

BRASILIAN THEREVIDAE (DIPTERA): A CHECKLIST AND DESCRIPTIONS OF SPECIES.

Michael E. Irwin (\*)  
Donald W. Webb (\*)

SUMMARY

95 specimens representing 12 species in 5 genera form the basis of this paper. 6 new species are described, namely: *Henicomyia amazonica*, n. sp. (Brazil:Amazonas), *Brachylingga xanthoperna*, n. sp. (Brazil:Roraima), *Cyclotetus badicusus*, n. sp. (Brazil:Amazonas; Ecuador:Pichincha), *C. silacrusus*, n. sp. (Brazil:São Paulo), *Penniverpa alvadusta* n. sp. (Brazil:Amazonas) and *P. alvatra*, n. sp. (Brazil:Roraima). A checklist of Brazilian Therevidae, based on literature accounts and examined material, is also provided. It lists 22 species in 7 genera, one not formally described. New combinations and new synonyms are proposed.

INTRODUCTION

The family Therevidae occupies a distinct and prominent place in the ecology of natural, as well as managed habitats, for therevid larvae are voracious predators of insect larvae of ground and treehole litter, and of sandy soils. Because of the secretive nature of adults, members of this family are rarely collected, and the Brasilian Therevidae are particularly poorly known.

The first major compilation of Therevidae of Brasil was undertaken by Kröber (1911), who revised the Latin American members of this obscure family. Later, Kröber (1928) added several more species to the Brasilian fauna. Subsequently, several Brasilian species of the genus *Cyclotetus* were added by Cole (1960) in his revision of the genus *Furcifera*. A few species in the genus *Henicomyia* Coquillett were then added in Lyneborg's (1972) monograph of the Xestomyzinae Therevidae; with the exception Neotropical genus *Henicomyia*, all Xestomyzinae are confined to Africa.

Recently, Dr. José Albertino Rafael, Instituto Nacional de Pesquisas da Amazônia (INPA), sent us 40 specimens of Therevidae collected on Maracá Island, rio Uraricoera, Roraima, Brasil, as part of his efforts to make known the insect fauna of that remote island in the northern reaches of the Amazon Basin. In addition, 45 specimens from

---

(\*) Illinois Natural History Survey, 607 East Peabody Drive, Champaign, IL 61820.  
ACTA AMAZONICA, 21(único) : 85-121. 1991.

Amazonas, 9 from Paraná, and 1 from Cáceres, Mato Grosso were included in the shipment. These 95 specimens, representing 12 species (6 herein described as new to science) in 5 genera, form the basis of this paper.

A checklist of Brasilian Therevidae, based on literature accounts and this material, is also provided. It lists 22 species in 7 genera, one not formally described. Several additional species in collections around the world remain undescribed and, doubtlessly, even more await discovery in Brasil's diverse habitats. We trust that this small contribution will stimulate interest in collecting and studying this fascinating, though poorly collected family from the remote stretches of the Amazon Basin and elsewhere.

## METHODS

The morphological terminology used for the male terminalis was originally defined and described by Lyneborg (1968) and subsequently modified by Lyneborg (1972, 1976, 1978) and Irwin (1977a, 1977b); that for the female terminalia was defined and described by Irwin (1976). Other morphological features are described in terminology generally accepted in the literature on Diptera. The range for each measurement and ratio is followed by the average; the range for each setal count is followed by the mode.

Each specimen was assigned a *Therevidae/M. E. Irwin/Specimen* number attached to the specimen. This number is used to associate ecological and label data with a given specimen and when used in this paper is printed in italics. The data are incorporated into an automated data management system originally designed by Rauch (1970).

Specimens have been deposited in the following museums: California Academy of Science (CAS), Illinois Natural History Survey (INHS), Instituto Nacional de Pesquisas da Amazônia (INPA), United States National Museum (USNM), and the Zoological Museum, University of São Paulo (ZMSP).

### Checklist of Brasilian Therevidae

#### Subfamily Phycinae

**Ataenogera** Kröber (1914:31). Type-species: *Ataenogera abdominalis* Kröber.

*abdominalis* Kröber (1914:32). Type-locality: Paraguay, San Bernardino. Distribution: Argentina, Bolivia, Brasil, British Guiana, Costa Rica, El Salvador, Mexico, Panama, Paraguay, Trinidad, Uruguay, Venezuela.

**brevicornis** (Bromley) (1934:361) (*Henicomyia*). Type-locality: British Guiana, Bartica District, Kartabo<sup>1</sup>

<sup>1</sup>When the distribution of a species is known only from its type-locality, no distributional information is provide other than the listing of the type-locality.

*gracilis* (Kröber) (1928:118) (*Leptocera*). Type-locality: Brasil, Paraná.

**Henicomia** Coquillett (1898:187). Type-species: **Henicomia hubbardi** Coquillett (1898:187).

**amazonica** Irwin and Webb, new species. Type-locality: Brasil, Amazonas, Manaus.  
**bicolor** Lyneborg (1972:367). Type-locality: Brasil, Santa Catarina, Nova Teutonia.  
**diversicolor** Lyneborg (1972:368). Type-locality; Brasil, Rio de Janeiro, Itatiaya.  
**flava** Lyneborg (1972:369). Type-locality: Brasil, Goiás, Annapolis. Distribution:  
Brasil (Goiás, São Paulo, Mato Grosso).

#### Subfamily Therevinae

**Brachylinga** Irwin and Lyneborg (1981:232). Type-species: **Psilocephala baccata** Coquillett (1893:226).

**augustata** (Kröber) (1913:29) (*Psilocephala*). New combination. Type-locality:  
Brasil, Bahia.

**appendiculata** (Macquart) (1840:23) (*Thereva*). New combination. Type-locality:  
Brasil.

**fraterna** (Kröber) (1911-521) (*Psilocephala*). New combination. Type-locality:  
Brasil, Rio Grande do Sul, Soledade.

**parvula** (Kröber) (1911-520) (*Psilocephala*). New combination. Type-locality:  
Brasil, Bahia.

**xanthoperna** Irwin and Webb, new species. Type-locality: Brasil, Roraima, rio Ura-  
ricoera ilha de Maracá.

**Cyclotelus** Walker (1850:4). Type:species: **Cyclotelus pruinosus** Wlaker (Becker, 1912:  
315).

**achaetus** (Malloch) (1923:256) (*Furcifera*). New combination. Type-locality:  
Uruguay, Montevideo. Distribution: Brasil (Umuarama); Uruguay (Montevideo).

**badicusus** Irwin and Webb, new species. Type-locality: Ecuador, Pinchinca, Tinalan-  
dia, 15 km SE Santo Domingo de los Colorados. Distribution: Brasil (Amazonas,  
Reserva Ducke); Ecuador (Pinchinca); Peru (Pucalá).

**beckeri** (Kröber) (1911:481) (*Phycus*). New combination. Type-locality: Peru;  
Paraguay; Brasil, Mato Grosso.

**brazilianus** (Cole) (1960:166) (*Furcifera*). New combination. Type-locality:  
Brasil (Paraná).

**diversipes** (Kröber) (1911:493) (*Thereva*). New combination. Type-locality: Brasil,  
Alagoinhas.

**flavipes** (Kröber) (1928:113) (*Furcifera*). New combination. Type-locality: Brasil,  
Santa Catarina, Neu Freiburg.

**diversipes** (Kröber) (1928:116) (*Furcifera*). New combination; new synonym. Type-  
locality: Brasil, Santa Catarina, Neu Freiburg.

**kroebeni** (Cole) (1960:169) (Furcifera). New combination. Type-locality: Brasil, Mato Grosso, Salabra. Distribution: Brasil (Mato Grosso; Roraima, ilha de Maracá); Paraguay (Villarica); Uruguay (Montevideo).

**nigroflammus** Walker (1850:4). Type-locality: South America. Distribution: Brasil (Santa Catarina).

**fulvipennis** (Kröber) (1928:114) (Furcifera). New combination; new synonym. Type-locality: Brasil, Santa Catarina, Neu Freiburg.

**politus** (Kröber) (1911:524) (Furcifera). New combination. Type-locality: Paraguay. Distribution: Brasil (Umuarama); Paraguay (San Bernardino).

**scutellaris** (Walker) (1857:133) (Thereva). New combination. Type-locality: Amazon Basin.

**silacrusus** Irwin and Webb, new species. Type-locality: Brasil, São Paulo, Santo Amaro.

**socius** (Walker) (1850:6). Type-locality: South America. Distribution: Brasil.

**fascipennis** (Kröber) (1911:526) (Furcifera). New combination; new synonym. Type-locality: Brasil.

**Lindneria** Kröber (1929:170). Type-species *Lindneria splendida* Kröber.

Several undescribed species occur in Brasil.

**Penniverpa** Irwin and Lyneborg (1981:227). Types-species: *Psilocephala festina* Coquillett (1893:225).

**alvadusta** Irwin and Webb, new species. Type-locality: Brasil, Amazonas, Manaus.

**alvatra** Irwin and Webb, new species. Type-locality: Brasil, Roraima, rio Uraricoera, ilha de Maracá.

**longipes** (Loew) (1869:8) (*Psilocephala*). New combination. Type-locality: Cuba.

Distribution: Brasil (Amazonas); Costa Rica (Punta Arenas); Cuba; Paraguay (San Bernardino); Bolivia.

**lyneborgi** Irwin and Webb. New name for *senilis* Fabricius (1805:68) (*Bibio*) nec Panzer (1798:22). Type-locality: Surinam-Guiana area.

#### Unplaced Species

**fascipennis** Kröber (1911:483) (*Ectinorrhynchus*). Type-locality: Brasil. The type, a female, represents a distinct new genus.

#### Descriptions of Species

##### Genus *Ataenogera* Kröber

**Ataenogera** Kröber (1914:31): Malloch (1932:255); Webb and Irwin (1988:37).

**Leptocera** Kröber (1928:117): Webb and Irwin (1988:37).

**Ziehenia** Kröber (1929: January:434): Webb and Irwin (1988:37).

**Epileptocera** Richards (1929: August: 171): Webb and Irwin (1988:37).

Moderate-sized, slender flies. This New World genus, containing a single species. *A. abdominalis*, was recently revised by Webb and Irwin (1988).

**Ataenogera abdominalis Kröber**

**abdominalis** Kröber (1914:31), *Ataenogera*: Malloch (1932:255); Webb and Irwin (1988:39).

**gracilis** Kröber (1928:118), *Leptocera*.

**brevicornis** Bromley (1934:361), *Henicomyia*.

**Description**

**Male.** Body length 6.3-8.8, 7.9 mm.

**Head.** Head depth 0.6-0.8, 0.7 mm. Ocellar tubercle reddish brown, glossy to lightly tomentose; ocellar setae black, moderately long, scattered. Eyes reddish brown. Frons reddish brown, tomentum light grey, varying to completely glossy; silver pile lateral to antennal bases; setae white, moderately long, dorsolateral to antennal bases and dark brown, short, in lateral row ventral to ocellar tubercle. Antenna (Fig. 1) brown, pruinose; setae dark brown, with several stiff macrosetae ventrally on scape: length of antenna 1.9 times head depth; length of scape 0.36-0.46, 0.40 mm, 2.9-4.2, 3.6 times length of pedicel; length of pedicel 0.08-0.10, 0.09 mm, 0.7-0.8, 0.8 times width: length of flagellum 0.74-1.02, 0.84 mm, 4.1-5.7, 4.9 times width, 1.6-2.6, 2.1 times length of scape; length of basal stylomere 0.02 mm; length of apical stylomere 0.06-0.10, 0.08 mm. Parafacial narrow; dense silver. Genal setae white, elongate, scattered. Maxillary palp (Fig. 2) dark brown, pruinose, length 0.36-0.52, 0.44 mm, 5.2-7.3, 5.9 times width; setae to pale yellow, elongate, scattered.

**Thorax.** np 2-3, 2, sa 1, pa 1, dc 0-1, 0, sc 1. Ground color dark brown, tomentum dark grey; setae white, moderately long, subappressed. Postpronotal lobe concolorous with thorax; setae white, moderately long, scattered. Pleuron reddish brown, tomentum dense grey; anepisternum with ventral three-fourths glossy; setae white, elongate, scattered on propleuron, scattered on dorsal fourth of anepisternum. Scutellum reddish brown, tomentum dark grey. Laterotergite dark brown, glossy; setae white, elongate, abundant. **Wing** (Fig. 3). Length 4.5-5.7, 5.0 mm, 3.5-3.8, 3.7 times width; hyaline; pterostigma dark brown, narrow. Halter dark brown. **Legs.** Dark brown, concolorous. A clinal pattern exists in the color of the fore and middle femora, from dark brown in specimens from Argentina, Paraguay, and southern Brasil to dark yellow in specimens from Mexico.

**Abdomen.** Dark brown, glossy, tergites 2-4 with narrow, white posterior margin; setae black, short, appressed on dark areas, white, moderately long on white posterior margin of tergites 2-4, sternites 5-8 with dark brown lanceolate setae (as in Fig. 8).

**Terminalia.** Figured (Fig. 4-7).

**Female.** Similar to male with following exceptions. Body length 7.5-8.6, 7.9 mm. Brasilian therevidae...

**Head.** Depth 0.8-1.0, 0.9 mm. The frons displays variation similar to that of male. Length of antenna 1.3-1.5, 1.4 times head depth; length of scape 0.44-0.50, 0.47 mm, 3.7-5.0, 4.2 times width, 4.8-6.0, 5.4 times length of pedicel; length of pedicel 0.08-0.10, 0.08 mm, 0.67-0.83, 0.75 times width; length of flagellum 0.70-0.72, 0.71 mm, 3.9-4.5, 4.3 times width, 1.4-1.6, 1.5 times length of scape; length of basal stylomere 0.02-0.04, 0.03 mm, length of apical stylomere 0.06-0.12, 0.08 mm.

