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Description of one new species and a key to adults of *Macrogynoplax* Enderlein (Plecoptera, Perlidae) from Reserva Florestal Adolpho Ducke, Amazonas, Brazil

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Abstract

Three known species of *Macrogynoplax* Enderlein from Amazonas, Brazil are redescribed: *M. delicata* Ribeiro-Ferreira & Froehlich, from neotype, present designation; *M. poranga* Ribeiro-Ferreira & Froehlich, from neotype, present designation; *M. pulchra* Ribeiro-Ferreira & Froehlich from holotype and *M. anae* new species is described. A key to males is presented. *M. marauia* Froehlich is considered a junior synonym of *M. delicata*.

Key words: Amazonas**,** *Macrogynoplax*, neotype, Plecoptera, Reserva Ducke, taxonomy

Introduction

Macrogynoplax species are restricted mainly to northern South America and have been recorded from Venezuela and Surinam (Stark & Zwick 1989), Peru and Guyana (Stark 1996, 2001) and Brazil (Enderlein 1909, Froehlich 1984, Ribeiro-Ferreira & Froehlich 1999, Bispo et al. 2005). The genus comprises 12 described species, five of which occur in the Brazilian Amazon Basin (Froehlich 2003) and three of which plus one new species treated here, occur in the Adolpho Ducke Forested Reserve. *Macrogynoplax delicata* Ribeiro-Ferreira & Froehlich was described from the male holotype and female paratype and *M. poranga* Ribeiro-Ferreira & Froehlich was described from the male holotype; however, the type-specimens of both species were not located at the Instituto Nacional de Pesquisa da Amazônia (INPA), nor at Dr. Cláudio Froehlich collection (Froehlich, pers. comm.) after Ana Celeste Ribeiro-Ferreira's death.

Specimens of both species have since been collected from the type locality, Ducke Reserve, and we have assigned these specimens neotype status, in the interest of nomenclatural stability.

The association of sexes is problematic in this genus. The species are rarely collected while *in copulo*, and the association is often speculative. The original associations are accepted in this study, but the new species is not associated with a female because there is more than one species possible at the type locality. Females will be associated in the future by the collection of copulating pairs or by molecular studies**.**

Material and methods

The material examined is deposited in the following Brazilian collections: Instituto Nacional de Pesquisa da Amazônia (INPA), Manaus, Amazonas; Museu Paraense Emílio Goeldi (MPEG), Belém, Pará; Museu de Zoologia da Universidade de São Paulo (MZUSP), São Paulo, São Paulo. Most specimens were collected with

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Malaise traps in the Adolpho Ducke Forested Reserve, Manaus, on six small streams: Tinga, Uberê, Ipiranga, Barro Branco, Acará, and Bolivia, between July 2002 and August 2003.

Adults were preserved in 80% EtOH. Abdomens were removed and cleared in 85% lactic acid under heat. Further dissection was conducted on a depression slide containing glycerine. Specimens were viewed using a Wild M3Z stereomicroscope and a Leica DMLS compound microscope, both with a camera lucida. Pictures were taken with a Nikon Coolpix 880 digital camera through the lens of the stereomicroscope.

Terminology follows Stark (2001) and Froehlich (2002). Within the material examined, incomplete specimen information is augmented using brackets. All known species are being redescribed in order to adopt the same characters and the same pattern.

Results and discussion

Key to males of *Macrogynoplax* species of Amazonas, Adolpho Ducke Forested Reserve, Brazil

1 Forewings with Rs, r–m and CuA vein dark; penial tube distinctly larger ventrally in lateral view (Figs. 15, 16, 24, 25) with sclerotized penial hooks (Figs 14, 23); tergum ten with two patches of sensilla basiconica 2

- Forewing veins and membrane hyaline; penial tube not dilated ventrally in lateral view (Figs. 33, 44) without sclerotized penial hooks (Figs 31, 40). Tergum ten without sensilla basiconica..... 3

2 Penial hooks short, their apex reaching ½ penial tube height, hooks abruptly turned ventrally at its midpoint (Figs. 23, 24); paraproct subapical denticle not prominent (Fig. 22) .....*Macrogynoplax poranga*

- Penial hooks long, apex reaching to tip of tube, hooks crossing near apex; paraproct subapical denticle prominent..... *Macrogynoplax delicata*

3 Penial tube with membranous apex short and enlarged subapically (Figs. 40, 41); paraproct with rounded apex (Fig. 39)..... *Macrongynoplax anae*, **sp.n.**

- Penial tube with membranous apex long and narrowed toward apex (Figs. 31, 32); paraproct with acuminated apex (Fig. 30) .....*M. pulchra*

Genus: *Macrogynoplax* Enderlein

The genus is known from Suriname, Guyana, Venezuela, Peru and Brazil, where it is found at both high and low altitudes. Eleven species are known (Froehlich 2003). One species occurs in southeastern Brazil (*M. veneranda* Froehlich) and five in the Amazon (*M. guyanensis* Enderlein, *M. delicata*, *M. poranga*, *M. pulchra* Ribeiro-Ferreira & Froehlich and *M. marauia* Froehlich).

The species vary in body length from 7.6 to 11.3 mm and are noted by pale yellow coloration. A pair of vitreous ocelli are margined in black, separated by the diameter of two to three ocelli. The medial margin of compound eyes is composed of rows of non-pigmented facets. Filiform antennae are composed of 60–70 segments, with the scape being longer and wider than the filament. Maxillary palpi 5-segmented and labial palpi 3-segmented. Pronotum with little pilosity. Legs covered with short pilosity, except femora, which has longer setae set equidistant on anterior and posterior ventral surfaces. Tibiae long , unpigmented, with ventral anterior and posterior setae. Tarsi with longer setae on last tarsomere. Forewing of male varying in length from 9 to 21 mm and of female from 12 to 23 mm. Ninth male sternum with large median lobe and anteriorly projected, differentiated setae, its posterior margin shaped as semicircle with distinct short setae. The male hammer is subcircular, forming a low callus. Penial armature is partially sclerotized, with the apex generally narrower than the base. Female subgenital plates generally covering more than half of the ninth sternite, with a slightly straight, emarginated or rounded posterior margin, covered with small anteriorly, posteriorly and laterally directed setae.

