

A new species of *Neosigara* Lundblad (Heteroptera: Corixidae) from Colombia with a revised key to adults

Новый вид *Neosigara* Lundblad (Heteroptera: Corixidae) из Колумбии и определительные таблицы для имаго рода

P. P. Tinerella¹ & J. T. Polhemus²
П.П. Тинерелла¹, Дж.Т. Полхемус²

¹ Department of Entomology, North Dakota State University, Fargo, North Dakota, 58105 USA; e-mail: paul.tinerella@ndsu.edu

¹ Кафедра энтомологии университета Северной Дакоты, Фарго, Северная Дакота, 58105 США.

² Colorado Entomological Institute, 3115 S York Street, Englewood, Colorado, 80113 USA.

² Энтомологический институт Колорадо, 3115 S Йорк стрит, Ингивуд, Колорадо, 80113 США.

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КЛЮЧЕВЫЕ СЛОВА: Corixidae, *Neosigara*, безлесное плоскогорье, новый вид, определительные таблицы.

ABSTRACT: *Neosigara paramo* sp.n., (Heteroptera: Corixidae) is described from Antioquia, Colombia. A revised key to adults of *Neosigara* is presented.

РЕЗЮМЕ: *Neosigara paramo* sp.n., (Heteroptera: Corixidae) описан из Антьокии (Колумбия). Представлены исправленные определительные таблицы для имаго рода *Neosigara*.

Introduction

The genus *Neosigara* Lundblad contains six species [Hungerford, 1948; Padilla & Nieser, 1994], all known from high-altitude in the Andean zone of Colombia, Ecuador, and Perú. Padilla & Nieser [1994] last treated the genus, providing a key to adult males and instar V nymphs with notes on eggs and ecology. Their treatment marks the most comprehensive to date on this poorly collected, unique group of corixines.

Adults of *Neosigara* are defined by the following. Small size, 4.4–6.9 mm, broad and compact rastrate corixines. Clavopruina long, interocular space broader than width of an eye. Prothoracic lobe elongate, obliquely truncate, with anterior angle pronounced. Metaxyphus long, apically rounded. Male pala with two peg rows: upper row entire, lower row interrupted medially. Abdominal asymmetry dextral or sinistral in males, strigil present in all species except *N. griffinii* (Kirkaldy). Padilla & Nieser [1994] provided descriptions of nymphs (instar V) and eggs.

The genus includes: *N. murilloi* Hungerford, *N. colombiensis* Lundblad, *N. sterea* Nieser & Padilla, *N. aristera* Nieser and Padilla, *N. akanthinmeros* Padilla & Nieser, and *N. griffinii*. Of these six species, three are known from the Paramo ecosystem of this region; *N. sterea*, *N. aristera*, and *N. akanthinmeros* [Padilla & Nieser, 1994], usually from above 3400 meters. Herein, we describe a new species, *Neosigara paramo* sp.n., from the Paramo ecosystem, Antioquia, Colombia. The species is illustrated and a revised key to the species (based on males) of *Neosigara* is presented.

All measurements are in millimeters. All drawings were made with a Leica MZ-12 stereomicroscope equipped with a drawing tube. The material examined is preserved in ethanol, unless noted otherwise and is deposited in the following collections: USNM (United States National Museum, Washington, D. C., USA), PPTC (Paul P. Tinerella Collection, Fargo, North Dakota, USA), and JTPC (John T. Polhemus Collection, Englewood, Colorado, USA).

