

A Report on a Collection of Ceratopogonidae (Diptera) from Rondonia, Brazil.

2. Tribes Heteromyiini and Sphaeromiini

Gustavo R. Spinelli and Andrea Dippolito

Instituto de Limnologia "Dr. Raul A. Ringuelet"
Casilla de Correo 712, 1900 La Plata, Argentina

and

Willis W. Wirth

Florida State Collection of Arthropods
1304 NW 94th St., Gainesville, Florida 32606, U.S.A.

Abstract: Examination of a large collection of Ceratopogonidae from Rondonia, Brazil, resulted in records of 11 species in the tribes Heteromyiini and Sphaeromiini, including the NEW GENUS *Groganhelea* Spinelli & Dippolito NEW GENUS, which is described herein, with its type-species *G. rondoniense* Spinelli & Dippolito, NEW SPECIES. *Heteromyia correntina* Lane & Duret and *Mallochohelea termophila* (Spinelli) are recorded for the first time from Brazil.

Introduction

This is the second paper in a series comprising a taxonomic study of ceratopogonids recently collected by U. Schmitz in Rondonia, Brazil, and by J. Castner and P. Skelley in Loreto, Peru. The present contribution deals with the predaceous midges belonging to the tribes Heteromyiini and Sphaeromiini, which are represented only in the collections from Rondonia. Data for the Rondonia collections are as follows: BRAZIL: Rondonia, 62 km SW Ariquemes, vic. Rancho Grande, iv-1x.1992, U. Schmitz, UV light trap.

For general ceratopogonid terminology see Downes & Wirth (1981); for special terms dealing with the tribes Heteromyiini and Sphaeromiini see Wirth & Grogan (1979). The holotype of the new species is deposited in the Instituto Oswaldo Cruz, Rio de Janeiro, Brazil. Paratypes and other specimens examined are in the Florida State Collection of Arthropods, Gainesville. This is scientific contribution # 601 of the Instituto de Limnologia "Dr. Raul A. Ringuelet."

Tribe Heteromyiini

Clinohelea (Ceratobezzia) fallax (Kieffer)

Clinohelea fallax Kieffer, 1917: 326 (female; Paraguay); Lane, 1948: 232 (male; Brazil; misident.); Wirth, 1974: 46 (in

catalog); Clastrier, 1983: 23 (generic position); Spinelli & Wirth, 1993: 53 (Argentina); Spinelli & Duret, in press (subgeneric position; synonymy).

Clinohelea barrettoi Lane & Duret, 1954: 249 (female; Brazil); Lane, 1961: 38 (Brazil); Wirth, 1974: 46 (in catalog).

Distribution. Widely distributed, from El Salvador to 34° S in Argentina.

Specimens Examined. One female.

Clinohelea (Clinohelea) horacioi Lane

Clinohelea horacioi Lane, 1944: 257 (female, male; Brazil); Lane, 1946: 211 (Brazil); Lane & Duret, 1954: 251 (in key; Argentina, Brazil); Lane, 1961: 39 (Costa Rica, Honduras, Jamaica, Panama); Wirth, 1974: 47 (in catalog); Spinelli & Wirth, 1993: 53 (Argentina); Spinelli & Duret, in press (diagnosis; descr. pupa; distrib.).

Distribution. Widely distributed, from Mexico to 32° S in Argentina.

Specimens Examined. Four females, 8 males.

Clinohelea (C.) nigripes Macfie

Clinohelea nigripes Macfie, 1939: 205 (female; Brazil); Lane, 1944: 250 (Brazil); Lane, 1946: 210 (male; Brazil); Lane &

Duret, 1954: 252 (Argentina); Lane, 1961: 39 (Costa Rica, Panama); Wirth, 1974: 47 (in catalog); Spinelli & Wirth, 1993: 53 (Argentina); Spinelli & Duret, in press (diagnosis; descr. pupa; distr.).

Distribution. Northeastern Argentina, Brazil, Colombia, Costa Rica, Panama.

Specimens Examined. Three females.

***Clinohelea (C.) saltanensis* Lane & Duret**

Clinohelea saltanensis Lane & Duret, 1954: 252 (female; Argentina); Lane, 1961: 40 (Brazil); Wirth, 1974: 47 (in catalog); Spinelli & Wirth, 1993: 53 (Argentina); Spinelli & Duret, in press (diagnosis; distr.).

