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A CONTRIBUTION TO THE KNOWLEDGE OF THE
ORTHOPTERA OF MEXICO AND CENTRAL AMERICA.

BY JAMES A. G. REHN.

This paper contains the results of a study of 464 specimens, principally from the collection of the author (now presented to the Academy of Natural Sciences of Philadelphia), beside a small quantity of material in the collection of the Academy, and an interesting series of 118 specimens belonging to the United States National Museum, loaned through the kindness of Mr. W. H. Ashmead of that institution. The specimens from the United States National Museum are designated by the initials of that institution, while those from the author's collection are unmarked.

The original intention of the author was to make this paper a faunistic study, but many new species and records forced themselves into view, and the conclusion was reached that the present time is too premature for such studies in the region under consideration.

Family FORFICULIDÆ.

Psalis americana (Palisot de Beauvois).

1817, *Forficula americana* Palisot de Beauvois, Ins. Rec. en Afr. et en Ameriq., p. 165, Orth. tab. 14, fig. 1.

One ♂; Patuca, Honduras (U. S. N. M.)

Ancistrogaster spinax Dohrn.

1862, *Ancistrogaster spinax* Dohrn, Stettin Ent. Zeit., xxiii, p. 229, taf. 1, fig. 1.

Six specimens; four males, two females; Teocelo, Vera Cruz, Mexico. Collected by Otis W. Barrett (4). Jalapa, Vera Cruz, Mexico. Collected by Otis W. Barrett (2).

Ancistrogaster sp.

One immature ♀; Jalapa, Vera Cruz, Mexico. Collected by J. T. Mason (U. S. N. M.).

Neolobophora ruficeps (Burmeister).

1838, *F[orficula] ruficeps* Burmeister, Handb. der Ent., ii, p. 755.

Two males; Jalapa, Vera Cruz, Mexico. Collected by J. T. Mason (U. S. N. M.).

These specimens are quite uniformly colored, the only apparent contrast being the reddish head. In one specimen the forceps are much shorter (7.75 mm.) than in the other (12.5 mm.).

Apterygida linearis (Eschscholtz).

1822, *Forficula linearis* Eschscholtz, Entomographien, i, p. 81.

— *Forficula tæniata* Dohrn, Stettin Ent. Zeit., xxiii, p. 230.

Sixteen specimens; Jalapa, Vera Cruz, Mexico. August and September. Collected by Otis W. Barrett. (Eight; three males, five females.) Same locality. Collected by J. T. Mason. (Two; ♂ and ♀.) (U. S. N. M.) Texolo, Vera Cruz, Mexico. 1899. Collected by S. N. Rhoads (1 ♂). Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett (5 males).

Bormans and Krauss* have rather vaguely noticed that the name *linearis* of Eschscholtz was based on the same insect as Dohrn's *tæniata*, a fact which cannot be questioned when the original description of *linearis* is examined. All the characters assigned are perfectly recognizable, the size alone being somewhat unusual, though the writer has examined specimens but little larger.

Apterygida californica (Dohrn).

1865, *F[orficula] Californica* Dohrn, Stettin Ent. Zeit., xxvi, p. 85.

Two specimens, ♂ and ♀; Gualan, Guatemala. Collected by Mrs. S. P. McElroy (U. S. N. M.).

These specimens extend the range of the species south of the former southern limit—Teapa, Tabasco, Mexico.

Family BLATTIDÆ.

Pseudomops oblongatus (Linnæus).

1758, [*Blatta*] *oblongata* Linnæus, Syst. Nat., x ed., p. 425.

Four specimens; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.) (2). Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett (2).

* Das Tierreich, ii, Forficulidæ und Hemimeridæ, p. 110.

The specimens from Cuernavaca belong to the form which Saussure calls variety C (Miss. Scient. Mex., Orth., p. 50).*

Nyetibora noctivaga n. sp.

Type, ♂; Machuca, San Juan River, Nicaragua. Collected by Dr. J. F. Bransford (Acad. Nat. Sciences, Phila.) Allied to *N. mexicana* and *azteca*, but much larger than either. From *mexicana* it is distinguished by possessing an interspace between the eyes, and by having the pronotum somewhat produced anteriorly. From *azteca* it is distinguished principally by the very much greater size.

Size large. Head small, posteriorly produced; eyes almost contiguous; antennæ as long as the body, filiform, hirsute. Pronotum broad; anterior border somewhat produced, posterior border subtruncate; entire surface velvety. Tegmina extending much beyond the apex of the abdomen, apically rotundate, costal margin broadly rounded, surface velvety; marginal and discoidal fields longitudinally veined; anal sulcus arcuate, deeply indicated; anal field semi-ovate, subglabrous. Wings large, venation prominent. Limbs heavy; femora with the spines on the posterior margins much longer than those on the anterior margins; anterior femora bearing thirteen small spines on the anterior margin, basal section unarmed; tibiæ bearing prominent spines on all four margins. Abdomen heavy, the lateral margins of the four apical segments posteriorly produced. Supranal plate triangularly produced, apically emarginate, centrally ridged; subgenital plate large, apex subtruncate;† cerci heavy, acuminate, about twice as long as the supranal plate.

General color brownish black, shading on the more translucent portions of the tegmina to vinaceous, the "bloom" being a pale golden tint. Wings with the discoidal and anterior fields vinaceous; the intercalate, intermediate and posterior fields transparent, the veins pale brownish. Abdomen with ferrugineous patches on the lateral portions of the segments. Supranal and subgenital plates brownish black, which general tint also colors the face, limbs and antennæ.

MEASUREMENTS:

Length of body	35 mm.
Length of pronotum	10 mm.
Greatest width of pronotum	14 mm.
Length of tegmina	38 mm.

Epilampra azteca Saussure.

1868, *Epilampra azteca* Saussure, Revue et Magas. de Zool. (2e ser.), xx, p. 356.

One female; Motzorongo, Vera Cruz, Mexico. February, 1892. Collected by H. Osborn. (U. S. N. M.)

Epilampra maya n. sp.

Type, ♂; Machuca, San Juan River, Nicaragua. Collected by Dr. J. F. Bransford (Acad. Nat. Sciences, Philadelphia).

* Characterized as follows: "Pronotum antice inter marginem anticum et fasciam mediam rufo, pone fasciam fusco; ano et coxis apice rufis."

† This plate is distorted at the apex and the true form is rather hard to ascertain.

This species is closely related to both *E. conspersa* and *azteca*, but is separated from each by very appreciable characters. The size is less than *E. conspersa*, the apex of the anal field is acute instead of obtuse as in that species, and the supranal and subgenital plates are both more acuminate. From *E. azteca* it is separated by the form of the supranal plate, which is produced and acuminate instead of rotundate or subtruncate.

Size rather small. Head distinctly visible in front of the pronotum when dorsally viewed, anterior outline well rounded; eyes large, considerably separated; antennæ filiform, sparsely pilose, over twice as long as the pronotum. Pronotum large, produced anteriorly, posterior margin triangularly produced, deflected lobes with the margins broadly rounded. Tegmina exceeding the apex of the abdomen, rather narrow, apex rounded, costal margin gently arcuate; anal sulci extended posteriorly, giving the anal field a semi-hastate form. Wings ample, extending to the tip of the tegmina when in repose. Femora sparsely spined; anterior pair bearing four spines on the central portion of the lower margin, three moderately large spines on the upper margin; median pair bear three centrally grouped spines on the lower margin, four on the upper; posterior pair with three spines on each margin, those on the lower margin centrally grouped, the last spine on the upper margin separated from the other two by a considerable interspace. Tibiæ heavily spined; basal tarsal joint set with fine spines, the general appearance being that of pectination. Supranal plate triangularly produced, margins somewhat reflexed, apex triangularly emarginate. Subgenital plate triangularly produced, scoop-like. Cerci slightly exceeding the supranal plate in length.

General color above tawny-olive.* Pronotum raw umber, very closely and minutely punctate with brownish black, the punctations being largest on the periphery. Tegmina regularly punctate with vandyke brown, the punctations largest in the anal field and in the distal half of the tegmina, which latter region contains several larger blotches of the same tint. Wings pellucid, the costal region slightly suffused with brownish and punctate with pale brownish. Both aspects of the abdomen blackish brown finely stippled on a brown-gray ground, the body tint being most noticeable below. Limbs horn, speckled with blackish brown; the overlying tint being strongest and more suffusing on the distal portions of the tibiæ.

MEASUREMENTS:

Length of body	21. mm.
Length of pronotum	5.5 mm.
Greatest width of pronotum	7.5 mm.
Length of tegmina	20. mm.

Periplaneta australasiæ (Fabricius).

1793, [*Blatta*] *australasiæ* Fabricius, Ent. Syst., ii, p. 7.

Two males; Minatitlan, Vera Cruz, Mexico. February 1, 1892.

* Ridgway's Nomenclature of Colors, pl. iii.

Collected by H. Osborn (U. S. N. M.). Teocelo, Vera Cruz, Mexico.
Collected by Otis W. Barrett.

Periplaneta americana colorata Rehn.

1901, *Periplaneta americana colorata* Rehn, Trans. Amer. Ent. Soc., xxvii, p. 220.

Four specimens; Motzorongo, Vera Cruz, Mexico. February 13, 1892. Collected by H. Osborn (U. S. N. M.). Minatitlan, Vera Cruz, Mexico. February 1, 1892. Collected by H. Osborn (U. S. N. M.). Honduras (U. S. N. M.). Yucatan. Collected by Schott (Acad. Nat. Sciences, Philadelphia).

Pycnoscelus surinamensis (Linnæus).