***Macrogynoplax delicata* Ribeiro-Ferreira & Froehlich**
(Figs. 1, 4-5, 9-17)

Macrogynoplax delicata Ribeiro-Ferreira & Froehlich, 1999:134, Figs. 1–5. Froehlich, 2003:133 (key).
Macrogynoplax marauia Froehlich, 2003, Figs. 15–18, N. SYN.

Diagnosis. Body light yellow to light green when alive and whitish when preserved in alcohol. Tergum ten of males with two median patches of sensilla basiconica. Penial armature is distinctly enlarged at the base in lateral view. Penial hooks of the aedeagus are long as the tube with the apex turned medially. Female sternum eight rounded on the posterior margin.

Redescription of male. Neotype (pres. desig.), male. Light yellow in life, light yellow to whitish when preserved in alcohol. Body (Fig. 1) 8.8 mm long. Head (Fig. 4) light yellow, 1.0 mm long, 1.7 mm wide; frons with slightly "M"-shaped conspicuous spots in the same color, more distinct in lateral view, between the base of the antennae and anterior to the ocelli; ocelli separated by twice their width; maxillary and labial palpi light yellow on the base, slightly brown on the apex; scape, pedicel, and flagellum light yellow. Pronotum (Fig. 4) uniformly light yellow, slightly narrower than head. Meso– and metanotum with pale yellow protuberances. Legs, including coxae, femora and tibiae, uniformly pale yellow. Forewings with Rs, r-m and CuA veins dark brown (Fig. 5). Crossveins r_1-rs and r-m aligned on fore and hindwings forming a cross. Abdomen light yellow. Cerci light yellow with lateral bristles longest. Sternum nine (Fig. 8) wider than long, lateral bristles longest, posterior margin produced into a rounded lobe slightly oblique in lateral view. Hammer (Figs. 11–12) rounded, produced as a callosity, slightly oblique in lateral view. Paraproct with prominent, but blunt subterminal spine (Fig. 12). Tergum ten (Fig. 9) with two patches of sensilla basiconica. Penial armature the length of tube base, their acute tips crossing medially (Figs.14–15). Penial tube base distinctly dilated in lateral view (Fig. 16).

Female. Originally associated by species authors is maintained (described with subgenital plate covering half of sternum ten , margin entire) (Fig. 16).

Variation. Length of male 8.2–10.0 mm; forewing 9.2–10.0 mm long, 3.1–3.4 mm wide; hindwing 7.7–8.8 mm long, 3.4–3.7 mm wide; crossveins r_1-rs and r-m aligned on fore and hindwings forming a cross.

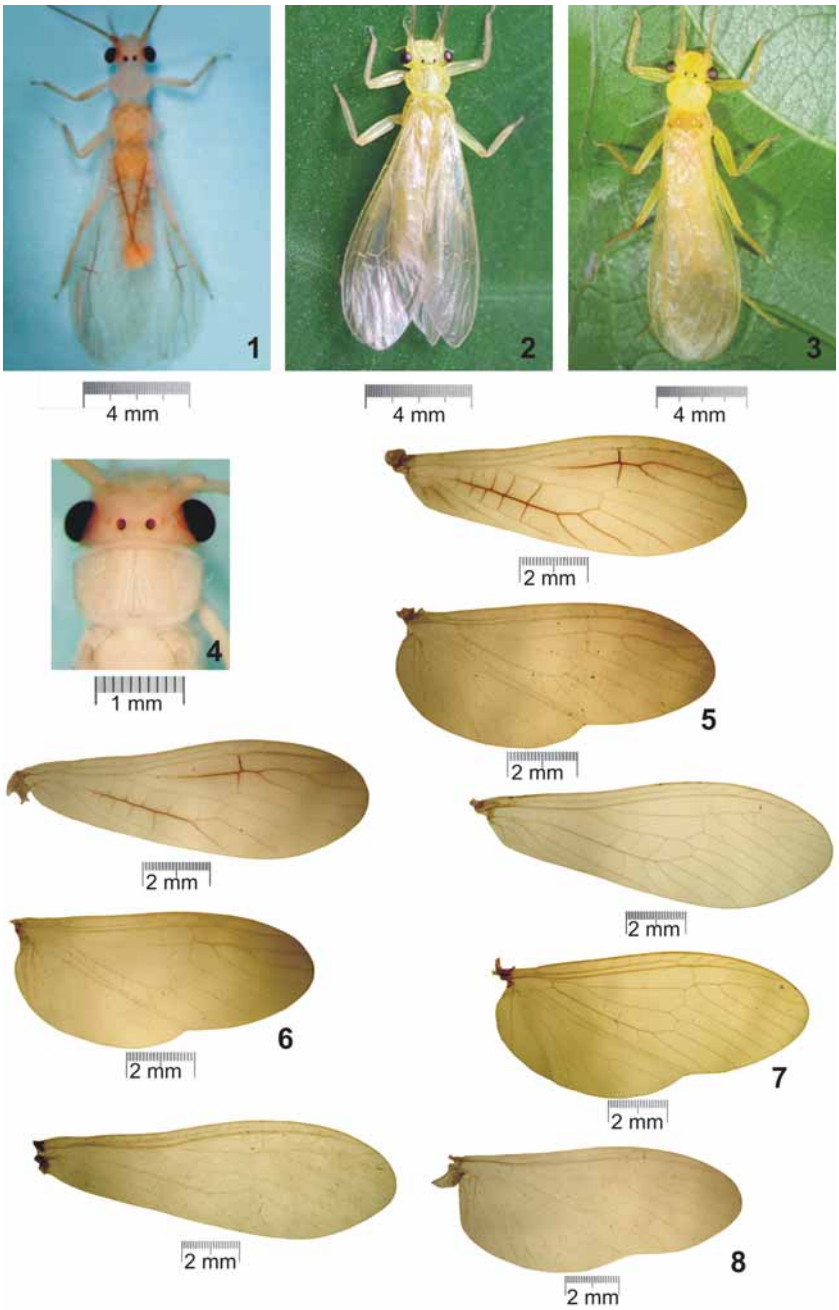
Distribution. Amazonas (Manaus); Pará (Rodovia Belém-Brasília, km 90).