Distribution. Northeastern Argentina, Brazil, Paraguay.

Specimens Examined. One male.

***Clinohelea (C.) townsendi* Lane**

Clinohelea townsendi Lane, 1944: 258 (female; Brazil); Lane, 1946: 211 (Brazil); Lane & Duret, 1954: 252 (Argentina, Brazil); Lane, 1961: 40 (Brazil, Panama, Peru); Wirth, 1974: 47 (in catalog); Spinelli & Wirth, 1993: 53 (Argentina); Spinelli & Duret, in press (diagnosis; synonymy; distr.).

Clinohelea townesi Lane, 1944: 254 (female; Brazil); Lane & Duret, 1954: 248 (in key); Wirth, 1974: 47 (in catalog).

Distribution. Widely distributed, from Panama to northeastern Argentina.

Specimens Examined. Seven females.

***Heteromyia correntina* Duret & Lane**

Heteromyia correntina Duret & Lane, 1955: 39 (female; male; Argentina); Wirth, 1974: 47 (in catalog; distr.); Spinelli & Wirth, 1993: 55 (Argentina).

Distribution. Argentina, Brazil, Panama.

Specimens Examined. Two females, 5 males; first record of the species from Brazil.

Tribe Shaeromiini

***Groganhelea* Spinelli & Dippolito**

new genus

Type-species: *Groganhelea rondoniensis* Spinelli & Dippolito, new species.

Diagnosis. A genus of medium-sized predaceous midges distinguished from all other genera of the tribe Sphaeromiini by the following combination of characters: Eyes bare, contiguous. Scutum without anterior tubercle. Legs slender, femora unarmed; hind tarsus greatly elongated, linear; 4th tarsomeres short and cordiform on fore and mid legs, subcylindrical on hind leg; 5th tarsomeres with 5 pairs of batonnets not restricted to base; claws equal on all legs, each with blunt external basal tooth. Wing with a single radial cell extending to wing tip; vein R4+5 arcuate; M broadly sessile; anal lobe well developed, anal angle nearly at 90°. Female sternite 8 with tufts of setae flanking gonopore. Two spermathecae. Male unknown.

Relationships. *Groganhelea* resembles the Neotropical genus *Neobezzia* Wirth & Ratanaworabhan by virtue of the long costa, unarmed femora, tarsal claws with external basal tooth, scutum without anterior tubercle, eyes contiguous, and female sternite 8 with tufts of setae flanking gonopore. *Neobezzia* differs from *Groganhelea*, however, by the narrow anal lobe of the wing, hind tarsus not elongated, and the external basal tooth of the tarsal claws is pointed.

Two other Neotropical genera, *Sphaerohelea* Spinelli & Felipe-Bauer (1990) and *Lanehelea* Wirth & Blanton (1972), share two important characters with *Groganhelea*: unarmed femora, and elongated, linear hind tarsus. These two genera can be distinguished from *Groganhelea* by the narrow anal angle of their wing, claws with pointed internal basal tooth, separated eyes, and scutum with short anterior tubercle.

Etymology. The genus is dedicated to William L. Grogan, Jr., Salisbury State University, Salisbury, Maryland, in recognition of his important contributions to the taxonomy of the biting midges.

Groganhelea rondoniensis Spinelli &

Dippolito, new species

(Figures 1-7)

Description.

Female. Wing length 1.56 (1.50-1.58, n = 4) mm; breadth 0.51 (0.50-0.52, n = 4) mm.

Head: Dark brown. Eyes bare, contiguous by a distance equal to diameter of 2 ommatidial facets. Antenna (Fig. 1) entirely dark brown, lengths of flagellomeres in proportion of 22-12-12-12-13-14-13-14-27-29-29-33-40; antennal ratio 1.39 (1.33-1.45, n = 5). Palpus (Fig. 2) dark brown, lengths of segments in proportion of 5-10-13-10-6; 3rd segment with scattered sensilla on inner margin. Mandible with 7 coarse medial teeth.