**Thorax. Wing.** Length 5.2-5.8, 5.6 mm 3.4-3.9, 3.7 times width. Fore and middle femora display variation similar to that of males.

**Abdomen.** Sternites 5-7 with dark brown lancelote setae (Fig. 8). **Terminalia** in dorsal view (Fig. 9), in ventral view with internal furca (Fig. 10).

**Immature Stages.** The pupal exuvium was described by Webb and Irwin (1988).

#### **Seasonal Activity**

Within its distributional range adults have been taken throughout the year.

#### **Distribution**

This genus has been reported from Argentina, Bolivia, Brasil, British Guiana, Costa Rica, El Salvador, Mexico, Panama, Paraguay, Trinidad, Uruguay, and Venezuela (Webb and Irwin, 1988).

#### **Specimens Examined (N=33)**

**BRASIL: Amazonas:** Reserva Ducke, 26 km N Manaus, J. A. Rafael, 28.9.1981, 1 male, Malaise trap.; 9.10.1981, 1 male 1 female, Malaise trap; 15.10.1981, 2 females, Malaise trap; 19.10.1981, 1 female, Malaise trap; 18.1.1982, 1 male, Malaise trap. 20.8.1982, 1 male, Malaise trap; 27.8.1982, 1 male, Malaise trap; 31.8.1982, 1 male, Malaise trap; 16.9.1982, 1 female, Malaise trap. Manaus, J. A. Rafael, 8.1978, 1 male; 28.10.1978, 1 male; 9.1978, 1 female; 1.5.1982, 1 female; 7.6.1982, 1 male, Malaise trap; 11.6.1982, 1 female; 14.6.1982, 3 males, Malaise trap; 24.6.1982, 1 male, Malaise trap; 29.6.1982, 1 male, Malaise trap; 13.7.1982, 2 females, Malaise trap.; 28.7.1982, 1 male 1 female, Malaise; 24.8.1982, 2 males 1 female, Malaise trap; 27.8.1982, 1 male; 14.9.1978, 1 female. Roraima, rio Uraricoera ilha de Maracá, 1-4.3.1988, 1 male, Malaise trap.

#### **Brachylinga Irwing and Lyneborg**

**Brachylinga** Irwin and Lyneborg (1981:232).

**Brachylinga** occurs throughout much of the drier zones of the Nearctic and Neotropical regions. One group is found in the southwestern USA and western Mexico; another in Chile, Peru, and Ecuador; yet another is found in the West Indies and Florida. The Brasilian fauna is poorly known with only four previously recorded species.

**Brachylinga xanthoperna** Irwin and Webb, new species

Derivation of name: **xanthos** (Greek) = yellow; **perna** (Greek)= leg. This name pertains to the yellow legs of this species.

**Description**

**Female.** Holotype (6913). Body length 7.3 mm.

**Head.** Depth 1.1 mm. Ocellar tubercle black, pruinose; ocellar setae black. Eyes brown; median margin of eyes rounded. Frons (Fig. 11) covered with dense brownish-black pile with large pair of dark brown areas dorsolateral; setae black, over entire surface. Antenna (Fig. 12) dark brown with flagellum paler; setae dark brown with several black, apical macrosetae on scape; length of antenna 0.6 times head depth; length of scape 0.20 mm, 2.0 times width, 2.5 times length of pedicel; length of pedicel 0.08 mm, 0.7 times width; length of flagellum 0.34 mm, 1.9 times width, 1.7 times length of scape; length of style 0.04 mm; apical spine 0.04 mm. Parafacial silver. Genal setae white. Maxillary palp (Fig. 13) pale yellow; cylindrical, slightly swollen apically; length 0.40 mm, 5.0 times width; setae pale yellow.

**Thorax.** np 3, sa 2, pa 1, dc 2, sc 2. Ground color dull black, pruinose; a mixture of gold, short, appressed setae and black, short, erect, scattered setae. Postpronotal lobe concolorous with thorax; setae pale yellow. Pleuron dull black, pruinose; setae pale yellow on propleuron and anepisternum. Scutellum dull brownish grey; setae pale yellow. Laterotergite black; setae pale yellow. **Wing** (Fig. 14). Length 5.0 mm, 3.1 times width; pale diffuse brown; cell  $m_3$  closed at wing margin; posterior cubital cell open. Halter dark yellow. **Legs.** Coxae dark brown, pruinose; apical macrosetae black. Femora yellowish brown, basal half of fore femur darker. Tibiae dark yellow, basal half of fore tibia darker. Tarsomeres 1-2 yellowish brown, reddish brown apically; Tarsomeres 1-2 yellowish brown, reddish brown apically; tarsomeres 3-5 brown.

**Abdomen.** Ground color dark reddish brown, pruinose; mixture of black, appressed setae, with elongate, yellow setae scattered laterally and along posterior margin of tergites 1-3. **Terminalia.** Dorsal view (Fig. 15); ventral view with internal furca (Fig. 16).

**Variation (N=5).** Body length (excluding antenna) 7.0-7.5, 7.2 mm.

**Head.** Depth 1.1-1.4, 1.2 mm. Antennal length 0.5-0.6, 0.5 times head depth; length of scape 0.20-0.22, 0.21 mm, 1.5-2.0, 1.7 times width, 2.4-2.6, 2.5 times length of pedicel; length of pedicel 0.08-0.09, 0.08 mm, 0.5-0.7, 0.6 times width; length of flagellum 0.32-0.34, 0.33 mm, 1.7-1.9, 1.8 times width, 1.5-1.7, 1.6 times length of scape; length of style 0.4-0.06, 0.04 mm. Length of maxillary palp 0.40-0.42, 0.41 mm, 5.0-5.7, 5.3 times width.

**Thorax. Wing.** Length 5.0-5.3 mm, 2.9-3.3, 3.1 times width.

**Immature Stages.** Unknown.

### **Seasonal Activity**

In the specimens examined, adults were taken during March, May, and November in Malaise traps or by fogging with an insecticide.

### **Distribution**

**Brachylingga xanthoperna** has been collected only in the State of Roraima, Brasil.

### **Specimens Examined (N=5)**

The holotype female (INPA) Irwin specimens number 6913, was collected at Roraima, rio Uraricoera, ilha de Maracá. BRASIL, 20-30.3.1987, L. A. Aquino. Paratypes (INHS, INPA, ZMSP). Same locality as holotype, 20-30.3.1987, L. S. Aquino, 2 females; 2-13.5.1987, J. A. Rafael, J. E. B. Brasil, L. S. Aquino, 1 female; 21-30.11, J. A. Rafael, 1 female.

### **Cyclotelus Walker**

**Cyclotelus** Walker (1850:4): Irwin and Lyneborg (1981:252).

**Furcifera** Kröber (1911:524): Irwin and Lyneborg (1981:252).

**Epomyia** Cole (1923:26): Irwin and Lyneborg (1981:252).

Irwin and Lyneborg (1981:252) described the characteristics of this genus.

An examination of Neotropical material by M. E. Irwin indicates that possibly twenty species, variously described under **Epomyia**, **Furcifera**, **Phycus**, **Psilocephala**, and **Thereva**, can be included within this genus.

Three previously described species and two new species were represented in the material we examined.

### **Cyclotelus achaetus (Malloch)**

**achaetus** (Malloch) (1923:26), **Furcifera**; new combination.

### **Description**

**Male.** Description of male based on paratype collected from Montevideo, Uruguay. Body length 6.5 mm.

**Head.** Depth 1.3 mm. Ocellar tubercle black, glossy; ocellar setae brown. Eyes holoptic; reddish brown; medial margin of eye rounded. Frons reduced; pruinose with dark reddish brown triangle dorsally; setae white. Antenna brown; setae yellowish brown with several dark brown apical setae on scape; length of antenna 0.7 times head depth; length of scape 0.32 mm, 3.2 times width, 4.0 times length of pedicel; length of pedicel 0.08 mm, 0.7 times width; length of flagellum 0.48 mm, 4.8 times width, 1.5

times length of scape; length of style 0.04 mm. Parafacial brown, grey pruinose. Genal setae pale yellow. Maxillary palp cylindrical, pointed apically; dark brown; length 0.48 mm, 4.8 times width; setae pale brown.

**Thorax.** np 2, sa 1, pa 1, dc 0, sc 0. Ground color black, grey pruinose separating dorsocentral and dorsolateral vittae; setae pale yellow, elongate, scattered. Postpronotal lobe concolorous with thorax; setae pale yellow. Pleuron ground color dark reddish brown, pruinose with anepimeron pale brown, glossy; setae white to pale yellow, abundant on propleuron and scattered over entire anepisternum. Scutellum dark brown, posterior margin paler; setae dark reddish brown scattered along posterior margin. Laterotergite dark reddish brown, pruinose; setae pale yellow. **Wing.** Length 4.5 mm, 3.0 times width; pale smoky brown. Halter yellow with brown stalk. **Legs.** Coxae dark reddish brown, pruinose; apical macrosetae black. Femora pale brown; scale-like setae white. Tibiae pale brown. Tarsi dark brown.

**Abdomen.** Dark brown, silver grey pruinose over entire area; setae white to pale yellow, elongate, more abundant laterally on tergites 1-2. **Terminalia** tergite 8 reduced; posterior margin deeply emarginate. Epandrium (Fig. 17) quadrate; posterolateral margin lacking dense patch of black setae. Gonocoxite in dorsal view (Fig. 18); gonostylus broad, flattened dorsoventrally; dorsal apodeme of aedeagus oblong, anterior margin emarginate medially; ejaculatory apodeme short. Sternite 8 (Fig. 19) with posterior margin broadly emarginate. Hypandrium absent. Gonocoxite in ventral view (Fig. 19) fused medially. Aedeagus in lateral view (Fig. 20); ventral apodeme short.

**Female** (6883). Similar to male with following exceptions. Body length 5.4 mm.

**Head.** Depth 1.1 mm. Eyes with medial margin straight. Frons (Fig. 21) convergent dorsally; black; dorsal half glossy, ventral half with grey brown pruinose and dark brown median area; several dark brown setae scattered dorsomedially. Antennal length 0.7 times head depth; length of scape 0.32 mm, 3.2 times width, 6.4 times length of pedicel 0.05 mm, 0.5 times width; length of flagellum 0.42 mm, 4.2 times width, 1.3 times length of scape; length of style 0.09 mm. Length of maxillary palp 0.42 mm, 4.2 times width.

**Thorax.** Ground color dark brown, pruinose; setae gold, scale-like, scattered.

**Abdomen.** Dark reddish brown, glossy; setae white. **Terminalia** Dorsal view (Fig. 22); ventral view with internal furca (Fig. 23).

**Immature Stages.** Unknown.

#### **Seasonal Activity**

The single Brasilian female examined was collected during September.

#### **Distribution**

Brasilian therevidae...

*Cyclotelus achaetus* has been reported from Brasil and Uruguay.

**Specimens Examined (N=2)**

BRASIL: Paraná: Umuarama, 9.1980, Yamamoto, 1 female. URUGUAY: Montevideo, 1 male paratype.

***Cyclotelus badicrusus* Irwin and Webb, new species**

Derivation of name: **badis** (Latin) = chestnut-brown; **crus** (Latin) = leg. This name pertains to the chestnut-brown legs of this species.

**Description**

**Male.** Holotype (6888). Body length 6.3 mm.

**Head.** Depth 1.4 mm. Ocellar tubercle black, pruinose; ocellar setae black. Eyes dark reddish brown; holoptic; medial margin of eyes sinuate. Frons black, pruinose; setae black, elongate, sparsely scattered lateral to antennal bases. Antenna (Fig. 24) pale brown; setae dark reddish brown; length of antenna 0.7 times head depth; length of scape 0.34 mm, 2.8 times width, 3.4 times length of pedicel; length of pedicel 0.10 mm, 0.8 times width; length of flagellum 0.58 mm, 4.1 times width, 1.7 times length of scape; length of style 0.04 mm. Parafacial dark reddish brown, pruinose. Genal setae black. Maxillary palp (Fig. 25) cylindrical, swollen apically; dark brown; length 0.54 mm, 5.4 times width; setae black.

Thorax. np 2, sa 2, pa 1, dc 0, sc 0. Ground color black, pruinose; mixture of yellow, appressed setae and black, erect, scattered setae. Postpronotal lobe concolorous with thorax; setae pale yellow. Pleuron dark reddish brown in ground color, pruinose; anepimeron reddish brown, glossy; setae pale yellow, abundant on propleuron and scattered over entire anepisternum. Scutellum pale orange; setae dark reddish brown, sparsely scattered along posterior margin. Laterotergite dark reddish brown, pruinose; setae white to pale yellow. **Wing** (Fig. 26). Length 5.5 mm, 3.2 times width; opaque, pale diffuse brown; subapical and medial bands dark brown. Halter dark brown. **Legs.** Coxae dark reddish brown, pruinose; apical macrosetae black. Femora dark brown, glossy; scale-like setae white. Tibiae dark yellow, glossy. Fore tarsus dark brown; middle and hind tarsi dark yellow, reddish brown apically.

**Abdomen.** Ground color dark reddish brown, pruinose. **Terminalia.** Dark yellow, glossy; setae white. Epandrium quadrate (Fig. 27); posterior margin broadly emarginate medially; posterolateral margin lacking dense patch of black setae. Gonocoxite in dorsal view (Fig. 28); dorsal apodeme of aedeagus broad anteriorly; ejaculatory apodeme short, constricted medially. Hypandrium reduced, triangular, fused with gonocoxite. Gonocoxite in ventral view (Fig. 29); fused medially; lateral margins rounded; gonostylus spatulate with ventral carina. Aedeagus in lateral view (Fig. 30); ventral apodeme short.

