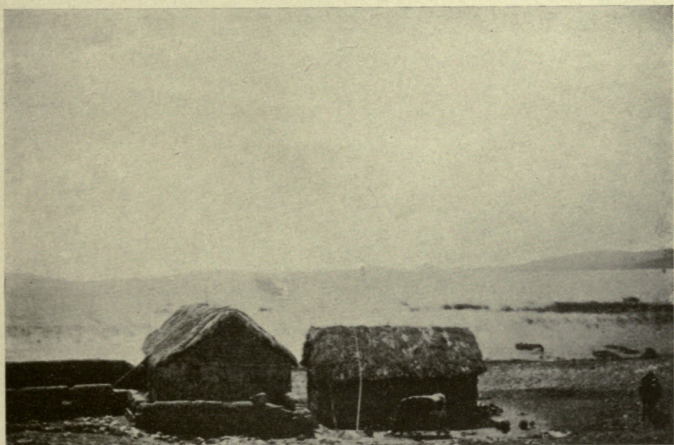
Arequipa lies at the base of several high mountains, the highest being Vol Misti, snow covered at points. The houses are built of a soft volcanic stone, the poorer ones of mud. The inner court is nearly always present. The majority are inhabited by Indians and poorer natives, and are far from attractive. The streets are paved, most of them having a narrow channel of running water on the side. The stores were fair, considering the locality, offering native products at very low prices, but charging exorbitantly for any imported goods. The days were very warm, but the nights, owing to the proximity of the mountains, were quite cold.

Two trains each week leave Arequipa for Puno, one of them connecting with the weekly steamer across Lake Titicaca, which lands one some forty-eight miles from La Paz, the capital of Bolivia.

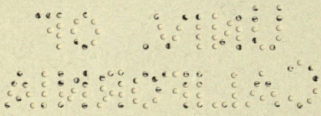


Street in Arequipa.

UNIV. OF  
CALIFORNIA



Houses, Shore of Lake Titicaca.



## LAKE TITICACA.

I left Arequipa Monday, Oct. 31st, at 7.00 a. m., reaching Puno at 7.00 p. m., a distance of two hundred and eighteen miles. At one place, we reached an altitude of 14,666 ft. The ground, although being in a much higher zone, was mostly covered with a stiff dry grass, where droves of llamas were feeding near the settlements.

Being somewhat prepared, I was not surprised to find the surroundings of Lake Titicaca absolutely barren. The hills bear no trees nor brush, merely a covering of short dry grass. In the vicinity of Puno a few flowering plants and low shrubs were found on the slopes. Among these, I secured two species of Hesperidae (*Butleria Cypselus* Feld., and one unknown); one of *Lycaena* (unidentified); one of *Thecla* (*T. Palegon* Cram.); one of *Pieris* (*P. Blanchardii* Butl.); one *Colias* (*C. Euxanthe* Feld.); and two Nymphalids. One species of *Pamphila* and the *Pieris* were the same as those taken at Mollendo. The rest were the same as those found at Arequipa.

On Friday morning, I took the steamer across the lake to the Bolivian port, Chililaya, a pleasant day's sail. Having a day here, I went afield but found butterflies were scarcer than at Puno, securing only a few *Pamphila*, duplicates of those taken before.

## LA PAZ.

At 8.00 o'clock Sunday morning, Nov. 6, I left Chililaya for La Paz, a distance of forty-eight miles to be covered by an eight-horse coach. The road was fair although very dusty in places. It extended without fences over a flat cultivated district. For the entire day, we had chains of snow-capped mountains on our left, among them Mt. Illamper, Vol Potosi, and in the distance, marking the end of our route, rose majestic Mt. Illimani. The ride on the outside of the coach was warm and dusty, sometimes cold, but the superb views compensated for it all. I was soon settled at the Hotel Americano, my headquarters for some time to come.

I met here five Americans who came to Bolivia in search of gold, and besides finding them very companionable, they gave me much assistance in various ways. I should also mention the kindnesses of Dr. Geo. Bridgeman and his secretary. The rest of my time here, was spent in the preparations for an inland journey; preparing packing boxes, cotton, and butterfly envelopes, purchasing mules and supplies, hiring Indian guides, etc., etc.

I fully realize that the season is not propitious for collecting, and the four months rainy season begins shortly. It will serve however in showing season variations of certain species, and later on my captures should be extensive and gratifying.

#### TRAVELS SOUTH FROM LA PAZ.

We planned to start for Chulumani on Wednesday, Nov. 23d, but a severe rain storm forced us to delay until the next day. The rain ceased during the night and with my guide and two mules the start was made at 8.00 o'clock. We travelled a gradual ascent through a shallow valley until 2 p. m. There was no vegetation except a short grass studded with tufts of higher stiff grass. We passed many mules and donkeys with their drivers, taking produce, mostly coco, to the city. It became cold as we approached the top of the ridge, soon began to rain and an hour later we were in the midst of a snow storm. After passing the ridge, the snow turned to rain, and we began our descent to the valley. We passed a few stone houses in the yards of which Indians were unloading mules in preparation for the night. At one of these, a one-story building, called "The Pongo," we passed the night after a good supper of soup, steak, eggs and boiled milk.

At 6.30 the next morning, we were again on the road. The perpendicular sides of the narrow valley still dripping from the previous day's rain and the early morning fog. As the day advanced, the sun, first brightening up the highest points, gradually crept down the sides of the valley, the





Near the Summits, La Paz.



On the Road to Chulumani.



many cascades and mountain torrents glistening as silver. Brush and some small trees began to appear, and, as we descended, became thicker. Rain began again and continued through the rest of the day.

Shortly after 5 p. m., we reached a settlement called Yanacachi, where we spent the night in the only house open to travellers.

We made an earlier start in the morning, the road leading down the valley towards the river. Orange and banana trees were found here, also coffee. At noon, we thought we would be able to reach Chulumani before nightfall, and so kept on after a light lunch. In some places, the road extended along a precipice hundreds of feet above the river. Only in a few places is the side of the road protected. We made the ascent of a mountain surpassing anything we had yet attempted, but accomplished the climb and reached Chulumani in the valley beyond without accident. Our mules, however, were badly used up. It was near here that I saw my first *Morpho* (*M. Achillaena* Hubn.). There being no public house here, we were quartered with new made friends.

On the following morning, I collected on a road down to the valley and up the other side. The weather being unfavorable, results were not satisfactory. My later excursions were made in different directions to the valley beneath.

Chulumani consists of one and two story houses built of adobe. There are two squares in the town, one used as a market place. From La Paz, Indians bring on mules dried sheep or "chalonga," dried beef, potatoes, onions, etc., also cheese in small cakes, which is very popular. On the return trip they take coca, sometimes bananas and oranges.

The lower slopes of the valley are studded with terraced patches of coca, with occasional planting of orange or banana trees.

It is impossible to follow the bottom of the valleys for any great distance because in places the steep sides are covered with impenetrable brush and the bottom narrows and permits the streams to pass only through deep fissures in the rock.

Afternoon showers were frequent and on several occasions it rained for four or five successive days. The road midway up the slope offered scattering *Theclas*, and occasionally a *Catagramma*. The best collecting was at the bottom of the valley where the road crossed the stream and where damp spots proved an attraction to wandering butterflies. *Papilios* and *Morphos* were extremely scarce.

I intended to go beyond Chulumani but my mules were in such condition I was obliged to pasture them. In addition to this my Indian guide drew two weeks' pay in advance, working on my sympathy by stating that he must have a few days off to visit his wife who was ill. As far as I know he is still on duty at her bedside. It took me over a week to secure a suitable Indian in his place. A revolution, too, had been declared in La Paz, which did not add to my haste to return.

NOTE.—I give below a partial list of species secured in the neighborhood of Chulumani during December and January.

A. G. WEEKS, JR.

Phenarete.	<i>Ithomia</i> .	D.-H.	Phasiana.	<i>Antirrhæa</i> .	Butl.
Psidü.	<i>Thyridia</i> .	Linn.	Typhla.	<i>Oressinoma</i> .	D.-H.
Dero.	<i>Dircenna</i> .	Hubn.	Saracta.	<i>Euptychia</i> .	S.-G.
Klugü.		Hubn.	Hesione.		Sulz.
Oulita.	<i>Ceratinia</i> .	Hubn.	Spartacus.		
Antonina.		Hew.	Camerta.		Cram.
		Feld.	Galesus.		Godt.
Pupilla.	<i>Ithomia</i> .	Hew.	Melchiades.		Butl.
Veia.		Hew.	Anacleta.		Butl.
Attalia.		Hew.	Mollis.		Stgr.
Alexina.		Hew.	Caerulea.		Butl.
Ardea.		Hew.	Rustica.		Stgr.
Cesleria.		Hew.	Cyclops.		Butl.
Cyrcilla.		Hew.		<i>Lymanopoda</i> .	
Verticilla.		Hew.	Albomaculata.		Hew.
Phono.		Hew.	Ferruginosa.		Butl.
Sylvo.		Hubn.	Leaena.		Hew.
		Hubn.	Larunda.		Hoppf.
	<i>Episcada</i> .		Acraeida.		Butl.
Artena.				<i>Ideoneura</i> .	
	<i>Tithorea</i> .		Erebiodes.		Feld.
Furia.				<i>Steroma</i> .	
	<i>Pierella</i> .		Bega.		D.-H.
Latona.		Feld.	Superba.		Butl.
			Boliviana.		

	<i>Pedaliodes.</i>		Xanthus.		Butl.
Panthides.		Hew.		<i>Eryphanis.</i>	Hew.
Lyssa.		Burm.	Salvizora.		Meerb.
Manis.		Feld.	Polyxena.		
Paneis.		Hew.		<i>Dynastor.</i>	
Phila.		Hew.	Darius.		Fabr.
Peucestas.		Hew.		<i>Caligo.</i>	
Physcoa.		Hew.	Livius.		Stgr.
Subtangular.		Stgr.	Ilioneus.		Cram.
Perisades.		Hew.		<i>Narope.</i>	
Praxitheä.		Hew.	Sarastro.		Stgr.
Phoenissa.		Hew.	Cyllarus.		Westw.
Phrasicles.		Hew.		<i>Acraca.</i>	
Hewitsoni.		Stgr.	Anteas.		D.-H.
Autonia.		Stgr.		<i>Heliconius.</i>	
	<i>Oxeoschistus.</i>		Tyndarus.		Weym.
Pronax.		Hew.	Sulphurea.		
Leucospilos.		Stgr.	Telesiphe.		Dru.
Erebus.			Venustus.		Salv.
	<i>Lasiophila.</i>			<i>Eueides.</i>	
Zapatoza.		Westw.	Lampeto.		Bates.
Circe.		Feld.		<i>Colaenis.</i>	
Orbifera.		Butl.	Dido.		Linn.
	<i>Daedalma.</i>		Telesiphe.		Hew.
Dorinda.		Feld.		<i>Argynnis.</i>	
Dinias.		Hew.	Thekla.		
	<i>Pronophila.</i>		Inca.		Stgr.
Thelebe.		D.-H.		<i>Phyciodes.</i>	
Venerata.		Butl.	Teletusa.		Cram.
Cordillera.		Butl.	Actinote.		Cram.
	<i>Taygetis.</i>		Corybassa.		Hew.
Mermeria.		Cram.	Encina.		Feld.
Marginata.		Stgr.		<i>Hypanartea.</i>	
Armillata.		Stgr.	Keferstainii.		D.-H.
Chelis.		Fabr.	Zabulina.		Godt.
Albinotata.		Butl.	Dione.		Latr.
Chrysogone.		D.-H.		<i>Pyrameis.</i>	
	<i>Corades.</i>		Myrinna.		Doubl.
Albomaculata.		Stgr.	Carye.		Hubn.
Enyo.		Hew.		<i>Cybdelis.</i>	
Pannonia.		Hew.			Hubn.
Laminata.		Butl.	Phaesyle.		D.-H.
Iduna.		Hew.	Mnasyllus.		Salv.
Medeba.		Hew.	Boliviana.		Godt.
Cistene.		Hew.	Sophronia.		
Ulema.		Hew.		<i>Eunica.</i>	
	<i>Morpho.</i>		Caralis.		Hew.
Godartii.		Guer.	Modesta.		Bates.
Aurora.		Westw.	Pomona.		Feld.
Eros.				<i>Libythina.</i>	
Achillaena.		Hubn.	Cuvierii.		Godt.
	<i>Opsiphanis.</i>			<i>Myscelia.</i>	
Invirae.		Hubn.	Diotima.		Hew.
Crameri.		Feld.	Calamis.		Hew.
Arsippe.		Hoppf.		<i>Catonephele.</i>	
Aorsa.		Godt.	Pierrettii.		D.-H.

Agnes.	<i>Dynamine.</i>		Cambyssus.	—
Gisella.		Hew.	Dia.	B.-S.
Glauce.		Bates.		
Myllitta.		Cram.	<i>Siderone.</i>	Bates.
	<i>Callicore.</i>			
Neglecta.		Cram.	Archidona.	Hew.
Lidwina.		Feld.		
	<i>Perisama.</i>		<i>Protogonius.</i>	
Vaninka.		Hew.	Quadridentatus.	Bates.
Euriclea.		D.-H.	<i>Mesosemia.</i>	
Humboldtii.		Guer.	Amona.	Hew.
Commenna.		Hew.	Nivalis.	
Cotyora.		Hew.	Thymetina.	Butl.
	<i>Catagramma.</i>		Epidius.	Hew.
Pasithea.		Hew.		
Aegina.		Feld.	<i>Cremna.</i>	
Eunomia.		Hew.	Euselasia.	Bates.
Peristera.		Hew.	Corduena.	Hew.
Hesperis.		Guer.	Eugeon.	Hew.
Sorana.		Guer.	Cecilia.	<i>Methonella.</i>
	<i>Haematera.</i>			Cram.
Pyramus.		Fabr.	<i>Lymnas.</i>	
	<i>Gynaecia.</i>		Aegates.	Hew.
Dirce.		Linn.	Ambryllis.	Hew.
	<i>Ectima.</i>		Xarifa.	Hew.
Liria.		Fabr.	Zoega.	Hew.
	<i>Pyrrhogyra.</i>		Cercopes.	Hew.
Maculata.			Apollonia.	<i>Lyropteryx.</i>
	<i>Megalura.</i>			Westw.
Livius.		Kirb.	Bellona.	<i>Necyria.</i>
	<i>Adelpha.</i>			Westw.
Erotia.		Hew.	Eryxo.	<i>Ancyluris.</i>
Irmina.		D.-H.	Mira.	Saund.
Plesaure.		Hubn.	Miranda.	Hew.
Lara.		Hew.		Hew.
Epione.		Godt.		<i>Zeonia.</i>
	<i>Apatura.</i>		Chorineus.	Cram.
Elis.		Feld.		<i>Esthemopsis.</i>
	<i>Aganisthos.</i>		Lithosuna.	Bates.
Odius.		Fabr.		<i>Siseme.</i>
	<i>Prepona.</i>		Pallas.	var. Latr.
Meander.		Cram.	Caudalis.	Bates.
Buckleyana.		Hew.	Lucilius.	Hoppf.
Xenagoras.		Hew.		<i>Anteros.</i>
	<i>Agrias.</i>		Formosus.	Cram.
Lugens.				<i>Emesis.</i>
	<i>Pycina.</i>		Cyria.	Feld.
Zamba.		D.-H.	Angularis.	Hew.
	<i>Anaea.</i>		Mandana.	Cram.
Erythema.		Bates.	Lucinda.	Cram.
Nessus.		Latr.		<i>Symmachia.</i>
Glycerium.		Doubl.	Castalia.	Men.
Philumena.		D.-H.	Chrysame.	Hew.
Arginussa.		Hubu.	Tronchilus.	Erichs.
Morpheus.		Stgr.	Accusatrix.	Westw.

	<i>Charis.</i>	Hoppf.	Bellona.	<i>Archonias.</i>	Cram.
Fasciata.		Bates.	Toca.		Doubl.
Monogramma.		Cram.	Philomene.		
Cleonus.		Feld.	Jacinta.		
Theodora.	<i>Baeotis.</i>		Eurigania.		Hew.
Bacaenis.		Hew.	Tamina.		
Barissus.		Hew.	Pinava.		Doubl.
Hisbon.		Cram.	Suasa.		
	<i>Lasaia.</i>		Hoppferi.		
Marses.		Stgr.	Sisamnus.		Fabr.
	<i>Lemonias.</i>		Incerta.		
Calvus.		Stgr.	Innuba.	<i>Hesperocharis.</i>	
	<i>Echenais.</i>		Nereina.		Hoppf.
Aristus.		Stoll.		<i>Dismorphia.</i>	
Violacea.		Butl.	Orise.		Bsd.
	<i>Nymphidium.</i>		Lygdamis.		Hew.
Ascolia.		Hew.	Lewyi.		Luc.
	<i>Lycaena.</i>		Nemesis.		Latr.
Cassius.		Cram.	Thermesia.		Godt.
Speciosa.		Stgr.	Arcadia.		Feld.
Ceramus.		Fabr.	Pimpla.		Hoppf.
	<i>Thecla.</i>		Lysianax.		Hew.
Imperialis.		Cram.	Teresa.		Hew..
Paphlagon.		Feld.	Foedora.		Luc.
Echion.		Linn.	Theugenis.	<i>Dismorphia.</i>	Doubl.
Deidamia.		Rusch.			
Zebus.		Godt.	Nehemia.	<i>Eurema.</i>	Bsd.
Mavors.		Hubn.			
Crolus.		Cram.	Sinoe.		Godt.
Dolylus.		Cram.	Salome.		Feld.
Palegon.		Cram.	Atinas.		Hew.
Sedecia.		Hew.	Nelphe.		Feld.
Appula.		Hew.	Elathea.		Cram.
Viridicans.		Feld.	Tenella.		Bsd.
Elongata.		Hew.	Albula.		Cram.
Longula.		Hew.	Columbia.		Feld.
Marsyas.		Linn.		<i>Pieris.</i>	
Gibberosa.		Hew.	Xanthodice.		Luc.
Meton.		Cram.	Orthodice.		Weym.
Phaleros.		Linn.	Microdice.		Blanch.
Linus.		Sulz.	Eleone.		D.-H.
Acaste.		Prittw.	Pinara.		Feld.
Malvania.		Hew.	Tovaria.		Feld.
Ocrisia.		Hew.	Ausia.		Bsd.
Crambusa.		Hew.	Imperator.		Stgr.
Demonassa.		Hew.	Monuste.		Linn.
Bardeta.		Hew.		<i>Daptonoura.</i>	
Facuna.		Hew.	Peruviana.		Luc.
Empusa.		Hew.	Leucadia.		Feld.
Cinniana.		Hew.	Ilaire.		Godt.
Faunalia.		Hew.		<i>Perrhybris.</i>	
	<i>Pereute.</i>		Malenka.		Hew.
Taygaste.		Feld.		<i>Catopsilia.</i>	
Zenobia.		Feld.	Eubule.		Linn.
Telthusa.		Hew.			