Material examined. Neotype (pres. Desig.) BRASIL, AM[azonas], Manaus, Reserva Ducke, Ig[arapé] Bolívia, arm[adilha] de malaise, 24-28.ii.2003, J.M.F.Ribeiro. Holotype female (MZSP). Amazonas, Rio Marauia (A483), *Macrogynoplax marauia* Froehlich, 2003 desig. C.G. Froehlich and of Macrogynoplax marauia with the following paragraph: Conditions of Holotype: Dissected abdomen, inside same Eppendorf tub Kept in a glass jar with alchohol. Neotype (pres. desig.) BRASIL, AM[azonas], Manaus, Reserva Ducke, Ig[arapé] Bolívia, arm[adilha] de Malaise, 24–28.ii.2003, J.M.F.Ribeiro. Neotype male, desig. J.M.F.Ribeiro & J.A.Rafael. *Macrogynoplax delicata* Ribeiro-Ferreira & Froehlich, det. J.M.F.Ribeiro, 2003. Brasil, Amazonas, Manaus, Reserva Ducke, Ig. Barro Branco, reared in laboratory, 11.vii.1995, A.C.Ferreira (female INPA); same location, 12–18.ix.1996, F.L.Oliveira (female INPA); Ig. Uberê, 02.xii.2002, arm. Malaise, J.M.F.ribeiro (female INPA); same location, 17–27.xii.2002, João Vidal & Jailson Vidal (7 male, 5 female INPA); same location, Ig. Ipiranga, 31.xii.2002 (male INPA); same location, 20.i.2003, J.M.F.Ribeiro (male INPA); same location, Ig. Bolívia, 03–10.ii.2003 (2 male, 2 female MPEG); same location, 10–18.ii.2003 (4 female INPA); same location, 18–24.ii.2003 (5 female INPA); same location, ig. Tinga, 10–17.ii.2003 (2 female, male MZUSP); same location, 24–28.ii.2003 (2 male MPEG); same location, 17–24.iii.2003 (male, female INPA); same location, 01–07.iv.2003 (2 female INPA); same location, Ig. Ipiranga, 14–20.iv.2003 (2 male INPA), same location, Ig. Uberê, 16–23.vi.2003, J.M.F. Ribeiro & João Vidal (male, 5 female INPA); same location, Ig. Ipiranga, 23–30.vi.2003 (4 male, 7 female INPA); same location, 16.vi.2003 (3 female MPEG); same location, Ig. Uberê, 07–14.vii.2003 (male MZUSP); same location, Ig. Barro Branco, 11–18.viii.2003, J.M.F.Ribeiro & A.S. Filho (male, 2 female MZUSP). Amazonas, Manaus, , Sítio Vida Tropical

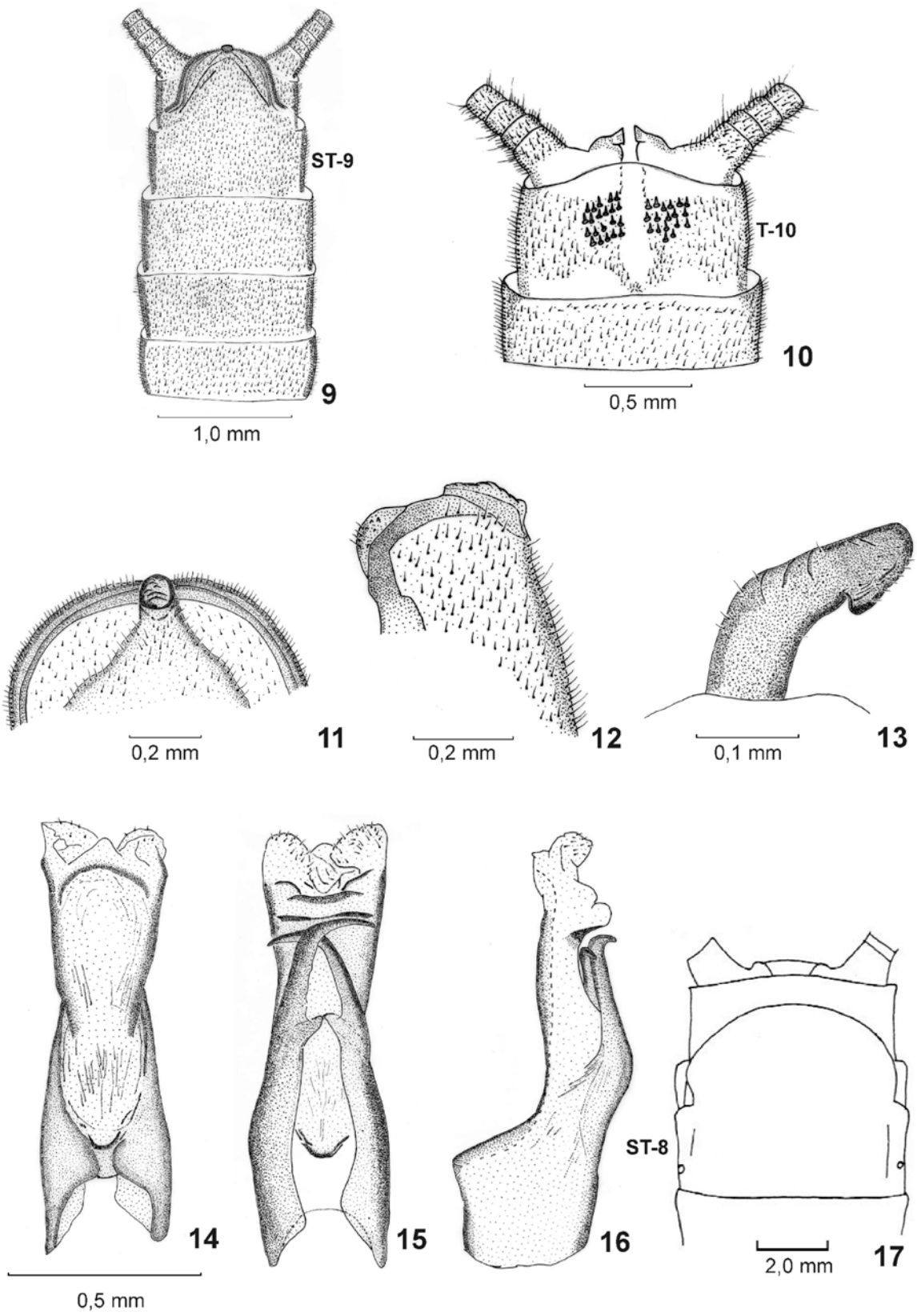
AM 010 Km 35, arm. Malaise, 12–30.vii.1996, F.L.Oliveira (female INPA); Amazonas, Rio Marauia (A483), 01.1963 (female MZSP). Pará, Rod. Belém Brasília, Km 90 F. Candirú, 16.ii.1976. T. Pimentel (male MPEG).