Thorax: Dark brown. Scutum without anterior tubercle, 3 prealar setae. Legs (Fig. 3) slender, dark brown; femora unarmed; hind tibial comb with 4-5 bristles, spur plumose; tarsi (Fig. 4) brown, tarsomeres 1-3 of fore and mid legs yellowish; hind tarsus greatly elongated, linear; hind tarsal ratio 2.50 (n = 5); a pair of black ventral spines at apices of tarsomeres 1-2 on mid leg; ventral palisade setae absent on fore tarsus, in one row on basitarsus of mid leg, in two rows on basitarsus of hind leg; 4th tarsomeres short, cordiform on fore and mid legs, long and subcylindrical on hind leg; 5th tarsomeres (Fig. 5) armed ventrally with 5 pairs of batonnets not restricted to base; claws curved, equal on all legs, with blunt external basal tooth. Wing (Fig. 6) with costa extending to tip; membrane hyaline; a single radial cell; anal lobe well developed, anal angle nearly at 90°; venation as figured. Halter dark brown.

Abdomen: Dark brown. Sternite 8 with definite tufts of 7-8 setae flanking gonopore. Two ovoid, strongly sclerotized spermathecae (Fig. 7) measuring 0.049 by 0.042 mm, and 0.042 by 0.032 mm, plus vestigial 3rd.

Male. Unknown.

Distribution. Brazil; known only from the type-locality.

Types, Holotype female, and 4 female paratypes, BRAZIL, Rondonia, 62 km SW Ariquemes, vic.

Rancho Grande, 1.v.1992, U. Schmitz, UV light trap.

Mallochohelea termophila (Spinelli)

Neobezzia termophila Spinelli, 1984: 197 (female, male; Argentina).

Mallochohelea termophila (Spinelli); Spinelli & Wirth, 1993: 58 (combination; distr.; Argentina).

Distribution. Argentina, Brazil.

Specimens Examined. Two females, first record of *M. termophila* for Brazil.

Neobezzia amnicola (Macfie)

Bezzia amnicola Macfie, 1940a: 30 (female; Guyana); Lane, 1948: 237 (Brazil); Lane, 1958: 28 (in key; Brazil).

Sphaeromias (*Neobezzia*) *amnicola* (Macfie); Wirth, 1959: 236 (male; Brazil); Mayer, 1959: 230 (pupa; Brazil); Lane, 1961: 38 (Brazil).

Neobezzia amnicola (Macfie); Wirth & Ratanaworabhan, 1972: 481 (female, male; redescr.; distr.); Wirth, 1974: 49 (in catalog).

Distribution. Brazil, Colombia, Costa Rica, Guyana, Panama, Peru.

Specimens Examined. Six females.

Neobezzia blantoni Wirth &
Ratanaworabhan

Neobezzia blantoni Wirth & Ratanaworabhan, 1972: 482 (female; Brazil, Colombia, Nicaragua, Panama); Wirth, 1974: 49 (in catalog); Spinelli, 1987: 160 (Argentina); Spinelli & Wirth, 1993: 58 (Argentina).

Distribution. Argentina, Brazil, Colombia, Nicaragua, Panama.

Specimens Examined. Two females.

Nilobezzia neotropica (Macfie)

Bezzia neotropica Macfie, 1940b: 78 (female; Brazil).

