

ON SOME RIO GRANDE LEPIDOPTERA.

BY J. A. LINTNER.

During the spring of 1877 an expedition mainly for the collection and study of birds was made by Mr. George B. Sennett, of Erie, Pa., to the Texas border of the Rio Grande. The successful and valuable results of these studies have been given to the public in a paper by Mr. Sennett, entitled "Notes on the Ornithology of the Lower Rio Grande of Texas, from Observations made during the Season of 1877," and published in the *Bulletin of the U. S. Geological and Geographical Survey for 1878*, vol. iv, pp. 1-66. Mr. F. S. Webster,—then of Troy, N. Y., now of Washington, D. C.,—Taxidermist, was associated with him. In addition to some five hundred birds, collections were also made of mammals, reptiles and insects. The latter, which, with a few exceptions, were LEPIDOPTERA, were placed in my hands by Mr. Webster for study and determination. No notes accompanied them, and the only information received in regard to them (with some trifling exceptions) was that they were collected at two localities, viz.: at Brownsville, Texas, from April 1st to April 10th, and at Hidalgo, from April 17th to May 10th.

In the spring of 1878, a second expedition was made by Mr. Sennett to the same region during which, in addition to the Ornithological material reported upon in a second paper in the *Bulletin of the U. S. Geological and Geographical Survey for 1879-80*, vol. v, pp. 371-440, a number of LEPIDOPTERA were collected by him at Lomita Ranch,* Texas, during a sojourn there from April 14th to May 20th. These also were placed in my hands by Mr. Sennett for study and for report.

The collection, although not a large one, was quite an interesting one, as coming from a locality upon the extreme southern limits of our border. It contained some forms of peculiar interest and a few species which proved to be undescribed. Several of the rarer *Pierinæ* were submitted to Mr. A. G. Butler for comparison with the British Museum collections, and upon his report the identifications were made, and the new species are designated as such.

I greatly regret that my studies of this collection have not, even up to the present, been completed. Several causes have contributed to this delay, chief among which may be mentioned a number of obscure forms of *Noctuidæ* which have not been satisfactorily worked out. I humbly beg the forbearance of the gentlemen who so kindly placed all their material in my hands without urging return.

* Seven miles above Hidalgo and sixty-five from Brownsville.

A request for information upon the species of *Kricogonia* to which MS. names had been given by me, made by the editor of *PAPILIO*, as an aid to determinations in an extensive collection of insects recently made by Mr. S. F. Aaron in southeastern Texas, has led me to offer for publication at the present time that portion of my paper which I had prepared in 1880, containing the *Rhopalocera*, the *Sphingidæ*, *Ægeridæ* and *Bombycidæ* of the Sennett collections.

RHOPALOCERA.

PAPILIONIDÆ.

1. **Papilio Philenor** Linn.

Hab.—Throughout the United States.

Three examples, in the Sennett collection of 1878.

2. **Papilio Asterias** Fabr.

Hab.—Quebec to Gulf of Mexico; Atlantic to Pacific; abundant in Kansas (Snow); rare in New Mexico, Colorado and California in June and July (Mead).

Three examples, Sennett coll. of 1878.

3. **Papilio Cresphontes** Cramer.

Hab.—Ontario to Mexico; Illinois (Worthington); occasional in Wisconsin and Michigan (W. H. Edwards); occasionally common in Kansas (Snow); rare in New York until in 1882 and '83.

Two examples, Sennett and Webster in 1877; five, Sennett coll. in 1878.

4. **Pieris Protodice** Boisd.-Lec.

Hab.—Atlantic to Pacific; Quebec (Barnston); Kansas common (Snow); Colorado common (Scudder); California common (H. Edwards); rare in New York.

Twenty-three examples: eleven in coll. of 1877, ten in coll. of 1878.

5. **Pieris Amaryllis** Fabr. Ent. Syst., III, I, 189, No. 586.

