

## MEXICAN RECORDS OF BLATTIDAE (ORTHOPTERA)

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For some time we have had in the collections various small series of Mexican Blattidae. In studying the family from north of the Mexican boundary, and from Central and northern South America, we have been obliged to refer constantly to this material and, as rapidly as determined, a considerable proportion has been placed in the arranged collections. A much more complete representation from Venvidio, Sinaloa, Mexico, recently received, is now being studied, and the time seemed fitting to make a final examination of all the Mexican series in the Philadelphia collections, or loaned to us for study.

Though admittedly a small and fragmentary collection, the material here reported has been found to include several undescribed forms, while distributional data, useful in studying North American Blattidae, are made available to the student. Extensive, rich and varied as Mexico is, from the standpoint of the biologist, practically no intensive collecting of this family has been done since the time of Saussure, excepting recently in the State of Sinaloa. In the present paper two hundred and thirty-eight specimens are recorded, representing twenty-four genera and forty-one species, of which two species and one geographic race are described as new. Unless otherwise stated the material is in the Hebard Collection.

## ECTOBIINAE

**Anaplecta fallax** Saussure

1862. *Anaplecta fallax* Saussure, Rev. et. Mag. de Zool., (2), xiv, p. 163. [[♀], Guatemala.]

1893. *Anaplecta parvipennis* Saussure and Zehntner, Biol. Cent.-Am., Orth., 1, p. 26. [Tabasco, Mexico.]

San Lucrecia, Vera Cruz, VI, 19, 1905, (F. Knab), 1♂, 1♀, [U. S. N. M. and Hebard Cln.]. Atoyac, Vera Cruz, XI, 1887, 1♂.

From study of the material here recorded, and specimens from Guatemala and Nicaragua in the Philadelphia Collections, we



feel confident that the name *parvipennis* is based on a condition of the present species in which the tegmina are somewhat reduced, the wings decidedly so. The specimen from Atoyac, as well as two of three individuals before us from Cacao, Trece Aguas, Alta Vera Paz, Guatemala, show that condition.

**Anaplecta saussurei**<sup>1</sup> new species (Plate XIII, figure 1.)

This very small species appears to be nearest in relationship to *A. elliptica* Saussure and Zehntner, described from Guatemala. In size it is smaller, being one of the most diminutive species of the genus.

In coloration it agrees with paler individuals of the dark brown species, such as *A. lateralis* Burmeister. It is darker than a specimen of *A. domestica* Saussure and Zehntner before us.

The tegmina show an even greater angulation of the costal margin than figured for *A. decipiens* Saussure and Zehntner<sup>2</sup>, due to the more decided obliquity of that margin distad. The form of the wing and its venation is very similar to that figured for *elliptica*.<sup>3</sup>

*Type*.—♂; Vera Cruz, Vera Cruz, Mexico. (Rev. T. Heyde.) [Hebard Collection, Type no. 755.]

Size very small, form elliptical. Head slightly longer than broad, width between antennal sockets two-thirds that between eyes; interocellar area forming, with margins of ocellar areas, a projecting but rounded ridge above each antennal socket; ocellar spots obsolete.<sup>4</sup> Pronotum transverse, nearly rectangulate-oval, narrowing very slightly more cephalad than caudad. Tegmina reaching slightly beyond cercal apices, rather narrow, costal and sutural margins showing very faint convexity, the former suddenly rather strongly oblique in distal fourth to the bluntly rounded apex; costal veins (seven or eight) with intervening irregular veinlets, the distal portion of this area occupied by an irregular network of veinlets; median and proximal portion of ulnar vein alone developed, these discoidal sectors longitudinal. Wings with appendicular field longer than broad, forked mediastine vein extending beyond median portion of costal margin, (four) costal veins scarcely thickened distad; broad medio-discoidal area with a vein which curves obliquely distad from the discoidal vein to the apex of the median vein, from

<sup>1</sup> In honor of Henri de Saussure. The collections personally made by that distinguished author served him as a basis for the description of a considerable proportion of the known species of Mexican Orthoptera.

<sup>2</sup> Biol. Cent.-Am., Orth., 1, pl. iv, fig. 11.

<sup>3</sup> Biol. Cent.-Am., Orth., 1, pl. iv, fig. 8.

<sup>4</sup> Probably due to discoloration.



this, two veins, parallel to the discoidal vein, run obliquely distad to base of appendicular field; branches of axillary vein connected by a transverse vein. Supra-anal plate transverse with caudal margin convex, showing a trace of angulation mesad, surface meso-proximad impressed.<sup>5</sup> Subgenital plate simple, slightly the more produced dextrad; styles simple, straight, cylindrical, the sinistral stout, about twice as long as wide, the dextral slightly over half as wide and of the same length, distal margin of plate between these very broadly convex. Limbs as characteristic of the genus.<sup>6</sup>

Head cinnamon brown; mouthparts, antennae and palpi dresden brown. Pronotum cinnamon brown, with lateral portions transparent, faintly tinged with brown. Tegmina translucent cinnamon brown, paling very slightly toward costal margin, but with marginal field colored the same as lateral portions of pronotum. Remaining portions of dorsal surface ochraceous-buff, suffused disto-laterad and distad with chestnut brown. Cerci dresden brown. Limbs immaculate, pale buckthorn brown. Ventral surface of abdomen ochraceous-buff tinged with tawny, weakly suffused with prout's brown latero-distad.

Length of body, 4.1; length of pronotum, 1.3; width of pronotum, 1.9; length of tegmen, 3.8; width of tegmen, 1.4 mm.

The type is unique.

**Anaplecta azteca** Saussure

1868. *Anaplecta azteca* Saussure, Rev. et Mag. de Zool., (2), xx, p. 97. [♂, ♀; [Orizaba], Mexico.]

Vera Cruz, Vera Cruz, I, 1892, (L. Bruner), 1 ♂. Cordoba, Vera Cruz, VI, 15, 1905, (F. Knab), 1 ♀, [U. S. N. M.]. Orizaba, Vera Cruz, I, 1892, (L. Bruner), 1 ♂, 2 ♀. Minatitlan, Vera Cruz, II, 1, 1892, (L. Bruner), 1 ♀.

PSEUDOMOPINAE

**Euthlastoblatta orizabae** (Saussure)

1868. *Blatta orizabae* Saussure, Rev. et Mag. de Zool., (2), xx, p. 355. [♂, ♀; [Orizaba, Cordillera Oriental, Mexico].]

Atoyac, Vera Cruz, XI, 1887, 2 ♂. Motzorongo, Vera Cruz, II, 1892, (L. Bruner), 2 ♀.

This species represents a third group of the genus *Euthlastoblatta*, the pronotum having a pale medio-longitudinal area, recalling species of the genus *Eudromiella*. The males have no very decided specialization of the subgenital plate, as is found in the Compsa Group.

<sup>5</sup> It is probable that the tuft of agglutinated hairs, occurring there in males of other species of *Anaplecta*, is also developed in this species, but can not be seen in the present specimen.

<sup>6</sup> Described, Mem. Am. Ent. Soc., no. 4, p. 17, (1920).



