HOWARD E. EVANS

# Bredin-Archbold-Smithsonian Biological Survey of Dominica: Bethyloidea (Hymenoptera)

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## ABSTRACT

Two families of Bethyloidea are known to occur on Dominica: Bethylidae and Dryinidae. The family Bethylidae is represented by 19 species, of which 13 are here described as new. The two genera most commonly collected and containing the largest number of species are *Parasierola* and *Goniozus*; each genus contains 5 species on Dominica, and keys are presented for separating these species. The remaining genera are *Apenesia* and *Dissomphalus* (3 species each) and *Pseudisobrachium, Anisepyris,* and *Holepyris* (1 species each). Of the 19 species, only 6 are known to occur on other islands, one of these also on continental South America. The family Dryinidae is represented by one species of *Mesodryinus* and one species of *Prodryinus,* both described as new and both so far as known restricted to Dominica.


Virtually the only important reports on the smaller Hymenoptera of the Lesser Antilles are the two papers of Ashmead (1894, 1895) on the fauna of St. Vincent and of Grenada, both based on material collected by H. H. Smith many years ago. Ashmead introduced his second paper with the comment that the many new forms described "admirably illustrate the wonderful richness of the West Indian fauna, and the amount of work yet to be done before sufficient data will have been accumulated to afford a basis for a safe generalization upon the distribution of these insects." That this statement is as true today as it was over 70 years ago is a reflection of the undersupport of basic taxonomic studies of this remarkable fauna, a deficiency now in small part remedied by the Bredin-Archbold-Smithsonian survey of Dominica.

Only two families of Bethyloidea are known to occur on Dominica: Bethylidae and Dryinidae. The former is represented by an unusual number of minute species (19), the latter by only two known species. The well-known family Chrysididae is apparently absent, perhaps a reflection of the relatively small number of wasps and bees occurring on Dominica, for most chrysidids are parasites of these insects. Dryinidae attack leafhoppers and planthoppers, Bethylidae the larvae of small beetles and moths. Both of the dryinids and the majority of the bethylids appear to be endemic to Dominica, although further collecting on neighboring islands may demonstrate that they occur there also. *Parasierola nigrifemur* Ashmead, which is a common bethylid at low altitudes on Dominica, is known to be widely distributed in the West Indies and South America, and it is possible that some of the other species taken in coastal localities will prove to be widely distributed. The fact that most species are known from only a few specimens, often of only one sex, suggests that we have by no means "reached the bottom" of the surprisingly large bethylid fauna of Dominica.

The arrangement of genera follows my recent Synopsis of the American Bethylidae (Evans, 1964).

Abbreviations used in this paper are listed below:

STRUCTURES

| | |
|---|---|
| HE | height of eye (maximum, lateral view) |
| LFW | length of forewing |
| LH | length of head (apical margin of clypeus to median vertex crest) |
| OOL | ocello-ocular line (minimum distance from eye to lateral ocellus) |
| WF | width of front (measured at its minimum point) |
| WH | width of head (maximum, including eyes) |
| WOT | width of ocellar triangle (including lateral ocelli) |

INSTITUTIONS

| | |
|---|---|
| MCZ | Museum of Comparative Zoology, Cambridge, Massachusetts |
| USNM | United States National Museum, Washington, D.C. |

## Family BETHYLIDAE

### Genus *Apenesia* Westwood

This genus exhibits much structural diversity, and some species grade into each of the other genera of Pristocerinae. The genus is cosmopolitan in distribution, with approximately 70 known species in the Western Hemisphere. Only three species have pre-


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viously been known from the West Indies, each from a single specimen (a male from Cuba and females from Jamaica and Dominica). I have collected two additional species on Dominica, each represented by only one or two males. Both belong to the *Dissomphaloides* species-group and are, in fact, basically nothing but *Dissomphalus* without pits on the second tergite and with unusually hairy eyes. The "female species" described from Dominica is a reasonably typical *Apenesia* and appears too large to belong with either of the males.

### *Apenesia dominica* Evans, 1963

Described from a single female collected at Roseau by F. Lutz (no date given) (type in MCZ, no. 30445). This specimen is 3.2 mm long, apterous, and wholly castaneous; it is a distinctive species by virtue of the four-toothed mandibles and the fact that the propodeum is about as wide in front of the constriction as behind it. The male of this species has yet to be discovered.

### *Apenesia flaviscapus*, new species

HOLOTYPE.— ♂, Dominica: Dleau Gommier, 1400 feet, 2 March 1965, H. E. Evans (USNM 70028).

DESCRIPTION OF MALE TYPE.—Length 2.3 mm; LFW 2.0 mm. Head and thorax dark brownish fuscous, abdomen also of this color except first two segments suffused with light brown on the sides; mandibles and sides of clypeus testaceous; first two antennal segments bright flavotestaceous, remainder of antenna dark brown; legs wholly testaceous; wings slightly dusky, the veins and stigma dark brown; discoidal vein represented by a long, dark brown streak interstitial with media. Mandibles slender, with a large apical tooth and three very small teeth just above it (Figure 7); clypeus well developed in front of antennal sockets, the median line with a strong carina, which is weakly arched in profile (Figure 11). Scape long, first four antennal segments in a ratio of about 3:1:1:1, segment three 1.5 times as long as wide, segment 11 about twice as long as wide; flagellar pubescence pale, erect, setulae nearly or quite as long as width of flagellum. Eyes protuberant, quite strongly hairy; head about as wide as high; front narrow, WF 1.1 × HE; distance from eye tops to vertex crest about .6 times HE. Ocelli small, front angle of ocellar triangle less than a right angle, OOL 1.2 × WOT.

Front and thoracic dorsum weakly alutaceous, moderately shining, all punctures shallow and inconspicuous; pronotum short, disc not margined in front; notauli present on anterior .7 of mesoscutum; propodeal disc margined by a transverse carina behind, the disc about as long as wide, median carina nearly complete, basal triangle reticulate but disc smooth and polished posterolaterally. Abdomen polished, the first segment subpetiolate, the second tergite with no evidence of pits or other modifications.

PARATYPE.—One ♂, same data as type [MCZ].

VARIATION.—The paratype is of the same size as the type and resembles it very closely. The head is slightly more elongate, being produced somewhat further above the eye tops; WH is .98 × LH, OOL 1.3 × WOT.

REMARKS.—The name *flaviscapus* is to be treated as a noun in apposition to the generic name and the ending is thus not subject to change.

### *Apenesia caribbeana*, new species

HOLOTYPE.— ♂, Dominica: 2 miles S of mouth of Layou River, 13 February 1965, H. E. Evans; sweeping mango tree along road near beach (USNM 70029).

DESCRIPTION OF MALE TYPE.—Length 1.6 mm; LFW 1.4 mm. Dark brownish fuscous; mandibles and clypeus testaceous; antennae dark brown except second segment and apical fourth of scape testaceous; legs light yellowish brown, the femora and tibiae somewhat darker than the remainder; wings hyaline, veins and stigma brown, discoidal vein elongate and well pigmented, interstitial with media. Mandibles tridentate (Figure 8); clypeus well developed in front of antennal sockets, with a small angulate projection medially but only very weakly produced laterad of this, the median line with a carina which is not arched in profile (Figure 12). First four antennal segments in a ratio of about 22:9:10:9, segment 3 slender, about twice as long as wide, segment 11 more barrel-shaped, also about twice as long as wide; flagellar pubescence semierect, setulae mostly slightly shorter than width of flagellum. Eyes strongly hairy, rather small, distance from eye tops to vertex crest subequal to eye height; head higher than wide, WH .94 × LH; WF 1.35 × HE. Ocelli in a compact triangle far above eye tops, OOL 1.33 × WOT. Front and thoracic dorsum alutaceous, moderately shining, obscurely punctate; pronotum rather long, the disc with a weak transverse carina anteriorly; notauli complete; propodeal disc elongate, only .88 times as wide as long, margined behind and laterally, but the

median carina extending only .7 the length of the disc; basal triangle reticulate, but disc smooth and shining behind. Abdomen polished, short-petiolate, the second tergite with no evidence of pits or other modifications.

