

Cuban Flatidae with New Species from Adjacent Regions

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CUBAN FLATIDAE WITH NEW SPECIES FROM ADJACENT REGIONS

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This is one in a series of papers (Metcalf and Bruner 1925a, 1925b, 1930a, 1936a, and 1944a) devoted to a survey of the homopterous fauna of Cuba. The FLATIDAE is one of the larger families of the superfamily FULGOROIDEA. In our catalogue of this family there are recorded at the present time 184 genera and 894 species from various parts of the world. The number of species in the Palearctic fauna is small, and the Nearctic fauna has a limited number of species. But the Caribbean, Neotropical, Oriental, Ethiopian, Malaysian, Austro-Malayan and Australian faunas have a large number of species. The family is well represented in Cuba. The present paper records 16 genera and 42 species of which 9 genera and 32 species are believed to be new.

CHARACTERS OF THE FAMILY

This family may be characterized as follows: Body strongly compressed or depressed; tegmina and wings ample, held vertically or horizontally in repose. This character alone is sufficient to distinguish this family from the other families of superfamily FULGOROIDEA with the exception of the family ACANALONIIDAE in which the body is greatly compressed and the tegmina are ample and held vertically when at rest. And in the family ACHILIDAE all the species have the body greatly depressed. In the ACANALONIIDAE, however, there is no crossveined costal area and the hind tibiae are without lateral spines. In the ACHILIDAE there is no costal area, and the second tarsus of hind legs is not small. Other characters of the family FLATIDAE may be stated briefly as follows: Head small; compound eyes large, ventral sinus inconspicuous or wanting; two ocelli in the lateral compartments, ventrad to the compound eyes; antennae inconspicuous, first segment usually small, collarlike, second segment longer, somewhat capitate, flagellum long; crown short, usually no distinct cephalic process sometimes triangularly or conically produced; pronotum usually short and broad, separated into a distinct central area and lateral areas by a pair of very distinct intermediate carinae; mesonotum large, frequently tricarinate; tegmina large, vertical or horizontal; a distinct crossveined costal area; venation distinct but reticulate and irregular; legs simple, first and second pairs usually short; hind tibiae elongate with one or more spines usually on the apical third; second hind tarsus short with a pair of spines on the apical margin. The male genitalia furnish the most reliable specific characters; pygofer usually short and simple; genital plates large, united basad and with a large tooth on the dorsal margin; aedeagus usually tubular, elongate, straight or curved with an apical pair of spines, a preapical pair of spines and a subapical pair of spines; anal segment usually elongate, broad, and flat with apical portion often strongly deflexed, hoodlike, covering the rest of the genitalia; female

genitalia simple and incomplete. The lateral valvifers are large with rows of teeth along the inner ventral margin; ovipositor short, usually curved.

We wish to acknowledge the assistance of many collectors, whose names will be indicated in the text by their initials only, as follows:

J. A.—J. Acuna	M. J.—Miguel Jaume
B. T. B.—B. T. Barreto	A. R. O.—A. R. Otero
C. H. B.—C. H. Ballou	L. C. S.—L. C. Scaramuzza
L. B. León Bouclé	G. C. R.—G. C. Rowe
S. C. B.—S. C. Bruner	E. A. S.—E. A. Schwarz
P. G. C.—P. G. Cardin	F. S.—F. Silvestri
A. C.—Arturo Comas	C. F. S.—C. F. Stahl
E. D.—E. Ducasse	F. Z.—F. de Zayas

The types of all new forms are in the collection of the senior author.

KEY TO THE GENERA OF CUBAN FLATIDAE

- A. Tegmia vertical or steeply tectiform.....Subfamily **Flatinae**
 B. Tegmina broadly rounded apically, costal and apical margins merging.....Tribe **Phantiini**
 (*Byllisana* Metc. and Brun.)
 BB. Tegmina with costal and apical margins distinct.
 C. Tegmina broadly triangular..... 1
 1. Sutural angle triangularly produced or distinctly rectangular.....Tribe **Flatissini**. 2
 1. Sutural angle rounded.....Tribe **Nephesini**. 4
 2. Crown triangular, distinctly produced...**Carthaeomorpha** Mel.
 (Central and South American species.)
 2. Crown obtuse, not produced, shorter on median line than on lateral margins..... 3
 3. Frons longer than broad with a pair of impressed points on dorsal margin; pronotum with a distinct median carina; sutural angle of tegmina distinctly produced.
Dakshiana Metc. and Brun.
 3. Frons broader than long, no impressed points; pronotum ecarinate with a pair of impressed points; sutural angle rectangular, not produced.....**Monoflatina** Metc. and Brun.
 (Jamaican species.)
 4. Sutural angle distinctly produced; apical margin sinuate.
Leocerus Metc. and Brun.
 4. Sutural angle not produced; apical margin truncate..... 5
 5. A single subapical line on corium..... 6
 5. Two distinct subapical lines on corium.....**Ormenis** Stål
 6. Costal margin distinctly longer than sutural margin; apical angle produced caudad beyond sutural angle.
Ormenaria Metc. and Brun.
 6. Costal and sutural margins about equal; apical angle not produced caudad..... 7
 7. Frons broader than long or as broad as long..... 8
 7. Frons distinctly longer than broad..... 9
 8. Pronotum almost completely covering vertex.
Ormenana Metc. and Brun.
 8. Vertex not covered by pronotum.....**Monoflata** Mel.
 9. Only a few of the longitudinal veins forked beyond subapical line.....**Ormenoides** Mel.
 9. Most of the longitudinal veins forked beyond the subapical line.....**Melormenis** Metc.
 CC. Tegmina narrow; costal margin sinuate.....Tribe **Selizini**. 1
 1. Tegmina broad across humeri, narrowed caudad; apical margin sinuate; apical angle produced caudad...**Cyarda** Walk.
 1. Tegmina about same width throughout; apical margin truncate; apical angle not produced.
Planodascalina Metc. and Brun.

- AA. Tegmina horizontal or nearly so. Subfamily **Flatoidinae**
- B. Subcostal vein and costal margin of tegmina undulate; tegmina not narrowed caudad.
- C. Crown distinctly broader than long, composed in great part of the reflexed portion of frons. **Flatarissa** Metc. and Brun.
- CC. Crown distinctly longer than broad, composed entirely of vertex. **Pseudoflatoides** Metc.
- BB. Costal vein and costal margin not undulate; tegmina usually narrowed caudad.
- C. Dorsal margin of frons triangularly incised. **Flatidula** Metc. and Brun.
- CC. Dorsal margin of frons straight or nearly so. 1
- I. Crown about as long as broad, anterior margin obtuse. **Flatarina** Metc. and Brun.
1. Crown much broader than long, anterior margin triangularly produced. **Flatoidinus** Mel.

Genus **Byllisana** nov.

Orthotype **Byllisana brunnea** n. sp.

Orthotype *Byllisana brunnea* n. sp.

This is the second American genus of the Tribe *Phantiini*. In this tribe the costal margin curves imperceptibly into the apical margin and there is no distinct apical angle.

Head including compound eyes as broad as pronotum; vertex short and completely covered by pronotum except lateral angles; frons about as broad as long; tegmina broad and short; apical angle broadly rounded; costal margin merging imperceptibly into apical margin; costal area about as wide as costal cell; costal vein merging into the subapical line which is parallel to apical margin; cubitus one furcate basad to radius; the subapical line parallel to apical margin; second branch of radius and media furcate at about same level; most of longitudinal veins simple beyond subapical line; hind tibiae with two spines on apical third.

Byllisana brunnea n. sp.

(Pl. VI, figs. 3, 6; Pl. XIV, figs. 3, 6)

This is a small species almost uniformly cinnamon brown in color with the carinae of the head, thorax and legs bright ochraceous buff.

Vertex short, almost completely covered by the extended pronotum; lateral compartments triangular; dorsal area of frons impressed; frons slightly broader than long; dorsal margin longer than clypeal margin; lateral margins strongly arched, widest at about the level of antennae, strongly reflexed; median carina inconspicuous; clypeus about as long as frons, the frontal margin deeply impressed; pronotum slightly broader than compound eyes; anterior margin distinctly projected; posterior margin deeply incised; mesonotum broad and flat, tricarinate; tegmina with costal margin broadly arched into apical margin; venation distinct and variable with few crossveins, except in costal area and beyond subapical line.

Male genitalia with pygofer short and broad; genital plates broad, elongate, dorsal apical tooth somewhat elongate, recurved, acute; aedeagus with a pair of subapical, elongate spines placed near ventral margin; apical spines, which are about half as long as subapical spines

somewhat undulate; anal segment elongate with a very large ventral apical plate.

General color cinnamon or cinnamon brown with lateral margins of frons, carina on thorax, and costal margin of tegmina usually light ochraceous buff. Recently emerged adults are covered with a white pruinescence which soon disappears more or less by abrasion.

Length to apex of tegmina: 3.75–4.50 mm.

Holotype ♂: Santiago de las Vegas, Habana Prov.; S. C. B. *Allotype* ♀: Santiago de las Vegas, Habana Prov.; S. C. B. *Paratypes*: 2 ♂♂, Habana, Habana Prov.; 22 Apr., 1916; S. C. B. 3 ♀♀, Habana, Habana Prov.; 22 Apr., 1916; S. C. B. 1 ♂, Marianao, Habana Prov.; 7 Dec., 1921; S. C. B. 1 ♀, Marianao, Habana Prov.; 30 Jan., 1927; S. C. B. 1 ♂, Mangas, Pinar del Rio Prov.; 6 June, 1937; S. C. B. and L. C. S. 1 ♂, Alquizar, Habana Prov.; 9 June, 1934; L. C. S. 1 ♂, Central Moron, Camagüey Prov.; 24 March, 1927; S. C. B. 1 ♂, Sierra Rangel Mts., Pinar del Rio Prov.; 29 Aug., 1927; 1500 ft.; J. A. and S. C. B. 1 ♀, Vinales, Pinar del Rio Prov.; 15 Apr., 1930; S. C. B. 1 ♀, Vinales, Pinar del Rio Prov.; 15 Apr., 1930; S. C. B. 1 ♂, Vinales, Pinar del Rio Prov.; 7 Apr., 1922; S. C. B. and J. A. 7 ♀♀, Santiago de las Vegas, Habana Prov.; 5 Feb., 1927; S. C. B. 1 ♀, Central Cuba, Matanzas Prov.; 25 March, 1927; S. C. B. 1 ♀, Vibora, Habana Prov.; 10 Jan., 1929; S. C. B. 1 ♀, Benavides, Matanzas Prov.; 11 June, 1932; S. C. B., A. R. O. and L. C. S. 1 ♀, Cape Baragua, Camagüey Prov.; 11 July, 1939; L. C. S. 1 ♀, Jaronu, Camagüey Prov.; 1 June, 1934; L. C. S. 1 ♂, Vento, Habana Prov.; 28 Nov., 1920; J. A.

It has been found breeding on *Centrosoma* sp. and *Miebomia supina* growing on dry savannas.

Genus *Carthaeomorpha* Melichar

(Melichar 1901a: 198)

Logotype *Carthaeomorpha rufipes* Melichar, Oshanin 1912a: 125.

Crown broad and short; anterior and posterior margins nearly parallel, broadly curved with a distinct carina separating the crown from frons; frons slightly longer than broad, flat; lateral margins strongly elevated, broadly curved; median carina distinct dorsad; tegmina large, apex truncate; sutural angle strongly produced; venation reticulate, longitudinal veins distinct; costal cell broader than costal area, media branched before the first cubital sector; hind tibiae with two spines on apical third.

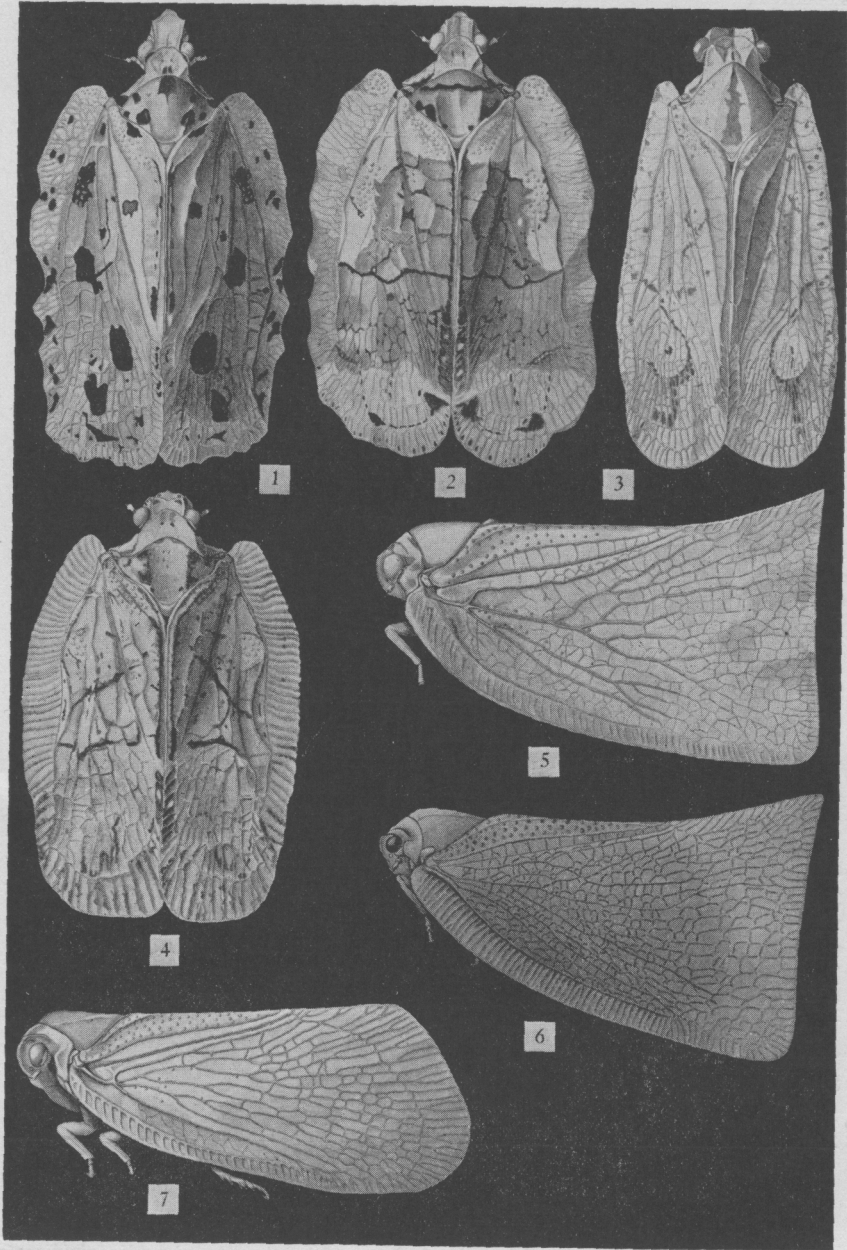
Carthaeomorpha balloui n. sp.

(Pl. I, fig. 6; Pl. VI, fig. 7; Pl. XIV, figs. 9, 10)

This is a rather large species of a general light olive green color; the veins of the tegmina and the pustules on the clavus are darker olive

EXPLANATION OF PLATE I

Fig. 1. *Pseudoflatoides fasciculosus* var. *maculosus* Metc. and Brun. Fig. 2. *Pseudoflatoides lichenoides* Metc. and Brun. Fig. 3. *Flatidula pallescens* Metc. and Brun. Fig. 4. *Flatarissa variegata* Metc. and Brun. Fig. 5. *Dakshiana katharina* Metc. and Brun. Fig. 6. *Carthaeomorpha balloui* Metc. and Brun. Fig. 7. *Ormenaria ruffascia* Walk.



green; tibe of the tibiae and the entire tarsi ochraceous orange; lateral area of the mesonotum and the posterior half ochraceous orange.

Vertex broad and flat, about two and one-half times as broad as median length separated from frons by a distinct transverse carina; median carina fairly distinct; frons about half again as long as its greatest width; lateral margins strongly elevated, nearly straight and somewhat diverging to the level of the antennae, then converging to the smaller clypeus; median and intermediate carinae about one-half as long as frons, fairly distinct; pronotum short, broad, the anterior margin carinate, broadly curved, posterior margin deeply incised; median carina distinct; intermediate carinae indistinct; mesonotum large, tricarinate; tegmina large, sutural angle strongly produced, uniformly reticulate; costal cell broader than costal margin with numerous crossveins; hind tibiae with two stout spines on apical third.

Male genitalia with genital plates when viewed ventrally elongate, about six times as long as greatest width; apical margin obtuse, when viewed laterally broadly triangular, with a distinct apical tooth; aedeagus large, with a short bifurcate apical tooth and an elongate subapical tooth; anal segment elongate.

Length to apex of tegmina: 13.00–13.30 mm.

Holotype ♂: San Pedro de Montes de Oca, Costa Rica, on *Amygdalus persica*; 20 Feb., 1933; C. H. B. *Allotype* ♀: San Pedro de Montes de Oca, Costa Rica, on *Amygdalus persica*; 1 Sept., 1933; C. H. B. *Paratypes*: 1 ♂, San Pedro de Montes de Oca, Costa Rica, on *Amygdalus persica*; 21 March, 1933; C. H. B.

Genus *Dakshiana* nov.

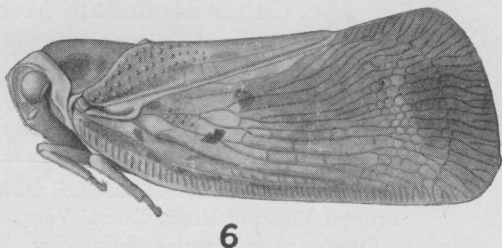
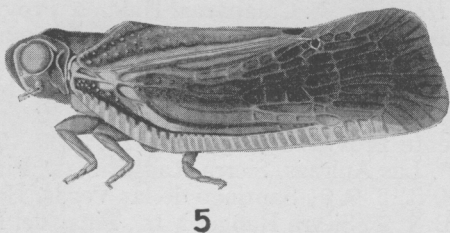
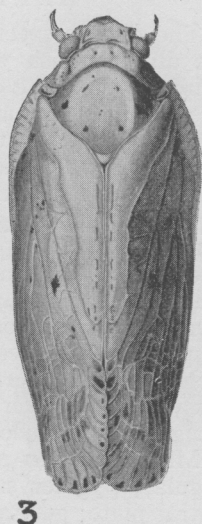
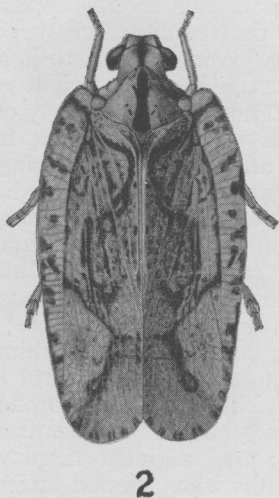
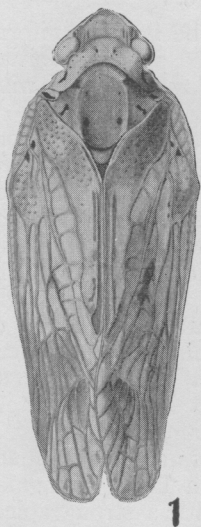
Orthotype *Dakshiana katharina* n. sp.

This genus is characterized by a short crown, large tegmina, with sutural angle strongly produced. It is close to *Carthaeomorpha* Mel. but differs in essential characters as indicated below.

Crown very short, all except the lateral anterior angles, nearly covered by pronotum; anterior margin sinuate, not parallel to posterior margin; face broader than long; lateral margins strongly elevated; median carina fairly distinct dorsad, fading out ventrad; pronotum with dorsal area about twice as broad as long; median carina percurrent, lateral margins strongly elevated; anterior margin truncate; posterior margin shallowly excavate; mesonotum large, tricarinate; tegmina large, the costal area narrow with numerous crossveins; corium finely reticulate over the whole surface; apical margin slightly concave, apical angle rounded, sutural angle strongly produced.

EXPLANATION OF PLATE II

Fig. 1. *Flatoidinus acutus* Uhl. Fig. 2. *Flatidula luella* Metc. and Brun. Fig. 3. *Flatoidinus olivaceus* Metc. and Brun. Fig. 4. *Planodascalia viridicosta* Metc. and Brun. Fig. 5. *Planodascalia viridicosta* Metc. and Brun. Fig. 6. *Melormenis asymmetrica* Metc. and Brun.



Dakshiana katharina n. sp.

(Pl. I, fig. 5; Pl. VI, figs. 2, 5; Pl. XIV, figs. 5, 7)

The fresher specimens of this species appear to be nearly uniform pale dull greenish with the tegmina lightly powered with a whitish pruinescence. The older specimens fade to light ochraceous buff with the veins, carinae, and margins of legs bright red.