1758, [*Blatta*] *surinamensis* Linnæus, Syst. Nat., x ed., p. 424.

Two specimens; Motzorongo, Vera Cruz, Mexico. February 13, 1892. Collected by H. Osborn (U. S. N. M.). Yucatan. Collected by Schott (Acad. Nat. Sciences, Philadelphia).

Panchlora sp.

One specimen; Escondido River, fifty miles from Bluefields, Nicaragua. Collected by C. W. Richmond (U. S. N. M.).

This specimen has lost all the original color and, as is the case in this very difficult genus, cannot therefore be identified with certainty.

Zetobora maximiliani Saussure?

1868, *Zetobora maximiliani* Saussure, Revue et Magas. de Zool., 2e ser., xx, p. 457.

One immature specimen; Motzorongo, Vera Cruz, Mexico. February 13, 1892. Collected by H. Osborn (U. S. N. M.).

Homœogamia mexicana Burmeister.

1838, *Homœogamia mexicana* Burmeister, Handb. der Entom., ii, p. 490.

Three males and one female; Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (3). Uruapan, Michoacan, Mexico. 1899. Collected by S. N. Rhoads (♀).

Latindia mexicana Saussure.

1868, *Latindia mexicana* Saussure, Revue et Magas. de Zool., 2e ser., xx, p. 100.

One male; Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

Latindia sp.

Two males; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

These damaged specimens will hardly agree with any of the described species, though possibly they are *L. tolteca* Saussure and Zehntner (Biol. Cent.-Amer., Orth., i, p. 113).

Blaberus* trapezoideus Burmeister.

1838, *Blabera trapezoidea* Burmeister, Handb. d. Ent., ii, p. 516.

Three specimens; Honduras and Central America (U. S. N. M.). Tekanto, Yucatan (Acad. Nat. Sciences, Philadelphia).

These specimens are somewhat doubtfully referred to this very variable species. One possesses no spines on the lower margin of the femora, which fact would place it in another section of the genus, but Saussure and Zehntner inform us that these are obsolete in some individuals. The maculation of the pronotum is very variable in form and intensity; in two specimens it is rounded posteriorly, entirely free from the posterior margin of the pronotum, and with the antero-lateral angles much produced, the third specimen has the posterior margin of the pronotum forming the posterior boundary of the maculation.

Family MANTIDÆ.

Chœradodis rhombicollis (Latreille).

1833, *Mantis rhombicollis* Latreille, in Humboldt and Bonpland's Observat. de Zoolog., ii, p. 103; pl. xxxix, fig. 2 and 3.

One immature female; Machuca, Nicaragua. Collected by Dr. J. F. Bransford (Acad. Nat. Sciences, Philadelphia).

Stagmomantis tolteca (Saussure).

1861, *Mantis tolteca* Saussure, Revue et Magas. de Zool., 2e ser., xiii, p. 127.

One female; Machuca, Nicaragua. Collected by Dr. J. F. Bransford (Acad. Nat. Sciences, Philadelphia).

Stagmomantis limbata (Hahn).

"1836, *Mantis limbata* Hahn, Icones Orthopterorum, pl. A, gen. mantis, fig. 2."

One male; Yucatan. Collected by Schott (Acad. Nat. Sciences, Philadelphia).

Liturgousa cayennensis maya Saussure.

1894, *Liturgousa cayennensis* var. *maya* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 160.

One immature female; Uruapan, Michoacan, Mexico. April 11, 1899. Collected by S. N. and M. C. Rhoads.

* The original spelling is *Blaberus* Serville, Ann. Sci. Nat., xxii, p. 37.

Vates annectens Rehn.

1900, *Vates annectens* Rehn, Trans. Amer. Ent. Soc., xxvii, p. 85.

Four males; Tacubaya, D. F., Mexico. October. Collected by Otis W. Barrett.

Family PHASMIDÆ.

Sermyle guatemalæ n. sp.

Type, ♀; Gualan, Guatemala. Mrs. S. P. McElroy (U. S. N. M.).

Apparently closest allied to *S. mexicana** Saussure, but differing in the spiniform interocular processes, and in the absence of any dorsal foliaceous lobe on the fifth abdomen segment. With the other species of the genus—*saussurii*, *azteca* and *strigata*—no comparison is necessary, the general characters of the head being shared by *mexicana* alone.

General build moderately robust, the entire body tuberculate, the tubercles most numerous anteriorly. Head with six longitudinal rows of tubercles, the median pair strongest developed, the second tubercle in each row being spiniform, several spines forming an additional group between the median rows; antennæ about half as long as the body, the basal joint considerably flattened. Prothorax about as long as broad, the collar slightly constricted; mesothorax elongate, over four times as long as the prothorax; metathorax considerably shorter than the mesothorax, heavy, showing traces of a median carination which also extends over the median segment and on the abdomen; median segment very short, over twice as broad as long. Abdomen moderately elongate, the tubercles arranged in four longitudinal rows on the dorsal surface, the lateral aspect with two longitudinal roughened carinæ; fifth segment somewhat inflated, no foliaceous lobe developed from the medio-dorsal portion of the segment, the lateral angles being posteriorly produced into rounded posteriorly projecting lobes. Femora and tibiæ multicarinate; anterior and posterior tibiæ slightly exceeding the femora in length.

General color vandyke brown, becoming walnut brown on the abdomen; limbs and antennæ raw umber.

MEASUREMENTS:

Length of body		80. mm.
Length of prothorax		4. mm.
Length of mesothorax		18. mm.
Length of metathorax		11.5 mm.
Length of abdomen†		43. mm.
Length of anterior femora		17. mm.
Length of median femora		11. mm.
Length of posterior femora		17.5 mm.

Libethra tridens (Burmeister).

1838, *B[acteria] tridens* Burmeister, Handb. d. Ent., ii, p. 567.

Three specimens; one male, two females; Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett.

* Revue et Magasin de Zoologie, 2e ser., xi, p. 62.

† Including the median segment.

Libethra sp.

One male (?). Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

As this specimen has lost all of the abdomen except the four basal segments it cannot be identified with any certainty.

Bacunculus striatus (Burmeister).

1838, *B[acteria] striata* Burmeister, Handb. d. Ent., ii, p. 567.

One male; Jalapa, Vera Cruz, Mexico. August. Collected by Otis W. Barrett.

Aplopus sp.

One male; Panama (U. S. N. M.).

This specimen was at one time in a liquid preservative, and in consequence the coloration is gone and the specimen mummified in general.

Family ACRIDIDÆ.

Paratettix schochii Bolivar.

1887, *Paratettix schochii* Bolivar, Ann. Soc. Ent. Belg., xxxi, p. 274.

One male; Cuernavaca, Morelos, Mexico. June. Collected by Otis W. Barrett.

Paratettix toltecus (Saussure).

1861, *Tettix toltecus* Saussure, Revue et Magasin de Zoologie, 2e ser., xiii, p. 401.

Nine specimens; six males, three females; Motzorongo, Vera Cruz, Mexico. February 13, 1892. Collected by H. Osborn (U. S. N. M.) (4). Minatitlan, Vera Cruz, Mexico. February 1, 1892. Collected by H. Osborn (U. S. N. M.) (1). Vera Cruz (city?), Mexico. January 26, 1892. Collected by H. Osborn (U. S. N. M.) (2). Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (1). Cuernavaca, Morelos, Mexico. June. Collected by Otis W. Barrett (1).

Paratettix sinuatus Morse.

1900, *Paratettix sinuatus* Morse, Biol. Cent.-Amer., Orth., ii, p. 13.

One female; Uruapan, Michoacan, Mexico. March 12, 1899. Collected by S. N. and M. C. Rhoads.

Telmatettix aztecus (Saussure).

1861, *Tettix aztecus* Saussure, Revue et Magasin de Zoologie, 2e ser., xiii, p. 400.

Five specimens; three males, two females; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.) (3). Teocelo, Vera Cruz, Mexico. September. Collected by

Otis W. Barrett (1). Cuernavaca, Morelos, Mexico. November. Collected by Otis W. Barrett (1).

Truxalis brevicornis (Johannson).

1763, *Gryllus brevicornis* Johannson, Amœn. Acad., vi, p. 398.

One female; Escondido River, fifty miles from Bluefields, Nicaragua. September 21, 1892. Collected by C. W. Richmond (U. S. N. M.).

Syrbula eslavæ Rehn.

1900, *Syrbula eslavæ* Rehn, Trans. Amer. Ent. Soc., xxvii, p. 91.

Two males; Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett.

Machærocera mexicana Saussure.

1859, *Machærocera mexicana* Saussure, Revue et Magasin de Zoologie, 2e ser., xi, p. 391.

— *Machærocera sumichrasti* Thomas, Bull. U. S. Geogr. Surv. Terr., 1st series, No. 2, p. 70, 1874.

Twenty-two specimens; thirteen males, five females, four immature specimens; Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett (4). Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (1). Jalapa, Vera Cruz, Mexico. September 3–22, 1899. Collected by S. N. and M. C. Rhoads (1). Orizaba, Vera Cruz, Mexico. January 9–16, 1892. Collected by H. Osborn (U. S. N. M.) (4). Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (3). Texolo, Vera Cruz, Mexico. Various dates in March, 1899. Collected by S. N. and M. C. Rhoads (9).

After an examination of thirty-two specimens of the genus *Machærocera*, I have reached the conclusion that *sumichrasti* of Thomas is nothing but a phase of this very variable species. The color differences as given by Thomas appear to be of no value, while structural differentiations are absent. The median carina of the pronotum is cut thrice in some specimens, in others twice, while a few have a very faint trace of the third incision.

Amblytropidia mysteca (Saussure).