**Ceratinoptera nahua** (Saussure)

1868. *Paraceratinoptera nahua* Saussure, Rev. et Mag. de Zool., (2), xx, p. 357. [♂, ♀; [Cordillera Oriental], Mexico.]

The series of this species from Motzorongo, Orizaba and Minatitlan, all in the state of Vera Cruz, has been fully discussed, and the synonymy of Saussure's *Paraceratinoptera* with *Ceratinoptera* Brunner, and Saussure and Zehntner's *Paraceratinoptera dohrniana* with *nahua*, established.<sup>7</sup>

**Ceratinoptera tropaia** Hebard

1916. *Ceratinoptera tropaia* Hebard, Trans. Am. Ent. Soc., XLII, p. 133, fig. 4. [♂; Motzorongo, Vera Cruz, Mexico.]

The type of this strongly brachypterous species is unique.

**Latiblattella vitrea** (Brunner)

1865. *Ph[yllodromia] vitrea* Brunner, Nouv. Syst. Blatt., p. 109, pl. II, figs. 8 A to E. [♂; Vera Cruz, [Mexico].\*]

Mexico, IV, 2♂, [M. C. Z.]. Cordoba, Vera Cruz, V, 10, 1908, (F. Knab, in flower sheath of *Arum*), 1♀, [U. S. N. M.]; VI, 13, (F. Knab), 1♀, [Hebard Cln.]. San Rafael, Vera Cruz, (C. H. T. Townsend), 1♂.

Compared with the series of *L. lucifrons* Hebard before us, we find the present insect to differ in being less broad, with pronotum less ample and considerably narrower, and cross-veinlets of anterior field of wings heavier and darker and, as a result, much more conspicuous.

In *vitrea* the male subgenital plate has the meso-distal portion with margins weakly convex convergent to the truncate apex, each of these margins forming a raised and rounded lateral ridge. Along the dorsal margins of these the styles are produced mesad as elongate, tapering, slender plates, each terminating above the apex of the median portion in a rounded knob, microscopically and very minutely spined, each produced dorso-laterad in internal section as a small rounded lamella. The tarsal claws are decidedly asymmetrical, the shorter projecting slightly beyond the arolium, and in length two-thirds that of the longer.

<sup>7</sup> Hebard, Trans. Am. Ent. Soc., XLII, p. 131, (1916).

<sup>8</sup> We here select Vera Cruz, Mexico, as the type locality. The material originally included from the Fiji Islands, almost certainly represents a different genus and species, or was incorrectly labelled.



The Costa Rican *L. pavida* (Rehn) agrees closely in size and form with this species; the distal cross-veinlets of the wings are, however, inconspicuous and the male genitalia very different.

*Measurements (in millimeters)*

	Length of body	Length of pronotum	Width of pronotum	Length of tegmen	Width of tegmen
♂					
Mexico.....	11.6	3.2	5	12.7	4
Mexico.....	13.7 <sup>9</sup>	3.3	4.8	12.8	4
San Rafael, Vera Cruz.....	11.3	3.2	4.7	11.9	3.8
♀					
Cordoba, Vera Cruz.....	12	3.7	5.1	10.7	4.1
Cordoba, Vera Cruz.....	..	3.7	5.3	10.3	4

***Latiblattella lucifrons* Hebard**

1917. *Latiblattella lucifrons* Hebard, Mem. Am. Ent. Soc., no. 2, p. 43, pl. I, figs. 18 to 23. [♂, ♀; Santa Rita Mountains, Arizona.<sup>10</sup>]

San José del Cabo, Lower California, 1 ♀. Huejotitlan, Jalisco, 1700 meters, VI and VII, 1 ♂.

This species will be fully discussed in our forthcoming paper on the Sinaloa collection, from which state we have a large number of specimens.

***Latiblattella picturata* new species** (Plate XIII, figures 2 to 8.)

Apparently closely related to *L. zapoteca* (Saussure), the present insect differs in the smaller size and very strongly asymmetrical tarsal claws.<sup>11</sup> The single female before us further shows much greater reduction in the organs of flight, these not reaching the base of the subgenital plate.

In specimens of intensive coloration, the picturing of the pronotal disk is strikingly beautiful.

*Type*.—♂; San José del Cabo, Lower California, Mexico. [Hebard Collection, Type no. 757.]

Size medium small, form moderately slender for this genus of comparatively broad species. Head with interocular space slightly over half (in paratype slightly less than half) that between antennal sockets; inter-ocular-ocellar area flattened, showing a feeble concavity; ocellar areas well defined ocellar spots moderately large and distinct. Maxillary palpi with distal

<sup>9</sup> Abdomen distended.

<sup>10</sup> Material also recorded from the Huachuca and Baboquivari Mountains, Arizona.

<sup>11</sup> Two Costa Rican females, apparently representing *zapoteca*, though somewhat smaller than the type, have the tarsal claws very weakly asymmetrical, much as in *L. lucifrons* Hebard.



joint large and elongate, nearly as long as (or in paratype as long as) fourth joint; fourth joint elongate, slightly shorter than third. Pronotum as characteristic of genus, greatest width meso-caudad, surface weakly convex and showing weak lateral deflection. Tegmina and wings fully developed, venation as characteristic of genus, costal veins slightly heavier distad. Abdomen with sixth tergite having a deep semicircular depression mesad, bearing a scant fringe of hairs on its cephalic face, caudad of which the segment is raised in a large blunt knob, with surface cephalo-dorsad covered with a heavy tuft of somewhat agglutinated, short hairs, these parting from the medio-longitudinal line and directed cephalo-laterad, caudal portion of tergite subchitinous mesad. First to sixth tergites with latero-caudal angles weakly produced, forming a rounded angle of slightly less than ninety degrees, this larger for sixth tergite; succeeding tergites decidedly constricted, more so than in *lucifrons*. Supra-anal plate transverse, very weakly triangularly produced, with apex weakly bilobate. Subgenital plate of type characteristic of genus; disto-mesal section produced, directed upward, rounded and bluntly angulate sinistro-distad; the lateral sections are similarly directed upward with hinged styles lying along the margins of the median production, the dextral much heavier than the sinistral, the bluntly rounded apices of these attingent and curling caudad; within, from the base of the sinistral style, a more strongly chitinous, cylindrical process is directed dorsad, its blunt apex flattened out caudad on a plane with the dorsal margin of the sinistral style. Limbs as characteristic of the genus. Tarsal claws very strongly asymmetrical, the shorter not extending as far as the large pulvillus.<sup>12</sup>

*Allotype*.—♀; San Jorge, Lower California, Mexico. [Hebard Collection.]

Agrees with type in color pattern, asymmetry of tarsal claws and other features, excepting the following. Size smaller. Interocular space much wider, four-fifths that between the antennal sockets, ocellar areas less distinct and ocellar spots smaller. Pronotum with point of greatest width nearer the more truncate caudal margin.<sup>13</sup> Tegmina and wings greatly reduced, but extending to near base of supra-anal plate. Tegmina narrow, elongate oval.<sup>14</sup> Dorsal surface of abdomen neither specialized or con-

<sup>12</sup> The degree of asymmetry of the tarsal claws appears to be one of the most useful characters in distinguishing the species of this genus. It is evident that *Latiblattella* includes a number of species, all of very similar type even in such characters as the specialization of the male tergites and subgenital plate. None of these species have revealed distinctive characters not shared by the others, and differences of degree, such as of form, of tegmina and wing development and of amount of asymmetry shown by the tarsal claws, are thus of great importance. The male concealed genitalia will, very possibly, show individual diagnostic characters, but there is not sufficient material of many of the species available to determine this.