Crown very short; lateral margins strongly elevated, separated from frons by a very distinct transverse carina; frons with the margins nearly parallel to below antennae, then curving inward to the smaller clypeus; lateral margins strongly elevated; median carina fairly distinct dorsad; legs short; pronotum with anterior margin projecting cephalad to level of anterior margin of compound eyes; posterior margin broadly sinuate; median carina strongly elevated; lateral margins strongly elevated, curving outward and then ventrad parallel to margin of compound eyes; mesonotum broad, tricarinate; tegmina closely reticulate over entire surface; costal area with numerous closely arranged crossveins, narrower than costal cell; sutural angles strongly acutely triangularly produced; apical angle short, broadly rounded.

Male genitalia plates when viewed ventrad broad, nearly quadrangular; pygofer small; anal segment large with a large triangular ventral plate; genital plates when viewed laterad with a strong apical dorsal tooth; aedeagus rather large, with an elongate recurved apical spine which has a midventral short spine; there is also an elongate twisted lateral spine on aedeagus.

Length to apex of tegmina: ♂, 9.25 mm., ♀, 12.25 mm.

Holotype ♂: Calabazar, Habana Prov., on *Nectandra coriacea* Gris.; 5 Aug., 1928; S. C. B. *Allotype* ♀: Loma del Gato, Oriente Prov.; 1-2 Oct., 1935; 2600-3325 ft.; J. A. and S. C. B. *Paratypes*: 1 ♂, San Blas, Santa Clara Prov.; Oct., 1931; G. C. R. 1 ♂, Calabazar, Habana Prov., on *Nectandra coriacea* Gris.; 5 Aug., 1928; S. C. B. 1 ♂, Sierra Maestra, Oriente Prov.; 10-20 July, 1922; 3100-4000 ft.; C. H. B. and S. C. B. 1 ♂, Las Animas, Sierra Rangel Mts., Pinar del Rio Prov.; May, 1933; 1500 ft. 2 ♀ ♀, Santiago de las Vegas, Habana Prov.; 24 Oct., 1915; S. C. B. 1 ♀, Sierra Rangel Mts., Pinar del Rio Prov.; 29 Aug., 1927; 1500 ft.; J. A. and S. C. B. 1 ♀, Calabazar, Habana Prov., on *Nectandra coriacea* Gris.; 5 Aug., 1928; S. C. B. 1 ♀, Nagua, Oriente Prov.; 7 July, 1922; S. C. B. and C. H. B.

Genus **Monoflata** Melichar

(Melichar 1923a: 76)

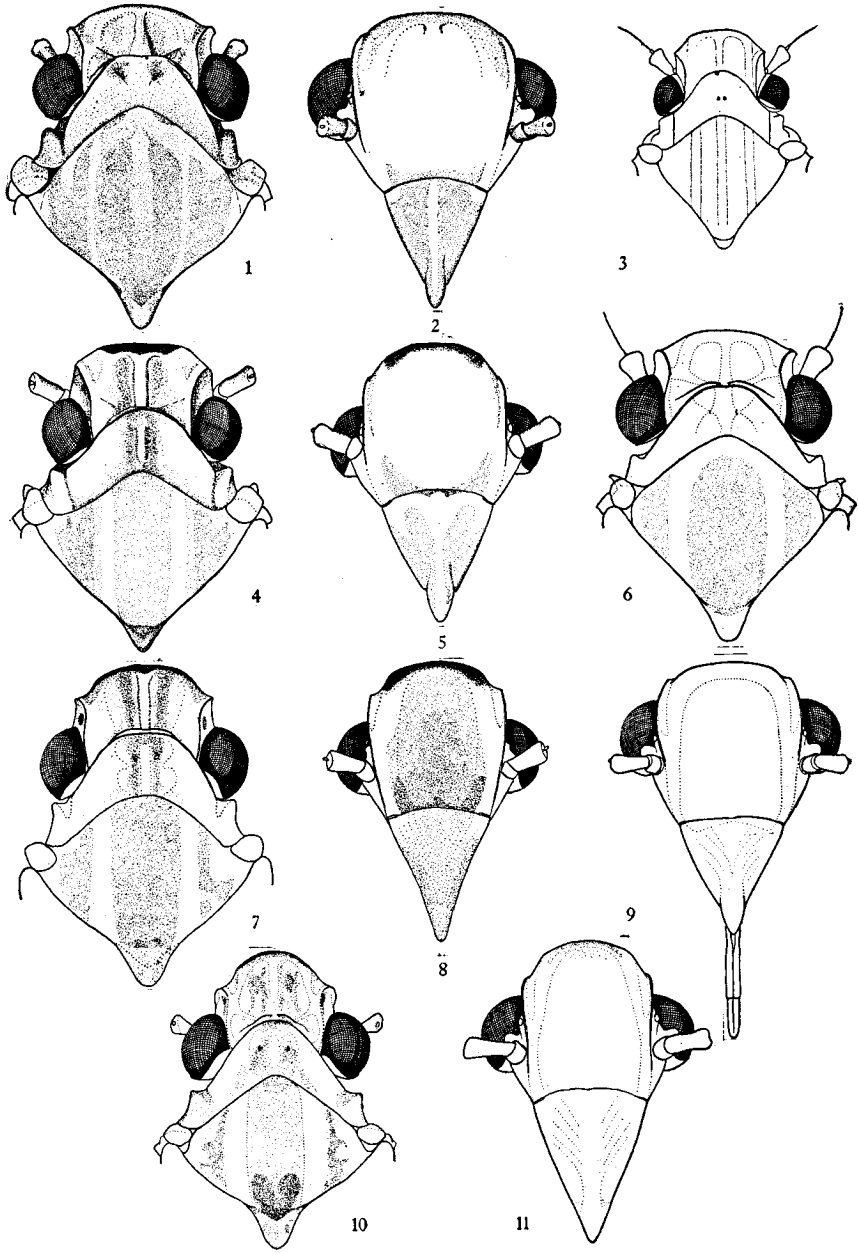
Orthotype *Poekilloptera brasiliensis* Spinola.

This genus was established to include *Poekilloptera brasiliensis* Spinola from Brazil and *Ormenis pallescens* from Mexico. This genus

EXPLANATION OF PLATE III

Frontal Views of Head, Dorsal Views of Head and Thorax

Fig. 1. *Cyarda acuminipennis* Spin. Fig. 2. *Cyarda acuminipennis* Spin. Fig. 3. *Cyarda acutissima* Metc. and Brun. Fig. 4. *Cyarda cubensis* Metc. and Brun. Fig. 5. *Cyarda cubensis* Metc. and Brun. Fig. 6. *Cyarda walkeri* Metc. Fig. 7. *Cyarda fuscifrons* Metc. and Brun. Fig. 8. *Cyarda fuscifrons* Metc. and Brun. Fig. 9. *Cyarda walkeri* Metc. Fig. 10. *Cyarda melichari* Van D. Fig. 11. *Cyarda melichari* Van D.



is a very distinct genus of the *Ormenis* group with a fairly broad face with the lateral margins broadly arcuate, strongly elevated and united to the median carina by a distinct transverse carina at the apex of the head. The tegmina are distinctly widened apically, venation very distinct, a single subapical line forming numerous apical cells about as long as the costal cells.

***Monoflata perpusilla* Fowler**

(Pl. V, figs. 7, 10)

Flata perpusilla Fowler 1900f: 53; Pl. 7, fig. 16.

We have a single female specimen of this species from St. Lorenzo, Honduras; 7 Apr., 1923; C. H. B. The head and thorax is chiefly brownish fuscous with crown, pronotum and mesonotum dorsally bright green fading to greenish yellow; lateral margins of pronotum and mesonotum brownish fuscous and apical angle of mesonotum also brownish fuscous; midline of crown, pronotum and mesonotum broadly vittate with bright scarlet red; tegmina bright green, faintly dotted with paler green, with the costal, apical, and sutural margins from apex of clavus to sutural angle, the humeral margin, and apex of clavus marked with fuscous.

Genus *Monoflatina* nov.

Orthotype *Monoflatina viridipennis* n. sp.

This seems to be a very distinct genus of the Tribe Flatissini. The sutural angle is distinctly rectangular but not produced; subapical line wanting; pronotum covers most of crown, broadly produced on anterior margin, bipunctate, ecarinate; mesonotum very large, indistinctly tricarinate; frons broad and short with lateral margins slightly elevated; median intermediate carinae distinct on dorsal half; tegmina large; costal area about three times as broad as costal cell; venation distinct but irregular; radius branched beyond branching of media; media with usually four branches distinct; first cubital sector branched before branching of media; hind tibiae with two spines on apical third.

***Monoflatina viridipennis* n. sp.**

(Pl. V, figs. 8, 11)

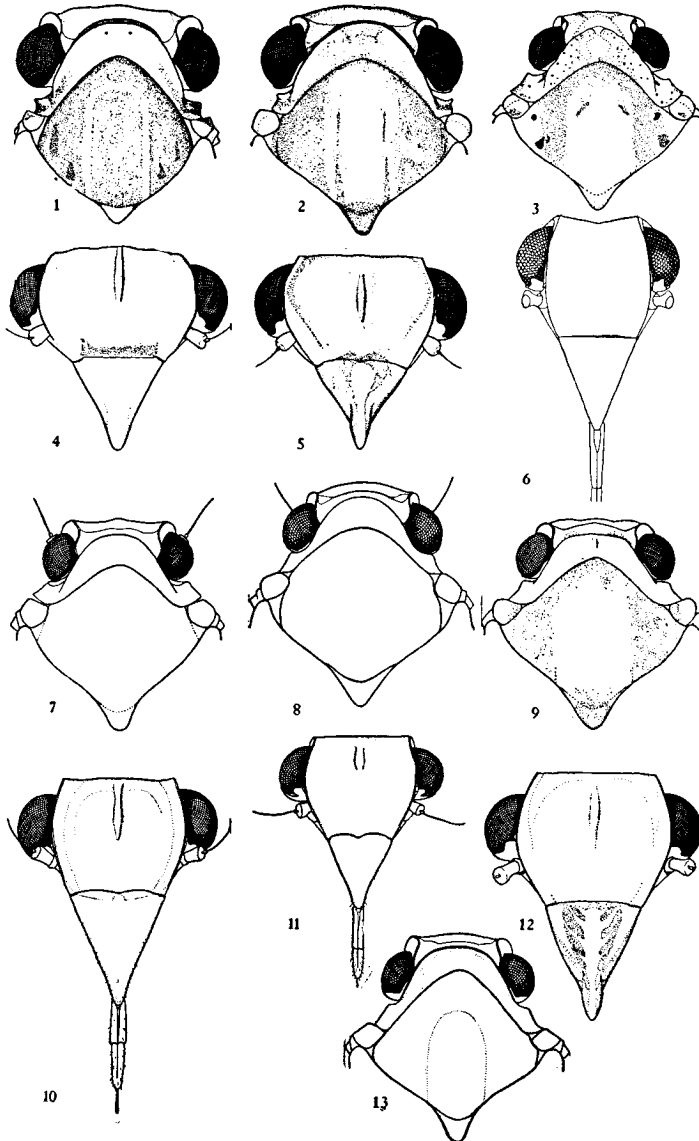
This is a pale greenish species indistinctly marked with tawny.

Crown very short, almost completely covered by extending pronotum, distinctly separated from frons by transverse carina; frons about as broad as long, tricarinate; lateral margins broadly curved; pronotum short, broadly projecting in front of compound eyes; mesonotum large, indistinctly tricarinate; tegmina large.

General color greenish with venation distinctly brighter green; head, pronotum, mesonotum, venter, and legs fading to tawny; compound eyes brown; tegmina with an indistinct border of brownish fuscous extending from humeral angles around apical margin to apex of clavus.

Length to apex of tegmina: 7.60 mm.

Holotype ♀: Jamaica, 5 Oct., 1923; C. H. B.



Frontal Views of Head, Dorsal Views of Head and Thorax

Fig. 1. *Planodascalía viridicosta* Metc. and Brun. Fig. 2. *Planodascalía fusca* Metc. and Brun. Fig. 3. *Leocerus fuscus* Metc. and Brun. Fig. 4. *Planodascalía viridicosta* Metc. and Brun. Fig. 5. *Planodascalía fusca* Metc. and Brun. Fig. 6. *Leocerus fuscus* Metc. and Brun. Fig. 7. *Melormenis perseae* Metc. and Brun. Fig. 8. *Melormenis asymmetrica* Metc. and Brun. Fig. 9. *Melormenis inconspicua* Metc. and Brun. Fig. 10. *Melormenis perseae* Metc. and Brun. Fig. 11. *Melormenis asymmetrica* Metc. and Brun. Fig. 12. *Melormenis inconspicua* Metc. and Brun. Fig. 13. *Melormenis pruinosa cubana* Metc. and Brun.

Genus **Deocerus** nom. nov.

For *Neocerus* Melichar [1902] nec *Neocerus* Wasmann [1893].

Orthotype *Neocerus corniculatus* Melichar.

The genus *Neocerus* was proposed by Melichar in 1902 for a single species *Neocerus corniculatus* from Venezuela. This name, however, is preoccupied by the name *Neocerus* Wasmann. We are therefore proposing the above new name for this genus. Briefly the genus may be characterized as follows: Frons somewhat elongate with a distinct median carina; dorsal margin of the frons incised; tegmina elongate, the apical margin broadly sinuate sutural angle roundly produced, with a single distinct subapical line; hind tibiae with a single spine.

Genus **Leocerus** nov.

In the venation of the tegmina, this genus bears a superficial resemblance to *Juba* Jacobi. The head structures are entirely different and resemble in general *Deocerus* Metcalf and Bruner.

Head narrower than pronotum, the crown quadrilateral, about three times as broad as the median length; frons elongate, the lateral margins broadly curved; dorsal margin triangularly incised; dorsal and clypeal margins nearly equal; central area longitudinally depressed; pronotum projecting anteriorly beyond anterior margin of compound eyes; posterior margin deeply incised; mesonotum large, dorsal area broadly flattened; tegmina elongate, costal margin slightly sinuate, apical margin broadly sinuate; sutural angle produced and broadly rounded; costal area broad, broader than costal cell; numerous cross-veins; two subapical lines about equidistant from each other and apical margin; whole area of corium reticulate; hind tibiae with two spines on apical third.

Leocerus fuscus n. sp.

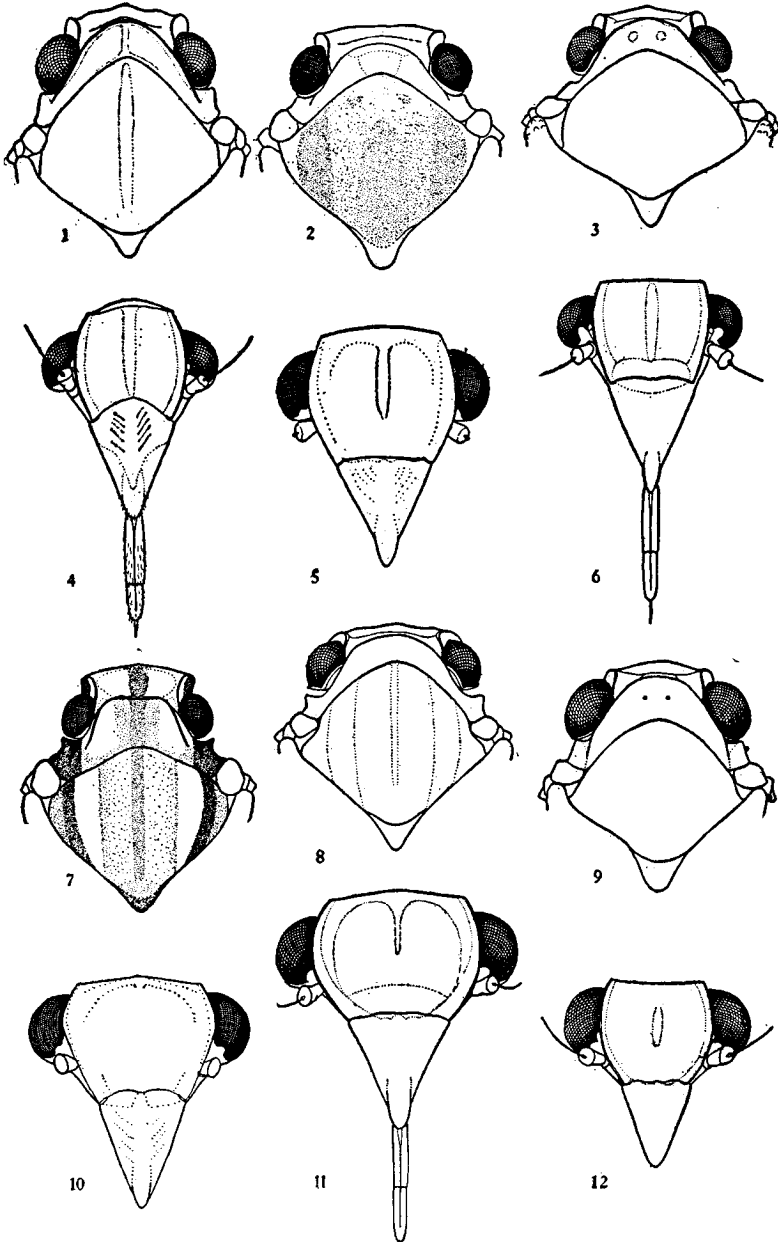
(Pl. IV, figs. 3, 6; Pl. VII, figs. 2, 4; Pl. XI, figs. 4, 7)

Crown very short, almost bisected by the projecting pronotum, anterior margin of which is much more sharply rounded than the carinate anterior margin between crown and frons; frons slightly longer than its greatest width, a weak median carina dorsad; dorsal and clypeal margins nearly equal, lateral margins strongly elevated, broadly curved; clypeus about as long as median length of frons; pronotum much wider than its median length, the posterior margin more sharply incised than curve of the anterior margin; mesonotum rather long, dorsal surface nearly flat, smooth and shiny; tegmina with numerous crossveins in apical area; the two subapical lines fairly distinct and continuous.

EXPLANATION OF PLATE V

Frontal Views of Head, Dorsal Views of Head and Thorax

Fig. 1. *Ormenaria rufifascia* Walk. Fig. 2. *Melormenis variegata* Metc. and Brun. Fig. 3. *Ormenoides subflava* Metc. and Brun. Fig. 4. *Ormenaria rufifascia* Walk. Fig. 5. *Melormenis variegata* Metc. and Brun. Fig. 6. *Ormenoides subflava* Metc. and Brun. Fig. 7. *Monoflata perpusilla* Fowl. Fig. 8. *Monoflatina viridipennis* Metc. and Brun. Fig. 9. *Ormenana linki* Heid. and Osb. Fig. 10. *Monoflata perpusilla* Fowl. Fig. 11. *Monoflatina viridipennis* Metc. and Brun. Fig. 12. *Ormenana linki* Heid. and Osb.



Male genitalia with pygofer short and broad; genital plates about twice as long as broad with a distinct apical tooth on dorsal margin; aedeagus elongate, slender, with a single subapical, somewhat recurved spine; the tenth segment rather heavy basad, with apex beyond anal style narrow, strongly decurved.

General color light ochraceous buff, with the following markings fuscous or tawny: Anterior carina of crown and dorsal margin of frons, two indistinct lines either side of median area of pronotum, and numerous small punctate marks on pronotum, lateral areas of mesonotum, basal angle of clavus, costal margins, and most of the apical third of tegmina; there is also a series of narrow elongate dashes just inside the strongly carinate margins of frons; paratype is darker than holotype with general color of body ochraceous orange, and the darker markings blackish instead of tawny or fuscous, and more extensive.

Length to apex of tegmina: 7.00 mm.

Holotype ♂: Baracoa, Oriente Prov.; 21-30 Apr., 1929; S. C. B. and L. B. *Paratype*: Baracoa, Oriente Prov.; 15 July, 1935; F. Z. *Allotype* ♀: Los Llanos, Maisi, Oriente Prov.; 5 Feb., 1929; J. A.

Genus *Ormenis* Stål

(*Ormenis* Stål 1862e: 68)

Logotype *Ormenis perfecta* Walker.

This genus may be recognized by the following combinations of characters: Crown very short, partially concealed by projecting pronotum; frons broad, median carina indistinct; pronotum short, broad, usually bipunctate; mesonotum large; tegmina large with two subapical lines on corium; most of longitudinal veins forked beyond last subapical line; costal area wider than costal cell; apical and sutural angles equally rounded; hind tibiae with two stout spines on apical fourth.

Ormenis cubensis n. sp.