“*P. A. alis rotundatis, integerrimis concoloribus obscure albidis; anticis lunula media nigra.*”

Habitat in India. Mus. Dr. Hunter.

Statura et magnitudo *P. Monuste*. Alæ omnes obscure albæ vel potius cinereæ immaculatæ, lunula sola, nigra, utrinque in medio alæ anticæ.”

A single example (♀) of this species was taken by Mr. Webster in the 1877 coll. The wings are white, faintly tinged with yellow. Primaries broad, costa quite rounded; outer margin almost straight—very slightly drawn in; hinder angle rounded; an oval black spot, a line in length, rests on the discal cross-vein. Secondaries immaculate, rounded at both the costa and inner margin.

Beneath, discal spot as above. Secondaries more tinged with yellow costally. Exp. of wings three inches.

6. **Nathalis Iole** Boisd.

Hab.—Illinois (Worthington); Missouri to California, New Mexico, Arizona (W. H. Edwards); abundant in Kansas (Snow).

The single example of this species, captured in very poor condition, shows such an unusual coloration in its bright red suffusion that it was at first thought to be a distinct species. It may have been changed by remaining long in the cyanide bottle in which it was taken.

7. **Phœbis Agarithe** (Boisd.). Sp. Gen., I, 623. *Phæbis Agarithe*, Butler, Lep. Exot., p. 121, pl. 45.

Hab.—Butler cites this species from Texas, Yucatan, Venezuela, Nicaragua, Panama, Santa Martha, Caraccas, Brazil and Hayti. Mr. Scudder records a pair brought from Key West by Dr. Palmer.

This beautiful species is represented by three male examples, in fair condition, taken by Mr. Sennett. The peculiar borders of its wings, consisting apparently of less closely appressed scales which are unicolorous with those of the rest of the wing, entirely disappear when viewed at a certain angle. The border is well defined on the primaries, of nearly uniform width across the outer margin (with the exception of its inward curving at the nervules) until to cell 7, which it more than half fills: cells 8, 9 and 10 are nearly filled by it. It is continued around the inner margin to nearly its middle. On the secondaries it is narrower, quite uniform in width (very slightly curving in at the nervules), arrested at vein 3, and preceded in cell 3 by a round spot of less diameter than the border lying above the fold.

Two of the examples (the smaller) are marked by a linear spot on the cross-vein of the primaries above and beneath; an obscure band of scattered brown scales crossing in a direct line the nervules of the primaries beneath, and continued irregularly over those of the secondaries; on the discal cross-vein of the latter a small circle of reddish scales resting on the fold of cell 5, and a similar one above it in cell 6. The third example shows none of these discal marks on either surface, but only the obscure band of the primaries beneath.

Butler gives the following characters and comparisons of this species: “♂. Above very similar to *P. Argante*, but paler; the front wings more produced at apex; below differs from *P. Argante* in the oblique band of forewings, which is continuous and not angulated as in *P. Argante*.

“♀. Above generally golden-orange, sometimes pinky-white; forewings with diffused orange patch on end of cell; a brown spot at end of cell.”

8. **Kricogonia Lyside** (Godt.). Encyc. Method., ix, p. 98 (as *Colias L.*)

Hab.—Texas; Costa Rica (Reakirt); South Florida (Strecker's Catalogue); Antilles, Mexico, Guatemala (Boisduval).

Eight examples—one in 1877 coll., seven in 1878 coll.,—all ♀ ♀ but one.

9. **Kricogonia Fantasia** Butler. Trans. Ent. Soc. Lond. for 1871, p. 170, pl. 7, fig. 6.

The following is the description:

♀. Wings above greenish white; front wings with the basal costa dusky sulphur-yellow; a pale brown marginal band beginning broad on costa and tapering to near the anal angle; hind wings tinted with pale sulphur; front wings below with the greater part of the discoidal cell and basal half of the costal area bright sulphur-yellow; apical half of the costal area and apex tapering to near the anal angle tinted with pale sulphur; hind wings as above, but brighter toward the base; body cream-white; anus brownish.