<sup>13</sup> We have found that this change in pronotal form is almost always a direct response to great reduction in the organs of flight.

<sup>14</sup> Much as figured for "*Temnopteryx kaupiana*" Saussure and Zehntner, Biol. Cent.-Am., Orth., I, pl. iv, fig. 24, (1893).



stricted distad. Supra-anal plate triangularly produced, lateral margins convergent and broadly concave, then broadly convex to the subtruncate apex. Subgenital plate large, scoop-shaped, extending a little beyond apex of supra-anal plate, lateral portions produced and raised, with margin convex to point opposite cerci, there broadly obtuse-angulate rounded emarginate, with remaining portion of free margin broadly convex to a very briefly longitudinal, meso-distal cleft.

Coloration of type. Head with a pair of vague brown suffusions between the eyes and ocelli, between the antennal sockets and above the clypeus, these fusing with each other and with a brown suffusion mesad on the clypeus, leaving a conspicuous buffy wedge-shaped area mesad on the face; vertex, ocelli and areas between the brown suffusions buffy. Palpi, limbs and underparts ochraceous-buff tinged with tawny, the abdomen with a heavy submarginal band of deep prout's brown on each side. Pronotal disk ochraceous-buff tinged with tawny, delicately pictured with blackish prout's brown, lateral portions and tegmina weakly transparent, faintly tinted with buckthorn brown. Wings transparent, similarly tinted in area of costal veins, elsewhere more faintly so. Dorsal surface of abdomen suffused with prout's brown, margined with ochraceous-buff.

Allotype very similarly, but much more intensively, colored, not tinged with tawny. Head markings heavier and chestnut brown, base of first antennal joint and palpi to near tips of last joint of this color. Cephalic femora chestnut brown, paling to buffy dorso-distad; other femora buffy, margined with chestnut brown. Tibiae buffy, heavily flecked with chestnut brown at bases of spines. Tarsal joints buffy, first three suffused with chestnut brown distad. Pronotum similarly but more heavily pictured with chestnut brown. Abdomen, above and below, solidly chestnut brown, margined with buffy.

A paratype male, from the State of Sinaloa, shows a most striking intensive coloration of head and pronotal disk, the suffusions becoming more solid and sharply defined, the vertex streaked vertically with brown, and the picturing of the pronotal disk heavier and more conspicuous.

The other paratype male, from Lower California, shows a very slightly greater recession of the color pattern than does the type.

Of the juveniles, that from Lower California shows the maximum of recessive coloration in the series, with pronotal picturing almost obsolete and cephalic markings reduced to vague dots. The juvenile from Sinaloa is nearly as intensively colored as the adult from that state. In consequence these juveniles have a very different superficial appearance.

*Measurements (in millimeters)*

♂	Length of body	Length of pronotum	Width of pronotum	Length of tegmen	Width of tegmen
San José del Cabo, Lower California, <i>type</i> .....	12 <sup>15</sup>	3	4.2	13.8	3.9
Sierra el Tosti, Lower California, <i>paratype</i> .....	..	3	4.2	11.3	3.6
Venvidio, Sinaloa, <i>paratype</i> ....	13 <sup>15</sup>	3	4.4	12.1	4

<sup>15</sup> Abdomen extruded.



	♀	Length of body	Length of pronotum	Width of pronotum	Length of tegmen	Width of tegmen
San Jorge, Lower California, <i>allotype</i> .....		9.8 <sup>16</sup>	3	4.3	6	2.7

*Specimens Examined:* 6; 3 males, 1 female and 2 immature individuals.

San José del Cabo, Lower California, 1 ♂, *type*, 1 juv. ♂.

Sierra el Tosti, Lower California, 1 ♂, *paratype*.

San Jorge, Lower California, 1 ♀, *allotype*.

Venvidio, Sinaloa, VI, 16, 1918, (J. A. Kusche), 1 ♂, *paratype*, 1 juv. ♂.

***Latiblattella tarasca* (Saussure)**

1862. *Blatta tarasca* Saussure, Rev. et Mag. de Zool., (2), xiv, p. 164. [♀, Mexico.]

San Luis Potosi, San Luis Potosi, (E. Palmer), 2 ♀, [M. C. Z. and Hebard Cln.].

These specimens agree closely with the more satisfactory description subsequently given by Saussure.<sup>17</sup>

In spite of the decided tegminal reduction and vestigial wings, the insect, known only from the female sex, is clearly a member of the genus *Latiblattella*, agreeing in all characters of form, type of female subgenital plate, limb armament, pulvilli, arolia and tarsal claws. In this insect the tarsal claws are very strongly asymmetrical, the shorter not extending quite as far as the apical margin of the very large arolium. The species has been referred to the composite genus *Temnopteryx*.

In the present specimens, dried after immersion in alcohol, the only noteworthy color difference from the type is the paler abdomen; rich shining hazel above and below, broadly and sharply bordered with warm buff.

The measurements are: length of body, 9.8–11; length of pronotum, 3.2–3.3; width of pronotum, 4.6<sup>18</sup>–4.6; length of tegmen, 4.7–5; width of tegmen, 2.8–2.9 mm.

It is very possible that *Temnopteryx kaupiana*, described by Saussure from Moyoapan, Cordillera Oriental, Mexico, will be found to constitute a synonym of the present species.

<sup>16</sup> Abdomen retracted.

<sup>17</sup> Mém. l'Hist. Nat. Mex., Blatt., p. 95, (1864).

<sup>18</sup> If in normal position. The pronotum is somewhat buckled in this specimen.



An added difficulty is here found in studying the genus *Lati-blattella*, as the tegmina in females of certain species are seen to have reached a degree of reduction sufficient to have resulted in their being assigned to the composite genus *Temnopteryx*, as understood in the early literature.

**Neoblattella fratercula** Hebard

1916. *Neoblattella fratercula* Hebard, Ent. News, xxvii, p. 159, figs. 1 and 2. [♂, ♀; Isla de Cocos, Costa Rica.]

San Rafael, Vera Cruz, (C. H. T. Townsend), 1 ♀.<sup>19</sup> Cordoba, Vera Cruz, IV, 28, 1908, (F. Knab; in bromeliads), 1 ♀, 1 ♂, [U. S. N. M.].

These specimens, like Panamanian material recorded by us, are appreciably larger than those of the type series. An unrecorded Guatemalan series shows an average in size intermediate between these.

**Blattella germanica** (Linnaeus)

1867. [*Blatta*] *germanica* Linnaeus, Syst. Nat., Ed. xii, i, p. 668. [Denmark.]

Motzorongo, Vera Cruz, II, 1892, (L. Bruner), 1 ♂. Puebla, Puebla, 6 ♀, 1 juv. ♀, [Paris Museum]. San José del Cabo, Lower California, 1 ♂, 1 ♀.

