

New species of the treehopper tribe Amastrini (Hemiptera, Membracidae, Smiliinae)^{1,2}

Olívia Evangelista^{3,4,5} & Albino M. Sakakibara^{3,5}

¹Contribution n° 1639 of the Departamento de Zoologia, Universidade Federal do Paraná.

²This research was partially funded by the Programa Ecológico de Longa Duração (PELD) of Universidade Federal da Paraíba.

³Departamento de Zoologia, Universidade Federal do Paraná. Caixa Postal 19020, 81531-980 Curitiba-PR, Brasil. sakaki@bighost.com.br; olivia_evangelista@yahoo.com.br

⁴Programa de Pós-Graduação em Entomologia, Universidade Federal do Paraná.

⁵CNPq fellowship.

ABSTRACT. New species of the treehopper tribe Amastrini (Hemiptera, Membracidae, Smiliinae). Three new species of *Amastris* Stål and one of *Erosne* Stål are described and illustrated. *Amastris rotheai* **sp. nov.** (Paraíba, Brazil), *A. gibberula* **sp. nov.** (Mato Grosso, Brazil), *A. comarapa* **sp. nov.** (Santa Cruz, Bolivia), and *Erosne parvula* **sp. nov.** (Paraíba, Brazil).

KEYWORDS. Auchenorrhyncha; description; Homoptera; new taxa; taxonomy.

RESUMO. Novas espécies de membracídeos da tribo Amastrini (Hemiptera, Membracidae, Smiliinae). Três novas espécies de *Amastris* Stål e uma de *Erosne* Stål são descritas e ilustradas. *Amastris rotheai* **sp. nov.** (Paraíba, Brasil), *A. gibberula* **sp. nov.** (Mato Grosso, Brasil), *A. comarapa* **sp. nov.** (Santa Cruz, Bolívia) e *Erosne parvula* **sp. nov.** (Paraíba, Brasil).

PALAVRAS-CHAVE. Auchenorrhyncha; descrição; Homoptera; novos táxons; taxonomia.

The genus *Amastris* Stål, 1862 was revised by Broomfield (1976). In this revision, forty-nine new species were described, most of them from Brazil. Later on, other species were added to the genus (Creão-Duarte 2002; Creão-Duarte & Sakakibara 1995, 2001), and also, some nomenclatural problems solved (Sakakibara & Creão-Duarte 2002).

In this paper, four new species belonging to the tribe Amastrini are described: three in *Amastris* Stål, 1862 and one in *Erosne* Stål, 1867.

Abbreviations used: DZUP – Departamento de Zoologia, Universidade Federal do Paraná, Coleção de Entomologia Pe. J. S. Moure, Curitiba, Paraná, Brazil. DSE/UFPB – Departamento de Sistemática e Ecologia, Universidade Federal da Paraíba, João Pessoa, Paraíba, Brazil.

Amastris rotheai **sp. nov.**

(Fig. 1)

Diagnosis. Greenish yellow, with two irregular dark spots on each side of dorsum, metopidium with a pair of narrow brownish bands, abdomen orange at sides; pronotum with two shallow indentations, one at about one-third and other at one-half.

Pronotum greenish yellow, with two irregular dark spots on each side, the first larger, at about one-third, and the second at two-thirds; head greenish, slightly paler around ocelli; eyes pale green mottled with dark red, ocelli shining; metopidium with a pair of narrow brownish bands, arising above internal angle of eyes, converging to middle and then vanishing posteriorly; median carina very narrowly edged with brown;

thorax and legs yellowish; abdomen pale green underside and orange at sides; tegmina clear hyaline, slightly darkened basally on coriaceous areas; subcostal cell with yellow macula along basal four-fifths; veins very pale yellow, almost unpigmented. Head triangular, finely punctured; epistomal suture distinctly grooved; superior margin slightly sinuate; ocelli prominent, nearer to eyes than to each other; supra-antennal ledges with margins straight, posclypeus more or less pentagonal, extended for about one-third its length beyond lower margins of vertex, apex densely pubescent. Pronotum slightly elevated, tectiform, two times as long as high; sides with shallow indentations at about one-third and one-half; metopidium rising straight towards highest point of dorsum and then regularly arched downwards to apex, not reaching tip of tegmina; median longitudinal carina percurrent, sharp posteriorly. Tegmina about half exposed, veins R and M confluent for basal one-third; two discoidal cells, the second approximately equal in size of first apical cell; crossvein *s* near costal margin, R_4+R_5 much shorter than M_1+M_2 ; fifth apical cell almost entirely concealed by pronotum; subcostal cell densely punctate on basal four-fifths; veins distinct.