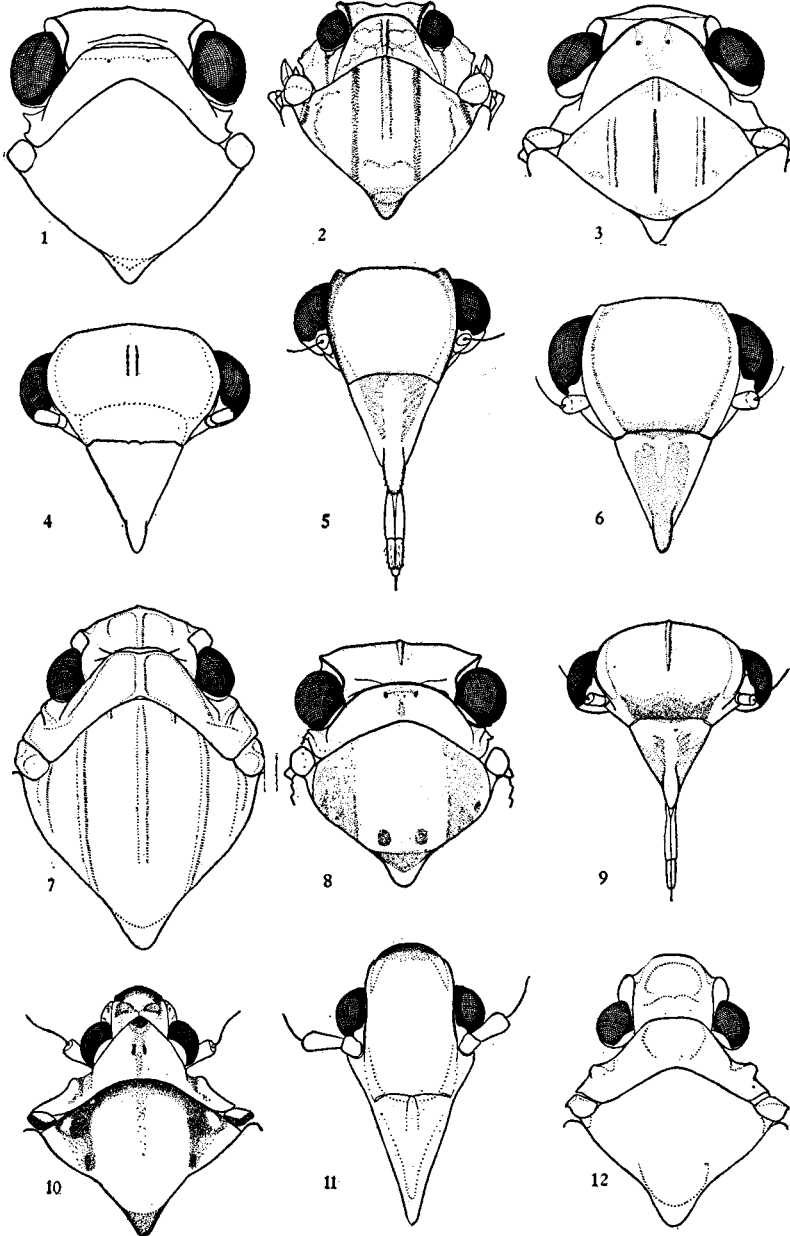
(Pl. VI, figs. 1, 4; Pl. XIII, figs. 10, 11)

This is a small species of *Ormenis*, nearly uniformly tawny olive in color, perhaps greenish in living specimens, with face and legs yellowish buff and a small black dot at apex of clavus and two small black dots on posterior lateral margins of mesonotum, the anterior pair larger; frons broader than long, the lateral margins not strongly elevated; median carina indistinct; tegmina long and narrow, costal margin three or four times as broad as costal cell; both subapical lines very distinct and about equidistant from each other and apical margin; most of longitudinal veins branched beyond last subapical line.

EXPLANATION OF PLATE VI

Frontal Views of Head, Dorsal Views of Head and Thorax

Fig. 1. *Ormenis cubensis* Metc. and Brun. Fig. 2. *Dakshiana katharina* Metc. and Brun. Fig. 3. *Byllisana brunneus* Metc. and Brun. Fig. 4. *Ormenis cubensis* Metc. and Brun. Fig. 5. *Dakshiana katharina* Metc. and Brun. Fig. 6. *Byllisana brunneus* Metc. and Brun. Fig. 7. *Carthaeomorpha balloui* Metc. and Brun. Fig. 8. *Planodascalia obscura* Metc. and Brun. Fig. 9. *Planodascalia obscura* Metc. and Brun. Fig. 10. *Flatarissa humeralis* Metc. and Brun. Fig. 11. *Flatarissa humeralis* Metc. and Brun. Fig. 12. *Flatarina aguari* Metc. and Brun.



Male genitalia with pygofer somewhat elongate, the dorsal apical angle somewhat produced; genital plates elongate, nearly quadrate, about twice as long as broad, the dorsal apical angle produced in the short rounded tooth; aedeagus broad, somewhat curved, with short apical spines; preapical spines shorter than subapical spines; subapical spines elongate, curved; anal segment elongate, almost as long as pygofer and genital plates combined; apical area elongate, strongly deflexed.

Length to apex of tegmina: 6.90 mm.

Holotype ♂: San Blas, Trinidad Mts., Las Villas Prov.; 5 May, 1932; S. C. B. and A. R. O. *Allotype* ♀: San Blas, Trinidad Mts., Las Villas Prov.; 5 May, 1932; S. C. B. and A. R. O.

Genus *Ormenaria* nov.

Orthotype *Poekilloptera rufifascia* Walker.

This genus falls in that group of genera that include *Ormenoides* Mel. and *Melormenis* Metc., which have put a single subapical line on the tegmina and frons distinctly longer than broad. This genus is most closely related in these characters to *Melormenis* Metc., which has most of the longitudinal veins forked beyond the subapical line. It differs, however, in important respects, from this genus.

Head including compound eyes but little narrower than pronotum; crown very short; frons longer than broad; lateral margins nearly parallel to below antennae and then narrowing to the narrow postclypeus, strongly elevated; median carina of frons percurrent and continued distinctly on to clypeus; pronotum projecting cephalad to anterior margin of crown with a well-developed median carina; mesonotum tricarinate; tegmina elongate, narrow; venation very distinct; subapical line strongly developed, apical angle distinctly produced beyond sutural angle; costal area narrow, about as wide as costal cell; most of longitudinal veins furcate beyond subapical line; hind tibiae with two spines.

Ormenaria rufifascia Walker

(Pl. I, fig. 7; Pl. V, figs. 1, 4; Pl. XIII, figs. 7, 8)

Poekilloptera rufifascia Walker 1851a: 458.

Ormenis rufifascia Melichar 1902a: 101.

Ormenis rufifascia Metcalf 1923a: 152; Pl. 38, fig. 10; Pl. 48, fig. 142.

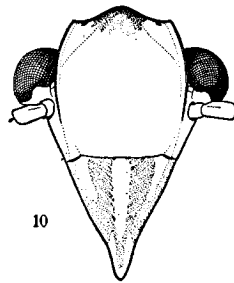
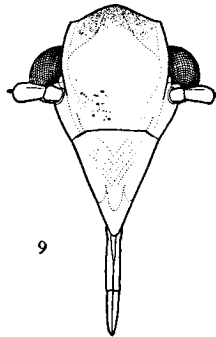
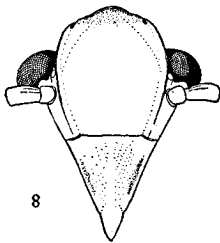
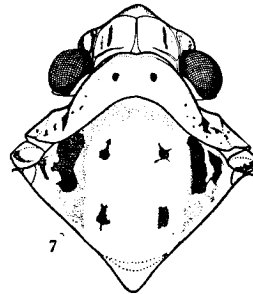
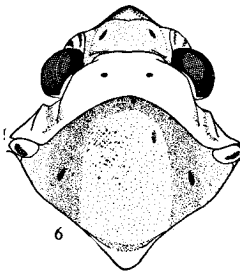
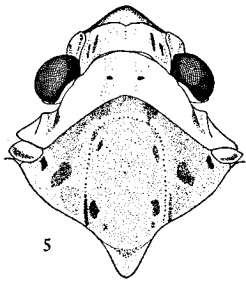
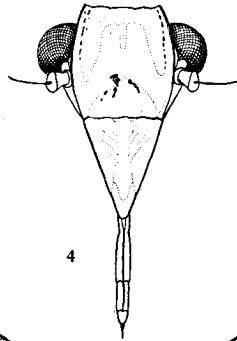
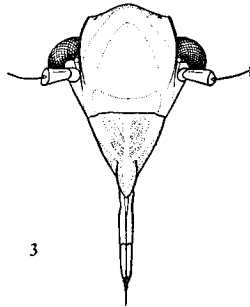
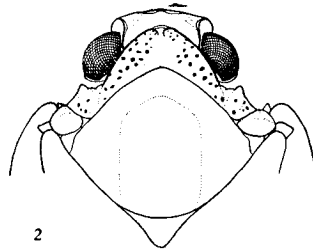
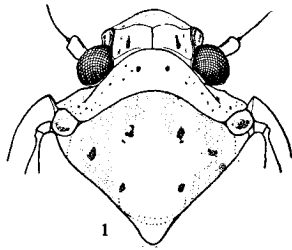
Anormenis rufifascia Melichar 1923a: 69.

This species may be distinguished from other Cuban flatids by the following color characters: Head and thorax bright rufus marked with bright pale green; tegmina pale greenish with veins heavily marked with bright grass green; tegmina in the older specimens fade to light buff with veins ochraceous orange; the bright colors of head and thorax seem to be very well retained even in the older specimens.

EXPLANATION OF PLATE VII

Frontal Views of Head, Dorsal Views of Head and Thorax

Fig. 1. *Flatoidinus olivaceus* Metc. and Brun. Fig. 2. *Leocerus fuscus* Metc. and Brun. Fig. 3. *Flatoidinus olivaceus* Metc. and Brun. Fig. 4. *Leocerus fuscus* Metc. and Brun. Fig. 5. *Flatoidinus acutus* Uhl. Fig. 6. *Flatoidinus dotatus* Mel. Fig. 7. *Flatoidinus pallescens* Metc. and Brun. Fig. 8. *Flatoidinus acutus* Uhl. Fig. 9. *Flatoidinus dotatus* Mel. Fig. 10. *Flatoidinus pallescens* Metc. and Brun.



Crown reduced to two triangular lateral compartments beyond lateral margins of projecting pronotum; frons as long as broad; clypeus longer than frons; pronotum but little broader than head; anterior margin broadly produced to anterior margin of crown; posterior margin deeply incised; mesonotum about as broad as long, quadrangular, tricarinate; venation very distinct and fairly constant; subapical line distinct; most of the apical veins furcate beyond subapical line.

Male genitalia with genital plates short, broad, only about half as long as aedeagus or anal segment with a dorsal terminal elongate tooth, which is slightly recurved and acuminate; aedeagus long, slender with a pair of subterminal fleshy processes directed caudad and a pair of branched spines located on the apical third; the dorsal branch nearly straight; ventral branch strongly recurved and directed caudad; anal segment elongate, longer than aedeagus.

Length to apex of tegmina: 8.00–12.00 mm.

This species was described from Florida and has been recorded from Georgia. We have specimens from the Province of Pinar del Rio (W. T. Horne, C. H. B.) and the Isle of Pines (A. R. O.) taken on the Barrel Palm, *Colpothrinax wrightii*, and on Palmetto Palm, *Sabal* sp.

Genus *Ormenana* nov.

Orthotype *Ormenis linki* Heidemann and Osborn.

This genus is close to *Melormenis* Metc. Head including compound eyes nearly as wide as pronotum; crown short and broad; vertex almost completely concealed by the extended pronotum, separated from the coronal part of frons by a fine but distinct transverse carina; frons lyre-shaped, about as broad as long, sometimes slightly longer than broad, with dorsal and clypeal margins nearly equal; a distinct median carina; pronotum with anterior margin broadly projecting well in front of compound eyes; posterior margin broadly excavate; tegmina elongate, narrow, almost of equal width from humeral angles to apex; costal and sutural angles about equal; costal area narrower than costal cell with numerous crossveins; a single subapical line; most of the longitudinal veins forked beyond apical line; basal half of tegmina with few or no crossveins, apical half with a few irregular crossveins.

Ormenana linki Heidemann and Osborn

(Pl. V, figs. 9, 12; Pl. XIV, fig. 4)

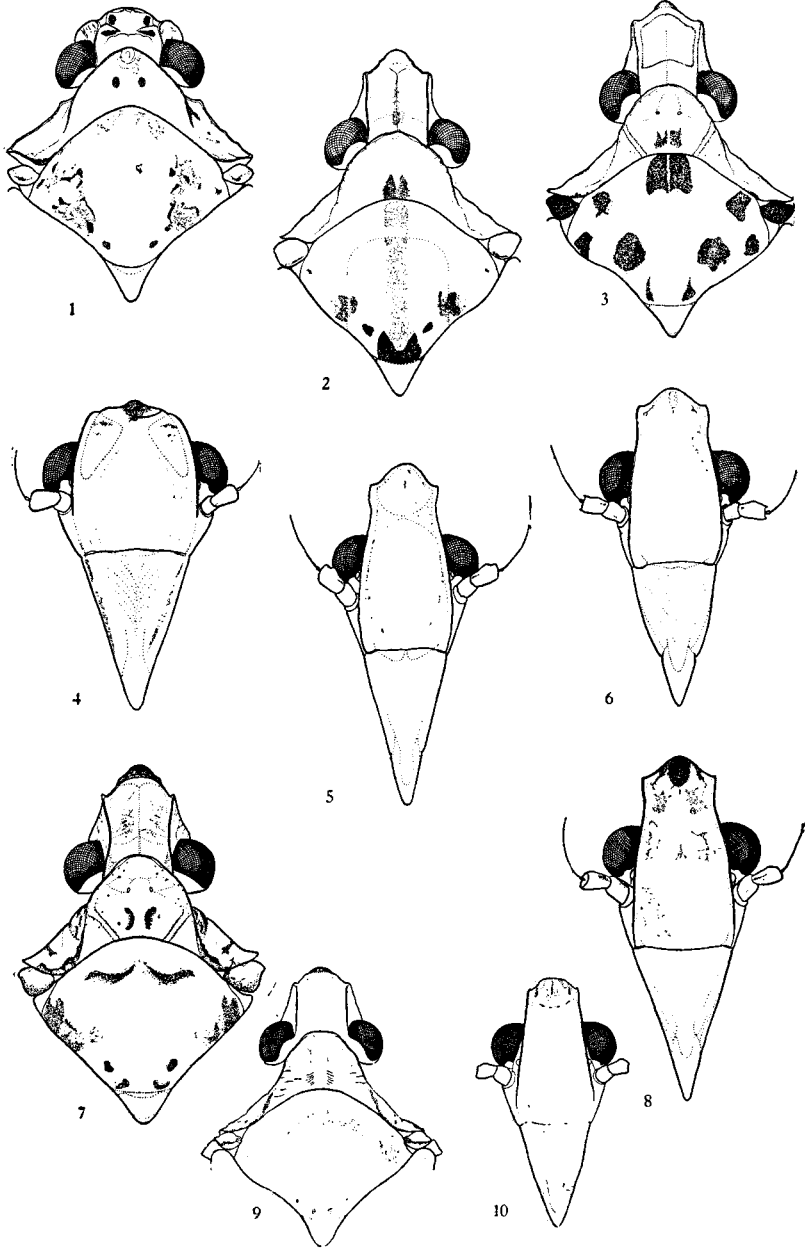
Ormenis linki Heidemann and Osborn 1917a: 347.

This species was described from the Isle of Pines. We have specimens from the same locality with examples from practically every

EXPLANATION OF PLATE VIII

Frontal Views of Head, Dorsal Views of Head and Thorax

Fig. 1. *Flatarissa variegata* Metc. and Brun. Fig. 2. *Pseudoflatoides fasciculosus* var. *griseus* Mel. Fig. 3. *Pseudoflatoides fasciculosus* var. *maculosus* Metc. and Brun. Fig. 4. *Flatarissa variegata* Metc. and Brun. Fig. 5. *Pseudoflatoides fasciculosus* var. *griseus* Mel. Fig. 6. *Pseudoflatoides fasciculosus* var. *maculosus* Metc. and Brun. Fig. 7. *Pseudoflatoides fasciculosus* Mel. Fig. 8. *Pseudoflatoides fasciculosus* Mel. Fig. 9. *Pseudoflatoides tortrix* var. *insularis* Mel. Fig. 10. *Pseudoflatoides tortrix* var. *insularis* Mel.



region where extensive collections have been made from Pinar del Rio Province to Oriente Province. It may be recognized by its small size, almost uniform fuscous brown color with the costal area pale ochraceous buff.

Head including compound eyes about as wide as pronotum; vertex very short, its greatest width nearly ten times the median length, lateral margins strongly elevated; frons slightly longer than greatest width, lateral margins strongly elevated; median carina faint with a pair of faint intermediate carinae; tegmina elongate, narrow, venation distinct.

Male genitalia with pygofer short and broad; genital plates short, broad, somewhat triangular, dorsal tooth on base of apical third, elongate; aedeagus with a pair of short apical spines and a pair of short subapical spines; anal segment elongate, deflexed, with a pair of lateral projections at about the middle.

Length to apex of tegmina: 4.75-5.00 mm.

Ormenana nana n. sp.

(Pl. XIII, fig. 2)

This species resembles *Ormenana linki* in general structure. It differs in averaging somewhat larger and is decidedly lighter in color than that species.

Crown very short and broad, almost completely covered by the projecting pronotum; face about as broad as long, lateral margins strongly arched; median carina very short; pronotum strongly and broadly produced on anterior margin, surpassing anterior margin of compound eyes; posterior margin broadly incised; mesonotum large; tegmina elongate, venation indistinct; subapical line not very evident.

Male genitalia with pygofer short and broad; genital plates short and broad; dorsal tooth near apex elongate, acuminate, slightly recurved; aedeagus short and stout; apical spines hooklike; preapical spines very short; subapical spines longer than apical spines, straight; tenth segment elongate, deflexed.

General color fuscous brown, the anterior margin of pronotum, lateral margins of frons, the legs and venter generally lighter; costal margin distinctly lighter.

Length to apex of tegmina: 6.10 mm.

Holotype ♂: Baragua, Camaguey Prov.; 3 Oct., 1924; C. F. S. *Allotype* ♀: Manzanillo, Oriente Prov.; 16 Oct., 1928; L. C. S. *Paratypes*: 1 ♀, Manzanillo, Oriente Prov.; 16 Oct., 1928; L. C. S.

Ormenana fusca n. sp.

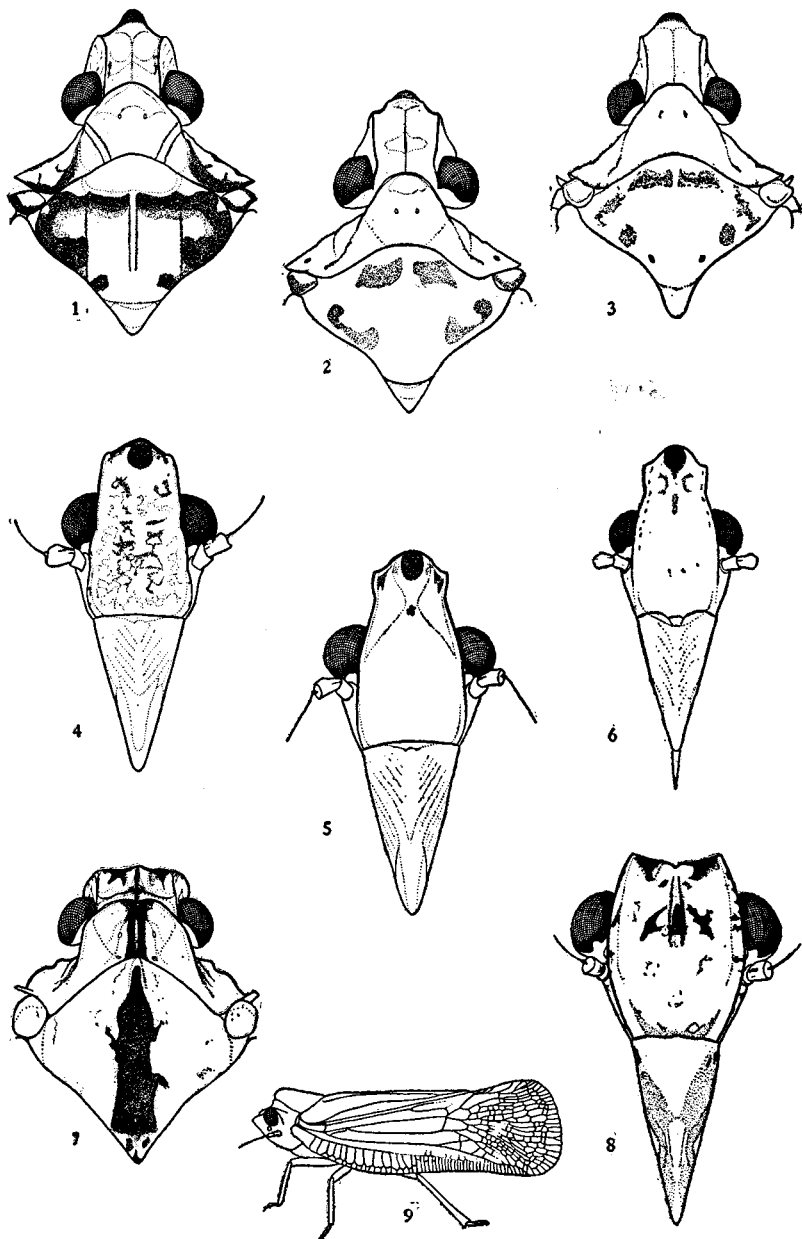
(Pl. XIII, fig. 9)

This species closely resembles *Ormenana linki* in general structure and coloration but the genitalia are distinct.