Exp. of wings two inches four lines to one inch four lines.

Hab.—Nicaragua. (coll. Boisd.)

Most nearly allied to *K. Lyside* (*Castalia* Butler, nec. Fabr.), but at once distinguishable by the marginal band and differently colored bases of the wings (Butler).

Four examples, all ♀ ♀; three in 1877 coll.

10. **Kricogonia Terissa** Lucas.

Hab.—Mexico and Guatemala (Boisduval).

Two examples, coll. of 1877 and of 1878, ♂ ♂

Boisduval states of this species: "In our '*Species*' we have described as a variety of *Lyside*, some individuals from Mexico which differ sensibly from the type of the Antilles in that they are smaller, and that the males show upon the costal border of the secondaries a short black band. We believe to-day that this variety figured by Hübner-Geyer, Nos. 843 and 844, under the name of *Lyside*, well deserves to be regarded as a species pertaining to Central America. It is more common in Mexico than in Guatemala ('*Considérations sur des Lépidoptères Envoyés du Guatemala à M. de l'Orza*, p. 10, 1870.')

11. **Kricogonia Lanice** n. sp.

♂. Primaries white; basilar region bright yellow, extending one-third across the wing, or to the first median nervule; costa slightly, and apex more conspicuously shaded with pale yellow; internal margin bordered with black for one-fourth its length from the base. Secondaries slightly tinged with yellow; bright yellow at the base, with a few black scales; outer margin narrowly bordered with pale yellow; no discal spot on either wing.

Beneath, the yellow of the basilar region of the primaries is less bright than above, while that of the costal and apical regions is deeper

and more extended. Secondaries yellow, somewhat deeper basally, with an indistinct band of intranervular dusky spots extending across the outer third of the wing, and a faint discal spot.

♀. Wings yellow; primaries brighter at the base and apex, but less bright basally than in the ♂; inner margin black only at the base; some dusky scales at the base, upon the inner fourth of the costal region, at the apex, and extending two-thirds the extent of the outer margin. Secondaries deeper yellow along the outer and inner margins. Cilia of both wings pale pink.

Beneath, bright yellow only on the base of the primaries, extending over the cell—the remainder of the wing pale. Secondaries quite pale, barely tinged with yellow, with a transverse band and discal spot as in the ♂.

Thorax and abdomen of the examples too much denuded for description.

Exp. of wings 1.6 inch.

Two examples—one ♀ in 1877, one ♂ in 1878.

12. **Colias Cæsonia** (Stoll).

Hab.—Southern and Western States; San Diego, Cal., rare (Behrens); Kansas common (Snow); Texas, Arizona, Colorado, Mexico, Cuba, Jamaica, St. Domingo.

One example in coll. of 1877, and one in 1878.

13. **Colias Eurytheme** (Boisd.).

Hab.—British America (Scudder); Quebec to Mexico; Atl. to Pac. Seven examples in coll. of 1877.

14. **Terias Nicippe** (Cramer).

Hab.—Occasional on Long Island, N. Y. (Tepper); Pennsylvania to Florida; Illinois (Worthington); Kansas common (Snow); Colorado (Nash), California, Arizona, Mexico, Central America, West Indies.

A single example only in coll. of 1878.

15. **Terias Lisa** (Boisd.).

Hab.—This species occurs along the Atlantic coast from New Hampshire to Cuba; it is excessively rare north of Cape Cod, common from New Jersey to Cape Hatteras, and extremely abundant further south (Scudder). In the State of New York it is frequent on Long Island, and is not rare at Yonkers, in Westchester County. It has not been seen in the vicinity of Albany. An interesting account of its appearance in large numbers in the Bermudas in October, 1874, and on an earlier occasion (in 1847) is given in *Psyche*, vol. i, p. 121. It occurs also in the Western States, Illinois, Kansas, etc., and in Mexico.