**Female (N=6).** Similar to male with following exceptions. Body length (excluding antenna) 5.2-8.6, 7.2 mm.

**Head.** Depth 1.1-1.4, 1.3 mm. Eyes medial margin slightly sinuate. Frons (Fig. 31) convergent dorsally, with dark pruinose area medially on dorsal two-thirds; setae dark brown, scattered on dorsal half. Antenna with apical half of flagellum dark reddish brown; length of antenna 0.8-0.9, 0.8 times head depth; length of scape 0.30-0.50, 0.45 mm, 3.0-4.2, 3.6 times width, 3.8-5.8, 5.3 times length of pedicel 0.08-0.10, 0.09 mm, 3.8-5.2, 4.4 times width, 1.2-1.7, 1.3 times length of scape; length of style 0.6 mm. Length of maxillary palp 0.48-0.58, 0.55 mm, 3.4-5.8, 4.4 times width.

**Thorax.** sa 1-2,2. Mesonotal setae yellowish gold, appressed. One pair of dorsolateral vittae appear as darker areas amongst grey pruinose. Scutellar setae pale yellow.

**Wing.** Length 4.8-6.3, 5.7 mm, 3.2-3.7, 3.5 times width. Halter pale brown. **Legs.**

Coxae black. Hind femur darker than fore and middle femora.

**Abdomen.** Dark black, pruinose; posterior margin of tergite 2 white; mixture of short black setae and white elongate setae. **Terminalia.** Dorsal view (Fig. 32); ventral view with internal furca (Fig. 33).

**Immature Stages.** Unknown.

### **Seasonal Activity**

In the specimens examined, adults were taken during June, July, and August. Most of the specimens were collected in Malaise traps.

### **Distribution**

*Cyclotulus badicus* has been collected in Brasil, Ecuador, and Peru.

### **Specimens Examined (N=7)**

The holotype male (CAS Type No. 16437, on permanent loan from the California Department of Food and Agriculture) Irwin specimen number 6888, was collected in Ecuador at Pinchinca, Tailandia, 15 km SE Santo Domingo de los Colorados, 29.6.1982, by M. Wasbauer and J. Slansky. Paratypes (INHS, INPA, CAS). BRASIL: Amazonas, Reserva Ducke, 26 km N Manaus, 31.8.1982, J. A. Rafael, 1 female (INPA). ECUADOR: same locality and collectors as holotype, 2.7.1982, 2 females; 29.6.1982, 1 female; 3.7.1982, 1 female. PERU: Pucalá, 3.6.1967, Korytkowski, 1 female.

### *Cyclotulus kroebeni* (Cole)

*kroebeni* (Cole) (1960:169), *Furcifera*; new combination

*kröberi* Cole (1960:169), *Furcifera*: incorrect original spelling.

## Description

**Male.** Body length 5.7-6.2, 5.9 mm.

**Head.** Depth 1.3-1.5, 1.4 mm. Ocellar tubercle dark reddish brown medial margin of eyes sinuate. Frons reduced; silver grey pruinose with dark reddish brown diamond area dorsally; setae absent. Antenna pale yellowish brown; setae dark reddish brown; length of antenna 0.6-0.7, 0.7 times head depth; length of scape 0.28-0.38, 0.32 mm, 2.8-3.8, 3.2 times width, 4.0-4.8, 4.5 times length of pedicel; length of pedicel 0.08 mm, 0.7 times width; length of flagellum 0.44-0.52, 0.48 mm, 3.0-3.1, 3.1 times width, 1.6 times length of scape; length of basal stylomere 0.02 mm; length of apical stylomere 0.4 mm. Parafacial silver grey. Genal setae white. Maxillary palp cylindrical, rounded apically; pale brown with apex darker; length 0.50-0.58, 0.54 mm, 3.6-4.2, 4.0 times width; setae pale brown.

**Thorax.** np 2-3, 2, sa 1-2, 1, pa 1, dc 0, sc 0. Grounded color black, pruinose; mixture of pale yellow, elongate, setae and gold, short, appressed setae. Postpronotal lobe concolorous with thorax; setae white to pale yellow. Pleuron dark reddish brown in ground color, pruinose; anepimeron glossy; setae white to pale yellow, abundant on propleuron and scattered over entire anepisternum. Scutellum orange; setae pale yellow, sparsely scattere along posterior margin. Laterotergite dark reddish brown, pruinose; setae white. **Wing.** Length 4.5-5.3, 4.8 mm, 3.1-3.5, 3.3 times width; pale whitish yellow; subapical and medial bands brown, extending to posterior margin. Halter pale brown. **Legs.** Coxae dark reddish brown, pruinose; apical macrosetae black. Fore and middle femora yellowish brown; hind femur pale brown; scale-like setae white. Tibiae brown. Fore and middle tarsi dark brown, hind tarsus yellowish brown.

**Abdomen.** Dark reddish brown, white pruinose on tergite 2-3; posterior margin of tergite 2 white; setae white, abundant along posterior margin of tergites 1-2.

**Terminalia.** Coloration dark yellow, glossy. Epandrium (Fig. 34) quadrate, posterior margin deeply emarginate medially, posterolateral margin lacking dense patch of black setae. Cerci lobate. Ventral epandrial sclerite extending beyond cerci. Gonocoxite in dorsal view (Fig. 35); dorsal apodeme of aedeagus broad anteriorly; ejaculatory apodeme short, narrow, base and apex slightly expanded; gonostylus broad, apex rounded. Sternite 8 (Fig. 36) deeply emarginate along posterior margin. Hypandrium (Fig. 36) triangular, fused to gonocoxite. Gonocoxite in ventral view (Fig. 36) short, fused medially. Aedeagus, in lateral view (Fig. 37); ventral paramere short, narrow.

**Female.** Similar to male with following exceptions. Body length 6.5-8.6, 7.5 mm.

**Head.** Depth 1.3-1.5, 1.4 mm. Eyes with medial margin straight. Frons (Fig. 38) convergent dorsally; dark reddish brown with dorsal half glossy and ventral half pruinose; setae black, short, on dorsal half. Antenna brown with scape yellowish brown; length of antenna 0.6-0.7, 0.7 times head depth; length of scape 0.32-0.38, 0.35 mm, 2.8-3.8, 3.2 times width, 4.0-4.8, 4.5 times length of pedicel; length of pedicel

0.08 mm, 0.7-0.8, 0.7 times width; length of flagellum 0.44-0.52, 0.49 mm, 3.7 times width, 1.3-1.5, 1.4 times length of scape; length of basal stylomere 0.02-0.03, 0.02 mm; length of apical stylomere 0.4 mm. Parafacial dark reddish brown, pruinose. Genal setae white. Maxillary palp cylindrical, rounded apically; dark reddish brown; length 0.48-0.62, 0.55 mm, 3.1-6.3, 5.1 times width; setae pale brown.

**Thorax.** Coloration black, greyish black pruinose; setae gold, appressed. Scutellar setae dark brown, sparsely scatter along posterior margin. Laterotergite dark brown, pruinose. **Wing.** Length 4.5-6.3, 5.1 mm, 3.5-4.8, 3.8 times width; pale smoky white; subapical and medial bands brown, extending to posterior margin.

**Abdomen.** Dark reddish brown, glossy; posterior margin of tergite 2 white; setae black, short, scattered, with setae on posterior margins of tergites 1-2 white. **Terminalia** paler than rest of abdomen; dorsal view (Fig. 39); ventral view with internal furca (Fig. 40).

**Immature Stages.** Unknown.

#### Seasonal Activity

The 20 specimens examined from Brasil were collected between March an November.

#### Distribution

*Cyclotelus kroeberi* has been reported from Argentina, Brasil and Peru.

#### Specimens Examined (N=20)

BRASIL: Roraima, rio Uraricoera, ilha de Maracá, 20.3.1987, L.S.Aquino, 1 female, Malaise trap; 2-13.5.1987, J. A. Rafael, J. E. Brasil, L. S. Aquino, 8 females, Malaise trap; 21-30.9.1987, J. A. Rafael and team, 7 females, insecticidae fogging; 1-4.3.1988, J. A. Rafael, 4 females, Shannon trap.

#### *Cyclotelus politus* (Kröber)

*politus* (Kröber) (1911:524), *Furcifera*; new combination.

#### Description

**Male.** (6995) The description of the male is based one specimen from Aracutuba, rio Jacaretinga, São Paulo, Brasil. Body length 6.7 mm.

**Head.** Depth 1.7 mm. Ocellar tubercle reddish brown, glossy on dorsal half, pruinose on anterior half; ocellar setae black. Eyes holoptic; dark reddish brown; medial margin of eyes sinuate. Frons dark grey, pruinose with dark brown triangular area dorsally; setae absent. Antenna yellowish brown with flagellum brown; setae dark brown. length of antenna 0.4 times head depth; length of scape 0.25 mm, 2.2 times width, 3.3 times Brasilian therevidae... .

length of pedicel 0.08 mm, 0.6 times width; length of flagellum 0.38 mm, 2.1 times width, 1.5 times length of scape; length of basal stylomere 0.02 mm; length of apical stylomere 0.04 mm. Parafacial silver grey. Gena with mixture of black and yellow setae. Maxillary palp cylindrical, rounded apically; brown, apex darker; length 0.90 mm, 5.7 times width; setae dark brown.

**Thorax.** np 3, sa 2, pa 1, dc 0, sc 3. Ground color black, grey pruinose around lateral margins; setae gold, slightly lanceolate. Postpronotal lobe concolorous with thorax: setae gold. Pleuron dark reddish brown in ground color, pruinose, anepimeron glossy; setae gold, abundant on propleuron and scattered over entire anepisternum. Scutellum dark brown; setae yellow, sparsely scattered along posterior margin. Laterotergite dark reddish brown, pruinose; setae gold, very abundant, in dense patch. **Wing.** length 5.5 mm, 3.1 times width; pale brown, opaque with hyaline area medially. Halter dark brown. **Legs.** Coxae dark reddish brown, pruinose; apical macrosetae black. Femora dark reddish brown; scale-like setae silver. Fore tibia brown, glossy; middle and hind tibiae dark reddish brown. Fore tarsus reddish brown; middle and hind tarsi dark yellow; tarsomere 1 dark yellow.

**Abdomen.** Dark reddish brown, glossy, grey pruinose on tergites 1-2. **Terminalia.** Ground color dark orangish brown; setae yellow, scattered, abundant along posterior margin of tergites 1-2, separated medially on tergite 1. Epandrum (Fig. 41); posterior margin broadly emarginate, broadly pointed posterolaterally; posterolateral margin lacking dense patch of black setae; Gonocoxite in dorsal view (Fig. 42); anterior margin truncate; dorsal apodeme of aedeagus very broad anteriorly; ejaculatory apodeme short, anterior half broad; gonostylus with dorsal carina. Hypandrium absente. Gonocoxite in ventral view (Fig. 43) short, fused medially; posterolateral extensions elongate. Gonostylus (Fig. 44) spatulate with thick, ventral, basal projection. Aedeagus in lateral view (Fig. 45); ventral apodeme short, narrow.

**Female.** Similar to male with following exceptions. Body length 8.2 mm.

**Head.** Depth 1.4-1.5, 1.4 mm. Eyes black. Frons (Fig. 46) convergent dorsally; black, dorsal half glossy, ventral half pruinose; setae black, short, scattered on dorsal half. Antennal length 0.6 times head depth; length of scape 0.28-0.32, 0.30 mm, 2.0-2.3, 2.2 times width, 3.1-3.2 times length of pedicel; length of pedicel 0.09-0.10, 0.10 mm, 0.6-0.7, 0.7 times width; length of flagellum 0.50 mm, 2.4-31, 2.8 times width, 1.6-1.8, 1.7 times length of scape; length of basal stylomere 0.02 mm; length of apical stylomere 0.04 mm. Parafacial black, silver grey pruinose. Maxillary palp dark brown; length 0.64-0.76, 0.70 mm, 5.3-5.4, 5.4 times width.

**Thorax.** sa 2-3. Mesonotal setae gold, mixed with short reddish brown setae. Pleuron black in ground color, grey pruinose. **Wing.** Length 6.5-6.9, 6.7 mm, 3.5-3.6, 3.6 times width; pale smoky brown, paler at fork of R<sub>4+5</sub> and across median area of wing. **Legs.** Tibiae dark reddish brown. Fore tarsus reddish brown, middle and hind tarsi brown.

**Abdomen.** Dark reddish brown, glossy, tergites 1-2 grey pruinose; setae black, short,

scattered, with dense border of gold setae on posterior margins of tergites 1-2. Terminalia in dorsal view (Fig. 47); macrosetae pale brown on tergite 10; in ventral view with internal furca (Fig. 48).

**Immature Stages.** Unknown.

#### **Seasonal Activity**

The two female specimens examined were collected during September.

#### **Distribution**

*Cyclotelus politus* has been reported from Brasil and Paraguay.

#### **Specimens Examined (N=2)**

BRASIL: Paraná: Umuarama, 9.1980, A. Yamamoto, 2 females, in Malaise trap.

#### ***Cyclotelus silacrusus* Irwin and Webb, new species**

Derivation of name: *sil* (Latin) = yellow ocher; *crus* (Latin)= leg. This name pertains to the bright yellow legs of this species.

#### **Description.**

**Male.** Holotype (6884). Body length 6.7 mm.

**Head.** Depth 1.5 mm. Ocellar tubercle black, glossy; ocellar setae black. Eyes reddish brown; holoptic; medial margin of eyes rounded. Frons silver grey with dark brown dorsal triangle. Antenna dark reddish brown with scape and pedicel dark yellow, glossy; setae dark reddish brown; length of antenna 0.6 times head depth; length of scape 0.30 mm, 2.7 times width, 3.8 times length of pedicel; length of pedicel 0.08 mm, 0.6 times width; length of flagellum 0.46 mm, 3.3 times width, 1.5 times length of scape; length of style 0.04 mm. Parafacial silver grey. Genal setae white. Maxillary palp clavate; yellowish orange; length 0.56 mm, 3.5 times width; setae dark reddish brown.