**Parcoblatta americana** (Scudder)

1900. *Loboptera americana* Scudder, Proc. Davenport Acad. Sci., viii, p. 93 pl. 2, fig. 4. [1 ♀; Ehrenberg, Arizona.]

Lower California, (G. W. Dunn), 1 ♂.

**Ischnoptera tolteca** Saussure

1868. *Ischnoptera tolteca* Saussure, Rev. et Mag. de Zool., (2), xx, p. 356. [♂, ♀; Mexico.]

San Lucrecia, Vera Cruz, VI, 19 and 20, 1905, (F. Knab), 1 ♂, 1 ♀, [U. S. N. M.].

These specimens have the pronotal disk to near the caudal margin dark brown, the dark color beneath showing through the caudal portion; the cephalic margin is narrowly, the lateral margins more broadly, buffy, this forming a conspicuous angulate invasion on each side before the humeral shoulders.

<sup>19</sup> Incorrectly recorded by Hebard as *N. brunneriana* (Saussure), Ent. News, xxvii, p. 159, footnote 1, (1916). See also Mem. Am. Ent. Soc., no. 4, p. 61, footnote 88, (1920).



The supra-anal plate in the male is subchitinous meso-distad, the distal margin being broadly rounded and irregularly serrate, the lateral margins with a ventral fringe of minute stout spines, the ventral surface of the subchitinous area with fewer and more irregular, heavier spines directed caudad; in the female this plate is triangularly produced, with margins weakly convex-convergent to the weakly and shallowly bilobate apex. The male shows a heavy spine springing from the base of the sinistral cercus, directed mesad, and below this an elongate plate, extending beyond the median portion of the anal chamber, with dorso-distal portion produced in a rounded projection; dextrad little specialization appears to occur. In the male the heavy styles are separated by a lesser distance than the width of one of these, the dextral style is somewhat the heavier and blunter, twice as long as its greatest width; both styles are well supplied with minute but stout spines on their dorsal surfaces.

Length of body, ♂ 12.5, ♀ 11.5; length of pronotum, ♂ 2.8, ♀ 3; width of pronotum, ♂ 3.7, ♀ 4; length of tegmen, ♂ 11.9, ♀ 12; width of tegmen, ♂ 3.4, ♀ 3.5 mm.

***Ischnoptera azteca*** (Saussure)

1862. *I[schnoptera] azteca* Saussure, Rev. et Mag. de Zool., (2), xiv, p. 170. [[♂, Gulf coast of] Mexico.]

Motzorongo, Vera Cruz, (L. Bruner), 1 ♀.

This specimen shows an extremely recessive coloration, the head is dark, but the pronotum is ochraceous-buff faintly tinged with ochraceous-tawny, the pair of dark suffusions reduced so that they occupy only the latero-caudal sulci of the disk. These markings are dark chestnut brown. In all other respects it agrees closely with Saussure's diagnosis. That author has stated the species is subject to decided color variation.

Length of body, 14.7; length of pronotum, 3.4; width of pronotum, 4.4; length of tegmen, 14.8; width of tegmen, 4 mm.

***Symploce hospes*** (Perkins)

1899. *Phyllodromia hospes* Perkins, Fauna Hawaiiensis, II, p. 5. [♂; Kauai [Island] and Honolulu, [Oahu Island, Hawaiian Islands].]

1916. *Symploce lita* Hebard, Trans. Am. Ent. Soc., XLII, p. 357, pl. XVII, fig. 8, pl. XVIII, figs. 1 to 4. [♂, ♀: Key West, Florida; Vera Cruz, Vera Cruz and San José del Cabo, Lower California, Mexico.]



Vera Cruz, Vera Cruz, 1♂. San José del Cabo, Lower California, 2♀, 3♂.

Opportunity to examine Hawaiian material has proven beyond question the synonymy indicated above. The description of *hospes* is insufficient to make determination possible from it alone, and the there appended statement by Brunner, that the species is allied to *Phyllodromia conspersa* Brunner, misled us completely. *Conspersa* is a South American member of the genus *Neoblattella*, referable to the Group Blattellae, while *Symploce* is a member of the Group Ischnopterae showing an Epilamprine tendency.

**Euphyllodromia angustata** (Latreille)

1811. *Blatta angustata* Latreille, in Humboldt and Bonpland, Recueil. Observat. Zool. et Anat. comp., 1, p. 146, pl. xv, fig. 9. [Vera Cruz, [Vera Cruz, Mexico].]

San Rafael, Vera Cruz, (C. H. T. Townsend), 1♀. Cordoba, Vera Cruz, IX, 9, 1905, (F. Knab), 1♀.

**Pseudomops septentrionalis** Hebard

1917. *Pseudomops septentrionalis* Hebard, Mem. Am. Ent. Soc., no. 2, p. 156, pl. vi, figs. 5 to 8. [♂, ♀; Brownsville, Texas.<sup>20</sup>]

At the time this species was described, two Mexican females were also discussed, one from Saltillo, Coahuila, the other from San José, Tamaulipas. A large series is now before us from Venvidio, Sinaloa, which we will consider more fully in our study of the Orthoptera of that state.

**Pseudomops oblongata** (Linnaeus)

1758. *B[lat]ta oblongata* Linnaeus, Syst. Nat., Ed. x, 1, p. 425. [America.]

At the time *P. septentrionalis* Hebard was described, the material of this species from the collections now studied was recorded and compared; a series of both sexes from the Distrito Federal, Teapa in Tabasco and San Rafael, Orizaba, Cordoba and Vera Cruz in Vera Cruz.

Material from Cuernavaca, Morelos and Tuxpan, Jalisco, previously recorded by Rehn, is in the Academy Collection.

<sup>20</sup> In addition, fourteen other Texan localities are given and the Mexican localities noted below.



## NYCTIBORINAE

**Nyctibora azteca** Saussure and Zehntner

1893. *Nyctibora azteca* Saussure and Zehntner, Biol. Cent.-Am., Orth., 1, p. 56, pl. iv, fig. 34. [♂; Capetillo, Guatemala.]

Tehuacan, Puebla, 1 ♀, 2 juv., [Paris Museum].

There is also in the Philadelphia Collections an adult female of this species labelled "Mat." We know that this specimen came from some Mexican museum and believe that the label signifies Matamoros, Puebla. The measurements of this specimen are; length of body, 26.7; length of pronotum, 6.7; width of pronotum, 9.7; length of tegmen, 21; width of tegmen, 8.3 mm.

**Paratropes mexicana** Brunner

1865. *Paratropa mexicana* Brunner, Nouv. Syst. Blatt., p. 151, pl. iv, figs. 15A to E. [♀; Oaxaca, Mexico.]

Vera Cruz, (Rev. T. Heyde), 1 ♀.

This specimen, probably taken in the southern portion of the State of Vera Cruz, measures as follows: length of body, 21.3; length of pronotum, 6.8; width of pronotum, 10.7; length of tegmen, 24.8; width of tegmen, 10 mm.

