

Research Article

Paranotella taragui, a curious new genus and new species of Tingini (Heteroptera: Tingidae) from Argentina

Paranotella taragui, un curioso nuevo género y nueva especie de Tingini (Heteroptera: Tingidae) de Argentina

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Abstract. *Paranotella taragui*, a new genus and species of Tingidae (Hemiptera: Heteroptera) recorded from the province of Corrientes, Argentina, is described. Its taxonomic position is justified, it is compared with the closest genera and the corresponding bibliography is offered.

Key words: Corrientes; Hemiptera; new taxa; taxonomy; Tinginae.

Resumen. Se describe *Paranotella taragui*, un nuevo género y especie de Tingidae (Hemiptera: Heteroptera) recolectado en la provincia de Corrientes, Argentina. Se justifica su posición taxonómica, se lo compara con los géneros más próximos, ofreciéndose también su correspondiente bibliografía.

Palabras clave: Corrientes; Hemiptera; nuevos taxones; taxonomía; Tinginae.

Introduction

The family Tingidae, according to the last catalog, is represented in Argentina by 101 species in 27 genera (Coscarón 2017). In the recent years, three additional species have been added to its fauna: *Monosteira unicosata* (Mulsant & Rey, 1852) (Carpintero *et al.* 2017), *Eocader major* Carpintero & De Biase, 2018 and *Corythucha ciliata* (Say, 1832) (Carpintero *et al.* 2022). Consequently, to date, this family in Argentinean fauna is composed of 104 species classified in 28 genera.

Despite being a family with a good number of species in Argentina, compared to those present in the rest of the Neotropics; where approximately 70 genera and 600 species are known (Guidoti *et al.* 2015), and although the host plant of a large part is known; not

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much progress has been made in recent years to increase the knowledge of this family in this country. As a result, the authors have recently carried out a survey of the Tingidae both in the collections, by describing new taxa (Carpintero & De Biase 2018) and in faunal surveys, by determining new distributional records within the country (Carpintero *et al.* 2021); as well as permanent control of important foreign pests that appear year after year in Argentina (Carpintero *et al.* 2017, 2022). In this framework, a curious new genus and species of Tingini from the collection of the “Museo Argentino de Ciencias Naturales B. Rivadavia” is described here.

Materials and Methods

Photographs were taken with an Olympus DP 25 digital camera mounted on an Olympus SZF16 magnifying glass, using the Cell-Sense Standard program. The terminology concerning morphology and descriptive format follows Guilbert (2008), Montemayor (2015), Carpintero & Montemayor (2008) and Froeschner (1996). Measurements are given in millimeters (mm). The studied material is deposited in the entomological collection of Museo Argentino de Ciencias Naturales “Bernardino Rivadavia” (MACN), Buenos Aires city, Argentina.

Results

Paranotella gen. nov.

Description. Male. General shape elongate. Head somewhat elongated and rounded in lateral view, subtly punctured, extending in front twice the width of an eye; true cephalic spines composed of two long paired frontal spines that extend well beyond the apex of the head, almost reaching the apex of the first antennal segment; in lateral view, these spines contiguous to the surface of the head, not erected forming an angle of 45°, like the cephalic spines in the genera in which these spines appear (Fig. 4); a pair of small occipital tubercles on the inner posterior margin of each eye that appear to be small thorns, but are not. Eyes separated from the pronotum by a distance less than half the thickness of antennal segment III, ovate, longer than wide; antenniferous tubercle long, spiniform. Antennae with antennal segment I short, 1.5 times the length of antennal segment II and not reaching the apex of the bucculae; segment III slender, segment IV a little swollen. Antennal ratio 1: 0.6: 3.3: 1.2. Posterior margin of head elevated, carinated. Bucculae subtriangular in lateral view, large, convergent anteriorly, their apex extending anteriorly to the middle of the antennal segment II; the bucculae with at least two irregular rows of thick areoles. Rostrum reaching the middle of the mesosternum. Pronotum densely covered with thick punctures, with a single median carina; pronotal collar wide, with at least four rows of punctures and its posterior margin well defined, strongly demarcated in lateral view; posterior process elongate and covering the clavus and scutellum. Paranota well developed in its anterolateral margin, pointing forward, elongated, with rounded apices and internally concave, areolate with three rows of thick points inside. Pro, meso and metapleura with thick punctures. Metapleural scent gland opening reduced to a simple hole. Hemelytra convex, wider and longer than abdomen, overlapping when at rest, jointly rounded behind. Discoidal area with three rows of quadrangular areolas; subcostal area with three rows of very irregular areolas both in shape and arrangement; costal area with two rows of pentagonal areolas; sutural area with two rows of external quadrangular areolas and one or two rows of smaller, irregular areolas. Rostral channel not deep. Pro, meso and metasternal laminas not very high, the last one widening posteriorly. Thin and long legs, second tarsomere visibly thickened towards its apex. Abdomen glabrous, smooth, with only the pygophore weakly rough transversely. Abdominal sterna I to III fused.