Condition of neotype:

Conditions of holotype: in perfect state. Dissected abdomen, inside same Eppendorf tub Kept in a glass jar with alchohol.



FIGURES 1–8. 1. *Macrogynoplax delicata*, male habitus (in alcohol); 2–3 *M. pulchra*. 2. Male habitus (in life); 3. Female habitus (in life); 4. Head and pronotum of *M. delicata*; 5. Fore– and hindwings of *M. delicata*; 6. Fore– and hindwings of *M. poranga*; 7. Fore– and hindwings of *M. pulchra*; 8. Fore– and hindwings of *M. anae*.

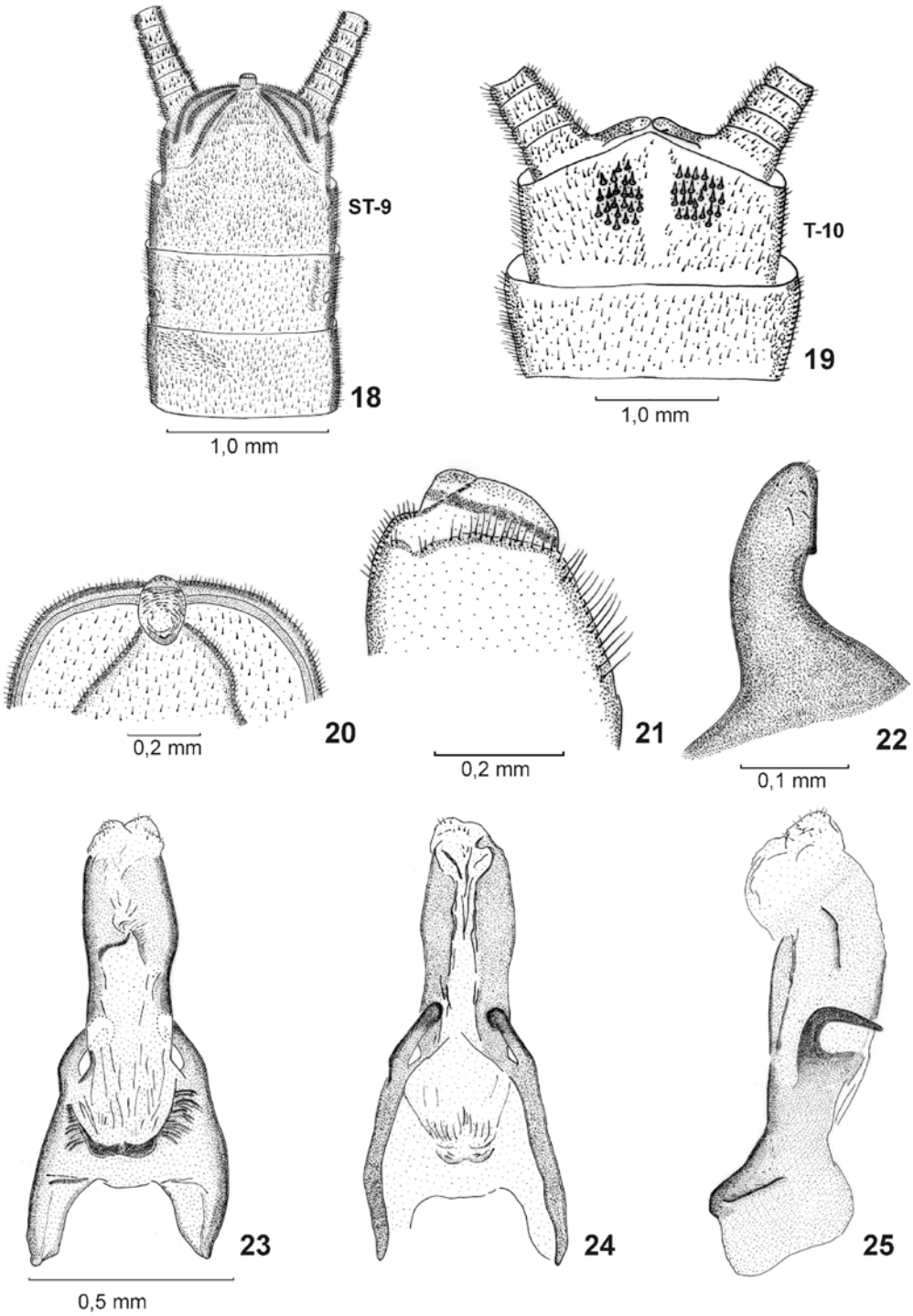


FIGURES 9–17. *Macrogynoplax delicata*; 9. Male, Sterna 7-10,ventral; 10. Male, Terga 9-10 dorsal; 11-12. Male hammer, ventral and lateral; 13. Male, paraproct lateral; 14. Male, aedeagus, dorsal; 15. Male, aedeagus, ventral; 16. Male, aedeagus, lateral; 17. Female, sterna 8-10

***Macrogynoplax poranga* Ribeiro-Ferreira & Froehlich**
(Figs. 6, 18–25).

Macrogynoplax poranga Ribeiro-Ferreira & Froehlich, 1999:136, figs. 7–10; Froehlich, 2003:133 (key)

Diagnosis. Body light yellow to whitish in alcohol. Tergum ten of male with short spines submedially. Penial armature with base distinctly enlarged in lateral view; penial hooks short and turned forward.



FIGURES 18–25. *Macrogynoplax poranga*, Male. 18. Sterna 7-10 ; 19. Terga 9-10; 20. Hammer, ventral. 21. Hammer, lateral; 22. Paraproct, lateral; 23. Aedeagus, dorsal; 24. Aedeagus, ventral; 25. Aedeagus, lateral.

Redescription of male. Neotype (pres. desig.), (similar to Fig. 1 of *M. delicata*). Body light yellow, 9.4 mm long. Head light yellow, 1.0 mm long, 1.9 mm wide; frons with inconspicuous M–shaped spots , concolorous with the integument, located anterior to the ocelli; ocelli separated by twice their width; maxillary and labial palpi pale yellow; scape, pedicel, and flagellum pale yellow. Pronotum uniformly pale yellow, (similar to Fig. 4 of *M. delicata*). Meso– and metanotum pale yellow. Legs pale yellow. Forewings with Rs, r-m and CuA veins, dark brown (Fig. 6). Abdomen pale yellow; cerci pale yellow with last segments pale brown with longer bristles. Sternum eight (Fig. 18) wider than long with posterior margin rounded, bristles slightly longer laterally; hammer (Figs. 20–21) slightly oblique in ventral view; paraprocts (Fig. 22) rounded at tip with inconspicuous subapical denticle. Tergum ten (Fig. 19) with dense patches of sensilla basiconica posteromedially. Penial armature with hooks short and abruptly bent at middle toward ventral surface (Figs. 23–25); hooks with minute distal bristles (Fig. 24).