EXPLANATION OF PLATE IX

Frontal Views of Head, Dorsal Views of Head and Thorax

Fig. 1. *Pseudoflatoides lichenoides* Metc. and Brun. Fig. 2. *Pseudoflatoides fasciculosus* var. *vittatus* Metc. and Brun. Fig. 3. *Pseudoflatoides tortrix* Guér.-Mén. Fig. 4. *Pseudoflatoides lichenoides* Metc. and Brun. Fig. 5. *Pseudoflatoides fasciculosus* var. *vittatus* Metc. and Brun. Fig. 6. *Pseudoflatoides tortrix* Guér.-Mén. Fig. 7. *Flatidula luella* Metc. and Brun. Fig. 8. *Flatidula luella* Metc. and Brun. Fig. 9. *Flatidula luella* Metc. and Brun.



Vertex short and broad, lateral margins strongly and sharply elevated; frons slightly longer than broad, lateral margins strongly elevated and broadly curved with an indistinct median carina on basal third connected to a broadly elevated transverse carina; costal area narrower than costal cell; venation fairly distinct; subapical line distinct; apical and sutural angles equally rounded, apical margin obtuse; hind tibiae with two spines on apical third.

Male genitalia with pygofer short and broad; genital plates nearly twice as long as their greatest width, excluding dorsal tooth, longer than in *linki*, more slender; aedeagus with apical spines elongate with a short tooth on base; subapical spines elongate, curved, almost as long as aedeagus; anal segment elongate, slender, strongly deflexed on apical half; lateral processes broad, nearly quadrate.

In general color head and thorax dorsally russet brown; tegmina blackish fuscous with costal margin and claval suture ochraceous buff; face and legs chiefly ochraceous buff with abdomen russet brown; compound eyes tawny.

Length to apex of tegmina: 5.00–5.25 mm.

Holotype ♂: Banes, Oriente Prov.; 4–11 June, 1927; F. T. B. *Allotype* ♀: Manzanillo, Oriente Prov.; 16 Oct., 1928; L. C. S. *Paratypes*: 1 ♂, Central Palma, Oriente Prov.; 11 Sept., 1934; L. C. S. 1 ♀, Maisi, Oriente Prov.; 5 Feb., 1929; J. A. 1 ♀, Central Palma, Oriente Prov.; 11 Sept., 1934; L. C. S. 1 ♀, Camagüey, Camagüey Prov.; 8 July, 1923; J. A.

Ormenana punctata n. sp.

(Pl. XII, fig. 3)

This is a small species of *Ormenana* suggestive of *Melormenis pruinosa*, but differs in being much smaller and in having different genitalia.

Frons about as broad as long, median carina indistinct, the lateral margins strongly elevated, broadly curved; tegmina relatively broad and short; costal area broad with numerous closely spaced crossveins.

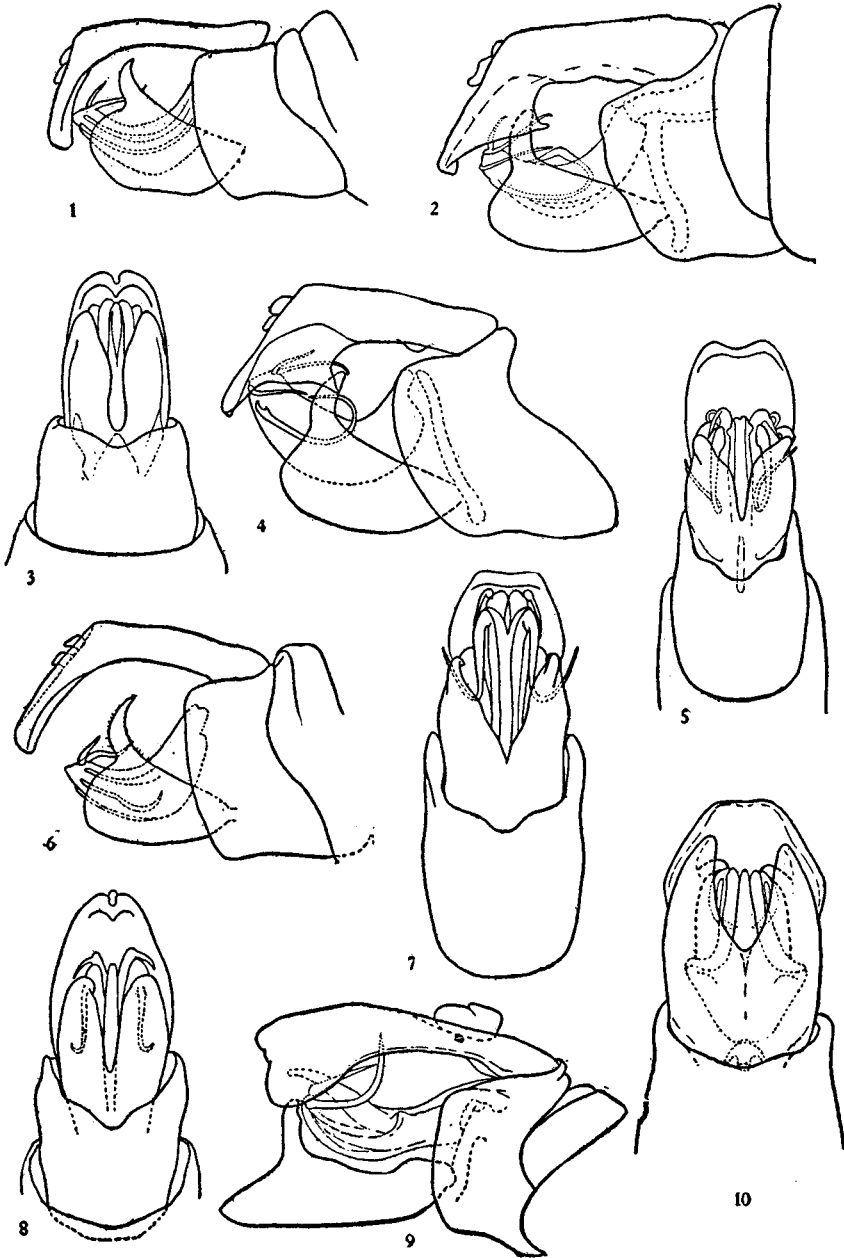
Male genitalia with pygofer short; genital plates short and broad with an elongate subapical dorsal tooth; aedeagus large with branched apical spines with anterior branch shorter; elongate subapical spines almost as long as aedeagus; anal segment nearly as long as pygofer and genital plates combined; apical portion elongate, slender when viewed laterally, curvingly deflexed.

Head, pronotum, venter, and legs chiefly light ochraceous buff; mesonotum and tegmina chiefly blackish fuscous; claval suture narrowly ochraceous buff; costal margin narrowly ochraceous buff; a small spot in front of the humeri, a larger spot behind the humeri, and an elongate stigmatal spot ochraceous buff.

EXPLANATION OF PLATE X

Lateral and Ventral Views of Male Genitalia

Fig. 1. *Cyarda acutissima* Metc. and Brun. Fig. 2. *Cyarda acuminipennis* Spin. Fig. 3. *Cyarda acutissima* Metc. and Brun. Fig. 4. *Cyarda walkeri* Metc. Fig. 5. *Cyarda acuminipennis* Spin. Fig. 6. *Cyarda cubensis* Metc. and Brun. Fig. 7. *Cyarda walkeri* Metc. Fig. 8. *Cyarda cubensis* Metc. and Brun. Fig. 9. *Flatarissa variegata* Metc. and Brun. Fig. 10. *Flatarissa variegata* Metc. and Brun.



Length to apex of tegmina: 5.50 mm.

Holotype ♂: Baracoa, Oriente Prov.; 15 April, 1916; P. G. C.
Paratypes: 2 ♂♂, Baracoa, Oriente Prov.; 15 April, 1916; P. G. C.

Ormenoides Melichar

Ormenoides Melichar 1923a: 73.

Orthotype *Ormenoides distinctus* Mel.

This genus may be recognized by the following combinations of characters: Crown very short and broad, almost completely covered by extended pronotum; frons distinctly longer than broad; median carina usually distinct; pronotum short and broad, usually triangularly projecting between compound eyes; tegmina with single subapical line usually parallel to apical margin; costal area narrower than costal cell.

Ormenoides subflava n. sp.

(Pl. V, figs. 3, 6; Pl. XIV, fig. 1)

This is a medium-sized species of *Ormenoides* which is almost uniformly tawny orange in color. In some specimens there is a faint clouding of brown on lateral areas of mesonotum, the basal area of clavus, across basal cells and on apical area of tegmina. Other specimens are nearly uniformly warm sepia. The costal margin is nearly always paler than any other area of the body.

Crown almost completely covered by pronotum, separated from frons by a very distinct transverse carina; frons somewhat longer than broad; lateral margins strongly elevated; median carina distinct; pronotum distinctly produced, the anterior margin transverse; posterior margin shallowly excavate; mesonotum without distinct carina; tegmina short and broad; costal margin nearly straight; apical margin truncate.

Male genitalia with genital plates elongate, narrow, with a well-developed recurved middorsal tooth; aedeagus elongate, slender, with short apical spines with basal tooth; subapical spines slender, elongate, about half as long as aedeagus, somewhat recurved.

Length to apex of tegmina: 7.75–8.25 mm.

Holotype ♂: Sierra Maestra, Oriente Prov.; 10–20 July, 1922; C. H. B. and S. C. B. *Allotype* ♀: Sierra Maestra, Oriente Prov.; 10–20 July, 1922; C. H. B. and S. C. B. *Paratypes*: 3 ♂♂ and 3 ♀♀, Sierra Maestra, Oriente Prov.; 10–20 July, 1922; C. H. B. and S. C. B. 1 ♀, Pico Turquino, Oriente Prov.; 1 Aug., 1935; 4000–6000 ft.; J. A. 1 ♂, Pico Turquino, Oriente Prov.; 10–29 June, 1936; 3750 ft.; J. A.

Genus *Melormenis* Metcalf

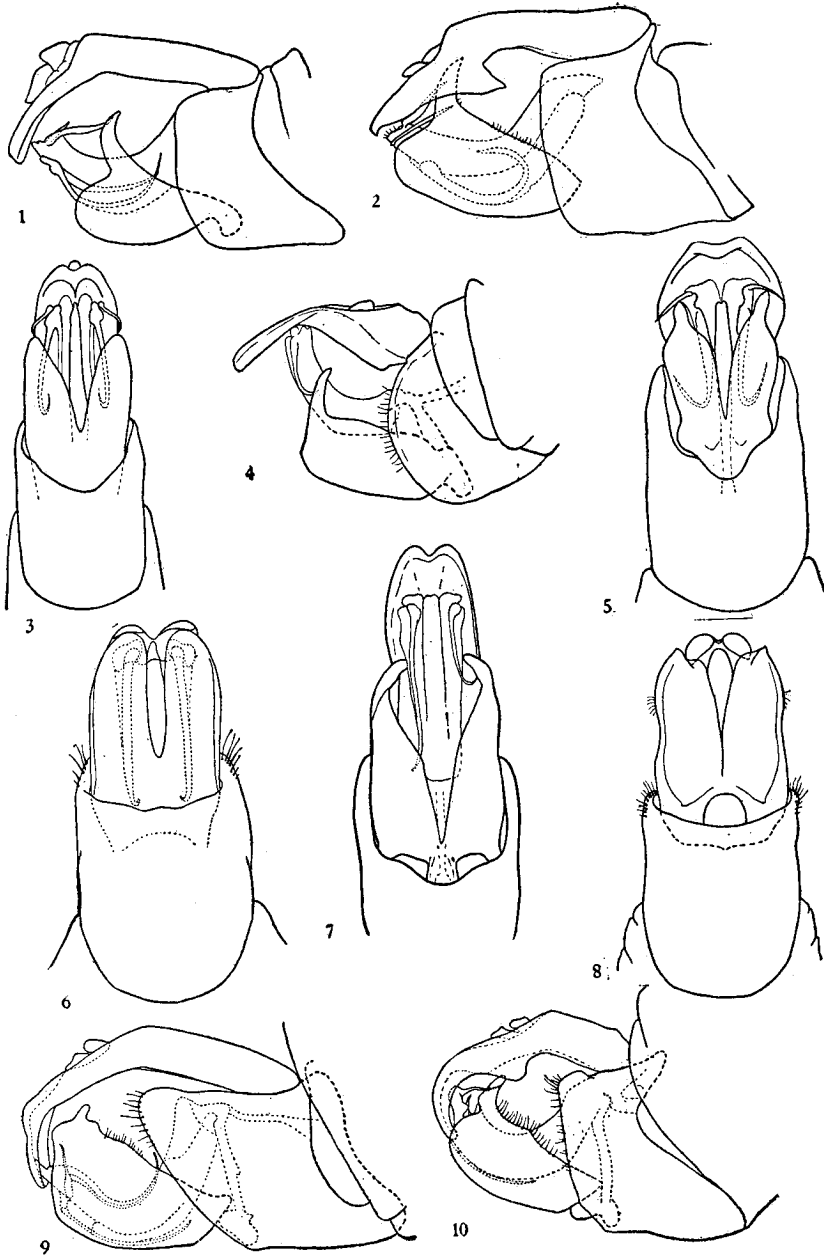
Melormenis Metcalf 1938a: 395. Nom. nov. for *Ormenis* Melichar nec *Ormenis* Stål.

Orthotype *Ormenis antillarum* Kirk. (*Cicada quadripunctata* Fabr.).

EXPLANATION OF PLATE XI

Lateral and Ventral Views of Male Genitalia

Fig. 1. *Cyarda fuscifrons* Metc. and Brun. Fig. 2. *Cyarda melichari* Van D.
Fig. 3. *Cyarda fuscifrons* Metc. and Brun. Fig. 4. *Leocerus fuscus* Metc. and Brun.
Fig. 5. *Cyarda melichari* Van D. Fig. 6. *Planodascalía viridicosta* Metc. and Brun.
Fig. 7. *Leocerus fuscus* Metc. and Brun. Fig. 8. *Planodascalía fusca* Metc. and Brun.
Fig. 9. *Planodascalía viridicosta* Metc. and Brun. Fig. 10. *Planodascalía fusca* Metc. and Brun.



This genus was proposed for those species of flatids closely related to *Cicada quadripunctata* Fabr. They may be characterized very briefly as follows: Crown very short, frons longer than broad, tegmina triangular; apical margin truncate, apical and sutural angles nearly equal, with a single subapical line rather remote from apical margin, nearly parallel and with most of the longitudinal veins forking beyond the subapical line; costal margin not as broad as costal cell at its widest point.

As thus constituted this genus would have a wide distribution in eastern North America through Mexico and the West Indies as far south as Argentina. It is the largest genus in the present collection, containing nine species.

***Melormenis variegata* n. sp.**

(Pl. V, figs. 2, 5; Pl. XIII, fig. 6)

This is a medium-large species of *Melormenis* with the color chiefly blackish fuscous variegated with ochraceous buff. In structural characters it is very close to *Melormenis siboney*, but the genitalia are very distinct; genital plates short and broad, dorsal tooth distinctly removed from apical margin; aedeagus stout; apical spines short, stout, strongly curved; subapical spines short, stout, strongly curved, about same length as apical spines; anal segment slender and spatulate posterior to anal style, trough-shaped toward apex, lateral processes small, broadly rounded; median process wanting.

Holotype ♂: Pico Turquino, Oriente Prov.; 10–29 June, 1936; J. A. *Allotype* ♀: Naga, Oriente Prov.; 7 July, 1922; S. C. B. and C. H. B. *Paratypes*: 3 ♂♂, Sierra Maestra, Oriente Prov.; 7–20 July, 1922; C. H. B. and S. C. B. 4 ♂♂, Nagua, Oriente Prov.

***Melormenis frigida* n. sp.**

(Pl. XII, figs. 6, 7)

This is one of the most strikingly colored of the species of *Melormenis* of Cuba. Typically the head, except compound eyes, and pronotum are yellowish green; tegmina are largely fuscous brown with claval suture, some large spots on the shoulder, and two large spots on costal margin yellowish green; costal spots frequently fade to whitish; compound eyes and mesonotum tawny; in some specimens, however, the fuscous areas of the wings are reduced to a broad triangle extending from apical margin to base with dorsal margin along the calval suture and ventral margin extending from about the middle of clavus to costal angle; legs and ventral areas usually ochraceous buff.

EXPLANATION OF PLATE XII

Lateral and Ventral Views of Male Genitalia

Fig. 1. *Melormenis pruinosa cubana* Metc. and Brun. Fig. 2. *Melormenis pruinosa cubana* Metc. and Brun. Fig. 3. *Ormenana punctata* Metc. and Brun. Fig. 4. *Melormenis pruinosa* Say. Fig. 4a. *Melormenis pruinosa* Say. Fig. 5. *Melormenis inconspicua* Metc. and Brun. Fig. 6. *Melormenis frigida* Metc. and Brun. Fig. 7. *Melormenis frigida* Metc. and Brun. Fig. 8. *Melormenis maestralis* Metc. and Brun. Fig. 9. *Melormenis asymmetrica* Metc. and Brun. Fig. 10. *Melormenis persea* Metc. and Brun. Fig. 11. *Melormenis persea* Metc. and Brun.



Head including compound eyes not as wide as pronotum; face elongate; median carina very indistinct; mesonotum large; tegmina elongate.

Male genitalia with pygofer short and broad; genital plates short, broad, about one and one-half times as long as greatest width excluding elongate dorsal tooth; aedeagus broad, nearly straight; apical spines short, preapical spines nearly twice as long; subapical spines strongly curved basad; anal segment elongate; lateral angles inconspicuous.

Length to apex of tegmina: ♂, 8.40 mm.; ♀, 9.80 mm.

Holotype ♂: Sierra Maestra, Oriente Prov.; 10–20 July, 1922; 2800–3700 ft.; C. H. B. and S. C. B. *Allotype* ♀: Santiago de las Vegas, Habana Prov., on mango. *Paratypes*: 2 ♀♀, Santiago de las Vegas, Habana Prov.

Melormenis inconspicua n. sp.

(Pl. IV, figs. 9, 12; Pl. XII, fig. 5)

Typically this is a medium large species of *Melormenis* with the basal area of clavus and the apical area of tegmina blackish or blackish fuscous with a few smaller spots of blackish fuscous on basal area of corium; head and mesonotum chiefly tawny, pronotum and basal area of tegmina greenish; venter and legs chiefly tawny.

Crown short and broad; face about as broad as long, the lateral margins strongly elevated, and the dorsal margin with a distinct transverse elevated ridge; pronotum truncately projecting to anterior margin of compound eyes; median carina fairly distinct, a pair of deeply impressed points either side; mesonotum large, median and intermediate carinae distinct; tegmina narrow, elongate, the apical margin distinctly sinuate; apical angle somewhat produced.

Male genitalia with genital plates broad, elongate, with dorsal tooth near apex; aedeagus with apical spines short; preapical spines about twice as long as apical; subapical spines strongly recurved; a large basal projection; anal segment with ventral margin broadly triangularly produced; apical projection elongate, broadly flattened.

Length to apex of tegmina: 9.10 mm.