REMARKS.—This minute species is known from a single specimen. Its closest relative is probably *A. flaviscapus,* but it differs from that species in many features, particularly the mandibles, clypeus, head shape, notauli, pronotum, and propodeal sculpturing.

## Genus *Dissomphalus* Ashmead

This large genus appears to be well represented in the Lesser Antilles. Ashmead described four species from St. Vincent (1894) and recorded three of these also from Grenada (1895). Of the three species known from Dominica, one is apparently identical to one of Ashmead's species, the other two previously undescribed.

### *Dissomphalus politus* Ashmead, 1894

Described from two males from St. Vincent (type USNM 2497). One specimen closely similar to the type was collected at 2000 feet elevation, 1.7 miles E of Pont Cassé, Dominica, 4–11 March 1965, H. E. Evans (USNM). This species is at once separable from the two described below by virtue of its very slender build, polished, barely alutaceous front and thoracic dorsum, and very long and slender antennae (segment eleven 2.2 times as long as wide).

### *Dissomphalus caviclypeus,* new species

HOLOTYPE.— ♂, Dominica: Dleau Gommier, 1400 feet, 2 March 1965, H. E. Evans (USNM 70030).

DESCRIPTION OF MALE TYPE.—Length 2.3 mm; LFW 1.9 mm. Head and thorax black, abdomen dark castaneous, indistinctly banded with light brown; mandibles testaceous; first three antennal segments light brown, remainder of antennae dark brown; legs wholly testaceous; wings hyaline, veins and stigma brown, discoidal vein present as a brown streak continuous with median vein. Mandibles with three strong apical teeth (Figure 9); clypeus large, tridentate medially, the disc slightly elevated basad of the two lateral teeth, leaving a bowl-shaped concavity basad of the more acute median tooth (Figure 13). Antennae very short, first four segments in a ratio of about 13:5:3:3, segments 3 and 11 both barely longer than wide; flagellar pubescence erect, setulae slightly shorter than width of flagellum. Eyes with scattered short setae; distance from eye tops to level of vertex equal to about two-thirds the eye height; head distinctly higher than wide, WH .93× LH; front narrow, WF 1.15×HE. Ocelli in a compact, right triangle, OOL 1.15×WOT. Front and thoracic dorsum moderately alutaceous, somewhat shining; front covered with shallow punctures separated by 1.0–1.5 times their own diameters; pronotum short, rather indistinctly punctate, the disc margined in front by a transverse carina; mesoscutum obscurely punctate, the notauli linear, complete. Propodeal disc 1.1 times as wide as long, margined laterally and behind, the median carina extending about .8 the length of the disc; basal triangle reticulate, posterior part of disc merely alutaceous.

Abdomen polished, rather broad as compared to *D. politus*; first tergite with a short basal groove; second tergite with the pits very small, consisting merely of minute dorsolateral opaque spots, each giving rise to a short, thick seta; these spots are not distinctly rimmed or set in a depression, nor are they flanked by setae.

PARATYPE.—1 ♂, Dominica: 15 miles N of Pont Cassé, 1200 feet, 12–25 February 1965, H. E. Evans (MCZ).

VARIATION.—The paratype is very slightly larger than the type (LFW 2.0 mm) but identical to it in color, sculpture, and standard measurements.

### *Dissomphalus archboldi,* new species

HOLOTYPE.— ♂, Dominica: Dleau Gommier, 1400 feet, H. E. Evans (USNM 70031).

DESCRIPTION OF MALE TYPE.—Length 1.9 mm; LFW 1.7 mm. Head and thorax dark brownish fuscous, abdomen dark brown, shining, somewhat paler on sides of basal segments; mandibles and basal two antennal segments testaceous, remainder of antenna medium brown; legs wholly pale testaceous; wings hyaline, discoidal vein present as a strong brown streak continuous with median vein. Mandibles quadridentate (much as in Figure 7); clypeus with a sharply defined median carina that is arched in profile and terminates in a small median tooth, the apical margin otherwise slightly sinuate but without other teeth (Figure 14).

Antennae short, first four segments in a ratio of about 13:5:3:3, segments 3 and 11 both approximately as long as wide; flagellar pubescence semierect, setulae .5–.6 as long as width of flagellum. Eyes

glabrous, not strongly protuberant; vertex broadly rounded off a short distance above eye tops; head about as wide as high; eyes converging below, WF barely exceeding HE. Front angle of ocellar triangle slightly less than a right angle, OOL 1.2 × WOT. Front and thorax dorsum alutaceous although moderately shining, punctures shallow and ill-defined; pronotum short, about 1.4 times as wide as long, margined by a delicate carina behind, its median carina extending about .8 the length of the disc; basal triangle reticulate, posterior portion smooth and polished. Abdomen subpetiolate, the first tergite with a short median, basal groove; second tergite with a pair of small dorsolateral pits having raised margins and bearing a small central pencil of setae; abdomen with several strong setae toward the tip dorsally.

REMARKS.—This species is named for John Archbold, in whose guesthouse at Clarke Hall I spent a very pleasant six weeks in February and March 1965. It is known from a single specimen having many features in common with the preceding, but differing considerably in the conformation of the clypeus, pronotum, and propodeum as well as in having the tergal pits slightly larger and with raised rims.

### Genus *Pseudisobrachium* Kieffer

This difficult genus is known from the Lesser Antilles from two species described by Ashmead from males from St. Vincent; I have also seen males of another, undescribed species from that island. The three males collected on Dominica show a fair amount of variation among themselves and as compared to St. Vincent material, but they are tentatively assigned to Ashmead's species *P. albipes*. A single female from Dominica is also assigned here tentatively.

### *Pseudisobrachium albipes* (Ashmead), 1894

Males have been collected at two forested localities near the center of Dominica: 1 ♂, 1.5 miles N of Pont Cassé, about 1200 feet, 12–25 February 1965, H. E. Evans (USNM); 2 ♂♂, 1.7 miles E of Pont Cassé, about 2000 feet, 4–12 March 1965, H. E. Evans, W. W. Wirth (USNM, MCZ). These males differ from the type of *P. albipes* in their larger size (LFW 2.3–2.6 mm) and somewhat darker antennae, the flagellum being dark brown, the scape varying from light to medium brown. The male collected by Wirth has somewhat more slender antennae than the other two, and the front and thoracic dorsum are more shining. The mandibles are shown in Figure 10.

A single female has been collected at Long Ditton, Dominica, 21 June 1911 (no collector given) (USNM). This female is 3.4 mm long and is light castaneous, the appendages testaceous; the eyes consist of a single fairly large, convex, whitish lens; the mandibles are tridentate; the head measures 1.25 times as long as wide and is nearly parallel-sided; the front is covered with strong, well-spaced punctures, between which it is weakly alutaceous. The female runs out fairly well to *P. ashmeadi* in my key (1961), but it is larger, the basal mandibular tooth is somewhat stronger, the eyes are larger and much more conspicuous, and the head is more elongate. However, the structure of both sexes suggests that *P. albipes* belongs to the same species-group as *P. ashmeadi*.

### Genus *Anisepyris* Kieffer

This genus is represented in the Greater Antilles by several large, brilliantly colored species. The one species known from Dominica is apparently a derivative of the Greater Antillean fauna, its closest known relative being *A. darlingtoni* Evans, from Hispaniola. *Anisepyris insularis*, described by Ashmead, 1894, from St. Vincent, is the only other *Anisepyris* known from the Lesser Antilles; it has its closest relatives in South America (including Trinidad) and Central America.