Four examples in coll. of 1877; two in coll. of 1878.

NYMPHALIDÆ.

HELICONINÆ.

16. **Heliconia Charitonia** (Linn.).

Hab.—South Carolina, Georgia, Florida, West Indies. Very common in all Central America and in the Antilles (Boisduval).

One example in coll. of 1878.

17. **Dircenna Klugii** (Hübner.).

Hab.—Common in Mexico and Honduras.

A single example of this species, new, we believe, to the United States fauna, occurred in the coll. of 1877.

DANAINÆ.

18. **Danais Archippus** (Fabr.).

Hab.—Southern parts of British America (Scudder); Patagonia (Berg.); Nova Scotia, United States, Atlantic to Pacific, Mexico, Central America, West Indies, Bermudas, Sandwich Islands, Australia.

A single example only, in 1877.

19. **Danais Berenice** (Cramer).

Hab.—Southern United States to New Mexico (Scudder); Utah, Colorado, Arizona, Mexico, West Indies.

Four examples in coll. of 1878.

NYMPHALINÆ.

20. **Agraulis Vanillæ** (Linn.).

Hab.—Southern third of U. S. east of Rocky Mountains (Scudder); Illinois (Worthington); from Virginia southward, and from the Atlantic to the Pacific, Antilles, Mexico, Central America, New Grenada, Venezuela, Guinea, Brazil, Bolivia (Strecker's Cat.).

Ten examples in coll. of 1878.

21. **Euptoieta Claudia** (Cramer).

Hab.—Ontario; Massachusetts, rare (Scudder); New York to the Gulf of Mexico, Mississippi Valley, Colorado, Arizona, California (Edwards' Cat.); Arizona and Colorado in May (Mead); Kansas, common (Snow); New Mexico, southward to Honduras and Guatemala?, Cuba (Scudder).

Two examples in coll. of 1877, and five in 1878. One of the former is much the smallest that has ever come under my observation, its expanse being but 1.80 inch, while others in my collection measure 2.50 inches, and, according to Boisduval, it expands to 3 inches.

22. **Phyciodes Phaon**, Edwards.
 Hab.—Gulf States (Edwards); Kansas, rare (Snow).
 Seventeen examples in 1877, eight in 1878.
23. **Eresia Texana**, Edwards. Proc. Ent. Soc. Phil., ii, 1863, p. 81.
 Hab.—Texas and Florida (Edwards).
 One example in 1877.
24. **Synchloe Adjutrix** (Scudder). Bull. Buff. Soc. Nat. Sci. ii, 1875, p. 269.
 Hab.—Texas.
 Thirteen examples in 1877, twelve in 1878.
25. **Pyrameis Atalanta** (Drury).
 Hab.—Newfoundland; Nova Scotia; Southern Canada; and Southward over the United States from Atlantic to Pacific; Cuba, Mexico, Europe and Mediterranean district (Scudder); British America and Anticosti (Edwards).
 Thirteen examples in 1877, four in 1878.
26. **Pyrameis Huntera** (Drury).
 Hab.—Nova Scotia, Southern Canada, and United States south of British possessions, from Atlantic to Pacific, Cuba, Mexico, Guatemala (Scudder); South Labrador (Edwards); Patagonia (Berg.).
 One example in 1877.
27. **Junonia Lavinia** (Cramer).
 Hab.—Ontario, New York and Massachusetts, occasional; Middle and Southern States, Kansas, common; Colorado, Iowa, California, Bermudas and Cuba (Scudder); Northern Illinois (Worthington).
 Two examples in 1878.
28. **Apatura Celtis**, Boisduval.
 Hab.—Virginia to Gulf of Mexico, Mississippi Valley, Kansas, Texas (Edwards); Iowa (Scudder).
 One ♀ example in 1877.
29. **Apatura Antonia**, Edwards. Field and Forest, iii, 1878, p. 103.
 Hab.—Arizona and Texas.
 Six ♂'s and twelve ♀'s in coll. of 1877.
30. **Apatura Cocles**, n. sp.
 ♀. Approaches *A. Celtis* in ornamentation, form and size. Primaries quite pointed, more than in any other known species of the genus; outer margin quite excavated; inner margin short as compared with costal margin. Secondaries with the outer margin less curved than in