Cipris.		Fabr.	Hadassa.	Hew.
	<i>Colias.</i>		Patrobas	Hew.
Philippa.		Fabr.	Gnetus.	Fabr.
Lesbia.		Fabr.	Cosinga.	Hew.
Euxanthe.		Feld.		<i>Myxcelus.</i>
	<i>Phulia.</i>		Phoronis.	Hew.
Nymphaea.		Stgr.	Epimachia.	Herr-Schaff.
Nysias.		Weym.		<i>Carystus.</i>
	<i>Papilio.</i>		Corydon.	Fabr.
Madyes.		Butl.	Lafrenayii.	Latr.
Polydamas.		Linn.	Catargyra.	Feld.
Lepidus.		Cram.		<i>Proteides.</i>
Crassus.		Cram.	Chalestra.	Hew.
Harmodius.		Doubl.	Lutelia.	Hew.
Pausanias.		Hew.	Idas.	Cram.
Sesostris.		Cram.		<i>Pamphila.</i>
Wardsewiczii.		Hoppf.	Athenion.	Hubn.
Lenaeus.		D.-H.	Valva.	
Phaeton.		Luc.	Catilinea.	
Bachus.		Feld.	Epictetus.	Fabr.
Isidorus.		Doubl.	Ittona.	Butl.
Lycophron.		Hubn.	Fusca.	Grote.
Thrason.		Feld.	Begga.	Prittw.
Thoas.		Linn.		<i>Apaustis.</i>
Leucaspiis.		Godt.	Menes.	Cram.
Boliviana.			Gracilis.	Feld.
Macrosilaus.		Bates.		<i>Systaspes</i>
	<i>Thymele.</i>		Corrosa.	<i>Hesperia.</i>
Chaleo.		Hubn.		
Catillus.		Cram.	Emma.	Stgr.
Proteus.		Linn.	Notatus.	Blanch.
Dorantes.		Stoll.	Montivagus.	Reak.
Undulatus.		Hew.	Laviana.	Hew.
Exadeus.		Cram.		<i>Lencochitonea.</i>
Barisses.		Hew.	Arsalte.	Linn.
	<i>Telegonus.</i>		Petrus.	Hubn.
Hesus.		D.-H.	Pastor.	Feld.
Fulgerator.		Walch.		<i>Plesioneura.</i>
Alardus.		Stoll.	Eligius.	Cram.
Anaphus.		Cram.		<i>Butleria.</i>
	<i>Calpodes.</i>		Agathocles.	Feld.
Orthamas.			Cypselus.	Feld.
	<i>Spathilepia.</i>		Caicus.	Hew.
Clonius.		Cram.	Dimidiatus.	Feld.
Evelinda.		Butl.	Caenides.	Hew.
	<i>Thracides.</i>			<i>Pythonides.</i>
Autoninus.		Latr.	Tryxus.	Cram.
	<i>Entheus.</i>		Tertullianus.	Fabr.
Neleus.		Linn.		<i>Nisoniades.</i>
	<i>Oxynetra.</i>		Brusus.	Burm.
Semilyalina.		Feld.	Ascalaphus.	Stgr.
	<i>Pyrrhopyge.</i>			<i>Cecropterus.</i>
Charybdis.		D.-H.	Neis.	Geyer.
Phidias.		Linn.	Xarex.	Hubn.
Thasus.		Cram.		<i>Achlyodes.</i>
Telassa.		Hew.	Osyris.	Stgr.





A Summit Trail near La Paz.



An Indian as a Butterfly Collector.



Melander.	Cram.	<i>Antigonus.</i>	
Pallida.	Feld.	Truncata.	Hew.
Trifasciata.	Hew.		<i>Helias.</i>
Chloracephalia.	Latr.	Haemeatospila.	Feld.
Thrasso.	Hubn.	Lacaena.	Hew.
Thrasylbus.	Fabf.	Polyctor.	Fabr.
Pulcherins.	Feld.	Phalaenoides.	Hubn.
Corbulo.	Cram.		

## RETURN TO LA PAZ.

Having remained here seven weeks, I felt the necessity of returning to La Paz in spite of the revolution. My kind host refused to accept any pay for my board, promising to make me a visit in the States, however, at his first opportunity. On January 19th we started on our return trip. The mules were still in poor condition, and indications were that I would have to do much walking. About noon I dismounted to capture some *Morphos*, and my mule was so weak I continued on foot.

On the afternoon of the seventh day we entered La Paz, but were arrested before going two blocks. We were dismissed, however, after answering various questions and registering our names. The many breastworks erected at certain street crossings, the numerous soldiers, and the closed stores told clearly the state of the city.

My personal comfort was not, however, interfered with, and my preparations for my next journey but little delayed. The bad condition of the mules prevented their seizure by the revolutionists, so that some good resulted from that at least. The Indians to the south and west were aroused and did much mischief, the two banks here being looted and beasts of burden, etc., etc., seized. These Indians formed a curious crowd as they came into the city, some carrying heavy clubs, others sticks with knives fastened to the ends.

Fortunately the Indians in the districts I propose to visit are quiet; otherwise a trip amongst them would be more than hazardous.

I forwarded a case of butterflies to you yesterday, some 4000, and trust they will reach you in good order.

Although congratulating myself that my sick mules were

not seized, I was doomed to some disappointment, for a day or two later the soldiers took them while the boy was leading them to water. Through the efforts of the United States Consul, the Chief of Police requested the Colonel of the regiment to return them, which he did, with evident reluctance, on the following day.

#### COROICO AND VICINITY.

Saturday, March 25th, was spent in final preparations for starting, and the next morning we attempted to get away. The mules, however, loosened their load and succeeded in scattering supplies, etc., in the street, only two blocks from the starting point. This affair caused some change in our plans and I spent a day or two in securing a fletero and also added two donkeys to the outfit.

The road the first day was the same as travelled on my previous trip. On the next day we branched off from the Chulumani road, and ascended towards Coroico, descending in the afternoon into the valley beyond; a hard road, as the numerous remains of mules and donkeys attested. The sides of this valley were thickly covered by a growth of ill-nourished trees, scattered in the thick impassable underbrush. Butterflies became fairly numerous in this vicinity, and we settled here for several days.

On April 6th, we moved to another "tambo," Sandilani, three miles below, where fair collecting was found. On April 9th, after leaving Sandillani, the road led us lower down into the valley, where we followed the stream for several hours, reaching the foot of the hill, in which Coroico is situated, about 4 p. m. Here we met a Bolivian who ate bread and oranges with us and then invited us to put up at his "finca." This we at first declined to do as our prospective host was filled with very strong Bolivian grape juice and we doubted his sincerity. Later he took a long nap and on waking repeated his invitation and we accepted. We reached his house at dark and supped on soup, bread and coffee. He invited us to remain as long as we pleased, and what was more satisfactory, told me to



Wash Day at La Paz.



Near Coroico,



put my mules in his pasture as long as I liked. I collected in this vicinity until May 16th, moving about along the roads towards Chulumani. We met with success as far as numbers were concerned, and I think secured many interesting species.

Thence we moved towards Coroico again, following the river for some distance above it, and moving along several valleys towards Cusilluni. The road here, the main road to the interior, was so narrow and so encroached upon by vegetation that we found difficulty at times in getting our loaded mules along.

On May 29th, we returned to our former camping place near Coroico and pitched our tents for several days. The mountain sides here are under cultivation, banana, orange and coca trees predominating. Some uncultivated patches exist, likewise pasture lands devoid of trees. We stopped here a week, and then started on the return trip to La Paz, doing a few days collecting on the way, and reaching La Paz without incident on June 14th.

Thus ended my second trip, full of interesting camping experiences and resulting in quite an interesting lot of flies, 5000 of which I shipped to you via Mollendo.

#### TOWARDS COCAPATA AND COCHABAMBA.

The following four weeks were spent in La Paz, attending to the numerous preparations for my next trip. A few days were lost in my attempts to free my Indian who had been recruited by the soldiers. In return for my successful efforts in his behalf, he agreed to go with me at once.

After seeking advice, I decided to visit a district some days travel north of Cochabamba. With only enough provisions to answer for several days' luncheons on the road, in addition to our general outfit, we started on our long walk on the morning of July 15th, our object being the settlement of Cocapata.

For an hour we climbed the road to the level pampa, after which we travelled for several days over a treeless

plain. Where streams retained water, the Indian horses were located, and about these districts were some signs of cultivation, barley and potatoes being the main product. In the distance on all sides, rose snow capped mountains. We covered but fifteen miles this first day, spending the night at an isolated "tambo," called Ventilla. On the following day, we reached Calamarca, twenty-two miles beyond. This is a fair settlement, occupied, as are all the villages here, solely by Indians, with the consequent inactivity and lack of energetic movement. We lunched the next day at Ayoaya, a plate of soup and three eggs, divided with the Indian. We intended to reach Chicta, the next lonely tambo, by sunset, but were in error as to distance and travelled the last two hours by moonlight. The sinking of the sun, the dreariness of the surroundings and the cold, oppressed me greatly, and thoughts of home and its comforts filled my eyes to overflowing. The distance covered today was 30 miles, a sufficiency for one day, considering the flat monotony of the trail.

Sicasica, twelve miles beyond, was our next stopping place. We hired post mules here to carry our loads, in order to save our animals a bit, and as a result we made better time, passing first Aroma, an isolated tambo, and then Pandura, twenty-seven miles from Sicasica. Caracollo was the next place we reached, and we rested there for a day. We had travelled southeast to this settlement, but now our road, the only one, led due east. Leaving early, we reached the hilly country, our past route being over the level monotonous pampa. At sunset, we reached a small Indian settlement called Im, and passed the night there, having covered thirty-six miles since morning. Tambos, or post stations, are situated at irregular intervals, and are usually one story buildings, surrounding a large yard. They are obliged by law to grant travellers lodgings and food, also to let mules if they are desired. They charge twenty cents per league, and ten cents per league to the Indian who goes to bring the mules back.

The rooms of the tambos are bare of furniture, a raised platform of hardened mud answering for a bed.



On the next day, we covered thirty miles to a settlement called Challa. Two hours after leaving Challa, we crossed the ridge which we had been crossing for two days. We went down, down into the valley, vegetation gradually increasing. At night, we reached Tapacari, where we remained through the following day. As it happened, a religious festival was in progress and the settlement was full of Indian "bands." A number of small images were carried about. The man and woman of the tambo had much trouble in placing their image in its case. The image represented a knight, sword in hand, mounted on a silver horse, with an attendant in some fancy dress standing at its side. One of the horse's legs being broken, it was steadied with a stone. To whom all this homage is directed, I was unable to find out, although I heard it was in behalf of El Senor Santiago, whoever he may be. That night, one of the mules at the tambo became sick, and they all considered it a punishment because they had broken the leg of the horse.

Parotani was reached on the evening of July 26th, after travelling eighteen miles through the valley, whose sides were steep and only thinly covered with vegetation. On the 27th, we reached Cochabamba, having travelled two hundred and fifty miles from La Paz.

#### NORTH FROM COCHABAMBA.

We spent two days here buying provisions and hiring fleteros for our trip to the north. Leaving on the morning of July 30th, we travelled two days over an undulating country with scarcely any vegetation, camping at spots which offered grass for our animals. We soon reached Choro, a scattering of huts near Cocapata, which was our objective point. During the day, we saw many wild vicunas. Choro, like Cocapata, is in a high region, trees and shrubs growing only in the valleys. The rest of the country is covered with grass, interspersed with high rocky ridges, some of them covered with snow.

On August 3d, I continued on for nine miles and pitched our tents. The high altitude of the entire country thus far passed prevents any heavy growth, the limit of the timber line being constantly in our vicinity. The Lepidoptera found here were the same as those taken at Bella Vista, two days out from La Paz, and were not as plenty.

We remained here a week, and on August 18th continued our journey over the undulating grass covered country, camping that night in a barren district and were forced to remain there for three days, owing to heavy continuous rain with thunder and vivid lightning. Our tent was partially upset by the high wind during the night, and the discomfort caused will be readily appreciated by anyone used to camping. Almost everything was soaked; cooking, owing to lack of wood and the grass being wet, was impossible, so we ate cold stuff and tried hard to be cheerful.

On Monday, August 21st, the rain ceased and we had an opportunity to dry. We travelled only until 3 p. m. and again made camp, rain threatening. A few drops only, however, and the next morning we reached the edge of the ridge and looked down upon a welcome sight; long valleys densely wooded, with hills here and there all covered in a tropical growth. We had indeed, at last crossed the high range. It seemed as if we were looking down into a huge crater filled with steam. The view was grand, awe-inspiring. The road down into the valley was a horrible, tortuous, continual zigzag, narrow, rocky, and very slippery.

Near the bottom, we camped about a week, near a small stream. We were five days from Cochabamba, at the entrance to the valley called Chara-playa.

Butterflies were neither plenty nor varied.

We left here and continued north for a day, having much difficulty in getting our mules through the narrow trail, and stopping many, many times, to cut away fallen timber, sometimes being obliged to cut new trails around the heavier wind falls.



View of House Tops, La Paz.



Llamas, in Street of La Paz.



We went into camp surrounded by scattering cane huts. Sugar cane is raised here by the Indians, also coffee, bananas, pineapples, coca, and some tobacco. We remained here three weeks and were well paid for our trouble. Butterflies not previously seen were taken along the streams, but our best collecting was about human excrement and decaying camp refuse. We were much annoyed by swarms of horse-flies, which bit as if human blood was a treat. My Indians were obliged to bandage their feet and hands. We took a number of *Caligos* here, three species (*C. Livius* Stgr., *C. Ilioneus* Cram., and one unidentified), and also some interesting *Hesperidae* and two *Agrias* (*A. Lugens* and *A. Xenagoras* Hew.) Our stay here would have been prolonged, but the condition of our larder made it necessary to return, the nearest source of supplies being three and a half days distant.

## THE RETURN.

I collected a number of desirable species on the way back to La Paz, stopping for days at the best localities, and reached La Paz on October 20th.

Nothing of especial interest occurred on our trip back to New York, and I arrived home, much improved physically, and a gainer in experience. The trip resulted in some thirteen thousand butterflies, among which I trust there are many new species. Also one thousand or more dragon-flies, one thousand beetles, twelve hundred moths, and several thousand other insects, a few land shells, slugs and snails, and Indian curios.

NOTE.—The following is a fairly complete list of species secured near Coroica and the Cochabamba district, during May, June, July and August, as far as I have been able to identify them.

A. G. WEEKS, JR.

Saracta.	<i>Oressinama.</i>	S.-G. Bega.	<i>Steroma.</i>	D.-H.
	<i>Euptychia.</i>	Boliviana.		
Spartacus.			<i>Pedaliodes.</i>	
Renata.		Cram. Lyssa.		Burm.
Melchiades.		Butl. Phoenissa.		Hew.
	<i>Lymanopoda.</i>		<i>Oxeoschistus.</i>	
Ferruginosa.		Butl. Pronax.		Hew.
Larunda.		Hopp. Erebus.		



Kelita.		Hew.	Notatus.		Blanch.
Periphema.		Hew.	Montivagus.		Reak.
Cosinga.		Hew.		<i>Butleria.</i>	
Phoronis.	<i>Myscelus.</i>	Hew.	Agathocles.		Feld.
Eupheme.	<i>Erycides.</i>	G.-S.	Cypselus.		Feld.
Charonotis.		Hew.	Caicus.	<i>Nisoniades.</i>	Hew.
Lafrenayii.	<i>Carystus.</i>	Satr.	Brusus.		Burm.
Xarippe.	<i>Proteides.</i>	Butl.	Ascalaphus.	<i>Cecropterus.</i>	Stgr.
Athemon.	<i>Pamphila.</i>	Hubn.	Neis.	<i>Achlyodes.</i>	Geyer.
Catilinea.			Pallida.		Feld.
Corrosa.	<i>Systaspes.</i>		Biguttata.		
Emma.	<i>Hesperia.</i>	Stgr.	Albiplaga.	<i>Helias.</i>	Feld.
			Lacaena.		Hew.

NOTE.—As a result of further investigation there may be added to the above list the following species.

	<i>Thecla.</i>			<i>Thracidus.</i>	
Faunalia.		Hew.	Socrates.		Men.
Hygela.		Hew.	Xanthura.		Godm.
Thius.		Hubn.		<i>Perichares.</i>	
Venulius.		Cram.	Basochesii.		Latr.
Mulucha.		Hew.		<i>Emesis.</i>	
Bebrycia.		Hew.	Neemias.		Hew.
Gizela.		Hew.	Tenedia.		Feld.
Gargopleia.		Hew.	Cypria.		Feld.
Zebina.		Hew.		<i>Taygetis.</i>	
Basalides.		Hubn.	Nymphosa.		Butl.
Doryasa.		Hew.		<i>Theclopsis.</i>	
Coelicolor.		Butl.	Lebena.		Hew.
Crambusa.		Hew.		<i>Euptychia.</i>	
Beon.		Cram.	Quantius.		Godt.
Agra.		Hew.	Electra.		Butl.
Mycon.		G.-S.	Celenis.		Godt.
Zebus.		Godt.	Phares.		Godt.
Dorylas.		Cram.	Hubneri.		Butl.
	<i>Anaea.</i>		Ambigua.		Butl.
Mora.		Druce.	Nortia.		Hew.
Philomela.		D.-H.		<i>Anisochoria.</i>	
Odilia.		Cram.			
Lineata.		Salv.	Albida.		Mab.
Ada.		Hew.	Oligosticta.		Mab.
Polixo.		Hew.	Pedaliodina.		Butl.
	<i>Callithomia.</i>			<i>Gorgythion.</i>	
Tridactyla.		Dewitz.	Pyralina.		Motsch.
	<i>Eunica.</i>		Anacreon.		Staud.
Orphise.		Cram.		<i>Staphylus.</i>	
Carias.		Hew.	Mazans.		Reak.