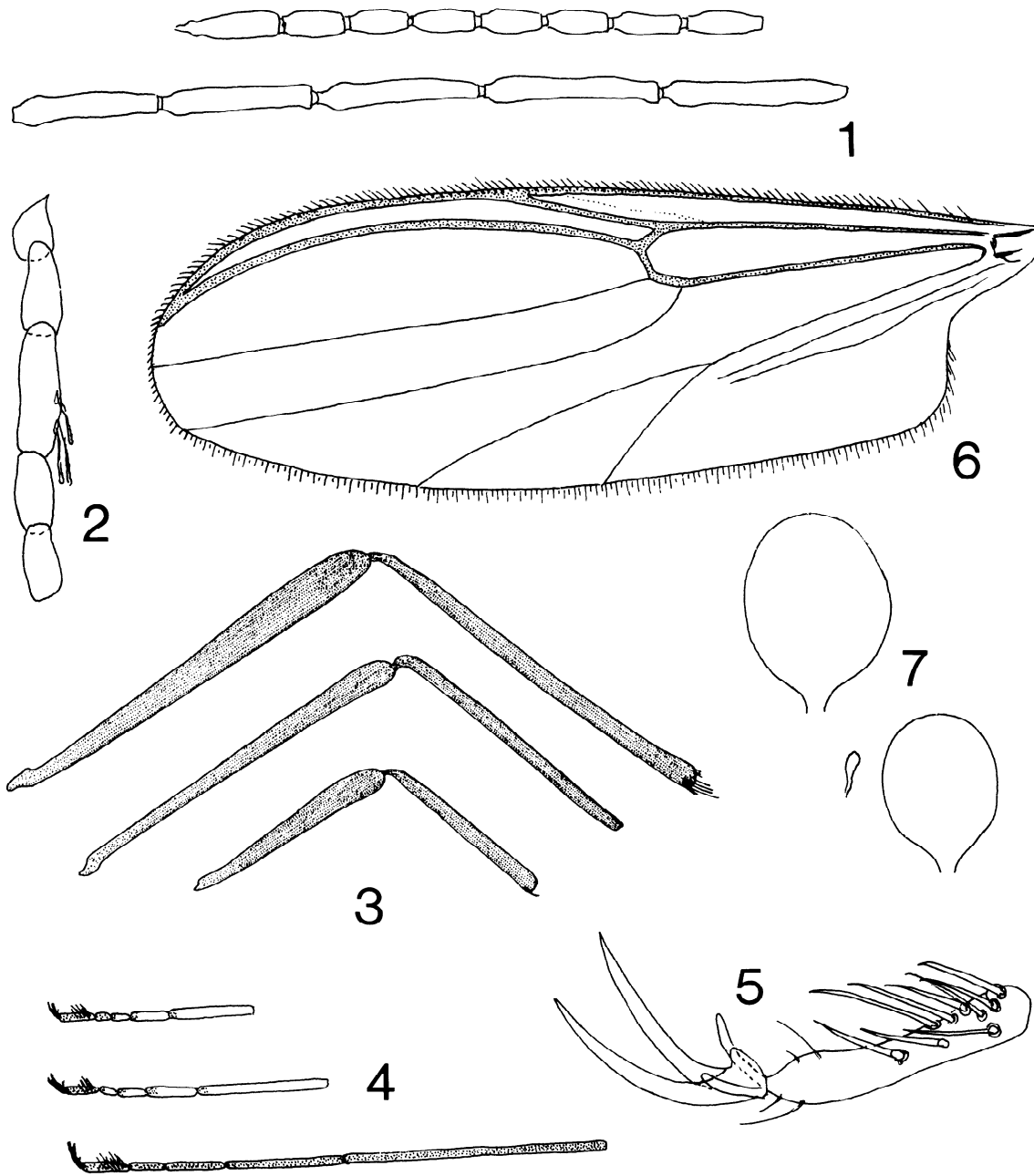
Nilobezzia neotropica (Macfie); Wirth, 1974: 50 (combination; in catalog).

Distribution. Brazil.

Specimens Examined. One female.