the other species, having the anal angle quite prolonged; in the angulations of the wings it approaches *A. Celtis* ♂. Of the two black spots between the submedian nervules (in cells 3 and 4) the lower (in cell 3) is slightly the larger; the upper bears a few bluish scales. In cell 6, a black spot bearing centrally a few bluish scales; in *A. Celtis* the corresponding spot is white, and in *A. Antonia* black with a white centre. Discoidal cell double barred, the bars black-bordered and ochraceous within; *A. Celtis*, *A. Alicia* and *A. Antonia*, have a single bar outwardly, and toward the base two separate spots—more contiguous in the latter species.

Secondaries: spots larger than in *A. Celtis* and *A. Alicia*; band outside of the row of spots, more dentate than in *A. Antonia*, and less than in *A. Celtis*; marginal band slightly curving in the interspaces cellular spots obsolete.

Below: primaries with the veins and lower half of wing reddish. The three spots in cells 3, 4, 6, black, dotted with blue scales, and bordered broadly with yellow. Secondaries: spots large, oval, bearing their interior blue scales toward their outer portion; marginal band narrow, very slightly curving in the interspaces.

Hab.—Texas.

Two examples in 1877.

It is worthy of note that while so many *Apaturas* were taken in the first expedition, of 1877, not a single example occurred the following year, although made during the months of April and May, and in a locality but seven miles distant from the first collecting field.

SATYRINÆ.

31. *Neonympha Sosybius* (Fabr.).

Hab.—Middle and Southern States and Mississippi Valley (Edwards).

Ten examples in 1877.

32. *Neonympha Areolatus* (Sm.-Abb.).

Hab.—Gulf States; New Jersey, occasionally.

One example in 1877.

33. *Neonympha Gemma*, Hübner.

Hab.—West Virginia to Gulf States.

Two examples in 1877; one example in 1878.

LIBYTHEINÆ.

34. *Libythea Carinenta* (Cramer).

Hab.—New Mexico, Arizona; Texas, south to Brazil (Mead).

ERYCINIDÆ.

35. **Charis Cænius** (Linn.).
 Hab.—Southern States.
 One example in 1878.

LYCÆNIDÆ.

THECLINÆ.

36. **Thecla Humuli**, Harris.
 Hab.—Middle and Southern States and Mississippi Valley (Edwards).
 One example in 1878.
37. **Thecla Poeas**, Hübner.
 Hab.—West Virginia, Kentucky, Southern States (Edwards); Illinois (Worthington).
 Five examples in 1877; three in 1878.

LYCÆNINÆ.

38. **Lycæna Alce**, Edwards. Trans. Amer. Ent. Soc. iii, 1871, p. 272.
 Hab.—Kansas, Colorado, Arizona, Texas (Edwards).
 One example in 1878.
39. **Lycæna Gyas**, Edwards. Trans. Amer. Ent. Soc. iii, 1871, p. 210.
 Hab.—Arizona, Texas.
 One example each in 1877 and in 1878.
40. **Lycæna Exilis**, Boisduval. Ann. Soc. Ent. France, ii, 10, p. 294.
 Hab.—Utah, California, Arizona, Texas.
 One example in 1878.

HESPERIDÆ.