Female not associated.

Variations. Length of male 7.7–10.6 mm; maxillary and labial palpi from light to dark brown; forewing 9.1–10.3 mm long, 3.2–3.4 mm wide.

Distribution. Amazonas (Manaus).

Material examined: Neotype (pres. desig.) (male INPA). BRASIL, AM[azonas], Manaus, Reserva Ducke, Ig[arapé] Tinga, Malaise, 24–31.iii.2003, J.M.F.Ribeiro. Neotype male *Macrogynoplax poranga* Ribeiro-Ferreira & Froehlich, desig. J.M.F.Ribeiro & J.A.Rafael. Amazonas, Manaus, Reserva Ducke, Ig.[arapé] Acará, arm. Malaise, 24.vii.2002, J.M.F.Ribeiro & João Vidal (2 male INPA); same location, Ig. Ipiranga, 11–13.ix.2002, J.M.F.Ribeiro & João Vidal (2 male MPEG), same location, 14–16.ix.2002 (2 male INPA); same location, Ig. Uberê, 02.xii.2002, J.M.F.Ribeiro (male MZUSP); same location, Ig. Uberê, 17.xii.2002, João Vidal & Jailson Vidal (male INPA); same location, 17–27.xii.2002 (7 male INPA); same location, Ig. Ipiranga, 13.i.2003, J.M.F.Ribeiro (2 male INPA); same location, 20.i.2003 (8 male INPA); same location, 27.i.2003, J.M.F.Ribeiro & João Vidal (3 male INPA); same location, Bolívia, 03.ii.2003, J.M.F.Ribeiro (male INPA); same location, Ig. Tinga, 10–17.iii.2003 (male INPA); same location, 17–24.iii.2003 (3 male MZUSP); same location, 24–31.iii.2003 (2 male INPA); same location, Ig. Ipiranga, 14–20.iv.2003 (male MPEG); same location, 13–20.v.2003 (male INPA); same location, 19–26.v.2003 (male INPA); same location, Ig. Uberê, 16–23.vi.2003, J.M.F.Ribeiro & João Vidal (9 male MZUSP, 6 male MPEG); same location, 23–30.vi.2003, arm. Malaise, J.M.F.Ribeiro (2 male INPA); same location, Ig. Acará, 11–18.viii.2003, arm. Malaise, J.M.F.Ribeiro & A.S.Filho (5 male INPA); same location, Ig. Barro Branco, 11–18.viii.2003 (2 male INPA).

Condition of neotype: Dissected abdomen with the rest of the body inside an Eppendorf tube kept in a glass jar with alcohol.

Macrogynoplax pulchra Ribeiro-Ferreira & Froehlich

(Figs. 2, 3, 7, 26-34).

Macrogynoplax pulchra Ribeiro-Ferreira & Froehlich, 1999:134, figs. 7–13. Froehlich, 2003:133 (key).

