

ORIGINAL ARTICLE

Two new species of *Harmostes* (*Harmostes*) Burmeister (Hemiptera: Heteroptera: Rhopalidae) from Argentina

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The family Rhopalidae has been poorly studied in Argentina. Thirty-three species have been recorded, among them 15 species belonging to the genus *Harmostes* Burmeister. This genus was revised by Göllner-Scheiding (1978) who divided it into two subgenera, *H. (Harmostes)* and *H. (Neoharmostes)*, based mainly on characteristics of the hemelytra. Here we describe two new species of *H. (Harmostes)* from Argentina: *H. (H.) bilobatus* sp. n. and *H. (H.) rubrum* sp. n. Illustrations of the diagnostic characters and a key to the Argentinean species of the subgenus *Harmostes* are presented.

Keywords: Argentina; Harmostini; *Harmostes (Harmostes) bilobatus* sp. n.; *Harmostes (Harmostes) rubrum* sp. n.; Rhopalinae; scentless plant bugs

Introduction

Species of the family Rhopalidae, commonly known as scentless plant bugs, are extremely variable in shape and color. They are characterized by the elongated clypeus, the basally constricted scapus, the reduced metathoracic scent gland openings, the frequently hyaline corium of hemelytra, the membrane with numerous veins and the particular placement of the abdominal trichobothria (Schuh & Slater 1995).

This family is divided into two subfamilies, Serinethinae and Rhopalinae, and includes almost 21 genera and 209 species worldwide (Henry 2009). The subfamily Rhopalinae consists of six tribes. In the Neotropical region four tribes, six genera and over 40 species occur (Melo & Montemayor forthcoming). In Argentina three tribes are distributed: Niesthreini, Rhopalini, and Harmostini. The tribe Harmostini Stål includes three genera: *Aufeius* Stål, *Xenogenus* Berg, and *Harmostes* Burmeister, all exclusive of the western hemisphere (Brailovsky & Soria 1981). They are characterized by an oval body longer than wide, the tylus elevated medially and acute anteriorly, the flat jugae, the moderately developed lateral projections of antenniferous tubercles, the distiflagellomere shorter than basiflagellomere, the anterolateral angles of pronotum produced and acute, the metapleura not divided into episternum and epimeron, the metafemora incrassate and spinose, with spines of variable length, the connexival suture VII absent, and the apodeme on

sternum VII small in males and absent in females; brachypterous forms are unknown (Chopra 1967).

The genus *Harmostes* Burmeister is distributed from Canada to southern South America, and comprises 29 species. It is characterized by the presence of tuberculate prominences behind the eyes, the strongly incrassate metafemora armed with more than three thick and strong spines, a slender abdomen, the unexposed abdominal connexiva and the pygophore with conspicuous lateral lobes and paralateral lobes small and moveable (Chopra 1967).

The genus was reviewed by Göllner-Scheiding (1978) who divided it into two subgenera, *Harmostes* and *Neoharmostes*, synonymized some species, described a new species, and redescribed the existing ones. This author also presented a key to all species and illustrated the main characters used to separate them. The Mexican species of *Harmostes* were revised by Brailovsky & Soria (1981) who provided redescrptions, described a new species, and presented a key. The subgenus *Harmostes* is recognized mainly by the strongly sclerotized and punctated hemelytra, the parameres incrassated distally and the lateral lobes of pygophore visible from behind.

In Argentina, *Harmostes* is the most diverse genus of Rhopalidae, and is represented by 15 species (six of the subgenus *Harmostes* and nine of *Neoharmostes*) known from all the country, except for the provinces Chubut and Santa Cruz. However, little is known

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about the Rhopalidae from Argentina, and particularly about the members of the genus *Harmostes*.

In this contribution two new Argentinean species of *Harmostes* (*H.*) are described, and illustrations of the diagnostic characters together with a key to the Argentinean species of the subgenus *Harmostes* are presented.

Materials and methods

The specimens studied belong to the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (MACN) and Museo de La Plata (MLP). Measurements were taken with an ocular micrometer, and all measurements are given in millimeters. Information on the specimens was transcribed literally; the remarks in brackets were added by the authors.

