

## ARTIGO / ARTÍCULO / ARTICLE

# *Graphorn bicornutus*, a new genus and a new species from Argentina (Heteroptera: Pentatomidae).

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**Abstract:** A new genus and new species, *Graphorn bicornutus* (Heteroptera: Pentatomidae), is described from Chaco Province, Argentina. This new taxon is provisionally placed in the tribe Carpocorini. Relationships of the new genus and close genera are discussed.

**Key words:** Hemiptera, Pentatomidae, Pentatominae, Carpocorini, *Graphorn bicornutus*, new genus, new species, Argentina.

**Resumen:** *Graphorn bicornutus*, un nuevo género y una nueva especie de Argentina (Heteroptera: Pentatomidae). Se describe un nuevo género y especie, *Graphorn bicornutus* (Heteroptera: Pentatomidae), de la Provincia de Chaco, Argentina. Este nuevo taxón es ubicado provisionalmente en la tribu Carpocorini. Se discuten las relaciones entre el nuevo género y otros géneros cercanos.

**Palabras clave:** Hemiptera, Pentatomidae, Pentatominae, Carpocorini, *Graphorn bicornutus*, nuevo género, nueva especie, Argentina.

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## Introduction

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Pentatomidae is a family of heteropterans currently comprising 4937 species classified in 938 genera (Rider *et al.*, 2016). In South America, many pentatomid species are well known because of their economic importance (Faúndez & Carvajal, 2011). Members of the subfamily Asopinae are predaceous and many are considered beneficial in suppressing pest populations; whereas, members of the other subfamilies are primarily phytophages with several species attacking various crops (Schaefer & Panizzi, 2000). The Pentatominae is the largest subfamily of Pentatomidae containing 3475 species classified in 659 genera (Rider *et al.*, 2016). Several pentatomines have a high economic impact because they damage plants commonly consumed by humans, and become widespread pests (Faúndez *et al.*, 2016). The purpose of this contribution is to describe a new genus and species of Pentatominae from Argentina.

## Materials and methods

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In terminology and descriptive format we follow Faúndez & Rider (2014). In systematics we follow Rider *et al.* (2016). Photos were taken with a digital camera adapted to a stereoscopic microscope. Material examined is deposited in the United States Museum of Natural History, Smithsonian Institution, Washington DC, USA.

## Results

### *Graphorn* gen. nov. (Figs. 1-5)

Type species: *Graphorn bicornutus* sp. nov., by present designation.

**Description.** General body features: compact body (Fig. 1), dorsal coloration yellowish-cream to ochraceous. Dorsal surface finely and densely punctate, with concolorous or dark brown punctures. Ventral surface yellowish, with punctures fine, dense, nearly concolorous with body surface.

Head: Elongate apically (Fig. 4), slightly longer than wide, paraclypei slightly longer than clypeus, but not contiguous anteriorly; eyes prominent; antenniferal tubercles elongate, each with a large, acute tooth; antennae 5-segmented; bucculae concave ventrally, nearly truncate posteriorly, each with a triangular tooth near anterior apex; rostrum 4-segmented, apex reaching metacoxae.

Thorax: Pronotum hexagonal (Fig. 4) with humeral angles prominently spinose, anterolateral margins strongly crenulate. Scutellum subtriangular, relatively large, without basal foveae, submarginal ivory callus in each basal angle, scutellar apex broadly rounded. Thoracic sterna carinate medially. Ostiolar peritreme short (Fig. 2), auriculate, evaporatoria small, not reaching half way to lateral margin of metapleuron or posterior margin of mesopleuron; ostiolar plates narrow, convex, slightly darker than evaporatoria. Legs with strong spine-like setae; superior surface of each tibia sulcate; tarsi 3-segmented.

Abdomen: Connexiva with posterolateral angles prominent, acute; base of abdomen lacking tubercle or spine. Genitalia: Female paratergites apically acute, 1<sup>st</sup> and 2<sup>nd</sup> gonocoxae acute, convex posteriorly, mesial margins convex.

Male unknown.

**Etymology:** *Graphorn* (Gender masculine), from the fictional creature created by J.K. Rowling in the book '*Fantastic Beasts and Where to Find Them*'. Graphorns are a breed of large hump-backed horned creatures. These are known to have two large golden horns, similar to the humeral spines of this new genus. In addition, the crenulate pronotal margins and elevated pronotal disk resembles the large dorsal hump of the graphorns.