	<i>Nisioniades.</i>			<i>Nymphidium.</i>	
Bolivianus.		Staud.	Lysimon.		Stoll.
Caeso.		Mab.		<i>Echenais.</i>	
	<i>Hesperia.</i>		Deusemaculata.		Hew.
Emma.		Staud.		<i>Mesenc.</i>	
	<i>Buileria.</i>		Hya.		Doubl.
Scylla.		Staud.		<i>Caerois.</i>	
Cypselides.		Staud.	Gerdrudtus.		Fabr.
Hilina.		Butl.		<i>Eryphanis.</i>	
Caenides.		Butl.	Oilens.		Feld.
Epiphaneus.		Feld.		<i>Opsiphanes.</i>	
	<i>Eudamus.</i>		Sallie.		D.-H.
Amisus.		Hew.		<i>Lymanopoda.</i>	
Viresceus.		Mab.	Venosa.		Butl.
	<i>Phocides.</i>			<i>Corades.</i>	
Pigmalion.		Cram.	Argentata.		Butl.
	<i>Pyrrhopyge.</i>		Fusciplaga.		Butl.
Hygieia.		Feld.		<i>Antirrhaea.</i>	
Phylleia.		Hew.	Philopoemen.		Feld.
	<i>Aethilla.</i>			<i>Pamphila.</i>	
Eleusonia.		Hew.	Carmenta.		Hew.
Chrysogastra.		Butl.	Morsa.		Staud.
Amphion.		Hew.		<i>Telegonus.</i>	
	<i>Leucochitonea.</i>		Cynapes.		Hew.
Laoma.		Hew.	Phasias.		Hew.
	<i>Jamadia.</i>			<i>Systasea.</i>	
Azeta.		Hew.	Excisus.		Mab.
Patroclus.		Plotz.		<i>Arteunotia.</i>	
	<i>Terias.</i>		Castolus.		Hew.
Aequatoralis.				<i>Mastor.</i>	
	<i>Charis.</i>		Perigenes.		Godm.
Gymaea.		Staud.		<i>Megistias.</i>	
Velutina.		G.-S.	Tripunctatus.		Latr.
	<i>Lyropteryx.</i>		Epiberus.		Mab.
Terpsichore.		Men.		<i>Vehilius.</i>	
	<i>Heliconius.</i>		Venosus.		Plotz.
Wallacei.		Reak.		<i>Eureto.</i>	
Congener.		Weymer.	Lyde.		Godm.
	<i>Pseudoscada.</i>			<i>Callimormus.</i>	
Salonina.		Hew.	Corades.		Feld.
Utilia.		Hew.		<i>Cobalus.</i>	
Ozia.		Hew.	Lucretia.		Latr.
	<i>Adelpha.</i>		Percosius.		Godm.
Coryneta.		Hew.		<i>Lychnuchus.</i>	
Urracla.		Feld.	Ozias.		Hew.
Irina.		D.-H.		<i>Carystus.</i>	
Saundersii.		Hew.	Coryna.		Hew.
Ximena.		Feld.	Theaclea.		Hew.
Boreas.		Butl.		<i>Pyrrhopygopsis.</i>	
	<i>Pedaliodes.</i>		Socrates.		Men.
Patizathes.		Hew.	Romula.		Druce.
Porphyria.		Feld.		<i>Dismorphia.</i>	
Pausia.		Hew.	Zathoe.		Hew.
	<i>Necyria.</i>			<i>Catasticta.</i>	
Juturna.		Hew.	Prioneris.		Hoppf.
	<i>Euselasia.</i>			<i>Pieris.</i>	
Labdacus.		Cram.	Cinerea.		Hew.



Nephtthis.	<i>Leptophobia.</i>	Hoppf.	Eusippe.	<i>Epargyreus.</i>	Hew.
Jamapa.	<i>Sphaenogona.</i>	Reak.	Diriscus.	<i>Dyscophus.</i>	Hew.
Psecas.	<i>Diorhina.</i>	Saund.	Calchas.	<i>Cogia.</i>	H.-S.
Dematria.	<i>Antepos.</i>	D.-H.	Tiphys.	<i>Pellicia.</i>	G.-S.
Salpensa.	<i>Eubagis.</i>	Feld.	Thyestes.	<i>Pythonides.</i>	G.-S.
Geta.		G.-S.	Phila.		G.-S.
Coenus.		Fabr.		<i>Gorgopas.</i>	
Ranavalona.	<i>Acreea.</i>	Bsd.	Viridiceps.		Butl.
Eresia.	<i>Actinote.</i>		Mars.	<i>Cyclosaemia.</i>	Staud.
Abas.		Feld.	Albata.		Mab.
Teletusa.	<i>Phyciodes.</i>	Hew.	Cambyses.	<i>Mycteris.</i>	Hew.
		Godt.		<i>Carphenes.</i>	
	<i>Perisama.</i>		Chaeremon.		Mab.
Ochreipennis.		Butl.		<i>Achlyodes.</i>	
Hilara.		Hew.	Caeliginea.		Mab.
	<i>Callicore.</i>			<i>Sostrata.</i>	
Consobrina.		Guer.	Leucorrhoea.		G.-S.
	<i>Callizona.</i>			<i>Paches.</i>	
Tigridia?		Hubn.	Odina.		Butl.
Aceste.		Linn.		<i>Camptoplenea.</i>	
	<i>Mesosemia.</i>		Thrasybus.		Staud.
Tenebricosa.		Hew.	Enega.		Motsch.
	<i>Hylephila.</i>			<i>Catia.</i>	
Phylaeus.		Drury.	Druryi.		Latr.
	<i>Limophores.</i>			<i>Leucothyris.</i>	
Venezuelae.		Westw.	Attalía.		Hew.
	<i>Prenes.</i>			<i>Pteronymia.</i>	
Nero.		Fabr.	Mira.		Hew.
	<i>Rinthon.</i>			<i>Dircenna.</i>	
Cynea.		Hew.	Methonella.		Weymer.
	<i>Papias.</i>				
Dictys.		Godm.			

NOTE.—In addition to those noted in the preceding lists, there are about eighty new species, most of which are described with plates in the following pages.



## LIST OF NEW SPECIES FROM BOLIVIA.

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Below is given a list of the new species taken by my collector, Mr. Gerhard, and described by me in various publications. Descriptions with plates will be found in the following pages. This list rightfully belongs here as an adjunct to the lists appearing on pages 16, 17, 18, 19, 20, 21, 27, 28, 29, 30 and 31, the whole giving a complete record of his captures.

	<i>Ceratinia.</i>		<i>Cysteneura.</i>
Acceptabilis.	A. G. Weeks, Jr.	Aurantia.	A. G. Weeks, Jr.
	<i>Ithomia.</i>		<i>Adelpha.</i>
Gardneri.	A. G. Weeks, Jr.	Deborah.	A. G. Weeks, Jr.
Sarcinarius.	A. G. Weeks, Jr.	Helepecki.	A. G. Weeks, Jr.
	<i>Hymenitis.</i>		<i>Eurybia.</i>
Andreas.	A. G. Weeks, Jr.	Hari.	A. G. Weeks, Jr.
	<i>Euptychia.</i>		<i>Amarynthis.</i>
Luttela.	A. G. Weeks, Jr.	Muscolor.	A. G. Weeks, Jr.
Therkelsoni.	A. G. Weeks, Jr.		<i>Lasaia.</i>
Monahani.	A. G. Weeks, Jr.	Kennethi.	A. G. Weeks, Jr.
	<i>Cosmosatyrus.</i>		<i>Metacharis.</i>
Nilesi.	A. G. Weeks, Jr.	Indissimilis.	A. G. Weeks, Jr.
	<i>Epinephele.</i>		<i>Lycaena.</i>
Imbrialis.	A. G. Weeks, Jr.	Babhru.	A. G. Weeks, Jr.
	<i>Pedaliodes.</i>	Ruberrothei.	A. G. Weeks, Jr.
Primera.	A. G. Weeks, Jr.		<i>Thecla.</i>
Mariona.	A. G. Weeks, Jr.	Infrequens.	A. G. Weeks, Jr.
	<i>Taygetis.</i>	Dickiei.	A. G. Weeks, Jr.
Puritana.	A. G. Weeks, Jr.	Harrietta.	A. G. Weeks, Jr.
	<i>Daedalma.</i>	Lucaris.	A. G. Weeks, Jr.
Bronza.	A. G. Weeks, Jr.	Sadiei.	A. G. Weeks, Jr.
	<i>Caligo.</i>	Francis.	A. G. Weeks, Jr.
Gerhardi	A. G. Weeks, Jr.		<i>Terias.</i>
	<i>Heliconius.</i>	Floscula.	A. G. Weeks, Jr.
Spadicarius.	A. G. Weeks, Jr.		<i>Papilio.</i>
	<i>Phyciodes.</i>	Cochabamba.	A. G. Weeks, Jr.
Nortbrundii.	A. G. Weeks, Jr.		<i>Thymele.</i>
	<i>Dynamine.</i>	Bridgmani.	A. G. Weeks, Jr.
Albidula.	A. G. Weeks, Jr.		

	<i>Telegonus.</i>	Planus.	A. G. Weeks, Jr.
Finitimus.	A. G. Weeks, Jr.	Leopardus.	A. G. Weeks, Jr.
Tritoni.	A. G. Weeks, Jr.	Idee.	A. G. Weeks, Jr.
	<i>Niconiades.</i>	Milesi.	A. G. Weeks, Jr.
Tihoneta.	A. G. Weeks, Jr.	Reedi.	A. G. Weeks, Jr.
	<i>Pyrrhopygopsis.</i>	Briquenydan.	A. G. Weeks, Jr.
Reedii.	A. G. Weeks, Jr.		<i>Syrichthus.</i>
	<i>Pamphila.</i>	Nigella.	A. G. Weeks, Jr.
Cusillunia.	A. G. Weeks, Jr.		<i>Cobalopsis.</i>
Errator.	A. G. Weeks, Jr.	Duspecca.	A. G. Weeks, Jr.
Viridinx.	A. G. Weeks, Jr.		<i>Butleria.</i>
Coroicana.	A. G. Weeks, Jr.	Duovata.	A. G. Weeks, Jr.
Vesana.	A. G. Weeks, Jr.		<i>Pythonides.</i>
Argentea.	A. G. Weeks, Jr.	Hierta.	A. G. Weeks, Jr.
Warreni.	A. G. Weeks, Jr.		<i>Nisoniades.</i>
Serenes.	A. G. Weeks, Jr.	Menuda.	A. G. Weeks, Jr.
Allianza.	A. G. Weeks, Jr.		<i>Achlyodes.</i>
Alleni.	A. G. Weeks, Jr.	Fera.	A. G. Weeks, Jr.
Cuadrada.	A. G. Weeks, Jr.	Seatoni,	A. G. Weeks, Jr.
Artiei.	A. G. Weeks, Jr.		<i>Gorgythion.</i>
Hurleyi.	A. G. Weeks, Jr.	Difficilis.	A. G. Weeks, Jr.
Coroiconensis.	A. G. Weeks, Jr.		
Taberi.	A. G. Weeks, Jr.		

### **Dynamine albidula** A. G. Weeks, Jr. <sup>1</sup>

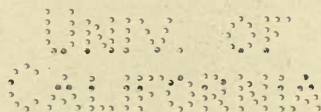
(*Plate VI, Figure 1.*)

Habitat: Bolivia, near Sicasica. Expanse, 1.25 inches.

Head, palpi, thorax and abdomen above, blackish with gray hairs; beneath, nearly white. Antennæ black with white annulations at the base of each joint. Club tipped with tawny. Legs white.

The lower portion of the fore wing is white, from a line drawn from a point close to the base on inner margin and extending upwards to and along the median nervure to end of discoidal space, then curving downwards to lower angle, meeting inner margin one-sixteenth inch from angle. The rest of the wing is black with white spots. The discoidal space is heavily dusted with lustrous greenish blue scales. In the centre of the space is a small white spot. Midway between apex and base is a large white spot extending from costa towards hind margin and directly over the summit

<sup>1</sup> Canadian Entomologist Vol. XXXIII, No. 10, October, 1901.



J. Henry Blake, ad nat.

B. Meisel, lith. Boston.

1. DYNAMINE ALBIDULA, AGWeeks, Jr. 2. AMARYNTHIS MUSCOLOR, AGWeeks, Jr.  
3. THECLA INFREQUENS, AGWeeks, Jr. 4. HYMENTIS ANDREAS, AGWeeks, Jr.

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of the lower white area. Just within hind margin, one-third distance from apex to lower angle, is a smaller white spot, and there is another below it, one-third distance from lower angle to apex. The latter of these merges into the white area of the lower portion of the wing.

Upper side of lower wing is entirely white, excepting a small area of black at the very base, and a narrow border of black along hind margin. This border is black at the upper angle and turns to grayish at the lower half, disappearing entirely just before it reaches anal angle. Outside of this, on the edge of the margin, is a white thread.

The white area of upper side of fore wing is duplicated on under side. The black of the upper side gives way to a great extent to tawny. The discoidal space is jet black at its upper portion, tawny at basal portion, the black extending down along the median neuvre towards base. In the centre of the black area is a white spot. Separating the black from the tawny is a thread of very lustrous greenish-blue, nearly silver. This tawny color extends to costa, the costa being tawny up to apex. A greenish-blue lustrous line extends from base along costa for one-quarter inch. The large white spot of upper surface is repeated. The first white spot at hind margin of upper surface is repeated, but suffuses strongly upwards to the costa, forming an apical band of white. At inner edge of this band is a heavy tawny line, the costal and lower portion of it tipped with lustrous greenish-blue scales. The lower white spot is the same as on upper surface. The hind margin has a black thread at its edge, and within this a line of tawny, edged on its inner side by a thread of the lustrous scales.

The lower side of lower wing is the same as upper surface, except the black is replaced by tawny, and the marginal border is edged on its inner side by a thread of lustrous greenish-blue, with a suggestion of a black thread within it.

Type, one specimen, taken October 1st, 1899.

### *Amarynthis muscolor* A. G. Weeks, Jr. <sup>1</sup>

(*Plate VI, Figure 2.*)

Habitat: Bolivia, five days travel north from Cochabamba.  
Expanse 1.25 inches.

Head, thorax and abdomen, nearly black, with approach to dark mouse color on top. Antennæ black, with slight white annulations at base of each joint. Legs black.

<sup>1</sup> Canadian Entomologist, Vol. XXXIII, No. 10, October, 1901.

General ground color of upper surface a dark mouse color with black markings. Costa of fore wing of ground color. Hind margin without border, except a slight linear black line and a fringe of hairs. One-eighth inch within margin is a semi-distinct black line extending from tip down to inner margin, and another the same distance within this. The discoidal space contains four distinct black transverse lines, the outer two joining at top and bottom, forming an egg-shaped figure. From the lower junction of these, a black line extends downwards at right angles to the costa to the submedian nervule. The inner two of these discoidal lines do not join but each extends downwards to submedian nervule. There is a suggestion of still another line nearer the base, extending also to the submedian nervule.

Upper surface of hind wing nearly duplicates that of fore wing. The hind margin with its two inner lines and hairy fringe is the same. The inner line forms a continuation of the line of fore wing which extends downwards from the egg-shaped figure noted above. The outer line of the inner two lines mentioned as crossing the discoidal space of fore wing, extends across the wing from costa to anal angle, where it joins the two broader lines. Within this, in discoidal space, are three lines and a suggestion of a fourth near the joint. Inner margin of ground color, fringed with hairs.

The under surface is brilliant, the outer half of both wings being sky blue with a mother-of-pearl lustre.

The costa of fore wing is mouse color with a linear dash of sky blue extending upwards from base. Hind margin is same as on upper surface except that the slight hairy fringe shows whitish. The inner half of wing is blue-black. The dividing line between the inner and outer half is broken at the first median nervule, forming a jut. The discoidal space contains four sky blue spots, the second and fourth from the base being very prominent. Below the second one, above the submedian nervule, is another spot of the same color. The space above inner margin is mouse color, somewhat suffusing the blue-black of inner half of wing.

Under surface of hind wing much the same. The border of hind margin is same as on fore wing, but the first border line of the upper surface is duplicated. The line separating the blue-black and sky blue is continuous, extending from midway between apex and base to anal angle. The discoidal space contains but two sky blue marks, which are duplicated in a less degree in the space next below. The inner one is also duplicated similarly in the space above the discoidal space. The sky blue of outer half of wing extends upwards somewhat along inner margin and also suffuses the lower portion of the blue-black ground.

Described from three specimens in my collection from Cochabamba district, 1899.



**Thecla infrequens** A. G. Weeks, Jr. <sup>1</sup>

(*Plate VI, Figure 3.*)

Habitat: Bolivia, near Cusilluni. Expanse: .95 inches.

Head, thorax and abdomen above blackish, covered with blue-gray hairs; beneath light grayish brown. Antennæ black with white annulations at the base of each joint. Club black. Legs light grayish brown.

Upper side of fore wing bronzy brown with some lustre. There is an indistinct large discoidal spot of blackish. Basal area in certain lights seems brighter than rest of wing. Hind margin has a slight fringe, lighter than ground color.

Hind wing the same color, excepting lower half, which is light purplish blue. The edge of this blue area is bounded by a line drawn from base along subcostal nervure to center of wing, then downwards to median nervure and following that to hind margin. Hind margin has fringe as on fore wing. The purplish blue area is broken as it reaches hind margin by interspatial lunules of ground color. Inner marginal space light gray.

Underside of fore wing light soft brown. Hind margin has a dark thread within the fringe. Beginning at costa, one quarter distance from apex to base, and extending downwards to lower submedian nervule, is a line of interspatial dark brown spots suffusing towards the base of wing. There is a slight space of ground color outside of these spots, followed by a white line running from apex downwards to submedian nervure, parallel to hind margin and one-sixteenth inch within it. The space between this and hind margin is dark brown. Inner marginal space light grey.

General ground color of hind wing underneath is a rich dark brown. Basal area is somewhat lighter, but with a dark brown spot near costa. Outside of this spot is a dash of whitish scales. Running from apex across to inner margin, near its base, following contour of hind margin, is an irregular dark brown line. Outside of this line the ground color lightens, being very light at hind margin, dashed with whitish scales and showing a few indistinct interspatial dark lines. The fringe of hind margin is nearly white.

Taken in May, 1899. Described from three specimens in my collection.

<sup>1</sup> *Entomological News*, VOL. XII, No. 9, November, 1901.

**Hymenitis andreas** A. G. Weeks, Jr. <sup>1</sup>

(*Plate VI, Figure 4.*)

Habitat: Bolivia. Expanse: 1.90 inches.

Head black, with four white specks on collar. Also a white speck at each eye and two others at junction of each antennæ. Thorax and abdomen above nearly black; below nearly white. Antennæ black. Legs black, greyish underneath.