**Thorax.** np 2, sa 2, pa 1, dc 0, sc 0. Ground color black, grey pruinose; mixture of appressed, pale yellow, lanceolate setae and erect, moderately long, pale yellow setae. Postpronotal lobe concolorous with thorax; setae pale yellow. Pleuron dark reddish brown in ground color, pruinose; anepimeron reddish brown, glossy; setae pale yellow, abundant on propleuron and scattered over entire anepisternum. Scutellum orange; setae dark reddish brown, sparsely scattered along posterior margin. Laterotergite dark reddish brown, pruinose; setae pale yellow. Wing. Length 5.0 mm, 2.9 times width; hyaline. Halter dark brown. **Legs.** Fore and middle coxae yellow, hind coxa dark reddish brown, pruinose; apical macrosetae black. Femora yellow, glossy; scale-like setae white. Tibiae yellow, glossy. Fore tarsus dark reddish brown; middle and hind tarsi Brasilian therevidae... .99

dark yellow, reddish brown apically.

**Abdomen.** Ground color dark reddish brown, silver pruinose on tergites 1-2; posterior margins of tergite 2 white. **Terminalia.** Coloration dark yellow, glossy; setae white, abundant laterally on tergites 1-2. Epandrium (Fig. 49); quadrate; posterior margin broadly emarginate; posterolateral corner notched; posterolateral margin with dense patch of black setae. Gonocoxite in dorsal view (Fig. 50); dorsal apodeme of aedeagus broad, extend anteriorly beyond margin of gonocoxite; ejaculatory apodeme thick, constricted medially; gonostylus spatulate, flattened dorsoventrally. Hypandrium reduced, fused to gonocoxite. Gonocoxite in ventral view (Fig. 51); lateral margins rounded. Aedeagus in lateral view (Fig. 52); ventral apodeme narrow, moderately long.

**Variation** in males (N=2). -- Body length (excluding antenna) 6.7-7.3, 7.0 mm.

**Head.** Depth 1.5-1.6, 1.6 mm. Length of antenna 0.6 times head depth; length of scape 0.30 mm, 2.1-2.7, 2.4 times width, 3.8 times length of pedicel; length of pedicel 0.08 mm, 0.6 times width; length of flagellum 0.46-0.54, 0.50 mm, 3.3-3.4, 3.4 times width, 1.5-1.8, 1.7 times length of scape; length of style 0.04 mm. Length of maxillary palp 0.54-0.56, 0.55 mm, 3.5-3.9, 3.7 times width.

**Thorax.** np 2-3. **Wing.** Length 5.0-5.3, 5.2 mm, 2.9-3.1, 3.0 times width.

**Female** (N=2). Similar to male with following exceptions. Body length (excluding antenna) 6.8-7.8, 7.3 mm.

**Head.** Depth 1.1-1.3, 1.2 mm. Eyes dark reddish brown; medial margin of eyes straight. Frons (Fig. 53) convergent dorsally, black, glossy on dorsal half, pruinose on ventral half; setae pale brown, scattered on dorsal half. Antenna pale brown; length of antenna 0.7 times head depth; length of scape 0.30-0.34, 0.32 mm, 2.4-3.0, 2.7 times width, 3.8-5.7, 4.8 times length of pedicel; length of pedicel 0.06-0.08, 0.07 mm, 0.4-0.7, 0.6 times width; length of flagellum 0.44 mm, 3.7 times width, 1.5 times length of scape; length of style 0.04 mm. Length of maxillary palp 0.38-0.46, 0.42 mm, 3.3-3.8, 3.6 times width.

**Thorax.** np 3. Scutellar setae pale yellow, scattered along posterior margins. **Wing.** Length 4.3-4.8, 4.6 mm, 3.2-3.6, 3.4 times width. **Legs.** Middle coxa dark reddish brown, pruinose. Hind tibia pale yellow.

**Abdomen.** Dark reddish brown, glossy; setae black, erect, scattered. **Terminalia** in dorsal view (Fig. 54); in ventral view with internal furca (Fig. 55).

**Immature Stages.** Unknown.

#### **Seasonal Activity**

In the specimens examined, adults were taken during February, July, and November.

## Distribution

*Cyclotelus silacrusus* has only been collected in the states of São Paulo and Amazonas, Brasil.

## Specimens Examined (N=4)

The holotype male (ZMSP), Irwin specimen number 6884, was collected at São Paulo, Santo Amaro, BRASIL, in February, 1950 by J. Lane. Paratypes (INHS, INPA). São Paulo, Santo Amaro, BRASIL, February, 1949, J. Lane, 1 male. Manaus, 7.1973, J. A. Rafael, 1 female; 11.1978, J. A. Rafael, 1 female.

## **Henicomyia** Coquillett

**Henicomyia** Coquillett (1898:187): Lyneborg (1972:362).

Lyneborg (1972) revised this genus, describing five species from the Neotropical Region.

### **Henicomyia amazonica** Irwin and Webb, new species

Derivation of name: This species is named for the Amazon basin, within which most of the specimens were collected.

## Description.

**Male.** Holotype (6829). -- Body length 8.4 mm.

**Head.** Depth 1.1 mm. Ocellar tubercle dark reddish brown, glossy; ocellar setae reddish brown; dichoptic; medial margin of eyes rounded and evaginated lateral to antennal bases. Frons (Fig. 56) dark reddish brown, glossy with silver pruinose in band on ventral third and dorsal and lateral to antennal bases; setae reddish brown short. Antenna (Fig. 57) pale brown; setae dark reddish brown; length of antenna 1.0 times head depth; length of scape 0.26 mm, 2.2 times width, 3.3 times length of pedicel; length of pedicel 0.08 mm, 0.6 times width; length of flagellum 0.76 mm, 3.2 times width, 2.9 times length of scape; length of style 0.04 mm. Parafacial silver. Genal setae yellow. Maxillary palp (Fig. 58) cylindrical, swollen apically; pale reddish brown; length 0.44 mm, 5.5 times width; setae pale yellow.

**Thorax.** np 1, sa 1, pa 1, dc 0, sc 1. Coloration pale yellowish brown, glossy; setae pale yellow, short, scattered. Postpronotal lobe yellow, glossy; setae pale yellow. Pleuron yellowish brown, glossy with silver pile over entire propleuron and meron, on anterior half of anepisternum, and on dorsal half of katepisternum; setae pale yellow, abundant on propleuron. Scutellum dark yellow, glossy; setae pale yellow, subappressed. Postnotum dark yellow, glossy. Laterotergite covered with silver pile; setae pale yellow. **Wing** (Fig. 59). Length 5.8 mm, 3.6 times width; hyaline, subapical and medial bands dark brown. Halter pale brown. **Legs.** Fore Brasilian therevidae...

and middle coxae yellow, pruinose, hind coxa reddish brown, pruinose; apical macrosetae black. Fore and middle femora dark yellow, glossy, hind femur dark reddish brown glossy, apical fourth dark yellow. Fore tibia whitish yellow, middle tibia pale yellowish brown, hind tibia reddish brown, apical fourth dark yellow. Tarsi reddish brown with hind tarsomere 1 whitish yellow.

**Abdomen.** Dark reddish brown, glossy with posterior margin of tergites 2-4 whitish yellow; setae reddish brown, appressed. **Terminalia** dark reddish brown. Tergite 8 (Fig. 60) broad; posterior margin broadly emarginate. Epandrium (Fig. 60) longer than wide; lateral margins rounded; posterior margin broadly emarginate. Gonocoxite in dorsal view (Fig. 61); aedeagus broad, posterior margin truncate; dorsal apodeme vestigial; ejaculatory apodeme elongate, extending well beyond anterior margin of gonocoxite, posterior third expanded; gonostylus elongate. Sternite 8 (Fig. 62) broad, posterior margin convex. Hypandrium (Fig. 62) large, broadly rounded anteriorly. Gonocoxite in ventral view (Fig. 62). Aedeagus in ventral view (Fig. 63); a pair of thick hooks extend ventrally from posterior margin; aedeagus in lateral view (Fig. 64); ventral apodeme elongate; ejaculatory apodeme broad dorsoventrally.

**Variation in males (N=6).** Body length (excluding antenna) 6.8-8.8, 8.1 mm.

**Head.** Depth 1.0-1.1, 1.0 mm. Length of antenna 1.0-1.2, 1.1 times head depth; length of scape 0.26-0.34, 0.29 mm, 1.9-2.4, 2.2 times width, 3.3-4.0, 3.5 times length of pedicel; length of pedicel 0.08-0.10, 0.8 mm, 0.5-0.6, 0.5 times width; length of flagellum 0.68-0.82, 0.74, mm, 3.2-3.9, 3.5 times width, 2.2-2.9, 2.6 times length of scape; length of style 0.04 mm. Length of maxillary palp 0.34-0.44, 0.40 mm, 3.5-5.5, 4.1 times width.

**Thorax.** np 1-2 (specimen 6832 had 2 macrosetae on the left side of the scutellum and 1 macroseta on the right side). **Wing.** Length 5.2-6.3, 5.7 mm, 3.3-4.0, 3.6 times width.

**Female (N=2).** Similar to male with following exceptions. Body length (excluding antenna) 8.9-10.0, 9.5 mm.

**Head.** Depth 1.2-1.3, 1.3 mm. Ocellar tubercle black, glossy. Antenna dark reddish brown to black; length of antenna 1.1 times head depth; lenght of scape 0.36.-0.46, 0.41 mm, 2.6-3.3, 3.0 times width, 4.0-4.6, 4.3 times length of pedicel; length of pedicel 0.09-0.10, 0.10 mm, 0.6 times width; length of flagellum 0.80.084, 0.82 mm, 3.6-4.2, 3.9 times width, 1.7-2.3, 2.0 times length of scape; length of style 0.04 mm. Maxillary palp dark reddish brown dark yellow apically; length 0.50-0.60, 0.55 mm, 4.6-5.6, 5.1 times width.

**Thorax.** np 2. Coloration orange. Mesonotal setae yellowish gold, appressed. Postpronotal lobe concolorous with thorax. Scutellum dark yellow to yellowish orange. **Wing.** Length 7.2-7.3, 7.3 mm, 3.2-3.6, 3.4 times width. Halter pale yellow, occasionally with black stalk. **Legs.** Fore and middle coxae yellow to yellowish brown, hind

coxa black. Hind femora black, apex and basal fourth yellow to yellowish brown. Hind tibia black, occasionally with pale white area dorsobasally. Hind tarsus black with tarsomere 1 white, occasionally anterior surface darkened.

**Abdomen.** Black with posterior margin of tergite 1-5 white. **Terminalia** Terminalia Tergite 8 (Fig. 65) reduced; anterior margin extended anteriorly; posterior margin broadly emarginate. Tergite 9 (Fig. 65) reduced; expanded laterally. Cerci lobate. A small subgenital plate is present posterior to cerci. Sternite 8 in ventral view and terminalia with internal furca in dorsoposterior view (Fig. 66); sternite 8 large, broadly rounded; posterior margins with no median incision.

**Immature Stages.** Unknown.

#### **Seasonal Activity**

In the specimens examined, adults were collected from 27 August to 4 March.

#### **Distribution**

*Henicomyia amazonica* has been collected only in Brasil.

#### **Specimens Examined (N=8)**

The holotype male (INPA) Irwin specimen number 6829, was collected in BRASIL: Amazonas, Manaus, 1.1979 by J. A. Rafael. Paratypes (INHS, INPA, ZMSP, USNM). BRASIL: Amazonas, Reserva Ducke, J. A. Rafael, 17.9.1981, 1 male; 21.9.1981, 1 male; 23.9.1981, 1 male; 13.10.1981, 1 male; 26.11.1981, 1 female; 27.8.1988, 1 male. Roraima, rio Uaricoera, ilha de Maracá, 1-4.3.1988, J. A. Rafael, 1 female, suspension trap.

#### ***Henicomyia bicolor* Lyneborg**

**bicolor** Lyneborg (1972:367), *Henicomyia*.

#### **Description.**

**Male (N=4).** Body length 7.0-8.0, 7.7 mm.

**Head.** Depth 1.0-1.1, 1.1 mm. Ocellar tubercle black, glossy; ocellar setae black. Eyes dark reddish brown; medial margin of eyes sinuate and slightly invaginated lateral to antennal bases. Frons (Fig. 67) convergent dorsally; black, glossy, pruinose dorsal to antennal bases and in small lateral area; setae black, short, scattered. Antenna black with flagellum brown; setae black; length of antenna 0.9-1.2, 1.1 times head depth; length of scape 0.26-0.30, 0.29 mm, 2.1-2.5, 2.3 times width, 2.8-3.8, 3.4 times length of pedicel 0.08-0.10, 0.08 mm, 0.4-0.6, 0.5 times width; length of flagellum 0.61-0.82, 0.73 mm, 2.3-3.7, 3.1 times width, 2.0-2.7, 2.5 times length of scape; length of style 0.04 mm. Parafacial silver. genal setae pale yellow. Maxillary palp Brasilian therevidae...

clavate; dark reddish brown, pruinose; length 0.38-0.48, 0.41 mm, 4.3-5.3, 4.8 times width; setae pale yellow.

**Thorax.** np 2, sa 1, pa 1, dc 0, sc 1. Ground color black, glossy; setae dark reddish brown, very short, scattered. Postpronotal lobe concolorous with thorax; setae dark reddish brown. Propleuron black; anepisternum dark reddish brown, glossy, anterior half pruinose; katepisternum dark yellow, glossy; anepimeron dark reddish brown, ventral margin paler, glossy; meron dark yellow, pruinose; setae on propleuron pale yellow. Scutellum dark reddish brown, glossy; setae white. Laterotergite dark reddish brown, pruinose; setae white. **Wing.** Length 6.2 mm, 3.6 times width; hyaline; subapical and medial bands brown. Halter dark brown. **Legs.** Coxae dark yellow, pruinose; apical macrosetae black. Fore and middle femora dark yellow, glossy; hind femur dark reddish brown to black, apex and base dark yellow. Fore tibia whitish yellow; middle tibia dark yellow; hind tibia black. Tarsi dark reddish brown to black with tarsomere 1 of middle and hind tarsi brown.

