

**ADDITIONAL INFORMATION FOR *NEORTHOLOMUS*
GIBBIFER (HEMIPTERA, HETEROPTERA, ORSILLIDAE)
FROM ARGENTINA, SOUTHERN CONE**

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ABSTRACT: The family Orsillidae (Lygaeidae: Orsillinae) includes more than 200 species described in 27 genera, only three of its genera are restricted to the “New World”, *Belonochilus*, *Aborsillus* and *Neortholomus*. Three species of genus *Neortholomus* are known in Argentina: *Neortholomus gibbifer*, *Neortholomus jamaicensis* and *Neortholomus rubricatus*. In the present work, it is proposed a redescription of the species *Neortholomus gibbifer*, details of its male and female genitalia are provided. This is the first appointment for the ecoregion of the Espinal and extension of its distribution in Argentina.

KEY WORDS: Orsillidae, *Neortholomus gibbifer*, Argentina

The family Orsillidae (Lygaeidae: Orsillinae), includes more than 200 species described in 27 genera (Ashlock, 1967; Malipatil, 2005), which are distributed worldwide. Only three of its genera are restricted to the New World: *Belonochilus* Uhler, 1871 in the Nearctic Region and *Aborsillus* Barber, 1954 and *Neortholomus* Hamilton, 1983 in the Neotropics. *Aborsillus* was described for only one species, *A. insignis* Barber, 1954 in Brazil (Minas Gerais); and *Neortholomus* was erected by Hamilton to include one species described by him and eight species from the New World previously placed in the genus *Ortholomus* Stål, 1872; The genus *Neortholomus* can be recognized by the combination of the following characters: head moderately elongated, produced before eye, for a distance slightly longer, than twice its eye length; scutellum moderately pronounced and swollen Y-shaped elevation, apex of scutellum acute and slightly upturned; scent gland auricle typically short and broad; hemelytron complete, partly exposing connexivum laterally, vein 1A of membrane frequently turned toward vein Pcu, cell never completely closed. Three species of genus *Neortholomus* are known in Argentina: *Neortholomus gibbifer* (Berg, 1892), *Neortholomus jamaicensis* (Dallas, 1852) and *Neortholomus rubricatus* (Berg, 1879). The characters that distinguish the species *Neortholomus gibbifer* from others of genus *Neortholomus* are: the greatly swollen scutellum; the strongly declivente head and pronotum; moderate size eyes; flattened vertex; broadly exposed conexiva and longitudinal pale line on the head. Pronotum and scutellum are key elements in its identification (Hamilton, 1983). In the present work, it is proposed the redescription of the species *Neortholomus gibbifer* (Berg, 1892), details of its male and female genitalia, first appointment for the ecoregion of the Espinal (Cabrera, 1994) and extension of its distribution in Argentina.

MATERIALS AND METHODS

The material was collected by light trap in Intendente Alvear city (35°14'00"S 63°35'00"W), La Pampa province, Argentina, during the summer of 2017. Details of the method of dissection of male and female genitalia, and the terminology were extracted from Malipatil (1978); the measurements are expressed in mm. The images were taken by a digital camera (Kodak EasyShare 4X WIDE), the drawings were made by COREL X5. The material was deposited in the entomological collection of the Museo de Historia Natural de La Pampa (MHNLPam), Argentina. For the construction of geographic distribution map we used the program QUANTUM-GIS 2.8.2 (<http://www.qgis.org>) (Fig. 13).

RESULTS

Systematics

Neortholomus gibbifer (Berg, 1892)

(Figs. 1-6)

Nysius gibbifer Berg, 1892: 155.-- Berg 1892: 155.-- Lethierry & Severin 1894: 154.-- Pennington 1921: 18.-- Slater 1964: 280.
Ortholomus gibbifer Ashlock, 1967: 34.
Neortholomus gibbifer Hamilton, 1983: 206.
Neortholomus gibbifer Slater & O'Donnell, 1995. -- Melo *et al.*, 2011:15.-- Dellapé & Carpio, 2012: 132.-- Dellapé, 2014: 437.-- Dellapé *et al.*, 2015: 13.