Female unknown.

Type-species. *Paranotella taragui* **sp. nov.**, by present designation.

Etymology. Named after the particular shape of their paranota, combined with the feminine diminutive suffix *-ella*, for its small size (Brown 1985).

Paranotella taragui **sp. nov.**
(Figs. 1-4)

Material examined. HOLOTYPE: Male, ARGENTINA: Corrientes, Ituzaingó, xii.1979, Viana. (MACN).

Description. Male. Body long and oval, coloration light brown, shiny, with the base of head, tarsomere II, sternal area and abdomen dark brown; collar base reddish brown. Body length 2.46; width 0.88. Head a little longer than wide: length 0.4; width 0.32; interocular space 0.22. Lengths of antennal segments: I, 0.15; II, 0.09; III, 0.5; IV, 0.18. Pronotum long (0.68), nearly 25% as long as body and wider (0.96) than width across hemelytra. Parameres long, thin, angular, externally forming an angle of 90°, somewhat sickle-shaped, with its apical half long, thin and curved outwards.

Female unknown.

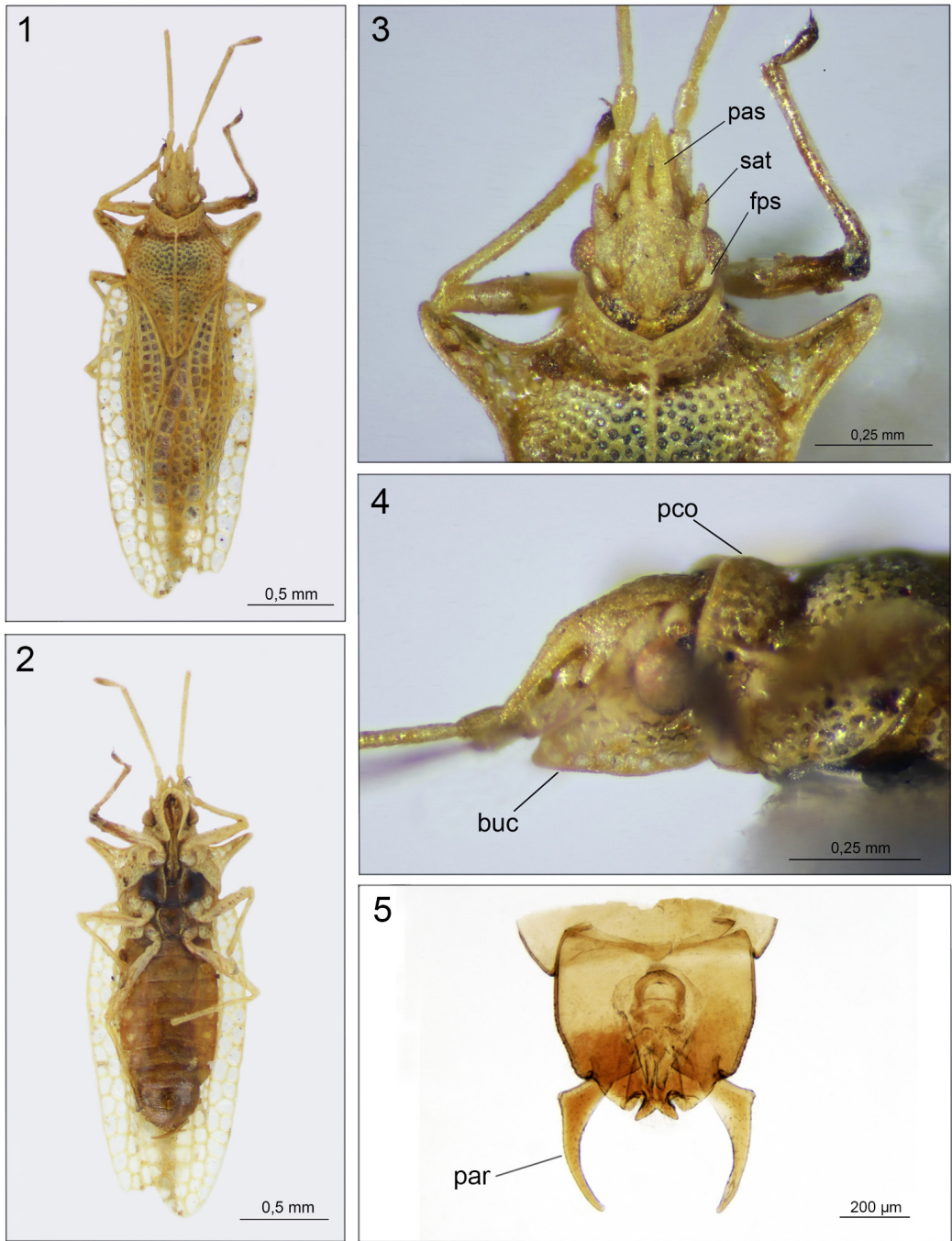
Etymology. The specific epithet is the Guaraní term to refer to the province of Corrientes, Argentina, where this species was found. Guaraní is the language of a people who inhabited much of southeastern South America.

Distribution. Argentina. Biogeographically, Ituzaingó is located in the Neotropical region, in an area where the Chaco subregion (Chaco province from the west and Pampa province from the south) an ecotone between these and some elements that are distributed along the coast and islands of the Paraná river, hailing from the east, from the Paranaense subregion, a province of the Paranaense Forest (Morrone 2001).

Discussion