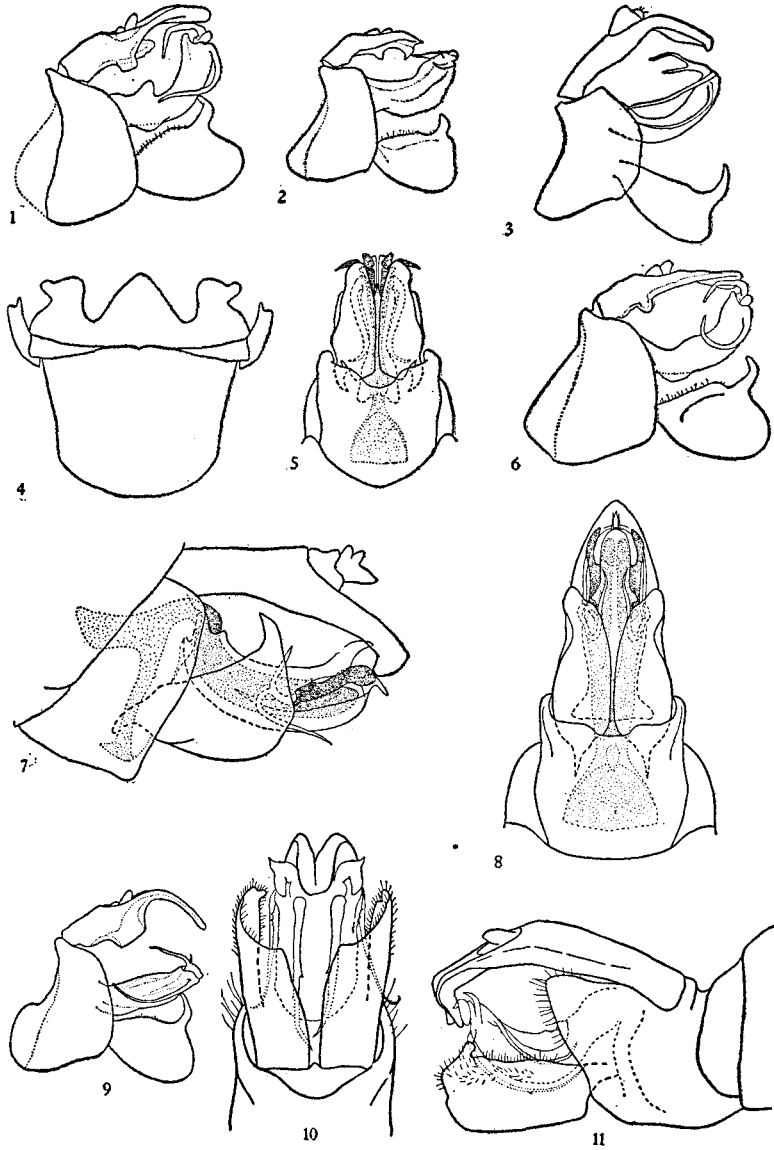
Holotype ♂: Pico Turquino, Oriente Prov.; 20 July, 1922; 5000–5500 ft.; S. C. B. and C. H. B. *Allotype* ♀: Loma del Gato, Sierra del Cobre, Oriente Prov.; 1–3 Oct., 1935; 2600–3325 ft.; J. A. and S. C. B. *Paratypes*: 1 ♂, Sierra Maestra, Oriente Prov., 10–20 July, 1922; 3000–4250 ft.; C. H. B. and S. C. B. 1 ♀, Sierra Maestra, Oriente Prov., 10–20 July, 1922; 3000–4250 ft.; C. H. B. and S. C. B.

Melormenis maestralis n. sp.

(Pl. XII, fig. 8)

This is a large blackish species with the head, pronotum, legs, and costal margin of tegmina light ochraceous buff. In general it resembles a dark *pruinosa* with costal margin more abruptly paler and distinct genitalia.

Crown very short, the produced pronotum reaching almost to anterior margin; face slightly longer than broad, the lateral margins strongly elevated; pronotum ecarinate, broadly incised posteriorly;



Male and Female Genitalia, as Indicated

Fig. 1. *Melormenis siboney* Metc. and Brun. ♂. Fig. 2. *Ormenana nana* Metc. and Brun. ♂. Fig. 3. *Cyarda haitensis* Metc. and Brun. ♂. Fig. 4. *Planodascalía aguayoí* Metc. and Brun. ♀. Fig. 5. *Melormenis asymmetrica* Metc. and Brun. ♂. Fig. 6. *Melormenis variegata* Metc. and Brun. ♂. Fig. 7. *Ormenaria rufifascia* Walk. ♂. Fig. 8. *Ormenaria rufifascia* Walk. ♂. Fig. 9. *Ormenana fusca* Metc. and Brun. ♂. Fig. 10. *Ormenis cubensis* Metc. and Brun. ♂. Fig. 11. *Ormenis cubensis* Metc. and Brun. ♂.

mesonotum with dorsal surface flattened and abruptly separated from lateral areas; tegmina elongate, the apical margin broadly rounded.

Male genitalia with genital plates short and broad, dorsal tooth elongate, somewhat acute, curving cephalad; aedeagus elongate, slender, with elongate apical spines; subapical spines elongate with apex abruptly curved dorsad; anal segment with an elongate slender ventral tooth.

Length to apex of tegmina: 7.000–8.50 mm.

Holotype ♂: Pico Turquino, Oriente Prov.; 10–29 June, 1936; 3750 ft.; J. A. *Allotype* ♀: Pico Turquino, Oriente Prov.; Oct., 1936; 3000 ft.; J. A. *Paratypes*: 2 ♂♂, Sierra Maestra, Oriente Prov.; 10–20 July, 1922; 3500–3800 ft.; S. C. B. and C. H. B. 1 ♂, Pico Turquino, Oriente Prov.; 20 July, 1922; S. C. B. and C. H. B. 2 ♂♂, Pico Turquino, Oriente Prov.; Oct., 1936; 3000 ft.; J. A. 3 ♀♀, Sierra Maestra, Oriente Prov.; 10–20 July, 1922; 1800–3300 ft.; S. C. B. and C. H. B. 1 ♀, Loma del Gato, Sierra del Cobre, Oriente Prov.; 1–2 Oct., 1935; 2600–3325 ft.; J. A. and S. C. B. 1 ♀, Pico Turquino, Oriente Prov.; Oct., 1936; 3000 ft.; J. A. 1 ♀, Jarahueca, Oriente Prov.; 14–18 July, 1927; S. C. B.

***Melormenis perseia* n. sp.**

(Pl. IV, figs. 7, 10; Pl. XII, figs. 10, 11)

This is a small species with a pale head and prothorax and fuscous mesonotum and tegmina. Tegmina are almost completely covered with a pale bluish pruinescence.

Head including eyes about as wide as pronotum; crown very short, face elongate, the whole surface reticulate; lateral margins only slightly elevated; pronotum short, anterior margin parabolic, projecting slightly cephalad of anterior margin of compound eyes; posterior margin almost rectangular; mesonotum large, the surface smooth, carina inconspicuous; tegmina elongate, narrow; subapical line inconspicuous and irregular.

Male genitalia with pygofer short and broad; genital plates about twice as long as greatest width, dorsal tooth elongate, slightly recurved with a basal projection; aedeagus elongate, slender, the apical spines less than half as long as preapical; subapical spines longer than apical, slightly curved; a midventral, elongate tooth directed caudad.

General color of head, pronotum, legs, and venter ochraceous brown; compound eyes chiefly reddish brown; mesonotum fuscous, lateral areas blackish fuscous; tegmina chiefly fuscous; inconspicuous black areas at base and at shoulders; costal margin usually indistinctly paler.

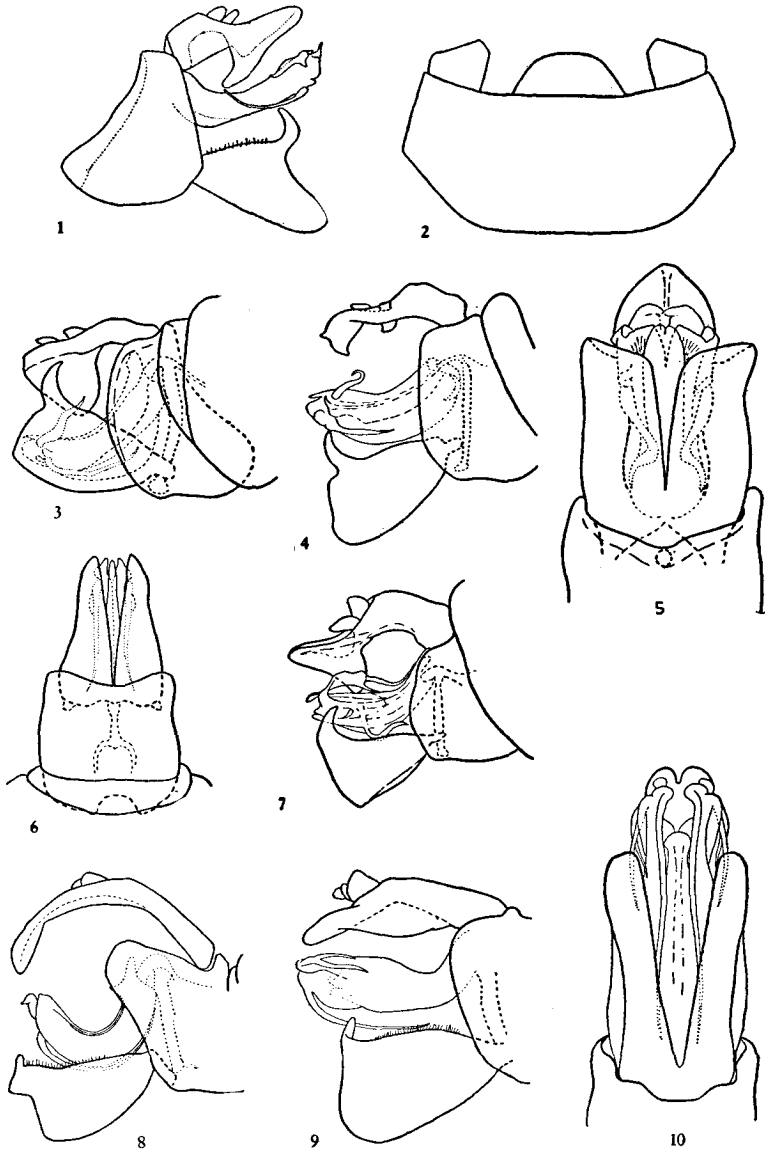
Length to apex of tegmina: ♂, 6.80 mm.; ♀, 8.40 mm.

Holotype ♂: Santiago de las Vegas, Habana Prov. *Allotype* ♀: Santiago de las Vegas, Habana Prov., on *Persea*; 18 July, 1928, S. C. B.

***Melormenis asymmetrica* n. sp.**

(Pl. II, fig. 6; Pl. IV, figs. 8, 11; Pl. XII, fig. 9, Pl. XIII, fig. 5)

This is a moderate-sized to rather large species of *Melormenis* with the pronotum, head, and basal three-quarters of the tegmina light olive green; very distinct male genitalia.



Male and Female Genitalia, as Indicated

Fig. 1. *Ormenoides subflava* Metc. and Brun. ♂. Fig. 2. *Planodascalía obscura* Metc. and Brun. ♀. Fig. 3. *Byllisana brunnea* Metc. and Brun. ♂. Fig. 4. *Ormenana linki* Heid. and Osb. ♂. Fig. 5. *Dakshiana katharina* Metc. and Brun. ♂. Fig. 6. *Byllisana brunnea* Metc. and Brun. ♂. Fig. 7. *Dakshiana katharina* Metc. and Brun. ♂. Fig. 8. *Planodascalía obscura* Metc. and Brun. ♂. Fig. 9. *Carthaeomorpha balloui* Metc. and Brun. ♂. Fig. 10. *Carthaeomorpha balloui* Metc. and Brun. ♂.

Crown very short with a projecting pronotum reaching anterior margin; face elongate, the lateral margins strongly curved; median carina distinct, sometimes short; tegmina elongate with costal and sutural margins somewhat sinuate; apical and sutural angles strongly rounded; subapical line parallel to apical margin, about twice as far from apical margin as width of costal area; hind tibiae with two spines.

Male genitalia with pygofer short and broad; genital plates short and broad with a rather short, middorsal, recurved tooth; anal segment asymmetrical, short with a lateral lobe below on each side at about level of anal style, this lobe well developed and directed obliquely caudad on right and usually shorter and bent more or less cephalad on left side; aedeagus broad with a strong dorsal crest, a single pair of apical spines broad and flat towards center and a pair of elongate, moderately recurved, somewhat flattened subapical spines.

General color of head, pronotum, face, legs, venter of abdomen, and basal three-fourths of tegmina light olive green, more or less clouded with fuscous; eyes and mesonotum tawny; eyes clouded with fuscous on anterior margin, mesonotum clouded with fuscous on lateral margins; basal area of tegmina more or less clouded and spotted with fuscous, costal margin clouded with fuscous; apical area strongly clouded with fuscous, which may extend into center of corium.

Length to apex of tegmina: ♂, 6.50 mm.; ♀, 9.00 mm.

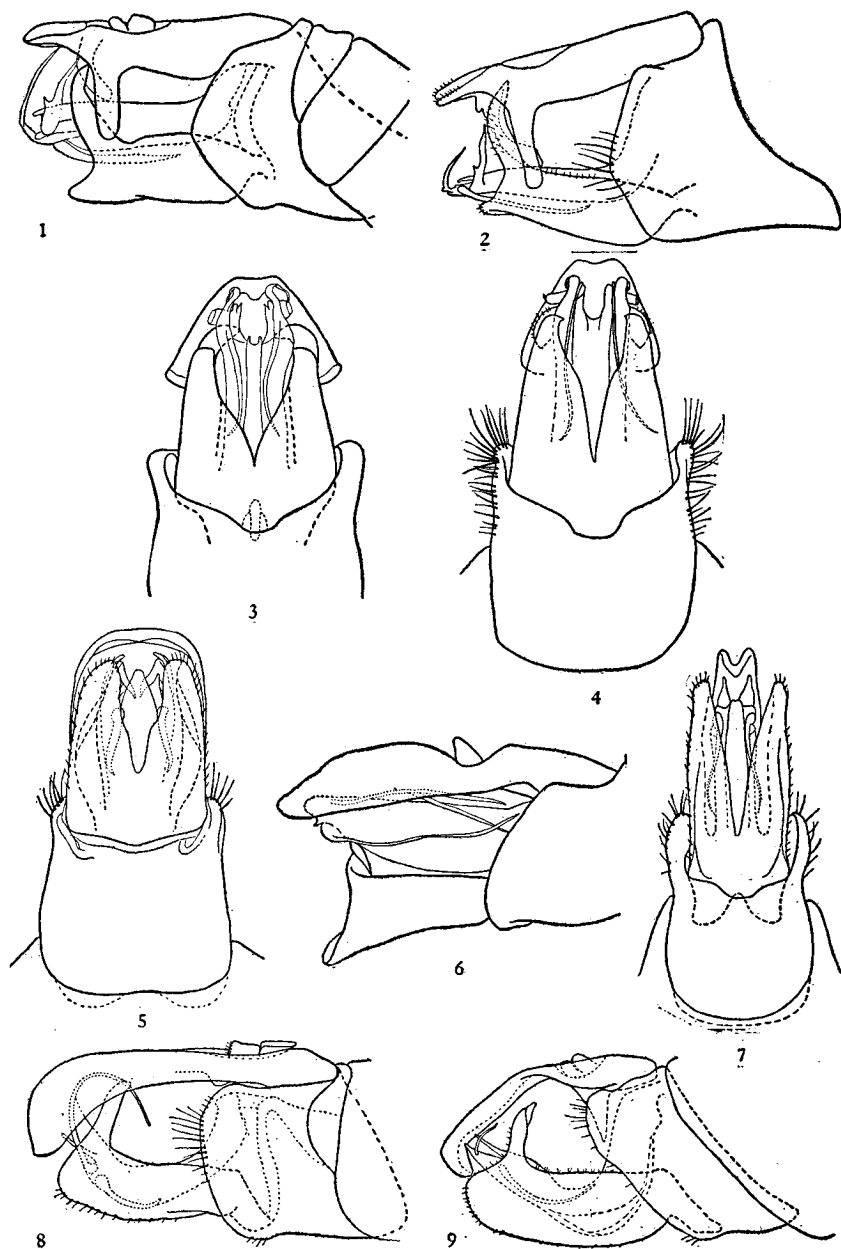
Holotype ♂: Santiago de las Vegas, Habana Prov., on *Pisonia aculeata* Linné; 28 July, 1932; A. R. O. *Allotype* ♀: Santiago de las Vegas, Habana Prov., on *Cordia colococca*, 3 Aug., 1932; S. C. B. *Paratypes*: 2 ♀ ♀, Santiago de las Vegas, Habana Prov.; S. C. B. 1 ♀, Colon, Matanzas Prov.; 15 Nov., 1922; A. C. 1 ♂, Isle of Pines; 4-12 Sept., 1926; S. C. B. and L. B. 1 ♀, Isle of Pines, 4-12 Sept., 1926; S. C. B. and L. B. 1 ♀, El Cano, Habana Prov.; 21 Sept., 1928; S. C. B. 1 ♂, El Fraile, Pinar del Rio Prov. 1 ♀, El Fraile, Pinar del Rio Prov. 1 ♂, Santiago de las Vegas, Habana Prov.; 16 July, 1920. 1 ♂, Barrio Caobilla, Camagüey Prov.; 23-25 June, 1927; J. A. 1 ♂, Vinales, Pinar del Rio Prov.; 15 Apr., 1930; S. C. B. 1 ♀, Santiago de las Vegas, Habana Prov.; 7 July, 1932; S. C. B. and A. R. O. 1 ♀, Jaronu, Camagüey Prov.; 3 Apr., 1932; L. C. S. 1 ♂, Wajay, Habana Prov., on *Casuarina*, 31 Aug., 1928; S. C. B. 2 ♀ ♀, Wajay, Habana Prov., on *Casuarina*, 31 Aug., 1928; S. C. B. 1 ♂, Cobre, Oriente Prov.; 5 Oct., 1928; F. S. and S. C. B. 1 ♀, Santiago de las Vegas, Habana Prov. 1 ♀, Oriente Prov.

Melormenis asymmetrica has been found on *Annona reticulata*, *Casuarina equisetifolia*, *Cedrela mexicana*, *Dichrostachys glomerata* (rather scarce), *Psidium guajaba*, and several other common plants.

EXPLANATION OF PLATE XV

Lateral and Ventral Views of Male Genitalia

Fig. 1. *Flatoidinus acutus* Uhl. Fig. 2. *Flatoidinus obscurus* Metc. and Brun.
 Fig. 3. *Flatoidinus acutus* Uhl. Fig. 4. *Flatoidinus obscurus* Metc. and Brun.
 Fig. 5. *Flatarissa humeralis* Metc. and Brun. Fig. 6. *Flatarina aguiari* Metc. and Brun.
 Fig. 7. *Flatidula pallescens* Metc. and Brun. Fig. 8. *Flatarissa humeralis* Metc. and Brun.
 Fig. 9. *Flatidula pallescens* Metc. and Brun.



Melormenis pruinosa Say

(Pl. XII, figs. 4, 4a)

Flata pruinosa Say 1830a: 237.*Ormenis pruinosa* Melichar 1902a: 71, Pl. V, fig. 7.

This is one of the most common species in eastern North America, ranging from Ontario to Florida, west to the Great Plain states, south to Texas, Arizona, and California to Mexico and Cuba. In Cuba it has a wide distribution, being recorded from all of the provinces where extensive collecting has been done. It is very variable in size and general coloration. The variation in coloration is due chiefly to the presence or absence of a bluish white pruinescence.

Melormenis pruinosa cubana n. subsp.

(Pl. IV, fig. 13; Pl. XII, figs. 1, 2)

Crown short and broad, covered for about half of its length by projecting pronotum; face elongate, lateral margins strongly arcuate; dorsal margin slightly longer than clypeal margin; median carina very variable, sometimes almost percurrent, at other times greatly reduced; tegmina with subapical line evident unless covered by the waxy pruinescence.

Male genitalia with pygofer short and broad; genital plates about twice as long as broad, an elongate, slightly recurved dorsal tooth; aedeagus long and slender with three pairs of spines; apical spines about half as long as preapical spines; subapical spines elongate, slender, strongly recurved.

Color very variable, due to a light bluish white pruinescence typically covering most of tegmina; color of head, pronotum, the center of thorax and abdomen including legs, light ochraceous buff; mesonotum, tegmina, and dorsum of abdomen chiefly fuscous; costal margin and claval suture usually distinctly paler with an indefinite paler area just beyond the discal cell; this pale area usually includes a round fuscous spot.

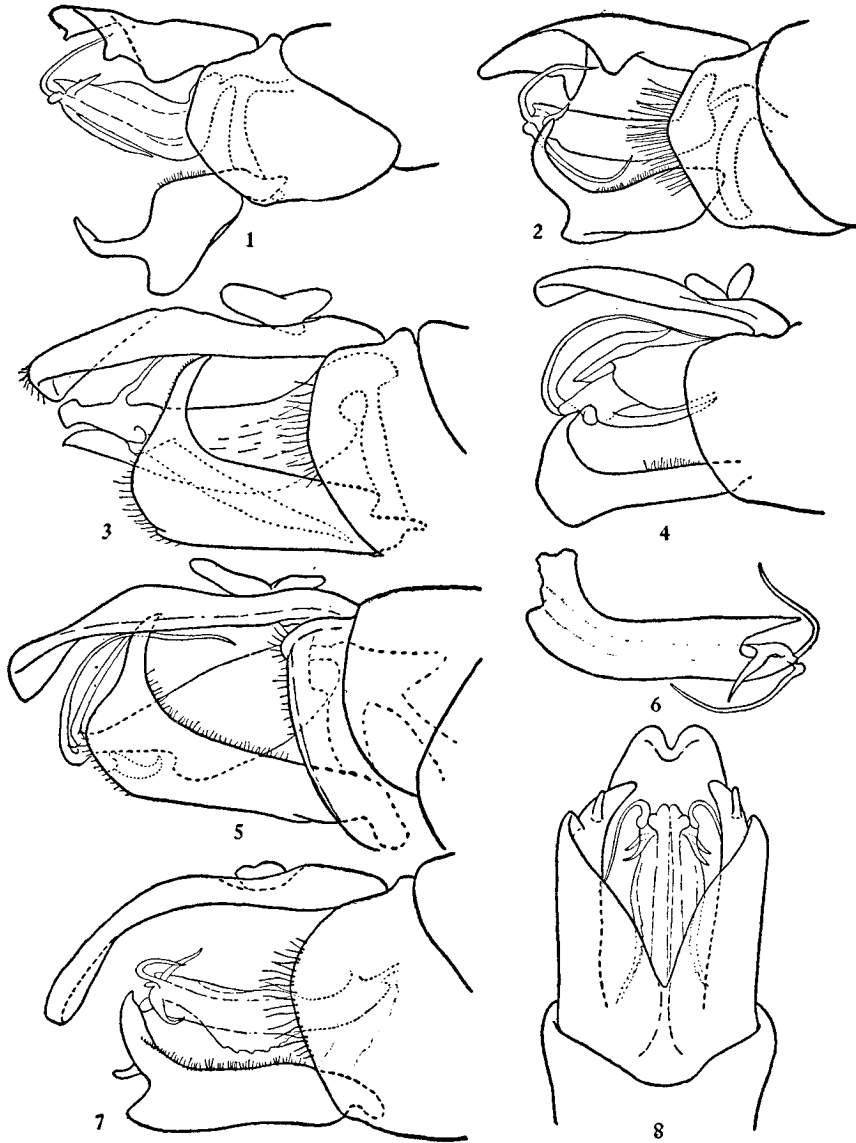
Length variable, smallest males to apex of tegmina, 5.00 mm.; largest females, 8.00 mm.