Diagnosis. Body greenish yellow in life, but whitish in alcohol. Tergum ten of males without sensilla basiconica. The aedeagus lacks penial hooks and the apex of the tube is long and narrows distally. The paraproct has an acute tip with a well-developed subapical spine. The female subgenital plate is wide, covers sternum nine, and has a small transverse furrow along the posterior margin.

Redescription of male holotype. Body greenish yellow in life, whitish yellow in alcohol. Head light to dark yellow (similar to Fig. 4 of *M. delicata*), 1.1 mm long, 1.9 mm wide; frons light yellow with conspicuous M-shaped spots rather concolorous with the integument, spots located between the base of the antennae and

anterior to the ocelli; ocelli separated by twice their width; maxillary and labial palpi dark to light yellow; scape, pedicel, and flagellum light yellow. Pronotum yellow to whitish (similar to Fig. 4 of *M. delicata*). Meso– and metanotum light yellow. Coxa and trochanter light yellow, femur and tibia light yellow, without spots. Fore– and hindwings completely hyaline (Fig. 7). Abdomen light yellow; cerci light yellow with large bristles pale brown. Sternum nine (Fig. 26) wider than long with large median lobe; hammer (Figs. 28–29) slightly rounded; paraproct (Fig. 30) wide at base, apex acute; subapical spine long and pointed. Tergum ten (Fig. 27) lacking sensilla basiconica. Penial armature (Figs. 31–33) lacking penial hooks and apex largely membranous and short.

Female (Figs. 2). The original association is accepted; sternum eight wider than long covering sternum nine with small transverse, posterior groove (Fig. 34).

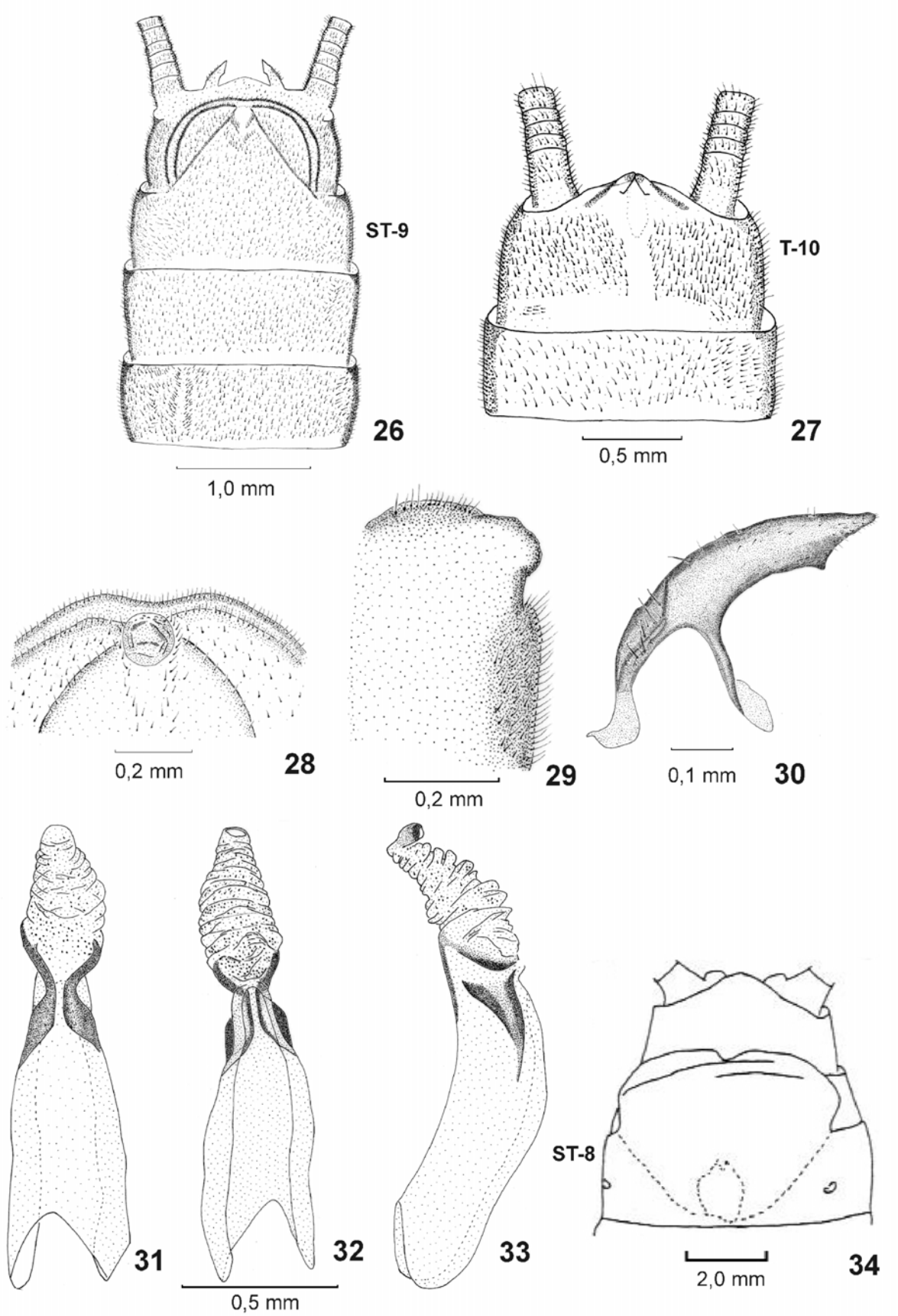
Variations. Length of male 7.1–9.6 mm; head 0.7–1.1 mm long, 1.4–1.7 mm wide; forewing 10.5–12.0 mm long, 3.4–4.1 wide; hindwing 9.4–10.3 mm long, 4.0–4.4 mm wide.