## EPILAMPRINAE

**Epilampra maya brachyptera** new subspecies (Plate XIII, figures 9 and 10.)

The typical race of this species is represented in the Philadelphia Collections by material from Nicaragua, Costa Rica, Panama and the Island of Trinidad.

The present race, from the southern portion of the Mexican State of Vera Cruz, is readily distinguished by the considerable reduction in the organs of flight. This appears to be a constant feature in that region.

*Type*.—♂; Minatitlan, Vera Cruz, Mexico. February 1, 1892. (L. Bruner.) [Hebard Collection, Type no. 761.]

Agrees in all respects with males of *Epilampra maya maya* Rehn, except in the reduction of the organs of flight and wider interocular space. Interocular space wider than that between the large ocelli, three-quarters as wide as space between antennal sockets.<sup>21</sup> Tegmina extending only to apex of abdomen; wings reduced, probably incapable of sustained flight, but when closed reaching as far caudad as the tegmina.

<sup>21</sup> In males of typical *maya* the interocular space is narrower, scarcely two-thirds as wide as that between the antennal sockets.



*Allotype*.—♀; Same data as type. [Hebard Collection.]

Similar to females of typical *maya* except in the reduction of the organs of flight. Interocular space scarcely wider than in male, much as in females of typical *maya*.<sup>22</sup> Tegmina covering about half the dorsal abdominal surface; wings reduced, incapable of sustained flight, when closed reaching as far caudad as the tegmina.

It is of interest to note that, in the present race, the reduction in the organs of flight has had no effect whatever on the form of the pronotum.

In coloration no difference from *maya maya* is shown.

*Measurements (in millimeters)*

	Length of body	Length of pronotum	Width of pronotum	Length of tegmen	Width of tegmen
♂					
<i>Type</i> .....	16.5	5.3	7.1	13.7	5.3
<i>Paratypes</i> (5).....	17.2-19	5-5.6	6-7.1	12.3-13.2	5-5.7
♀					
<i>Allotype</i> .....	24.8	6.7	8	14.3	6.3
<i>Paratypes</i> (15).....	20-26	6-6.8	7.4-8.7	12.8-14.4	5.8-6.8

The following characters, not given in the original description of *maya*, are noted for both races of the species.<sup>23</sup> Male. Maxillary palpi with second joint twice as long as wide, third joint four-fifths as long as the narrowly enlarged fifth joint, fourth joint almost as long as third, expanding distad. Abdominal tergites with latero-caudal angles bluntly rounded. Supra-anal plate bilobate and weakly chitinous distad. Subgenital plate of the unspecialized, asymmetrical lobiform type characteristic of the genus, with styles simple, straight, elongate. Ventro-cephalic margin of cephalic femora armed with a row of heavy proximal spines, succeeded by well spaced, minute, chaetiform spines, terminated by two heavy elongate spines, of which the more distal is twice as long as the more proximal; other ventral femoral margins supplied with heavy elongate spines, of which those of the caudal margins are distinctly the longer. Four proximal tarsal joints with large distal pulvilli, three proximal joints biserially armed with spinulae ventrad. Medium sized arolia present between the simple, symmetrical tarsal claws.

Female. Similar, but larger and broader. Ocelli smaller and less conspicuous. Dorsal abdominal tergites with latero-caudal angles produced

<sup>22</sup> Thus, in typical *maya*, there is a decidedly greater contrast between the sexes in width of interocular space, than in the present race. Too great stress should not be given this fact, as it is very possible that, in coordination with reduction in the organs of flight, the male of *m. brachyptera*, as well as the female, has retained the type showing closer agreement with that of the immature condition. In typical *maya*, with fully developed organs of flight, such is also the case for the female sex, but a change has occurred in the male. We have found generally that immature characteristics remain unchanged longer in females than in males of the Blattidae.

<sup>23</sup> Many of these are probably of generic, rather than specific, significance.



caudad in minute but sharp, spiniform teeth. Supra-anal plate more chitinous distad, more produced, with lateral margins more convergent, similarly bilobate distad. Subgenital plate large, simple, convex, free margin broadly concave opposite cerci and broadly convex distad.

The general coloration of this species varies in the series from tawny olive to sayal brown, the darker punctae of the pronotum being so small they are scarcely appreciable to the naked eye. The tegminal flecks are often conspicuous, though few in number; rarely these are greatly reduced in size.

*Specimens Examined:* 28; 6 males, 15 females and 7 immature individuals.

Orizaba, Vera Cruz, I, 1892, (L. Bruner), 1 large juv. ♀.

San Rafael, Vera Cruz, (C. H. T. Townsend), 1 large juv. ♀.

Minatitlan, Vera Cruz, I, 31 to II, 2, 1892, (L. Bruner), 6 ♂, 15 ♀, *type*, *allotype*, *paratypes*, 1 large juv. ♀, 4 juv. ♂.

***Epilampra mexicana* Saussure**

1862. *E[pilampra] mexicana* Saussure, Rev. et Mag. de Zool., (2), xiv, p. 228. [♂], Mexico.]

Aspinwall Barrio, Isthmus of Tehuantepec, (F. Sumichrast), 1 ♀.

From the description the type is seen to be more intensively colored than the present specimen.

BLATTINAE

***Periplaneta americana* (Linnaeus)**

1758. [*Blatta*] *americana* Linnaeus, Syst. Nat., Ed. x, p. 424. [America.]

Guadalajara, Jalisco, (D. L. Crawford), 9 ♀, 1 ♂, [A. N. S. P.].

We have placed *P. americana colorata* Rehn, described from Cuernavaca, Morelos, in the synonymy of this species.<sup>24</sup>

***Periplaneta brunnea* Burmeister**

1838. *P[eriplaneta] brunnea* Burmeister, Handb. Ent., II, abth. II, pt. I, p. 503. [♂, ♀: Chile; Demerara (= British Guiana).]

Guadalajara, Jalisco, (D. L. Crawford), 1 ♀, [A. N. S. P.].

***Periplaneta australasiae* (Fabricius)**

1775. [*Blatta*] *australasiae* Fabricius, Syst. Ent., p. 271. ["In nave e mare pacifico et regionibus incognitis revertente".]

Orizaba, Vera Cruz, IX, 8, 1906, (P. P. Calvert), 1 juv. ♂, [A. N. S. P.]. Minatitlan, Vera Cruz, II, 1, 1892, (L. Bruner), 1 small juv.

<sup>24</sup> Mem. Am. Ent. Soc., no. 2, p. 178, (1917).



## PANCHLORINAE

**Pycnoscelus surinamensis** (Linnaeus)

1767. [*Blatta*] *surinamensis* Linnaeus, Syst. Nat., Ed. x, p. 687. [Surinam.]

Vera Cruz, Vera Cruz, (Rev. T. Heyde), 5 ♀, 2 juv. ♀. Motzorongo, Vera Cruz, II, 1892, (L. Bruner), 1 juv. ♀. San Rafael, Vera Cruz, (C. H. T. Townsend), 5 ♀. Orizaba, Vera Cruz, I, 1892, 7 ♀, 15 juv. ♀. Minatitlan, Vera Cruz, II, 1, 1892, (L. Bruner), 1 ♀, 2 juv. ♀. Guadalajara, Jalisco, (D. L. Crawford), 1 ♀, [A. N. S. P.]; 1 ♀ 2 juv. ♀, [Paris Museum]. La Paz, Lower California, 1 ♀, [Paris Museum]. San José del Cabo, Lower California, 23 ♀, 11 juv. ♀.