Diagnosis: General coloration light brown and dark brown (Figs. 1-3). Segments antennal light brown, segment antennal III, presents a soft constriction in the middle region, from there thickens toward the apical region (Fig. 1). Pronotum light brown to dark, hairy, with black spots, trapezoidal, with a half wider than longer, at the humeral angles. *Cuneous* with red spot of triangular shape 1/5-1/6 of the total hemelytra length (Fig. 1). Paramere (Figs. 7-8) curved with dark spot at the apical end and in the convex region, basal region heavily thickened with dark spots, presence of abundant pilosity in the basal region.

Description. Male: n=1. (Figs. 1-3) Total length: 4.57; head length: 0.85; head width: 1.12; eye width: 0.22; interocular space: 0.68; interocellar space: 0.33; preocellar distance: 0.11; rostrum: I 0.48, II 0.40, III 0.43, IV 0.46; antennal segments: I 0.26; II 0.75; III 0.70; IV 0.70; pronotum length: 1.00; pronotum width: 1.50; scutellum length: 0.70; scutellum with: 0.80; abdomen with hemelytra length: 2.70; abdomen without hemelytra length: 2.10; abdominal width: 1.50.

Dorsal coloration: Head light brown to black, hairy, wider than longer, compound eyes dark-reddish; ocelli reddish with dark base; presence of a circular dark spots, extending from the base of the ocelli to the eye, on both sides of the *tylus* extends a dark spot of small size; *genas* and *labrum* dark; antenna segments with short pilosity, segment I shorter, dark brown, with light brown basal region, segment II light brown, hairy, apical region with slight thickening, segment III light brown, pilosity, presents a soft constriction in the middle region, from there thickens toward the apical region, segment IV light brown; segment I shorter than the rest, Segments III and IV of equal size. Pronotum light brown to dark, hairy, with black spots, trapezoidal, with a half wider than longer, at the humeral angles, with the anterior part markedly narrower than the posterior, has a clear longitudinal midline running all over the pronotum; dark pronotal distal ends. Scutellum almost as long as wide, dark brown basal region, light brown apical

region with abundant pilosity; has a clear spot in the middle region, which goes all through the pronotum. *Corium* and *clavus* light brown with hairiness. Hemelytra light brown, with hairiness; veins of the first wing pair with light and dark spots; *cuneus* with red spot of triangular shape $1/5-1/6$ of the total hemelytra length; hyaline region with dark spots in the middle region. Ventral coloration: light brown head with *buccula* dark brown. Pronotum dark brown; coxa light brown. Rostrum segments of similar length, segments 1-2 light brown, segments 3-4 dark brown; legs light brown, brown clear femurs with dark spots hair, without spines; tibiae light brown with distal and proximal dark; tarsi light brown with dark apex, dark nail; abdominal dark brown, hair, light brown lateral region, abdominal segment 4-5 sternite light brown, dark brown pigóforo; hemelytra reaching apical end of the abdomen. Paramere (Figs. 7-8) curved with dark spot at the apical end and in the convex region, basal region heavily thickened with dark spots, presence of abundant pilosity in the basal region. Aedeagus (Fig. 9) with phallosome moderately pigmented, conjunctiva gradually narrowing toward upper end, vesica sclerotized, vesical basal lobes indistinct, ejaculatory duct inside vesica with turns.

Female: n=1. (Figs. 4-6) Total length: 4.70; head length: 0.95; head width: 1.15; eye width: 0.26; interocular space: 0.72; interocellar space: 0.36; preocellar distance: 0.15; rostrum: I 0.53, II 0.51, III 0.50, IV 0.33; antennal segments: I 0.33; II 0.70; III 0.66; IV 0.70; pronotum length: 1.12; pronotum width: 1.75; scutellum length: 0.81; scutellum width: 0.94; abdomen with hemelytra length: 2.46; abdomen without hemelytra length: 2.13; abdominal width: 1.70.