### *Anisepyris dominicanus* Evans, 1966

Described from a single female taken June–July 1913 by H. W. Foote of the Yale University Expedition, without locality data other than "Dominica" (USNM 68993). I searched for this species in vain during my six weeks on Dominica, but recently R. J. Gagné took a male *Anisepyris* of the appropriate size and color, which unquestionably represents the male *dominicanus*. It was taken one mile north of the junction of the roads to Rosalie and Castle Bruce, 29 March 1966. It will run to the *aurichalceus* group (couplet 38) in the key I presented in 1966, rather than to the *excisus* group where it properly belongs, since the scrobes are not carinate and the propodeal angles not clearly foveolate. The males of both of these groups are poorly known, and the groups evidently cannot be separated on the characters I used. I append a short description of the male *A. dominicanus*.

DESCRIPTION OF MALE (PLESIALLOTYPE).—Length

4.5 mm; LFW 3.3 mm. Black; head and thoracic dorsum with very strong coppery to rose reflections, sides of thorax olive-green and coppery, front and hind femora and all coxae with blue-green reflections; propodeum greenish above; mandibles mostly dark; scape black, with greenish reflections, flagellum wholly dark brown; tibiae testaceous, tarsi somewhat darker; wings somewhat clouded, especially apically. Antennal tubercles very prominent, but scrobes not carinate; antennae extremely slender and elongate, segment 3 extremely minute, segments 4 and 11 each about 5 times as long as wide. Head about as wide as high, the eyes large, strongly hairy; WF 1.2×HE; ocelli slightly enlarged, in a compact triangle, OOL slightly exceeding WOT. Front rather strongly alutaceous, punctures small, somewhat crowded toward center of front. Thoracic dorsum also strongly alutaceous, rather obscurely punctate; propodeal disc slightly wider than long, with several longitudinal carinae arising from the base and connected by transverse ridges; posterior angles not foveolate.

### Genus *Holepyris* Kieffer

This genus has received no modern revision. Fortunately, only one species has been taken on Dominica, and there seems little question that these specimens are conspecific with a species described from St. Vincent.

### *Holepyris incertus* (Ashmead), 1894

Described from five males from St. Vincent (type, USNM 2491). Three males have been taken at moderate elevations on Dominica: 1 ♂, South Chiltern, 1600 feet, 19 February 1965, H. E. Evans (USNM); 1 ♂, 1.5 mi. N of Pont Cassé, 1200 feet, 12–25 February 1965, H. E. Evans (MCZ); 1 ♂, 1.7 mi. E of Pont Cassé, 2000 feet, 4–11 March 1965, H. E. Evans (USNM).

### Genus *Parasierola* Cameron

This genus contains no less than five species on Dominica, two of them by far the commonest bethylids on the island. Only one of the species (*P. silvestris*, new species) has been taken in the central parts of the island; all of the others appear confined to localities near the coast, and since one (*P. nigrifemur* Ashmead) is known to have a wide distribution in the neotropics, it seems possible that some or all of the three remaining species do also. I have not been able to demonstrate that this is the case, however, and they are here described as new.

### *Parasierola nigrifemur* (Ashmead), 1894

Described from St. Vincent from two specimens (type, USNM 2498). Later recorded by Ashmead (1895) from Grenada and by Ogloblin (1960) from Argentina; the latter has provided a very detailed description. In the USNM collections there are specimens from Argentina, Brazil, Uruguay, Barbados, Nevis, Puerto Rico, and Cuba, and I have collected the species on St. Croix, St. John, and Antigua. The Bishop Museum, Honolulu, has a pair from British Guiana. Known hosts include *Pectinophora gossypiella* (Saund.) and *Evetria buoliana* (Schiff.), both microlepidopterous pest species.

This is a common wasp along the coast of Dominica. Records are as follows: 7 ♀♀, Clarke Hall, February and March 1965, H. E. Evans (USNM); 4 ♀♀, 13 ♂♂, mouth of Layou River, 5–13 March 1965, H. E. Evans (USNM, MCZ); 1 ♀, 4 miles NE of Salisbury, 17 February 1965, H. E. Evans (USNM).

### *Parasierola wirthi*, new species

HOLOTYPE.—♀, Dominica: Hillsborough Est., 15 March 1965, W. W. Wirth (USNM 70032).

DESCRIPTION OF FEMALE TYPE.—Length 2.5 mm; LFW 1.8 mm. Black; mandibles black except tips rufous; antennae testaceous except flagellum gradually infuscated, the apical half quite dark; legs bright testaceous except front femora suffused with brown along anterior margin; wings hyaline, veins amber except subcosta, prostigma, and stigma dark brown. Mandibles with four apical teeth; clypeus angularly projecting, with a high, strongly arching median ridge that is continued up the front as an elevated line opposite the lower quarter of the eyes. First four antennal segments in a ratio of about 10:4:3:3, segments 3 and 11 each barely longer than thick. Eyes large, forming strongly convex lateral margins of the head; WH .92×LH; front narrow, WF .98×HE; ocelli in a broad, flat triangle, posterior ocelli very close to vertex crest; OOL=WOT (FIGURE 1). Front alutaceous, moderately shining, with shallow but well-defined punctures separated by 2-4 times their own diameters. Pronotum alutaceous, sparsely punctate, its posterior margin weakly sinuate medially; mesoscutum

## Key to the Species of *Parasierola* from Dominica

### Females

1. Front angle of ocellar triangle at least a right angle (Figures 1, 3); OOL at most 1.5×WOT; propodeal disc separated from declivity by a carina (except medially); clypeus narrowly protuberant, somewhat angulate . . . . . 2
   Front angle of ocellar triangle much less than a right angle (as in Figure 2); OOL 2.0–2.5×WOT; propodeal disc not separated from declivity by a carina (except sometimes on extreme sides); clypeus broadly rounded . . . . . 4
2. Head elongate, more or less parallel-sided, WH about .78×LH (Figure 3); front angle of ocellar triangle about a right angle; distance from eye tops to vertex crest nearly equal to eye height. *P. layouana*, new species
   Head only slightly longer than high, WH .83–.93×LH, the sides of the head strongly convex (Figure 1); ocelli in a very broad, obtuse triangle; distance from eye tops to vertex crest much less than eye height . . . . . 3
3. Coxae and femora fuscous; WF exceeding HE in most specimens; front femora strongly incrassate, about 1.8 times as long as their maximum width. . . . . *P. nigrifemur* (Ashmead)
   Coxae and femora testaceous (front femora sometimes dark along anterior margin); front narrow, WF .85–1.0×HE; front femora 1.9–2.0 times as long as wide . . . . *P. wirthi*, new species
4. Head subcircular, with convex lateral margins, WH .91×LH; front femora barely incrassate, 2.3 times as long as wide; WF 1.25×HE . . . . . *P. silvestris*, new species
   Head more elongate, somewhat quadrate, the sides subparallel, WH about .83×LH; eyes small, WF 1.4×HE, distance from eye tops to vertex crest subequal to HE; front femora 2.0–2.1 times as long as wide . . . . . *P. rivularis*, new species

### Males

1. Propodeal disc not separated from declivity by a carina; ocelli slightly larger than below, in about a right triangle . . . . . *P. silvestris*, new species
   Propodeal disc separated from declivity by a carina, except medially; ocelli small, in a broad triangle, front angle greater than a right angle . . . . . 2
2. Legs wholly bright testaceous, or coxae and femora weakly suffused with brown. *P. wirthi*, new species
   Coxae and femora wholly dark brown . . . . . *P. nigrifemur* (Ashmead)

also with sparse punctures, notauli absent. Propodeal disc about 1.5 times as wide as long, separated from declivity by an irregular carina that is broken medially; disc with a median, elevated polished band, sides with fine, radiating striolations. Front femora incrassate, measuring 1.9 times as long as wide.

Allotype.— ♂, same data as type (USNM).