This subspecies seems to be widespread and abundant in Cuba, having been collected in practically all localities where extensive collecting has been done. We have examined specimens taken on *Annona reticulata*, *Coffea arabica*, *Coccolobis uvifera*, *Psidium guajava*, and other plants.

Melormenis siboney n. sp.

(Pl. XIII, fig. 1)

This is a rather large species of *Melormenis* with the tegmina chiefly blackish fuscous, variegated with light yellowish green. Typically there are two large semi-translucent spots on the costal margin, one near middle of costal area and one just before the apical line extending inward to near middle of corium; clavus and basal half of corium chiefly yellowish green with large irregular spots of blackish fuscous; lateral areas of mesonotum are chiefly blackish fuscous, the median area tawny fading to ochraceous tawny.



Lateral and Ventral Views of Male Genitalia

Fig. 1. *Flatoidinus dotatus* Mel. Fig. 2. *Flatoidinus olivaceus* Metc. and Brun. Fig. 3. *Pseudoflatoides lichenoides* Metc. and Brun. Fig. 4. *Pseudoflatoides tortrix* Guér.-Mén. Fig. 5. *Pseudoflatoides fasciculosus* Mel. Fig. 6. *Flatoidinus punctatus* Metc. and Brun. Fig. 7. *Flatoidinus pallescens* Metc. and Brun. Fig. 8. *Flatoidinus pallescens* Metc. and Brun.

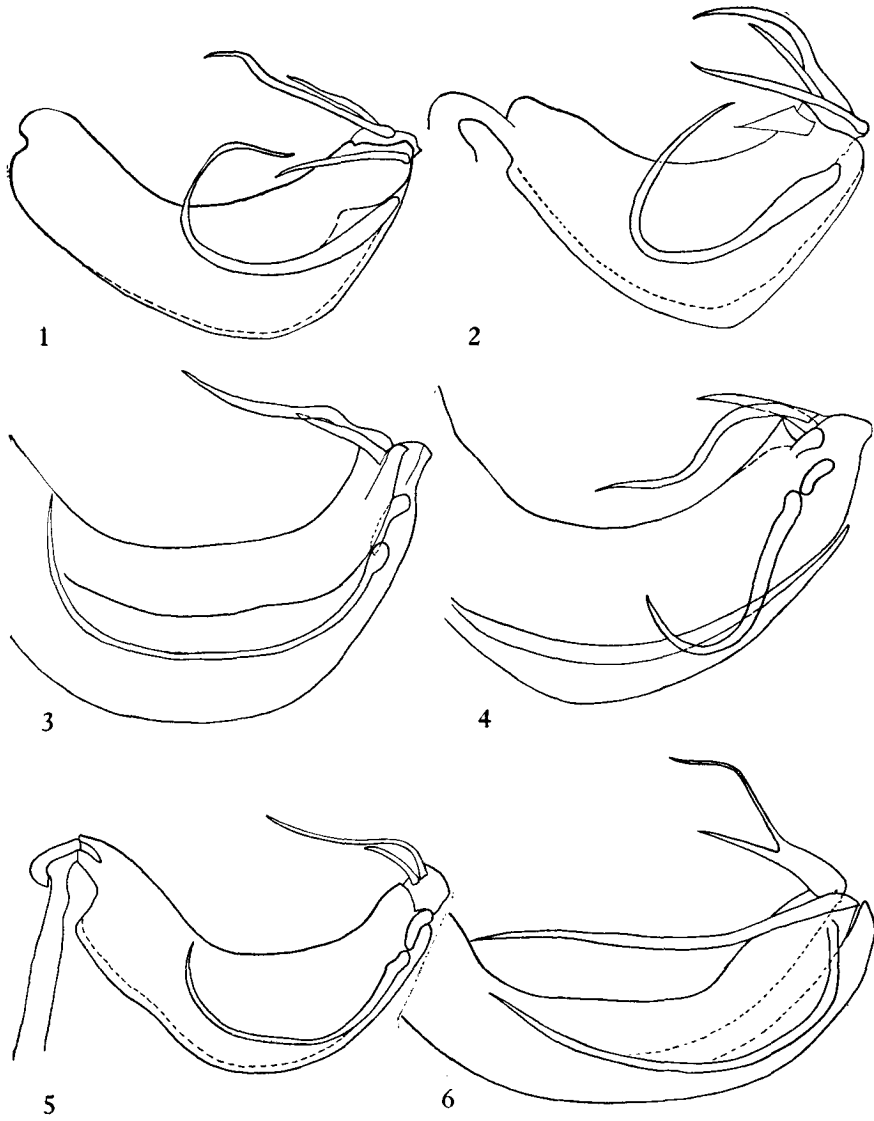
Crown very short, the anterior margin of pronotum extending almost to anterior margin of crown, leaving only the lateral areas exposed; face slightly broader than long, the lateral margins strongly elevated, the dorsal transverse carina evident; median carina evident dorsad; pronotum short and broad, the anterior margin strongly produced; lateral margins very short; posterior margin more broadly sinuate; mesonotum large, the intermediate carinae strongly elevated; tegmina typical, the subapical line evident; costal margins somewhat sinuate; most of longitudinal veins branched beyond subapical line.

Male genitalia with pygofer short and broad, the anal segment narrow, elongate with quadrate lateral processes and a distinct median process; genital plates nearly twice as long as broad, the apical margin broadly rounded, the dorsal tooth placed well before apex, elongate, slightly recurved; aedeagus elongate, nearly cylindrical, with a dorsal projection on basal third; apical spines elongate, decurved; lateral processes sometimes asymmetrical, the one on the right side directed caudad and the one on the left side shorter, quadrate, directed ventrad; subapical spines longer than apical, distinctly curved.

Head, venter, and legs chiefly pale warm buff; compound eyes chiefly russet brown with a blackish mark dorsally; face somewhat clouded with pale fuscous; pronotum pale greenish yellow; mesonotum with central area chiefly ochraceous tawny, the lateral areas blackish fuscous, fading to ochraceous tawny, on tegulae; tegmina pale greenish yellow on basal half of corium and clavus, heavily spotted with fuscous, the apical area almost completely fuscous with exception of semi-translucent costal spots.

Length to apex of tegmina: 6.50-7.00 mm.

Holotype ♂: Loma del Gato, Sierra de Cobre, Oriente Prov.; 24-30 Sept., 1935; J. A., S. C. B. and L. C. S. *Allotype* ♀: Loma del Gato, Sierra de Cobre, Oriente Prov.; 24-30 Sept., 1935; J. A., S. C. B. and L. C. S. *Paratypes*: 2 ♀♀ and 1 ♂, Loma del Gato, Sierra de Cobre, Oriente Prov.; 1-2 Oct., 1935; 2600-3325 ft.; J. A. and S. C. B. 1 ♀, Camagüey, Camagüey Prov.; 22 July, 1923; J. A. 2 ♀♀, Camagüey, Camagüey Prov.; 30 July, 1923; J. A. 1 ♀, and 1 ♂, Nagua, Oriente Prov.; 7 July, 1922; C. H. B. and S. C. B. 7 ♀♀ and 1 ♂, Jaronu, Camagüey Prov.; 21 Aug., 1934; L. C. S. 2 ♂♂ and 1 ♀, Sierra Maestra, Oriente Prov.; 2000-2600 ft.; C. H. B. and S. C. B. 1 ♀, Buenos Aires, Trinidad Mts., Las Villas Prov. 1 ♀, Somorrostro, Habana Prov.; 16 Aug., 1936; L. C. S. 1 ♀, Puna, Camagüey Prov.; 15 Aug., 1932; L. C. S. 1 ♀, Jarahueca, Oriente Prov.; 14-18 July, 1927; S. C. B. 1 ♂, Pan de Matanzas Mts., Matanzas Prov.; 12 June, 1932; S. C. B., A. R. O. and L. C. S. 1 ♀, Oriente, Oriente Prov.; 12 Sept., 1934; L. C. S. 1 ♂, Sierra Rangel Mts., Pinar del Rio Prov.; 29 Aug., 1927; 1500 ft.; J. A. and S. C. B. 1 ♂, Pico Turquino, Oriente Prov., 10-29 June, 1936; 3750 ft.; J. A. 1 ♀, Guantánamo, Oriente Prov.; 28 Nov., 1931; L. C. S. 1 ♀, Las Animas, Pinar del Rio Prov.; 3-5 Sept., 1934; 1500 ft.; S. C. B. and A. R. O. 1 ♀, Nibuyon, Oriente Prov.; 1 Aug., 1935; J. N.



Lateral Views of Aedeagi of Genus *Cyarda*

Fig. 1. *Cyarda walkeri* Metc. Fig. 2. *Cyarda acuminipennis* Spin. Fig. 3. *Cyarda fuscifrons* Metc. and Brun. Fig. 4. *Cyarda cubensis* Metc. and Brun. Fig. 5. *Cyarda acutissima* Metc. and Brun. Fig. 6. *Cyarda haitiensis* Metc. and Brun.

Genus *Cyarda* Walker

- Cyarda* Walker 1858b: 121. [Gen. n.]
 Melichar 1902a: 133. [Described, key to species.]
 Melichar 1923a: 91. [Described, catalogue of species.]
 Metcalf 1923a: 151. [Key, key to species.]
 Dozier 1928a: 119. [Described.]
 Metcalf 1938a: 406. [Note.]

Haplotype *Cyarda difformis* Walk.

This is one of the most distinct genera of the family Flatidae. It may be readily recognized by the shape of the tegmina which are elongate, narrow, wider on the basal third and gradually constricted toward the apex. The apical margin is usually oblique and distinctly sinuate. This genus might be confused with the genus *Mistharnophantia* Kirk., but in that genus the tegmina are much shorter, being very little longer than broad, whereas in the genus *Cyarda* Walk. the tegmina are three or four times as long as broad.

Nine species are at present assigned to this genus. Three of these species are found in Africa and Madagascar and perhaps belong to some other genus. Six species are American and range from the southern U. S. through the West Indies to northern South America, including Venezuela and Dutch Guiana.

Cyarda acuminipennis Spinola

(Pl. III, figs. 1, 2; Pl. X, figs. 2, 5; Pl. XVII, fig. 2)

- Cyarda acuminipennis* Spinola 1839b: 445.
 Melichar 1902a: 134; Pl. VII, fig. 12.
 Metcalf 1923a: 151, Pl. 41, fig. 40; Pl. 48, fig. 139.

If we have correctly identified this species, it is the largest species of *Cyarda* from Cuba. The total length from apex of head to apex of abdomen is 7 to 8 mm., to apex of tegmina 10 to 12 mm. Melichar gives 10 mm. the total length of body and Spinola gives four lines as the length from apex of head to apex of abdomen. This species was originally described from Santo Domingo and has been recorded from Jamaica and is also found in southern Florida. It seems to be one of the most abundant species in Cuba. Specimens in our collection vary greatly in color from ochraceous tawny to ochraceous buff. In the ochraceous tawny specimens the apical half of tegmina, principal veins in basal half, and crossveins in costal margin are heavily clouded with blackish fuscous.

Crown broad, fully twice as broad as its median length; median carina very obtuse, frons about as broad as its median length, narrowed on clypeal margin and dorsal margin; pronotum broad, broadly extending cephalad to anterior margin of compound eyes; mesonotum quadrate; tegmina nearly four times as long as basal width; costal and sutural margins somewhat sinuate; apical margin broadly and shallowly sinuate; sutural and costal angles broadly rounded.

Male genitalia with the anal segment heavy; apical vertical portion broadened toward apex; genital plates somewhat elongate, dorsal tooth heavy, obtuse at apex; aedeagus elongate, somewhat slender; apical spines more than half as long as preapical; preapical spines very broad on basal third; apical two-thirds gradually acuminate, strongly

curved; subapical spines about as long as apical, straight and stouter; ventral spines elongate, U-shaped, the two limbs nearly equal in length.

Widely distributed in Cuba, having been collected from the principal areas where extensive collections have been made and occurring to 1500 feet in the Sierra Rangel Mountains.

***Cyarda acutissima* n. sp.**

(Pl. III, fig. 3; Pl. X, figs. 1, 3; Pl. XVII, fig. 5)

This is a small *Cyarda* with tegmina very broad at base, much narrowed caudad, and produced into an acute apical area with apex rounded and apical margin fading indefinitely into sutural margin.

Vertex broad, about twice as broad as its median length; median carina broad, lateral margins broadly elevated; frons about as long as broad, lateral margins narrowly elevated; clypeal margin as broad as dorsal margin; pronotum short and broad, strongly projecting cephalad to middle of compound eyes; mesonotum quadrate, intermediate carinae usually strongly elevated; legs short and stout; tegmina broad at base, strongly narrowed beyond shoulders; apical area only about half as wide as basal area; costal margin strongly sinuate; apical area roundly acute; apical margin not sharply separated from commissural margin.

Male genitalia with anal segment elongate, slender; apical portion elongate, slender, almost at right angles to dorsal area; genital plates broad and short, dorsal tooth rather acute; aedeagus broad and stout, the apical spines about half as long as the preapical; preapical spines very slender; subapical spines short, stout, obtuse; ventral spines about one-half as long as aedeagus, broadly curved.

General color ochraceous tawny; brownish or blackish fuscous on crown, pronotum and mesonotum, in pustulate area of clavus and in apical area of tegmina; ten to twelve small round blackish spots in costal area and five or six in median area of tegmina.

Length to apex of tegmina: ♂, 6.50 mm.; ♀, 7.00 mm.

Holotype ♂: Herradura, Pinar del Rio Prov.; 20 Feb., 1932; S. C. B. and A. R. O. *Allotype* ♀: Herradura, Pinar del Rio Prov.; 20 Feb., 1932; S. C. B. and A. R. O. *Paratypes*: 2 ♂♂, Santa Fe, Isle of Pines; 8 May, 1933; A. R. O. 1 ♂, Taco Taco, Pinar del Rio Prov.; 6 Apr., 1922; S. C. B., J. A., and C. H. B. 1 ♀, Kingston, Jamaica; 15 Oct., 1923; C. H. B. 1 ♂, Santa Cruz de los Pinos, Pinar del Rio Prov.; 20 Feb., 1932; S. C. B. and A. R. O. 1 ♂ and 1 ♀, Playa de Marianao, Habana Prov.; 30 Jan., 1927; S. C. B.

***Cyarda cubensis* n. sp.**

(Pl. III, fig. 4, 5; Pl. X, figs. 6, 8; Pl. XVII, fig. 4)

This is a rather small species of *Cyarda* with an elongate narrow crown and distinct male genitalia.

Crown but little broader than long; anterior margin rather obtuse; frons slightly longer than its greatest width, lateral margins strongly elevated; tegmina very broad at base, rather narrow in apical half; apical sinus distinct but not very deep.

Male genitalia with genital plates broad and short, dorsal tooth elongate, slender, acute; anal segment elongate, slender, the deflexed

portion almost as long as basal portion; aedeagus short, stout; apical spines about half as long as preapical, stout and gradually acuminate; preapical spines elongate, gradually acuminate, distinctly undulate; subapical spines very short, stout; ventral spines sickle-shaped, about as long as preapical, a strongly developed midventral process which is about as long as aedeagus.

General color light ochraceous buff, sometimes slightly clouded with tawny in central area of mesonotum; round black spots on tegmina, usually small; tegmina clouded with fuscous.

Length of apex of tegmina: ♂, 7.50 mm.; ♀, 8.00 mm.

Holotype ♂: Calabazar, Habana Prov.; 5 Aug., 1928; S. C. B. *Allotype* ♀: Cape Baragua, Camagüey Prov.; 26–27 June, 1927; S. C. B. and C. F. S. *Paratypes*: 3 ♂♂, Santiago de las Vegas, Habana Prov.; 2 ♀♀, Santiago de las Vegas, Habana Prov.; 1 ♀, Baragua, Camagüey Prov.

***Cyarda fuscifrons* n. sp.**

(Pl. III, figs. 7, 8; Pl. XI, figs. 1, 3; Pl. XVII, fig. 3)

This is one of the smaller species of *Cyarda* with relatively short and broad tegmina and crown elongate but not protuberant. The male genitalia are distinct.

Crown about one and one-half times as broad as its median length; median carina not strongly elevated; lateral margins broadly elevated; frons elongate, longer than greatest width, lateral margins not strongly elevated; pronotum short and broad, nearly four times as broad as its median length; anterior margin projecting to about the middle of compound eyes, rather obtuse; median and intermediate carinae not strongly elevated; mesonotum relatively small, median carina indistinct, intermediate carinae not strongly elevated; tegmina short and broad, apical sinus deep, the costal and inner angles strongly rounded.

Male genitalia with the anal segment slender, elongate, the ventral projection short and slender; genital plates broad and short, dorsal tooth elongate, slightly recurved; aedeagus slender, the apical spines very short, less than one-half as long as preapical; preapical spines slender, the apices slightly undulate; subapical spines short, slender, triangular; ventral spines very elongate, approximately as long as aedeagus, broadly curved with the base bulbous.

General color light ochraceous brown; clypeus, the central areas of crown, pronotum, mesonotum tawny; tegmina light ochraceous buff with basal portion of costal area and apical area infuscated with scattered round black spots in costal and central areas; anterior margin of head blackish fuscous.

Length to apex of tegmina: ♂, 7.75 mm.; ♀, 8.00 mm.

Holotype ♂: Santiago de las Vegas, Habana Prov., on *Casuarina*, 29 May, 1934; S. C. B. *Allotype* ♀: Santiago de las Vegas, Habana Prov., on *Casuarina*, 29 May, 1934; S. C. B. *Paratypes*: 1 ♂, Camagüey, Camagüey Prov.; 23–25 June, 1927; J. A. 2 ♂♂, Santiago de las Vegas, Habana Prov. 1 ♂, Bahía de Cochinos, Las Villas Prov. 1 ♂, Cape San Antonio, Pinar del Río Prov.; 13 Apr., 1924; S. C. B. 1 ♂, Playa de Marianao, Habana Prov.; 21 Aug., 1927; S. C. B.

Cyarda haitensis n. sp.

(Pl. XIII, fig. 3; Pl. XVII, fig. 6)

This is a rather large species of *Cyarda* with the crown broad and short. Tegmina broad at base, relatively short and broad at apex with apical sinus distinct. General color ochraceous buff with the apex of the head, the shoulder callosities, the principal veins on basal half of tegmina marked with blackish fuscous. The apical area of the tegmina chiefly fuscous. The crown, pronotum, and mesonotum ochraceous orange.

Male genitalia with pygofer short and broad; anal segment elongate, very slender, the deflexed portion about half as long as basal portion; genital plates about twice as long as broad, the apical tooth rather stout; aedeagus slender, the apical spines stout, bifurcate, the posterior process very slender, nearly twice as long as anterior process; preapical spines elongate, slender, almost as long as aedeagus; subapical spines almost as long as preapical, broadly curved.

Length to apex of tegmina: ♂, 9.50 mm.; ♀, 9.90 mm.

Holotype ♂: Port-au-Prince, Haiti, on *Acacia lutea*, 28 Feb., 1934; E. D. *Allotype* ♀: Port-au-Prince, Haiti, on *Acacia lutea*, 28 Feb., 1934; E. D. *Paratypes*: 3 ♂♂, Port-au-Prince, Haiti, on *Acacia lutea*, 28 Feb., 1934; E. D.

Cyarda melichari Van Duzee

(Pl. III, figs. 10, 11; Pl. XI, figs. 2, 5)

Cyarda melichari Van Duzee 1907a: 40. Nom. nov. for *Cyarda punctata* Melichar nec. *Flatoides punctata* Walker.