Distribution. Amazonas (Manaus).

Material examined. Holotype male (INPA). BRASIL, AM[azonas], [Manaus], R[eserva] Ducke, Ig[arapé] B[arro] Branco, 25.iii.[19]88, Ferreira A.C., col., Amazonas, Manaus, Reserva Ducke, Ig[arapé] Acará, arm[adilha] de Malaise, 25.iv.1982 (female INPA); same location, 03.vii.1987, A.C.Ferreira (female INPA); same location, Ig. Barro Branco,10–07.vii.1987, A.C.Ferreira & João Vidal (female INPA); same location, Ig. Anta, 30.x–09.xi.1987 (female INPA); same location, creation in laboratory, 26.ii–05.iii. 1988, A.C.Ferreira (male INPA); same location, Ig. Barro Branco, 20–31.v.1988 (female INPA); same location, arm. Malaise clareira, 18.ix–02.x.1992, A.L.Henriques (male INPA); idem, creation in laboratory, 14.iii.1995, A.C.Ferreira (female INPA); same location, 11.vii.1995 (male MZSP); same location, arm. Malaise, 04.viii.1996, F.L.Oliveira (female INPA); same location, 02–07.ix.1996 (female INPA); same location, 12.ix.1996 (female INPA); same location, Ig. Ipiranga, arm. Malaise, J.M.F.Ribeiro & João Vidal 14–16.ix.2002 (male INPA); same location, Ig. Tinga, 08–11.xi.2002, J.M.F.Ribeiro (3 female INPA); same location, 05.xii.2002 (female INPA); same location, 09.xii.2002, João Vidal & Jailson Vidal (2 female INPA); same location, 17–27.xii.2002 (male INPA); same location, Ig. Ipiranga, 31.xii.2002 (female INPA); same location, Ig. Bolivia, J.M.F.Ribeiro & João Vidal 03.ii.2003 (2 female MPEG); same location, 24–28.ii.2003 (2 female INPA); same location, 17–24.iii.2003 (female INPA); same location, Ig. Tinga, 01–07.iv.2003 (2 female MZSP); same location, Ig. Ipiranga, 14–20.iv.2003, J.M.F.Ribeiro (female INPA); same location, 15.iv.2003, creation in laboratory (female INPA); same location, 19–26.v.2003 (2 female INPA), same location, 19.v.2003 (female INPA); same location, Ig. Uberê, arm. Malaise, 16–23.vi.2003, J.M.F.Ribeiro & João Vidal (6 female INPA); same location, Ig. Ipiranga, 23–30.vi.2003 (female MPEG); same location, 01–07.vii.2003 (female INPA); same location, Ig. Uberê, 07–14.vii.2003 (female MZSP); same location, Ig. Acará, 04–11.viii.2003, J.M.F.Ribeiro & A.S.Filho (2 female INPA); same location, 11–18.viii.2003 (female INPA). BRASIL, Amazonas, Manaus, AM-010 Km 25 Ig. Bons Amigos, 24.iv.1995 (male MPEG); same location, BI2, 10–16.x.1996 (2 female INPA); same location, arm. suspensa baixa clareira, 12–23.vi.1997, R.L.M.Ferreira, A.L.Henriques & João Vidal (3 female INPA); same location, arm. Malaise, 22–02.vi.1997 (4 female INPA); same location, 21–31.vii.1997 (14 female, male INPA); same location, 19–28.viii.1997 (5 female INPA); same location, 21–23.vii.1997 (female INPA); same location, 22–31.ix.1997 (2 female INPA); same location, Ig. Acará, arm. Malaise, 12.x.2001, João Vidal (female INPA).

Condition of the holotype: Dissected abdomen in micro vial with glycerin, exuviae separate inside Eppendorf tube, rest of body separate in a glass vial, all inside a larger glass jar with alcohol.