Results

Harmostes (*Harmostes*) *bilobatus* Melo and Montemayor, new species (Figures 1–4; Table 1)

Diagnosis

Bucculae reaching posterior half of eye; antenniferous tubercles long and divergent; clypeus conspicuously pointed at apex; anterior and posterior lobes of pronotum clearly separated, posterior lobe as elevated as anterior; lateral margins of pronotum coarsely serrated; posterior margin of pronotum straight; rostrum reaching posterior margin of metasternum.

Description

Holotype male: general coloration brown with reddish spots.

Head (Figures 1, 2) with setiferous tubercles; clypeus conspicuous, strongly projected anteriorly, compressed and pointed apically; antenniferous tubercles long and divergent; bucculae long reaching posterior half of eye. Labium reaching posterior margin of metasternum: first segment surpassing posterior margin of eye. Antennal segment proportions: 0.13: 0.26: 0.36: 0.25; scapus surpassing clypeus for about 30% of scapus length.

Pronotum coarsely punctate; anterior and posterior lobes clearly separated; lateral margins coarsely serrated, at its maximum width pointed; posterior margin softly convex; callus pruinose, widened laterally and curved anteriorly; median longitudinal line conspicuous, more conspicuous on anterior lobe. Scutellum with posterior process rounded (Figure 2). Hemelytra: corium and clavus strongly punctate and sclerotized;

membrane hyaline; hemelytral margins with small setiferous tubercles.

Male genitalia (Figures 3, 4) paralateral lobes extending approximately up to half the length of the parameres. Lateral lobes extending up to half the length of the paralateral lobes, middle lobe shorter not reaching apex of lateral lobes. Posterior margin of pygophore sinuate. Parameres elongated.

Paratype with the same characteristics as the holotype but larger (Table 1).

Etymology

The specific epithet refers to the pronotum divided in two distinct lobes.

Discussion

Harmostes bilobatus sp. n. presents similarities with *H. (H.) serratus* (Fabricius), *H. (H.) gravidator* (Fabricius), and *H. (H.) disjunctus* Barber. The clypeus of *H. (H.) bilobatus* sp. n. in lateral view is pointed apically and strongly projected anteriorly, and in dorsal view it surpasses half the length of the scapus, two characteristics which are shared with *H. (H.) gravidator*. *Harmostes (H.) bilobatus* sp. n. shares with *H. (H.) gravidator* and *H. (H.) disjunctus* the long and divergent antenniferous tubercles and the coarsely serrated lateral margins of pronotum. The male genitalia of *H. (H.) bilobatus* sp. n. present similarities with *H. (H.) serratus* as in both species the paralateral lobes are longer than the lateral lobes. *Harmostes (H.) bilobatus* sp. n. can be distinguished by the combination of the characters mentioned in the diagnosis.

Type material

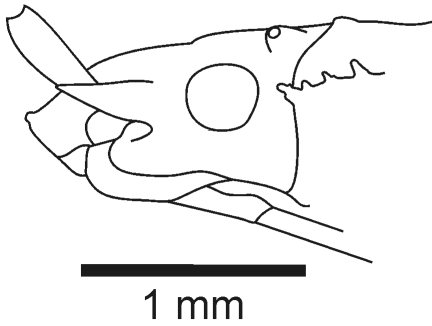
Holotype ♂, Argentina, Salta, 7115 [meaning of this number unknown] (MACN). Paratype: 1 ♂, idem (MACN).

Harmostes (*Harmostes*) *rubrum* Melo and Montemayor, new species (Figures 5, 6; Table 1)

Diagnosis

Bucculae reaching anterior margin of eyes; antenniferous tubercles extremely short and parallel; clypeus conspicuously rounded apically; anterior and posterior lobes of pronotum clearly separated, posterior lobe much more elevated than anterior lobe; lateral margins of pronotum explanate and finely serrated; posterior margin of pronotum straight; rostrum surpassing posterior margin of metasternum; posterior process of scutellum rounded and elongate.