Cyardi melichari Metcalf 1923a: 151, Pl. 41, fig. 39; Pl. 48, figs. 136, 137. [Key, illustrated.]

Cyarda melichari Dozier 1928a: 120; fig. 28. [Described, illustrated.]

This is one of the smaller *Cyardas* with a narrow elongate crown and frons longer than its greatest width. This species has a wide distribution, having been recorded from the District of Columbia to Mississippi in the southeastern states and in Cuba and Jamaica.

Male genitalia with genital plates short and broad, dorsal tooth short; anal segment elongate, the vertical portion broadly expanded ventrad; apical spines short and broad, subequal; preapical spines elongate, slender, about half again as long as apical, and appears jointed near middle; subapical spines elongate, slender, not as long as preapical; ventral spines stout, strongly recurved, gradually narrowed to apical third, then broadened and acute at apex.

Specimens are at hand from Pinar del Rio and Habana Provinces and the Isle of Pines on beach grasses.

Cyarda walkeri Metcalf

(Pl. III, figs. 6, 9; Pl. X, figs. 4, 7; Pl. XVII, fig. 1)

Cyarda conformis Melichar 1902a: 134. Nec *Flatoides conformis* Walker 1851a: 412. *Cyarda walkeri* Metcalf 1923a: 149, 151; Pl. 48, fig. 138. Nom. nov. for *Cyarda conformis* Melichar.

As we understand this species it is one of the smallest species of *Cyarda* with a short broad crown. Colors light ochraceous buff with tegmina with several small round dots. The male genitalia are distinct.

Crown short and broad, nearly three times as broad as its median length, broadly curved on anterior margin; frons about as long as greatest width between the eyes; tegmina relatively short and broad, apical sinus not deep; costal and inner angles not produced.

Male genitalia with the anal segment rather stout; apical vertical portion short and broad; anterior and posterior angles strongly produced; aedeagus stout with apical spines slender, nearly straight; preapical spines elongate, slender, about one-third longer than apical, undulate at apex; subapical spines about same length as preapical, slender, straight; ventral spines long and strongly recurved; genital plates short and rather broad, the dorsal tooth elongate, incurved.

Length to apex of tegmina: ♂, 7.75 mm.

Specimens are at hand from Pinar del Rio, Habana, Matanzas, and Santa Clara provinces.

Genus *Planodascalía* nov.

Orthotype *Planodascalía viridicosta* n. sp.

This genus belongs to that group of the Tribe Selizini which has the tegmina long and narrow, not especially narrowed posteriorly and with two subapical lines parallel to apical margin.

Crown short and broad; frons broader than long with a fairly distinct median carina and lateral margins strongly elevated; pronotum short and broad, but little longer than crown; anterior margin broadly curved, extending cephalad to about anterior margin of compound eyes; posterior margin broadly sinuate nearly parallel to anterior margin; mesonotum large; tegmina elongate, narrow; costal margin slightly sinuate; apical margin nearly straight; sutural angle produced; costal area slightly broader than costal cell; there are two distinct subapical lines; basal subapical line somewhat zigzag, most of longitudinal veins beyond last subapical line bifurcate; hind tibiae with two stout spines near apex.

Planodascalía fusca n. sp.

(Pl. IV, figs. 2, 5; Pl. XI, figs. 8, 10)

This species averages somewhat heavier than *viridicosta* with the body and tegmina chiefly blackish fuscous; costal margin narrowly bordered with pale ochraceous buff and the costal crossveins usually distinctly pale on blackish background.

Head and thorax about as in *viridicosta* with the lateral margins of the face less strongly reflexed; tegmina somewhat broader than in *viridicosta*; tubercles on clavus usually not conspicuous.

Male genitalia with genital plates elongate, about twice as long as greatest width; dorsal tooth elongate, obtuse, somewhat recurved; anal segment elongate with distinct lateral lobes; aedeagus elongate, curved; apical spines broad at base with a distinct tooth, apical portion slender, bent at almost right angles to base; preapical spines short, slender; subapical spines elongate, very slender.

General color blackish fuscous; head and pronotum tawny; eyes tawny, clouded with black; frons somewhat infuscated; tegmina usually blackish fuscous with costal margin narrowly pale.

Length to apex of tegmina: 6.75 mm.

Holotype ♂: Manacas, Las Villas Prov.; 7 June, 1930; S. C. B.
Allotype ♀: Nagua, Oriente Prov.; 7 July, 1922; S. C. B. and C. H. B.
Paratypes: 1 ♂, Cape San Antonio, Pinar del Rio Prov.; 13 Apr., 1924;
 S. C. B. 1 ♀, Guantánamo, Oriente Prov.; 28 Nov., 1931; L. C. S.
 1 ♀, Playa Ocuja, Oriente Prov.; 30 July, 1935; J. A.

***Planodascalia obscura* n. sp.**

(Pl. VI, figs. 8, 9; Pl. XIV, figs. 2, 8)

This is a variable species. As far as colorations is concerned superficially it has the same general color as *Bysillana brunnea* Metc. and Brun. The body, legs, and tegmina are ochraceous tawny or tawny with head and tegmina more or less clouded with fuscous or blackish; costal area greenish, fading to ochraceous; however, the tegmina are much longer than in *Bysillana brunnea*, and genitalia are entirely distinct.

Crown very short, not distinctly separated from frons; frons one and one-half times as broad as its median length; lateral margins strongly elevated, broadly curved; dorsal margin slightly longer than ventral margin; pronotum short and broad, anterior margin truncate between compound eyes; posterior margin triangularly incised; mesonotum large, dorsal area broadly flattened; tegmina elongate, narrow, the costal margin broadly sinuate, apical margin broadly truncate; apical and sutural angles subequal; costal membrane wider than costal cell with numerous crossveins; two subapical lines nearly parallel and about the same distance from each other as last subapical line is from apical margin; longitudinal veins mostly bifurcate beyond last subapical line; clavus and shoulders with numerous pustules.

Male genitalia with pygofer short and broad, nearly quadrate; genital plates elongate with a dorsal apical angle quadrately produced with a short obtuse tooth on dorsal angle; aedeagus slender, broadly curved with apical spines elongate, curved, almost as long as aedeagus following curve of aedeagus; subapical spines elongate, curved; anal segment elongate, longer than genital plates; anal spines short.

Length to apex of tegmina: 6.10–7.40 mm.

Holotype ♂: Isle of Pines; 27 June, 1939; A. R. O. *Allotype* ♀: Isle of Pines; 27 June, 1939; A. R. O.

***Planodascalia viridicosta* n. sp.**

(Pl. II, figs. 4, 5; Pl. IV, figs. 1, 4; Pl. XI, figs. 6, 9)

This species is to be recognized by its somewhat smaller size, lighter colors, with the tegmina nearly uniform mummy brown, with the costal area and sometimes the humeri and claval suture light greenish.

Head broad, nearly as broad as mesonotum; crown short, anterior and posterior margins nearly parallel; frons short and broad, the lateral margins strongly elevated, the median carina fairly evident, nearly percurrent; tegmina elongate, narrow, the costal, apical and claval margins slightly sinuate; apical and sutural angles broadly rounded, apparently strongly produced.

Male genitalia with genital plates short and broad, dorsal tooth very short; anal segment elongate, slender, apical portion strongly decurved; aedeagus slender, curved; apex produced spine-like beyond

apical spines; apical spines elongate, sickle-shaped, slender; preapical spines short, attenuate; subapical spines longer than apical spines.

Head, venter, and legs almost completely light ochraceous orange, the tibiae and tarsi somewhat infuscated; clypeal margin of frons heavily infuscated, this mark sometimes continuing upward along lateral margins to dorsal margin of head; this color sometimes indicated on claval suture and very narrowly on basal subapical line; abdomen ventrad ochraceous tawny, sometimes tinged with green.

Length to apex of tegmina: 6.75 mm.

Holotype ♂: Loma del Gato, Sierra de Cobre, Oriente Prov.; 1-2 Oct., 1935; J. A. and S. C. B. *Allotype* ♀: Santo Thomas, Peninsula de Zapata, Santa Clara Prov.; 5-9 May, 1927; J. A. and S. C. B. *Paratypes*: 1 ♂, Santo Nicolás, Oriente Prov., on *Coffea arabica* Linn.; 20-21 July, 1927; S. C. B. 1 ♀, Camagüey, Camagüey Prov.; 24 Dec., 1921; J. A. 1 ♀, Las Animas, Sierra Rangel Mountains, Pinar del Rio Prov.; 3-5 Sept., 1934; 1500 ft.; S. C. B. and A. R. O. 1 ♀, Las Animas, Sierra Rangel Mountains, Pinar del Rio Prov.; May, 1933; 1500 ft.; S. C. B. and A. R. O.

***Planodascalía aguayoi* n. sp.**

(Pl. XIII, fig. 4)

This is a rather large species of *Planodascalía* with the general color of the body and legs light ochraceous buff. The basal half of tegmina is chiefly ochraceous buff clouded with blackish fuscous on the shoulders and along the costal area. The apical half of tegmina is chiefly blackish fuscous.

The last ventral segment of the female is deeply notched in the median area with a strongly projecting, nearly rectangular tooth in the notch; lateral areas are broadly and somewhat quadrately produced with the posterior margin slightly sinuate and the lateral margins deeply sinuate with the outer posterior angles strongly produced.

Length to apex of tegmina: 7.25 mm.

Holotype ♀: El Yungue Mt., Oriental Prov.; 10 July, 1935; F. Z.

Genus *Flatarissa* nov.

Orthotype Flatarissa humeralis n. sp.

This genus resembles *Pseudoflatoides* in having the costal margin of tegmina undulate. Crown of head, however, is much shorter, not as long as its greatest width. In head characters it resembles the genus *Flatoidinus* somewhat, but the crown is composed in large part of the dorsal area of frons.

Crown impressed, separated into two distinct parts; vertex separated laterad from dorsal part of frons by a distinct carina, which fades out on median area; dorsal part of frons produced, distinctly bi-impressed on lateral margins; facial part of frons elongate, lateral margins slightly elevated, slightly arched; dorsal callosity evident; clypeus elongate; pronotum nearly twice as broad as head including compound eyes; central area broadly curved, mesonotum broad and flat, not as broad as pronotum; tegmina elongate, the costal and commissural margins nearly parallel; costal margin evidently undulate; apical margin broadly

curved truncate; costal area nearly two times as broad as costal cell; venation distinct; subcostal vein broadly undulate; a single distinct subapical line; hind tibiae with two spines on apical third.

Flatarissa humeralis n. sp.

(Pl. VI, figs. 10, 11; Pl. XV, figs. 5, 8)

This species is colored somewhat like *Flatoidinus acutus* variety *humeralis* Metc. and Brun.

Crown broader than long, face nearly twice as long as broad; dorsal margin broadly curved; lateral margins slightly widened to antennae and then nearly parallel to clypeus; pronotum twice as broad as median length, triangularly produced on anterior margin; posterior margin broadly incised; mesonotum broader than long.

Male genitalia with pygofer broader than long; genital plates elongate, slender; subapical tooth as long as greatest width of plates; aedeagus slender, somewhat curved; apical spines short, straight, projecting caudad; preapical spines elongate, slender, strongly recurved; subapical spines about one-half as long as preapical spines, slightly curved; anal segment elongate.

General color of head, compound eyes, pronotum and mesonotum and legs pale ochraceous tawny, heavily marked with blackish or blackish fuscous; there is a rather broad band of blackish fuscous across dorsal margin of frons and apical margin of crown; median line of pronotum narrowly fuscous; anterior margin of mesonotum is clouded with blackish fuscous; posterior lateral margins of mesonotum fuscous with two blackish dots at posterior angles of lateral compartments; basal areas of tegmina have a broad fuscous band extending from costal margin across clavus to first claval vein; this fascia is clouded with blackish along some of the veins; costal margin narrowly fuscous; apical margin dotted on veins with blackish fuscous; a cloud of blackish fuscous along sutural margin; before and behind claval suture with numerous irregular fuscous and blackish fuscous spots on tegmina.

Length to apex of tegmina: 11.50 mm.

Holotype ♂: Loma del Gato, Sierra de Cobre, Oriente Prov.; 24-30 Sept., 1935; 2600 ft.; J. A., S. C. B. and L. C. S.

Flatarissa variegata n. sp.

(Pl. I, fig. 4; Pl. VIII, figs. 1, 4; Pl. X, figs. 9, 10)

This species is chiefly olive green above, variegated with fuscous or blackish fuscous; venter, including face and legs, uniform ochraceous buff except blackish spines on hind tibiae and claws.

Head including eyes about half as broad as pronotum; crown including dorsal area of frons about twice as broad as long; frons nearly half again as long as its greatest width; median dorsal callosity evident; frons ecarinate; pronotum nearly four times as broad as its median length, bi-impressed; central area with lateral margins strongly carinate; lateral areas behind compound eyes strongly carinate on anterior margin; mesonotum narrower than pronotum, about as broad as median length, flat, ecarinate; costal area of tegmina broad with numerous narrowly spaced, nearly straight crossveins; subapical line about same

distance from apical margin as greatest width of costal cell; apical area of corium with numerous reticulate cells.

Male genitalia with pygofer short and broad; genital plates deeply incised caudad with a strongly developed tooth on dorsal margin; anal segment elongate, nearly as long as genital plates, much widened caudad, projecting ventrad as a strongly developed plate; aedeagus rather slender with a well-developed dorsal process projecting caudad beyond apex of aedeagus; apex of aedeagus with two pairs of spines, the apical spines straight, projecting cephalad, preapical spines more elongate, curved.

Length to apex of tegmina: 12.70 mm.

Holotype ♂: Pico Turquino, Oriente Prov.; 10-29 June, 1936; J. A.

Genus *Pseudoflatoides* Metcalf

Metcalf 1938a: 401.

Orthotype *Flata tortrix* Guérin Méneville.

This genus may be recognized by the following characteristics: Head including compound eyes narrower than pronotum, usually about half as broad; vertex longer than broad; obtusely triangularly produced on anterior margin; frons elongate, narrow, slightly widened below; lateral margins strongly elevated; dorsal median area produced into a distinct callosity; tegmina broad, horizontal; costal margin broadly undulate; venation distinct; costal area much broader than costal cell; apical area with two irregular subapical lines about equal distance from each other on apical margin; hind tibiae with two stout spines on apical third.

Pseudoflatoides fasciculosus Melichar

(Pl. VIII, figs. 7, 8; Pl. XVI, fig. 5)

Flatoides fasciculosus Melichar 1902a: 205; Pl. 9, fig. 7.

There are two specimens in the present collection which resemble Melichar's short description and illustration of this species. So far as we can determine *griseus* is only a color variety of this species, as the general structure characters and male genitalia seem to agree in essential details. In general coloration this species resembles *tortrix* but it differs in genital structures.

Crown not quite twice as long as width between eyes; face more than three times as long as greatest width, produced into a distinct callosity dorsad; pronotum short and broad, produced cephalad beyond midline of compound eyes; mesonotum not quite three times as long as pronotum; tegmina large; costal margin broadly undulate; subcostal vein prominent, undulate, apical area separated from basal area by a distinct transverse somewhat S-shaped line; reticulations in apical area fine, on basal area coarse.

Male genitalia with pygofer very short; genital plates with a long slender dorsal apical tooth; aedeagus short, stout; apical spines slender, broadly curved, as long as aedeagus; preapical spines slender, shorter than apical; subapical spines very short and broad; anal segment elongate, broad, covering genital plates and aedeagus.

Length to apex of tegmina: 15.00–18.00 mm.

Specimens are at hand from Camagüey, Camagüey Prov.; 15 Aug., 1924, and 26 July, 1923; J. A.

Pseudoflatoides fasciculosus var. **griseus** Melichar

(Pl. VIII, figs. 2, 5)

Flatoides griseus Melichar 1902a: 205.

This was described as a distinct species. We believe, however, that it is a pale variety of *fasciculosus*.

General color pale ochraceous buff with the frontal callosity very black; a large pair of fuscous spots on posterior lateral margins of mesonotum, a few small round black dots in costal area and a few irregular blotches and stripes fuscous or blackish fuscous on corium and clavus.

Length to apex of tegmina: 14.80 mm.

1 ♂, San Vicente, Pinar del Rio Prov.; 6–9 Apr., 1922; J. A. and S. C. B.

Pseudoflatoides fasciculosus var. **fasciatus** n. var.

This is a rather heavily marked variety of *fasciculosus*. The general structure and details of genitalia agree with the typical variety. It differs in the following color markings: There is usually a distinct transverse fascia on anterior margin of mesonotum; lateral margins of mesonotum may be completely black, or this color may break up into two or three pairs of large black spots; there is a distinct transverse blackish or blackish fuscous fascia extending from subcostal vein across corium to apex of clavus; beyond this are usually irregular markings of fuscous and black; costal area has the usual complement of small, round black dots.

Length to apex of tegmina: 14.00–16.00 mm.

Holotype ♂: San Vicente, Pinar del Rio Prov.; 6–9 Apr., 1922; S. C. B. and J. A. *Allotype* ♀: San Vicente, Pinar del Rio Prov.; 6–9 Apr., 1922; S. C. B. and J. A. *Paratypes*: 1 ♂, San Vicente, Pinar del Rio Prov.; 4–6 Sept., 1922; S. C. B. and J. A. 1 ♂ and 3 ♀ ♀ ♀, Camagüey, Camagüey Prov., 15 Aug., 1924; J. A. 1 ♀, Sierra Rangel Mts., Pinar del Rio Prov.; 29 Aug., 1927; 1500 ft.; J. A. and S. C. B. 1 ♀, Herradura, Pinar del Rio Prov.; 25 July, 1923; C. H. B. 1 ♀ Santo Tomas, Pinar del Rio Prov.; 19 Apr., 1935; J. A. and S. C. B.

Pseudoflatoides fasciculosus var. **vittatus** n. var.

(Pl. IX, figs. 2, 5)

In general structure and genitalia this species agrees with the typical *fasciculosus*. The color, however, is strikingly different.

General color above and beneath light ochraceous buff sometimes tinged with olive green and heavily marked with brownish fuscous; tegmina heavily covered with a whitish pruinescence, frontal callosity black; posterior lateral margins of mesonotum broadly bordered with black or this border broken up into three pairs of large blackish spots; tegmina with a broad blackish curving vitta extending from the humeral angle to apical angle and the narrow irregular fascia extending from subcostal vein to apex of clavus; on corium beyond apex of clavus an

irregular undulate brownish vitta; a few black dots and lines in costal area.

Length to apex of tegmina: 16.50 mm.

Holotype ♂: Camagüey, Camagüey Prov.; 20 Aug., 1924; J. A. *Allotype* ♀: Guantánamo, Oriente Prov.; S. C. B. *Paratypes*: 1 ♀, Camagüey, Camagüey Prov.; 15 Aug., 1924. 1 ♀, San Blas, Santa Clara Prov.; 15 Oct., 1931; G. C. R.

***Pseudoflatoides fasciculosus* var. *maculosus* n. var.**

(Pl. I, fig. 1; Pl. VIII, figs. 3, 6)

Superficially this variety resembles *Flatoidinus acutus* var. *maculosus* Metc. in that the general color is light ochraceous buff and tegmina are heavily spotted and blotched with fuscous; pronotum with a single median blackish fuscous spot, and mesonotum heavily spotted with blackish fuscous; a single median spot on anterior margin and two pairs of spots on anterior lateral margins; posterior lateral margins with two large spots and a small spot; costal area with numerous large spots of blackish fuscous and corium with four large blotches of fuscous or blackish fuscous and a number of smaller spots; a distinct blackish fuscous stripe on basal margin of clavus, a number of small spots on commissural margin and a larger spot on apex of clavus; beneath including legs light ochraceous buff with lateral margins of abdomen blotched with blackish fuscous; frontal callosity brownish fuscous.

Length to apex of tegmina: 10.90 mm.

Holotype ♀: Santo Tomas, Peninsula de Zapata, Pinar del Rio Prov., on *Solanum* sp.; 5-9 May, 1927; S. C. B. and J. A.

***Pseudoflatoides tortrix* Guérin-Ménéville**

(Pl. IX, figs. 3, 6; Pl. XVI, fig. 4)

Guérin Ménéville 1856a: 181; 1857a: 431.

There are at least two species in the present collection which would fit Guérin-Ménéville's description of this species. We have decided, however, to give this name to one of the most abundant forms, which would fall within Guérin-Ménéville's generalized description.

Crown short, broad, usually only about one-fifth longer than greatest width; anterior margin obtusely and triangularly produced.

Male genitalia with pygofer short and broad; genital plates slender, elongate, shorter than anal segment, apical dorsal tooth broad, elongate triangular; aedeagus short and broad with three pairs of spines; apical spines elongate, very slender; preapical spines shorter and broader; subapical spines about as long as preapical spines, slightly curved.

General color pale olive green with the head, thorax, legs, and ventral surface of abdomen tending to fade to olive tawny or tawny; there is a conspicuous black callosity at apex of head, two small round dots on basal third of mesonotum, and many irregular dots and dashes on tegmina. Other specimens are pale honey yellow or pale ochraceous buff in general color.