**Panchlora cubensis** Saussuré

1862. *P[anchlora] cubensis* Saussure, Rev. et Mag. de Zool., (2), xiv, p. 230. [♀, Cuba.]

Vera Cruz, (Rev. T. Heyde), 3 ♀. San Rafael, Vera Cruz, (C. H. T. Townsend), 2♂, 3 ♀. Omealca, Vera Cruz, IV, 16, 1908, (F. Knab), 2♂. Orizaba, Vera Cruz, I, 1892, (L. Bruner), 2 ♂, 1 ♀, 1 juv.♂, 10 juv. ♀. Motzorongo, Vera Cruz, II, 1892, (L. Bruner), 1♂, 3 juv.♂, 5 juv. ♀. Minatitlan, Vera Cruz, II, 2, 1892, (L. Bruner), 1 juv. ♀.

The dark brown and largely glabrous immature individuals of this species, with wide interocular space and close resemblance to the immature condition of *Pycnoscelus surinamensis* (Linnaeus), differ very strikingly from the pale green adults, which show a number of decided structural differences as well. It was due to this great dissimilarity and the size of the larger juveniles, which led us to describe the immature material, recorded above, as representing a new genus and species, *Pycnosceloides aporus*. Breeding experiments in Colombia, made during the summer of 1920, revealed to us our most regrettable mistake, and we have recently placed our name in synonymy. The immature condition of any species of *Panchlora* had not previously been recognized.

**Panchlora acolhua** Saussure and Zehntner

1893. *Panchlora acolhua* Saussure and Zehntner, Biol. Cent.-Am., Orth., I, p. 95. [♀; Guerrero, Mexico.]

Tonala, Chiapas, 1 ♀, [A. M. N. H.].



Material from Guatemala and Panama, recorded as representing two varieties of this species, has been discussed by us.<sup>25</sup>

This is a relatively large and very broad species, pale green in general coloration, with antennae annulate and tegmina without black lines or dots. In the present specimen the dark antennal annulus occupies three and three and one-half joints, the interocular width being appreciably greater than the occipital ocular depth, the interocular space embrowned. The supra-anal plate is not strongly bilobate. The free margin of the subgenital plate is weakly sinuous, showing no markedly concave sections laterad or distad. Length of body, 22.7; width of interocular space, .8; length of pronotum, 7.4; width of pronotum, 9.7; length of tegmen, 23.7; width of tegmen, 8.9; width of tegminal marginal field, 2.3 mm.

***Panchlora mexicana*** Saussure (Plate XIII, figure 11.)

1862. *P[anchlora] mexicana* Saussure, Rev. et Mag. de Zool., (2), xiv, p. 231. [[ ♀ ; Valleys of eastern slope of Cordillera Oriental], temperate Mexico.]

San Rafael, Vera Cruz, (C. H. T. Townsend), 1 ♂.

From the unstudied series before us it is evident that considerably more species of this general type exist than has been supposed. We do not believe that Saussure's *mexicana* is the same as Burmeister's *pulchella* from Brazil, or Stoll's *quadripunctata* from Brazil. This synonymy was indicated by Brunner, who had only Brazilian material before him, and concurred in by Saussure and Zehntner, who recorded Mexican material only. Lack of South American material referable to *quadripunctata* prevents a satisfactory comparison at the present time.

The specimen before us resembles three males of *P. zendala* Saussure,<sup>26</sup> to which species it is closely related; differing in the decidedly smaller size, interocular space dark only in portion toward occiput (in *zendala* wholly dark), more numerous tegminal black dots, particularly caudad of the anal sulcus, and absence of a delicate longitudinal black line meso-distad on the discoidal vein of the tegmina.

These specimens agree in the rich but pale ochraceous-buff general coloration, sub-attingent eyes, antennae with a dark an-

<sup>25</sup> Mem. Am. Ent. Soc., no. 4, p. 108, (1920).

<sup>26</sup> From Cayuga, Guatemala, taken by W. Schaus in May, 1915, in the National Museum and Hebard Collection. Length of body, 18.2 to 19.3; length of pronotum, 5.8 to 5.9; width of pronotum, 6.8 to 6.9; length of tegmen, 19.8 to 20.9; width of tegmen, 6.9 to 7 mm.



nulus (occupying five joints) near their extremities,<sup>27</sup> pronotum with a fine black line bordering the opaque portion on each side, tegmina with a similar line on the inner margin of the anal sulcus in its longitudinal portion, inner half of marginal field to beyond discoidal vein opaque and pale ochraceous-buff, with a black fleck opposite the extremity of the black line<sup>28</sup> and a similar meso-distal black one in the discoidal field,<sup>29</sup> cerci short and tapering to their short but slender apices, subgenital plate asymmetrical, with sinistral portion roundly produced and very elongate styles, which in length average over half that of the cerci.

The measurements of the male before us are given first, those for the male recorded by Saussure and Zehntner, from the State of Vera Cruz, Mexico, as *pulchella*, are given second; length of body, 14.5–“15”; length of pronotum, 4.9–“5.5”; width of pronotum, 5.8–“6.2”; length of tegmen, 16.2–“17”; width of tegmen, 5.8 mm.

***Panchlora montezuma*** Saussure and Zehntner

1893. *Panchlora montezuma* Saussure and Zehntner, Biol. Cent.-Am., Orth., I, p. 98. [♂, ♀; Presidio of Mazatlan, [Sinaloa], Mexico.]

San José del Cabo, Lower California, 2♂, 2♀.

***Panchlora azteca*** Saussure

1862. *P[anchlora] azteca* Saussure, Rev. et Mag. de Zool., xiv, p. 230. [♀; [Cordoba, Vera Cruz], tropical Mexico.]

Distrito Federal, (J. R. Inda), 1♀.

This specimen agrees with Saussure's description of a unique female, except in being of smaller size, with pronotum showing a large suffusion of prout's brown on each side, paralleling the caudal margin above the shoulders.<sup>30</sup> The antennae were ap-

<sup>27</sup> In all data on the Brazilian material referable to this type of the genus, no mention is made of antennal annuli, but we can not be certain that such do not exist in some, for Brunner's discussion alone mentions the antennal coloration, that author giving for Brazilian material, which he assigned to *pulchella* of Burmeister, “antennis fuscis.”

<sup>28</sup> This fleck absent on both tegmina in one of the specimens of *zendala*.

<sup>29</sup> These flecks are heavier in the specimens of *zendala*, and in one there is a black fleck proximad in this field on the dextral tegmen only. From the type of that species additional flecks are described, and it is evident there is some individual variation in the number of these.

<sup>30</sup> The differences shown may indicate specific distinction, but additional material must be secured before their significance can be determined.



parently missing in the type; in the present specimen they are ochraceous-tawny with a black annulus in distal portion, including eight joints. Length of body, 18.3; length of pronotum, 5.9; width of pronotum, 7.2; length of tegmen, 21; width of tegmen, 7.1 mm.