This genus exhibits a head not extending beyond the first antennal segment, with only the bucculae reaching the apex of this segment, a posterior pronotal process, a weakly developed clavus, bucculae extending forward just at the apex of the clypeus, antennal segment III less than four times longer than segment IV. Visible abdominal segments I, II and III fused. Therefore, this genus belongs to the Tingini. Among the Tingini, no other genus exhibits such horny paranota.

Following the key to the genera of Tinginae present in Argentina (Montemayor 2015), the dilemmas "hood absent, hemelytra with the usual veins and areolae, paranota present, wide and expanded anterolaterally" lead us to the genus *Planibyrsa* Drake & Poor, 1937, from which it differs by having the paranota horny, fine and not developed in front of the head, spines absent on its outer margins, the hemelytra much less expanded laterally and occipital spines absent. Due to its small size, general appearance and its cephalic spines, it is close to *Monosteira unicastata* (Mulsant & Rey, 1852) (Carpintero *et al.* 2017), from which it is quickly separated by its particular paranota and more elongated hemelytra.



Figures 1-5. *Paranotella taragui*. 1. Dorsal view. 2. Ventral view. 3. Head detail, dorsal view: arrows *sat* = spiny antenniferous tubercles; *fps* = false postocular spine; *pas* = paired anterior spines. 4. Head detail, lateral view: arrows *buc* = bucculae; *pco* = pronotal collar. 5. Pygophore: arrow *par* = parameres. / 1. Vista dorsal. 2. Vista ventral. 3. Detalle de la cabeza, vista dorsal: flechas *sat* = tubérculos anteníferos espinosos; *fps* = falsa espina postocular; *pas* = espinas anteriores pares. 4. Detalle de la cabeza, vista lateral: flechas *buc* = búculas; *pco* = collar del pronoto. 5. Pigóforo: flecha *par* = parámetros.