Length to apex of tegmina: 9.00-10.50 mm.

***Pseudoflatoides tortrix* var. *flavus* n. var.**

This variety is identical in general structure and genitalia with the species *tortrix*. It differs, however, in general color and markings.

General color above ochraceous buff, lightly marked with blackish or brownish fuscous as follows: The lateral areas of pronotum behind compound eyes with two brownish fuscous vittae; mesonotum with a broad central blackish vitta; basal area of clavus, the corium behind the shoulders and costal area with blackish fuscous marks; small round black dots in costal area and apical cells; an indistinct brownish fascia in middle of corium and numerous irregular fuscous markings; beneath almost entirely ochraceous buff except the blackish callosity at apex of frons and spines and claws of the legs.

Holotype ♂: Camagüey, Camagüey Prov.; 20 Aug., 1924; J. A.

***Pseudoflatoides tortrix* var. *habanensis* n. var.**

This variety is identical in general structure and male genitalia with the species *tortrix*. The color, however, is strikingly different.

General color light ochraceous buff, heavily marked with brownish fuscous and black; crown chiefly brownish fuscous with median line and lateral carinae and broad transverse fascia on anterior margin ochraceous buff; pronotum pale ochraceous buff; mesonotum brownish fuscous with intermediate carinae broadly black; tegmina ochraceous buff; costal area and costal cell brownish fuscous with small round black dots and dashes in costal area; apical area of clavus and apical area of corium behind subapical line brownish fuscous; there are two irregular black marks on basal area of corium; transverse fascia near middle of corium; a row of black spots in apical cells; irregular scattered blackish and fuscous dots over entire corium; frons with distinct blackish callosity.

Holotype ♂: Habana, Habana Prov.; 15 Dec., 1941; R. G. C.

***Pseudoflatoides tortrix* var. *insularis* Melichar**

(Pl. VIII, figs. 9, 10)

Flatoides insularis Melichar 1902a: 209; Pl. IX, fig. 10.

If we have correctly identified this form, it is merely a color variety of *Pseudoflatoides tortrix*, as it cannot be distinguished by general structure or genitalia from that species. In general color it resembles *Pseudoflatoides fasciculosus* var. *vittatus* Metc. and Brun. but structurally it belongs to *tortrix*.

General color above and beneath light ochraceous buff; frontal callosity brownish fuscous; a broad black vitta across the lateral margins of pronotum behind compound eyes; mesonotum heavily marked with brownish fuscous; a broad curving vitta across tegmina from humeral angle to apical angle; costal area marked with a few small brown fuscous spots and a few fuscous dashes; apical area of tegmina marked with light fuscous brown; front tibiae and tarsi marked with brownish fuscous.

Length to apex of tegmina: 8.50 mm.

♂: Santiago de las Vegas; C. H. B.

***Pseudoflatoides lichenoides* n. sp.**

(Pl. I, fig. 2; Pl. IX, figs. 1, 4; Pl. XVI, fig. 3)

This is one of the most conspicuously marked species in this genus.

Crown short and broad; pronotum short, the central area triangularly produced; mesonotum small; tegmina broad, conspicuously undulate.

Male genitalia with pygofer short; genital plates elongate, slender, apical dorsal tooth elongate; aedeagus stout; preapical spines elongate, slender; subapical spines broad, acuminate, nearly as long as aedeagus; tenth segment elongate, longer than genital plates.

General color of crown, pronotum, and mesonotum ochraceous tawny; crown with a pair of brownish vittae on lateral margins; pronotum with a distinct blackish fuscous fascia in lateral areas; mesonotum with a blackish fascia near anterior margin; posterior lateral margins marked with a pair of large black marks and behind these are small round black spots; tegmina principally pale ochraceous buff with a broad ochraceous tawny saddle extending from costal margin to sutural margin; in the center of this saddle is a narrow blackish fascia extending from subcostal vein to sutural margin; veins in this area are rugulose and marked with blackish fuscous; the sutural margin heavily marked with blackish; apical area with an irregularly curved fascia extending from subcostal vein around apex of tegmina to apex of clavus and costal margin in undulated areas heavily marked with brownish fuscous; a row of small black spots in apical cells extending from apical angle to sutural angle; beneath chiefly ochraceous buff; frons irrorate with brownish; frontal callosity blackish; front and middle legs with femur and tibiae more or less irrorate with brownish fuscous.

Length to apex of tegmina: 10.20 mm.

Holotype ♂: Pico Turquino, Oriente Prov.; 10-29 June, 1936; 1650 ft.; J. A.

Genus *Flatidula* nov.

Orthotype *Flatidula luella* n. sp.

This genus resembles *Flatoidinus* Mel. in having crown broader than long. Otherwise, however, it differs materially from this genus.

Crown broad, the lateral margins longer than median line, nearly parallel; frons elongate, dorsal margin triangularly incised; head much narrower than pronotum; pronotum broad, the central area broadly produced, extending in front of compound eyes; mesonotum large; tegmina elongate, narrow; costal margin slightly sinuate; costal area broad, reticulately veined; venation of tegmina indistinct; hind tibiae with two spines on apical third, placed close together.

Flatidula luella n. sp.

(Pl. II, fig. 2; Pl. IX, figs. 7, 8, 9)

Crown about four times as broad as its median length; lateral margins nearly twice as long as median length, carinate, nearly straight; anterior margin strongly produced on median third; frons about twice as long as its greatest width, dorsal margin triangularly incised and lateral margins strongly elevated, somewhat broadly curved to level of antennae and then narrowed to clypeus; median carina distinct to level of lower margin of compound eyes; pronotum nearly twice as broad as head including compound eyes; anterior margin obtusely triangularly produced in front of anterior margin of compound eyes; central area strongly depressed; mesonotum large, the anterior central area strongly elevated; venation of tegmina indistinct, the apical half with numerous indistinct irregular, reticulate cells; no subapical line;

costal area nearly four times as broad as costal cell with numerous irregular rather indistinct reticulate veins and crossveins.

General color brownish olive tinged with honey yellow, especially on mesonotum, venter, and legs, strongly marked and spotted with blackish; crown with anterior margin blackish forming two fairly distinct spots on either side of median line; pronotum and mesonotum with a broad blackish median vitta from anterior to posterior margins; pronotum with a few spots in lateral areas; mesonotum with several blackish dots; frons with a pair of blackish dots on dorsal margin and at least two pairs of smaller dots; median carina marked with blackish; rest of frons irregularly marked with blackish; compound eyes brownish, spotted with fuscous; lateral areas heavily marked with black; tegmina with costal area irregularly marked with black; corium with a broad cloud of irregular blackish markings along claval suture and a broad curved fascia from sutural angle to costal angle; clavus clouded with irregular blackish fuscous.

Length to apex of tegmina: 13.00 mm.

Holotype ♀: Camagüey, Camagüey Prov., on *Andira jamaicensis*, 15 July, 1922; J. A.

***Flatidula pallescens* n. sp.**

(Pl. I, fig. 3; Pl. XV, figs. 7, 9)

This is a pale ochraceous greenish species heavily marked with light fuscous.

Crown short and broad, about three times as broad as median length; anterior margin nearly straight; pronotum with central area nearly quadrate, anterior margin broadly curved; posterior margin triangularly incised; mesonotum large with a distinct callosity on median line anteriorly; tegmina long and narrow; costal margin and subcostal vein straight; subapical line irregular; frons nearly one and one-half times as long as broad; dorsal margin deeply triangularly incised; lateral margins strongly elevated; median carina distinct on dorsal half.

Male genitalia with pygofer short; genital plates nearly quadrate, about two and one-half times as long as broad when viewed laterally; preapical dorsal tooth elongate, straight, acuminate; aedeagus elongate, strongly curved; apical spines short and slender; preapical spines about four times as long as apical spines, broadly curved; subapical spines nearly as long as aedeagus, broadly curved; median process slender, acuminate, directed caudad; anal segment relatively slender, apical portion elongate, strongly deflexed.

General color ochraceous tawny with a greenish tinge marked with fuscous as follows: A slender median vitta on pronotum which is continued on mesonotum, widening and bifurcate behind mesonotal callosity; two narrow vittae on preocular area; frons with broad dorsal fascia and a more indefinite ventral fascia; tegmina with several large round fuscous marks in costal area especially along costal margin; numerous irregular blotches on corium, these blotches forming a curved vitta extending from subcostal vein to apical angle; most of apical cells with small round fuscous marks; beneath and legs chiefly pale ochraceous buff.

Length to apex of tegmina: 10.90 mm.

Holotype ♂: San Blas, Trinidad Mts., Las Villas Prov.; 3 May, 1932; S. C. B. and A. R. O.

Genus *Flatarina* nov.

Orthotype *Flatarina aguiari* n. sp.

Crown broader than long, distinctly ecarinate, separated from frons by a broadly curved carina; lateral margins distinctly carinate, broadly curved; frons longer than broad, indistinct median and intermediate carinae on dorsal area; clypeus ecarinate; pronotum short and broad, much broader than head including the compound eyes; lateral margins with a distinct tooth behind compound eyes; mesonotum short and broad; tegmina broad basad, narrowed caudad; costal margin distinctly sinuate toward apex; costal area very broad; venation very irregular; apical margin slightly produced caudad; two irregular subapical lines; hind tibiae with two long spines.

Flatarina aguiari n. sp.

(Pl. VI, fig. 12; Pl. XV, fig. 6)

This is a pale greenish yellow species with tawny compound eyes; mesonotum pale tawny; base of corium and clavus greenish fuscous, a few irregular dots of fuscous at apex of clavus; costal and apical margins of tegmina fuscous with the sutural margin of tegmina beyond clavus with small fuscous spots in the cells and larger fuscous spots just inside the penultimate subapical line; venter and legs pale ochraceous buff.

Male genitalia with pygofer elongate, broad; genital plates elongate, narrow, not as long as anal segment; subapical tooth triangular and twisted, ventral apical angles produced; aedeagus stout with apical, preapical, and subapical spines elongate, slender, subequal; anal segment elongate.

Length to apex of tegmina: 10.00 mm.

Holotype ♂: Buenos Aires, Trinidad Mts., Santa Clara Prov.; 4 May, 1932; 2350–2800 ft.; S. C. B. and A. R. O.

Named in honor of Mr. Cecilio Aguiar, inspector of the *Seccion de Sanidad Vegetal*, Ministry of Agriculture, Habana.

Genus *Flatoidinus* Melichar

Flatoidinus Melichar 1923a: 117.

Orthotype *Poekilloptera convivus* Stål.

In this genus the crown is broader than long triangularly produced, but the head is narrower than pronotum; pronotum about as long as crown with mesonotum broader than long; frons elongate; tegmina elongate; costal margin about twice as broad as costal cell; two irregular subapical lines, the second short; hind tibiae with two spines.

The species in this genus are very variable in color and there seems to be very little intergradation between the different color varieties. This has led to description of a number of different species which we now consider as mere color varieties. The genitalia seem to be distinctive and are described in some detail.

Flatoidinus obscurus n. sp.

(Pl. XV, figs. 2, 4)

This species is close to *acutus* Uhl. but for the present, at least, we shall keep it separate, based upon slight differences in the male genitalia. There are very few structural characters or color markings that could be used to distinguish this species from *acutus*.

Male genitalia with pygofer more elongate than in *acutus*; genital plates shorter than in *acutus* and with the dorsal tooth more slender and elongate; aedeagus distinctly longer and more slender than in *acutus*; apical spines only about half as long as preapical spines; preapical spines with a distinct tooth on caudal margin near base; subapical spines more slender and elongate than in *acutus*; anal segment much more elongate and slender, lateral processes more elongate and narrower; median process elongate, recurved with a distinct tooth on basal area; apex distinctly widened.

General color above ochraceous brown with crown and pronotum tawny; tegmina more or less clouded along principal veins with fuscous, especially in the area of corium beyond subapical line; general color beneath ochraceous buff with frons ochraceous tawny, clouded with blackish fuscous on dorsal margin; compound eyes blackish fuscous.

Length to apex of tegmina: 8.60 mm.

Holotype ♂: Cayamas, Oriente Prov.; E. A. S.

Flatoidinus acutus Uhler

(Pl. II, fig. 1; Pl. VII, figs. 5, 8; Pl. XV, figs. 1, 3)

Dasalia acuta Uhler 1901a: 514.

This is one of the most widely distributed species of flatids, ranging from Georgia and Florida across the West Indies to Puerto Rico. In Cuba it is widely distributed, ranging from Oriente Province on the west to Habana Province and the Isle of Pines. This is also a very variable species in size and color. The smaller specimens are about eight millimeters in length to the apex of the tegmina, and the larger specimens are nearly fifteen millimeters in total length. In general color the species ranges from pale olive green or light ochraceous buff to deep cinnamon brown. In markings this species varies from almost unspotted specimens with a few small dots in the costal area to forms that are heavily blotched with blackish. This species has no less than four distinct color varieties. We can, however, associate no difference in the genitalia in these four varieties.

Male genitalia with pygofer short and broad; genital plates elongate with a very long dorsal tooth on apical third; aedeagus longer than genital plates; apical spines elongate, slender; preapical spines shorter than apical spines with a triangular tooth on basal third; subapical spines elongate, rather stout; anal segment elongate, the pair of lateral processes not very long, rather broad; median process short, broad, slightly recurved.

We are indebted to Paul W. Oman for dissecting one of the types of *acutus* and sending us a sketch of aedeagus.

Flatoidinus acutus var. **bipunctatus** n. var.

This is a very distinct color variety of *acutus*. The general color is pale ochraceous buff with a pair of large oval blackish spots covering most of the central area of clavus and adjoining area of corium; the costal area has several small black points, and the corium is also spotted irregularly with black between apex of clavus and subapical line; a row of blackish fuscous spots on apical margin; the subapical line is narrowly clouded with fuscous as are the lateral areas of mesonotum.

Length to apex of tegmina: 10.60 mm.

Holotype ♂: Santiago de las Vegas, Habana Prov.; 14 March, 1931; A. R. O. *Allotype* ♀: Santiago de las Vegas, Habana Prov., on *Guánabana*; 8 Aug., 1941; S. C. B. *Paratypes*: 1 ♀, Santiago de las Vegas, Habana Prov.; 17 Aug., 1935; L. C. S. 1 ♀, Habana, Habana Prov., on *Jassimum grandiflora*; 9 March, 1922, C. H. B.

Flatoidinus acutus var. **maculosus** Metcalf

Flatoides maculosus Metcalf 1923a: 191; Pl. 39, fig. 17; Pl. 48, fig. 145.

This is another very distinct color variety of *acutus* with mesonotum usually tawny. The general color above and below is warm ochraceous buff with the tegmina heavily blotched with fuscous over the entire surface.

This species was described from a female from Paradise Keys, Florida, and a male from Marco, Florida. Since that we have received another male from Marco, Florida, and there are two females in the present collection from Cojímar, Habana Prov.; 29 July, 1934; S. C. B.

Flatoidinus acutus var. **humeralis** n. var.

This is a very distinct color variety of *acutus*. Color above and beneath warm buff with a pair of large irregular fascia across the basal areas of the corium and about halfway across the clavus, blackish fuscous; irregular spots and blotches in costal and apical areas of corium with a few irregular larger blotches on corium; two small blotches in lateral areas of mesonotum.

Holotype ♀: Ecano, Habana Prov., on *Casearia hirsuta*; 8 Feb., 1932; L. C. S. *Paratypes*: 1 ♀, Cuba.

Flatoidinus punctatus Walker

(Pl. XVI, fig. 6)

Elidiptera punctata Walker 1851a: 332.

This species is apparently very close to *Flatoides acutus*. If we have identified it correctly and our identification has been verified by Mr. China from the mutilated type specimen in the British Museum it is a species with a short, obtuse crown, the anterior margin of pronotum broadly rounded, and the genitalia very distinct. This species has been recorded from Cuba. We have, however, no specimens in the present collection. We do have specimens from Florida and Haiti which seem to be typical, and Dr. Oman advises me that the typical series of *acutus* in the National Museum contains specimens which are what we would describe as *punctatus*.

Male genitalia with genital plates and tenth segment about as in *acutus*; aedeagus long and slender; apical spines slender, recurved; preapical spines stout, shorter than apical spines, without marginal tooth; subapical spines elongate, slender, slightly curved.

Flatoidinus dotatus Melichar

(Pl. VII, figs. 6, 9; Pl. XVI, fig. 1)

Flatoides dotatus Melichar 1902a: 222; Pl. 8, fig. 12.

There is a single specimen in our collection which agrees in essential detail with Melichar's description. The crown is not very strongly produced; lateral angles not prominent; pronotum short, rounded on anterior margin, not projecting as in other species. In color our specimen differs decidedly from Melichar's description. Our specimen is almost entirely ochraceous buff, brown above and beneath, but the distribution of the black color markings are similar to the description by Melichar.

Male genitalia are quite similar to *obscurus* and *acutus*; genital plates are broader than in these species with a distinct elongate tooth on dorsal margin; aedeagus somewhat longer than genital plates; apical spines elongate, slender; preapical spines about half as long as apical spines, stouter; subapical spines longer than apical, stouter; apex very acute; anal segment elongate, slender; lateral processes broadly triangular with apex obtuse; no median process.

1 ♂: Isle of Pines; 4-12 Sept., 1928; S. C. B. and L. B.

Flatoidinus olivaceus n. sp.

(Pl. II, fig. 3; Pl. VII, figs. 1, 3; Pl. XVI, fig. 2)

This is a pale olive yellow species with mesonotum tawny and a few small blackish points and fuscous markings on head, pronotum, mesonotum, and tegmina. In general color this species resembles a smaller pale specimen of *acutus*. The genitalia, however, are entirely different.

Male genitalia with genital plates elongate, narrow, dorsal tooth elongate, acuminate; aedeagus straight and stout, shorter than genital plates; apical spines elongate, slender, broadly curved; preapical spines broad, short, about one-third as long as apical; subapical spines elongate, slender, slightly curved, longer than apical, anal segment elongate, narrow, the lateral processes short, obtuse; median process elongate, triangular.

Length to apex of tegmina: 10.50 mm.

Holotype ♂: Nagua, Oriente Prov.; 7 July, 1922; S. C. B. and C. H. B. *Allotype* ♀: Santiago de las Vegas, Habana Prov.; S. C. B. *Paratypes*: 1 ♂, Camagüey, Camagüey Prov.; 15 Aug., 1924; J. A. 1 ♀, Santiago de las Vegas, Habana Prov.; 17 Aug., 1935; L. C. S. 1 ♀, Santiago de las Vegas, Habana Prov.; 29 June, 1932; A. R. O.

Flatoidinus pallescens n. sp.

(Pl. VII, figs. 7, 10; Pl. XVI, figs. 7, 8)

This is a light buff colored species averaging somewhat larger than *acutus* and with distinct genitalia. Crown short, somewhat acute;

pronotum broadly rounded on anterior and posterior margins; tegmina elongate, narrow.

Male genitalia with pygofer elongate; lateral margins produced; genital plates elongate, slender, dorsal apical tooth with a distinct basal caudal process; aedeagus elongate, slender; apical spines short, nearly straight; preapical spines strongly recurved; subapical spines short, somewhat recurved; anal segment elongate, narrow, longer than genital plates.

General color light buff; mesonotum ochraceous tawny; dark markings very irregular; there are usually two pairs of blackish dashes on lateral margins of mesonotum and usually several small black punctures in costal area and a row of small points in apical cells.

Length to apex of tegmina: 10.50–11.00 mm.

Holotype ♂: Buenos Aires, Trinidad Mts., Santa Clara Prov.; 4 May, 1932; 2350–2800 ft.; S. C. B. and A. R. O. *Allotype* ♀: Nagua, Oriente Prov., on *lonchocarpus* sp.; 7 July, 1922; S. C. B. and C. H. B. *Paratypes*: 1 ♀, Jarahueca, Oriente Prov., on *Coffea arabica* Linn.; 14–18 July, 1927; S. C. B. 1 ♀, Wajay, Habana Prov., on *Casuarina*; 22 Aug., 1928; S. C. B.

***Flatoidinus lugubris* n. sp.**

This is the largest and darkest colored species of *Flatoidinus* known to us from Cuba.

Crown tawny, the anterior margin blackish; face, legs, and venter ochraceous tawny; dorsal margin of face blackish and two blackish dashes in preocular region; eyes blackish fuscous; pronotum tawny with a greenish tinge; mesonotum dark tawny, anterior margin fuscous and two distinct black spots on posterior lateral margin; anterior two-thirds of tegmina olive green; posterior third blackish fuscous.

Length to apex of tegmina: 12.75 mm.

Holotype ♀: Topes de Collantes, Trinidad Mts., Las Villas Prov.; 10–15 Sept., 1941; A. R. O. *Paratypes*: 1 ♀, Topes de Collantes, Trinidad Mts., Las Villas Prov.; 10–15 Sept., 1941; A. R. O.