#### BLABERINAE

##### **Blaberus trapezoideus** Burmeister

1838. *Bl[abera] trapezoidea* Burmeister, Handb. Ent., II, abth. II, pt. I, p. 516. [Mexico.]

1838. *Bl[abera] limbata* Burmeister, *ibid.*, p. 516. [Mexico.]

1868. *Blabera quadrifera* Walker, Cat. Blatt. Br. Mus., p. 3. [♂, Oaxaca and Vera Cruz, Mexico.]

Vera Cruz, (Rev. T. Heyde), 1♂. Motzorongo, Vera Cruz, II, 1892, (L. Bruner), 1 juv. ♂, 1 juv. ♀.

We refer to *trapezoideus* the present material, as well as a female from "Central America" collected by the Rev. T. Heyde, and a pair from Guatemala City, Guatemala. This is a species related to *B. discoidalis* Serville, but averaging larger, more attenuate, showing a usually more distinct tinge of tawny, with tegmina more elongate and having their apices more sharply rounded, particularly in the male sex. The dark marking of the humeral trunk often spreads over the proximal portion of the discoidal field, but in recessive examples that suffusion is decidedly reduced and separated from the marking of the humeral trunk by a pale interval.

It would appear probable, from Burmeister's very brief description, either that his *trapezoidea* was based on the male, *limbata* on the female sex of this species, or that individuals of different coloration were represented. Walker's *quadrifera* is clearly the same species, and already has been placed as a synonym under *trapezoideus* by Kirby. Saussure and Zehntner have stated that the pronotal coloration is subject to great individual variation,<sup>31</sup> but their placing of *B. mexicana* (Saussure)<sup>32</sup> in the synonymy may indicate that other species were represented in the Mexican series treated, while the West Indian and

<sup>31</sup> Biol. Cent.-Am., Orth., I, p. 118, pl. v, figs. 26 to 31, (1894).

<sup>32</sup> That name we have assigned to synonymy under *B. colosseus* (Illiger), which we have more recently determined to be a synonym of *B. giganteus* (Linnaeus). The maximum measurements given by Saussure and Zehntner indicate that, in the series measured, specimens of *giganteus* were included.



South American records almost certainly apply to other forms. We now have strong evidence to show that *trapezoideus* is not found either in the West Indies or southward as far as Panama.

The species represented by the material here treated has been frequently referred to Stoll's *Blatta ferruginea*, 1813, based on a description and a figure which are unrecognizable, except that they represent a species of the genus *Blaberus*. As no locality is given and material is not known to be in existence, we feel fully warranted in eliminating that name from consideration as unrecognizable.

*Measurements (in millimeters)*

	Length of body	Length of pronotum	Width of pronotum	Length of tegmen	Width of tegmen
♂					
Vera Cruz, Mexico.....	45.5	12.7	17	49.8	17.8
Guatemala City, Guatemala...	45	13.2	18	49.3	17.6
♀					
Central America.....	45	13.7	18.7	53.9	20
Guatemala City, Guatemala...	49	14	19.9	52.7	19.3

**Blaberus craniifer** Burmeister

1838. *Bl[abera] craniifera* Burmeister, Handb. Ent., II, abth. II, pt. I, p. 516. [Cuba.]

Mexican material from Tekanto, Tunkas, Progreso and Merida, all in the State of Yucatan, as well as a specimen from Benque Viejo, British Honduras, was recorded by us at the time the differences between this striking species and the South American *B. atropos* (Stoll) were pointed out.<sup>33</sup> In past literature the species, known also from Cuba and Key West, Florida, has been frequently recorded in error as *atropos*.

CORYDIINAE

**Melestora micra** Hebard

1920. *Melestora micra* Hebard, Mem. Am. Ent. Soc., no. 4, p. 121, pl. VI, fig. 5. [♂; Paraiso, Canal Zone, Panama.]

Victoria, Tamaulipas, X, 12, (E. A. Schwarz), 1♂, [U. S. N. M.].

<sup>33</sup> Mem. Am. Ent. Soc., no. 2, p. 204, (1920).



As in the paratype of this minute species, the present specimen has the remarkably specialized section of the median portion of the subgenital plate tucked inward, so as to be only in small part visible from the outside.

This specimen is paler than the Panamanian material, with head and pronotum cinnamon-brown, and other portions ochraceous-buff tinged with tawny. Additional material may show it to represent a distinct species, but that, in our opinion, is improbable.

**Compsodes schwarzi** (Caudell)

1903. *Latindia schwarzi* Caudell, Proc. Ent. Soc. Wash., v, p. 165. [♂; Madera Canyon, Santa Rita Mountains, Arizona.]

We have recorded material of this species from Sierra el Tosti and San José del Cabo, Lower California.<sup>34</sup>

**Compsodes mexicanus** (Saussure)

1868. *Latindia mexicana* Saussure, Rev. et Mag. de Zool., (2), xx, p. 100.

At the time the synonymy of *L. tolteca* Saussure and Zehntner was pointed out, we recorded a specimen of this species from Jalapa, Vera Cruz.<sup>35</sup>

**Latindia dohrniana** Saussure and Zehntner

1894. *Latindia dohrniana* Saussure and Zehntner, Biol. Cent.-Am., Orth., 1, p. 111, pl. v, fig. 7. [♀, Guatemala.]

Motzorongo, Vera Cruz, II, 1892, (L. Bruner), 2♂, 1♀.

**Holocompsa nitidula** (Fabricius)

1781. *B[latta] nitidula* Fabricius, Spec. Ins., 1, p. 345. [[♀], Surinam.]

Vera Cruz, (Rev. T. Heyde), 1♀. Minatitlan, Vera Cruz, II, 1, 1892, (L. Bruner), 1♂.

POLYPHAGINAE

**Homoeogamia mexicana** Burmeister

1838. *H[omoeogamia] mexicana* Burmeister, Handb. Ent., II, abth. II, pt. 1, p. 490. [♂, ♀; Mexico.]

Guadalajara Jalisco, 1♂, 2♀, 3 juv. ♂, 1 juv. ♀, [Paris Museum]. Huejotitlan, Jalisco, 1700 meters, 1♂, [Paris Museum]. Sierra de Zacapoaxtla, Puebla, 1♀, [Paris Museum]. Puebla, Puebla, 1♂, [Paris Museum].

<sup>34</sup> Mem. Am. Ent. Soc., no. 2, p. 212, (1920).

<sup>35</sup> Mem. Am. Ent. Soc., no. 2, p. 210, (1920).



We have previously discussed this species, having examined it from Guanajuato, Guanajuato; Jalapa, Vera Cruz; Tacubaya, Distrito Federal; Uruapan, Michoacan, and Guadalajara, Jalisco.<sup>36</sup>

## OXYHALOINAE

**Chorisoneura pellucida** (Saussure)

1864. *Bl[atta] pellucida* Saussure, Rev. et Mag. de Zool., (2), xvi, p. 311.  
[[ ♀ ], Mexico.]

San Rafael, Vera Cruz, (C. H. T. Townsend), 1 ♂.