Dorsal coloration: coloration similar to the male; dark spot between ocelli and eyes, clear longitudinal spot extending from the middle region to the base of the head; antennal segments similar to the male except segment III in which a soft constriction and a slight thickening are observed in the apical region. Pronotum similar to the male, clear longitudinal line extending from the head to the basal region of the pronotum; *clavus* and *corium* light brown, hairy; veins of the first wing pair with light and dark spots. Scutellum similar to the male. Hemelytra *cuneus* with small reddish-brown stains, not as conspicuous as in the male. Hyaline area similar to male. Ventral coloration: abdomen light brown, hairy, with dark spots. Rostrum similar to the male; pleural segments I and II dark; Segment III with 6 brown spots; Dark brown segments; Legs similar to the male.

Ovipositor with first ramus spanning almost entire length of first gonapophysis (Fig. 10); second gonapophysis as in Fig 11. Spermatheca saccoid (Fig. 12), spherical bulb, duct with a turns, basal moderately broad.

Material examined: (1♀), 12-IV-2008, Buenos Aires: Tandil: zona lago, Dellapé P. M. col.; (1♀), 4-III-2010, Dellapé, P.M. col.; (5♂♂ 4♀♀), 20-III-2012, Misiones, Montemayor, S.I. col.; (1♂ 4♀♀), 31-III-2012, Misiones: Parque Provincial Mocona, Montemayor, S.I. col.; (3♀♀), 31-III-2012, Melo, M.C. col.; (5♀♀), 31-III-2012, Misiones: Parque Provincial Mocona, Dellapé, P.M. col.; (1♀), 2-IV-2012, Misiones: camino Gendarmería, Montemayor, S.I. col.; (1♂ 1♀), 24-I-2017, La Pampa: Intendente Alvear, Stella C. Col., Stella C. & Pall, J.L. Det. (Fig. 13).

Distribution: Argentina: Buenos Aires, Catamarca, Córdoba, Chaco, Jujuy, Misiones, San Luis, Santa Fe and Tucumán (Berg, 1892; Lethierry & Severin, 1894; Pennington, 1921; Slater, 1964; Hamilton, 1983; Melo et al., 2004; Melo et al., 2011; Dellapé & Montemayor, 2012; Dellapé, 2014; Dellapé et al., 2015).

New distribution in Argentina: La Pampa: Intendente Alvear (Fig. 13).

DISCUSSION

There are three species of the genus *Neortholomus* present in Argentina, two of them, are very difficult to distinguish; these are *N. rubricatus* and *N. jamaicensis*. Both species greatly vary in size and coloration patterns, the genitalia of both species seem to be very similar and do not provide any conclusive evidence. *N. gibbifer*, is cited in catalogs in different parts of our country, but a more detailed description was never made considering the genitalia of the male and female, it was only determined by external morphological characteristics. An even deeper determination of the three species should be made in the future taking into account their genitalia.

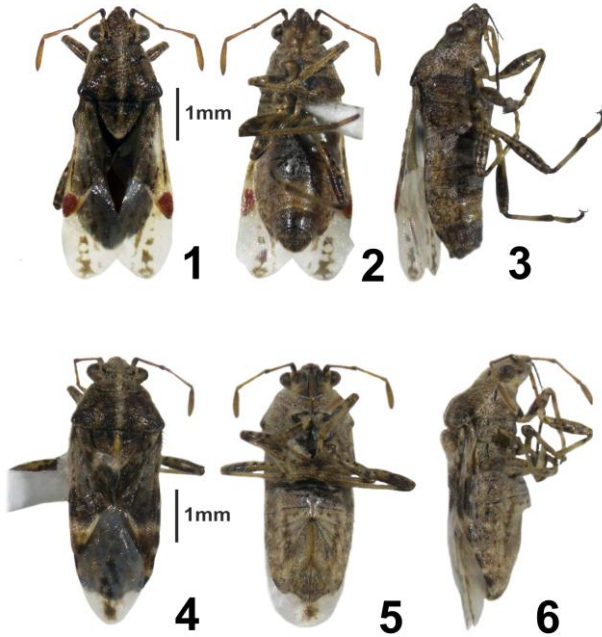
It should be taken into account that the data provided in this work are relevant given the infrequent nature of the material obtained by *N. gibbifer*, a difficulty expressed by Hamilton in 1983.