1861, *Stenobothrus mystecus* Saussure, Revue et Magasin de Zoologie, 2e ser., xiii, p. 317.

— *Amblytropidia auriventris* McNeill, Proc. Davenport Acad. Nat. Sci., vi, p. 227. December 19, 1896.

Seventeen specimens; seven males, nine females, one immature; Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett (1). Texolo, Vera Cruz, Mexico. Various dates in March, 1899. Collected by S. N. and M. C. Rhoads (10). Uruapan, Michoacan, Mexico. April 11, 1899. S. N. and M. C. Rhoads (1). Patzcuaro, Michoacan, Mexico. April 5, 1899. Collected by S. N. and M. C. Rhoads (1). Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.) (2). Motzorongo, Vera Cruz, Mexico. February 13, 1892. Collected by H. Osborn (U. S. N. M.) (2).

The dorsal coloration of this species varies from purplish brown and deep umber to pale ochraceous. The pronotum is longitudinally striped in some specimens, and the orange-tint on the dorsal surface of the abdomen is more highly colored in the males than in the females.

Plectrotettix viatorius (Saussure).

1861, *St[enobothrus] viatorius* Saussure, *Revue et Magasin de Zoologie*, 2e ser., xiii, p. 317.

Eleven specimens; eight males, three females; Orizaba, Vera Cruz, Mexico, January 9-16, 1892 (U. S. N. M.) (6). Texolo, Vera Cruz, Mexico. Various dates in March, 1899. Collected by S. N. and M. C. Rhoads (4). Uruapan, Michoacan, Mexico. April 14, 1899. Collected S. N. and M. C. Rhoads (1).

Some specimens, particularly the large female from Uruapan, show an absence of the blackish maculation on the lateral lobes of pronotum.

Arphia behrensi Saussure.

1884, *Arphia behrensi* Saussure, *Prodromus CEdipodiorum*, p. 71.

One female; Uruapan, Mexico. April 11, 1899. Collected by S. N. and M. C. Rhoads.

Lactista gibbosus Saussure.

1884, *Lactista gibbosus* Saussure, *Prodromus CEdipodiorum*, p. 143.

Two specimens, male and female; Mazatlan, Sinaloa, Mexico (Acad. Nat. Sciences, Philadelphia).

This species was described from California, no specimens having since been recorded outside of that State. Measurements of the specimens might be of interest:

	♂	♀
Length of body . . .	15 mm.	22.5 mm.
Length of pronotum . .	4 mm.	5.5 mm.
Length of tegmina . .	17 mm.	23.5 mm.

Tomonotus mexicanus Saussure.

1861, *Tom[onotus] mexicanus* Saussure, Revue et Magasin de Zoologie, 2e ser., xiii, p. 321.

Eleven specimens; two males, nine females; Uruapan, Michoacan, Mexico. Various dates in April, 1901. Collected by S. N. and M. C. Rhoads (9). Patzcuaro, Michoacan, Mexico. April 7, 1899. Collected by S. N. and M. C. Rhoads (1). Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett (1).

The last listed specimen has a comparatively low median carina, but the character of the tempora serve to show that no close relationship exists with *L. orizabæ* Saussure.

Tomonotus orizabæ Saussure.

1884, *Tomonotus orizabæ* Saussure, Prodromus *Ædipodiorum*, p. 98.

One male; Uruapan, Michoacan, Mexico. April, 1899. Collected by S. N. and M. C. Rhoads.

Trimerotropis fascicula McNeill.

1900, *Trimerotropis fascicula* McNeill, Psyche, ix, p. 31; Proc. U. S. Nat. Mus., xxiii, p. 425, 1901.

Two males; Uruapan, Michoacan, Mexico. April 14, 1899. Collection of S. N. and M. C. Rhoads.

Heliastus aztecus Saussure.

1884, *Heliastus aztecus* Prodromus *Ædipodiorum*, p. 214.

One female; Monterey, Neuvo Leon, Mexico. April 25, 1899. Collection of S. N. and M. C. Rhoads.

Heliastus sumichrasti (Saussure).

1861, *Æ[dipoda] sumichrasti* Saussure, Revue et Magasin de Zoologie, 2e ser., xiii, p. 324.

Seven specimens; three males, four females; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.) (5). Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (1). Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett (1).

Sphenarium purpurascens Charpentier.

1845, *Sphenarium purpurascens* Charpentier, Orth. Descr. et Depict., pl. 31, ff. 1-8.

Five specimens; three males, two females; Mexico. (Acad. Nat. Sci. Phila.) (1). Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.) (2). Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (two in coitu).

Tæniopoda superba (Stal).

1855, *M[onachidium] superbum* Stal, Ofv. k. Vet.-Akad. Förhand., xii, p. 352.

Five specimens; four males, one female; Gualan, Guatemala. Mrs. S. P. McElroy (U. S. N. M.) (6). Escondido River, fifty miles from Bluefields, Nicaragua. July 31, 1892. Collected by C. W. Richmond (U. S. N. M.) (2). Honduras (U. S. N. M.) (1). No data (Acad. Nat. Sci. Phila.) (1).

Tænipoda centurio (Drury).

1773, *Gryllus centurio* Drury, Ill. Nat. Hist., ii, p. 78, pl. xli, f. 3.

Twenty-seven specimens; seven males, twenty females; Mexico (Acad. Nat. Sci. Phila.) (3). Qacualtipan, Hidalgo, Mexico (Acad. Nat. Sci. Phila. (1). Jalapa, Vera Cruz, Mexico. August. Collected by Otis W. Barrett (17). Teocelo, Vera Cruz, Mexico. March 1 and 2, 1899. Collected by S. N. and M. C. Rhoads (2). Orizaba, Vera Cruz, Mexico. January 9-15, 1892. Collected by H. Osborn (U. S. N. M.) (4).

Tæniopoda picticornis Stal.

1873, *T[æniopoda] picticornis* Stal, Recensio Orthopterorum, i, p. 51.

Three specimens; two males, one female; Yautepec, Morelos, Mexico. November 17. Collected by Otis W. Barrett (2). Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett (1).

Chromacris colorata (Serville).*

1839, *Acridium coloratum* Serville, Orthopteres, p. 674.

Two specimens; male and female; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (♂). Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.) (♀).

The male is much smaller than specimens of the same sex in my collection from Victoria, Tamaulipas.

* The genus *Romalea* Serville (*Rhomalea* anct.), in which this species has previously been placed is an absolute synonym of *Dictyophorus* Thunberg, the only included species (vide Ann. Sci. Nat., xxii, p. 280, 1831) being the one on which Thunberg's genus was based. The next available name is *Chromacris* Walker (Catal. Derm. Salt. Brit. Mus., iv, p. 644), based on *speciosa* (= *miles*) and *colorata*.

Tropidaeris dux (Drury).

1773, *Gryllus* (*Locusta*) *dux* Drury, Illust. Nat. Hist., ii, p. 82, pl. xlv.

Four females; Central America (Acad. Nat. Sci. Phila.) Honduras. J. E. Hawkins and Dr. J. LeConte (Acad. Nat. Sci. Phila.). Omoa, Honduras. Dr. J. LeConte (Acad. Nat. Sci. Phila.). Escondido River, fifty miles from Bluefields, Nicaragua. August 26, 1892. Collected by C. W. Richmond (U. S. N. M.).

EPISCOPOTETTIX* n. gen.

Allied to *Leptysmia* Stal, but differentiated by the following characters: the much more elongate and subpyriform vertex and fastigium, the slightly constricted pronotum and the form of the antennæ.

Form very elongate. Head with the vertex and fastigium very much produced, as long as the head posterior to the eyes; face elongate; antennæ elongate, moderately ensiform. Pronotum without definite carinæ; metasternal lobes contiguous through over two-thirds of the length of the suture; prosternal spine broad, flat, expanded at the apex, the margin arcuate. Tegmina very narrow, greatly elongate. Hind femora elongate, almost reaching the extremity of the abdomen; tibiæ slender, no apical spine on the external margin.

Episcopotettix sulcirostris n. sp.

Type; male; Forest of San Juan, Mexico.† (Acad. Nat. Sci. Phila.).

Head mitriform, the interspace between the eyes narrow; vertex thickly punctate, subrugulose, slightly sulcate; fastigium decidedly acuminate, strongly sulcate; eyes oval, rather prominent; antennæ inserted at the base of the fastigium, elongate, flattened, considerably exceeding the head and pronotum, somewhat ensiform basally; frontal costa very narrow; sulcate, margins confluent above, very slightly expanding inferiorly. Pronotum without definite carinæ, transverse sulci four in number, the anterior broken centrally; metazona considerably punctate; anterior margin broadly rounded, posterior arcuate; lower margin of the lateral lobes truncate, subsinuate. Tegmina lanceolate, exceeding the hind femora by their entire length. Anterior and median limbs slender; posterior pair rather elongate, the tibiæ bearing eight spines on the external and ten to twelve on the internal margins. Subgenital plate basally expanded, the aperture U shaped;

* In allusion to the mitriform head.

† The label on the specimen simply gives the information recorded above. The following localities might be compromised: San Juan, Cuautitlan, State of Mexico; San Juan, Distrito Federal; San Juan, Cordoba, Vera Cruz; San Juan (River), southern Vera Cruz.

supranal plate with a raised hastate portion which bears a central depression; cerci filiform, tapering. Color (from specimen evidently from alcohol) ochraceous, darkest on head; disk of wings black.

MEASUREMENTS:

Length of body		28.5 mm.
Length of head		8. mm.
Length of pronotum		5. mm.
Length of tegmina		33. mm.
Length of hind femora		15.5 mm.

Leptysma marginicollis (Seville).