**Abdomen.** Black, glossy, posterior margin of tergites 2-4 with narrow, whitish yellow fascia; setae black, subappressed.

**Terminalia.** Epandrium (Fig. 68) longer than wide, posterior margin deeply emarginate. Cerci lobate. Ventral epandrial clrite extending posteriorly beyond cerci. Gonocoxite in dorsal view (Fig. 69): aedeagus broad, truncate posteriorly; dorsal apodeme vestigial; ejaculatory apodeme elongate, expanded posteriorly; gonostylus elongate, pointed posteriorly. Hypandrium (Fig. 70) large, broadly rounded. Gonocoxite in ventral view (Fig. 70) separated medially, with narrow, medial, finger-like projection. Aedeagus in lateral view (Fig. 71); ventral apodeme large, elongate; ejaculatory apodeme broad dorsoventrally; pointed anteriorly.

**Female** (N=2). Similar to male with following exceptions. Body length (excluding antenna) 8.4-8.8, 8.6 mm.

**Head.** Depth 1.1 mm. Eyes with medial margin rounded. Antennal length 1.1 times head depth; length of scape 0.36-0.38, 0.37 mm, 2.7-3.0, 2.9 times width, 3.6 times length of pedicel; length of pedicel 0.10 mm, 0.6 times width; length of flagellum 0.74 mm, 4.1 times width, 2.1 times length of scape; length of style 0.04 mm. Length of maxillary palp 0.44-0.48, 0.46 mm, 4.7-5.5, 5.1 times width.

**Thorax.** Propleuron dark reddish brown, pruinose; anepisternum dark reddish brown, glossy, pruinose on small anterodorsal area, ventral fourth dark yellow; katepisternum dark yellowish brown; anepisternum dark reddish brown, glossy; meron dark yellow, glossy. **Wing.** Length 6.8-7.3, 7.1 mm, 2.4-3.1, 2.8 times width. **Legs.** Apical macrosetae on coxae black, occasionally pale brown.

**Abdomen.** Coloration as in male. **Terminalia.** In dorsal view (Fig. 72); in dorso-posterior view with internal furca (Fig. 73).

**Immature Stages.** Unknown.

### **Seasonal Activity**

The six specimens examined were collected in Brasil between November and January.

### **Distribution**

***Henicomyia bicolor*** is known only from Brasil.

### **Specimens Examined (N=6)**

BRASIL: **Paraná:** 10-11.1978, A. Yamamoto, 1 male, 2 females, 12.1985, J. A. Rafael, 2 males, 1.1986, J. A. Rafael, 1 male. Lyneborg (1972) reported this species from Brasil, Nova Teutonia.

### ***Henicomyia flava* Lyneborg**

***flava***, Lyneborg (1972:369), ***Henicomyia***.

### **Description**

**Female (6843).** Body length 7.8 mm.

**Head.** Depth 1.1 mm. Ocellar tubercle dark reddish brown, glossy; ocellar setae dark reddish brown, very short. Eyes dark reddish brown; medial margin of eye rounded, not invaginated lateral to antennal bases. Frons (Fig. 74) convergent dorsally; dark reddish brown, glossy, pruinose medially and dorsal to antennal bases; setae reddish brown, short, scattered. Antenna dark reddish brown, pruinose; flagellum missing on specimen; setae dark reddish brown; length of scape 0.32 mm, 2.5 times width, 4.0 times length of pedicel; length of pedicel 0.08 mm, 0.6 times width. Parafacial silver. Genal setae white. Maxillary palp cylindrical, rounded apically; dark reddish brown, pruinose; length 0.40 mm, 6.7 times width; setae pale yellow.

**Thorax.** np 2, sa 1, pa 1, dc 0, sc 0. Grounded color dark yellowish brown, glossy; setae pale yellow, short, scattered. Postpronotal lobe concolorous with thorax; setae pale yellow. Pleuron dark yellow, glossy, pruinose over entire propleuron and meron, on anterior fourth of anepimeron, on dorsal half of katepisternum; setae pale yellow, scattered on propleuron. Scutellum pale brown, pruinose; setae dark yellow. Laterotergite dark yellow, pruinose; setae dark yellow, scattered. **Wing.** Length 6.5 mm, 3.3 times width; hyaline; subapical and medial bands brown. Halter dark brown with pale yellow capitulum. **Legs.** Fore and middle coxae dark yellow, glossy, hind coxa dark reddish brown, pruinose; apical macrosetae black. Fore and middle femora dark yellow, glossy; hind femur dark reddish brown, basal fourth dark yellowish brown. Fore tibia whitish yellow; middle tibia yellowish brown; hind tibia dark reddish brown, base Brasilian therevidae... . 105

yellow. Fore tarsus missing on specimen; other tarsi brown to dark reddish brown with tarsomere 1 of hind tarsus whitish yellow.

**Abdomen.** Dark reddish brown, glossy, posterior margin of tergites 1-5 with narrow, whitish yellow fascia, fascia separated medially on tergite 5; setae black, subappressed. **Terminalia** in dorsal view (Fig. 75); in dorsopsoterior view with internal furca (Fig. 76).

**Immature Stages.** Unknown.

### **Seasonal Activity**

The one Brasilian specimen examined was collected during November.

### **Distribution**

***Henocomyia flava*** is reported only from Brasil.

### **Specimens Examined (N=1)**

BRASIL: **Mato Grosso:** 11.1984. C. Elias. 1 female. Lyneborg (1972) reported this species from the states of Goiás, Mato Grosso and São Paulo Brasil.

### **Penniverpa Irwin and Lyneborg**

Penniverpa Irwin and Lyneborg (1981:227).

Irwin and Lyneborg (1981) described this genus and included in it a Nearctic (**P. festina** (Coquillett)) and a Neotropical species (**P. lyneborgi** Irwin & Webb). An additional Neotropical species (**P. longipes** (Loew)) is now placed in this genus, in addition to the following two new species.

### **Penniverpa alvadusta Irwin and Webb, new species**

Derivation of name: **alvus** (Latin) = belly; **adusta** (Latin) = brown, tanned. This name pertains to the brown abdomen of this species.

### **Description**

**Female** Holotype (6910). Body length 7.8 mm.

Head. Depth 1.2 mm. Ocellar tubercle reddish brown, pruinose; ocellar setae black. Eyes brown; medial margin of eyes rounded. Frons convergent dorsally; silver pruinose; setae black, short, on dorsal half. Antenna dark brown; setae dark brown with several black, apical macrosetae on scape; length of antenna 0.5 times head depth; length of scape 0.16 mm, 1.6 times width, 1.6 times length of pedicel; length of pedicel 0.10 mm,

1.0 times width; length of flagellum 0.30 mm, 2.5 times width, 1.9 times length of scape; length of basal stylomere 0.02 mm; length of apical stylomere 0.8 mm. Parafacial silver. Genal setae white, moderately long, abundant. Maxillary palp brown, cylindrical, slightly swollen apically; length 0.42 mm, 5.2 times width; setae black.

**Thorax.** np 3, sa 2, pa 1, dc 0, sc 1. Ground color dark brown, pruinose; setae black, short, appressed. Postpronotal lobe concolorous with thorax; setae white. Pleuron dark brown, pruinose; setae white on propleuron and anepisternum. Scutellum dark brown, pruinose; setae pale yellow. Laterotergite dark brown, pruinose; setae white. **Wing.** Length 6.0 mm, 3.3 times width; pale diffuse brown; cell  $m_3$  open; posterior cubital cell open slightly at wing margin. Halter dark brown. **Legs.** Coxae brown, pruinose; apical macrosetae black. Femora, tibia, and tarsi brown.

**Abdomen.** Reddish brown, glossy, grey pruinose across posterior margin of tergites 1-2 and across posterior half of tergites 4-5; setae black, short, scattered.

**Terminalia** in dorsal view (Fig. 77); in ventral view with internal furca (Fig. 78).

**Variation (N=3).** Body length (excluding antenna) 6.7-7.8, 7.3 mm.

**Head.** Depth 1.2 mm. Antennal length 0.4-0.5, 0.5 times head depth; length of scape 0.16 mm, 1.6 times width, 1.6-2.0, 1.9 times length of pedicel; length of pedicel 0.08-0.10, 0.09 mm, 0.8-0.10, 0.9 times width; length of flagellum 0.28-0.30, 0.29 mm, 2.3-2.5, 2.4 times width, 1.8-1.9, 1.9 times length of scape; length of basal stylomere 0.2 mm, length of apical stylomere 0.4-0.9, 0.7 mm. Length of maxillary palp 0.36-0.42, 0.39 mm, 4.4-5.2, 4.7 times width.

**Thorax. Wing.** Length 6.0-6.2, 6.1 mm, 3.3-3.4, 3.4 times width.

**Immature Stages.** Unknown.

#### **Seasonal Activity**

In the specimens examined, adults were collected during October.

#### **Distribution**

**Penniverpa alvadusta** has been collected only in Brasil.

#### **Specimens Examined (N=3)**

The holotype female (INPA), Irwin specimen number 6910, was collected at Manaus, Amazonas, BRASIL, 28.10.1978, J. A. Rafael. Paratypes (INHS, INPA). Same data as holotype, 2 females.

### ***Penniverpa alvatra* new species**

Derivation of name: **alvus** (Latin) = belly; **atra** (Latin) = black.

This name pertains to the black belly of this species.

Brasilian therevidae...

## Description

**Male.** Holotype (6898). Body length 7.0 mm.

**Head.** Depth 1.2 mm. Ocellar tubercle dark reddish brown, pruinose; ocellar setae black. Eyes dark reddish brown; medial margins of eyes sinuate. Frons in frontal view appear dark reddish brown, pruinose, but in lateral view frons appear dark reddish brown, glossy, with median silver area; setae absent. Antenna (Fig. 79) dark brown; setae dark brown with 2-3 black apical macrosetae on scape; length of antenna 0.4 times head depth; length of scape 0.12 mm, 1.3 times width, 1.5 times length of pedicel; length of pedicel 0.08 mm, 0.8 times width; length of flagellum 0.28 mm, 2.8 times width, 2.3 times length of scape; length of basal stylomere 0.02 mm; length of apical stylomere 0.09 mm. Parafacial silver. Genal setae white, elongate, abundant. Maxillary palp (Fig. 80) cylindrical, slightly swollen apically; dark brown; length 0.38 mm, 6.3 times width; setae dark brown.

**Thorax.** np 3, sa 2, pa 1, dc 0, sc 1. Ground color black, dense silver grey pruinose; mixture of white elongate setae and short subappressed black setae. Postpronotal lobe concolorous with thorax; setae white. Pleuron dark brown in ground color, silver grey pruinose; setae white, abundant on propleuron, scattered over entire anepisternum and dorsal half of katepisternum. Scutellum dark brown, dense silver grey pruinose; setae white. Laterotergite dark brown, pruinose; setae white. **Wing** (Fig. 81). Length 5.2 mm, 2.9 times width; opaque, pale whitish brown; pterostigma pale brown; cell  $m_3$  open; posterior cubital cell closed, petiolate. Halter dark brown. **Legs.** Coxae dark brown, pruinose; apical macrosetae black. Femora, tibiae and tarsi dark brown, glossy.

**Abdomen.** Dark reddish brown to black, silver grey pruinose over entire surface; setae white. **Terminalia.** Coloration dark reddish brown, glossy. Tergite 8 (Fig. 82) reduced; posterior margin broadly emarginate. Epandrium (Fig. 82) longer than broad; posterior margin broadly emarginate; cerci lobate; ventral epandrial sclerite truncate posteriorly; epandrium in ventral view (Fig. 83) with S-shaped, sclerotized membrane covered with dense mat of fine setae. Gonocoxite in dorsal view (Fig. 84) with lateral margin narrow, extended posteriorly; dorsal apodeme of aedeagus narrow, slightly expanded anteriorly; posterolateral apodeme of aedeagus elongate, with several apical macrosetae; ejaculatory apodeme short, narrow; gonostylus elongate, apex swollen. Sternite 8 (Fig. 85) broad; posterior margin broadly emarginate. Hypandrium (Fig. 85) reduced. Gonocoxite in ventral view (Fig. 85) separated medially. Aedeagus in ventral view (Fig. 86); ventral apodeme fused medially; in lateral view (Fig. 87).

**Variation in male (N=2).** Body length (excluding antenna) 7.0-8.0, 7.5 mm.

**Head.** Depth 1.2-1.4, 1.3 mm. Antennal length 0.4 times head depth; length of scape 0.12-0.16, 0.14 mm, 1.3-1.6, 1.5 times width, 1.5-2.0, 1.8 times length of pedicel; length of pedicel 0.08 mm, 0.8 times width; length of flagellum 0.28 mm, 2.8 times width, 1.8-2.3, 2.1 times length of scape of basal stylomere 0.2 mm; length of apical

stylomere 0.06-0.10, 0.08 mm. Length of maxillary palp 0.30-0.44, 0.40 mm, 3.8-5.5, 5.0 times width.

**Thorax.** Dorsocentral and dorsolateral vittae appear as darker area; pruinosity less dense. Scutellum black. Wing. Length 5.2-7.0, 6.3 mm, 3.1-3.7, 3.4 times width. Halter black.

**Abdomen.** Dark brown, silver pruinoise on lateral margins and along posterior margins although separated medially; tergite 4 glossy. Terminalia in dorsal view (Fig. 88) in ventral view with internal furca (Fig. 89).

**Immature Stages.** Unknown.

#### **Seasonal Activity**

In the specimens examined, adults were collected during March and May.