Fore wing transparent with a greenish blue lustre, as is prevalent in species of this genus. The inner marginal area is black. The costa is black, and at end of discoidal space the black extends downwards to a point at lower end of discoidal space, this black triangle being nearly a quarter inch wide on its costal edge. Outside of this is a band of white scales running from costa downwards across end of discoidal space and terminating next to the lowest submedian nervule. The black of the costa broadens to a sixteenth inch in width outside the white band, turning at apex and continuing downwards along hind margin and joining the black of the inner marginal area at lower angle. At the lower angle, in interspace above the lowest submedian nervule, there is a mere suggestion of a dash of white scales. The nervules are all black.

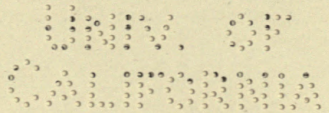
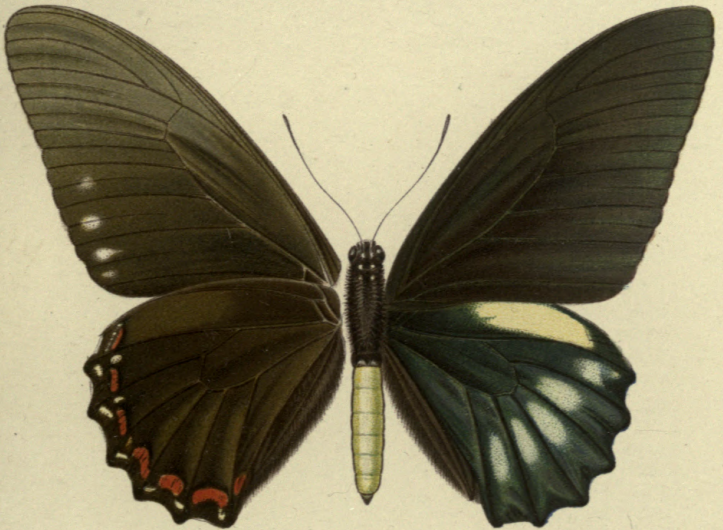
Upper side of hind wing transparent, with lustre as above noted. Costal area black. Hind margin with a black border one-sixteenth inch wide, lessening and dwindling to a thread towards submedian nervule. At apical angle there is a very slight light brownish dot.

The under side of fore wing is identical with upper surface except that the black portions are reddish brown bordered by a darkish thread. The inner marginal area, however, is black. There is also a suggestion of three interspatial white dots at apex.

Under side of hind wing is the same as upper surface, except that the black portions are reddish brown bordered on the basal side by a black thread. The hind margin, also, has a black thread at its edge. The brown spot at upper angle on fore wing is white on the under surface.

Described from seventeen specimens taken September 12, 1899. A duplicate has been found in a European collection, taken also in Bolivia, but unnamed.

<sup>1</sup> *Entomological News*. Vol. XII, No. 9, November, 1901.



J. Henry Blake, ad nat.

B. Meisel, lith. Bozenn.

PAPILIO GOCHABAMBA AGWeeks, Jr.

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**Papilio cochabamba** A. G. Weeks, Jr.<sup>1</sup>

(Plate VII.)

Habitat: Bolivia. Expanse, 4.00 inches.

Front of head dark greenish black. Between the eyes are two dots of greenish white, and another dot at the collar, followed by two more similar dots on front of thorax. Antennæ greenish black, extreme point slightly brownish. Thorax above, dark greenish black; beneath, black with a large yellowish spot at base of costal nervule and another at base of costal nervule of hind wing, both with a small white dot above them. Legs black above; beneath whitish, the white extending on to thorax as a dash.

Abdomen above, greenish cream color with black tip; below, black with a white spot at base of each segment on both sides. Between these spots and the cream color of upper part are a series of yellowish dashes.

Fore wing above, greenish black, but with a decided greenish lustre covering outer half. The interspaces at hind margin edged with white.

Hind wing of same ground color, the greenish lustre being somewhat brighter and more prominent. Covering nearly the whole of the subcostal space is a large dash of greenish white followed by a row of similar, although smaller, spots or dashes extending in a *straight line* from apex to anal angle, each about one-eighth inch wide and one-eighth inch long, diminishing in size towards anal angle. These are about one-third inch from hind margin, not touching, however, the discoidal space, and form the only prominent marking of the insect. The hind margin is strongly dentated with interspaces bordered by a white line.

Under side of fore wing black, shading into grey black at a line drawn from inner angle across the wing towards outer part of discoidal space. In the three lower interspaces, one-fourth inch from hind margin, is a patch of whitish scales, suggestive of spots.

Under side of hind wing is entirely of bronze color, somewhat lustrous, excepting at the top portion of each interspace, where there is a whitish spot, and inside of that, one-sixteenth inch from margin, a semicircle of brick color, very prominent. The dentations of the wing bear the white linear border appearing on upper side.

The specimens in my possession were taken some two hundred miles north from Cochabamba. In general appearance, it resembles closely *Papilio numitor* Cram., and that group, and may be a climatic variation of it, but in *numitor* the

<sup>1</sup> Canadian Entomologist, Vol. XXXIII, No. 10, October, 1901.

greenish-white dashes on hind wing follow more closely the contour of the hind margin, while in this these dashes are more in line with a line drawn from apex to anal angle. My specimens are invariable, showing no difference in the suffusion or size of dashes.

***Eurybia hari*** A. G. Weeks, Jr. <sup>1</sup>

(*Plate VIII.*)

Habitat: Bolivia, north of Cochabamba. Expanse 2.15 inches.

Head and eyes dark fulvous brown, with a collar of reddish-brown yellow. Antennæ nearly black, with yellowish points. Thorax and abdomen dark mouse color, somewhat lighter underneath. Legs the same.

General ground color of wings dark mouse color with a border (inter-spacing) of reddish-brown yellow, covering nearly one-third of both fore and hind wings.

Costa of fore wing dark mouse color. Inner two-thirds of wing the same, excepting a prominent black spot in discoidal space surrounded by a reddish-brown yellow ring, and outside of this a semicircle of same color. Hind margin has a linear border of ground color. The interspaces of hind margin contain a dash of reddish-brown yellow extending as far as discoidal space in upper three interspaces and paralleling downwards. These dashes form practically a broad band covering outer third of wing, the nervures of ground color, only, showing between them. The outer end of these dashes contains a black arrow-head, small at top interspace, and increasing in size in lower interspaces. The inner end of these dashes contains a black dash increasing in size in lower interspaces.

The hind wing duplicates these markings with the following exceptions: the discoidal spot is much less prominent; the semicircle outside of it is missing; the linear border is also missing, the reddish-brown yellow extending clearly to margin.

The under side of both wings is the same as upper side excepting that the ground color is much lighter, and the yellowish portions suffused somewhat with ground color. The discoidal spots are more prominent owing to the lighter shade of the background rather than to any change of their own.

The general appearance is close to *Eurybia jemina* Hew.

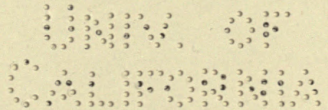
<sup>1</sup> Canadian Entomologist, Vol. XXXIII, No. 10, October, 1901.



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J. Henry Blake, ad nat.

B. Meisel, lith. Boston.

HELICONIUS SPADICARIUS, AG. Weeks, Jr.



Described from two specimens in my collection secured by my collector, Mr. William J. Gerhard, at a point five days north from Cochabamba, Bolivia. In all the collections examined, including the largest collections in this country and in England, only one of this species was found, that being in the Hewitson collection, unnamed.

**Heliconius spadicarius** A. G. Weeks, Jr. <sup>1</sup>

(*Plate IX.*)

Habitat: South America. 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, are two more. These are grayish in some specimens. Centre of thorax above tends to dark grayish, and near its end is 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. Antennæ black, turning to light tawny half-way to club.

The basal portion of upper side of fore wing, 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 interspatial elongated spots. Outside of these some specimens show signs of interspatial white spots just within the hind margin. The submedian nervure is

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 72, October 18, 1901.

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 wing 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 interspatial 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 interspatial white thread.

Under side of fore wing is 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 wing 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, interspatial. Under the costal nervure is an anvil-shaped light yellow spot. Below this the ground color is dark tawny brown, the transverse band of interspatial 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 Colombia.

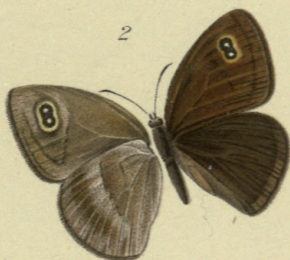
### *Thecla lucaris* A. G. Weeks, Jr.<sup>1</sup>

(Plate X, Fig. 1.)

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

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

<sup>1</sup>Pr. New England Zool. Club, Vol. II, p. 102, December 30, 1901.



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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 examination 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 semi-circles 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 semi-circle 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.

### *Epinephele imbrialis* A. G. Weeks, Jr.<sup>1</sup>

(*Plate X, Figure 2.*)

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

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

Fore wing bronzy brown. Hind margin slightly fringed with hair, edged with two fine dark threads very close together. From apex a dark brown

<sup>1</sup>Pr. New England Zool. Club, Vol. II, p. 81, November 9, 1901.

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 wing 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 wing 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 wing 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 wing. 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.

*Aricoris aurigera* A. G. Weeks, Jr.<sup>1</sup>

(*Plate XI, Figure 1.*)

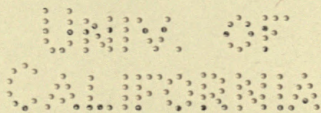
Habitat: Colombia, Bogota district. Expanse: 1.25 inches.

Head, antennæ and legs, black. Thorax and abdomen black above; grayish black beneath.

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<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 11, January 20, 1902.







Fore wing, above, entirely black with a very prominent tawny golden band. Hind margin fringed with black hairs. The lower edge of the golden band starts at very edge of costa, three-sixteenths of an inch from base, running across to hind margin at end of submedian nervure. The band is fully three-sixteenths of an inch in width.

Hind wing entirely black. Hind margin fringed with black hairs.

Under side of fore wing is identical with upper surface, except that the band is of a slightly lighter shade and the inner margin somewhat grayish.

The costal area of under side of hind wing is black. The fringe of hairs at hind margin is black. The rest of the wing is grayish black with black nervures and nervules.

Taken near Bogota in 1896.

### **Thecla harrietta** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XI, Figure 2.*)

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

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

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

Lower wing, above, dark lustrous blue, matching fore wing. Hind margin, same as on fore wing. At anal angle is an addition to the wing area, one-sixteenth inch wide, running from angle to lower submedian nervule (black suffusing somewhat into wing area) and then extending outwards as a tail at nearly right angles to the nervule. This tail is black, one-quarter inch long.

Across this anal black space is a bluish-white thread, running from end of lower submedian nervule straight to the submedian nervure, then forming a V in inner marginal space. At the end of the second submedian nervule is another tail, black, one-eighth inch long, being a continuation of the nervule in its direction.

Under side of fore wing, mouse color. Hind margin, edged with a black thread. Starting at second subcostal nervule, at a point one-quarter distance from apex to base, is a jet-black line, running downwards parallel to hind margin, and ending at lower submedian nervule. Three-sixteenths inch

<sup>1</sup> Canadian Entomologist, Vol. XXXIII, No. 11, November, 1901.

within this line is another running from costa to lower submedian nervule, not quite parallel to the first line but approaching it somewhat at its lower part; at the lower submedian nervule this line turns at a right angle and crosses inner marginal space. Across end of discoidal space is a black line. Nervures and nervules are somewhat darker than ground color.

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

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

### **Caligo gerhardi** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XII.*)

Habitat: Bolivia, Cochabamba district. Expanse: 4.40 inches.

Head and collar dark fulvous. Eyes brown. Palpi and legs fulvous. Antennæ dark fulvous, lighter beneath with a slight black annulation at base of each joint. Thorax dark mouse color above, fulvous beneath. Abdomen the same, but whitish on the sides.

The general ground color of the upper surface is a rich regal purple.

Costa of fore wing, dark mouse color, generously covered with fulvous scales. Hind margin bordered with fulvous, a quarter inch deep at apex and lessening downward, disappearing at fourth median nervule. Within this

<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 3, January 17, 1902.



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J. Henry Blake, ad nat.

B. Meisel, lith. Boston.

CALIGO GERHARDI AGWeeks, Jr.

1875

the border is dark mouse color, three-eighths of an inch wide, edged toward base with a broad jagged line of slightly lighter hue. At apex are three small white spots. The rest of the wing is regal purple, except a portion near base which is dark mouse color.

The hind wing is the same. The hind marginal space, to the third median nervule, is light grayish brown, and bordering this nervule, half an inch above anal angle, is an elongated dead yellow spot about one-third of an inch long. The dark mouse-colored space near base is covered with long nearly black hairs.

The under side, owing to many irregular jagged black lines, etc., is difficult to describe.

The under side of fore wing has a broad light fulvous border, nearly half an inch wide. In the centre of this, extending from apex to lower angle, are two jagged black or brownish lines one-eighth of an inch apart, bordered on outer side with a bit of fulvous a shade lighter than the ground color. The costa is mouse color, covered generously with light fulvous scales. On inner edge of the marginal border the three apical white spots appear, bordered on marginal side with a dash of rich brown, which is black, however, at upper spot. In the space below is a small oblong ocellus, having four minute white dots on a black ground and all surrounded by a line of light fulvous. In the space below this is another smaller ocellus, one-sixteenth of an inch in diameter, of similar coloring. These ocelli do not show on upper side. Inside of the light fulvous border is a space of varying width, one-third to one-half inch, with a linear border of blackish brown, transversely crossed by a mass of fulvous wavy lines. This space is narrowest opposite discoidal space, broadening out toward costa and inner margin. Inside of this and extending from costa through outer point of discoidal space, is a space of light fulvous three-eighths of an inch wide, jaggedly bordered by a darker line and dusted somewhat on inner side with silver scales. The discoidal space is crossed by a silver line about a quarter inch wide at costa and narrowing somewhat toward inner margin which it meets at right angles. This line, extending as it does across the hind wing, is the prominent feature of the lower side. In the centre of this silver band, beginning at the costa, is a black jagged thread, leaving it at the centre of the discoidal space and extending to the median nervule. The area on basal side of this silver band is dark fulvous with one black thread running down from costa, and when midway, turning toward the silver band. The lower interspaces are suffused with black toward the base. The outer portion of discoidal space contains two oblong black-edged figures and another below them, circular in shape and lighter in color.

The hind wing has no defined border, the entire outer half being of light fulvous transversely crossed with a mass of wavy blackish lines. Under the costa, midway from base to apex, is a fulvous ocellus, one-quarter inch across, bordered by a black thread and inclosing a half moon of minute white specks.

There is another similar ocellus just below discoidal space, having, however, a yellow line within the outer black thread, and a heavy dusting of dark blue scales at lower edge. The silver band of fore wing extends across the discoidal space, terminating at the third median nervule. The outer portion of discoidal space is crossed by several irregular black threads. The space within the silver band is identical with the outer portion of the wing.

This superb specimen was taken September 12, 1899, by my collector, Mr. William J. Gerhard, and I take pleasure in naming it after him. It differs from others of this genus in that the lower ocellus of hind wing beneath is single, and the general coloring of under surface is quite different.

**Pedaliodes primera** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XIII.*)

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

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

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

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

Ground color of under side of hind wing is dark brown with dashes and wavy lines of silvery white, hard to describe accurately. The lower third of the wing, covering anal angle area, is heavily covered by silvery-white scales, and between the second and third median nervules, one-third inch from hind

<sup>1</sup> Canadian Entomologist, Vol. XXXIII, No. 11, November, 1901.





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

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

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

### **Thecla dickiei** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XIV, Figure 1.*)

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

Head and eyes black. Antennæ black, with white annulations at the base of each joint. Club black, with orange tip. Thorax, above, covered with blue-gray hairs; below, grayish brown. Abdomen blackish above, grayish brown beneath. Legs black, with white annulations at ends and centre of each joint.

General color of wings, above, nearly black.

The upper side of fore wing is entirely black, including costa, except a brilliant dash of lustrous blue within a line drawn from base through centre of discoidal space, then turning downward to inner margin. The blue occupies about one-third of wing area.

The lower wing is black, with the brilliant blue space of fore wing repeated, but covering only the basal quarter of the wing and not encroaching on inner marginal space. Extending from the end of lower median

<sup>1</sup> Entomological News, Vol. XII, No. 9, November, 1901.

nervule, is a delicate tail, black with a white tip, about one-eighth inch long, and from the nervule next above, another, one-sixteenth inch long, with a white tip. At anal angle is a small dot of rust color. The hind margin is edged with a fine black thread. Both hind margins bear a slight fringe of gray-brown hairs.

The ground color of under side is a dead grayish brown.

One-sixteenth inch within hind margin of fore wing, is an indistinct whitish line running downward from about the third subcostal nervule to the inner margin, bordered on the outside by an indistinct line of dark grayish brown. Another and prominent white line runs from costa (at a point one-third distance from apex to base) downward to the lowest median nervule. This line is distinctly edged with black on basal side and forms the most prominent feature of the wing. Starting from lowest submedian nervule, one-sixteenth inch inward from end of line just described, is another similar line running to inner margin. There is also a linear white dash across outer border of discoidal space. The prominent white line of fore wing extends downward through the hind wing to the lower median nervule, and thence jaggedly to inner margin, forming a W in anal angle area. The marginal indistinct white line of fore wing also extends through hind wing, swerving inward at lower portion and joining the first mentioned line at the lower median nervule. Below this point of juncture, in the interspace, is a prominent rust-colored spot, with a black speck at its lower edge. At the anal angle is a black spot with an adjoining semi-circle of white above it, and above that a semi-circle of rust color, which extends upward along inner margin. The border of hind margin, for one-sixteenth inch inward, is dusted with light brownish scales. There is an indistinct whitish line across outer border of discoidal space.

Taken by Mr. Gerhard in May, 1899.

### **Gorgythion difficilis** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XIV, Figure 2.*)

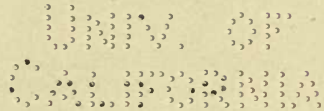
Habitat : Bolivia, near Cochabamba. Expanse : 1.40 inches.

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

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

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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 82, November 9, 1901.



J. Henry Blake, ad. nat.

B. Meisel, lith. Boston.

1 THECLA DICKIEI AGWeeks, Jr. 2. GORGYTHION DIFFICILIS AGWeeks, Jr.

3. PAMPHILA VIRIDENEX AGWeeks, Jr.



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 wing 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 wing 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 suffu-

sion, other specimens should show considerable variation from this type. In describing such a specimen, or even series of specimens, a plate is indispensable.