Male. Unknown.

Measurements (mm). Female. Length of pronotum 3.83; height of pronotum 1.50; length of tegmina 3.50; width of head 1.83; width between humeral angles 2.08.

Holotype female. BRAZIL, Paraíba. “Brasil, João Pessoa/PB | Jardim Botânico/Tri[ilha]. Vigia | 2ª rep[lica]. 25/VII/2005 Rothéa & |

Evangelista col.” (DZUP). Paratypes: 2 females (DSE/UFPB) and 1 female (DZUP), with same label data as holotype.

Notes. This species is somewhat similar to *A. undulata* Broomfield, 1976 in having the pronotum, in profile, slightly stepped above humeral angles and also, laterally shallowly indented. It differs, however, by the presence of dark spots on dorsum.

The species is dedicated to the colleague Rembrandt R. A. Rothéa.

***Amastris gibberula* sp. nov.**

(Fig. 2)

Diagnosis. Reddish brown, irregularly mottled with pale yellow from postocular lobes to posterior apex; pronotum roughly punctate, sides with shallow indentations; metopidium convex dorsally, suddenly elevated at midlength.

Pronotum reddish brown, with sides mottled with pale yellow from postocular lobes to posterior apex; head brownish, marked with indistinct yellow spots on inferior margin; eyes pale yellow, mottled with dark red; ocelli shining; median carina basally yellow; metopidium with a pair of brownish bands, arising between median carina and eyes and extending to midlength of dorsum; legs and ventral surface of thorax yellowish; abdomen blackish underside, sides yellow; tegmina clear hyaline, subcostal cell with discreet pale yellow macula on basal four-fifths. Head subtriangular, roughly punctate; epistomal suture distinctly grooved; superior margin slightly sinuate, almost straight; ocelli prominent, equidistant from each other and to eyes; supra-antennal ledges with margins sinuate; posclypeus diamond-shaped, approximately as long as wide, extended for about one-third its length beyond lower margins of vertex, apex densely pubescent. Pronotum roughly punctate, sides with distinct shallow indentations at about one-third and three-fifths, with maximum height just before middle; metopidium low, convex then suddenly elevated and regularly arched to posterior apex; apex acute, not reaching tip of tegmina; median carina percurrent, sharp. Tegmina about two-thirds exposed, veins R and M confluent for about basal one-third; two discoidal cells, the second much smaller than fourth apical cell, crossvein *s* just reaching costal margin; fifth apical cell entirely concealed by pronotum; subcostal cell punctate on basal four-fifths; veins distinct, sparsely punctate throughout.

Female. Similar to male, slightly larger; tarsal claws reddish; abdomen pale yellow; second discoidal cell smaller, crossvein *s* far from costal margin.

Measurements (mm). Male/female. Length of pronotum 4.08/4.58; height of pronotum 1.33/1.58; length of tegmina 3.25/3.75; width of head 1.67/1.92; width between humeral angles 2.00/2.17.

Holotype male. BRAZIL, *Mato Grosso*. “SINOP- M. Grosso | Brasil – X/1975 | M. Alvarenga” (DZUP). Paratypes. 2 females with the same label data as the holotype, 1 female: “SINOP – MT – Brasil | S 12°31’ – W 55° 37’ | X/1974 – M. Alvarenga” (DZUP).

***Amastris comarapa* sp. nov.**

(Fig. 3)

Diagnosis. Pronotum tectiform, apex extending to tip of tegmina but not concealing them entirely; tegmina about one-third exposed, veins almost unpigmented.

Pronotum dull yellow, unmarked; head slightly paler, eyes pale green mottled with brown, ocelli shining; thorax, legs and abdomen concolorous with pronotum; tegmina hyaline, veins yellowish, scarcely pigmented. Head triangular, finely punctured; epistomal suture grooved basally; superior margin slightly sinuate; ocelli prominent, equidistant from each other and to eyes; supra-antennal ledges with margins slightly sinuate; posclypeus more or less pentagonal, extended about one-third its length beyond lower margins of vertex, apex densely pubescent. Pronotum tectiform, elevated at about one-third and then descending gradually to posterior apex, reaching tip of tegmina; sides smooth, without lateral indentations; metopidium slightly leveled off above humeral angles; median carina percurrent, obsolete along metopidium, sharp posteriorly to humeral angles. Tegmina about one-third exposed, veins R and M confluent for basal one-third; two discoidal cells, the second approximately equal in size as second apical cell; crossvein *s* far from costal margin; part of third apical cell concealed by pronotum; subcostal cell scarcely punctate on basal two-thirds; veins distinct.