Description of male allotype.—Length 2.1 mm; LFW 1.5 mm. Black; mandibles testaceous; antennae testaceous, infuscated on apical third; legs wholly bright testaceous; wings as in female. Mandibles with four small apical teeth; clypeus angularly protuberant medially, its median ridge arched in profile and extending up front a short distance, as in female. WH .92×LH, sides of head convex, the eyes large; front narrow, WF subequal to HE; ocelli as in female, OOL .9×WOT. Third and eleventh antennal segments both slightly longer than thick. Front alutaceous, moderately shining, with small but well-defined punctures separated by 3-6 times their own diameters. Thoracic dorsum shining, moderately alutaceous, obscurely punctate; propodeal disc margined behind as in female. Front femora about 2.2 times as long as wide.

Paratypes.—7 ♀♀, same data as type (USNM); 5♀♀, 9♂♂, mouth of Layou River, 5–13 March 1965, H. E. Evans (USNM, MCZ); 6 ♀♀, Clarke Hall, Layou Valley, February and March 1965, H. E. Evans (USNM, MCZ); 4♂♂, Melville Hall, 18 February 1965, H. E. Evans (USNM); 1 ♂, Woodford Hill, 27 February 1965, H. E. Evans (USNM).

Variation.—The females vary considerably in size (LFW 1.3–1.8 mm); smaller specimens tend to have a narrower front (WF down to .80×HE). WH varies from .83 to .92 ×LH, OOL from .95 to 1.10 ×WOT. Some females lack the small amount of brown on the margin of the front femora described for the type. The males are all very small (LFW

1.2–1.5 mm) and show no important variation in color or standard measurements; WH varies from .88 to .93×LH, OOL from .90 to 1.05×WOT.

REMARKS.—This species is similar to Ashmead's *sanctivincenti* in size and color, but the type specimen of the latter has an impunctate front and the head is about as wide as high. Nevertheless, since *P. wirthi* is a common species at low altitudes on Dominica, occurring in much the same situations as *P. nigrifemur,* I consider it probable that it will be found on other islands, perhaps even in South America.

### *Parasierola layouana,* new species

HOLOTYPE.—♀, Dominica: Clarke Hall, Layou Valley, 10–17 February 1965, H. E. Evans (USNM 70033).

DESCRIPTION OF FEMALE TYPE.—Length 2.2 mm; LFW 1.6 mm. Black; mandibles black except tips rufous; antennae testaceous (missing beyond segment 8); coxae and femora dark brown, remainder of legs light brown; wings hyaline, with brown veins and a dark brown stigma and prostigma. Mandibles with four teeth; clypeus angularly projecting, with a high, arching median ridge that continues up the lower front and terminates opposite the lower .2 of the eyes; antennal scrobes strongly defined but not margined by carinae. First four antennal segments in a ratio of about 10:4:3:3, third segment about as long as wide. Head elongate, nearly parallel-sided, WH only .78×LH; WF subequal to HE; distance from eye tops to vertex crest nearly equal to HE; vertex, as seen in anterior view of head, nearly straight across (Figure 3). Ocelli in about a right triangle, posterior ocelli very close to vertex crest; OOL 1.45×WOT. Front alutaceous, moderately shining, punctures well defined, separated by 2–4 times their own diameters. Pronotum elongate, alutaceous, sparsely punctate; mesoscutum similar except more shining anteriorly; propodeal disc 1.4 times as wide as long, margined behind by an irregular carina which is incomplete medially; propodeum with the usual shining, elevated median band, alutaceous on the sides. Front femora strongly incrassate, measuring 1.9 times as long as wide.

REMARKS.—This species is known from only one specimen. It resembles *P. nigrifemur* in color but differs from both that species and *P. wirthi* by virtue of head shape and the less broad and flat ocellar triangle. In head shape, this species closely resembles *P. mexicana* (Ashmead), but that species has a much more compact ocellar triangle and lacks a transverse carina on the propodeum.

### *Parasierola rivularis,* new species

HOLOTYPE.—♀, Dominica: Clarke Hall, Layou Valley, 20–28 February 1965, H. E. Evans (USNM 70034).

DESCRIPTION OF FEMALE TYPE.—Length 3.3 mm; LFW 2.4 mm. Body and mandibles black; antennae testaceous, apical third fuscous; coxae somewhat infuscated, legs otherwise bright testaceous; wings hyaline, veins brownish, prostigma and stigma dark brown. Mandibles with four teeth, the most basal tooth very broad and blunt; clypeus very broadly rounded, with a weak median angulation, the median ridge abruptly sloping to this angulation; clypeus triangularly produced upward between and beyond the antennal sockets, but the median ridge not extended beyond the top of the triangle. Antennal scrobes strongly defined, but their margins not carinate; antennae short, not reaching posterior margin of head, first four segments in a ratio of about 8:3:2:2, segments 3 and 11 barely longer that thick. Head large, subrectangular, the sides nearly parallel; WH .83×LH; eyes small, WF 1.4×HE, distance from eye tops to vertex crest subequal to HE (Figure 2). Ocelli small, in a compact isosceles triangle; OOL 2.5×WOT. Front uniformly alutaceous, moderately shining, the punctures very small, separated by 3–6 times their own diameters except largely absent from the median strip. Pronotum alutaceous, sparsely punctate, its posterior margin with a strong median sinuation; mesoscutum with six small punctures on each side of the impunctate median area. Propodeum with the usual polished median elevation, the sides strongly alutaceous; declivity rather abrupt, but not separated from the disc by a carina. Front femora moderately incrassate, measuring 2.1 times as long as wide. Abdomen shining, somewhat depressed toward the apex.

PARATYPE.—Dominica: 1 ♀, South Chiltern, 1600 feet, 19 February 1965, H. E. Evans (USNM).

VARIATION.—The paratype is considerably smaller than the type (LFW only 2.0 mm) and has the front and hind femora strongly suffused with brown. The median carina extends beyond the basal margin of the clypeus, to a point nearly opposite the middle of the eyes. In all other details this specimen resembles the type closely, however, and there seems to me little question of their conspecificity.

### *Parasierola silvestris*, new species

HOLOTYPE.—♀, Dominica: Dleau Gommier, 1400 feet, 15 February 1965, H. E. Evans (USNM 70035).

DESCRIPTION OF FEMALE TYPE.—Length 3.0 mm; LFW 2.5 mm. Body dark castaneous, the head nearly black; mandibles dark brown except paler basally and with rufous teeth; antennae testaceous, weakly infuscated at extreme apex; legs wholly light testaceous; wings hyaline, with brown veins and a dark brown prostigma and stigma. Mandibles with four sharp, well-defined teeth; clypeus broadly rounded, weakly angulate at the midline, its median ridge arched in profile; upper margin of clypeus extending triangularly upward, but the median ridge not extending beyond the point of the triangle. Antennal scrobes strongly defined, their margin indistinctly carinate below; antennae of moderate length, capable of exceeding the posterior margin of the head; first four antennal segments in a ratio of about 17:6:6.5, segment 3 slender, 1.5 times as long as wide, segment 11 also considerably longer than wide. WH .91×LH, its sides convexly rounded, the eyes considerably larger than in the preceding species; distance from eye tops to vertex crest about two-thirds×HE; WF 1.25×HE. Ocelli in a compact, isosceles triangle, OOL 2.1× WOT. Front alutaceous, moderately shining, with small, shallow punctures separated by 3–5 times their own diameters. Thoracic dorsum alutaceous, obscurely punctate, except anterior half of mesoscutum rather strongly shining. Propodeum alutaceous except for the usual median polished strip, the disc and declivity not separated by a carina. Front femora relatively slender, measuring 2.3 times as long as wide. Abdomen robust, shining, somewhat depressed toward the apex.

ALLOTYPE.—♂, Dominica: 1.7 miles E of Pont Cassé, about 2000 feet, 4–11 March 1965, H. E. Evans (USNM).

