ELATERIDÆ AND THROSCIDÆ OF THE STANFORD UNIVERSITY EXPEDITION OF 1911 TO BRAZIL.

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Through the kindness of Dr. W. M. Mann, of the Bussey Institution, Harvard University, I have been accorded the great pleasure of examining the *Elateridæ* and the single *Throscid* collected on the Stanford expedition of 1911 to Brazil.

The collection is small and, contrary to most tropical collections, contains excellent series of several species. It contains three new species, two in the genus *Monocrepidius* and one which I tentatively place in the genus *Drasterius*. The types of these species have been deposited in the Museum of Comparative Zoölogy at Harvard University. The Madeira River collections are remarkably interesting as the fauna of this region is bound to throw light on the relationship between the Andean and Amazonian basin faunæ, and thus to the relationship between the South and Central American faunas. Following is a list of the specimens collected. The *Elateridæ* were all collected by W. M. Mann, Fred Baker and Harold Heath.

THROSCIDÆ.

Drapetes plagiatus (Boh.) Gerst.

Abuná, Rio Madeira, Brazil. (Mann & Baker).....1 specimen

Previously recorded from several parts of Central and South America, and Boheman has recorded the species from San Francisco, Cal.

ELATERIDÆ.

Chaleolepidius candezei Dohrn.

forma typica

Abuná, Rio Madeira, Brazil (Mann & Baker).....2 ♀ specimens

Madeira-Mamoré R. R. Co. Camp 39.....2 ♀ specimens

var. a. elytra as in *forma typica*, vestiture of pronotum and ventron green.

Porto Velho, Rio Madeira, Brazil (Mann & Baker).....1 ♀ specimen

var. b. vestiture of elytral striæ ferruginous yellow, pronotum and ventral vestiture green.

Madeira-Mamoré R. R. Co. Camp 39, Rio Madeira, Brazil (Mann & Baker)

7 ♀ specimens

- Madeira-Mamoré R. R. Co. Camp 35, Rio Madeira, Brazil (Mann & Baker)
1 ♀ specimen
- Madeira-Mamoré R. R. Co. Camp 41, Rio Madeira, Brazil (Mann & Baker)
2 ♀ specimens
- Madeira-Mamoré R. R. Co. Camp 43, Rio Madeira, Brazil (Mann & Baker)
1 ♀ specimen
- Chalcolepidius limbatus* Esch.
Maranguape Mountains, Ceará, Brazil (W. M. Mann) . . . 1 ♂, 1 ♀ specimen
Independência, Parahyba, Brazil (Mann & Heath) 1 ♀ specimen
- Semiotus furcatus* (F.) Lap. var.
Abuná, Rio Madeira, Brazil (Mann & Baker) 1 specimen
- Semiotus ligneus* (Linn.) Westwood.
Madeira-Mamoré R. R. Co. Camp 39, Rio Madeira, Brazil (Mann & Baker)
1 specimen
- Semiotus suturalis* (F.) Lap.
Rio Madeira, Brazil (Mann & Baker) 1 specimen
- Ischiodontus nigrita* Cand.
Pará, Brazil (W. M. Mann) 1 specimen
- Ischiodontus ichthydius* Cand.
Manaos, Brazil (Mann & Baker) 1 specimen
Previously only recorded from Central America and Mexico.
- Ischiodontus subsericeus* Cand.
Pará, Brazil (W. M. Mann) 1 specimen
- Pyrophorus noctilucus* (Linn.) Esch.
Madeira-Mamoré R. R. Co. Camp 39, Rio Madeira, Brazil (Mann & Baker)
1 ♂, 1 ♀ specimen
- Common in all parts of intertropical America.
- Pyrophorus amplicollis* Cand.
Madeira-Mamoré R. R. Co. Camp 39, Rio Madeira, Brazil (Mann & Baker)
1 ♀ specimen
- Cardiorhinus bilineatus* (Fab.) Germ.
Pará, Brazil (W. M. Mann) 1 specimen
- Cardiorhinus cuneatus* Cand.
Manaos, Brazil (Mann & Baker) 1 specimen
- Cardiorhinus castanipennis* Germ.
Manaos, Brazil (Mann & Baker) 1 specimen
- Trichophorus crassus* (Cand.) Schw.
Abuná, Rio Madeira, Brazil (Mann & Baker) 1 specimen
- Horistonotus elegans* (Sol.) Cand.
Natal Brazil (W. M. Mann) 2 specimen
- Monocrepidius brunnipennis* Cand.
Independência, Parahyba, Brazil (Mann & Baker) 1 specimen
- Monocrepidius stigmoseus* Germ.
Independência, Parahyba, Brazil (Mann & Heath) 1 specimen
- Monocrepidius madierensis* sp. nov.
Rio Madeira, Brazil (Mann & Baker) 1 specimen

Monocrepidius bakeri sp. n.