Systematic Part

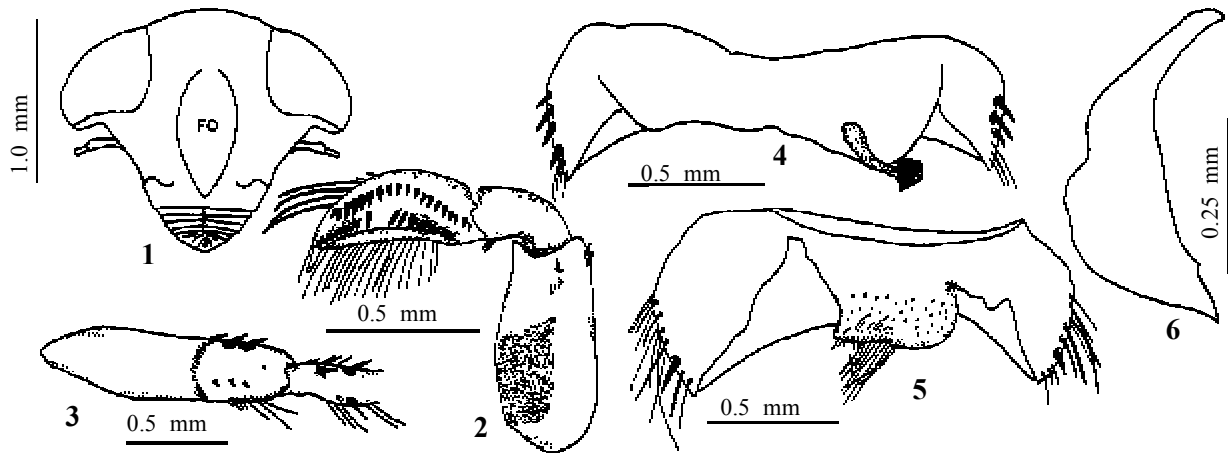
Neosigara paramo Tinerella & Polhemus, sp.n.
Figs 1–6.

MATERIAL. Holotype, macropterous ♂: “Colombia, Antioquia, near Llanos de Cuiva; 2800m; CL-2400; 20-VII-1989; J. T. and D. A. Polhemus” (USNM). Paratypes 6♂♂, 6♀♀, 4 nymphs, same data as holotype; (PPTC: 1♂, 1♀) (JTPC: 5♂♂, 5♀♀).

DIAGNOSIS. The morphology of abdominal tergite VII and the size and shape of the right paramere are superficially similar to *N. akanthinmeros*. In addition, the two species can be separated by the three spinules (*N. paramo* sp.n.) vs. >25 spinules (*N. akanthinmeros*) on the ventral glabrous portion of the hind femur. *N. paramo* sp.n. differs from other known Paramo habitat-dwelling congeners (*N. sterea* and *N. aristera*) on the basis of the palae and peg arrangement, tergal morphology, and abdominal asymmetry (sinistral in *N. aristera*).

DESCRIPTION. Macropterous and brachypterous adults. Measurements (length×width): macropters: holotype ♂: 5.21×1.82; 2♂♂: 5.31×1.94; 5.33×1.87; 2♀♀: 6.44×2.39 [dried, on point card]; 5.51×1.96; brachypters: 4♂♂: 4.88×1.76 [dried, on point card]; 5.22×1.83; 5.16×1.83; 4.99×1.83; 4♀♀: 5.44×1.89; 5.44×1.94; 5.44×1.94; 5.72×1.94.

Ground color light brown. Macropterous forms notably darker than brachypterous forms. Pronotum crossed by 8–9 dark transverse bands. Bands crowded, basal three to four contiguous; apical bands intersecting, anastomosing medially. Hemelytral Patterning: clavus with basal dark markings wide and generally transverse; medial and apical markings dense with dark markings prominent; corial pattern evenly vermiculate, corium and membrane separated by faint V-shaped yellow line; membrane with basal patterning similar to corium, apical patterning grading to solid brown. Head, legs, and venter light brown.



Figs 1–6. *Neosigara paramo* sp.n. 1 — head, frontal aspect showing fovea (FO); 2 — foreleg; 3 — hind femur, ventral aspect; 4 — abdominal tergite VI; 5 — abdominal tergite VII; 6 — right paramere, lateral view.