DESCRIPTION OF MALE ALLOTYPE.—Length 2.3 mm; LFW 2.0 mm. Black; mandibles and first two antennal segments testaceous, remainder of antenna gradually infuscated, last three segments dark brown; legs testaceous except hind femora brown, front femora partially suffused with brown; wings hyaline, the venation brown. Mandibles with four small apical teeth; median lobe of clypeus narrowly rounded, median ridge weakly arched in profile, extending up front a short distance as a rather weak polished streak. Antennae slender, first four segments in a ratio of about 10:5:4:4, segments 3 and 11 both considerably longer than thick. WH .90×LH; front narrow, WF .92×HE; vertex broadly rounded off well above eye tops. Ocelli slightly enlarged, in about a right triangle; OOL 1.1× WOT. Features of head, thoracic dorsum, and propodeum as described for female. Front femora actually slightly more robust than in female, measuring 2.1 times as long as wide.

PARATYPES.—1 ♂, same data as allotype (MCZ); 2 ♂♂, 1.5 miles N of Pont Cassé, about 1200 feet, 12–25 February 1965, H. E. Evans (USNM).

VARIATION.—The males vary slightly in size (LFW 1.7–2.0 mm) and OOL varies from 1.0 to 1.1×WOT. The two males from 1.5 miles N of Pont Cassé have the legs paler than the other two, one having the legs wholly straw colored.

REMARKS.—So far as known, this is the only *Parasierola* that occurs in the central part of the island.

## Genus *Goniozus* Foerster

Members of this genus appear much less common on Dominica than those of the closely related *Parasierola;* however, the seven available specimens fall into just as many species (five). These species are strikingly distinct from one another and from the only other *Goniozus* known from the Lesser Antilles, *incompletus* Ashmead (St. Vincent and Grenada). Three of the species are known from the female only, one from the male only; it seems unlikely that this male belongs with any of the known females.

### *Goniozus antilleanus*, new species

HOLOTYPE.—♀, Dominica: 1.7 miles E of Pont Cassé, 2000 feet, 4–11 March 1965, H. E. Evans (USNM 70036).

DESCRIPTION OF FEMALE TYPE.—Length 2.0 mm; LFW 1.5 mm. Dark brownish fuscous, the head nearly black; mandibles black; antennae testaceous, last four segments fuscous; coxae and femora dark brown, tibiae slightly infuscated, tarsi testaceous; wings hyaline, veins light brown, prostigma and stigma dark brown; spur arising from basal vein short, about 3 times as long as wide, about as long as distance from its base to bottom of prostigma. Clypeus with an angularly projecting median lobe that bears a high, arching median ridge, this ridge continuing up the front as a linear streak that ends slightly above the level of the bottoms of the eyes; antennal scrobes oblique, weakly carinate basally. First four antennal segments in a ratio of about

## Key to the Species of *Goniozus* from Dominica

### Females

1. Front femora greatly swollen, the length only 1.6 times the maximum width; WOT slightly exceeding OOL; propodeal disc separated from declivity by a carina. . . . . *G. crassifemur*, new species
   Front femora moderately enlarged, length 2.0–2.2 times maximum width; OOL exceeding WOT; propodeal disc not separated from declivity by a carina . . . . . 2
2. Margins of antennal scrobes strongly carinate, the carinae nearly vertical, at only a small angle to the high, arching ridge on the clypeus and lower front (Figure 5); spur arising from basal vein longer than basal vein measured from base of spur to bottom of prostigma. . . . . *G. cristatus*, new species
   Margins of antennal scrobes weakly carinate, the carinae extending obliquely toward the eye margins; spur arising from basal vein shorter than or equal to distance from its base to bottom of prostigma . . . . . 3
3. Head slightly higher than wide (WH about .9×LH); legs straw-colored, the femora partially suffused with brown; front femora moderately swollen, measuring about twice as long as wide. . . . . *G. cariborum*, new species
   Head much higher than wide (WH about .8×LH), the eyes small and situated far from vertex (Figure 4); coxae and femora dark brown; front femora measuring 2.2 times as long as wide. . . . . *G. antilleanus*, new species

### Males

1. Eyes and ocelli very large, HE much exceeding WF, WOT more than twice OOL (Figure 6); wing veins (except stigma and prostigma) nearly hyaline, the spur arising from the basal vein quite long . . . . . *G. clarkei*, new species
   Eyes and ocelli small, WF exceeding HE and OOL exceeding WOT; wing veins brown, spur arising from basal vein hardly developed at all . . . . . *G. antilleanus*, new species

8:4:3:3, segments 3 and 11 not longer than wide. Head elongate, sides subparallel and with the eyes bulging only slightly; WH .8×LH; WF 1.05×HE; distance from eye tops to vertex crest equal to about .8×HE (Figure 4). Ocelli in about a right triangle close to vertex crest; OOL 1.5×WOT. Front alutaceous, moderately shining, with shallow but well-defined punctures separated by several times their own diameters. Thoracic dorsum with sparse, small punctures, alutaceous except mesoscutum rather strongly shining anteriorly; scutellar pits very small and connected by a very thin line; propodeum alutaceous, with the usual polished median elevation, the disc not separated from the declivity by a carina. Front femora relatively slender, measuring 2.2 times as long as wide. Abdomen shining, depressed.

Allotype.— ♂, same data as type (USNM).

Description of male allotype.—Length 1.8 mm; LFW 1.5 mm. Color of body and legs as in female, mandibles black as in that sex, but antennae strongly infuscated beyond segment 5; wing veins brown, spur arising from basal vein appearing as a mere angulation, but extended downward as a faint streak. Form of clypeus and antennal scrobes as in female; antennae slightly more elongate than in female, segments 3 and 11 slightly longer than thick. WH .86×LH; eyes small, removed from vertex crest by nearly their own height; WF 1.1×HE. Ocelli in a right triangle close to vertex crest, OOL 1.3×WOT. Front moderately shining, alutaceous, punctures as in female but more shallow and inconspicuous. Thoracic dorsum evenly alutaceous although somewhat shining, obscurely punctate; features of scutellum and propodeum as described for female. In lateral view, both thorax and abdomen are seen to be strongly depressed.

### *Goniozus cariborum*, new species

Holotype.— ♀, Dominica: Fond Figues River, 25 January 1965, W. W. Wirth (USNM 70037).

Description of female type.—Length 2.0 mm; LFW 1.7 mm. Body piceous, except basal half of abdomen not quite as dark as remainder of body; mandibles ferruginous; antennae testaceous, apical third weakly infuscated; legs straw-colored, except front femora and to a lesser extent the hind femora suffused with brown; wings hyaline, subcosta, prostigma, and stigma dark brown, veins otherwise light brown; spur arising from basal vein short, in left wing no longer than thick, but in right wing of type nearly

3 times as long as thick, although shorter than distance from its base to bottom of prostigma. Clypeus strongly, angularly projecting medially, with a high, arching median ridge that terminates opposite the lower third of the eyes; antennal scrobes oblique, their margins weakly carinate below. Antennae short, segments 3 and 11 barely longer than thick. WH .9×LH; WF 1.15×HE; vertex broadly rounded, distance from eye tops to vertex crest about .6 times HE. Front angle of ocellar triangle slightly exceeding a right angle; OOL 1.2×WOT. Front alutaceous, moderately shining, with large punctures that for the most part are separated by 3–5 times their own diameters. Thoracic dorsum similarly alutaceous and punctate, the punctures slightly weaker; scutellar pits slender and oblique, widely separated, connected by only a thin line; propodeal disc not separated from declivity by a carina, alutaceous and with the usual polished, elevated median streak. Front femora moderately robust, 2.0 times as long as wide. Abdomen strongly depressed, shining.

### *Goniozus cristatus*, new species

HOLOTYPE.—♀, Dominica: Roseau, 8 March 1965, H. E. Evans (USNM 70038).