Rio Madeira, Brazil (Mann & Baker) 1 specimen

Aeolus testudineus Champ.

Itacoatiara, Amazonas, Brazil (Mann & Baker) 1 specimen

The only other locality known is that of the two cotypes;

Paso Antonio, Guatemala, (Champ.).

Aeolus biplagiatus Cand.

Independência, Parahyba, Brazil (Mann & Heath) 8 specimens

Ceará-mirim, Rio Grande do Norte, Brazil (W. M. Mann) 1 specimen

Heteroderes laurentii (Guer.) Cand.

Porto Velho, Rio Madeira, Brazil (Mann & Baker) 52 specimens

Rio Madeira, Brazil (Mann & Baker) 3 specimens

Itacoatiara, Amazonas, Brazil (Mann & Baker) 1 specimen

Pará, Brazil (W. M. Mann) 1 specimen

Drasterius manni sp. n.

Independência, Parahyba, Brazil (Mann & Heath) 4 specimens

The single specimen of *Semiotus furcatus* (Fab.) Lap. (Fig. 1, b) is a remarkable variety, as it is undoubtedly the intermediate between typical *furcatus* (Fig. 1, a) which inhabits eastern Amazonas, Venezuela, Guiana, etc., and *S. bilineatus* Cand. (Fig. 1, c) which is indigenous to Colombia. *S. fulvicollis* Blanch. (Fig. 1, d) is but a variety of *furcatus*, separated on the furcation of the marginal black vitta being carried to the tip of the elytron, thereby making a submarginal vitta. In typical *furcatus* the marginal vitta is furcate to beyond the middle and the thoracic vitta is narrowly fusiform. In *S. bilineatus* the vitta is completely fused and the thoracic vitta is oval, and covers more than one third of the notum. The specimen in this collection and another similar specimen in my collection, taken at Pebas, Peru, the lateral marginal vittæ are similar to those of *furcatus* but the dorsal vittæ are similar to *S. bilineatus*.

The series of specimens of *Chalcolepidius candezei* Dohrn. include two very distinct varieties and one intermediate. The typical form collected at Abuná and Camp 39 has the striaal vittæ thickly beset with whitish colored scales, and the prothorax and ventral surfaces with bronze purple scales.

Var. b. collected at R. R. Camps 35, 39, 41, and 43 has the elytral interstriaal spaces clothed with metallic green scales and striae beset with deep ferruginous scales, the thorax and ventron clothed with metallic green scales. Var. a. collected at Porto Velho is

intermediate between the other two. It has elytra like the *forma typica* and the rest of the vestiture similar to var. b.

Ischiodontus ichthydius Cand. is quite common in Mexico and Central America, but this is the first record I have seen of the collection of the species in continental South America. The collecting of *Aeolus testudineus* Champ. from Amazonas is remarkably interesting, inasmuch as this species is unknown in literature, except for the two cotypes mentioned by Champion¹ from Guatemala.

Fig. 1. Species of *Semiotus*; a. *S. furcatus*; b. *S. furcatus*, var.; c. *S. bilineatus*; d, *S. fulvicollis*.

Horistonotus elegans (Sol.) Cand. is recorded only from Chilki by Candèze.

Drasterius manni sp. nov. (Pl. V, Fig. 1a).

Piceous black, moderately densely greyish pilose, pile long. Anterior part of front, anterior angles of the prothorax, anterior angles and tip of elytra, obscurely reddish brown, under parts castaneous, legs dusky yellow, antennæ yellowish ferruginous. Front strongly umbilicate punctate, pronotum densely on sides and sparsely on disc umbilicate punctate (Pl. V, Fig. 1b). Posterior angles very short and almost rectangular, not carinate. Deep incision on posterior margin of pronotum near posterior angles. Propluræ moderately densely umbilicate-punctate, punctures elongate near the sutures (Pl. V, Fig. 1d) becoming round as they approach the side margins. Prosternum with but few scattered simple punctures almost without punctuation. Scutellum pentagonal. Posterior coxal plates (Pl. V, Fig. 1c) very abruptly widened near middle but without median tooth, outwardly incomplete. Elytra punctate striate, striae punctures elongate and about as dis-

¹ Biol. Centr. America, Vol. III, Coleop., p. 362, 1895.

tantly placed as the interstitial spaces. Interstices almost flat, not punctate, feebly rugose. Joints of tarsi (Pl. V, Fig. 1e) gradually decreasing in length from first to fourth. Ungues with basal angles strongly produced (Pl. V, Fig. 1f) Antennal joints two and three sub-equal, cylindrical, three almost as long as four. Joints four to ten elongate triangular, joint eleven suboval not strongly constricted.

Length, 3 to 4 mm.

Type locality: Independência, Parahyba, Brazil.