Рис. 1–6. *Neosigara paramo* sp.n. 1 — голова, вид спереди, показано лобное углубление (FO); 2 — передняя нога; 3 — заднее бедро; 4 — VI тергит брюшка; 5 — VII тергит брюшка; 6 — правый парамер, вид сбоку.

Vertex of head rounded in dorsal view. Interocular space wider than width of eye. Male frontal fovea (Fig. 1) deep, long, reaching to midpoint of eyes, frons evenly pilose. Pronotum proportionately smaller in brachypterous specimens. Pronotum densely rastrate, two times as wide as long, lateral margins rounded, with faint median carina visible (lateral view) on basal third. Clavopruina slightly longer than postnodal pruinose area. Prothoracic lobe quadrate, anterior angle produced, posterior margin rounded. Mesepimeron long, narrow, with scent gland ostiole near apex, hairs originating from cleft distal angle. Metaxyphus longer than broad, apex rounded. Male proleg (Fig. 2): femur densely pilose basally, distally with four smaller spines and one larger; tibia lacking dorsal carina. Upper surface of pala evenly curved with four long setae apically; upper peg row with 19 pegs, lower peg row interrupted medially with 11 pegs in proximal row and ten in distal row. Lower palmar bristles totalling 21–24. Glabrous ventral surface of hind femur (Fig. 3) with three spines. Relative lengths of leg segments: middle leg — femur: tibia: tarsus: tarsal claw: 2.07:0.90:0.63:0.74, respectively; hind leg — femur: tibia: tarsus1:tarsus2: 1.06:0.98:1.21:0.59, respectively. Metathoracic wings in both macropterous and brachypterous forms exceed the 7th tergite. In forms, wing venation of metathoracic wings developed, as are flight muscles. Brachypterous forms exhibit atrophied metathoracic wing venation and reduced flight muscles. Abdominal asymmetry dextral, strigil with three combs, rounded on right side, apically placed on long, narrow petiole originating from underside of 6th abdominal tergite (Fig. 4). Median lobe of 7th abdominal tergite with caudal margin nearly straight, right side broadly rounded and left side with distinct rounded lobe (Fig. 5). Right paramere small (0.49), as in figure 6.

DISTRIBUTION. Colombia. Collected from a boggy stream in Paramo, near Llanos de Cuiva, 2700 m, at head of Quebrada La Tolda, from a boggy valley with typical paramo vegetation including *Espeletia*.

ETYMOLOGY. Paramo, a noun in apposition: reflects the unique high-altitude ecosystem in which this species was collected.

KEY TO THE SPECIES OF *NEOSIGARA* (BASED ON ADULT MALES)

1. Abdominal asymmetry sinistral or, if dextral, strigil reduced or absent 2
- Abdominal asymmetry dextral, strigil well developed 3
2. Strigil absent; right paramere with broad apex
..... *N. griffini* (Kirkaldy)

- Strigil present; right paramere narrowed apically
..... *N. aristera* Nieser & Padilla
- 3. Frontal fovea deep, long, reaching midpoint of eyes (Fig. 1), pilose 4
- Frontal fovea shallow, short, reaching only to base of eyes, with few scattered setae 5
- 4. Median lobe of abdominal tergite VII bilobed, left side broad and evenly rounded; glabrous ventral surface of hind femur with 20–25 spines *N. columbiensis* Lundblad
- Median lobe of abdominal tergite VII entire (Fig. 5), left side pointed apically, right side evenly rounded; glabrous ventral surface of hind femur with three to four spinules (Fig. 3) *N. paramo* sp.n.
- 5. Glabrous ventral surface of hind femur with five spinules *N. murilloi* Hungerford
- Glabrous ventral surface of hind femur with >15 spinules 6
- 6. Glabrous ventral surface of hind femur with approximately 16 spinules; right paramere 0.75 mm long
..... *N. sterea* Nieser & Padilla
- Glabrous ventral surface of hind femur with >25 spinules; right paramere 0.5 mm long
..... *N. akanthinomeros* Padilla & Nieser

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