#### **Distribution**

**Penniverpa alvatra** has been collected only in Brasil.

#### **Specimens Examined (N=11).**

The holotype male (INPA), Irwin specimen number **6898**, was collected at Roraima, rio Uraricoera, ilha de Maracá, BRASIL, 2-13.5.1987, J. A. Rafael, J. E. Brasil, L. S. Aquino. Paratypes (INHS, INPA, USNM, ZMSP). Same locality as holotype: 20-30.3.1987, L. S. Aquino, 1 male 3 females; 2-13.5.1987, J. A. Rafael, J. E. Brasil, L. S. Aquino, 4 females; 1-4.3.1988, J. A. Rafael, 2 females.

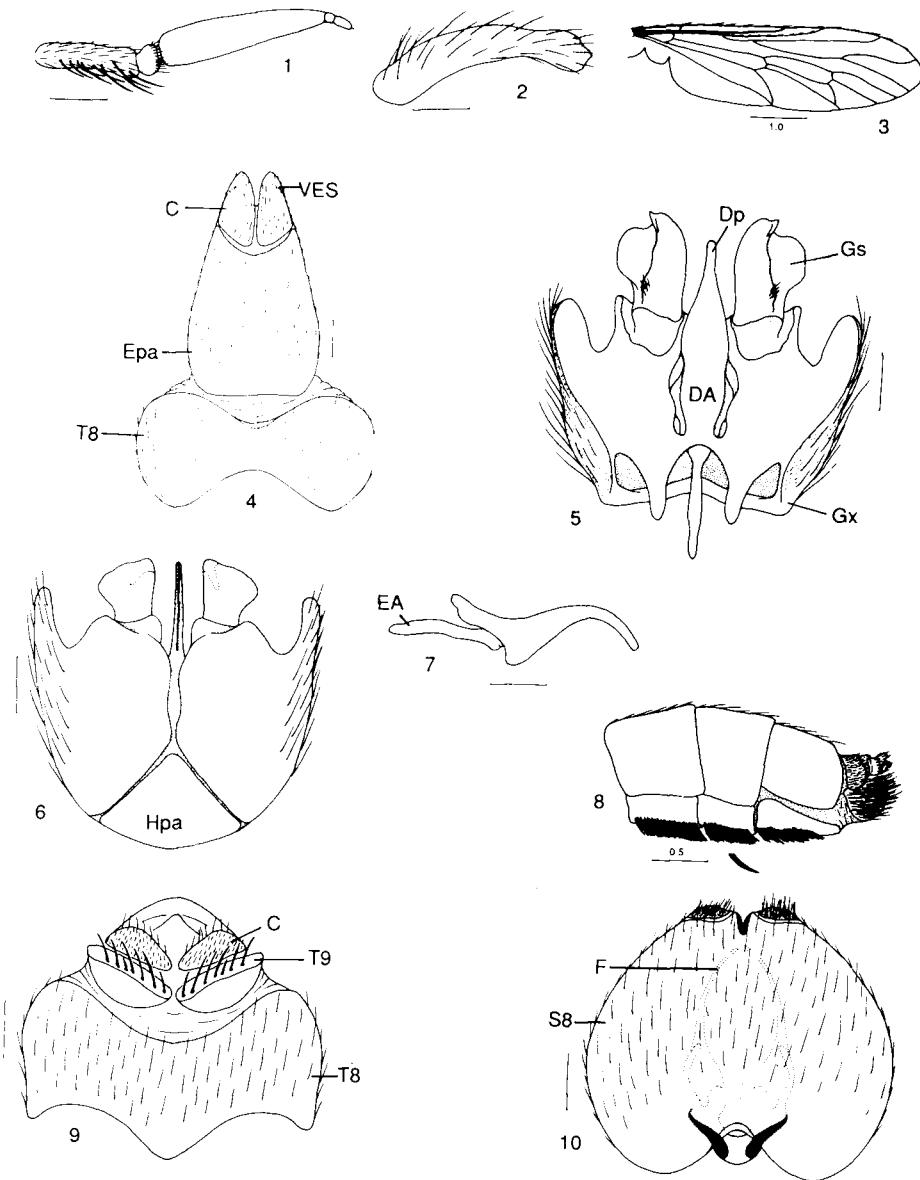
#### **ACKNOWLEDGEMENTS**

We thank Ms. Jenny Kogan and Mr. Bruce Steinly for their technical assistance in this study. We are grateful to the following institutions and their curators or former curators for the loan of material relevant to this study: California Department of Food and Agriculture, E. M. Fisher; Instituto Nacional de Pesquisas da Amazônia (INPA), J. A. Rafael; and the Zoological Museum, University of São Paulo (ZMSP), N. Papavero.

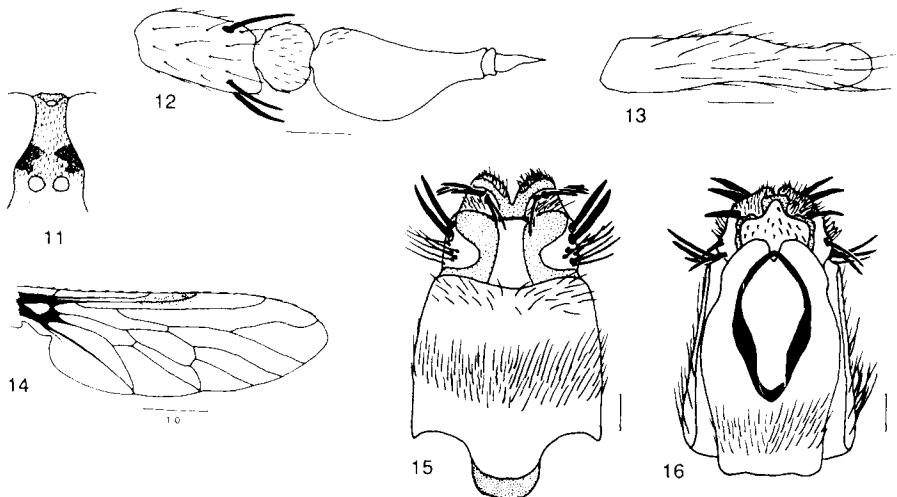
Support for this study was supplied in part by Illinois Natural History Survey and the University of Illinois.

#### **RESUMO**

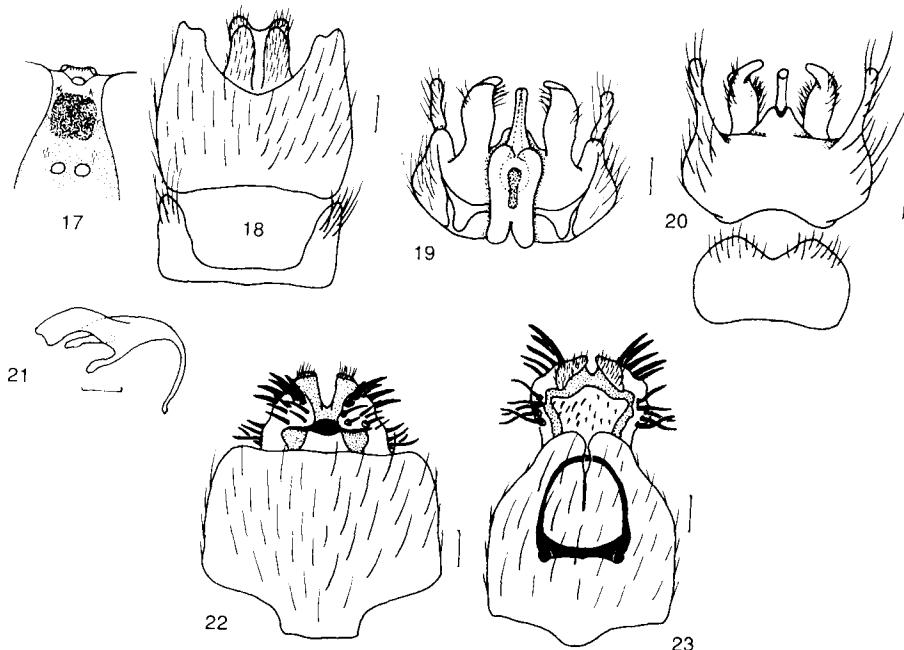
Este trabalho baseia-se no estudo de 95 espécimes representando 12 espécies em 5 gêneros. 6 espécies novas são descritas: **Henicomya amazonica**, sp. n. (Brasil: Amazônas), **Brachylingga xanthoperna**, sp. n. (Brasil: Roraima), **Cyclotetus badicrusus**, sp. n. Brasilian therevidae... .



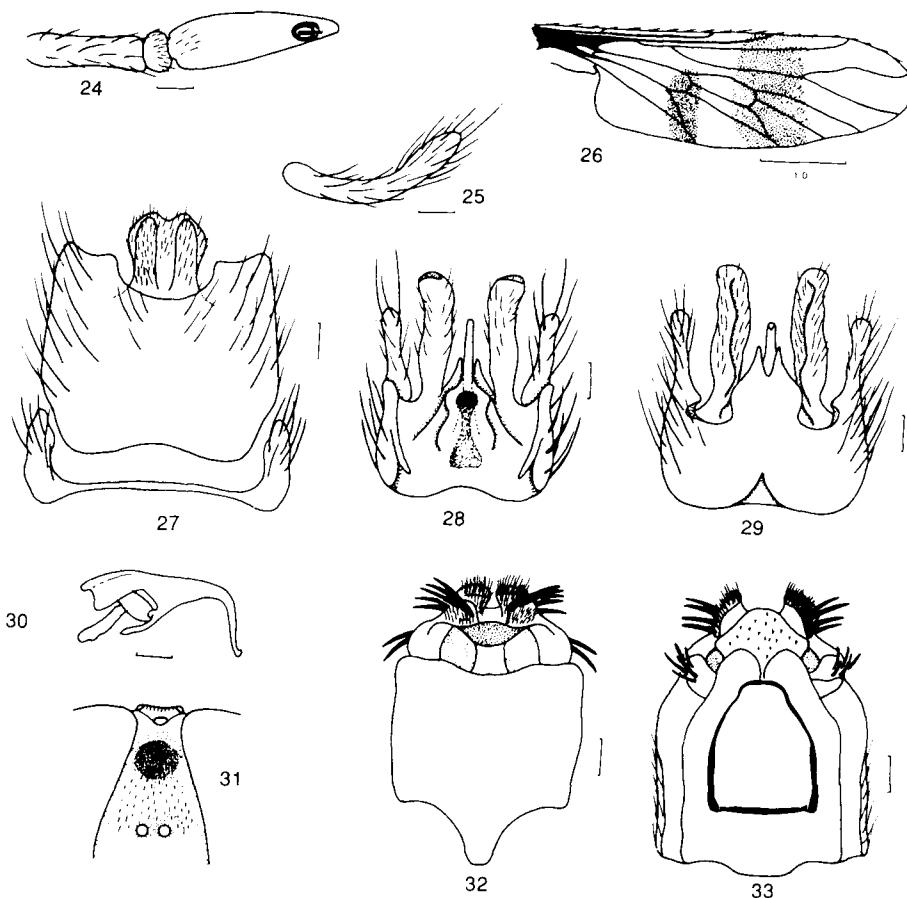
Figs. 1-10. *Ataenogera abdominalis*: 1. Antenna (5747). 2. Maxillary palp, (5747). 3. Wing (5747). 4. Male tergite 8, epandrium, cerci, and ventral epandrial sclerite, dorsal view (5761). 5. Male gonocoxites and gonostylus, dorsal view (5761). 6. Male gonocoxites and gonostylus, ventral view (5761). 7. Male aedeagus, lateral view (5761). 8. Female abdomen, terminal segments, lateral view with enlargement of ventral lanceolate setae (5752). 9. Female terminalia, dorsal view (5752). 10. Female terminalia with internal furca, ventral view (5752). Abbreviations: (C) cercus; (DA) dorsal apodeme; (Dp) distiphallus; (EA) ejaculatory apodeme; (Epa) epandrium; (F) furca; (Gs) gonostylus; (Gx) gonocoxites; (Hpa) hypadrium; (S<sub>8</sub>) sternite 8; (T<sub>8</sub>) tergite 8; (T<sub>9</sub>) tergite 9; (VES) ventral epandrial sclerite. Scale = 0.1 mm, unless otherwise indicated.



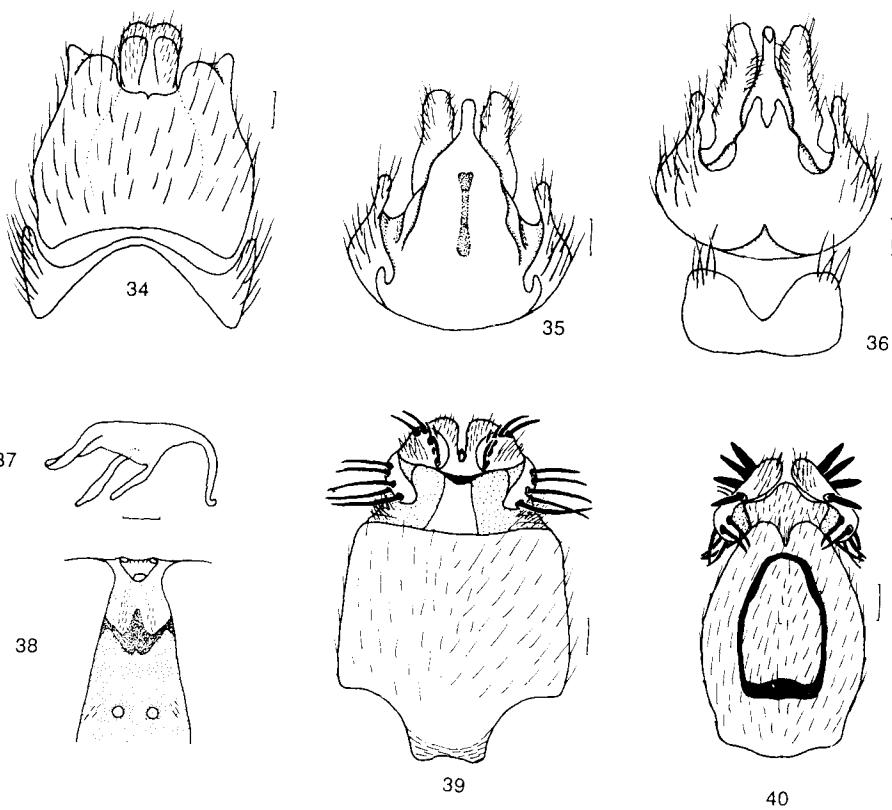
Figs. 11-16. *Brachylinga xanthoperna* (6913): 11. Frons, frontal view. 12. Antenna. 13. Maxillary palp. 14. Wing. 15. Female terminalia, dorsal view. 16. Female terminalia with internal furca, ventral view. Scale = 0.1 mm, unless otherwise indicated.