Male. Unknown.

Measurements (mm). Female. Length of pronotum 5.75; height of pronotum 1.83; length of tegmina 5.00; width of head 2.25; width between humeral angles 2.58.

Holotype female. BOLIVIA, *Santa Cruz*. “Comarapa | Santa Cruz | Bolivia” (DZUP).

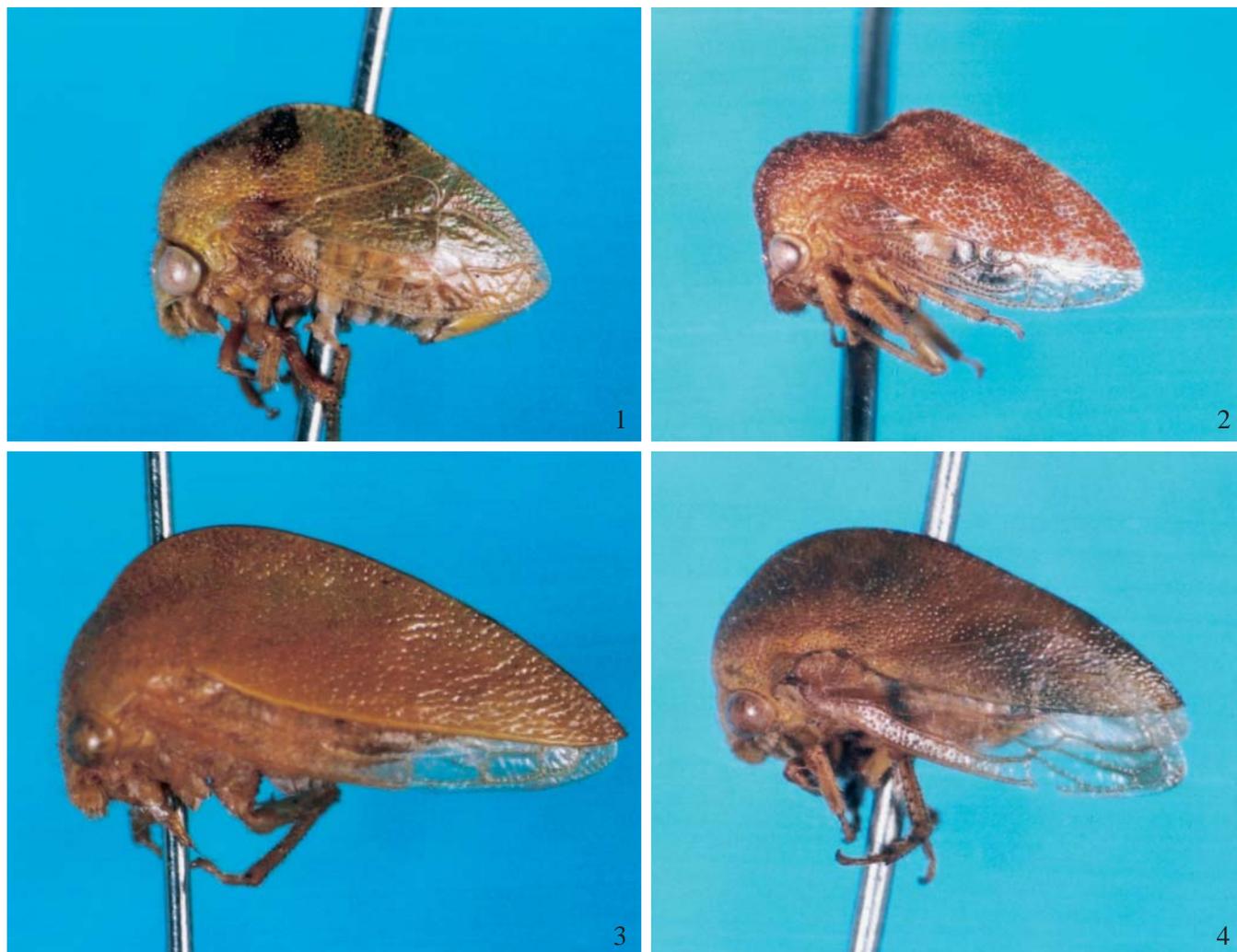
Notes. The apex of pronotum attaining tip of tegmina is the unique feature that differentiates this species from the others of this genus. It can be compared with *A. inconspicua* Broomfield, 1976 in the overall shape of pronotum but much less elevated and presenting a weak step just above metopidium.

