A new species of the genus *Neogalumna* (Acari, Oribatida, Galumnidae) from China

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Abstract. A new species of oribatid mites of the family Galumnidae, *Neogalumna longiporosa* sp. nov., is described from dark loamy soil collected under moss in North Eastern China. It is the first identified member of the genus *Neogalumna* recorded for China. An identification key to the known species of *Neogalumna* is also given.

Keywords. Oribatida, Galumnidae, *Neogalumna*, new species, new record.

INTRODUCTION

The genus *Neogalumna* was proposed by Hammer (1973) with *Neogalumna antenniger* Hammer, 1973 as type species. Currently, it comprises five species in the world (Subías 2004). The generic diagnosis of the genus *Neogalumna* is already summarized by Hammer (1973) Balogh & Balogh (1992) and not repeated here.

In the course of a faunistic survey of oribatid mites in Beiling Park, Shenyang, Liaoning province, North Eastern China, several specimens belonging to the genus *Neogalumna* were found, representing the first record of the genus in China. The species found is herewith described as *Neogalumna longiporosa* sp. nov., and also a key to all species of the genus is provided.

MATERIAL AND METHODS

Specimens were examined in lactic acid, mounted on temporary cavity slides for the duration of the study, and then stored in vials in 75% ethanol. All measurements are presented in micrometers. Body length was measured in lateral view, from the tip of the rostrum to the posterior edge of the ventral plate. Notogastral width refers to the maximum width in dorsal aspect. Lengths of body setae were measured in lateral aspect. Formula for leg setation is given in parentheses according to the sequence trochanter–femur–genu–tibia–tarsus (famulus included). Formula for leg solenidia is given in square brackets according to the sequence genu–tibia–tarsus. General terminology used in this paper follows that of Grandjean (1956, 1957, 1966), Engelbrecht (1969, 1972a), and Norton & Behan-Pelletier (2009).

TAXONOMY

*Neogalumna longiporosa* sp. nov.

(Figures 1–8)

Material examined. Holotype (female) and 45 paratypes (19 males and 26 females) from soil and moss, Beiling Park in Shenyang (41°50′50.56″N, 123°25′18.09″E), Liaoning province, North Eastern China, 90 m above sea level. Collected by Lixia Xie, Rong Huang, Daxing Yang and Bin Li, 11. August, 2010.

Type deposition. All examined specimens are deposited in the Institute of Entomology, Guizhou University, Guiyang, Guizhou, China (GUGC).

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Figures 1–2. Neogalumna longipora sp. nov. 1 = dorsal view, 2 = ventral view. Scale bars 100µm.

Table 1. Leg setation and solenidia of Neogalumna longiporosa sp. nov.

<table>
<thead>
<tr>
<th>Leg</th>
<th>Trochanter</th>
<th>Femur</th>
<th>Genu</th>
<th>Tibia</th>
<th>Tarsus</th>
</tr>
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<tbody>
<tr>
<td>I</td>
<td>v'</td>
<td>d, (l), v', φ</td>
<td>(l), (v), φ₁</td>
<td>(fl), (tc), (it), (p), (u), (a), s, (pv), v', φ₂</td>
<td>(pl), l'', e, ω₁, ω₂</td>
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<tr>
<td>II</td>
<td>v'</td>
<td>d, (l), v', φ</td>
<td>(l), (v), φ</td>
<td>(fl), (tc), (it), (p), (u), (a), s, (pv), ω₁, ω₂</td>
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<tr>
<td>III</td>
<td>v'</td>
<td>d, ev'</td>
<td>l', σ</td>
<td>l', (v), φ</td>
<td>(fl), (tc), (it), (p), (u), (a), s, (pv)</td>
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<td>IV</td>
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<td>d, ev'</td>
<td>d, l'</td>
<td>l', (v), φ</td>
<td>φ₁, (tc), (p), (u), (a), s, (pv)</td>
</tr>
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</table>

*Roman letters refer to normal setae (e–famulus), Greek letters refer to solenidia. A prime marks (′) anterolateral setae and a double prime (″) posterolateral setae of the given leg segment. Parentheses refer to a pair of setae.

Measurements. Body length 700 (holotype), 700–780 (paratypes); body width 500 (holotype), 500–565 (paratypes).

Integument. Body color brown to dark brown. Surface of body smooth; pteromorphs and genital plates with distinctly thin wrinkles.