### *Graphorn bicornutus* sp. nov. (Figs. 1-5)

#### **Description.**

Head: Elongate (Fig. 4), longer than wide, dull cream colored, with dense, dark punctation. Eyes prominent, reddish. Ocelli small, oval, located near base of head, behind an imaginary line drawn through the posterior margins of compound eyes, but not contiguous with pronotum. Paraclypei enlarged, punctate, apices of paraclypei narrowly rounded, but not acute. Lateral margins of head concave for basal two-thirds, then curving mesad for distal third. Antennae, dull cream colored basally, becoming light orange apically, first antennomere not extending beyond apex of head. Rostrum reaching metathoracic coxae, first rostral segment extending beyond hind margins of bucculae.

Thorax: Pronotum hexagonal, dull cream colored, densely punctate, disk abruptly elevated; anterolateral margins crenulate; cicatrices immaculate, each with a small ivory callus at mesial limit; humeral angles projected, acute, each forming a strong, apically dark spine (Figs. 4, 5); posterolateral margins somewhat irregular. Scutellum subtriangular (Fig. 1), dull cream colored with nearly concolorous, dense punctures, with two relatively large ivory calluses, one on each side near basal angles, extending little beyond base of scutellum; lateral margins slightly concave mesially; apex broadly rounded. Coria dull cream colored, densely, dark punctate, somewhat darker near clavus, radial vein simple, not carinate or calloused; membrane smokey with conspicuous longitudinal veins. Thoracic sterna yellowish with dense light-brown punctures, a weak oval ivory callus present in

middle of mesosternum. Metapleura dull cream colored with dark dense punctation, each ostiolar peritreme short, not reaching halfway to lateral margin of metapleuron, evaporatoria relatively small (Fig. 2), each restricted to a very small rugose area around ostiolar peritreme and along posterior margin of mesopleuron, ostiolar plate weakly punctured. Legs yellow, with strong dark setae, tibiae and femora subequal in length.

Abdomen: Yellowish dorsally; connexiva dull, cream colored, posterolateral angles prominent, acute; each connexival segment with brownish markings mesially. Abdominal venter dull, cream colored, with dense, concolorous punctures; transverse rows of small ivory calluses along abdominal sterna; spiracles yellowish to caramel, each placed on distinct circular ivory callus.

Female genitalia (Fig. 3): First gonocoxae finely punctate. Each gonocoxite triangular-shaped, with convex sides and slightly elongated apices. Second gonocoxae small, rectangular shaped with rounded apices. Paratergites 8 rhomboid with pointed apices. Paratergites 9 triangular, swollen distally, with pointed apices.

Male unknown.

Measurements: Total length: 9.45, transhumeral pronotal width: 6.95, medial pronotal length: 2.25, medial head length: 2.11, head width across compound eyes: 1.49, medial scutellar length: 3.43, basal scutellar width: 3.43, rostral segments: I: 1.37 II: 1.34 III: 0.62 IV: 0.56, antennal segments: I: 0.52 II: 0.90 III: 0.99, IV: 0.86, V: 1.22.

**Holotype:** ARGENTINA, Chaco Province, 60 km NE of Resistencia, 25-I-1989, 1♀, CW & L. O'Brien & J. Gibmer leg.

**Etymology:** *bi-* Lat., means two, *-cornutus* Lat., means horned, in reference to the humeral spines.

## Discussion and conclusions

This new genus is placed in the tribe Carpocorini near *Acledra* Signoret, 1864, *Euschistus* Dallas, 1851, and *Dichelops* Spinola, 1837. It can be separated from *Dichelops* by the laterally concave and apically rounded paraclypei (margins straight and apically spinose in *Dichelops*), the more convex bucculae with the posterior margins truncate, and by the broad scutellum with conspicuous pale calluses. The posteriorly truncate bucculae also separate *Graphorn* from *Euschistus* (evanescent), and also by the absence of black markings on the thoracic pleura, and by the shape of scutellum (broader and more rounded apically in *Graphorn*). From *Acledra*, it differs by the prominent and spinose humeral angles, by the crenulate anterolateral pronotal margins, and by the sharper external female genitalia in *Graphorn*. The placement of this genus in the Carpocorini must, however, be considered provisional, as this tribe needs revisionary work (Faúndez & Verdejo, 2010). It is possible that most of the South American Carpocorini may belong to other tribes after the pentatomine tribal classification can be thoroughly analyzed (Rider *et al.*, in press).