***Pamphila viridenex* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XIV, Figure 3.*)

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

Head, thorax, palpi and abdomen, bronzy brown above; greenish brown beneath. Antennæ 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 wing 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 wing 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 wing 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 wing 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.

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 80, November 9, 1901.



***Pamphila errator* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XV, Figure 1.*)

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 margins slightly fringed with hairs of a lighter shade. There are no markings except on fore wing, where there is a line of almost imperceptible interspatial 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 wing 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 outward. This row of spots is the prominent feature of the under surface.

Under side of hind wing grayish brown, tending to blackish toward inner margin, but *not* tending to blackish at basal area, as is the case in fore wing. 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.

***Pamphila argentea* A. G. Weeks, Jr.<sup>2</sup>**

(*Plate XV, Figure 2.*)

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

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

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

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 73, October 18, 1901.

<sup>2</sup> Canadian Entomologist, Vol. XXXIII, No. 11, November, 1901.

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

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

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

Taken near Cusilluni in May, 1899.

### ***Pamphila cusillunia* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XV, Figure 3.*)

Habitat: Bolivia, near Cusilluni. Expanse: 1.12 inches.

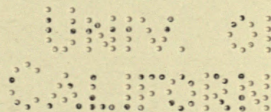
Head and palpi, above, dark brown; beneath, brownish gray. Antennæ black, lighter beneath. Club black, with lighter tip; beneath, grayish. Thorax dark brown. Abdomen dark brown above, light brown beneath.

Upper side of both wings dark bronzy brown, with some lustre. The discoidal space of fore wing has an indistinct longitudinal blackish dash. Hind margins have a slight fringe of hairs of ground color.

On under side of fore wing, the marginal fringe is dark brown from apex to centre of wing, and from that point to lower angle it is grayish. On costa, one-sixteenth inch from apex, is a small white spot, and in interspace below it another one, both being practically at the very apex. Below these are a series of interspacial dark rust color dashes, ending at central portion of the hind margin, most prominent near apex, the apical area consequently appearing rust color. Within these, and starting at apical white spots, is a triangular space heavily dashed with white scales. The inner two-thirds of the wing is dark blackish brown.

The ground color of under side of hind wing, is of rich brown with a suffusing band of white. This band, with its basal side on a line drawn from centre of costa to near the joint on inner margin, is pure white, suffusing toward hind margin. It forms the prominent feature of the markings of the under side.

<sup>1</sup> Entomological News, Vol. XII, No. 9, November, 1901.



J. Henry Blake, ad nat.

B. Weisell, N.H. Boston.

1. PAMPHILA ERRATOR AGWeeks, Jr. 2. PAMPHILA ARGENTEA AGWeeks, Jr.  
3. PAMPHILA CUSILLUNIA AGWeeks, Jr.



Taken in May, 1899. I have placed it in the genus *Pamphila* rather than to introduce a new genus, which, however, seems warranted.

***Pamphila vesana* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XVI, Figure 1.*)

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

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

Upper side of fore wing 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 wing 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 wing 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 nervure. In interspace below this, is a dash of lightish scales. The basal area below median nervure is blackish.

Under side of hind wing light bronzy brown, as on under side of fore wing. In the centre of discoidal space, is a very slight whitish spot, and, between this and hind margin, an almost imperceptible line of interspatial whitish spots, extending from centre of costa to lower median nervure, 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.

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 80, November 9, 1901.

**Pamphila coroicana** A. G. Weeks, Jr.<sup>1</sup>*(Plate XVI, Figure 2.)*

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. Antennæ 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 wing 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 wing 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 serenus** A. G. Weeks, Jr.<sup>2</sup>*(Plate XVI, Figure 3.)*

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

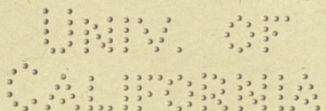
Entire upper surface bronzy brown, with some lustre. Hind margins have a fringe slightly lighter than ground color.

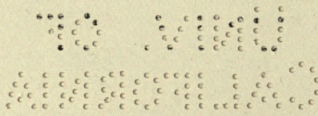
Under side of head, thorax and abdomen, grayish brown.

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.

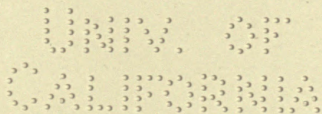
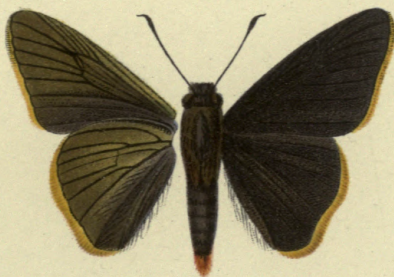
<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 79, November 9, 1901.

<sup>2</sup> Pr. New England Zool. Club, Vol. II, p. 93, December 23, 1901.



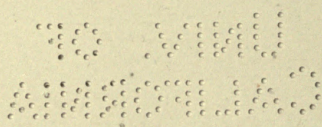
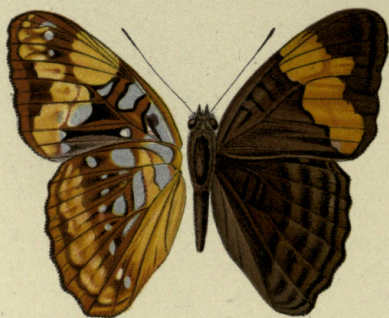












J. Henry Blake ad nat.

B. Meisel lith Boston

ADELPHA HELEPECKI AGWeeks, Jr.

Basal area of fore wing 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.

***Pyrrhopygopsis reedii* A. G. Weeks, Jr.<sup>1</sup>**

(Plate XVII.)

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

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

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

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

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

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

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

***Taygetis puritana* A. G. Weeks, Jr.<sup>2</sup>**

(Plate XVIII.)

Habitat: Bolivia, near Coroico. Expanse: 3.00 inches.

Head, thorax, abdomen and legs, dark brown above and beneath. Antennæ a shade lighter, with small dark annulations at base of each joint. Club black above and beneath.

<sup>1</sup> Canadian Entomologist, Vol. XXXIII, No. 11, November, 1901.

<sup>2</sup> Pr. New England Zool. Club, Vol. III, p. 2, January 17, 1902.

The entire upper side of both wings is dark brown. In a very strong light there is some lustre in basal areas. The hind margins have a white interspatial border, quite prominent.

Under side of fore wing light brown, much lighter than upper surface. The prominent marking is a broad band of darker shade crossing centre of wing and extending across lower wing also. The basal area is light brown. A soft dark brown line or band crosses centre of discoidal space, extending to inner margin, but nearer base after leaving discoidal space and more indistinct. The end of discoidal space is marked by a fine thread of the same color. Running from costa, one-quarter inch outside from discoidal space, is a line of dark brown ending at submedian nervure. The area between this line and discoidal space is darker than ground color, being darkest at the line and shading to lighter baseward. Outside of this line, is an area of brighter brown, bordered one-quarter inch inside of hind margin by a jagged dark thread. Through the centre of this area, from costa to inner margin, is a series of six interspatial white dots surrounded by dark brown. The hind margin is bordered by a white thread.

The under side of hind wing is of same ground color as fore wing, the band of fore wing being somewhat more prominent. The inner edge of this band is bordered by a dark line running from costa, one-third inch from base, and ending near centre of inner margin. The line bordering outer edge extends from centre of costa to end of discoidal space, turning there toward inner margin, and ending one-third inch above anal angle. The outer portion of the wing duplicates the fore wing except that the spots are only five in number and are much more prominent.

Taken in May, 1899.

### ***Adelpha helepecki* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XIX.*)

Habitat: Bolivia, near Alezuni. Expanse: 1.80 inches.

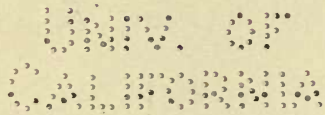
Head, thorax and abdomen, above, rich brown; below, tawny. Palpi, above, rich brown; below, grayish white. Legs, above, tawny; below, grayish white.

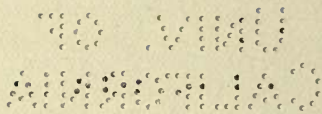
General ground color of upper surface is rich brown. Hind margins are somewhat dentated and touched with a white thread in interspaces.

From the centre of costa on fore wing, perhaps nearer apex, extends a broad tawny band running nearly to inner angle. This band is the prominent mark

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<sup>1</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 354, December, 1901.







of upper surface. The subcostal nervule, as it crosses this band, is distinctly black, the other nervules and nervures scarcely showing. Opposite the interspace, at end of discoidal space, this tawny band juts outward toward hind margin. The apical area is crossed by two lightish bands parallel to hind margin and very indistinct. Inside of the tawny band, the entire basal half of the wing is dark rich brown, excepting four black lines which cross the discoidal space in pairs. The two outer lines are parallel to each other. The inner line of the next pair turns at its centre toward the base.

The upper side of lower wing is of same ground color, marked by four wavy lines or narrow bands of a lighter color which run across the outer half of the wing following the contour of the hind margin. The inner two of these are broader and less distinct than the outer two. The suffusion of these causes the ground color between them to be broken into interspacial semi-circles, in some specimens causing the ground color to become secondary to them. The inner marginal space is lighter than ground color.

On under side of fore wing, the costa is dark tawny half way to apex. The discoidal space has a ground color of dark tawny. At its base, extending upward from the wing joint, is a white dash surrounded by black and divided from the ground color by a semi-circular black line bulging outward with a small white dash within its upper and lower ends. Across the centre of discoidal space, is a prominent silver band edged with black. At the lower outer end of discoidal space, is an irregular silvery spot. The tawny band across the wing is the same as on upper surface, except that the color is a *light* tawny and the nervures and nervules are distinctly of a darker shade. The portion of this band which juts outward toward hind margin is crossed at its centre by a dark tawny band which extends downward, but indistinctly, across the lower portions. The hind margin has a black thread, then a sixteenth-inch border of dark tawny. Within this in apical area are four interspacial dashes of bright tawny suffusing toward the base, and midway between these are three or four silver spots in interspaces downward from costa. The basal side of these is dashed with black. The outer side of the prominent band is touched with dark brown, broad at centre of wing but linear toward lower angle. The basal portion of the wing below the discoidal space and within the band is black crossed by the dark tawny nervules, and just above the submedian nervure is a silver spot touching discoidal space.

The colors of under side of lower wing are the same as upper wing. The ground color is bright tawny. Across the centre of wing, running from near the apex to the anal angle, is a band of blackish brown, broad at the centre and tapering toward anal angle. Within this, is a line of interspacial silver spots. The hind margin with its border of dark tawny is the same as on fore wing.

The basal and inner marginal area within the blackish brown band is bright tawny. In the discoidal space are three prominent silver spots, one at its centre and one at each end. Above these, on costa, are two silver spots of equal prominence. The interspaces at end of discoidal space have dashes of silver. The nervures and nervules are dark tawny.

Described from ten specimens from Alezuni, Bolivia. Absolute identification from representatives of this genus in collections in this country seemed impossible, but it was identified in London as *A. saundersii* Hew., which I have from Colombia and Bolivia. The yellow band of *saundersii*, however, is not so prominent and is encroached upon more by the rich ground color. The under side of *saundersii* is quite different, the bright silver of *helepecki* being replaced by dead white, and the dark band of lower wing with its silver interspacial spots showing in *saundersii* as a narrow dark tawny band. While the location of silver or white spots is practically the same on each, the size of these spots differs totally, and the bright tawny on under side of *helepecki* does not appear on *saundersii*, but is replaced by a dark brownish. There is no variation in the specimens that I have of *helepecki*, nor any sign of intergrading toward my specimens of *saundersii*.

### ***Ceratinia acceptabilis* A. G. Weeks, Jr.<sup>1</sup>**

(Plate XX.)

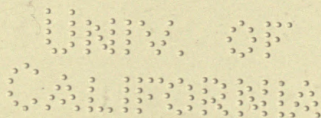
Habitat: Coroico, Bolivia. Expanse: 2.45 inches.

Head black, with a white dot behind each eye. The eyes are encircled by a fine white thread. Antennæ black, with bright yellow club. Thorax, above, black; beneath, black with two transverse yellow lines. Abdomen, above, black; beneath, light yellow. Legs black.

Fore wing, above, nearly all transparent, with a blackish tinge. The transparent portion shows a mother-of-pearl lustre in some lights, as do all species of this genus. The costa and hind margin are bordered with black for one-sixteenth inch, somewhat broader at apex. The inner marginal area, up to lower submedian nervule, is entirely black. The outer portion of discoidal space and the portion of interspaces adjoining it, down to lower submedian nervule, are transparent, but tinged with yellow instead of with black, as the balance of the transparent portion is, giving the appearance of a broad yellow band crossing the wing. This band is scarcely perceptible on direct examination, but by turning the insect at an angle, it shows prominently. The nervures and nervules are black. The black of the nervule crossing the end of discoidal space suffuses slightly at its central portion, causing it to appear as a prominent

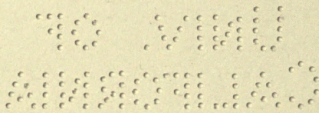
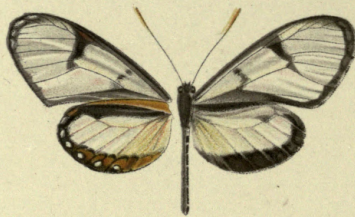
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<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 1, January 17, 1902.





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J. Henry Blake, ad nat.

B. Miesel, lith. Boston.

ITHOMIA SARCINARIUS A.G. Weeks, Jr.

feature of the wing. Along the inner edge of the black hind marginal border, is a series of very prominent interspacial white spots, running from costa, close to apex, down to the lower submedian nervule.

Upper side of hind wing has a broad hind marginal border of black one-quarter inch wide. This extends from upper angle area to the lower submedian nervule, and then dwindles abruptly to a point at anal angle. In its centre, downward from costa, is a series of five interspacial white spots, a continuance of the line of white spots of fore wing. The central portion of the wing is transparent with a yellow tinge, the portion touching hind marginal black area being transparent, with a blackish tinge. The nervures and nervules of this transparent area are bright yellow at its centre, turning to black outward. The anal angle and inner marginal areas are bright tawny up to the lower submedian nervule. This bright tawny area is the prominent feature of the coloring of the upper surface.

The under side of both wings is the same as upper surface, except that there is a dash of yellow on the costa of hind wing, running one-quarter inch upward from the base.

Taken in May, 1899. It resembles closely *C. praxilla* Hew.

***Ithomia sarcinarius* A. G. Weeks, Jr.<sup>1</sup>**

(Plate XXI.)

Habitat: Bogota, Colombia. Expanse: 1.80 inches.

Head black, with a white speck behind each eye and two more between the eyes in front. Thorax, above, black, with a white longitudinal dash down its centre; beneath, black, with a white speck at each shoulder. Abdomen, above, black; beneath, grayish. Antennæ black, with tawny club.

Fore wing, above, transparent, with black markings. The costa is black, the black turning at apex and continuing down hind margin as a narrow border. The inner marginal area, up to lower submedian nervule, is black, excepting a small portion at lower angle. There is a black dash extending downward from the costal black border across end of discoidal space and terminating in a point in interspace below. There is also a black dash crossing the centre of discoidal space. This dash is broken into a succession of three or four spots. In the black border at apical area and along hind margin there is a mere suggestion of interspacial white spots, but so indistinct as to be almost invisible. In some lights the transparent portion of wing just below costa at end of discoidal space has a yellowish dash. The median nervure also appears yellowish in some lights.

<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 9, January 20, 1902.

The upper side of hind wing is transparent, distinctly yellowish in some lights. The costa is black, and the hind margin has a border of black nearly one-quarter inch wide, covering anal angle and extending along inner margin as a line only. The black of costa extends downward somewhat near end of discoidal space. The yellow tinge of transparent portion is more apparent in the basal area.

The under side of fore wing is the same as upper side, except that in the first four interspaces at apex are four well-defined white spots.

The under side of hind wing is the same as upper side, except that the upper half of the black border at costa is tawny. The hind marginal border also becomes tawny as it approaches the anal angle. In the interspaces below upper angle, in the centre of the black hind marginal border, are six white spots.

Taken near Bogota in 1896.

### **Niconiades tihoneta** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXII, Figure 1.)

Habitat: Bolivia, near La Paz. Expanse: 1.75 inches.

*Male*. — Head, palpi, thorax and abdomen, above, black, with brownish hairs; beneath, black, with red-brown hairs. Antennæ, above, black; beneath, lighter, turning to yellowish white at club. The abdomen has a red-brown end.

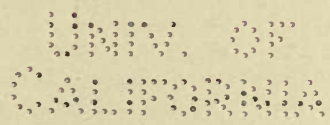
Fore wing, above, blackish brown, with a few lighter hairs in basal area. Near end of discoidal space is a jagged white spot. Midway between this and apex are three subcostal interspatial white dots. On a line drawn from apex down to centre of inner margin is a series of white spots, five in number. The first is scarcely visible, and under it, in next interspace, is a larger spot; below this and nearer the base is another of about the same size; below this and nearer the base is another much larger one; below this and nearer the base, resting on submedian nervure, is another directly under the white discoidal spot. Running from end of discoidal space, starting just inside of the largest white spot, is a distinct white line, ending at submedian nervure and having a background of blackish brown, darker than ground color. The hind margin has a narrow fringe of hairs of ground color, but tawny as it approaches lower angle. The white spots are transparent rather than absolutely white.

Hind wing, above, blackish brown, with tawnyish hairs covering basal area. On a line drawn from upper angle across to the centre of inner margin are four interspatial elongated transparent white spots, the first under the first subcostal

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<sup>1</sup> Canadian Entomologist, Vol. XXXIII, No. 12, p. 323, December, 1901.







nervule, and the rest following in the consecutive interspaces. The fringe of hind margin is tawny, narrow at upper angle, but broadening toward anal angle, and becoming quite prominent.

Under side of fore wing duplicates the white spots of upper surface, the lowest spot showing more whitish. The apical area extending half way toward the base is brown, tending to dark brick red. The interspaces just within hind margin are heavily dusted with grayish scales from apex half way down to lower angle, forming quite a prominent feature. The basal area is blackish. Fringe of hind margin is the same as on upper surface. The white line of upper surface running from end of discoidal space downward does not appear on under side.

The ground color of under side of hind wing is brown, tending to dark brick red. From the centre of costa, extending transversely across to submedian nervure, is a band or area heavily dashed with grayish or whitish scales bending toward base at its central portion. The transparent white spots of upper side are repeated. The two interspaces toward inner margin are dusted with whitish scales, giving an appearance of a continuation of the spots. The hind margin has a fringe of tawny hairs, becoming quite prominent toward anal angle. Within the margin, for upper half of wing, the interspaces are heavily dusted with grayish or whitish scales. The inner margin is reddish brown, the two interspaces above being blackish.