DESCRIPTION OF FEMALE TYPE.—Length 2.4 mm; LFW 1.8 mm. Body piceous; mandibles and antennae rufotestaceous, the latter weakly infuscated at their extreme tips; legs wholly bright testaceous; wings hyaline, veins brownish, spur arising from basal vein slightly longer than distance from its base to bottom of prostigma. Front of head projecting, the clypeus forming a more acute, projecting angulation than in other Dominican *Goniozus;* median ridge of clypeus very high and arching, although its frontal extension terminating only a short distance above level of bottoms of eyes; antennal scrobes strongly carinate, the carinae diverging only weakly above, terminating opposite the end of the midfrontal ridge. Third antennal segment slightly longer than wide, eleventh segment 1.3 times as long as wide. Head much longer than wide, WH .8×LH, the eyes relatively large and somewhat bulging from sides of head; distance from eye tops to vertex crest about .8×HE; WF 1.2×HE (Figure 5). Ocelli in a broad triangle close to vertex crest; OOL 1.15×WOT. Front alutaceous, moderately shining, punctures strong, separated by 2–4 times their own diameters. Pronotum rather long, alutaceous and sparsely punctate; mesoscutum rather shining in front, on the posterior half strongly alutaceous and with ten strong punctures; scutellum and propodeum as described for preceding species. Front femora 2.0 times as long as wide. Abdomen shining, strongly depressed.

PARATYPE.—♀, Dominica: Clarke Hall, Layou Valley, 20–28 February 1965, H. E. Evans (USNM).

VARIATION.—In the paratype, LFW is 1.7 mm, the front femora 2.1 times as long as wide; the antennae are infuscated over the apical third. In every respect this specimen is closely similar to the type.

### *Goniozus crassifemur*, new species

HOLOTYPE.—♀, Dominica: Hillsborough Est., 15 March 1965, W. W. Wirth (USNM 70039).

DESCRIPTION OF FEMALE TYPE.—Length 2.6 mm, LFW 1.8 mm. Black; mandibles light ferruginous; antennae testaceous, apical half weakly infuscated; legs wholly testaceous; wings hyaline, prostigma and stigma dark brown, veins otherwise light brown; spur arising from basal vein long and slightly curved, considerably longer than distance from its base to bottom of prostigma. Median lobe of clypeus angularly projecting, with a very high, arching median carina that continues up front as a median streak for only a short distance; antennal scrobes oblique, weakly carinate below. Third and eleventh antennal segments only very slightly longer than thick. WH .91×LH; eyes large, distance from eye tops to vertex crest equal to less than half the eye height; WF 1.1×HE. Front angle of ocellar triangle exceeding a right angle, posterior ocelli very close to vertex crest; WOT slightly exceeding OOL.

Front alutaceous although rather strongly shining, punctures separated by 2–4 times their own diameters, shallow and not as sharply defined as in preceding species. Thoracic dorsum also shining although wholly alutaceous, rather obscurely punctate; posterior margin of pronotum sinuate medially. Propodeal disc separated from declivity by a well defined, complete carina, the disc measuring 1.5 times as wide as its median length; disc alutaceous except in an elongate, polished, slightly elevated basal triangle. Front femora unusually robust, only 1.6 times as long as their maximum width. Abdomen polished, fusiform, moderately depressed.

PARATYPE.—♀, St. Croix: East Point, 13–17 February 1967, H. E. Evans (MCZ).

VARIATION.—The paratype is closely similar to the type in size, color, and all structural details. The head

is slightly more slender, WH .89×LH, the front femora even more robust, about 1.55 times as long as their maximum width.

### *Goniozus clarkei*, new species

HOLOTYPE.—♂, Dominica, Antrim, 1000 feet, 12 March 1956, J. F. G. Clarke (USNM 70040).

DESCRIPTION OF MALE TYPE.—Length 2.2 mm; LFW 2.0 mm. Body dark castaneous; mandibles and antennae bright testaceous, the latter infuscated at extreme tip; coxae and femora dark brown, legs otherwise testaceous; wings hyaline, with pale setulae, prostigma and stigma brown but veins otherwise hyaline and translucent; spur arising from basal vein slightly longer than distance from its base to bottom of prostigma. Median lobe of clypeus narrowly rounded, upper margin projecting triangularly upward between and beyond antennal sockets, median line of clypeus barely elevated; antennal scrobes short, oblique, not sharply margined.

First four antennal segments in a ratio of about 10:5:4:4, segment 3 slender, longer than wide, segment 4 considerably broader than 3; segments 7–12 strongly moniliform, slightly longer than wide. Head slightly wider than high, WH 1.03×LH; eyes extremely large, WF only .73×HE, distance from eye tops to vertex crest very small (Figure 6). Ocelli large, in a broad, flat triangle, OOL only .35×WOT. Front alutaceous although strongly shining, punctures sparse and indistinct. Pronotum short, alutaceous, sparsely punctate; mesonotum strongly shining, weakly alutaceous, obscurely punctate. Propodeal disc margined behind by a complete carina, surface of disc alutaceous except in the usual median polished streak. Thorax and abdomen, in lateral view, much less strongly depressed than in the male *G. antilleanus*.

REMARKS.—This is unquestionably a nocturnal or crepuscular species, as the eyes and ocelli are unusually large. The long spur arising from the basal vein and the complete transverse carina on the propodeum suggest a relationship with *G. crassifemur*, but there are differences in the conformation of the clypeus and head, as well as in color of legs and wing veins, which make it unlikely that the two are opposite sexes of one species. The species is named for its collector, a leading participant in the Bredin-Archbold-Smithsonian Biological Survey of Dominica.

## Family DRYINIDAE

### Genus *Mesodryinus* Kieffer

This genus is well represented in tropical America. The one species collected on Dominica appears closely related to but specifically distinct from the two species described by Richards (1953) from Central America, one of them also reported from Trinidad. This latter species, *M. poecilopterae* Richards, twice has been reared from flatid bugs of the genus *Poecilopterа*. The Dominica species has been taken only along the coast, and may prove to be widely distributed.

### *Mesodryinus antilleanus*, new species

HOLOTYPE.—♀, Dominica: Mouth of Layou River, 13 March 1965, H. E. Evans (USNM 70041).

DESCRIPTION OF FEMALE TYPE.—Length 3.5 mm; LFW 2.6 mm. Head and thorax black; abdomen shining black except sides of first tergite and all of apical segment light brown; mandibles testaceous, the teeth rufous; clypeus testaceous except center of disc ferruginous; scape testaceous, flagellum light ferruginous; legs wholly light ferruginous except front trochanters and all tarsi testaceous; wings hyaline, with a large brown blotch below the radial cell and apical half of the stigma, also with a much smaller and weaker blotch in the center of the median cell; veins brown except colorless at extreme base of wing, the stigma dark brown except colorless on its apical fourth. Mandibles with four sharp teeth; clypeus with a sharply defined although shallow median emargination.

Malar space and scrobes not carinate, but front with a linear streak reaching the anterior ocellus. First five antennal segments in a ratio of about 19:9:42:20:19, segment three 1.2×WF, .6×WH; outer antennal segments very slightly thicker than segment three. WH 1.24×LH; WF .96×HE; OOL .9×WOT, front angle of ocellar triangle slightly less than a right angle, posterior ocelli separated from occipital carina by less than their own diameters. Front weakly shining, with minute reticulations superimposed on an alutaceous background. Median length of pronotum slightly exceeding that of mesoscutum, .57×WH; as measured in full dorsal view, pronotum 1.15 times as wide as its median length, widest about halfway between anterior and posterior margins; surface of pronotum alutaceous, obscurely punctate. Mesoscutum with coarse surface sculpturing consisting of reticulations superimposed on an alutaceous background; notauli indicated

by weak lines on the anterior half; scutellar groove broad, foveolate. Propodeum wholly covered with coarse reticulations on an alutaceous background, the sculpturing evenly continuous on disc, declivity, and upper parts of sides. Mesopleurum dull, alutaceous. Legs slender, tibial spur formula 1,1,2; front coxa: trochanter:femur:tibia ratio 17:15:32:30, femur 3.3 times as long as its maximum width. Segments of front tarsus in a ratio of about 16:2:5:12:18, claw 16; details as shown in Figure 15; inner surface of claw with 13 lamellae. Tip of abdomen strongly compressed.