The features of this genus, together with its distribution (i.e. transition zone between Andean and Neotropical Regions), make it very interesting from a biogeographical and phylogenetic point of view. It may be part of the intermediate fauna between both zones, thus collecting additional material may be of great interest for long term studies on this group.

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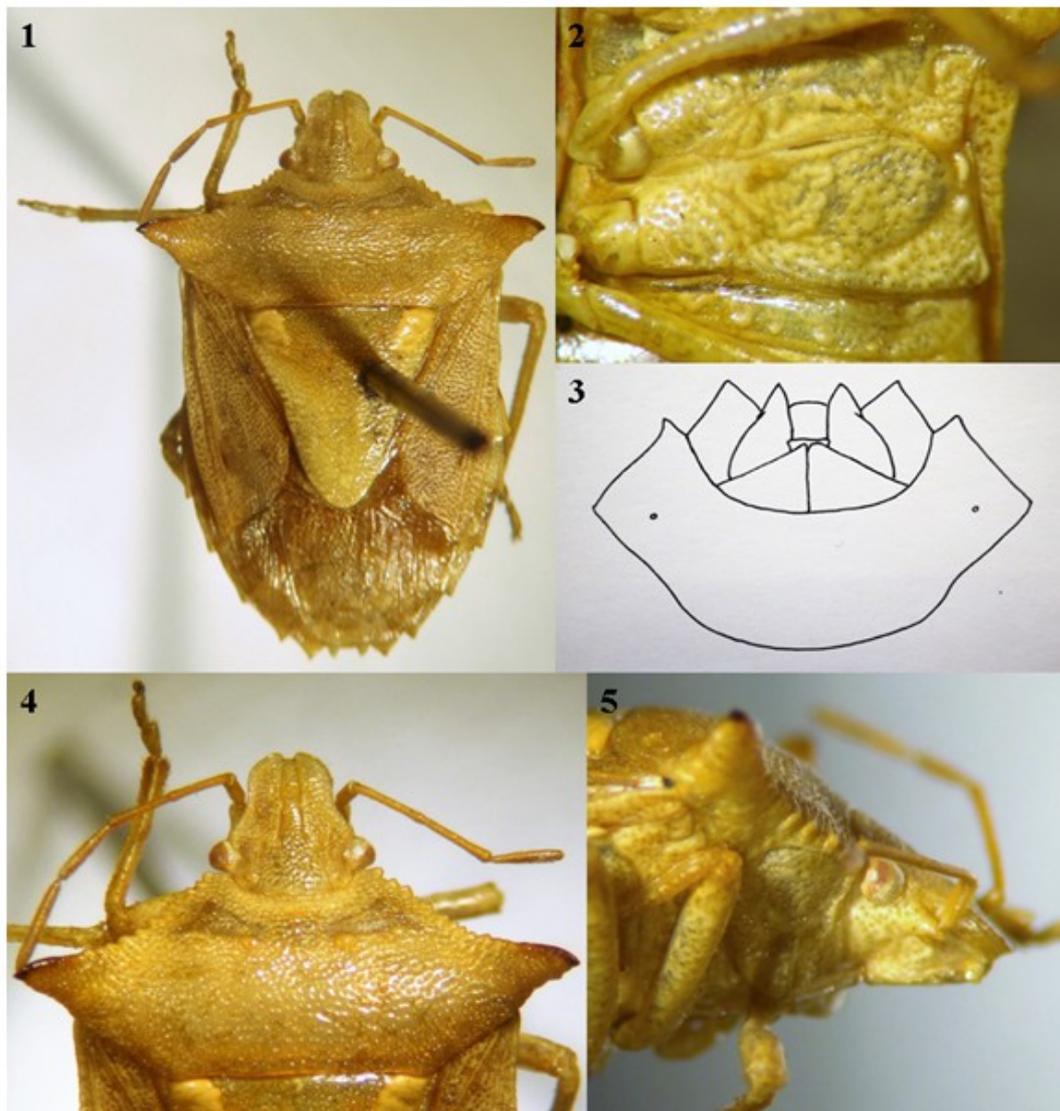
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**Figs. 1-5.-** *Graphorn bicornutus* gen. & sp. nov. **1.-** Habitus. **2.-** Metapleuron. **3.-** Female terminalia. **4.-** Head and pronotum, detailed dorsal view. **5.-** Head and pronotum, detailed lateral view.