**Chorisoneura translucida** (Saussure)

1864. *Bl[atta] translucida* Saussure, Rev. et Mag. de Zool., (2), xvi, p. 311.  
[[ ♀ ], Mexico.]

San Rafael, Vera Cruz, (C. H. T. Townsend), 2 ♀.

Additional material from this region is needed in order that *translucida* may be fully defined, and the status of *C. mysteca* (Saussure) determined.

<sup>36</sup> Mem. Am. Ent. Soc. no. 2, p. 221, (1920). At that time the Polyphaginae in the present collections were all treated in detail, Mexican material being represented as follows:

*Arenivaga rehni* Hebard. San Pedro, Sierra el Tosti, Comondu and San José del Cabo, Lower California. (We have subsequently stated that the material recorded from Jojutla, Morelos and Iguala, Guerrero, can not be assigned to this species without considerable uncertainty.)

*Arenivaga erratica* Rehn. State of Sonora.

*Arenivaga apache* (Saussure). Sierra de San Francisco, Sonoita, Sonora.

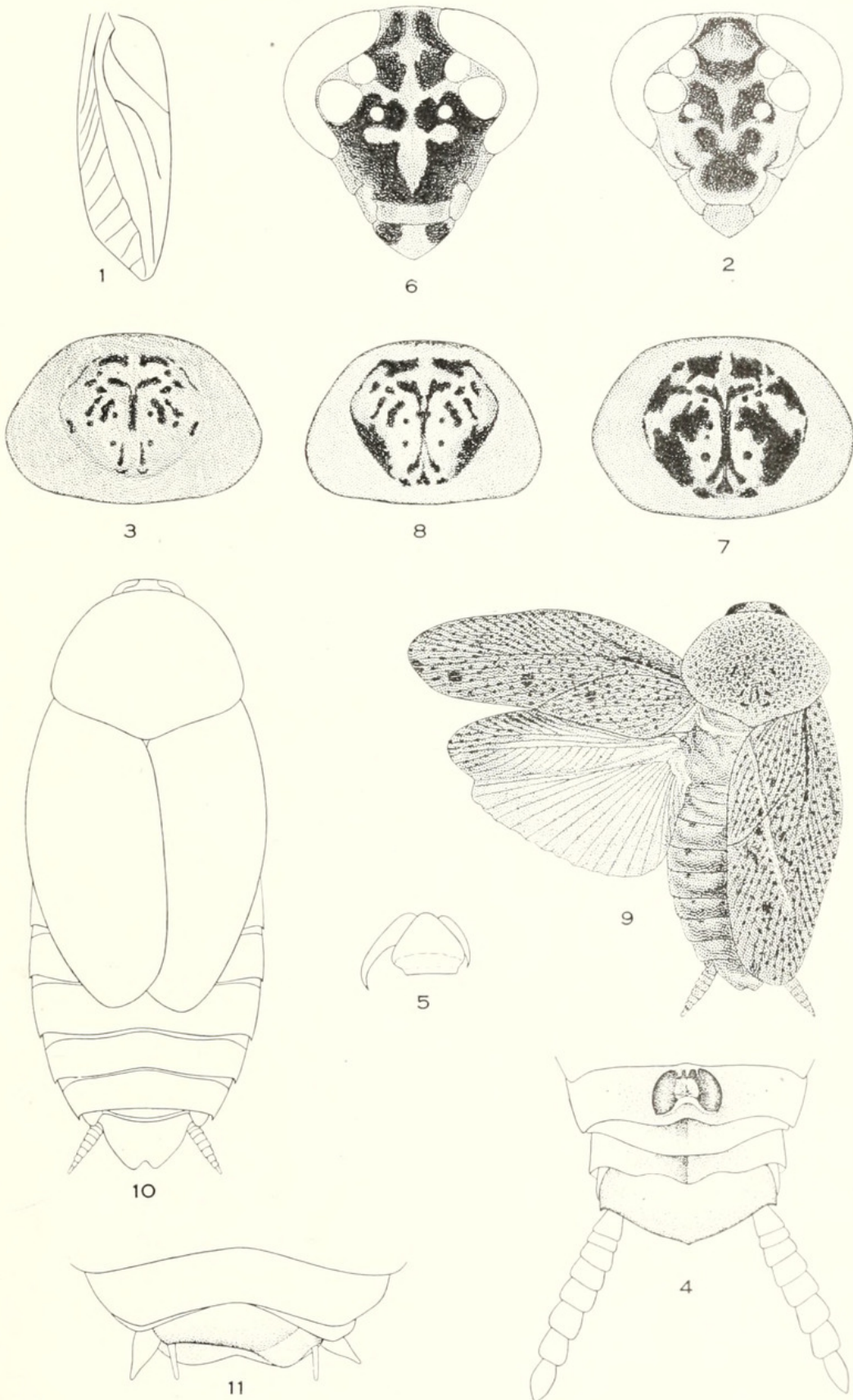
*Eremoblatta hirsuta* Hebard. Sierra el Tosti, Comondu, San José del Cabo and Cape San Lucas, Lower California.



## EXPLANATION OF PLATE XIII

- Fig. 1.—*Anaplecta saussurei* new species. Dorsal outline of male tegmen. Vera Cruz, Vera Cruz, Mexico. *Type*. ( $\times 8.5$ )
- Fig. 2.—*Latiblattella picturata* new species. Cephalic view of male head. San José del Cabo, Lower California, Mexico. *Type*. ( $\times 11$ )
- Fig. 3.—*Latiblattella picturata* new species. Dorsal view of male pronotum. San José del Cabo, Lower California, Mexico. *Type*. ( $\times 6.5$ .)
- Fig. 4.—*Latiblattella picturata* new species. Dorsal view of distal portion of male abdomen. San José del Cabo, Lower California, Mexico. *Type*. (Greatly enlarged.)
- Fig. 5.—*Latiblattella picturata* new species. Distal outline of tarsal claws and arolium. San José del Cabo, Lower California, Mexico. *Type*. (Greatly enlarged.)
- Fig. 7.—*Latiblattella picturata* new species. Dorsal view of male pronotum. Venvidio, Sinaloa, Mexico. *Paratype*. Showing intensive coloration. ( $\times 6.5$ )
- Fig. 8.—*Latiblattella picturata* new species. Dorsal view of female pronotum. San Jorge, Lower California, Mexico. *Allotype*. ( $\times 6.5$ )
- Fig. 9.—*Epilampra maya brachyptera* new subspecies. Dorsal view of male. Minatitlan, Vera Cruz, Mexico. *Type*. ( $\times 2.5$ )
- Fig. 10.—*Epilampra maya brachyptera* new subspecies. Dorsal outline of female. Minatitlan, Vera Cruz, Mexico. *Allotype*. ( $\times 2.5$ )
- Fig. 11.—*Panchlora mexicana* Saussure. Ventral view of distal portion of male abdomen. San Rafael, Vera Cruz, Mexico. (Greatly enlarged.)









Hebard, Morgan. 1921. "Mexican records of Blattidae (Orthoptera)."  
*Transactions of the American Entomological Society* 47, 199–220.

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