*Female*. — Identical with male, excepting the absence of the white line and its dark ground on fore wings.

Described from specimens taken April 5, 1899. It is very closely allied to *N. macareus* Herr Schaff.

### ***Prenes californica* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XXII, Figure 2.*)

Habitat: Lower California. Expanse: 1.70 inches.

Head, above, dark brown; beneath, nearly white. Eyes brown, surrounded by a fine line of white. Antennæ black. Thorax dark brown, grayish beneath. Abdomen dark brown, nearly white beneath. Legs dark brown.

General ground color of upper surface dark brown.

One-quarter distance from apex to base of fore wing are three minute white spots at right angles to costa. In next lower interspace is a larger white spot nearer to hind margin. In next lower interspace is a still larger white spot, situated not under the other but nearly touching discoidal space. Below this and still nearer base, under the outer end of discoidal space, is another white spot,

<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 11, January 20, 1902.

the largest of all, nearly square, its lower portion extending outward somewhat toward hind margin. In the discoidal space is an oblong longitudinal white mark, its outer point touching the last mentioned white spot. Below these, in centre of lower third of wing, is a similar longitudinal white mark resting on the lower nervule. Hind margin is dark brown, without markings.

Under side of fore wing presents the same white spot, but ground color is a shade darker. The costa is of a lighter shade than ground color. The second-mentioned "white mark" of upper side is replaced by a silvery dash of somewhat larger area. The interspaces at hind margin, excepting the three lower ones, bear a triangular dash of grayish not at all prominent.

Under side of hind wing is somewhat darker than fore wing. The nervures and nervules are grayish. There is a small white spot in subcostal space, one-quarter inch from base, and another of similar size in end of discoidal space. The two upper interspaces have an indistinct dash of gray scales, one-third distance from upper angle to base, which are repeated in lower interspaces, but are placed nearer hind margin. The triangular dashes of gray in the interspaces of fore wing at hind margin are duplicated. The inner margin is lighter brown than ground color.

The specimen which I describe has been submitted to Prof. E. T. Owen, Mr. E. M. Aaron, Dr. Henry Skinner, and Dr. Herman Strecker, and has been compared with the collections of Godman, Druce, Hewitson, the British Museum, etc. It was taken by Mr. M. Abbott Frazar in 1888.

### **Euptychia monahani** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XXIII, Figure 1.*)

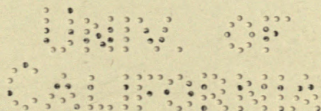
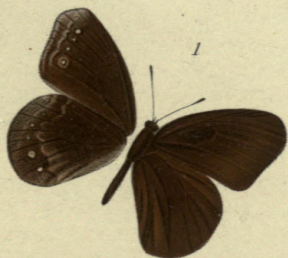
Habitat: Bolivia. Expanse: 1.40 inches.

Head, thorax and abdomen, very dark brown above; beneath, a shade lighter. Antennæ 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

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 103, December 30, 1901.





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* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XXIII, Figure 2.*)

Habitat: Bolivia. Expanse: 1.50 inches.

Head, thorax and abdomen, black. Antennæ 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.

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 104, December 30, 1901.

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.

**Terias floscula** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XXIV, Figure 1.*)

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

Head black, with yellowish gray hairs. Eyes brown. Antennæ 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** A. G. Weeks, Jr.<sup>2</sup>

(*Plate XXIV, Figure 2.*)

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

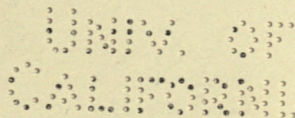
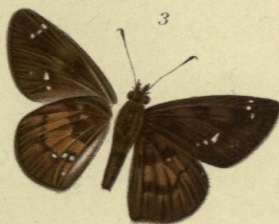
Head, thorax and abdomen, above, blackish brown; beneath, very light tawny. Antennæ black, with slight white annulations at base of each joint. Legs tawny.

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.

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 89, November 22, 1901.

<sup>2</sup> Pr. New England Zool. Club, Vol. II, p. 89, November 22, 1901.





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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.

### **Achlyodes fera** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XXIV, Figure 3.*)

Habitat: Bolivia. Expanse: 1.50 inches.

Head, palpi, thorax, abdomen and legs, reddish brown above; beneath, light grayish brown. Antennæ 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,

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 107, December 30, 1901.

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, beneath, 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.

### **Cosmosatyrus nilesi** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXV, Figures 1 and 2.)

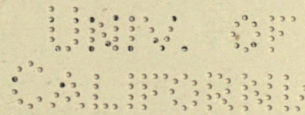
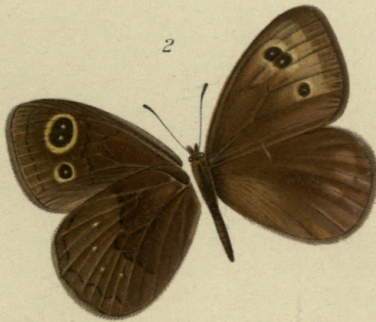
Habitat: Sicasica, Bolivia. Expanse: 1.60 inches.

*Male*.—Head, palpi and thorax dark brown above and below. Antennæ and legs, above, dark brown; below, light brown. Abdomen, above, dark brown; below, very light brown.

The upper surface of both wings is dark brown suffusing to very light brown or bronze in outer half of wings. The entire surface has a golden lustre.

Fringe at hind margin of fore wing is dark brown. Hind margin is edged with a dark thread. The space within the hind margin for a quarter of an inch is somewhat darker than the area next within it, and is bordered on its inner side by a dark jagged line running from the subcostal nervule down to the lower submedian nervule. This line is very indistinct in some specimens, quite imperceptible in others. Within this line is an area of very light brown or bronze covering apical area and extending downward to inner margin; it suffuses into the dark brown of basal area as it reaches discoidal space. In some specimens the basal side of this light area is bordered by a very distinct line of very dark brown, starting near costa

<sup>1</sup> Entomological News, Vol. XIII, No. 4, p. 105, April, 1902.





and running across outer edge of discoidal space, then extending outward toward hind margin and in next lower interspace turning toward the base and then turning abruptly toward lower angle. In such specimens the light area of outer half of wing appears as a broad distinct band with its dark borders on either side. The inner margin is black. In the apical area midway from discoidal space to hind margin are two very prominent ocelli adjoining each other, black with a white dot at centre, one above the other and surrounded by light yellowish. Below these, in interspace above the lower submedian nervule, is another similar ocellus but smaller. In some specimens these ocelli are wanting, there being but one black dot in apical area.

The hind wing is dark brown suffusing to light brown or bronze toward hind margin. The nervures and nervules are soft dark brown as they cross this light area. One-eighth inch within the hind margin is a dark line running from upper angle and disappearing as it reaches the anal angle.

Under side of fore wing dark brown, with a slight golden lustre. Hind marginal fringe dark brown. Hind margin bordered by a dark thread. From the costa, one-quarter distance from the apex to base, is a distinct dark line running to submedian nervure one-eighth inch within hind margin. There is another line crossing centre of wing from lower subcostal nervule to submedian nervure just outside the discoidal space. This line is irregular. The basal area has no markings.

The under side of hind wing resembles, in general appearance, the markings in the genus *Chionobas*. The ground color is dark brown. The nervures and nervules are distinctly white in most specimens. A dark line runs from upper angle to the submedian nervure one-eighth inch within hind margin and following its contour. Across the centre of the wing from costa toward anal angle, is another irregular dark line. These two lines are continuations of those on fore wing. In the area between these lines, is a series of four or five interspatial elongated whitish spots, very prominent in some specimens. The basal area has a mottled appearance, owing to a mass of semi-prominent dark interspatial lines.

*Female*.—General coloring and marking the same as male, except that the ocelli and markings are more pronounced in some specimens.

Described from seventeen specimens taken near Sicasica in October, 1899. There is great variation in the prominence of the ocelli, and two figures, showing the two extremes, are at least instructive. My specimens intergrade nicely from one to the other.

***Pamphila reedi* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XXVI, Figure 1.*)

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.

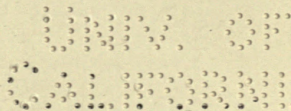
While the markings of upper surface may vary in intensity, even to complete obliteration, the markings of under surface are less variable, and apparently are quite distinctive of this species.

Taken near Coroico in May, 1899.

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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 86, November 22, 1901.





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**Cobalopsis duspecca** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXVI, Figure 2.)

Habitat: Coroico, Bolivia. Expanse: 1.80 inches.

Head, palpi, thorax, abdomen and legs, dark blackish brown above, brownish gray beneath. Antennæ the same, but somewhat yellowish toward club on under side. Wings above darkish brown, darkening somewhat at basal area.

On fore wings, are four dots. Two of these are in interspaces next below costa, one-third distance from apex to base. The other two are below, near central portion of wing, and are white lines rather than spots, the first crossing the interspace below top of discoidal space, the second being more prominent and crossing the next lower interspace, a sixteenth inch nearer base than the first. There is a suggestion of a third subcostal dot under the two above mentioned, and in a long series of specimens this would undoubtedly show itself fairly prominently. Under side of fore wing identical with upper surface, except that the color is deader and shades to brownish gray toward hind and inner margins. Under side of hind wing dark brown down to a line drawn from upper angle to centre of inner margin; outside of this lighter, tending to grayish brown. Just above subcostal nervure, one-quarter inch from base, is a light brownish spot, and outside of it in same interspace, is another smaller one. There are two other similar spots below each of these slightly nearer hind margin. The grayish brown area above noted has an interspatial line of same color as basal area, not running to inner margin, but showing prominently in centre of wing only, being more in the nature of a series of interspatial lines. The anal angle, on close inspection, is crossed by a few lighter colored transverse lines, very indistinct.

This is closely allied to *C. descritus* Mab. Taken in May, 1899.

**Pamphila alleni** A. G. Weeks, Jr.<sup>2</sup>

(Plate XXVII, Figure 1.)

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

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

<sup>1</sup> Entomological News, Vol. XIII, No. 4, p. 105, April, 1902.

<sup>2</sup> Pr. New England Zool. Club, Vol. II, p. 85, November 22, 1901.

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 hurleyi* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XXVII, Figure 2.*)

Habitat: Bolivia. Expanse: 1.15 inches.

Head, thorax, abdomen and legs, above, dark brown; beneath, lighter, tending to grayish. Antennæ 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

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 97, December 23, 1901.



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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.

### **Pamphila leopardus** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XXVIII, Figure 1.*)

Habitat: Bolivia. Expanse: 1.05 inches.

Head, thorax and abdomen, dead dark brown above; beneath, the same, tending to grayish. Antennæ 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

<sup>1</sup> Fr. New England Zool. Club, Vol. II, p. 96, December 23, 1901.

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 taberi* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XXVIII, Figure 2.*)

Habitat: Cochabamba, Bolivia. Expanse: 1.15 inches.

Head, palpi, thorax, abdomen and legs, above, dark bronzy brown; beneath, somewhat lighter. Antennæ 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 nervule, 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.

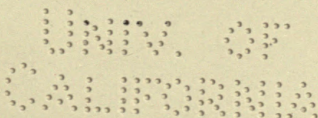
Under side of hind wing very dark blackish brown, darker than fore wing. The nervures and nervules are light bronze. The hind marginal area is light brown, somewhat as a narrow border suffusing into ground color. One-eighth inch within the hind margin, is a series of five interspacial spots, nearly white,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

Taken in September, 1899.

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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 95, December 23, 1901.





J. Henry Blake, ad. nat.

B. Meissel, lith. Boston.

1 PAMPHILA LEOPARDUS A. G. Weeks, Jr. 2 PAMPHILA TABERI A. G. Weeks, Jr.

3 PAMPHILA BARBARA A. G. Weeks, Jr.

1911

**Pamphila barbara** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXVIII, Figure 3.)

Habitat: Bolivia. Expanse: 1.12 inches.

Head, thorax and abdomen, above, dark brown; below, gray. Antennæ dark brown, with white annulations at base of each joint. Club brown, white near base.

General color of upper surface blackish brown. Hind marginal fringe of ground color.

Upper side of fore wing has an indistinct white dot in apical area. Near centre of wing, under the end of discoidal space, are two prominent white dots, the upper being under median, the other being in next lower interspace, larger than the first and somewhat nearer base.

Upper side of hind wing without markings.

The hind marginal fringe of lower side of fore wing tends to grayish with a white thread. The ground color is dead blackish brown. The costal area and apex are gray, somewhat tinged with blue. There are three subcostal white dots. The gray apical area is crossed by a series of dots of the ground color, parallel to hind margin and one-sixteenth inch within it. The inner marginal area tends to grayish. The rest of the wing is of ground color, the two prominent white spots of upper side being repeated.

Under side of hind wing is gray, or, perhaps, dark brown, very heavily dusted with gray scales. Across the centre of the wing, running from centre of costa across to centre of hind margin and following contour of hind margin, is a series of six interspatial bluish marks of considerable prominence and bordered with a dark thread. The one bordering the end of discoidal space has a distinct black border at its basal side, giving the appearance of a black mark in centre of wing. The hind margin has a band of the same blue shade, one-sixteenth inch wide and edged on both sides by a blackish brown thread. Inner marginal area is gray and not encroached upon by dark markings. Hind marginal fringe gray, showing darker at ends of nervures.

Described from one specimen taken five days travel north from Cochabamba, September 12, 1899.

<sup>1</sup> Canadian Entomologist, Vol. XXXIV, No. 6, p. 138, June, 1902.

**Syrichthus nigella** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXIX, Figure 1.)

Habitat: Sicasica, Bolivia. Expanse: .80 inch.

Head, thorax, abdomen and antennæ, above, black; beneath, nearly white. Club, above, black; beneath, reddish brown. Legs white.

Ground color of fore wing nearly black. Basal area and costa near base dusted with whitish scales. In subcostal interspaces near apex, are three white spots. Below these in next two interspaces, are two white spots nearer hind margin. In interspace below these, is one white spot nearer base, and under the first mentioned subcostal spots. In the next three lower interspaces down to submedian nervure, are three larger white spots, a little nearer base. Nearer costa midway between apex and base is a white dash, and under it, at end of discoidal space, a white spot. Below this in next two interspaces are two white spots, the lower resting on submedian nervure and nearer base. The hind marginal fringe is very pronounced, narrower at apex than at lower angle and of pure white. Inner margin edged with white.

Upper side of hind wing of same ground color. Running from centre of costa across centre of wing and ending at submedian nervure, is a broad band of white with irregular edges. At its central portion it broadens or suffuses strongly toward the base through the discoidal space. Outside of this band, the area to hind margin is nearly black, with a line of interspacial white dots. The marginal fringe is very heavy and pure white. Inner margin edged with white.

The spots and white markings of upper surface are very distinctly marked, showing scarcely any suffusion.

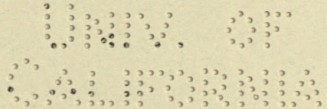
The general color of the under surface is white, with black or dark markings.

On fore wing the white spots of upper surface are repeated. The costa midway to apex is distinctly white. The area near costa between the two rows of white spots is dark brownish, the darkest portion of the wing. The space below lower submedian nervule to inner margin is grayish white. The hind margin is touched slightly with brownish. The fringe is white.

Under side of hind wing white. Across apical area, is a dash of black. There is a prominent dash of black running from median nervure near the hind margin across to submedian nervure. Above this and parallel to it, in centre of the wing, is a short black dash. In subcostal area over the discoidal space are two black spots, and another at the base. Inner marginal area tends to grayish.

Taken in October, 1899.

<sup>1</sup> Entomological News, Vol. XIII, No. 4, p. 107, April, 1902.



1870

**Pamphila warreni** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXIX, Figure 2.)

Habitat: Coroico, Bolivia. Expanse: 1.05 inches.

Head, palpi, thorax, abdomen and legs, above, dark bronzy brown; beneath, grayish. Antennæ 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, interspatial, 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.

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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 93, December 23, 1901.

**Pamphila cuadrada** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXIX, Figure 3.)

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

Head and thorax, above, dark brown; beneath, light brownish gray. Abdomen, above, dark brown; beneath, dark brown tending to dark rust color. Legs the same. Antennæ above, nearly black, with slight white annulations at base of each joint; below, the same, with a dash of whitish at club.

Upper side of fore wing dark bronzy brown, with slight lustre. Costa near base is dusted with light golden brown scales. Above the end of discoidal space are two indistinct tawny dots. Within the discoidal space near its end and resting on median nervure is a tawny spot, and below it in next interspace, is another somewhat larger. In interspace above this, at its junction with discoidal space, is another similar spot adjoining the first mentioned one. The fringe of hind margin is of the ground color.

Upper side of hind wing rich dark brown, darker than fore wing and without lustre. Across the end of discoidal space, is bright tawny dash extending baseward along subcostal and median nervures to centre of discoidal space and then suffusing across the space forming a square. The hind marginal fringe is light brown.

Under side of fore wing is nearly black. The costal space is dark brick red, the red covering also the apical area and extending down hind margin and diminishing to a point at its centre. The two subcostal white dots of upper side are repeated. The three tawny spots of upper side are repeated, but are nearly white and suffuse into one another, the suffusion extending downward into inner marginal area. The marginal fringe is of ground color.

Under side of hind wing is dark brick red, without markings, except indistinct interspatial blotches of a darker shade, giving it a mottled appearance on very close inspection. The inner marginal area tends to blackish. The hind marginal fringe is dark brown.

Described from three specimens taken in the Coroico district in May, 1899.

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<sup>1</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 359, December, 1901.



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J. Henry Blake, del. et. sc.

B. Weisel, lith. Boston.

PAMPHILA IDEE A.G. Weeks, Jr. 2 PAMPHILA ARTIEI A.G. Weeks, Jr.

**Pamphila idee** A. G. Weeks, Jr.<sup>1</sup>*(Plate XXX, Figure 1.)*

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

Head, palpi, thorax, abdomen and legs, dark bronzy brown; somewhat lighter beneath. Antennæ 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, interspatial, 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 artiei** A. G. Weeks, Jr.<sup>2</sup>*(Plate XXX, Figure 2.)*

Habitat: Coroico, Bolivia. Expanse: 1.25 inches.

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

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 86, November 22, 1901.

<sup>2</sup> Pr. New England Zool. Club, Vol. II, p. 91, December 23, 1901.

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 planus** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XXXI, Figure 1.*)

Habitat: Bolivia. Expanse: 1.25 inches.

Head, thorax, abdomen and legs, brownish black above; beneath, somewhat lighter. Antennæ 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.