41. **Copæodes Procris** var. **Waco**, Edwards. Trans. Amer. Ent. Soc. ii, 1868, p. 122.
 Hab.—Texas.
 One example in 1877.
42. **Pamphila Huron**, Edwards. Proc. Ent. Soc. Phil. ii, 1863, p. 16, pl. 1, figs. 1, 2.
 Hab.—New York to Texas; Illinois (Worthington); Kansas, abundant (Snow); Arizona, California.
 One ♀ example in 1877.

43. **Pamphila Phylæus** (Drury).
 Hab.—New York; Middle and Gulf States (Edwards); Kansas rare (Snow); Illinois (Worthington).
 Two examples in 1878.
44. **Pamphila Brettus**, Boisd.-Lec.
 Hab.—West Virginia and Gulf States (Edwards); Southern New England, rare (Scudder).
 Four ♂ examples in 1877.
45. **Pamphila Otho** (Sm.-Abb.).
 Hab.—(var. *Egeremet*) Canada, New York, Atlantic States; rare in New England (Scudder); (*Otho* form) Florida, Mississippi Valley (Edwards); Texas.
 One ♀ example in 1877.
46. **Amblyscirtes Eos**, Edwards. Trans. Amer. Ent. Soc. iii, 1871, p. 276.
 Hab.—Georgia, Texas.
 One example in 1877.
47. **Pyrgus Tessellata** (Scudder).
 Hab.—Pennsylvania to Gulf of Mexico, Atlantic to Pacific, Arizona, Texas (Edwards); common in Kansas (Snow).
 Eleven examples in 1877; five in 1878.
48. **Nisoniades Funeralis**, Scudd.-Burg.
 Hab.—This is believed to be the species of which the genitalia are described and figured by Messrs. Scudder and Burgess (*Proc. Bost. Soc. Nat. Hist.* xiii, 1870, p. 293) and credited to Texas. A number of fine examples of it have been received from Mr. Heiligbrodt, of Bastrop, Texas, from a pair of which the description of the butterfly given in my Entomological Contributions No. iv, p. 61, was drawn. I have also seen examples in the collection of Mr. W. H. Edwards, collected in San Diego, Cal. It should be found in New Mexico and Arizona.
 One example each in 1877 and in 1878.
49. **Systasea Zampa** (Edwards).
Hesperia Zampa, Edw., Trans. Amer. Ent. Soc. v, 1876, p. 207.
Lintneria Zampa, Edw., Catalog. Lepidop. Amer. 1877, p. 57.
Systasea Zampa, Butler, Canad. Entomol. ix, 1877, p. 120.
 Hab.—Described by Mr. W. H. Edwards from a single specimen taken at South Apache, Arizona, in 1874. It is a very rare species in our collections, it being but the second one that I have seen. It is a tropical form, rarely extending into the United States, its present congeners of six species (formerly grouped with *Thanaos*) occurring, according to Butler, in Natal, India, Ceylon, Angola, Abyssinia and St. Domingo.
 One example in coll. of 1878.

50. **Pholisora Hayhurstii** (Edwards).

Hab.—West Virginia to Kansas, Texas, New Mexico (Edwards).
Two examples in coll. of 1878.

51. **Pholisora Catullus** (Cramer).

Hab.—Atlantic, Southern and Western States, into Kansas, Utah, Colorado, New Mexico and Texas. It has, within a few years, appeared in the vicinity of Albany, N. Y.
One example in 1877.

52. **Achlyodes Thraso**, Hübner.

Hab.—Texas.
One example in 1877; two in 1878.

HETEROCERA.

SPHINGIDÆ.

1. **Deilephila Lineata** (Fabr.).

Hab.—Atlantic, Western, Central and Tropical Insular Districts (Gr.-Rob.).
Two examples in 1877.

2. **Philampelus Linnei**, Grote and Robinson. Proc. Ent. Soc. Phil. v, 1865, pp. 157, 179, 182, pl. 3, fig. 3.

Hab.—Atlantic and Tropical Insular Districts (Gr.-Rob.).
One example, attracted to light, May 12, 1878, in Mr. Bourbois' house.