***Erosne parvula* sp. nov.**

(Fig. 4)

Diagnosis. Mostly greenish-yellow; head, thorax, abdomen, part of metopidium and lateral margins of pronotum discreetly paler; tegmina hyaline, veins yellowish with brown macula on third, part of fourth apical cell and exposed part of apical limbus; median carina very narrowly edged with brown.

Head subtriangular, finely punctured; epistomal suture weakly grooved; ocelli prominent, equidistant from each other and to eyes; supra-antennal ledges with margins almost straight, posclypeus more or less pentagonal, extending for about one-third of its length beyond lower margins of vertex;



Figs. 1-4. New species of Amastrini. 1, *Amastris rotheai* **sp. nov.** (holotype female); 2, *Amastris gibberula* **sp. nov.** (holotype male); 3, *Amastris comarapa* **sp. nov.** (holotype female); 4, *Erosne parvula* **sp. nov.** (holotype female).

apex truncate in lateral view. Pronotum slightly compresso-elevated, rounded above metopidium, highest just behind humeral angles; dorsum in lateral view gradually arched towards posterior apex, acute, not reaching tips of tegmina; lateral margins almost parallel to margins of tegmina; median longitudinal carina distinct, keel-like; humeral angles obtusely projected. Tegmina approximately half exposed; veins distinct; fifth apical cell entirely concealed by pronotum; veins R and M confluent for about basal one-third; one discoidal cell; vein R_4+R_5 much shorter than M_1+M_2 , thus third apical cell resembles a rectangle; subcostal cell densely punctate on basal four-fifths; apical limbus broad.

Male. Unknown.

Measurements (mm). Female. Length of pronotum 4.92; height of pronotum 1.67; length of tegmina 4.17; width of head 2.00; width between humeral angles 2.25.

Holotype female. BRAZIL, Paraiba. "Faz[enda]. Almas/S[ão]. José | dos Cordeiros/Paraiba | 10/X/2004 6ª Rep // Rothéa D. A R. R. Col." (DSE/UFPB). Paratype: 1 female, "Ibidem | 10/X/2004 7ª R // Rothéa D. A R. R. Col" (DZUP).

Notes. Sakakibara (1998) transferred *Hygris* Stål from Polyglyptini to Amastrini, based on the following characters: R and M united almost to middle, crossvein *s* absent, and two *m-cu* crossveins. This genus is closely related to *Erosne* Stål, differing from it by the presence of a convex and low pronotum which extends far beyond the tip of tegmina, and margins slightly curved inwards. The species here described has an intermediate form of pronotum, much less compresso-elevated than in *Erosne* but not convex and low as in *Hygris*. Unlike both genera, the pronotum does not extend to the tip of tegmina, which is a characteristic feature of *Amastris*. For this moment, we decided to place the species in *Erosne* due to its tectiform pronotum, slightly compresso-elevated, sharp median carina, and posterior apex not too acute. Besides the mentioned

features, it can be readily identified by its small size in comparison with *E. costricta* Sakakibara and *E. bracteata* Stål, and also by the tegmina more exposed.

The specimens of *Erosne parvula* **sp. nov.** have been collected in a semiarid region of northeastern Brazil.

REFERENCES

- Broomfield, P. S. 1976. A revision of the genus *Amastris* (Homoptera: Membracidae). **Bulletin of the British Museum (Natural History) Entomology**, London, **33**: 349–460.
- Creão-Duarte, A. J. & A. M. Sakakibara. 1995 [“1994”]. Três novas espécies de Membracidae (Homoptera). **Revista Brasileira de Zoologia**, Curitiba, **11**: 617–621.
- Creão-Duarte, A. J. 2002. Uma nova espécie da Amazônia Brasileira para *Amastris* Stål, 1862 (Hemiptera, Auchenorrhyncha, Membracidae, Smilliinae). **Acta Amazonica** **32**: 325–327.
- Sakakibara, A. M. The genera *Hygris* Stål and *Erosne* Stål, with descriptions of two new species (Homoptera, Membracidae). **Revista Brasileira de Entomologia** **41**: 439–442.
- Sakakibara, A. M. & A. J. Creão-Duarte. 2002. Nomenclatural notes in Membracidae (Homoptera): new combination and new synonymies in *Amastris* Stål, 1862. **Revista Brasileira de Entomologia** **46**: 227–228.