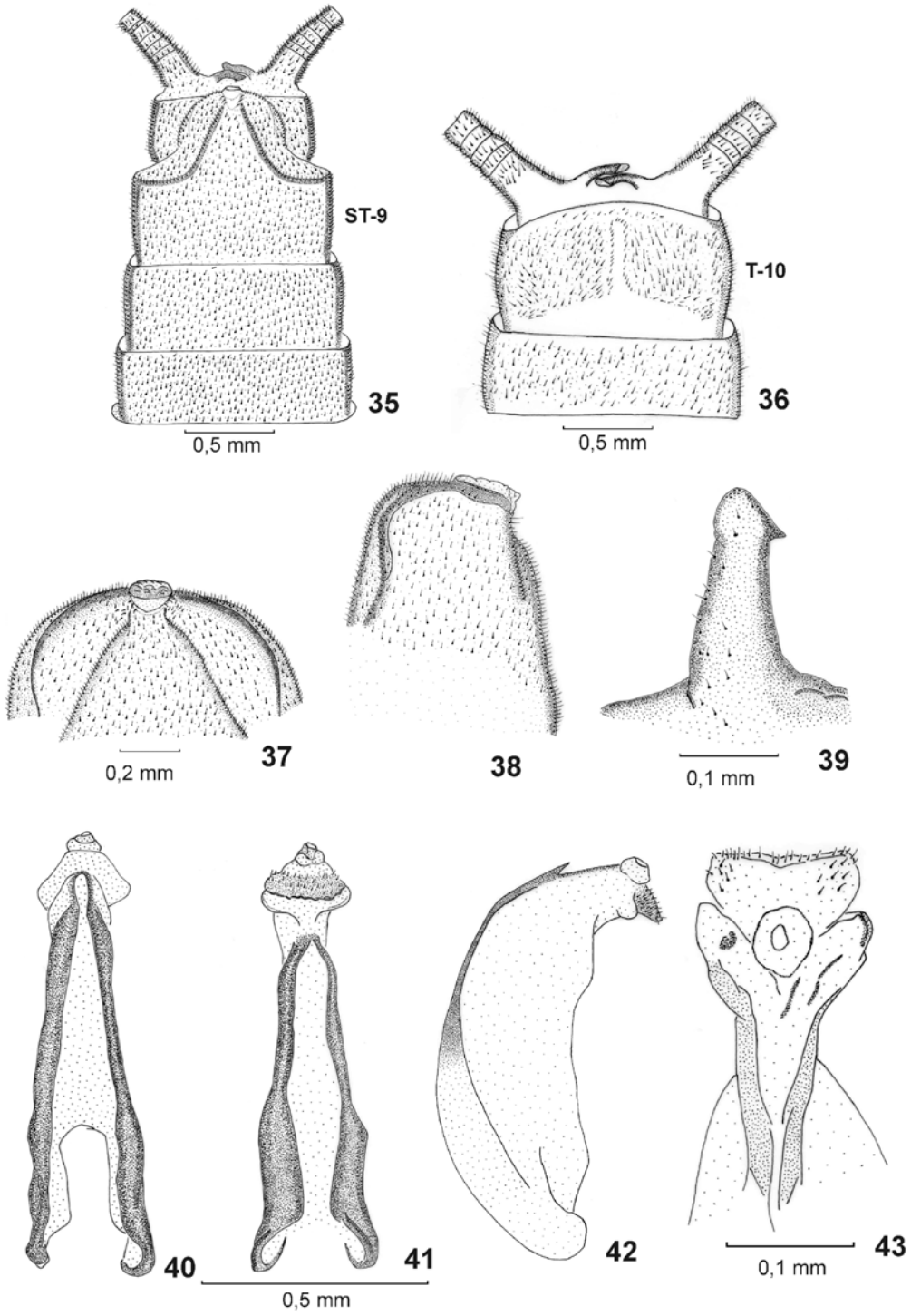
Note. Original publication cites 25.iii.1987 as collection date, while specimen label reads 25.iii.1988 in the handwriting of one of the authors (A.C. Ferreira-Ribeiro). The publication is most likely incorrect.



FIGURES 26–34. *Macrogynoplax pulchra*. 26. Male, sterna 7-10; 27. Male terga 9-10; 28. Male, hammer, ventral; 29. Male, hammer, lateral; 30. Paraproct, lateral; 31. Aedeagus, dorsal; 32. Aedeagus, ventral; 33. Aedeagus, lateral; 34. Female, sterna 8-10 (original drawing of Ribeiro-Ferreira and Froehlich 1999).

***Macrogynoplax* anae, n. sp.**
(Figs. 35-43)

Diagnosis. Body is pale yellow in alcohol. Tergum ten of male without sensilla basiconica. Penial hooks absent. Apex of penial armature dilated, with small, distolateral projection with minute bristles. Paraproct short, tip rounded, subapical spine acute.



FIGURES 35–43. *Macrogynoplax anae* sp.n., male. 35. Sterna 7-10; 36. Terga 9-10; 37. Hammer, ventral; 38. Hammer, lateral; 39. Paraproct, lateral; 40. Aedeagus, dorsal; 41. Aedeagus, ventral; 42. Aedeagus, lateral; 43. Aedeagus, caudal.

Description. Holotype male. Yellow, pale yellow in alcohol. Body length 9.5 mm. Head light yellow, 1.0 mm long, 1.9 mm wide; frons with inconspicuous M–shaped spot concolorous with the integument, located between base of antennae and anterior to ocelli; ocelli separated by three times their width; maxillary and labial palpi pale yellow; scape, pedicel, and flagellum pale yellow. Pronotum pale yellow, lacking spots (similar to Fig. 4 of *M. delicata*). Meso– and metanotum with pale yellow protruberances. Coxa and trochanter pale yellow, femur and tibia without spots. Fore– and hindwings hyaline (Fig. 8). Abdomen pale yellow; cerci pale yellow with lateral bristles longer. Sternum eight (Fig. 35) wider than long with rounded posterior margin and longer lateral bristles; hammer (Figs. 37–38) produced as a callosity, oblique in lateral view; paraproct tip rounded (Fig. 39), with a distinct subapical denticle . Tergum ten (Fig. 36) without sensilla basiconica. Penial armature without hooks (Figs. 40–41). Membranous apex of aedeagus mushroom–shaped, with a small ventrally directed projection having minute bristles. Penial armature (Fig. 42–43) with a small subapical spine in lateral view.

Female. Not associated.

Variations. Length of male 7.8–9.5 mm; forewing length 9.1–12.1 mm, width 2.7–4.0 mm; hindwing length 7.4–10.9 mm, width 3.1–4.5 mm.

Distribution: Amazonas (Manaus).

Material examined. Holotype male (INPA). BRASIL, AM[mazonas], Manaus, , Reserva Ducke, Ig.[arapé]. Ipiranga, arm.[adilha] Malaise, 13–20.v.2003, J.M.F.Ribeiro & João Vidal, "*Macrogynoplax anae* sp.n. det. J.M.F.Ribeiro & J.A.Rafael, 2003". Same location, Uberê, 17–24.xii. 2002. João Vidal & Jailson Vidal (Paratype male INPA); same location, ig. Ipiranga; criation, 19.iv.2003 (Paratype male INPA); same location, Ig, Uberê, arm. Malaise, 07–14.vii.2003, J.M.F.Ribeiro & João Vidal (Paratype male MZUSP).

Condition of the type: Dissected abdomen with genitalia in micro vial with glycerin in the same Eppendorf tube, kept in another larger jar with alcohol.

Etymology: Species name is in tribute to Ana Celeste Ribeiro Ferreira, the first researcher to describe Plecoptera species from RFAD (Adolpho Ducke Forested Reserve).

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