1839, *Opsomala marginicollis* Seville, Orthopteres, p. 591.

One female; Acambaro, Guanajuato, Mexico. March 30, 1899. Collected by S. N. and M. C. Rhoads.

No difference can be detected on comparison with specimens from Miami, Florida.

Aleuas toltecus (Saussure).

1861, *A[cridium] toltecum* Saussure, Revue et Magasin de Zoologie, 2e ser., xiii, p. 163.

Nine specimens; four males, five females; Teocelo, Vera Cruz, Mexico. Various dates in March, 1899. Collected by S. N. and M. C. Rhoads (5). Motzorongo, Vera Cruz, Mexico. February, 1892 (U. S. N. M.) (1). Yucatan. Collected by Schott (Acad. Nat. Sci. Phila.) (1). Escondido River, fifty miles from Bluefields, Nacaragua. September 3, 1892. Collected by C. W. Richmond (U. S. N. M.) (2).

This species does not fully agree with Stal's descriptions of *Aleuas*, the lower margin of the lateral lobes being sinuate (as in *Paraleuas*) and not straight. The characters of agreement are the interspace between the mesosternal lobes in the female (open instead of closed), and in the width of the interspace between the eyes.

Schistocerca vaga (Scudder).

1876, *Acridium vagum* Scudder, Proc. Boston Soc. Nat. Hist., xviii, p. 269.

Two females; Texolo, Vera Cruz, Mexico. March 21, 1899. Collected by S. N. and M. C. Rhoads. Orizaba, Vera Cruz, Mexico. January 9-16, 1892 (U. S. N. M.).

Schistocerca pyramidata Scudder.

1899, *Schistocerca pyramidata* Scudder, Proc. Amer. Acad. Arts and Sci., xxxiv, p. 454.

Eight specimens; three males, five females; Uruapan, Michoacan, Mexico. April 11-13, 1899. Collected by S. N. and M. C.

Rhoads (4). Texolo, Vera Cruz, Mexico. March 11-20, 1899. Orizaba, Vera Cruz, Mexico. January 1-16, 1892 (U. S. N. M.) (2).

With the material before me it seems that this species is but slightly removed from *S. vaga*, the amount of color variation in my series of twelve specimens being very great.

Schistocerca lineata Scudder.

1899, *Schistocerca lineata* Scudder, Proc. Amer. Acad. Arts and Sci., xxxiv, p. 465.

One female; Bolanos, Jalisco, Mexico. J. N. Rose, 1897 (U. S. N. M.).

This specimen exhibits a well defined flavous bar on the lateral lobes of the pronotum, the superior border of this tint being contrasted by a blackish patch situated above it.

Schistocerca americana (Drury).

1770, *Gryllus americanus* Drury, Ill. Nat. Hist., i, p. 128, pl. xlix, fig. 2.

Three males; Honduras (Acad. Nat. Sci. Phila.) (2). Panama (Acad. Nat. Sci. Phila.) (1).

Aidemona azteca (Saussure).

1861, *Pl[atyphyma] aztecum* Saussure, Revue et Magasin de Zoologie, 2e ser., xiii, p. 161.

Eleven specimens; five males, six females; Uruapan, Michoacan, Mexico. April 10 and 11, 1899. Collected by S. N. and M. C. Rhoads (5). Texolo, Vera Cruz, Mexico. March 3 and 13, 1899. Collected by S. N. and M. C. Rhoads (5). Orizaba, Vera Cruz, Mexico. January 9-16, 1892. (U. S. N. M.) (1).

Melanoplus elongatus Scudder.

1897, *Melanoplus elongatus* Scudder, Proc. U. S. Nat. Mus., xx, p. 160.

One male; Monterey, Neuvo Leon, Mexico. 1899. Collected by S. N. and M. C. Rhoads.

Melanoplus atlanis (Riley).

1875, *Caloptemus atlanis* Riley, Ann. Rep. Ins. Missouri, vii, p. 169.

One male; Patzcuaro, Michoacan, Mexico. April 7, 1899. Collected by S. N. and M. C. Rhoads.

Family TETTIGONIDÆ.

Stenopelmatus typhlops n. sp.

Type: female; Qacualtipan, Hidalgo, Mexico (Acad. Nat. Sci. Phila.).

Allied to *S. nieti* Saussure, but differing in the less punctate posterior border of the pronotum, the less prominent "boss" on the lower part of the face, the rotundate labrum (much as in *S. ater*), and the greater rugosity of the maxillæ.

Size small (in comparison with *S. nieti*); general build heavy and powerful. Head with the facial aspect obovate; the upper surface smooth, the interocular region strongly rugose; "boss" on the lower part of the face very slightly developed and finely rugulose; eyes small, obovate; labrum moderately developed, rotundate; maxillæ entirely rugose; antennæ filiform, much longer than head and pronotum. Pronotum convex, both longitudinally and transversely; anterior margin shallowly emarginate, with a well developed post-marginal sulcus; posterior margin very slightly emarginate; upper surface of the pronotum comparatively smooth, the deflected lateral portion moderately rugulose. Anterior and median limbs short and thick. Posterior femora considerably inflated, the lower margins well marked; posterior tibiæ decidedly shorter than the femora, the external margin with three spines, the internal with five spines, apical spurs six in number, the internal ones longest. Ovipositor short, falcate, the tip sharply recurved.

General color blackish, lightest on the abdomen and the sternum; eyes straw-color.

MEASUREMENTS:

Length of body (exclusive of ovipositor)		24.5 mm.
Length of pronotum		8. mm.
Greatest width of pronotum		9. mm.
Length of ovipositor		5. mm.

Anabropsis* mexicanus (Saussure).

1859, *Sch[ænobates] mexicanus* Saussure, Revue et Magas. de Zool., 2e ser., xi, p. 209.

One male; Mexico. (Acad. Nat. Sci. Phila.)

Anabropsis saltator Saussure and Pictet).

1897, *Schænobates saltator* Saussure and Pictet, Biol. Cent.-Amer., Orth., i, p. 294, tab. xiv, f. 16.

One male; Qacualtipan, Hidalgo, Mexico. (Acad. Nat. Sci. Phila.)

The species was previously known from Volcan de Irazu, Costa Rica.

Glaphyrosoma gracile Brunner.

1888, *Glaphyrosoma gracile* Brunner, Verh. Zool.-bot. Gesell. Wien, xxxviii, p. 284.

One female; Jalapa, Vera Cruz, Mexico. March 22, 1899. Collected by S. N. and M. C. Rhoads.

* For the use of this name in place of *Schænobates*, see Rehn, Canad. Ent., xxxiii, p. 272.

PRISTOCEUTHOPHILUS n. gen.

Allied to *Hadenæcus*, *Ceuthophilus* and *Hemiudeopsylla*, but presenting quite distinctive characters. It differs from all in the possession of but three pairs of spurs on the posterior tibiæ, and in having a conoid development of the vertex. From *Hadenæcus* it is separated by the elongate last palpal joint, and by the broadly emarginate subgenital plate of the male. From *Ceuthophilus* it differs in the non spinous median coxæ, and in the very long first hind tarsal joint. From *Hemiudeopsylla* difference is noticed in the absence of spines on the lower external margin of the median femora, in the absence of serrations on the lower external margin of the posterior femora, and in the presence of five or more small spines between the larger spines on the upper margins of the posterior tibiæ.

Vertex produced into a deflected spinous process, extending almost as far downward as the lower border of the eyes. Last palpal joint almost twice as long as its antecedent. Anterior femora without spines. Median coxæ not spined; femora smooth, except for the spine on the apex of the external portion; tibiæ bearing several closely appressed spines situated around the central section. Posterior femora bullate, the lower external margin non serrate, carrying one (or two) small spines on the apical half; tibiæ bearing many (five to thirteen) small spines between the larger ones; apical spurs three in number; first tarsal joint very long, much longer than the remaining portion. Subgenital plate broadly emarginate.

Pristoceuthophilus rhoadsi n. sp.

Type: male; Uruapan, Michoacan, Mexico. April 11, 1899. Collected by S. N. and M. C. Rhoads.

Size small. Head projecting but little beyond the pronotum, glabrous; eyes subtriangular, very slightly projecting; antennæ heavy, rather long; palpi long, the terminal joint subarcuate. Pronotum strongly rounded transversely, very slightly so longitudinally; anterior and posterior margins truncate, lower margin of the lateral portions very slightly sinuate; median portion bearing a very faint longitudinally disposed sulcus; posterior portion bearing a number of irregular rugosities. Mesonotum with rugosities similar to those on the pronotum placed across the posterior portion. Anterior femora slightly longer than the pronotum, unarmed, strongly sulcate below; tibiæ slightly shorter than the femora, lower surface bearing three closely appressed spines on the distal portion, apical spines four in number the lower pair the larger; first tarsal joint fully as long as the

succeeding ones. Median femora unarmed except for the spine on the external genicular lobe, sulcate below; tibiae bearing four closely appressed spines around the median portion of the limb, apical spines as on the anterior tibiae; first tarsal joint as long as the remaining joints of the tarsi. Posterior femora considerably inflated, genicular lobes rounded, lower external margin bearing one (or two) spines on the distal portion, lower surface sulcate; tibiae slightly longer than the femora, multispinose, the larger spines four in number and confined to the apical two-thirds of the limb, the smaller spines closely placed from the proximal to the distal extremity except for the larger spines, the latter being placed closer as the apex is approached, the number of small spines in the apical interspace being five, while the interspace between the third and fourth large spine contains thirteen; first tarsal joint very long, considerably exceeding the other joints together. Subgenital plate subtriangular, apex broadly emarginate.