This species had long been confounded with *Sphinx vitis*, Linn., by many authors, previous to its separation therefrom by Messrs. Grote and Robinson, as above cited.

3. **Sphinx Quinquemaculata**, Haworth.

Hab.—Throughout the United States.
One example in coll. of 1878.

4. **Sphinx Insolita**, n. sp.

Head, prothorax, thorax and tegulæ gray, as in *Sphinx Plebeia*; prothorax crossed by two black lines, nearly continued on the black bordering of the tegulæ, which also bear an indistinct black median streak.

Abdomen dark gray above, with a narrow black dorsal line which is not so broad as in *S. Eremitus*; beneath paler, with a black mark mesially on each segment, broader on the anterior portion, forming an elongated triangular spot acute posteriorly; laterally, a broad black band bearing five transversely elongated patches (bands) of clear white scales extending over nearly half of each of the segments on its anterior half.

Primaries narrow, acute, slightly rounded costo-apically; hind margin nearly straight; inner margin but slightly excavated. General color near to *S. Cinerea*; crossed by three brown bands, of which the inner one arises at or near (not fully defined in the specimen) some interbasilar lines and black basilar patch, and runs obliquely toward the cell, in which it is apparently sharply deflected toward the centre; the following two bands run from the internal margin at its middle; the median one runs with an inward curve to opposite the cell, whence it is directed toward the costa at its outer third at nearly a right angle to the costa; the outer and narrower band is angulated on the submedian fold, and thence approaching the outer margin to opposite the cell (its course beyond not traceable in the specimen); following the band is a narrow black line parallel to it, which is outwardly bordered with a whitish shade; cilia white, marked with black opposite the nervules.

The veins and the submedian fold have apparently been clothed with black scales; cells 3-8 bear distinct black streaks, the last two of which form a nearly direct line, disconnected only by vein 7. There is an indication of a small white discal spot.

Secondaries narrow, acute, with a broad black border widening toward the costa; a nearly straight central black band, separated from the preceding by a narrower gray band, and by a still narrower one from the black basilar space; cilia absent. Beneath, a median band, which is the continuation of a similar one on the primaries.

Expanse of wings 2.6 inches, or about that of *S. Hylæus*; length of abdomen 1.2 inches.

One ♂ example in coll. of 1878.

ÆGERIDÆ.

5. **Ctenucha Venosa** (Walker).

Hab.—Texas, Mexico, Honduras.

Two examples in coll. of 1877.

6. **Alypia Octomaculata** (Fabr.).

Hab.—Maine, rare (Mrs. Fernald); Northern States, California.

One example in coll. of 1878.

BOMBYCIDÆ.

7. **Ameria Unicolor**, Robinson.

Hab.—Texas.

One example in coll. of 1877.

8. **Apatalodes Angelica** (Grote). Proc. Ent. Soc. Phil. iii, 1864, p. 322, pl. 4, fig. 1.

Hab.—Massachusetts (Packard), Middle States (Grote).

One ♀ example in coll. of 1878.

9. **Ecpantheria Sennettii**, n. sp.

Female: wings white with brown markings, of which four suboval ones rest on the costa—the first three being white interiorly; four oval yellow-brown rings behind the internal vein; two double rows of four each in the median interspace, preceded by a large basilar spot; three in the following space—cell 3, and two each in cells 4 to 7; hind wings with a few dusky spots upon their outer margin.

Head: lower portion of front white, with two confluent brown spots above it below the antennal bases; collar with two broadly oval rings in yellow-brown; thorax white, superiorly with two markings in somewhat of an hour-glass form, not four as usually in *Scribonia*; posteriorly with two round rings; shoulder-covers each with a marking like the sole of a shoe—all of these in a yellow-brown.