Type: No. 9048 deposited in Mus. Comp. Zööl., Harvard University.

Paratypes: Three specimens from type locality.

Type and paratypes collected by Messrs. W. W. Mann and Harold Heath.

This species, which is named in honor of Dr. W. M. Mann, will fall near *Drasterius pullatus* Cand. in Candèze's Monograph.

***Monocrepidius madeirensis* sp. nov. (Pl. V, Fig. 2a).**

Moderately elongate, depressed, length four and two-third times width, moderately dense and finely yellow pubescent. General color reddish yellow or amber. Head concolorous with body, marked by two parenthesis-shaped infusate vittæ on vertex, eyes dark brown; pronotum with a pair of parenthesis-shaped dark brown vitta which attain the anterior margin. Elytra slightly darker than the prothorax with two brown transverse bands, one before the middle and the other halfway between this band and the apex, and a median longitudinal vitta which extends from the scutellum to the anterior transverse band. Scutellum and humeral angles yellow. Ventron brownish yellow. Legs and antennæ yellow. Front slightly convex, finely punctate, anterior margin feebly rounded, terminal joint of maxillary palpi securiform. Antennal joints two and three small, together not quite equal to four, joint three longer than two (Pl. V, Fig. 2b). Prothorax longer than broad, sides feebly rounded, convergent anteriorly from middle, quite depressed, pronotum with slightly unequal punctuation; posterior angles very slightly divergent, unicarinate, carina almost fused with lateral margin to base of posterior angles where they diverge, carina not much longer than angles. Elytra two and one-fourth times length of prothorax, almost as wide as latter, punctate striate, interstices slightly convex, not spinose at tips. Fourth tarsal joint (Pl. V, Fig. 2c) bearing a large broad lobe easily seen from above.

Length, 7 mm.

Type locality: Rio Madeira, Brazil.

Type: No. 9047 Mus. Comp. Zööl. Harvard University.

Type collected by W. M. Mann and F. Baker.

This species is named from the type locality and is near *depressipennis* Cand.

***Monocrepidius bakeri* sp. nov. (Pl. V, 3a).**

Elongate, slender, three and one-half times as long as broad, moderately convex, vestiture yellow, dense and very fine. General color infusate amber; head black, labrum black, antennæ amber, under parts of head and palpi yellow; pronotum

amber with four black fascia on disc and another pair near middle of sides almost attaining the lateral margins, the anterior discal fascia do not attain the anterior margin and are bluntly oval, the posterior pair are convergent posteriorly and are produced to attain the posterior margin. Elytra amber colored with black areas disposed as follows: humeral angles and scutellum and its cavity forming an irregular transverse band across the base; elongate area on each side margin near middle with a sinuate band connecting them with the median vitta which extends backward from the scutellum; posterior third except for two lateral rounded spots. Prosternum and flanks amber, prosternal sutures black, remainder of ventron dark brown, legs except coxæ yellow. Front convex, anterior margin broadly rounded, moderately punctate. Antennæ with joints two and three subequal, together equal to four. Pronotum not tuberculate at base, moderately evenly sparsely punctate; posterior angles unicarinate, carina distinct to apex of posterior angles where it joins the lateral margin. Elytra not spinose at tip. Prosternum finely punctate, flanks coarsely punctate. Last abdominal segment similar in punctuation to preceding segments. Tarsal joint four (Pl. V, Fig. 3b) with a moderately long slender lobe, not visible from above.

Length, 5 mm.

Type locality: Rio Madeira, Brazil.

Type: No. 9046 Mus. Comp. Zool. Harvard University.

Type collected by W. M. Mann and F. Baker.

This species which I have named in honor of Dr. Baker is near *Monocrepidius pictus* Cand. but is easily distinguished from this species by the absence of the basal pronotal tubercle.

EXPLANATION OF PLATE V.

Fig. 1. *Drasterius manni*; a. dorsum of adult; b. pronotal sculpturing; c. posterior coxal plate; d. propleural sculpturing; e. tarsus; f. tarsal claws.

Fig. 2. *Monocrepidius madeirensis*; a. dorsum of adult; b. second, third, and fourth antennal joints; c. third, fourth, and fifth tarsal joints.

Fig. 3. *Monocrepidius bakerei*; a. dorsum of adult; b. tarsus.

A PSYLLID GALL ON JUNCUS (*LIVIA MACULIPENNIS* FITCH).¹

BY EDITH M. PATCH.

Since 1857 when Fitch described this beautiful little insect, nothing more definite in regard to its habits has been recorded than that it is found in swampy places. Thomas in 1879 said that it was "found on the sweet-flag," but there is nothing in his account which would indicate that it fed upon that plant.

¹ Papers from the Maine Agricultural Experiment Station: Entomology, No. 82.

HYSLOP—New species of *Elateridae*.