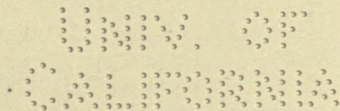
Under side of fore wing the same ground color as upper surface. Inner marginal area light brown, especially at lower angle.

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.

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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 95, December 23, 1901.



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***Pamphila milesi* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XXXI, Figure 2.*)

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.

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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 88, November 22, 1901.

***Pamphila briquenydan*** A. G. Weeks, Jr.<sup>1</sup>

(*Plate XXXII, Figure 1.*)

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. Antennæ 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.

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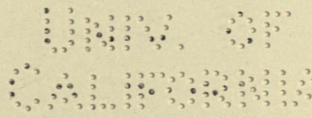
<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 87, November 22, 1901.



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**Pamphila septimanus** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXXII, Figure 2.)

Habitat: Chulumani, Bolivia. Expanse: 1.25 inches.

Head, thorax, abdomen and legs, above, dark brown; beneath, grayish. Antennæ 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 allianca** A. G. Weeks, Jr.<sup>2</sup>

(Plate XXXIII, Figure 1.)

Habitat: Bolivia. Expanse: 1.50 inches.

Head, thorax and legs, nearly black above; beneath, somewhat lighter. Abdomen, above, nearly black; beneath, yellowish white. Antennæ, 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 cen-

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 104, December 30, 1901.

<sup>2</sup> Pr. New England Zool. Club, Vol. II, p. 93, December 23, 1901.

tre 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 coroiconensis* A. G. Weeks, Jr.<sup>1</sup>**

*(Plate XXXIII, Figure 2.)*

Habitat: Coroico, Bolivia. Expanse: 1.60 inches.

Head and thorax dark brown. Abdomen, above, dark brown; below, somewhat lighter. Antennæ 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.

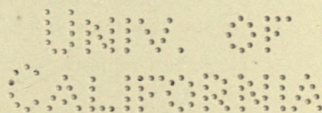
Under side of fore wing dark bronzy brown; the inner marginal area light brown.

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

Taken in May, 1899.

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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 92, December 23, 1901.

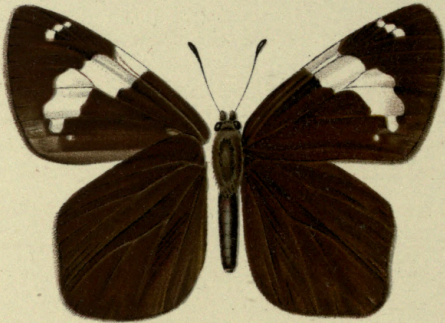


J. Henry Blake, ad nat.

B. Meisel, lith. Boston.

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J. Henry Blake, ad nat.

B. Meisel, lith. Boston.

TELEGONUS TRITONAE A.G. Weeks, Jr.



**Telegonus tritonæ** A. G. Weeks, Jr.<sup>1</sup>*(Plate XXXIV.)*

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

Head, thorax, abdomen and legs, dark brown. Eyes encircled by a white thread. Antennæ 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 downward 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 interspacial 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.

**Dædalma bronza** A. G. Weeks, Jr.<sup>2</sup>*(Plate XXXV.)*

Habitat : Bogotá district, Colombia. Expanse : 2.70 inches.

Head, palpi, eyes and antennæ, dark bronze-brown. Thorax and abdomen dark bronze-brown above, dark grayish brown beneath. Legs dark grayish brown.

Entire upper surface of both wings is dark bronze-brown, with some lustre, without markings. Hind margins dentated, strongly so on lower wings. In interspaces, the edge has a white thread, entirely absent, however, in some specimens.

<sup>1</sup> Pr. New England Zool. Club, Vol. II. p. 105, December 30, 1901.

<sup>2</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 355, December, 1901.

Under side of fore wing grayish bronze. Costa grayish bronze. From point of apex, and extending down to second median nervule, one-eighth inch within the margin, is a jagged line of dark bronze. At the second median nervule it suffuses and broadens out to the margin, extending as a marginal border to lower angle. Within this the area to top of discoidal space is grayish bronze, broadening out below and covering the lower interspaces entirely up to median nervure. The upper portion of this area is slightly dusted with silvery scales. In the interspace below the fifth subcostal nervule is a small circular dark brown spot with a white dot at centre, situated just inside the jagged line above mentioned. In interspace, between the median nervules, there is another, and also in interspace above submedian nervure, similarly situated, is a larger circular spot of dark brown, but without the central white spot. The discoidal space is grayish, but darker than rest of wing, and suffuses into the adjoining interspaces.

The lower side of hind wing has a hind marginal border of dark brown about one-eighth inch wide, following the dentated contour of the margin. Within this, is an area of grayish bronze corresponding in color to the same area in fore wing and covering outer half of wing. In each interspace is a prominent dark brown spot with a white dot at centre, the upper three being on the basal side of this grayish bronze area, while the lower ones are in the centre of it. Within this area, towards base, is a space of silvery white with ill-defined edges, extending from the costa (just within apex) to a point somewhat above anal angle. There is a jagged dark brown line from the end of discoidal space nearly to inner margin. The basal area is dark brown dusted with silvery scales.

Described from nine specimens in my collection. One specimen, the only one found in any American or English collection, is in the Hewitson collection, but without name.

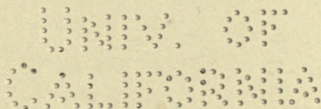
***Lasia kennethi* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XXXVI.*)

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. Antennæ 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

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 71, October 18, 1901.



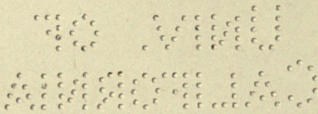
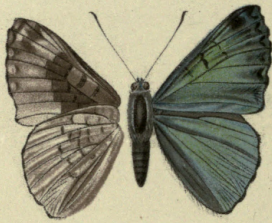
J. Henry Blake, ad nat.

E. Meisel, lith. Boston.

DÆDALMA BRONZA AG Weeks, Jr.

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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 interspatial 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 interspatial 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.

### ***Euptychia luttela* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XXXVII, Figure 1.*)

Habitat: Bolivia, near Alezuni. Expanse: 1.15 inches.

Head and palpi blackish brown. Antennæ blackish brown above, with slight whitish annulations at base of each joint; below, light brown. Club the same, but showing fulvous tip beneath. Thorax and abdomen dark bronze-brown, lighter underneath. Legs the same.

<sup>1</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 356, December, 1901.

Entire upper surface of both wings bronze-brown, with a little lustre and tending to darker at base.

Under side of fore wing dark bronze-brown, lacking lustre. One-sixteenth inch from hind margin is an indistinct line of dark brown, the area outside of this line at apex being dusted with grayish scales. One-quarter inch within this line is another, very indistinct, running from costa down to third median nervule. Inner margin grayish.

Hind margin of hind wing dark brown. One-sixteenth inch inside of margin is a dark brownish line, and the same distance within this another, both following contour of margin. The space between these lines is heavily dusted with somewhat tawny scales suffusing beyond the lines on both sides. Between the first and second submedian nervules is a small tawny spot, with a black speck in its centre touching the inner side of the black marginal line. The inner half and basal area is black bronze-brown.

Taken August 9, 1899. It closely resembles *E. liturata* Butl., but lacks the ocellus at apex of fore wing below.

### **Pedaliodes mariona** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXXVII, Figure 2.)

Habitat: Colombia, Bogotá district. Expanse: 1.60 inches.

Head, palpi, antennæ, thorax, abdomen and legs, brownish black above and below.

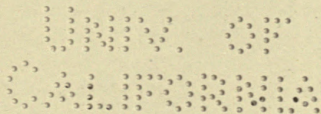
Upper side of fore wing bronzy brown, the basal two-thirds of wing showing darker in certain lights. One-eighth inch within hind margin is a wavy dark line, very indistinct and running from costa parallel to hind margin down to submedian nervure.

Lower wing the same, somewhat dentated at hind margin. A narrow dark thread borders hind margin, and within that appears the continuation of the line mentioned on fore wing. At anal angle these two lines assume a brick color. All are very indistinct. Inner marginal space grayish brown.

Under side of fore wing dead brown. Hind margin edged with a fine dark thread bordered on inside by a thread of brick red. One-eighth inch within this, is a wavy dark line running from costa to submedian nervure. One-quarter inch within this, is another line running from costa to submedian nervure, not touching discoidal space. The space between these last two lines is a

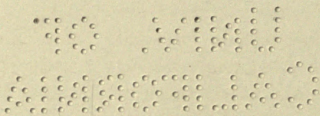
<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 10, January 20, 1902.





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J. Henry Blake, ad nat.

B. Meisel, lith. Boston.

shade lighter than ground color. Midway between the last mentioned line and the base, is another line, starting at costa and running only across discoidal space.

The basal half of under side of hind wing is dead brown, the same as fore wing. The lines of fore wing are repeated, but more prominently, the brick red being tawny and broader. The line one-eighth inch within hind margin is very wavy, the points extending baseward at centre of each interspace. The line one-quarter inch within this is reddish brown and suffuses downward on each nervule in a decided manner. The inner side of this line from a point opposite end of discoidal space down to inner margin, is heavily bordered with yellow which suffuses generously upward as it approaches anal angle, the suffusion being more brownish. The space between these last mentioned lines is a dead silver with prominent ocelli in each interspace. These ocelli have a black centre with a white dot, then a delicate circle of yellowish and, inclosing all, a delicate thread of reddish brown.

The type was taken near Bogota. It closely resembles *P. decorata* Feld., but the suffusion at anal angle area of lower wing underneath is more yellowish. The ocelli of lower wing underneath are bordered by a delicate thread of reddish brown, instead of a generous and suffusing border as in *P. decorata*.

### **Thymele bridgmani** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXXVIII, Figure 1.)

Habitat: Bolivia. Expanse: 1.90 inches.

Head blackish brown, the hairs having a slight greenish tinge. Palpi, above, blackish brown; below, yellowish gray. Antennæ black. Club, above, black; below, yellowish. Thorax and abdomen blackish brown, covered with hairs of a greenish tinge. Legs dark brown, with distinct yellow annulations at base of each joint.

Upper side of fore wing dark brown, the basal area covered with greenish hairs. In subcostal interspaces, midway from base to apex, are two small white marks. Below these and covering outer portion of discoidal space is a large semi-transparent white mark. Below this, in interspace below median nervule, is a still larger similar mark crossing entire interspace, concave on both sides. In the interspace above this, and nearly touching these two large spots is a smaller one, concave on outer edge. There is also another under

<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 6, January 17, 1902.

the lower submedian nervule. The markings are in a line drawn from centre of costa to lower angle, and give the appearance of a band crossing the wing. Midway between this and apex is a series of four small subcostal white spots, running toward upper portion of hind margin. The two interspaces below are crossed by a white line nearly under the spots, but a little nearer the margin and parallel to it. Hind marginal fringe of ground color.

Upper side of hind wing dark brown, somewhat richer than fore wing. Basal area covered with greenish hairs. The hind marginal fringe is pronounced and pure white in color. The anal angle area extends downward, forming a short tail about one-quarter inch long.

Under side of fore wing nearly identical with upper side. The costa near base is slightly dusted with yellow scales. There are very short indistinct greenish hairs in basal area. The inner marginal area, nearly up to lower submedian nervule, is light brown. Under the lower spot of the semi-transparent band and at lower angle is a spot or dash of very light brown. Marginal fringe of ground color.

Under side of hind wing rich dark brown, dusted very slightly with yellow scales. The basal area has hairs of a greenish tinge. One-quarter inch above the anal angle is a line of yellowish white, running from submedian nervule toward apex and ending at lower submedian nervule. It is about one-quarter inch long only, but forms the only feature of hind wing. The hind marginal fringe is prominently white, as on upper side.

Taken five days travel north from Cochabamba in August, 1899. A specimen was found in the Hewitson collection, unnamed.

### **Telegonus finitimus** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXXVIII, Figure 2.)

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. Antennæ black. Club, below, tawny.

Upper side of fore wing dead blackish brown. The basal area below median nervule 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

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 104, December 30, 1901.

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.

### **Adelpha deborah** A. G. Weeks, Jr.<sup>1</sup>

(Plate XXXIX.)

Habitat: Colombia. Expanse: 2.00 inches.

Head, thorax, palpi, abdomen and legs, rich brown above; white beneath. Antennæ black, tipped with brown.

General ground color of upper surface dark brown, as in nearly all species of this group.

The fore wing is crossed by a very prominent band of tawny color running

<sup>1</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 353, December, 1901.

from centre of costa downward, touching end of discoidal space, and striking inner margin one-third distance from lower angle to base. The portion opposite the lower end of discoidal space extends outward toward hind margin. The veins crossing the bands are distinctly marked, being dark brown. One-sixteenth inch within hind margin is an irregular black line following contour of the margin, and within this is a suffused band of a color slightly lighter than ground color, somewhat indistinct. The space between this and the tawny band, including the apical area, is of the ground color. The basal area within the tawny band is of the ground color, crossed by black lines as follows: in discoidal space a line starts from median nervure, very near the base, and runs upward, striking the subcostal nervure, and then turns abruptly downward across centre of discoidal space; below, in next interspace, this line forms two small circles, one above the other. Across outer portion of discoidal space, run two parallel black lines.

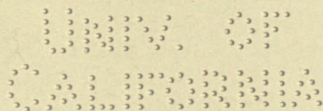
The lower wing is crossed by three parallel bands, somewhat lighter than ground color, starting at costa near apex and joining at anal angle. Within hind margin, midway to the first of these bands, is an indistinct line of the same color following the dentations of the margin. There is a fourth and broader band within the three mentioned, running from centre of costa, terminating also at anal angle, but it is very indistinct. The basal portion of wing is of ground color, excepting a very indistinct band of darkish across the discoidal space. Just above the anal angle, one may say *at* the anal angle, is a tawny spot.

The under surface is generally blackish, marked with white and tawny.

On under side of fore wing, the first half of costa, from base upward, is tawny. From the base, in discoidal space, is a dash of white extending along the subcostal nervure; outside of this the discoidal space is crossed by a white triangle surrounded by a black line; the balance of discoidal space is dark tawny crossed by a very prominent spot or band of silvery white with a black border. There is a very small white dot also at lower outer end of the space, surrounded by black. The tawny band of the upper surface is white, but is encroached upon, and so lessened in extent, by the suffusion of the blackish ground color. Within the hind margin appear the line and band noted on upper surface, but at the apex and lower angle, for the first three interspaces, these are white. The basal area below the discoidal space and within the main band is crossed by two broad white bands.

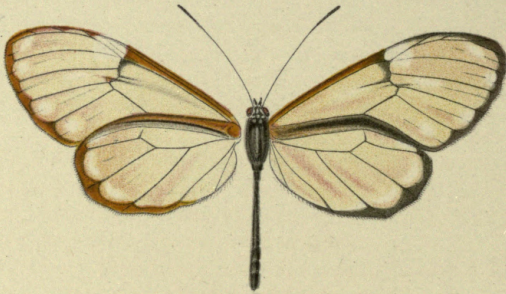
The under side of hind wing is crossed at its centre by a prominent silvery white band running from centre of costa nearly to anal angle, forming an extension of the band on the fore wing. This is the band which appears so indistinctly on upper side within the three first bands there noted. Outside of this band the ground color is blackish, crossed by three bands of white dusted with tawny as they approach anal angle. The outer one of these is broad and distinct, broken by the veins. Just within the margin is a thread of white, interspatial and following the dentations of margin. Within the main silvery band and extending from costa to anal angle, is a broad black band, dashed with











J Henry Blakf. ad rar.

B Meisel lith Boston.

ITHOMIA GARDNERI AGWeeks, Jr.

tawny in its centre at its upper half. Within this is another silvery band with a black border. The very base or shoulder is tawny. The tawny spot at anal angle suffuses in all directions, extending along lower median nervule to the base.

One specimen of this has been found in the British Museum collection without name.

### ***Ithomia gardneri* A. G. Weeks, Jr.<sup>1</sup>**

(Plate XL.)

Habitat: Bolivia. Expanse: 2.30 inches.

Head black, with a white spot at centre and a white spot over each eye. Eyes surrounded by a white ring. Thorax, above, black, with a longitudinal white dash; below, white. Abdomen, above, black; beneath, white. Antennæ, above, black; beneath, white in some lights. Club the same. Legs black above; white beneath.

Upper surface generally transparent, with a yellowish tinge. Veins black.

Costa of fore wing tawny, with a whitish dash on end of discoidal space. Hind margin edged with black, a little more prominent at ends of veins. Inner marginal space black. In some lights there are two dashes of yellowish in interspaces at end of discoidal space, the lower one being nearer hind margin. The interspaces at hind margin also have a dash of the same, and there is another longitudinally across centre of discoidal space. These markings are scarcely visible.

The hind wing has a marginal border of black somewhat broader than on fore wing, and within this, on hind margin, the yellowish dashes are larger.

The under side of both wings is the same as upper side, except that the black is replaced by dark tawny brown.

Described from eight specimens in my collection taken near La Paz, Bolivia, in April, 1899. It is close to *I. esula* Hew. in its general appearance.

<sup>1</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 357, December, 1901.

**Achlyodes guilfordi** A. G. Weeks, Jr.<sup>1</sup>

(Plate XLI, Figure 1.)

Habitat: Coroico, Bolivia. Expanse: 1.40 inches.

Head, thorax, abdomen, legs and antennæ, 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 interspacial 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.

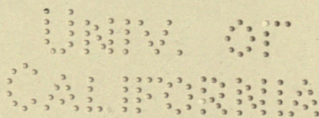
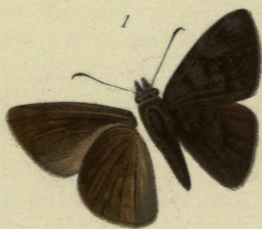
Under side of fore wing dark brown, with a purplish lustre. Inner marginal area very light brown. The two outer bands of upper side may be traced on very close inspection, but are too indistinct to be considered.

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.

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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 106, December 30, 1901.







**Achlyodes seatoni** A. G. Weeks, Jr.<sup>1</sup>*(Plate XLI, Figure 2.)*

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

Head, palpi, antennæ, 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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<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 108, December 30, 1901.

**Phyciodes nortbrundii** A. G. Weeks, Jr.<sup>1</sup>

(Plate XLII, Figure 1.)

Habitat: Bolivia, Cochabamba district. Expanse: 1.45 inches.

Head and palpi black. Collar black, with a dark fulvous spot at each shoulder. Antennæ dark brownish black, with a slightly darker annulation at base of each joint. Thorax black above and below, with a dark fulvous spot at joint of fore wing below. Abdomen, above, black; below, grayish.