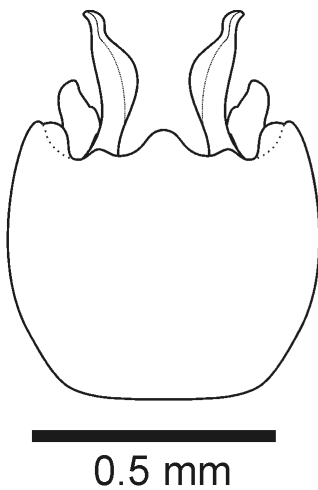
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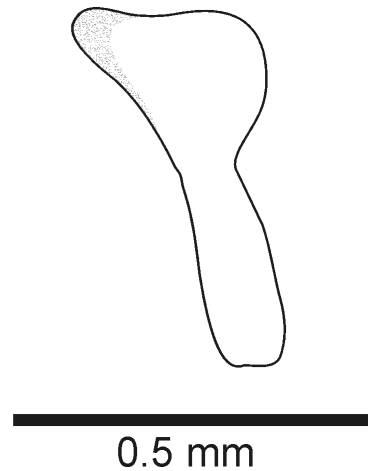
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3



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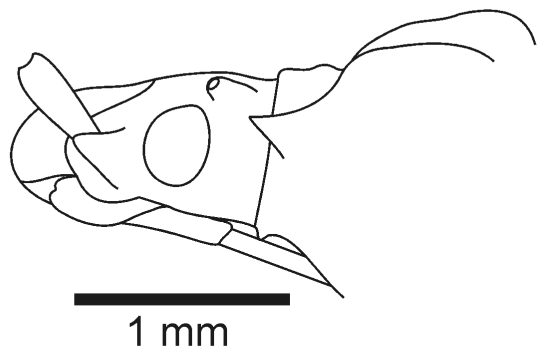
Figures 1–4. *Harmostes (H.) bilobatus* sp. n. (1) Head, lateral view. (2) Head and pronotum, dorsal view. (3) Pygophore. (4) Left paramere.

Description

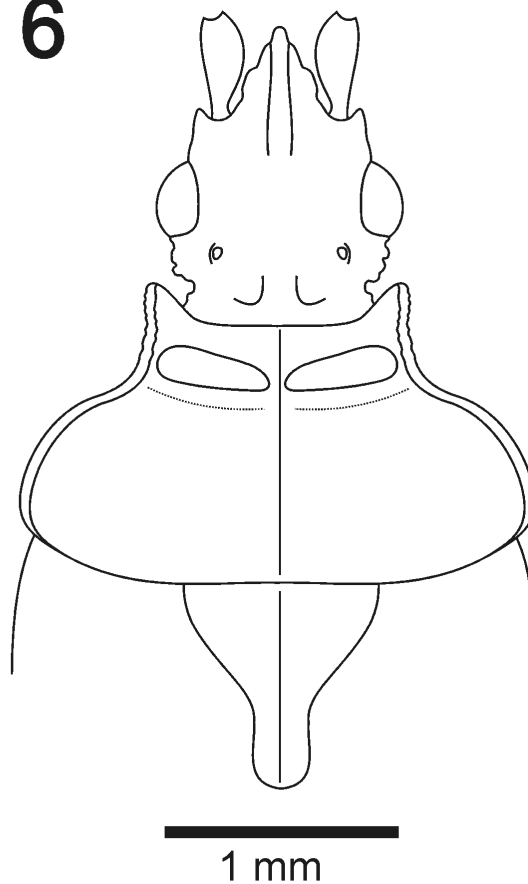
Holotype female: general color reddish with dark spots at corial margin.

Head (Figures 5, 6) with setiferous tubercles; clypeus conspicuous and strongly projected anteriorly, compressed and rounded apically; antenniferous

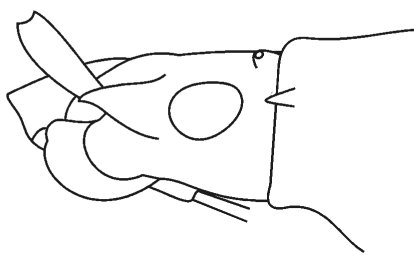
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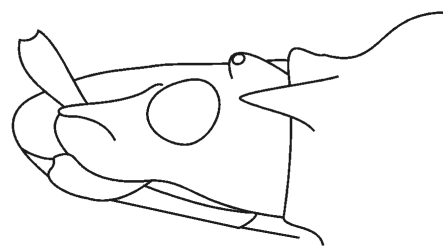
6



7



8



Figures 5–8. (5, 6) *Harmostes (H.) rubrum* sp. n.: (5) head, lateral view; (6) head and pronotum, dorsal view. (7) *Harmostes (H.) brevispinus* Blöte, head, lateral view. (8) *Harmostes (H.) serratus* (Fabricius), head, lateral view.

tubercles extremely short and parallel; bucculae short reaching anterior half of eye. Labium reaching posterior margin of metasternum: first segment surpassing posterior margin of eye. Antennal segment proportions: 0.15: 0.29: 0.33: 0.23; scapus not surpassing clypeus.