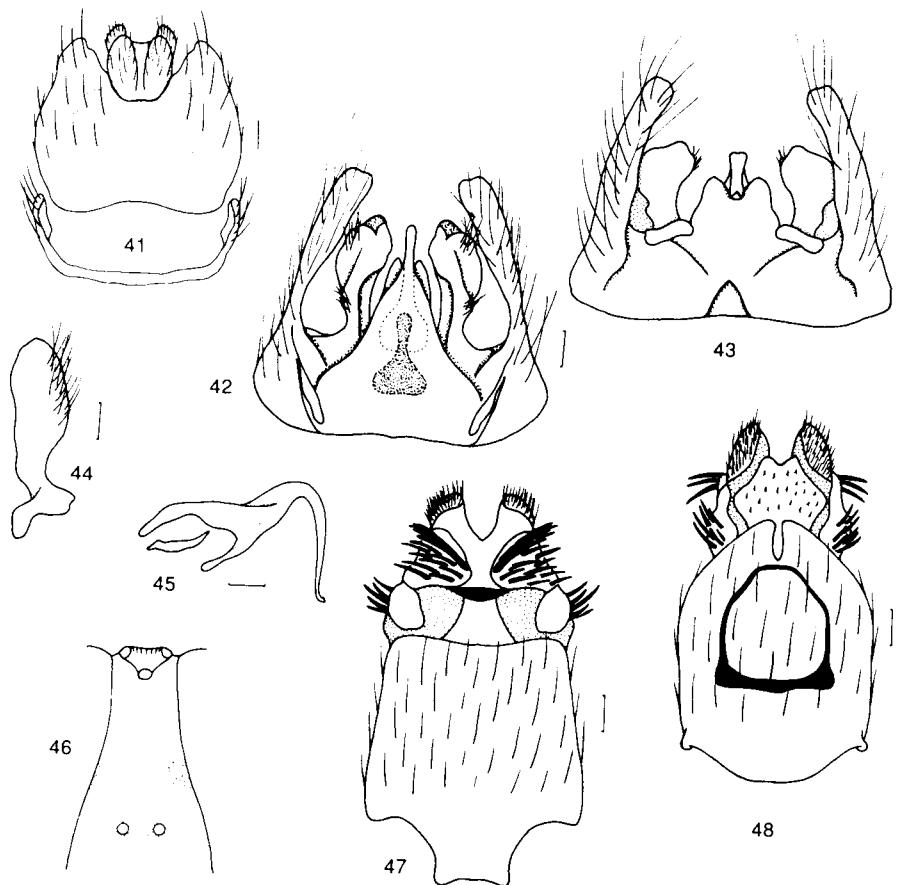
Figs. 17-23. *Cyclotelus achaetus* (male 6917; female 6883): 17. Male tergite 8, epandrum, cerci, and ventral epandrial sclerite. 18. Male gonocoxite, gonostylus, and aedeagus, dorsal view. 19. Male sternite 8, gonocoxite, and gonostylus, ventral view. 20. Male aedeagus, lateral view. 21. Female frons, frontal view. 22. Female terminalia, dorsal view. 23. Female terminalia with internal furca, ventral view. Scale=0.1mm unless otherwise indicated.



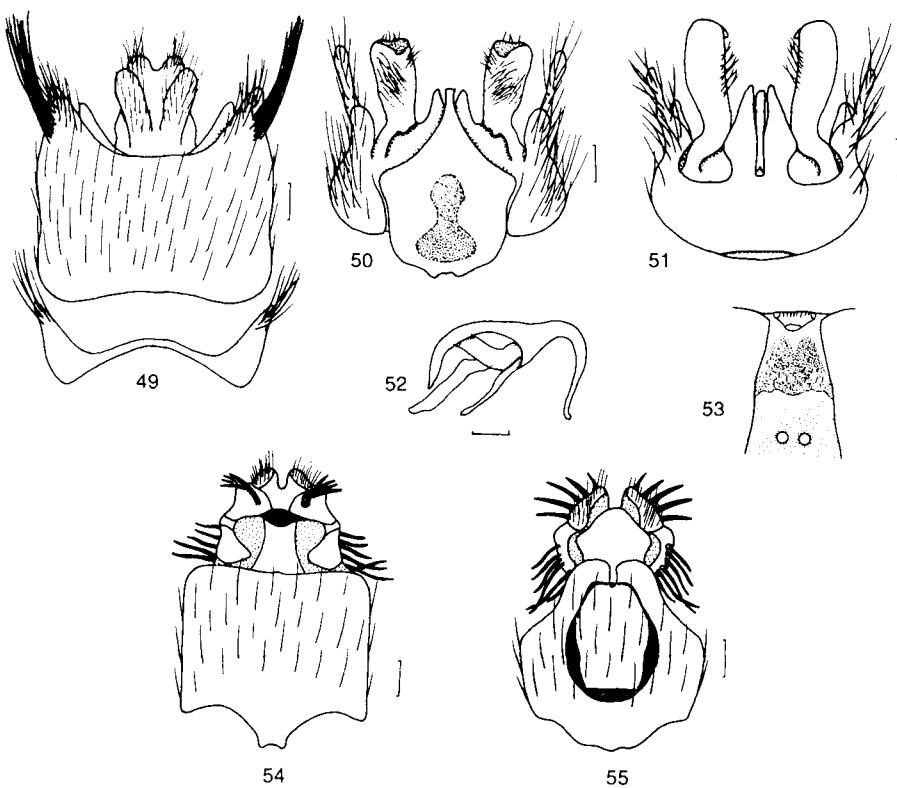
Figs. 24-33. *Cyclotelus badicrusus*. (male 6888; female 6894): 24. Male antenna. 25. Male maxillary palp. 26. Male wing. 27. Male tergite 8, epandrium, cerci, and ventral epandrial sclerite. 28. Male gonocoxite, gonostylus, and aedeagus, dorsal view. 29. Male sternite 8, hypandrium, gonocoxite, and gonostylus, ventral view. 30. Male aedeagus, lateral view. 31. Female frons, frontal view. 32. Female terminalia, dorsal view. 33. Female terminalia with internal furca, ventral view. Scale = 0.1 mm, unless otherwise indicated.



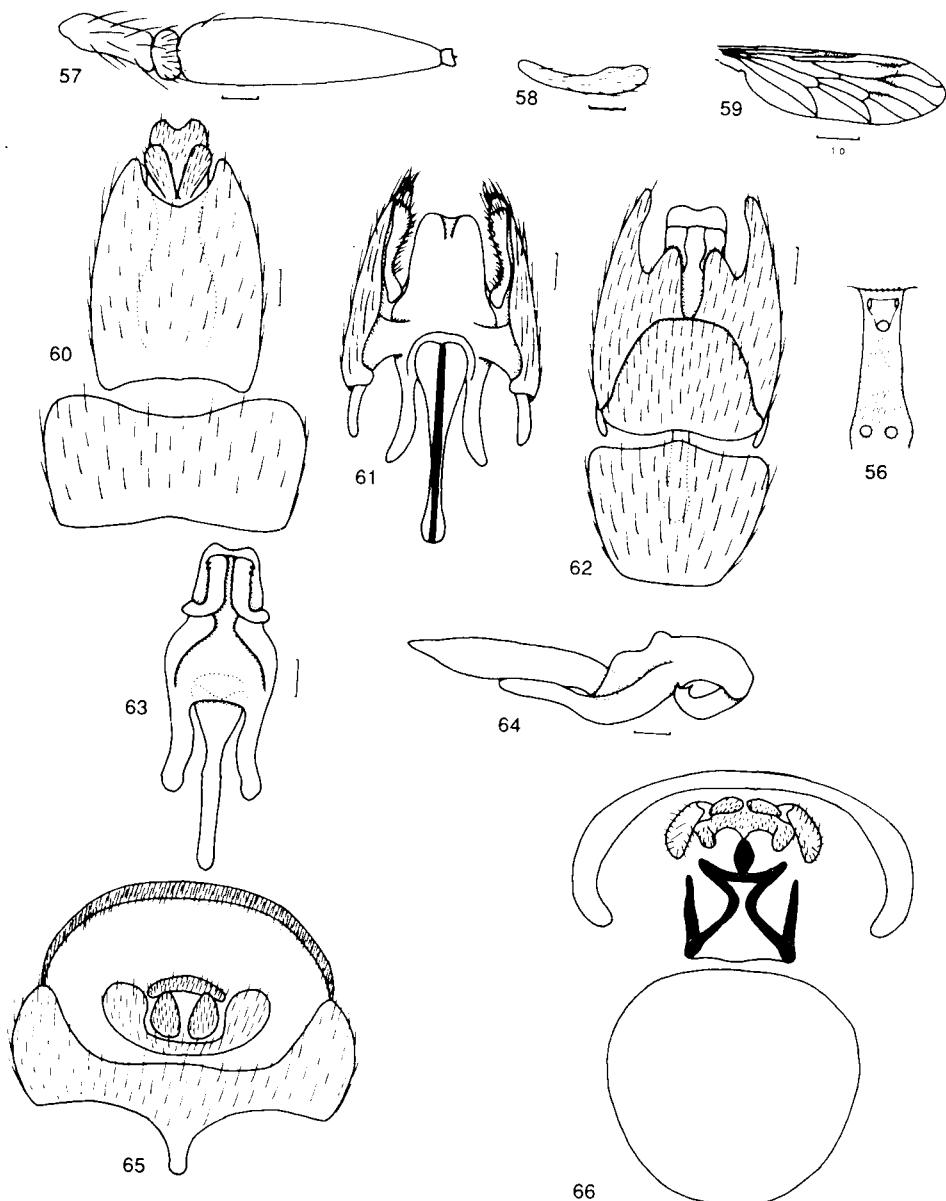
Figs. 34-40. *Cyclotelus kroeberi* (female 6864): 34. Male tergite 8, epandrium, cerci, and ventral epandrial sclerite. 35. Male gonocoxite, gonostylus, aedeagus, dorsal view. 36. Male sternite 8, hypandrium, gonocoxite, and gonostylus, ventral view. 37. Male aedeagus, lateral view. 38. Female frons, frontal view. 39. Female terminalia, dorsal view. 40. Female terminalia with internal furca, ventral view. Scale = 0.1 mm, unless otherwise indicated.



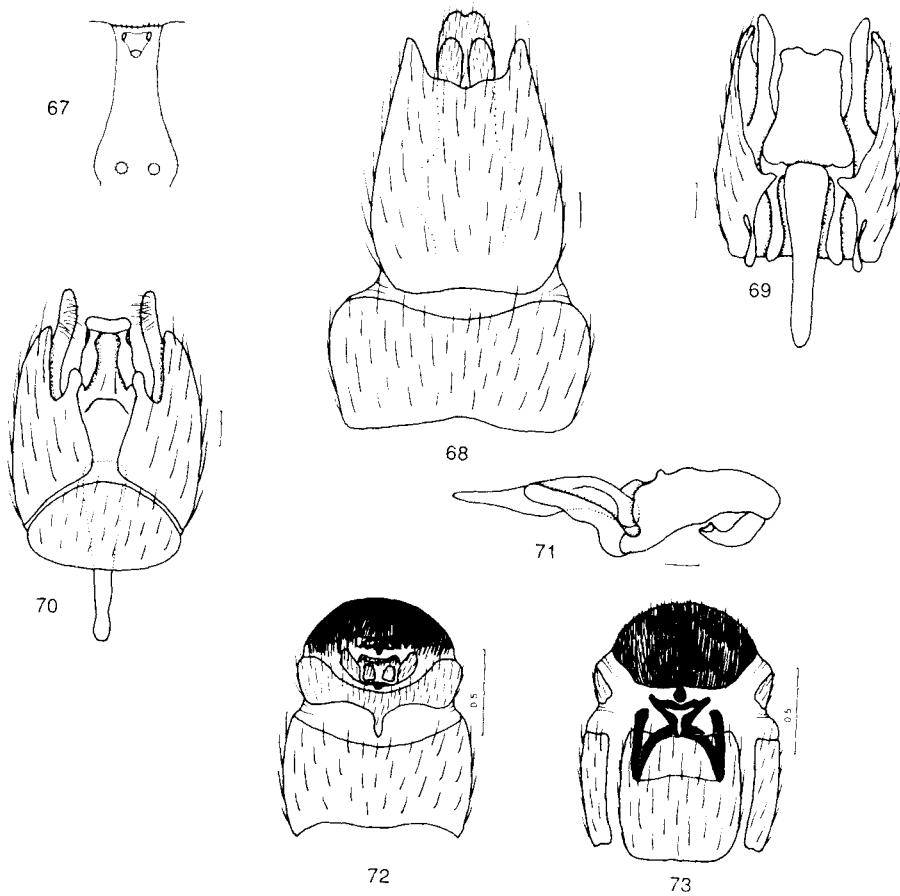
Figs. 41-48. *Cyclotelus politus* (male 6895; female 6896): 41. Male tergite 8, epandrium, cerci, and ventral epandrial sclerite. 42. Male gonocoxite, gonostylus, and adeagus, dorsal view. 43. Male sternite 8, gonocoxite, and gonostylus, ventral view. 44. Male gonostylus, ventral view. 45. Male aedeagus, lateral view. 46. Female frons, frontal view. 47. Female terminalia, dorsal view. 48. Female terminalia with internal furca, ventral view. Scale = 0.1 mm, unless otherwise indicated.