ALLOTYPE.— ♂, same data as type, taken sweeping same tree within a few minutes of the female (USNM).

DESCRIPTION OF MALE ALLOTYPE.—Length 2.9 mm; LFW 2.2 mm. Black; mandibles testaceous, the teeth rufous; first two antennal segments testaceous, remainder of antenna dark brown; legs light brown, suffused with much darker brown as follows: extreme base of front and middle coxae, basal two-thirds of hind coxae, hind femora except apical fourth, ultimate segments of all tarsi; hind tibiae medium brown; wings hyaline, with brown veins, stigma wholly dark brown. Maxillary palpi elongate, capable of reaching the anterior margin of the propleura; mandibles with three large, sharp apical teeth; clypeus broadly rounded, with a pair of small, rounded teeth, one on each side of the midline. Malar space long, with a delicate carina crossing it from base of mandibles to bottom of eye; front with a delicate, somewhat irregular carina extending to the anterior ocellus. First five antennal segments in a ratio of about 13:8:23:16:16, segment three 4.5 times as long as wide, .75×WF; flagellum slender, of uniform thickness throughout, its pubescence short, subappressed. WH 1.15×LH; eyes large, WF and HE subequal; vertex passing straight across close above eye tops; OOL only .4×WOT, the front angle of the ocellar triangle greater than a right angle and the posterior ocelli removed from the occipital carina by much less than their own diameters. Front weakly shining, strongly alutaceous, obscurely punctate. Pronotum barely visible dorsally, mesoscutum large, 1.25 times as wide as long; notauli strongly impressed on anterior .7 of mesoscutum; surface of scutum and scutellum weakly shining, strongly alutaceous like the front; scutellar groove foveolate. Propodeum shorter than in female, its sculpturing essentially the same. Mesopleura dull, alutaceous, with an elongate, vertical pit in the center. Tibial spur formula 1,1,2. Abdomen short, robust, much flattened dorsally and subtrigonal in cross section.

PARATYPE.—1 ♀, South Chiltern, Dominica, 1600 feet, 19 February 1965, H. E. Evans (MCZ).

VARIATION.—The paratype is strikingly similar to the type in every respect except one: there is no cloud in the median cell, but the outer part of the submedian cell and area around the junction of the discoidal vein is weakly clouded.

REMARKS.—This species is smaller and has fewer lamellae on the front claws than other neotropical species except for *M. albitarsis* Cameron, described from Panama. The latter species, however, has much more strongly banded wings, darker legs, and several structural differences.

## Genus *Prodryinus* Kieffer

Like the preceding genus, *Prodryinus* is well represented in tropical America and is represented on Dominica by a single species, which is apparently confined to coastal localities and may well occur more widely in the West Indies than is now apparent. Richards (1953) presented a key to some of the species, ranking *Prodryinus* as a subgenus of *Neodryinus* Perkins. I follow Krombein (1958) in granting it generic status at least pending a better understanding of the generic classification of this group. *Psilodryinus* Kieffer is a synonym. *Prodryinus typhlocybae* (Ashmead) has been reared from flatid bugs of the genus *Ormenis,* and the Dominica species has been reared from an unidentified fulgorid bug.

### *Prodryinus dominicanus,* new species

HOLOTYPE.— ♀, Dominica: Clarke Hall, Layou Valley, 4–7 February 1965, H. E. Evans (USNM 70042).

DESCRIPTION OF FEMALE TYPE.—Length 3.5 mm; LFW 3.0 mm. Body light castaneous, blotched with black as follows: ocellar triangle; pronotum posterolaterally and along the transverse groove; mesoscutum with three large spots, connected along the posterior margin; all of scutellum and metanotum; propodeum except for a small median discal spot, center of declivity, and most of sides; mesopleura just below wing bases and again ventrally; a large spot on each propleurum; base of first abdominal segment and sides of last segment. Mandibles, clypeus, and in fact lower half

of head testaceous; scape testaceous, remainder of antennae fuscous except paler at joints and tip of apical segment; coxae testaceous, each with a small fuscous area; trochanters, femora, and tibiae light castaneous, somewhat irregularly blotched with brown, but the front femora and middle and hind tibiae mostly dark; tarsi testaceous except ultimate segments black (but claw and much of ultimate segment of front tarsus pale). Wings twice-banded, with a large brownish cloud filling most of the median and submedian cells and a much smaller cloud around the radial vein; basal half of stigma lightly pigmented, otherwise veins and stigma brownish. Mandibles with four teeth, the basal two teeth rather small; clypeus dentate at the extreme sides, with a broadly rounded median lobe that is subtruncate medially; malar space ecarinate; front with a median carina that does not quite reach the anterior ocellus. Antennae slender, slightly thickened toward the apex; first seven segments in a ratio of about 25:9:49:23:22:14:12; segment three 10 times as long as its maximum width, but segment seven only about 1.8 times as long as its maximum width. WH 1.75 × LH, the eyes large, the vertex, as seen from in front, evenly and fairly strongly concave; WF .94 × HE. Ocelli in a small triangle, the front angle much less than a right angle; OOL 1.3 × WOT. Head rather dull, shagreened, not distinctly punctate but covered with short, appressed, pale setulae; occipital carina absent except apparently represented by a short carina along the back of the ocellar triangle. Transverse impression of pronotum strong, the area behind the impression cristate medially; surface dull, shagreened, except anterior part more polished and with fine, longitudinal striae.

Mesoscutum and scutellum dull, strongly roughened by microscopic sculpturing, covered with appressed, silvery setulae; scutellar groove strongly foveolate, wider on the sides than medially. Propodeum strongly reticulate, the cellules tending to form longitudinal rows; declivity and upper parts of sides also reticulate. Mesopleurum dull, shagreened. Tibial spur formula 1,0,1; front coxa:trochanter:femur:tibia ratio about 22:27:41:40, femur 3.9 times as long as wide. Segments of front tarsus in a ratio of about 20:3:5:10:20, claw 17; details as shown in Figure 16; claw with a subapical tooth and notch, its inner surface with only small, scattered setulae. Abdomen strongly depressed, but apical segment compressed.

PARATYPE.— ♀, Dominica (without specific locality), ex fulgorid, 15 June 1939, R. G. Fennah, no. 229 (USNM).

VARIATION.—The paratype is very similar to the type in size and in all structural details. However, it is of somewhat paler coloration. The ocellar triangle and pronotum have a more limited amount of black, the scutellum and propodeum are in large part light castaneous, the tip of the abdomen is not infuscated, and the legs are wholly light castaneous to testaceous; the antennae are also paler, the ventral surface of the flagellum being wholly light castaneous.

REMARKS.—This species runs to couplet 13 in Richards' (1953) key. The resemblance to *P. typhlocybae* Ashmead (=*P. ormenidis* Ashmead) is close, but the color is quite different, and Ashmead's species has the mesonotum much more smooth and shining and the propodeum bearing longitudinal ridges. The mesonotum of *P. dominicanus* is similar to that of *P. alticola* (Cameron), from Panama, but the latter differs in color as well as in the form of the front tarsal claws.