ACKNOWLEDGEMENTS

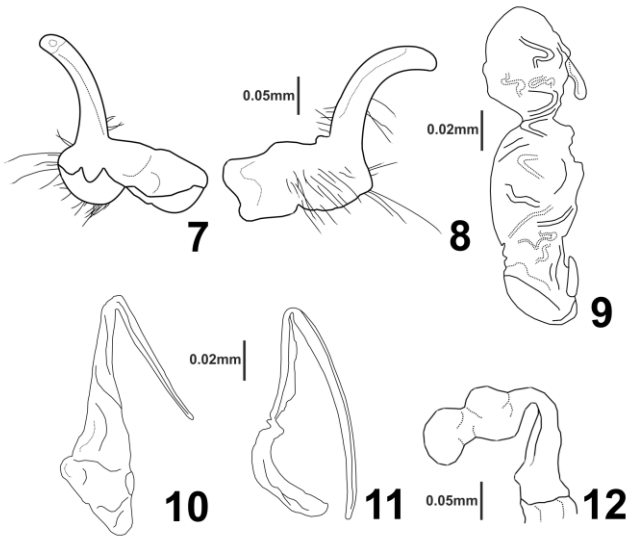
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Figures 1-6. *Neortholomus gibbifer* (Berg): 1-3: male: 1 dorsal view, 2 ventral view, 3 lateral view; 4-6 female: 4 dorsal view, 5 ventral view, 6 lateral view.



Figures 7-12. *Neortholomus gibbifer* (Berg): 7-9: male genitalia: 7 left parámero dorsal view, 8 left parámero ventral view, 9 aedeagus, lateral view; 10-12: female genitalia: 10 first gonapophysis, 11 second gonapophysis, 12 spermatheca.

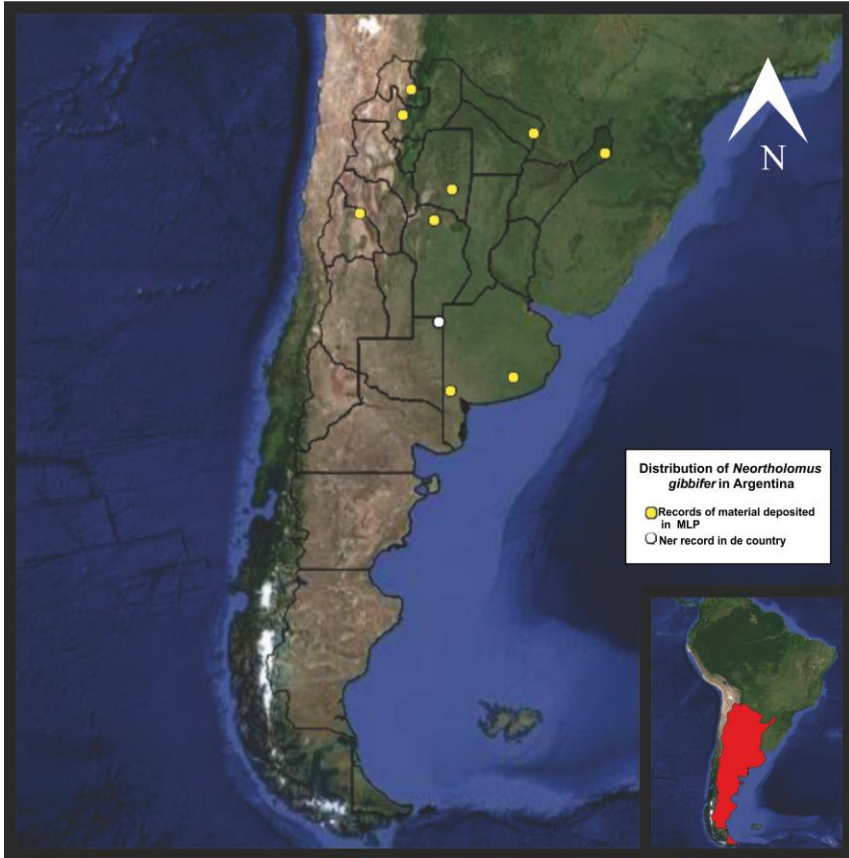


Figure 13. Distribution of species *Neortholomus gibbifer* (Berg) in Argentina.