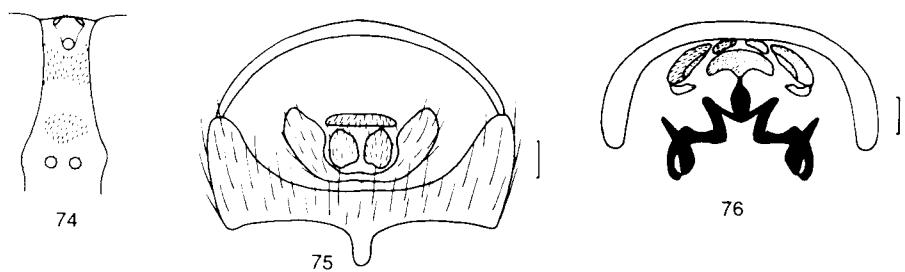
Figs. 49-55. *Cyclotelus silacrusus* (male 6884; female 6887): 49. Male tergite 8, epandrium, cerci, and ventral epandrial sclerite. 50. Male gonocoxite, gonostylus, and aedeagus, dorsal view. 51. Male sternite 8, hypandrium, gonocoxite, and gonostylus, ventral view. 52. Male aedeagus, lateral view. 53. Female frons, frontal view. 54. Female terminalia, dorsal view. 55. Female terminalia with internal furca, ventral view. Scale = 0,1 mm, unless otherwise indicated.



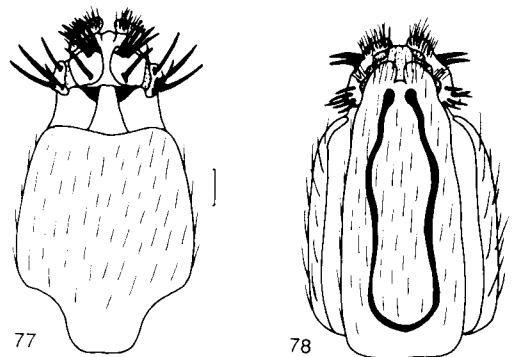
**Figs. 56-66.** *Henicomyia amazonica* (male 6888; female 6894): 56. Male frons, frontal view. 57. Male antenna. 58. Male maxillary palp. 59. Male wing. 60. Male tergite 8, epandrium, cerci, and ventral epandrial sclerite. 61. Male gonocoxite, gonostylus, and aedeagus, dorsal view. 62. Male sternite 8, hypandrium, gonocoxite, and gonostylus, ventral view. 63. Male aedeagus, ventral view. 64. Male aedeagus, lateral view. 65. Female terminalia, dorsal view. 66. Female terminalia with internal furca, dorsoposterior view, and sternite 8, ventral view. Scale = 0.1 mm, unless otherwise indicated.



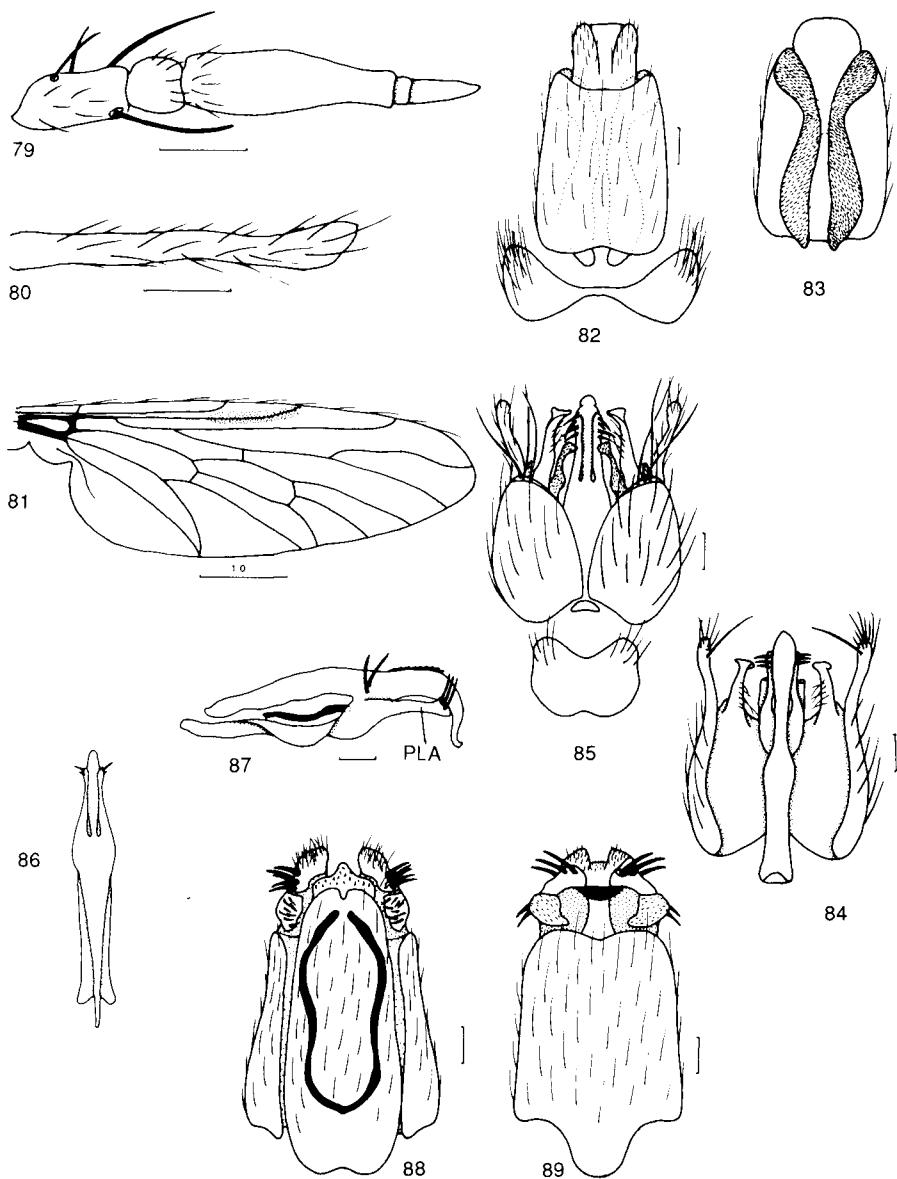
**Figs. 67-73.** *Henicomyia bicolor* (male 6837; female 6838): 67. Male frons, frontal view. 68. Male tergite 8, epandrium, cerci, and ventral epandrial sclerite. 69. Male gonocoxite, gonostylus, and aedeagus, dorsal view. 70. Male sternite 8, gonocoxite, and gonostylus, ventral view. 71. Male aedeagus, lateral view. 72. Female terminalia, dorsal view. 73. Female terminalia, dorsal view with internal furca, dorsoposterior view. Scale = 0.1 mm, unless otherwise indicated.



Figs. 74-76. *Henicomyia flava* (6843): 74. Female frons, frontal view. 75. Female terminalia, dorsal view. 76. Female terminalia with internal furca, dorsoposterior view. Scale = 0.1 mm, unless otherwise indicated.



Figs. 77-78. *Penniverpa alvadusta* (6910): 77. Female terminalia, dorsal view. 78. Female terminalia with internal furca, ventral view. Scale = 0.1 mm, unless otherwise indicated.



Figs. 79-89. *Penniverpa alvatra* (male 6898; female 6901): 79. Male antenna. 80. Male maxillary palp. 81. Male wing. 82. Male tergite 8, epandrium, cerci, and ventral epandrial sclerite. 83. Male epandrium view. 84. Male gonocoxite, gonostylus, and aedeagus, dorsal view. 85. Male sternite 8, hypandrium, gonocoxite, and gonostylus, ventral view. 86. Male aedeagus, ventral view. 87. Male aedeagus, lateral view. 88. Female terminalia, dorsal view. 89. Female terminalia with internal furca, ventral view. Scale = 0.1 mm, unless otherwise indicated.

(Brasil: Amazonas; Ecuador: Pinchinca). *C. silacrusus*, sp. n. (Brasil: São Paulo), *Penniverpa alvadusta*, sp. n. (Brasil: Amazonas) e *P. alvatra*, sp. n. (Brasil: Roraima). Uma lista das espécies brasileiras de Therevidae é fornecida baseada na literatura e no material examinado. São listadas 22 espécies em 7 gêneros, um ainda não descrito. São propostas novas combinações e novas sinonimias.

## References

- Becker, T. - 1912. Beitrag zur Kenntnis der Thereviden. Verh. K. K. zoologisch-botanischen Gesell., Wien 62:289-319.
- Bromley, S. W. - 1934. Therevidae, p. 360.361. In: Curran, the Diptera of Kartabo, Bartica District, British Guiana, with descriptions of new species from other British Guiana localities. Bull. Amer. Mus. Nat. Hist. 66:287-532.
- Cole, F. - 1923. A revision of the North American two-winged flies of the family Therevidae. Proc. U. S. Natl. Mus., 62(4):1-140.
- - 1960. Stiletto-flies of the genus *Furcifera* Kröber (Diptera:Therevidae). Ann. Ent. Soc. Amer., 53:160-69.
- Coquillet, D. W. - 1893. Synopsis of the dipterous genus *Psilocephala*. Can. Ent., 25: 222-29.
- - 1898. A new dipterous genus belonging to the Therevidae. J. N. Y. Ent. Soc., 6:187-88.
- Fabricius, J. C. - 1805. Systema antiatorum secundum ordines, genera, species. 373p. + 30p. Brunsvigae [= Brunswick].
- Irwin, M. E. - 1976. Morphology of the terminalia and known ovipositing behaviour of female Therevidae (Diptera:Asiloidea), with an account of correlated adaptations and comments on phylogenetic relationships. Ann. Natal. Mus. 22:913-35.
- - 1977a. Two new genera and four new species of the Pherocera-group from western North America, with observations on habitats and behavior (Diptera: Therevidae: Phycinae). Proc. Entomol. Soc. Wash., 79:422-51.
- - 1977b. A new genus and species of stiletto-flies from southwestern North America with close affinities to Chilean and Australian genera (Diptera:Therevidae: Therevinae). Pan-Pac. Entomol., 58:287-96.
- Irwin, M. E. & L. Lyneborg - 1981 [1980]. The genera of Nearctic Therevidae. Bull. Ill. Nat. Hist. Surv., 32:193-277.
- Kröber, O. - 1911. Die Thereviden Sud- und Mittel amerikas. Budapest Magyar Nemzeti Mus., Ann. Hist. Nat., 9:475-529.
- - 1913. Diptera. Family Therevidae, Fasc. 148, 69p. 3 pls. In: Wytsman, P. ed., Genera insectorum. Brussels.
- - 1914. Beiträge zur kenntnis der Thereviden und Omphraliden. Jb. hamb. wiss. Anst., 31(2):29-74. (= Natur hist. Mus. in Hamburg, Mitt. 31).
- - 1928. Neue und bekannte Dipteren aus den Familien Omphralidae, Conopidae und Therevidae. Konowia, 7:113-34.

- - 1929. Die Ausbeute der Deutschen Chaco-Expedition 1925/26 (Diptera). XI.  
Therevidae. *Konowia*, 8:170-72.
- Loew, H. - 1869. Diptera Americae septentrionalis indigena, Centuria octava. Berlin.  
ent. Ztschr., 13:1-52.
- Lyneborg, L. - 1968. A comparative descriptption of the male terminalia in *Thereva*  
*Latr.*, *Dialineura* Rond., and *Psilocephala* Zett. (Diptera, Therevidae). Entomol.  
Meddel., 36:546-59.
- - 1972. A revision of the *Xestomyza*-group of Therevidae (Diptera). Ann. Natal  
Mus. 21:297-376.
- - 1976. A revision of the therevine stiletto-flies (Diptera: Therevidae) of the  
Ethiopian region. Bull. Br. Mus. Nat. Hist. (Entomol.), 33:189-346.
- - 1978. The Afrotropical species of *Phycus* Walker (Diptera: Therevidae).  
Entomol. Scand., 9:212-233.
- Macquart, J. - 1840. Diptères exotiques nouveaux ou peu connus. Vol. 2, Pt. 1, p.  
5-135. 21 pls. Paris.
- Malloch, J. R. 1932. Therevidae. In: British Museum (Natural History), Diptera of Pa-  
tagonia and South Chile. Part V, Fascicle 3. Pages, p. 235-57.
- Panzer, G. W. F. - 1798. Faunae insectorum germanicae initiae oder Deutschlands  
insecten. H. 54. Würnberg.
- Rauch, P. A. - 1970. Electronic data processing for entomological museums, an economi-  
cal approach to an expensive problem. Ph.D. dissertation in entomology, University  
of California, Riverside. 78 p.
- Richards, O. W. - 1929. Systematic notes on the Borboridae (Diptera), with descriptions  
of a new species of *Leptocera* (*Limosina*). Entomol. Month. Mag., 65:171-76.
- Walker, F. - 1850. Diptera, vol 1 cont: . In: W. W. Saunders, ed., Insects Sauder-  
siana. London. "1856".
- - 1857. Characters of undescribed Diptera in the collection of W. W. Saunders.  
Trans. Ent. Soc. Lond. n. ser. [=ser. 2], 4:119-58.
- Webb, D. W. & M. E. Irwin - 1988 1989 . The genera *Ataenogera* and *Phycus* in the New  
World (Diptera: Therevidae: Phycinae). Proc. Entomol. Soc. Wash., 91:35-50.

(Aceito para publicação em 07/5/90)