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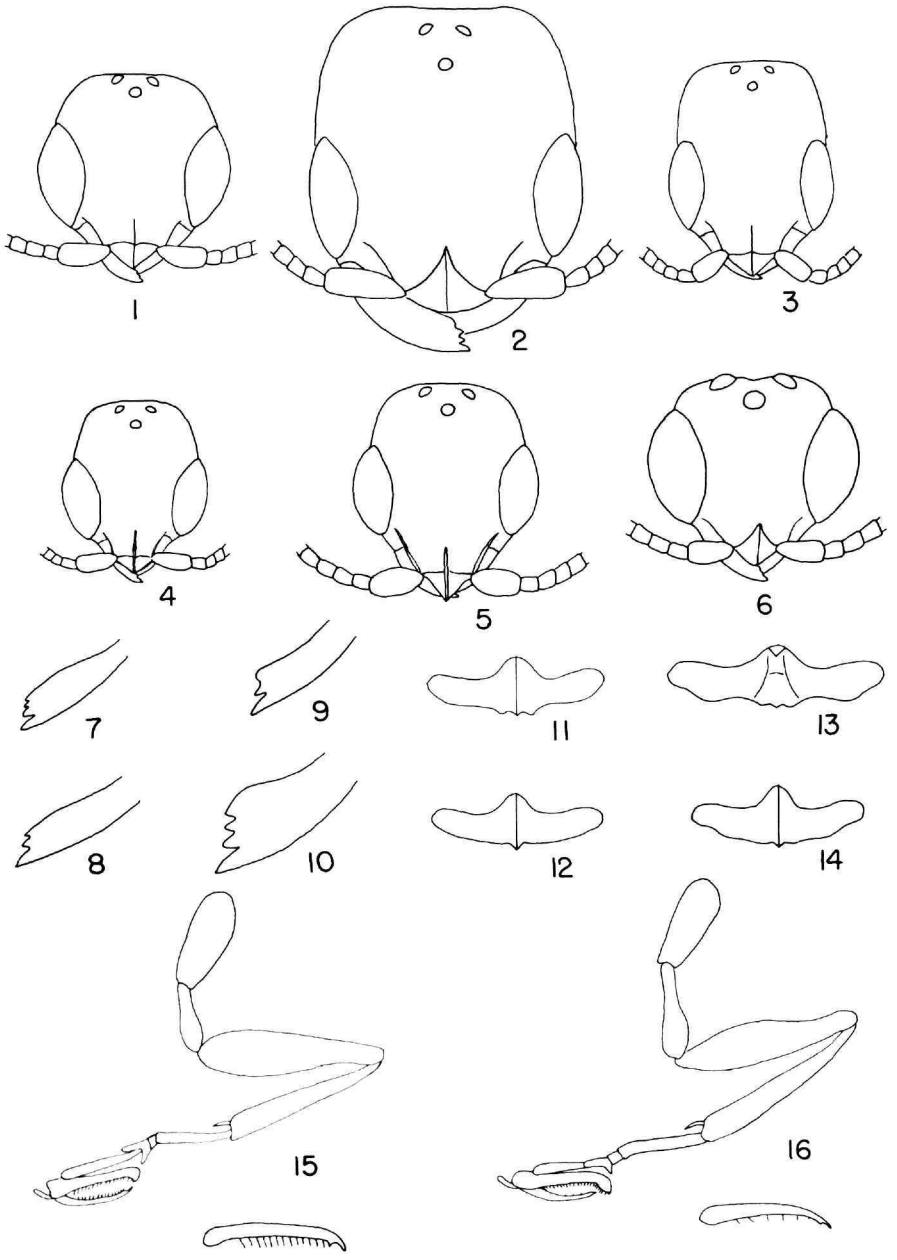


FIGURES 1–16.—Heads of holotypes, anterior views drawn to same scale: 1, *Parasierola wirthi,* new species, ♀; 2, *P. rivularis,* new species, ♀; 3, *P. layouana,* new species, ♀; 4, *Goniozus antilleanus,* new species, ♀; 5, *G. cristatus,* new species, ♀; 6, *G. clarkei,* new species, ♂. Mandibles: 7, *Apenesia flaviscapus,* new species, ♂ holotype; 8, *A. caribbeana,* new species, ♂ holotype; 9, *Dissomphalus caviclypeus,* ♂ holotype; 10, *Pseudisobrachium albipes* (Ashmead), ♂ from 1.7 miles E of Pont Cassé, Dominica. Clypeus of holotype males: 11, *Apenesia flaviscapus,* new species; 12, *A. caribbeana,* new species; 13, *Dissomphalus caviclypeus,* new species; 14, *D. archboldi,* new species. Front legs of female holotypes of Dryinidae, also enlargement of claw: 15, *Mesodryinus antilleanus,* new species; 16, *Prodryinus dominicanus,* new species.

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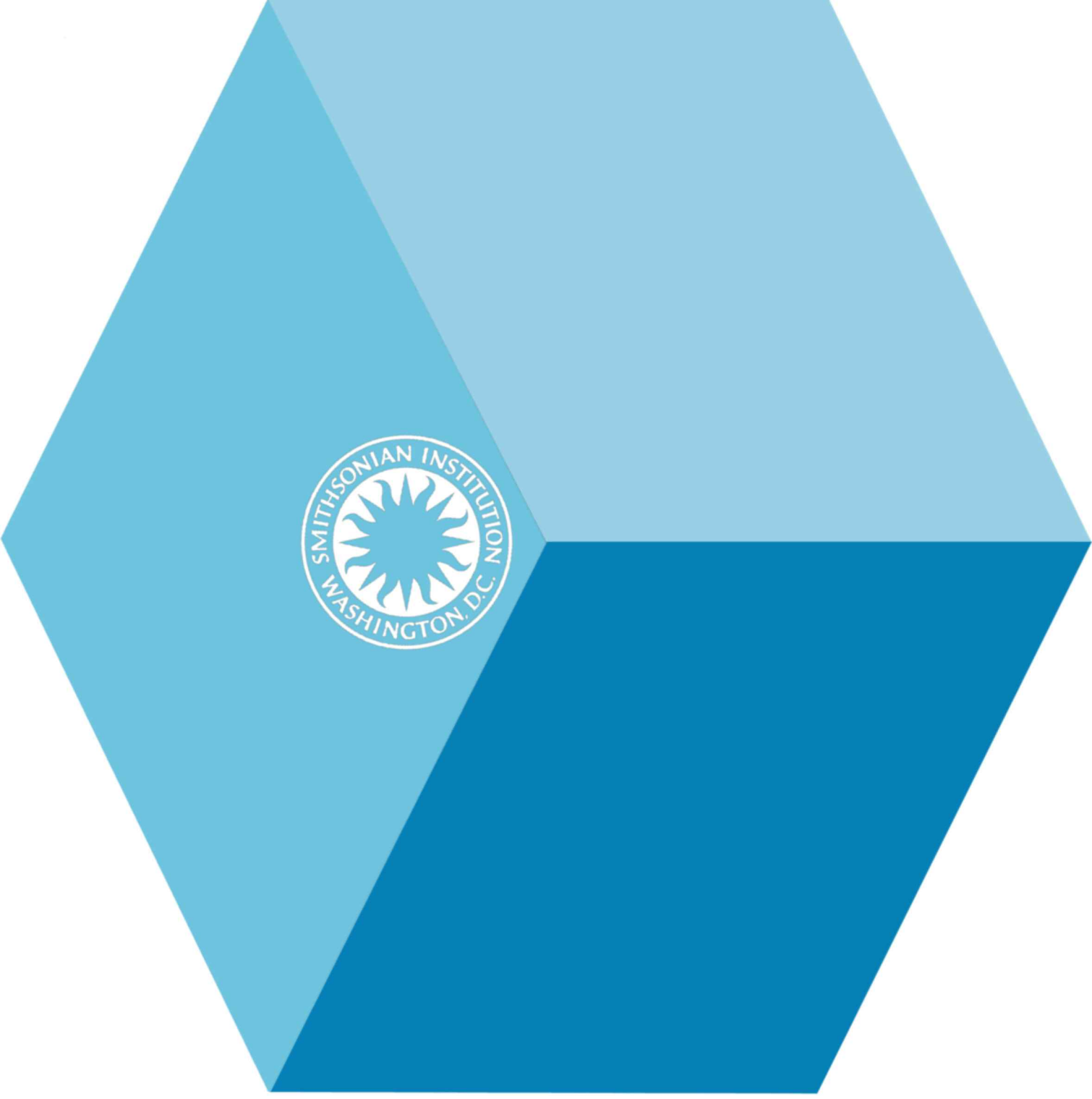
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