Ground color of wings black or dark brownish black, with dark fulvous markings.

Costa of fore wing black, with a dash of dark fulvous extending from joint. One-third distance from apex to base, is a series of dark fulvous interspatial dashes, five in number, extending at right angles to costa down through the next lower interspaces, forming a fulvous band across apical portion of wing. Discoidal space dark fulvous, with a black dash crossing the centre transversely. The dark fulvous extends into the three lower interspaces one-half distance to hind margin. Hind margin black.

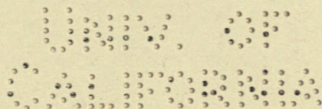
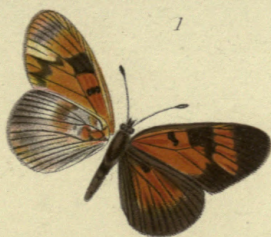
Hind wing black, with dark fulvous centre; the fulvous centre being interspatial, most extensive in discoidal space and encroached upon in each interspace by a black pointed dash extending inward from the black background of outer third of wing.

Under side of fore wing the same as upper side, except that the dark fulvous band across apical area is somewhat broadened and extends down on hind margin to inner margin, and the apical area is fulvous, with a black thread along centre of each interspace. Nervules black.

Under side of hind wing has a border of dark brownish fulvous covering one-third of wing. Within this and shading into it, is a narrow portion of light fulvous. Basal portion dark fulvous, the discoidal space being crossed by a black line. In each interspace, extending from hind margin to centre of wing, is a black line. Nervules and nervures black. Inner margin light fulvous.

Described from four specimens taken north of Cochabamba August 25, 1899.

<sup>1</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 359, December, 1901.



J. Henry Blake, ad nat.

B. Meisel, lith. Boston.



**Cystineura aurantia** A. G. Weeks, Jr.<sup>1</sup>*(Plate XLII, Figure 2.)***Habitat:** Bolivia, near Coroico. **Expanse:** 1.65 inches.

Head nearly black, grayish underneath. Palpi black, grayish underneath. Antennæ black, with white annulations at base of each joint. Club black, with orange tip. Legs gray. Thorax black, with gray hairs. Abdomen black above, gray beneath.

General ground color of upper surface is white, with orange and dark brown markings.

Costa of fore wing dark brown. Hind margin slightly dentated, a slight thread of white at edge, and within this a narrow margin of dark brown dentated on inner side. The entire fore wing may be divided equally among three colors, orange, white, and dark brown. The orange covers the outer third, covering the apical space and narrowing to a point at lower angle. The white area covers the central portion, starting at inner margin, from lower angle to a point one-quarter inch from base and narrowing as a triangle to a point on costa one-third distance from apex to base. The upper portion of this white area is represented by four white interspatial dashes running downward at right angles to costa and then broadening out and occupying nearly all of the lower interspaces. The discoidal space and costal space above, also the adjoining portion of the four lower interspaces, are dark brown, excepting a slight white dash in discoidal space, extending from outer end and running toward base. There is another smaller dash above it, and also a very prominent triangular white mark, one-quarter inch long, with its base at end of discoidal space, extending toward hind margin. The entire brownish area is lightened by a scattering of grayish scales, thickest near base.

Hind margin of hind wing dentated, and edged by a white thread. The border of hind margin is nearly black, and just within the edge is a series of interspatial half moons of blue. The basal area is brown. The rest of the wing is white, excepting a band of brown running transversely across centre of wing.

Under side of fore wing has same markings as upper side, but the brown is replaced by orange. There is also an irregular white line running from base to end of discoidal space.

Under side of hind wing is the same as upper side, except that the brown is replaced by dark orange dusted with blackish scales, and the white portion, while fully as prominent, is more restricted in its area. The half moons at hind margin are white instead of blue.

In some specimens the brown portions are so heavily dusted with white scales that they appear gray, while in others there is almost an entire absence

<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 5, January 17, 1902.

of this dusting. The orange apex of fore wing contains in some specimens one or two white interspacial dashes.

Described from twenty-three specimens taken on the mountains near Coroico in May, 1899.

***Lycæna babhru* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XLIII, Figure 1.*)

Habitat: Sicasica, Bolivia. Expanse: .88 inch.

Head, abdomen and legs, light brown above; whitish beneath. Thorax light brown above; white beneath. Palpi light brown, almost white, tipped with black.

General ground color of upper surface is brown, with considerable lustre. The hairy fringe of hind margin is brown, shading to white at outer edge. There is a black thread along hind margins.

The upper side of fore wing is light brown without markings, the density of the brown being variable in various lights.

The upper side of hind wing is the same, except that there are interspacial lunules of white near hind margin, scarcely perceptible at apex, but growing quite prominent near anal angle. These lunules are nearly circular, the enclosed space being somewhat darker than the ground color, resembling darkish spots.

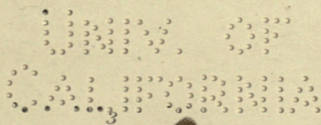
The under side of fore wing is light brown, without lustre. Hind marginal fringe the same. From the subcostal interspace downward is a line of interspacial dark spots surrounded by a whitish thread, seven in number, the upper four near centre of wing and in line with the hind margin, the lower three somewhat nearer base. Inside the upper four spots, nearer base, and in the discoidal area, are two more similar spots less distinct. In interspaces at hind margin, is a series of lightish lunules surrounded by dark brown, all quite indistinct.

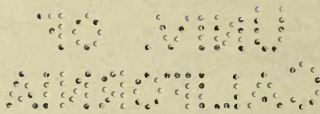
The under side of hind wing is of the same ground color; the marginal fringe also. In subcostal area, midway from apex to base, is a dark spot, with a whitish border resembling the spots on fore wing, and near the base is another. Below the median vein at end of discoidal space is a prominent dash of white extending nearly to hind margin. This forms the prominent mark of under surface. From its basal end, and running to inner margin, is a series of three white lunules. The lunules at hind margin are far less distinct than on upper surface, and are elongated toward the base.

Taken in October, 1899.

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<sup>1</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 357, December, 1901.







***Lycæna ruberrothei* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XLIII, Figure 2.*)

Habitat : Sicasica, Bolivia. Expanse : .75 inch.

Head, above, black, with a gray color ; beneath, white. Thorax, above, black, bordered by gray beneath, nearly white. Abdomen, above, black ; beneath, white tinged with yellow. Legs white. Antennæ, above, black ; beneath, whitish, with annulations at base of each joint. Club light brown beneath. Upper side of fore wing very light blackish brown, without any markings. Basal area black suffusing to ground color at centre of wing. Hind margin has a very fine dark thread. Nervures and nervules dark from base to near margin. Upper side of hind wing same as fore wing in general coloring. Hind margin has a very dark fine thread. In the interspaces at hind margin is a series of lunules, black with a very light brownish border. At the upper angle these are scarcely perceptible, the most prominent one situated above the lower submedian nervule. Under side of fore wing very light brownish, very heavily dusted with white scales in basal half of wing. There is a mere suggestion of lighter lunules in interspaces at hind margin. The nervures and nervules are somewhat blackish. Under side of hind wing the same, except that the dusting of white scales covers the entire wing.

Taken October 1, 1899, in the mountains near Sicasica.

***Thecla francis* A. G. Weeks, Jr.<sup>2</sup>**

(*Plate XLIII, Figure 3.*)

Habitat : Bolivia, near Alezuni. Expanse : .88 inch.

Head, thorax and abdomen, above, black, with grayish hairs ; below, grayish white, with yellowish tinge toward end of abdomen. Antennæ, above, nearly black, with white annulations at base of each joint ; below, lighter, nearly white toward club. Club somewhat tawny. Legs grayish white.

Upper side of fore wing dead grayish brown. The area bordered by a line drawn from base up median nervure, thence to a point midway between end of discoidal space and hind margin on first discoidal nervule, and thence straight down to inner margin, shows a decided purplish lustre, evident in almost all lights. The angle at apex and also at lower angle is quite sharp.

<sup>1</sup> Entomological News, Vol. XIII, No. 4, p. 104, April, 1902.

<sup>2</sup> Canadian Entomologist, Vol. XXXIII, No. 12, p. 322, December, 1901.

Upper side of lower wing the same, except that the lustrous area covers entire wing, barring the costal region and inner marginal edge. The lustrous area is also less purplish than on fore wings, having a more bluish tinge. The hind margin is bordered by a dark thread. At end of submedian nervure there is a short, stumpy tail, not threadlike, but rather a jutting out of the wing area. The nervures and nervules are distinctly darker than ground color.

Under side of fore wing dead grayish brown, of a lighter shade than upper surface. One-third distance from apex to base, there is a very slight suggestion of a line of interspacial whitish lines, extending downward parallel to hind margin. It is scarcely perceptible, however.

Under side of hind wing of the same ground color as fore wing. The whitish line extends downward to anal angle, being no more prominent than on fore wings, scarcely perceptible. Just above the lower submedian nervule, close to the margin, is a semi-circle of light tawny, not at all prominent, but quite perceptible on close inspection. The basal area of the wing is dusted with dark scales.

Taken August 8, 1899.

### **Thecla sadiei** A. G. Weeks, Jr.<sup>1</sup>

(Plate XLIV, Figure 1.)

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. Antennæ 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.

<sup>1</sup> Pr. New England Zool. Club, Vol. II, p. 101, December 30, 1901.



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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.

### **Nisoniades menuda** A. G. Weeks, Jr.<sup>1</sup>

(Plate XLIV, Figure 2.)

Habitat: Bolivia. Expanse: .75 inch.

Head, thorax, abdomen, antennæ and legs, above, very dark brown, nearly black; beneath, the same, except that the antennæ are lighter.

Upper surface in general appearance closely resembles *N. icelus* Scudd., and *N. brizo* Bsd.-Lec.

Upper surface of fore wing dark brown, nearly black. Hind margin has a border of somewhat lighter color tending to grayish, one-eighth inch wide. Running down the central portion of this border is a thread of ground color. Within this, near apex and downward from costa, are three or four subcostal dots of same color. Extending from costa downward across end of discoidal space, is a band of same color, ending at submedian nervure. There is also

<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 4, January 17, 1902.

a band near base, running from median nervure to submedian nervure. These markings are so indistinct that it is hard to locate and describe them.

Upper surface of hind wing is much the same, the marginal border being less prominent. The hind marginal fringe is lighter than ground color.

Under side of fore wing of the same ground color as upper surface, the basal and central portion showing blacker. Inner marginal area light brown.

Under side of hind wing of the same ground color as fore wing. There are no markings. The anal angle area is dusted slightly with light scales extending upward toward base and also along hind margin. Marginal fringe of ground color.

Described from a series of specimens taken five days travel north from Cochabamba about August 25, 1899.

### ***Lycaena maritima* A. G. Weeks, Jr.<sup>1</sup>**

(*Plate XLIV, Figure 3.*)

Habitat: Lower California. Expanse: 1.00 inch.

Head black above, grayish underneath. Palpi grayish, black-tipped. Antennæ black, with white annulations at base of each joint. Club black, with whitish tip. Thorax covered with bluish gray hairs above and beneath. Abdomen black above, gray beneath. Legs gray.

Fore wing and hind wing the same, being entirely deep sky blue, with considerable lustre. Hind and inner margins fringed with bluish hairs. Hind margin has a black thread at border, suffusing in some lights into ground color. The inner margin of hind wing is grayish.

Under side of fore wing brownish gray. Transversely across top of discoidal space is a black line, edged on both sides with whitish. Midway between discoidal space and hind margin is a series of six interspacial black spots, each surrounded by whitish, extending from first subcostal space down to inner margin, following contour of hind margin. The lower spot is double, making seven spots in all. Base of wing darker than the rest, but dusted with gray scales. Hind margin bears a fine dark thread at border.

Under side of hind wing of the same ground color, darkening at base as in fore wing, also bearing the discoidal black line, although less prominently. There are also six interspacial black spots surrounded by white, following contour of hind margin, in much the same relative position as those on fore wing. These spots are smaller and far less prominent than those on fore wing. There is a fine dark thread on hind margin, scarcely perceptible.

Taken by Mr. M. Abbott Frazer in 1888.

<sup>1</sup> Pr. New England Zool. Club, Vol. III, p. 12, January 20, 1902.

**Metacharis indissimilis** A. G. Weeks, Jr.<sup>1</sup>

(Plate XLV, Figure 1.)

Habitat: Colombia, Bogotá district. Expanse: 1.25 inches.

Head, above, black; beneath, light tawny. Antennæ black. Legs light tawny. Thorax and abdomen, above, black; beneath, light tawny.

General ground color of wings dark grayish brown.

Costa of fore wing dark grayish brown. Hind margin has a narrow border of rust color, scarcely perceptible at lower angle, but broadening toward apex. In each interspace, about one-sixteenth inch from margin, is a black dot. At apex, within the rust-colored tip, is a broad band of tawny color running from costa across apical area toward hind margin, a quarter-inch wide. This is the prominent feature of the wing. The rest of the wing to the base is dark grayish brown, marked with irregular transverse black lines. Three of these lines, equidistant, cross the discoidal space extending downward to submedian nervure. Another borders the outer edge of discoidal space. Another starts at subcostal nervure bordering the tawny space, and then extends downward to submedian nervure and at right angles to it. Outside of this, in the two lower interspaces midway to hind margin, are two black dashes.

The hind margin of lower wing is rust-colored, but suffused by ground color, rendering it almost imperceptible. The interspatial black dots are present, each surrounded on basal side by a semi-circle of black. The black lines of fore wing are duplicated, but broken, having more the appearance of a series of spots.

The general coloring of under surface is much brighter, generally tawny.

The hind margin of fore wing is dark tawny or rust-colored. The interspatial black dots are quite prominent. The tawny band of upper side is repeated, but suffuses downward toward inner margin. The discoidal space is rust color, suffusing into adjoining interspaces. The space from lowest median nervule to inner margin is yellowish gray, except for a small portion bordering lower angle. The black lines of upper surface are duplicated but broken into spots.

The hind margin of lower wing has a prominent border of rust color one-eighth inch wide. The interspatial black dots are present, bordered on basal side by a bit of light tawny, the black semi-circles of upper side scarcely showing. Rest of wing is yellowish gray, the black lines or spots appearing as on upper side.

This closely resembles *M. lucius* Fabr., and several examples are in European collections mixed in with it.

<sup>1</sup> Trans. Am. Ent. Soc. Vol. XXVII, p. 358, December, 1901.

**Pythonides hirta** A. G. Weeks, Jr.<sup>1</sup>*(Plate XLV, Figure 2.)*

Habitat: Bogotá district, Colombia. Expanse: 1.50 inches.

Head, palpi, thorax and abdomen, above, dark mouse color; beneath nearly white. Between the eyes are three white dots. Antennæ black. Legs grayish white.

Upper side of fore wing dark mouse color. There is a broad prominent yellowish white band extending from costa down to submedian nervure, its inner edge straight, the outer edge swelling outward somewhat. The interspaces between this distinctive band and the hind margin, also the interspaces upward toward costa, are heavily dusted with light mouse-colored scales. The nervures and nervules are nearly black. The hind margin bears a slight hairy fringe and a very slight darkish thread.

Upper side of lower wing dark mouse color. There is a broad white area covering central half of costa and extending downward to the median nervure, suffusing somewhat toward hind margin. Outside of this area the interspaces show a little lighter shade than the ground color. The nervures and nervules are dark. The hind margin has a slight hairy fringe and a very slight darkish thread.

The yellowish white band of fore wing and the white band or area of lower wings form the prominent marking of upper surface. The rest of the wing is of dark color, with the slight variations above noted.

The under side of fore wing is divided between white and dead mouse color. The basal portion within a line drawn from centre of costa down to lower angle is white. The rest of the wing (the apical area) is dead dark mouse color, the interspaces showing white dashes starting at subcostal interspaces midway between the apex and the edge of the white area. The hind margin has a hairy fringe and a darkish thread.

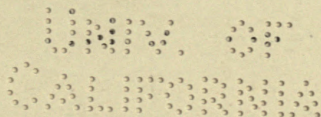
The lower side of hind wing is white, excepting a broad hind marginal border of dark mouse color, which suffuses upward toward base as it reaches the anal angle. At the upper angle there is a suggestion of a white line running through this border just within the margin, but it is very indistinct. The hind margin has a slight hairy fringe of mouse color and a darkish thread. In some lights the basal area of both wings shows a bluish gray tinge. The prominent bands of the upper side also show slightly, owing simply to transparency.

Taken in 1896. A duplicate of this species was found in the Godman collection unnamed, and undoubtedly it has never been described.

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<sup>1</sup> Canadian Entomologist, Vol. XXXIII, No. 12, p. 321, December, 1901.





1900

## ADDITIONS AND CORRECTIONS.

- Page 1. Add to footnote "June, 1891."  
 " 3. " " " " " "  
 " 4. " " " "p. 126, June, 1891."  
 " 17. Read "Euptoieta thekla," not "Argynnis thekla."  
 " 18. " "cypria," not "cyria."  
 " 19. " "Thecla jebus," not "Thecla zebus."  
 " 19. " "Lasaia narses," not "Lasaia marses."  
 " 19. " "Thecla badeta," not "Thecla bardeta."  
 " 19. " "Pereute tagaste," not "Pereute taygaste."  
 " 20. " "Papilio pausanias," not "Papilio pausinas."  
 " 20. " "Leucochitonea," not "Lencochitonea."  
 " 21. " "Pulcherius," not "Pulcherins."  
 " 28. " "Catagramma," not "Catagrama."  
 " 28. " "Pyrrhopyge telassa," not "Pyrrhopyge tellassa."  
 " 29. " "athenion," not "athemon."  
 " 29. " "Thecla jebus," not "Thecla zebus."  
 " 29. " "Anaea philumena," not "Anaea philomene."  
 " 29. " "Thecla dolyas," not "Thecla dorylas."  
 " 30. Omit *Hesperia emma*.  
 " 30. Read "Eudamus virescens," not "Eudamus viresceus."  
 " 31. " "Acraea," not "Acreea."  
 " 33. Add *Thecla francis*.  
 " 34. " *Achlyodes guilfordi*.  
 " 34. " *Pamphila barbara*.  
 " 34. " *Prenes californica*.  
 " 34. Read "Pythonides hirta," not "Pythonides hierta."  
 " 34. Add *Pamphila septimanus*.  
 " 37. Read footnote "Entomological."

The dates of capture noted on lists of species on pages 16, 17, 18, 19, 20, 21, 27, 28, 29, 30 and 31, are generally correct, but should not be accepted as absolutely so.



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