General color ochraceous, blotched and barred with wood-brown, this tint being blackish brown on the abdomen. Borders of the pronotum, mesonotum and metanotum, hind femora and vertex strongly blotched with overlying tint. Lower margin of the hind femora alternate blocks of blackish and ochraceous.

MEASUREMENTS:

Length of body		10. mm.
Length of pronotum		3.5 mm.
Length of hind femora		9. mm.

Camptonotus affinis n. sp.

Types: one male, two females; Mexico (Acad. Nat. Sci. Phila.) (2). Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (1).*

Closely allied to *C. carolinensis* (Gerstaecker), but considerably smaller, with relatively shorter cerci and more elongate subgenital plate, and with fewer spines on the external margin of the hind tibiae (4 or 5 instead of 7 or 8).

Size small (♂) or medium (♀); body entirely glabrous. Head rounded, interocular space narrower in the male than in the female; eyes moderately exserted; antennae filiform. Pronotum saddle-shaped; anterior margin subarcuate, posterior very broadly emarginate, lower margin of the lateral portion with the posterior portion diagonally trimmed, the whole periphery bearing a very perceptible shoulder most marked on the lateral portion. Mesonotum and metanotum not as deep laterally as the pronotum, neither more than half as long as the latter. Abdomen robust, rather bullate in the male. Anterior and median femora rather full, unarmed except for the apical spine, the anterior slightly the longer; anterior and median femora with three spines on each lower margin, femora and tibiae shallowly sulcate below. Posterior femora short, rather robust, moderately sulcate below, lower borders distally with a number of small spines (2 to 6); tibiae about as long as the femora, both upper margins with 4 or 5 spines.

♂. Subgenital plate elongate, apex triangularly emarginate; styles small in-

* Additional information with this latter specimen is to the effect that it was "taken while ovipositing in mortar-cracks."

curved, not half as long as the median length of the plate. Cerci slender, tapering, much shorter than the median length of the subgenital plate.

♀. Ovipositor falcate, considerably bent near the base.

General tint straw-color, the pronotum, mesonotum, metanotum and abdominal segments being edged with mahogany, the overlying tint being diffused over the basal and apical abdominal segments.

MEASUREMENTS:

	<i>C. carolinensis.</i>		
	♂	♀	♂ *
Length of body (exclusive of ovipositor).	11.5 mm.	14.5 mm.	14. mm.
Length of pronotum	3. mm.	3.2 mm.	3.5 mm.
Length of ovipositor		7.5 mm.	

***Ægimia cultrifera* Stal.**

1874, *Ægimia cultrifera* Stal, Recensio Orthopterorum, ii, p. 46.

One male; Teocelo, Vera Cruz. September. Collected by Otis W. Barrett.

***Ægimia elongata* n. sp.**

Type: male; Central America (U. S. N. M.).

Allied to *Æ. cultrifera* Stal, but differing in the raised lateral carinæ of the pronotum and the more general concave form of the same, in the more elongate tegmina and wings, in the tridentate lobe on the median tibiæ, and in smaller size of the tympanum which in *cultrifera* is larger in extent than the dorsum of the pronotum, while relatively in *elongata* the same area is considerably less.

Size rather large. Head more or less rugulose; cultriform development of the vertex rather long, lateral outline tapering, below moderately sulcate, apex shallowly emarginate; eyes obovate, the apex directed upwards and backwards; antennæ filiform, annulated with blackish rings. Pronotum rather long; the lateral carinæ heavy, rather rugose, considerably elevated; anterior margin broadly emarginate, the posterior arcuate; posterior margin of the lateral lobes broadly arcuate, the anterior angle obtuse. Tegmina elongate; costal area comparatively narrow; tympanum considerably less than the dorsal aspect of the pronotum in extent, the stridulating vein straight, transverse (arcuate in *cultrifera*). Wings ample, almost reaching to the tip of the tegmina. Anterior and median femora heavy and deep, sulcate below, the anterior with five spines on the lower external margin; anterior tibiæ rather heavy, straight; median tibiæ with the accessory lobe tridentate. Posterior limbs missing.

As the specimen is very old, probably having been taken from alcohol, the original coloration is totally gone, the specimen now being uniform brownish.

MEASUREMENTS:

	<i>Æ. elongata</i> ♂.	<i>Æ. cultrifera</i> ♂.
Length of body	31. mm.	31. mm.
Length of pronotum	8.7 mm.	7. mm.
Greatest width of pronotum	6.5 mm.	6. mm.
Length of tegmina	44.5 mm.	41. mm.

* Measurements from a specimen from St. Augustine, Florida.

Greatest width of tegmina . .	19. mm.	22. mm.
Length of median femora . .	8. mm.	6.5 mm.
Length of median tibiæ . .	7. mm.	6. mm.

Aphidnia fuscifrons Brunner.

1878, *A[phidnia] fuscifrons* Brunner, Monogr. d. Phaneropt., p. 153.

One female; Texolo, Vera Cruz, Mexico. March 7, 1899. Collected by S. N. and M. C. Rhoads.

Hormilia gracillima Brunner.

1878, *H[ormilia] gracillima* Brunner, Monogr. d. Phaneropt., p. 231.

One male; Cuernavaca, Morelos, Mexico.. September. Collected by Otis W. Barrett.

Scudderia mexicana (Saussure).

1861, *Phaneroptera mexicana* Scudder, Revue et Magasin de Zoologie, 2e ser., xiii, p. 129.

Three specimens; two males, one female; Cuernavaca, Morelos, Mexico.. September. Collected by Otis W. Barrett.

Symmetropleura teocelæ Rehn.

1901, *Symmetropleura teocelæ* Rehn, Trans. Amer. Ent. Soc., xxvii, p. 222.

One male; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

Phrixa schumanni Saussure and Pictet.

1897, *Phrixa schumanni* Saussure and Pictet, Biol. Cent.-Amer., Orth., i, p. 334.

One female; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

This specimen agrees fairly well with the original description, though the anterior angle of the lateral lobes is obtuse-angulate and not subrotundate.

Phrixa bidentata n. sp.

1900, *Phrixa nasuta* Rehn (not of Stal), Trans. Amer. Ent. Soc., xxvii, p. 88.

Type: male; Orizaba, Vera Cruz, Mexico. June. Collected by Otis W. Barrett.

Closely allied to *P. hægei* Saussure and Pictet (Biol. Cent.-Amer., Orth., I, p. 334), but differing in the form of the extremity of the cerci which are strongly bidentate, the intermediate diastema being considerably emarginate, while in *P. hægei* the extremity is acute, the additional lobe being rotundate. No affinity exists with *P. maya* Saussure and Pictet, the cerci in that species being strongly falcate, and terminally acuminate.

Size medium. Head with the vertex developed into a conoid process of considerable length; eyes globose, much exserted; antennæ filiform, rather long; region of the frontal costa considerably swollen. Pronotum sub-sericeous; anterior margin sub-truncate, the posterior arcuate; lateral lobes deeper than long, the anterior and posterior margins straight, lower margin arcuate, anterior angle apparent. Tegmina rather elongate; apex diagonally trimmed; tympanum rather small, the stridulating vein not more apparent than the other veins of the same area. Wings extending to the apex of the tegmina. Anterior and median femora slender, unarmed except for the genicular spines, the median considerably longer than the anterior, both deeply sulcate inferiorly; tibia slender, quadrate in section, anterior pair with several spines on the lower margins, the posterior with many spines on the lower margins, the proximal portion unarmed, the distal extremity with the spines closely placed. Posterior femora slender, sulcate below, the distal portion of the lower margins with a number of small spines, the internal margin with fewer spines, genicular lobes produced; tibiæ considerably longer than the femora, quadrate, margins entirely spined, in the proximal section sparser than in the distal. Subgenital plate elongate, bicarinate, the apex truncate; styles short and stout. Cerci lunate, the apex expanded, terminal portion produced, supplemented by a sub-terminal tooth, the resulting diastema being considerably emarginate.

General color pea green, tinged on the head and pronotum with an ashy tint; a yellow line extending from the extremity of the vertex to the border of the pronotum; eyes reddish brown.

MEASUREMENTS:

Length of body	17. mm.
Length of pronotum	5.5 mm.
Length of tegmina	31.5 mm.
Length of hind femora	19.5 mm.

***Pycnopalpa mortuifolia** n. sp.**

Type: male; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

Allied to *P. bicordata* Serville, but differing in the more dentate and non-lamellate lower margin of the anterior femora, the anterior border of the pronotum being more deeply emarginate, the posterior border more shallowly emarginate, and the wings also elongate.

Size small. Head with the vertex developed into an elongate, sulcate process bearing two lateral spines and a basal denticle, the extremity of the vertex being narrowly truncate; eyes ovate, strongly exserted; face below the eyes bearing a pair of wide shallow sulcations extending to the base of the clypeus; region between the antennal bases with a blunt, wart-like process; antennæ filiform. Pronotum narrow, sub-concave above; the anterior margin broadly, triangularly emarginate, posterior bi-arcuate, the central emargination being slight; central

* The genus *Pycnopalpa* Serville (Orthopteres, p. 408, 1839), antedates *Plagioptera* Stal (Recens. Orthopt., ii, p. 16, 1874), and was based on a single species—*Locusta bicordata* Serville.

portion of the lateral carinæ strongly callous, the rugosity extending across, joining its fellow, and dividing the central sericeous area into two parts, an anterior cordate, and a posterior sub-pyriform area; lateral lobes as broad as deep, the anterior margin sinuate, anterior lower angle rounded, posterior margin well rounded. Tegmina rather short, centrally with a "dead" spot of considerable size, another of similar character occupying the distal portion of the lower margin and involving the lower margin of the closed wing. Wings rather long, considerably exceeding the tegmina. Anterior and median femora armed below distally with three large spines, the apical two being quite large; tibiæ bearing several spines on the lower margins, the limbs hirsute. Posterior femora slender, the swollen basal portion superiorly rugulose, lower margin centrally with three blunt teeth; tibiæ considerably longer than the femora, quadrate, both margins strongly spined above, the lower margins with few spines. Subgenital plate broad, papillose, the styliform processes short and directed outward. Cerci tapering, slightly curved towards the acute apex.