References

- Clastrier, J.** 1983. Description de deux nouvelles especes afrotropicales concernant les genres *Ceratobezzia* et *Clinohoelea* (Diptera, Ceratopogonidae). Revue française d'Entomologie (N.S.) 5 (1): 19-26.
- Downes, J. A., and Wirth, W. W.** 1981. Ceratopogonidae, pp. 392-421. In: McAlpine, J. F., et al., Eds. Manual of Nearctic Diptera. Vol. 1. Agriculture Canada Monograph 27, Ottawa, 674 pp.
- Duret, J. P., and Lane, J.** 1955. Novae *Heteromyia* de Argentina (Diptera, Ceratopogonidae). Dusenía 6: 35-40.
- Kieffer, J. J.** 1917. Chironomides d'Amerique conserves au Musee National Hongrois de Budapest. Annales Musei Nationalis Hungarici 15: 292-364.
- Lane, J.** 1944. As especies Neotropicas do genero *Clinohoelea* Kieffer, 1917 (Diptera, Ceratopogonidae). Revistas de Entomologia 15: 249-261.
- Lane, J.** 1946. New Neotropical Ceratopogonidae (Heleidae)(Diptera, Nemocera). Revista de Entomologia 17: 202-215.
- Lane, J.** 1948. Novos Ceratopogonideos do Brasil (Diptera, Ceratopogonidae (Heleidae)). Arquivos da Faculdade de Higiene e Saude Publica da Universidade de Sao Paulo 1: 225-239, 4 plates.
- Lane, J.** 1958. On Neotropical *Bezzia*. Revista Brasileira de Entomologia 8: 25-36.
- Lane, J.** 1961. Further notes on Neotropical Ceratopogonidae (Diptera). Revista Brasileira de Biologia 21: 37-44.
- Lane, J., and Duret, J. P.** 1954. *Clinohoelea* da Argentina e do Brasil (Diptera, Ceratopogonidae). Dusenía 5: 247-254.
- Macfie, J. W. S.** 1939. A report on a collection of Brazilian Ceratopogonidae (Dipt.). Revista de Entomologia 10: 137-219.
- Macfie, J. W. S.** 1940a. A report on a collection of Ceratopogonidae (Diptera) from British Guiana. Entomologist's Monthly Magazine 76: 23-32.
- Macfie, J. W. S.** 1940b. Ceratopogonidae (Diptera) from Northeastern Brazil. Proceedings of the Royal Entomological Society of London (B) 9: 73-79.
- Mayer, K.** 1959. Die Puppen brasilianischer Heleiden (Diptera). Deutsche Entomologische Zeitschrift (N.F.) 6: 230-233.
- Spinelli, G. R.** 1984. Notes sobre Ceratopogonidae (Diptera: Nematocera) de la Republica Argentina. IV. Descripcion de adulto y pupa de *Neobezzia termophila* sp. nov. Neotropica 30: 197-200.
- Spinelli, G. R.** 1987. Nuevas citas de Ceratopogonidae para la Argentina y Uruguay (Insecta: Diptera). Revista de la Sociedad Entomologica Argentina 44: 160.
- Spinelli, G. R., and Duret, J. P.** 0000. Las especies Neotropicales de *Clinohoelea* (Diptera: Ceratopogonidae). Graellsia (IN PRESS)
- Spinelli, G. R., and Felipe-Bauer, M. L.** 1990. *Sphaerohelea*, a new Neotropical predaceous midge genus of the tribe Sphaeromiini (Diptera: Ceratopogonidae). Memorias do Instituto Oswaldo Cruz 85: 195-198.
- Spinelli, G. R., and Wirth, W. W.** 1993. Los Ceratopogonidae de la Argentina (Insecta: Diptera). Fauna de agua dulce de la Republica Argentina 38: 1-124.
- Wirth, W. W.** 1959. New species and records of Heleidae from Brazil. Deutsche Entomologische Zeitschrift (N.F.) 6: 234-237.
- Wirth, W. W.** 1974. A catalogue of the Diptera of the Americas south of the United States. Family Ceratopogonidae. Museu de Zoologia, Universidade de Saudo Paulo 14: 1-89.
- Wirth, W. W., and Blanton, F. S.** 1972. *Lanehelea*, a new Neotropical genus of Sphaeromiini (Dipt. Ceratopogonidae). Studia Entomologica 15: 433-438.
- Wirth, W. W., and Grogan, W. L., Jr.** 1979. Natural History of Plummers Island, Maryland. XXIV. Biting midges (Diptera: Ceratopogonidae). 2. The species of the tribes Heteromyiini and Sphaeromiini. Proceedings of the Biological Society of Washington 91: 847-903.
- Wirth, W. W., and Ratanaworabhan, N. C.** 1972. *Neobezzia*, a new Neotropical biting midge genus of the tribe Sphaeromiini (Diptera: Ceratopogonidae). Journal of the Kansas Entomological Society 45: 476-490.



Figures 1-7: *Groganhelea rondoniensis*, female. 1, antennal flagellum; 2, palpus; 3, femora and tibiae of (top to bottom) hind, mid and fore legs; 4, tarsi of (top to bottom) fore, mid and hind legs; 5, 5th tarsomere and tarsal claws; 6, wing; 7, spermathecae.