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Literature Cited

- Brown, R.W. (1985)** Composition of Scientific Words. Reprint of the 1956 revised edition (from 1954, original ed.). Smithsonian Institution Press (Ed.). Washington, D.C., U.S.A. 882 pp.
- Carpintero, D.L. & De Biase, S. (2018)** Descripción de *Eocader major* n. sp. de Phatnomatini, con breves comentarios bionómicos y taxonómicos de otras especies sudamericanas de la tribu y de las especies de *Stenocader* (Cantacaderinae: Carldrakeanini) (Heteroptera: Tingidae). *Revista del Museo Argentino de Ciencias Naturales (nueva serie)*, 20(1): 51-63.
- Carpintero, D.L., De Magistris, A.A. & Petti, C. (2021)** Lista preliminar de especies de Heteroptera (Hemiptera) de la Reserva Santa Catalina (Lomas de Zamora, Buenos Aires). *Revista de Divulgación Técnica Agropecuaria, Agroindustrial y Ambiental de la Facultad de Ciencias Agrarias de Lomas de Zamora*, 8(2): 16-56.
- Carpintero, D.L., De Magistris, A.A., Faúndez, E.I. & Porrini, D.P. (2022)** Sobre la presencia de *Corythucha ciliata* (Say, 1832) y *Corythucha arcuata* (Say, 1832) (Hemiptera, Tingidae) en la República Argentina. *Revista Chilena de Entomología*, 48(2): 377-391.
- Carpintero, D.L., López Plantey, R., Quiroga, V. & Holgado, M. (2017)** Primera cita de *Monosteira unicostata* (Mulsant & Rey, 1852) (Hemiptera: Tingidae) para la República Argentina, encontrada en la provincia de Mendoza. *Revista Historia Natural Tercera Serie*, 7(1): 121-127.
- Carpintero, D.L. & Montemayor, S.I. (2008)** Revision of the Cantacaderinae (Heteroptera: Tingidae) from Austral South America with description of a new species of Cantacaderini. *Deutsches Entomologisches Zeitschrift*, 55(1): 109-116.
- Coscarón, M.C. (2017)** A catalogue of the Heteroptera (Hemiptera) or true bugs of Argentina. *Zootaxa*, 4295(1): 1-432.
- Froeschner, R.C. (1996)** Lace bug genera of the World, I: Introduction, subfamily Cantacaderinae (Heteroptera: Tingidae). *Smithsonian Contributions to Zoology*, 574: 1-43.
- Guidoti, M., Montemayor, S.I. & Guilbert, É. (2015)** Lace Bugs (Tingidae) (Chapter 14) pp. 395-419. In: True Bugs (Heteroptera) of the Neotropics (Antônio R. Panizzi and Jocélia Grazia Eds.). (Ed. Springer). Rio de Janeiro, Brazil. 901 pp.
- Guilbert, E. (2008)** New data on the Tingidae from Gabon (Hemiptera: Heteroptera). *Acta Entomologica Musei Nationalis Pragae*, 48(2): 491-495.
- Montemayor, S.I. (2015)** Tingoidea. In: Claps, Debandi & Roig Juñent (eds.) Biodiversidad de Artrópodos Argentinos Vol. III, cap. 30. pp. 383-398. SEA, San Miguel de Tucumán, Argentina.
- Morrone, J.J. (2001)** Biogeografía de América Latina y el Caribe. Manuales & Tesis Volumen 3. Oficina Regional de Ciencia y Tecnología de "United Nations Educational, Scientific and Cultural Organization" para América Latina y el Caribe (ORCYT-UNESCO), Sociedad Entomológica Aragonesa (SEA), Zaragoza, España, 148 pp.