General tint a combination of greenish yellow and dull brown, the effect being that of a dead leaf. Tegmina yellowish green centrally, becoming greenish yellow toward the periphery; base, borders of the tympanum, edging of the "dead" spots and the general suffusing tint of the lateral lobes and femora dull umber. Pronotum above with sericeous areas dull golden yellow, the callous ridges and upper surface of head with the antennæ and the ground color of the limbs creamy; eyes vinaceous. Limbs and annulations of the antennæ blackish brown.

MEASUREMENTS:

Length of body		14. mm.
Length of pronotum		4.2 mm.
Length of tegmina		23. mm.
Length of hind femora		12.5 mm.

Amblycorypha guatemalæ Saussure and Pictet.

1897, *Amblycorypha guatemalæ* Saussure and Pictet, Biol. Cent.-Amer., Orth., i, p. 336.

One male; Escondido River, fifty miles from Bluefields, Nicaragua. August 15, 1892. Collected by C. W. Richmond (U. S. N. M.).

Paragenes conspersa (Brunner).

1878, *A[nepsia] conspersa* Brunner, Monogr. der Phaneropt., p. 270.

One male; Mexico. (Coll. Acad. Nat. Sci. Phila.).

Anaulacomera laticauda Brunner.

1878, *A[naulacomera] laticauda* Brunner, Monogr. der Phaneropt., p. 292.

One male; Honduras. (Coll. Acad. Nat. Sci. Phila.).

Microcentrum lanceolatum (Burmeister).

1838, *Ph[yloptera] lanceolata* Burmeister, Handb. d. Ent., ii, p. 692.

One female; Panama. (Coll. Acad. Nat. Sci. Phila.).

Microcentrum syntehnoides n. sp.

Type: male; Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett.

Allied to *M. lanceolatum* Burmeister, but differing in the much more lanceolate elytra.

Size rather large. Head rather broad; vertex thick, the fastigium slightly expanded, rounded, about twice as wide as the first antennal joint; eyes large, subglobose; antennæ filiform. Pronotum rather broad; lateral borders rounded, slightly marked posteriorly; anterior margin truncate, posterior arcuate; lateral lobes very deep, the anterior border straight, lower margin sub-rotundate. Tegmina elongate, the tympanum occupying a relatively small portion of the posterior margin, the sutural part of which is straight; lower margin gently arcuate, apex rounded; median vein separating before the middle of the elytra, and with both forks reaching the sutural margin; marginal field basally quite broad, the basal portion of the margin ornamented with a series of small callous nodules. Wings large, considerably exceeding the tegmina in length. Anterior and median femora smooth, sulcate below; tibiæ slender, the lower margins spined, the median pair bearing several spines on the upper margin also. Posterior femora elongate, the enlarged basal portion tapering very gradually into the slender distal portion, sulcate below, the apical portion carrying about six spines on each margin, genicular lobes bispinose; tibiæ quadrate, longer than the femora, strongly and closely spined on all the margins. Subgenital plate rather elongate, keeled, the extremity developed into a pair of forcep-like processes, touching by their tips,* the enclosed space being marginally truncate.

MEASUREMENTS:

Length of body	26.5 mm.
Length of pronotum	7.2 mm.
Length of tegmina	47. mm.
Greatest width of tegmina	11.5 mm.
Length of posterior femora	27.5 mm.

Microcentrum retinerve (Burmeister).

1838, *Ph[ylloptera] retinervis* Burmeister, Handb. der Ent., ii, p. 692.

One male; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

Microcentrum laurifolium (Linnæus).

1758, [*Gryllus*] *laurifolius* Linnæus, Syst. Nat., x ed., p. 429.

Two specimens; one male, one female; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett. Mexico. (Coll. Acad. Nat. Sci. Phila.).

Petaloptera confusa n. sp.

Type: female; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

Closely allied to *P. filia* Brunner, but differing in the form of the

* These processes occupy the same position as styles, to which they bear a very close resemblance.

vertex, the latter being sub conoid, with the apex emarginate instead of acuminate as in *filia*, and also in the more general posterior trend of the veins in the area between the anterior and posterior ulnar veins.

Size medium. Head with the vertex developed into a sub-conoid process, the apex of which is deeply emarginate, a very perceptible sulcus extending backwards from the apex on the superior surface of the vertex, lateral portion of the vertex considerably excavated; eyes globose, very much exserted; face considerably retreating; antennæ filamentous, reaching to the extremity of the tegmina. Pronotum flat above, comparatively narrow; anterior margin shallowly emarginate, posterior broadly arcuate; lateral lobes about equally long as deep, the anterior angle very obtuse, the posterior rounded. Tegmina broad; anterior margin slightly sinuate, the posterior strongly arcuate, apex sub-acute; veins in the area between the anterior and posterior ulnar veins with a marked posterior trend, median vein with its two branches reaching the sutural margin. Wings long, considerably exceeding the tegmina, apex acute. Anterior and median femora sulcate beneath; tibiæ very slender, spined on the lower margins. Posterior femora considerably inflated in the proximal portion, the distal section being very slender and bearing small spines on both margins, genicular lobes with two spines, the superior one larger; tibiæ quadrate, spined on all the margins, the inferior borders with the spines fewer in numbers. Ovipositor rather slender, moderately long, somewhat bent near base. Subgenital plate very narrow, acuminate, excavated superiorly.

General color pea-green fading to a yellowish green on the proximal portions of the tegmina, pronotum, head, anterior limbs and basal portion of the posterior tibiæ.

MEASUREMENTS:

Length of body (excl. of ovipositor)		28.5 mm.
Length of pronotum		6.5 mm.
Length of tegmina		41.5 mm.
Greatest width of tegmina		14. mm.
Length of posterior femora		20.5 mm.
Length of ovipositor		6. mm.

Syntechna caudelli Rehn.

1901, *Syntechna caudelli* Rehn, Trans. Amer. Ent. Soc., xxvii, p. 224.

One male; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

Philophyllia guttulata Stal.

1872, *P[hilophyllia] guttulata* Stal, Ofver. K. Vetensk.-Akad. Förhandl., xxx, p. 42.

Six specimens; four males, two females; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (5). Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (1).

Stilpnochlora marginella (Serville).

1839, *Phylloptera marginella* Serville, Orthoptères, p. 405.

One male; Guatemala (U. S. N. M.)

Stilpnochlora tolteca (Saussure).

1861, *Ph[ylloptera] tolteca* Saussure, Revue et Magasin de Zoologie, 2e ser., xi, p. 203.

Fourteen specimens; six males, eight females; Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (6). Teocelo, Vera Cruz, Mexico. Collected by Otis W. Barrett (6). Mexico. Coll. Acad. Nat. Sci. Phila. (2).

Stilpnochlora azteca (Saussure).

1859, *Ph[ylloptera] azteca* Saussure, Revue et Magasin de Zoologie (2e ser.), xi, p. 203.

Thirty-eight specimens; twenty males, eighteen females; Jalapa, Vera Cruz, Mexico. April, June and September. Collected by Otis W. Barrett (14). Cuernavaca, Morelos, Mexico. June. Collected by Otis W. Barrett (5). Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (19).

Peucestes coronatus Stal.

1874, *P[eucestes] coronatus* Stal Recensio Orthopterorum, ii, p. 45.

One male; Central America (U. S. N. M.).

This specimen has the teeth on the lateral carinæ of the pronotum much heavier, and each decidedly acuminate. •

Posidippus sp.

One female; San Juan River, Nicaragua. Coll. Acad. Nat. Sci. Phila.

This specimen is very much damaged and faded, having been taken from alcohol and dried. It is clearly not *P. validus* Saussure and Pictet (Biol. Cent.-Amer., Orth., i, p. 373, tab. xviii, figs. 10 and 11), and appears to be closest related to *P. dohrni* Brunner (Verh. Zool.-bot. Gesell. Wien, xli, pp. 183 and 185, 1891) from the upper Amazon region.

Copiphora rhinoceros (Pictet).

1890, *C[opiophora] rhinoceros* Pictet, Mém. Soc. Phys. et d'Hist. Nat. Genev., xxx, No. 6, p. 48, tab. 2, fig. 25.

One immature female; Machuca, Nicaragua. Coll. Acad. Nat. Sci. Phila.

This specimen differs from Pictet's figure in having the vertex straight, not arcuate.

Eriolus mexicanus (Saussure).

1859, *C[opiophora] mexicana* Saussure, *Revue et Magasin de Zoologie*, 2e ser., xi, p. 207.

One female; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

This specimen presents a slight difference from Saussure and Pictet's figure (*Biol. Cent.-Amer.*, Orth., i, tab. xix, fig. 4) in having the posterior angle of the lateral lobes of the pronotum acute.

Pyrgocorypha sallei (Saussure).

1859, *C[onocephalus] sallei* Saussure, *Revue et Magasin de Zoologie*, 2e ser., xi, p. 207.

Nineteen specimens; nine males, ten females; Mexico. Coll. Acad. Nat. Sci. Phila. (4). No data. Coll. Acad. Nat. Sci. Phila. (1). Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (11). Teocelo, Vera Cruz, Mexico. Collected by Otis W. Barrett (3).