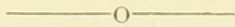
Abdomen orange above, brown beneath, with a black lateral band, two subdorsal rows of subtriangular white spots anteriorly bordered with black, resting on the posterior margin of the segment and nearly reaching to the anterior; segments fringed with white scales behind these spots and intermediate to them. The long hairs at the basal segment are white laterally and pale brown centrally. Legs white; anterior pair with femora brown on their anterior lower half, tibiæ lined with brown interiorly, with a purplish reflection, broadly widening toward the tarsi (broken from the specimen); middle pair with a brown triangular spot on the lower part of the tibia, tarsi brown; hind pair with the upper part of each tarsus above marked with brown.

Expanse of wings 2.20 inches.

One example in coll. of 1878.

Named in recognition of the scientific labors of Mr. Geo. B. Sennett.

Although with but a single specimen, and that in poor condition, I do not hesitate to separate it from any species known to me, in consideration of the yellow-brown markings of the wings and thorax, and the yellow abdomen without the dorsal blue-black spots so conspicuous in *Scribonia*.



THE CATALOGUE OF DIURNAL LEPIDOPTERA by Wm. H. Edwards, of Coalburgh, W. Va., is now ready for distribution. It is in many ways a superior work to the same author's Catalogue of 1877. Those wishing to procure the work (no Lepidopterist can afford to do without it) will do well to send their orders *at once* to Mr. E. T. Cresson, Box 1577, Philadelphia, Pa. Comparatively few separates have been printed; when they are sold the Catalogue can only be obtained by purchasing the entire volume of the Transactions.

PREPARATORY STAGES OF DRASTERIA ERICHTEA, Cramer.

BY G. H. FRENCH, Carbondale, Ill.

EGG.—Diameter .035 inch; globular, only slightly flattened on the base; longitudinally striated, the ridges shallow, some long and some short, about 15 reaching the apex; the apex rather coarsely but shallowly punctured; color green. Deposited singly and in clusters on the stem and leaves of clover. Duration of this period five days.

YOUNG LARVA.—Length .15 inch, very slender, head about one-fourth larger than body, legs twelve, looping like a *Catocala* larva when walking. Color of head and first and last joints of the body pale reddish, the rest of body green with brown piliferous spots. Duration of this period three days.

After first Moulting: length .30 inch; color green with three reddish brown stripes on each side, the centre of the back clear green. Head, and joints 2 and 13 nankeen color, the red stripes extending over all but the head. Piliferous spots inconspicuous, the hairs gray. Duration of this period three days.

After second Moulting: length .40 inch; color an alternate arrangement of pale green or yellowish green stripes and single or double reddish brown stripes. Dorsal, sub-dorsal, and sub-stigmatal yellowish green, the first and last a little the widest; the stripe in the dorsal space or outside the dorsal line, and the stigmatal double, or with a more or less continuous central field of the green a little brown tinted; below the sub-stigmatal there are five reddish brown lines, the first and second on each side more or less double; the upper stripes are continued on to the head, jaws brown, thoracic feet brownish, the abdominal striped parallel to the body. Duration of this period three days.

After third Moulting: length .65 inch; colors as before; a series of stripes. Dorsal stripe composed of a central brownish gray line bordered each side by a pale yellow one; next to this a stripe with the same centre but a brownish purple line each side; outside this the sub-dorsal pale yellowish line; below this a stripe like the dorsal, then a pale yellow line below which is a stripe composed of a brownish gray centre with a brownish purple line each side; below this a broader yellow sub-stigmatal line, darker yellow than the sub-dorsal; below the sub-stigmatal are nine brownish purple lines alternating with yellow ones, the central line the broadest. Duration of this period six days.

After fourth Moulting: length .95 inch; striped as before in regard to position and number but differing a little in color. Dorsal carneous with a gray centre with yellow border; outside this a purplish brown



Lintner, J. A. (Joseph Albert). 1884. "On some Rio Grande Lepidoptera." *Papilio* 4(7-8), 135–148.

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