Pronotum coarsely punctate, anterior and posterior lobes clearly separated, posterior lobe much more elevated than anterior lobe; lateral margins finely serrated, at its maximum width rounded, posterior margin softly convex; callus pruinose,

widened laterally; median longitudinal line conspicuous, evident in both lobes. Scutellum with posterior process rounded and elongate (Figure 6). Hemelytra: corium and clavus strongly punctate and sclerotized; membrane hyaline; hemelytral margins irregular.

Etymology

The specific epithet comes from the Latin word “ruber” referring to the red color of this species.

Table 1. Measurements (mm) of *Harmostes (H.) bilobatus* sp. n. and *H. (H.) rubrum* sp. n.

Parameter	<i>H. (H.) bilobatus</i> n. sp. (holotype male)	<i>H. (H.) bilobatus</i> n. sp. (paratype)	<i>H. (H.) rubrum</i> n. sp. (holotype female)
Total length	7.05	7.45	6.56
Head length	1.38	1.50	1.25
Width across the eyes	0.94	1.01	0.88
Interocular distance	0.58	0.62	0.68
Preocular distance	0.53	0.74	0.54
Interocellar distance	0.40	0.43	0.45
Scapus	0.45	0.61	0.45
Pedicellus	0.88	1.25	0.86
Basiflagellomere	1.20	1.79	0.98
Distiflagellomere	0.83	1.09	0.68
Length of pronotum	1.09	1.28	1.10
Maximum width of pronotum	2.30	2.78	2.21
Length of anterior pronotal lobe	0.32	0.38	0.32
Length of posterior pronotal lobe	0.77	0.93	0.82
Scutellar width at base	0.88	0.96	0.75
Scutellar posterior process width	0.83	1.18	0.74
Hemelytra length	0.26	0.26	0.26
Maximum width of hemelytra	5.04	5.14	5.14
Abdominal length	2.69	2.72	2.33

Discussion

Harmostes (H.) rubrum sp. n. shares with *H. (H.) dorsalis* Burmeister, *H. (H.) fraterculus* (Say), *H. (H.) incisuratus* Distant, and *H. (H.) nebulosus* Stål the extremely short antenniferous tubercles; and with *H. (H.) formosus* Distant the rounded posterior pronotal lobe. *Harmostes (H.) rubrum* sp. n. can be distinguished by the combination of the characters mentioned in the diagnosis.

Type material

Holotype ♀, Argentina, Salta, San Lorenzo, 17 November [19]29, 82 [meaning of this number unknown], *H. procerus* P. Denier det. (MLP).

Key to Argentinean species of *Harmostes (Harmostes)*

1. Bucculae rounded and strongly widened anteriorly, not reaching anterior margin of eye (Figure 7) *H. (H.) brevispinus* Blöte
- Bucculae different. 2
2. Antenniferous tubercles indented ventrally in lateral view (Figure 8).
- *H. (H.) serratus* (Fabricius)
- Antenniferous tubercles not indented ventrally in lateral view. 3
3. Antenniferous tubercles long overpassing basal third of scapus. 4
- Antenniferous tubercles shorter. 5
4. Bucculae short, reaching anterior margin of eye.
- *H. (H.) gravidator* (Fabricius)

- Bucculae long, surpassing middle of eye.
- *H. (H.) bilobatus* sp. n.
- 5. Lateral margins of anterior pronotal lobe parallel.
- *H. (H.) rubrum* sp. n.
- Lateral margins of anterior pronotal lobe convergent. 6
- 6. Bucculae long, reaching posterior margin of eye; humeral angles rounded.
- *H. (H.) dorsalis* Burmeister
- Bucculae short, reaching anterior margin of eye; humeral angles angulated. 7
- 7. Scapus as long (1/1) as anteocular width; pronotum approximately 1.5 times wider than long.
- *H. (H.) prolixus* Stål
- Scapus shorter (1/1.5) than anteocular width; pronotum approximately 2 times wider than long.
- *H. (H.) signoreti* Reed

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