Both brown and green phases are represented.

Pyrgocorypha uncinata (Harris).

1842, *Conocephalus uncinatus* Harris, *Inj. Ins. New Engl.* p. 132.

Three specimens; one male, two females; Mexico. Coll. Acad. Nat. Sci. Phila. (1). Yucatan. Schott. Acad. Nat. Sci. Phila. (2).

Caulopsis cuspidata (Scudder).

1879, *Conocephalus cuspidatus* Scudder, *Proc. Bost. Soc. Nat. Hist.*, xx, p. 88.

Two females; Honduras. Coll. Acad. Nat. Sci. Phila. Escondido River fifty miles from Bluefields, Nicaragua. August 15, 1892. Collected by C. W. Richmond (U. S. N. M.).

Conocephalus macropterus Redtenbacher.

1891, *Conocephalus macropterus* Redtenbacher, *Verhandl. Zool.-bot. Gesell. Wien*, xli, p. 402.

Seven specimens; one male, six females; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.) (1). Jalapa, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (4). Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (2).

Xiphidium ictum Scudder.

1875, *Xiphidium ictum* Scudder, *Proc. Bost. Soc. Nat. Hist.*, xvii, p. 461.

Two specimens; one male, one female; Motzorongo, Vera Cruz, Mexico. February 13, 1892. Collected by H. Osborn (U. S. N. M.). Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

Xiphidium mexicanum Saussure.

1859, *X[iphidium] mexicanum* Saussure, *Revue et Magasin de Zoologie*, 2e ser., xi, p. 208.

1901, *Xiphidium ictum* Rehn [part] (not of Scudder), *Trans. Amer. Ent. Soc.*, xxvii, p. 226.

Nine specimens; five males, four females; Jalapa, Vera Cruz, Mexico. August. Collected by Otis W. Barrett (2). Cuernavaca, Morelos, Mexico. September. Collected by Otis W. Barrett (1). Uruapan, Michoacan, Mexico. April 11, 1899. Collected by S. N. and M. C. Rhoads (2). Texolo, Vera Cruz, Mexico. March 1, 3 and 13, 1899. Collected by S. N. and M. C. Rhoads (4).

Acanthodis variegata Brunner.

1895, *Acanthodis variegata* Brunner, *Monogr. der Pseudophyll.*, p. 112.

One female; Mexico. Coll. Coll. Acad. Nat. Sci. Phila.

This specimen differs somewhat from Brunner's description in having three species on the lower surface of the anterior femora and four on the lower posterior margin of the median tibiae.

Gongrocnemis incerta Brunner.

1895, *Gongrocnemis incerta* Brunner, *Monogr. der Pseudophyll.*, p. 167.

Two males; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

One specimen does not agree with a female specimen from Jalapa and the other male in the color of the face, which is ashy instead of black. The cerci are long and attenuate, Brunner's description giving these as "breves in apice ipso attenuato."

Idiarthron clavicercwm n. sp.

Type: male; Gualan, Guatemala. Mrs. S. P. McElroy (U. S. N. M.).

Apparently allied to *I. furcatum* and *atrispinum*, but differing in the form of the supranal plate which is short and triangular, and the cerci which are heavy, with the apical portion much expanded and bearing two teeth.

The singularity of this species causes the author to describe it in

spite of the great variability which has been found to exist in the allied species of the genus.*

Size medium. Head rotundate; vertex produced, sulcate, the fastigium acuminate, slightly upturned; eyes sub-globose, exserted; antennæ filiform, over twice as long as the body. Pronotum obscurely tuberculate, the transverse sulci strongly impressed; anterior margin rotundate, posterior margin truncate; lateral lobes with slightly sinuate lower margins. Tegmina reaching to the extremities of the hind femora, narrow, venation very prominent. Wings slightly inferior to the tegmina in length. Anterior and median femora armed on the anterior lower margins with from five to seven spines; anterior tibiæ broad, the lower margins of both anterior and median pair with from seven to eight rather small spines. Posterior femora very much inflated, the genicular lobes rounded, the external lower margin bearing eight spines; tibiæ quadrate, all of the margins spined, the lower two with more numerous and heavier spines. Supranal plate small, triangular, longitudinally sulcate. Cerci short, robust, the apical portion very much thickened and expanded, one tooth very short and blunt, the internal one directed inwards, elongate, spiniform, the diastema broadly emarginate. Subgenital plate produced, apically with a deep triangular emargination; styles fusiform, as long as the free portion of the subgenital plate.

General color wood-brown; the veins, occiput, margins of the pronotum and spines on the limbs black.

MEASUREMENTS:

Length of body (approximately)†	35.5 mm.
Length of pronotum	7.5 mm.
Length of tegmina	27.5 mm.
Length of hind femora	21. mm.

Liparoscelis nigrispina Stal.

1873, *Liparoscelis nigrispina* Stal, Ofv. K. Vet.-Akad. Förhandl., xxx, No. 4, p. 49.

Twelve specimens; six males, six females; Yucatan. Schott. Acad. Nat. Sci. Phila. (1). Tekanto, Yucatan. Acad. Nat. Sci. Phila. (11).

Cocconotus castus Brunner?

1895, *Cocconotus castus* Brunner, Monogr. der Pseudophyll., p. 210.

Two females; Mexico. Acad. Nat. Sci. Phila.

These specimens are rather doubtfully assigned to this species, of which only males have previously been known.

Cocconotus modestus Brunner?

1895, *Cocconotus modestus* Brunner, Monogr. der Pseudophyll., p. 204.

One female; Honduras (U. S. N. M.)

* Vide Saussure and Pictet., Biol. Cent.-Amer., Orth., i, pp. 423, 424.

† Exact measurement with dividers is here impossible, as the abdomen is very much depressed and bent.

This specimen is doubtfully assigned to this species, as the median tibiae possess several spines,* and five spines are present on the anterior femora instead of three or four.

Cocconotus ignobilis Brunner.

1895, *Cocconotus ignobilis* Brunnea, Monogr. der Pseudophyll., p. 210.

Three specimens; two males, one female; Panama (U. S. N. M.)

Cocconotus lignicolor n. sp.

Type: female; Machuca, Nicaragua (Acad. Nat. Sci. Phila.).

Allied to *C. æthiops* Brunner, but differing in the absence of black on the basal joint of the antennæ and on the vertex and pronotum, in the presence of black on the labrum (which is ferruginous in *æthiops*), in the presence of four spines (instead of one) on the anterior femora, and in the very narrowly emarginate tip of the subgenital plate.

Size medium. Vertex with two basal tubercles rather prominent; eyes globose. Pronotum verruculate, centrally constricted, posterior sulcus distinctly marked; anterior margin broadly rotundate, posterior subtruncate; lateral lobes longer than high, sub-glabrous, lower margin sinuate, anterior angle rotundate. Tegmina rather long, not quite reaching to the tip of the ovipositor, apex subacuminate. Wings as long as the tegmina. Anterior femora bearing four spines on the inferior internal margin, genicular lobes rounded; anterior tibiae with six or seven spines on the internal and external lower margins, foramina slightly inflated. Median femora bearing three spines on the external inferior margin, internal genicular lobe bluntly spined, external rounded; tibiae with seven spines on the inferior margins. Posterior femora moderately inflated, lower margin with six spines; tibiae as long as femora, basally not spined. Prosternum with two erect tapering processes; mesosternum rectangulate, the posterior margin centrally emarginate; metasternum anteriorly truncate, posteriorly acuminate, foramina of an inverted T shape. Ovipositor rather long, stout, subfalcate, apex acuminate; subgenital plate triangular, centrally sulcate, apex very narrowly emarginate.

General color broccoli brown, the anterior border of the lateral lobes of the pronotum, the spines on the limbs, the labrum, mandibles (except the base which is the general tint), the base of the clypeus, a narrow median line on the face, and the superior and inferior margins of the basal two-thirds of the ovipositor black.

MEASUREMENTS:

Length of body (including ovipositor)	46.5 mm.
Length of pronotum	6.5 mm.
Length of tegmina	34.5 mm.
Width of tegmina	8. mm.
Length of hind femora	19. mm.
Length of hind tibiae	19.5 mm.
Length of ovipositor	18. mm.

* This character seems unworthy of the importance which Brunner has given it.

Cocconotus bellicosus n. sp.

Type: female; Cocos Island, Pacific Ocean.* February 38, 1891.

Allied to *C. striolatus* Redtenbacher, from St. Vincent, and *C. globosus* Bruner, from Mexico and Guatemala. From the former it differs in the non-pilose body, in the subdepressed form of the central part of the pronotum, in the broadly emarginate central portion of the posterior margin of the same region, the more curved ovipositor, and the presence of five species on the median femora. From the latter it differs in the non constricted pronotum, the subtruncate posterior margin of the pronotum, and in the triangular subgenital plate of the female.

Size rather large; general build robust, body glabrous. Head with the vertex bearing a pair of rotundate tubercles and an anteriorly directed spinose process; antennæ elongate, subfiliform; eyes spherical, slightly exserted. Pronotum strongly rugulose, the lateral lobes smoother than the dorsal aspect; anterior margin arcuate, posterior subtruncate with a broad central emargination; lateral lobes slightly longer than deep, the lower margins subtruncate, central portion thickened. Tegmina rather long, moderately broad, apex rounded. Wings ample, reaching almost to the tip of the tegmina. Anterior femora subcompressed, the external lower margins bearing four spines on the distal portion; tibiæ quadrate, the lower margins spined. Median femora subcompressed, the external lower margins bearing five spines; tibiæ quadrate, the lower margins spined. Posterior femora considerably expanded basally, the external lower margin bearing eight large spines on the distal two-thirds; tibiæ quadrate, all margins spined except for a small basal portion, the lower surface with the spines sparser in numbers than the upper surface. Ovipositor slender, curved, the apex acuminate, the lower margin with a well-defined basal shoulder. Subgenital plate triangular-acuminate, deeply and narrowly emarginate apically.

General color yellowish chocolate color, the tegmina and limbs sprinkled with darker patches of pure chocolate color. Pronotum and head marked with black, which color suffuses the extreme tip on all the spines on the limbs. Wings pale grayish hyaline, the longitudinal veins brownish, the periphery touched with whitish.

MEASUREMENTS:

Length of body (exclusive of ovipositor)	41. mm.
Length of pronotum	8.5 mm.
Length of tegmina	43. mm.
Length of hind femora	27. mm.
Length of ovipositor	19. mm.

Euacris richmondi† n. sp.

Type: male; Escondido River, fifty miles from Bluefields, Nicaragua. July 13th. Collected by C. W. Richmond (U. S. N. M.)

* Southwest from Panama City several hundred miles.

† Dedicated to Dr. C. W. Richmond, Assistant Curator of the Department of Birds in the United States National Museum, who collected the type while in the Bluefields country.

Allied to *E. pictipennis* Saussure and Pictet,* but possessing many very distinctive characters. The median and discoidal veins of the tegmina are centrally almost contiguous; the anterior border of the pronotum is without a thickened margin; the basal section of the subgenital plate is as broad as long, with the carina basally indistinct, and the styles are heavier.

Size large; general build very slender; head, limbs and antennæ pilose. Head broad, facial region very much flattened; eyes subglobose, considerably exerted; antennæ very long, over twice as long as the tegmina with pronotum and head. Pronotum strongly tuberculate; anterior margin broadly obtuse-angulate, posterior arcuate; lateral lobes about twice as long as high, the lower margin thickened, tuberculate, sinuate; posterior sulcus strongly impressed; lateral angle on the metazona marked. Tegmina elongate, about six times as long as wide; median and discoidal veins quite distinct distally and proximally but centrally almost contiguous, the general arrangement of transverse veins forming quadrate or rectangular patterns. Wings very large, about reaching the apex of the tegmina. Anterior and median femora slender, sulcate beneath, bearing six or seven spines on the lower external margins, genicular lobes spinose; tibiæ very slender, quadrate, lower margins spined as is also the case with upper internal margins of the median pair. Posterior femora slender, bearing fourteen or fifteen large spines on the external margin, the basal portion of which is unarmed; tibiæ quadrate, spined on the margins. Subgenital plate basally broad, keeled, the lateral margins bent upwards, the terminal portion bent sharply upwards and bearing the "four leaf clover" appendage characteristic of the genus. Styles robust, rounded and not angulate, the apical portion of each suddenly constricted.

General color uniform dull brownish yellow (specimen probably having been at some time in a liquid preservative). Wings with the disk dull grayish brown, the anterior field and periphery of the general tint.

MEASUREMENTS:

Length of body		36. mm.
Length of pronotum		9. mm.
Length of tegmina		54. mm.
Length of posterior femora		35.5 mm.
Length of posterior tibiæ		39. mm.

Scopiorus brevifolius Brunner.

1895, *Scopiorus brevifolius* Brunner, Monographie der Pseudophylliden, p. 236.

Nine specimens; four males, five females; Mexico. Coll. Acad. Nat. Sci. Phila. (1). Teocelo, Vera Cruz, Mexico. Collected by Otis W. Barrett (3). Jalapa, Vera Cruz, Mexico. August and September. Collected by Otis W. Barrett (5).†

In one of the males the apex of the subgenital plate is not emarginate, as in the specimen from Orizaba, described by Saussure and Pictet,‡ the other three having the apex broadly emarginate.

* Biol. Cent.-Amer., Orthopt., i, p. 441, tab. 21, figs. 3-8.

† Additional information with these specimens is to the effect that they were taken on Palmetto (*Sabal* sp.).

‡ Biol. Cent.-Amer., Orthopt., i, 444.

Mimetica marmorata Saussure and Pictet

1898, *Mimetica marmorata* Saussure and Pictet, Biol. Cent.-Amer., Orthopt., i, p. 453, tab. xxii, figs 10 and 11.

Two males; Nicaragua (U. S. N. M.). Escondido River, fifty miles from Bluefields, Nicaragua. July 13th. Collected by C. W. Richmond (U. S. N. M.).

Family GRYLLIDÆ.

Gryllotalpa hexadactyla Perty.

1830, *Gryllotalpa hexadactyla* Perty, Del. Anim. Artic. Bras., p. 119, tab. 23, fig. 9.

Three females; Panama (U. S. N. M.). Escondido River, fifty miles from Bluefields, Nicaragua. August 25, 1892. Collected by C. W. Richmond (U. S. N. M.).

Scapteriscus didactylus (Latreille).

1804, *Gryllotalpa didactyla* Latreille, Hist. Nat. Crust. et Ins., xii, p. 122.

Two specimens; male and female; Machuca, Nicaragua. Coll. Acad. Nat. Sci. Phila.

Scapteriscus sp.

One immature specimen; Panama (U. S. N. M.).

Tridactylus histrio Saussure.

1896, *Tridactylus (Heteropus) histrio* Saussure, Biol. Cent.-Amer., Orthopt., i, p. 207.

Two males; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

Rhipipteryx pulicaria Saussure.

1896, *Rhipipteryx pulicaria* Saussure, Biol. Cent.-Amer., Orthopt., i, p. 215.

Ten specimens; six males, four females; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

Rhipipteryx fraterna Saussure.

1896, *Rhipipteryx fraterna* Saussure, Biol. Cent.-Amer., Orthopt., i, p. 214.

Six specimens; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett (3). Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (3).

Anurogryllus muticus (De Geer).

1773, *Gryllus muticus* De Geer, Mém. Ins., iii, p. 520, tab. 43, fig. 2.

One male; Panama. Dr. LeConte. Coll. Acad. Nat. Sci. Phila.

Gryllus pennsylvanicus Burmeister.

1838, *Gr[yllus] pennsylvanicus* Burmeister, Handb. der Ent., ii, p. 734.

Two specimens; male and female; Mexico, Coll. Acad. Nat. Sci. Phila.

I have followed Scudder* in considering *neglectus* a synonym of *pennsylvanicus*.

Gryllus assimilis Fabricius.

1775, *Gryllus assimilis* Fabricius, Syst. Ent., p. 280.

Two specimens; male and female; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett. Jalapa, Vera Cruz, Mexico.

Gryllus barretti Rehn.

1901, *Gryllus barretti* Rehn, Trans. Amer. Ent. Soc., xxvii, p. 221.

Two specimens; male and female; Yucatan. Schott. Coll. Acad. Nat. Sci. Phila.

Gryllus mexicanus Saussure.

1874, *Gryllus mexicanus* Saussure, Miss. Scient. Mex., Orthopt., p. 402, tab. 8, fig. 30.

Two specimens; male and female; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

Gryllodes toltecus Saussure.

1877, *Gryllodes toltecus* Saussure, Mélanges Orthoptérologiques, 5e fasc., p. 396.

Two immature specimens; male and female; Ticul, Yucatan. Coll. Acad. Nat. Sci. Philadelphia.

Anaxipha sp.

Two males; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

Heterogryllus ocellaris Saussure.

1874, *Heterogryllus cellaris* Saussure, Miss. Scient. Mex., Orthopt., p. 440.

One male; Machuca, Nicaragua. Coll. Acad. Nat. Sci., Phila.

As only females of this species were previously known, and this specimen, while showing considerable difference from the descriptions, exhibits nothing which I can consider of more than sexual importance, I have placed under this species previously known only from Brazil.

* Psyche, ix, p. 292.

Amphiacusta tolteca Saussure.

1897, *Amphiacustes tolteca* Saussure, Biol. Cent.-Amer., Orthopt., i, 247.

One female; Mexico. Coll. Acad. Nat. Sci. Phila.

Amphiacusta azteca (Saussure).

1859, *Ph[alangopsis] aztecus* Saussure, Revue et Magas. de Zoolog., 2e ser., xi, p. 209.

One female; Jalapa, Mexico. Coll. Acad. Nat. Sci. Phila.

Xabea bipunctata (De Geer).

1773, *Gryllus bipunctata* De Geer, Mém. Ins., iii, p. 523, pl. 43, fig. 7.

One female; Teocelo, Vera Cruz, Mexico. September. Collected by Otis W. Barrett.

Æcanthus varicornis Walker.

1869, *Æcanthus varicornis* Walker, Catal. Derm. Salt. Brit. Mus., i, p. 94.

One immature male; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

Paræcanthus olmecus Saussure.

1897, *Paræcanthus olmecus* Saussure, Biol. Cent.-Amer., Orthopt., i, p. 264, tab. xiii, figs. 16 and 17.

Two specimens; male and female; Orizaba, Vera Cruz, Mexico. January 9-16, 1892. Collected by H. Osborn (U. S. N. M.).

Aphonogryllus diversus (Walker).†

1871, *Platydictylus diversus* Walker, Catal. Derm. Salt. Brit. Mus., v, Suppl., p. 12.

One female; Machuca, Nicaragua. Coll. Acad. Nat. Sci. Phila.

† For use of this generic name in place of *Aphonus* Saussure, see Rehn. Canad. Ent., xxxiii, p. 272.



Rehn, James A. G. 1903. "A contribution to the knowledge of the Orthoptera of Mexico and Central America." *Transactions of the American Entomological Society* 29, 1–34.

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