Prodorsum (Figs. 1, 3, 4). Rostrum widely rounded. Rostral (ro, 60, 72), lamellar (le, 105, 118) and interlamellar (in, 80, 98) setae setiform, slightly barbed. Sensilli (ss, 160, 180) setiform, slightly fusiform sensillar head indistinct, median and distal parts with several barbs. Exobothridial setae absent. Lamellar lines long, parallel to sublamellar lines. Sublamellar lines distinct. One pair

barbed. Lamellar setae longer than rostral and interlamellar setae. Sensilli setiform, slightly fusiform sensillar head indistinct. Lamellar lines well developed, parallel to sublamellar lines. Dorsosejugal suture complete. Pteromorphs and genital plates with distinctly thin wrinkles. Four pairs of oval notogastral porose areas developed. Median pores absent. Postanal porose area elongated.
of porose areas Ad large, oval, located posterior to interlamellar setae.

**Notogaster** (Figs. 1, 5, 6). Anterior notogastral margin weakly developed. Dorsophragmata (D) of medium size, elongate. Notogastral setae represented by 10 pairs of alveoli. Four pairs of porose areas, Aa irregular rounded or oval (20–36 × 50–58), largest; A1 irregular rounded (25–29 × 30–36); A2 oval (9–13 × 20–28), smallest; A3 irregular elongate oval (9–17 × 30–60). Alveoli of setae la inserted posteriorly to Aa. Lyrifissures im located between setal alveoli lm and lp. Median pore absent.

**Gnathosoma.** Morphology of subcapitulum, palps and chelicerae typical for *Neogalumna* (for example: Ermilov & Anichkin 2010).

**Epimeral region** (Fig. 2). Epimeres smooth. Only four pairs of setiform, thin epimeral (9–22) setae observed. Epimeral setal formula: 1–0–1–2.

**Anogenital region** (Figs. 2, 7). Six pairs of genital (g1–g2, 20–26; g3–g6, 10–14), one pair of aggenital setae (ag, 20–23) setiform, smooth. Anterior edge of genital plates with three setae. Two pairs of anal setae and three pairs of adanal setae alveoli. Adanal lyrifissures iad located anteriolaterally to adanal setae ad; Postanal porose area (Ap, 4–9 × 196–200) irregularly elongate.

**Legs** (Fig. 8). Three claws of each leg, smooth. Morphology of leg segments, setae and solenidia typical for *Neogalumna* (see Ermilov & Anichkin 2010). Formulae of leg setation and solenidia: I typical for *Neogalumna*; II (1–4–3–4–20) [1–2–2]; III (1–2–1–3–15) [1–1–0]; IV (1–2–2–3–12) [0–1–0]; homology of setae and solenidia indicated in Table 1.

**Etymology.** The specific epithet “longiporosa” refers to the elongate postanal porose area (Ap).

**Remarks.** *Neogalumna longiporosa* sp. nov. is clearly distinguishable from the other known species of the genus *Neogalumna* by the combination of the following characters: pteromorphs and genital plates with distinctly thin wrinkles; lamellar setae longer than rostral and interlamellar setae; sensilli setiform, slightly fusiform, sensillar head indistinct; lamellar lines well developed; postanal porose area irregularly elongate.

In having the prodorsal setae long, setiform; sensilli setiform, slightly fusiform, sensillar head indistinct and anterior notogastral margin developed, the new species is similar to *N. seniczaki* Ermilov & Anichkin, 2010 described from Vietnam, but clearly differs from the latter by the larger body size (700–780 × 500–565 versus 381–398 × 265–282 in *N. seniczaki*); the length of lamellar lines (lamellar lines medium long, parallel to sublamellar lines versus very short and straight in *N. seniczaki*) and the structure of postanal porose area (irregularly elongate versus oval in *N. seniczaki*).

**Key to known species of Neogalumna**

1 Interlamellar setae long...........................................2
   Interlamellar setae very short or absent ............4

2 Sensilli with a short stalk and lanceolate head .......... N. curviporosa Balakrishnan
   Sensilli nearly setiform, indistinctly fusiform ........3

3 Lamellar lines very short and straight; surface of pteromorphs and genital plates smooth, postanal porose area short, oval ...................................... N. seniczaki Ermilov & Anichkin

   Lamellar lines well developed, parallel to sublamellar lines; surface of pteromorphs and genital plates with distinctly thin wrinkles; postanal porose area irregularly elongate .......... N. longiporosa sp. nov.

4 Areae porose Aa wedge-shaped, transversely elongate............. N. araujoii (Pérez-Ihigo & Baggio)
   Areae porose Aa rounded or oval..........................5

5 Interlamellar setae absent; sensilli extremely long, with smooth head........... N. antenniger Hammer
   Interlamellar setae very short, but observable; sensilli average long, with barbed head............................. N. aethiopica Mahunka & Mahunka-Papp

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Figures 3–8. Neogalumna longiporosa sp. nov. 3 = dorso-lateral view of prodorsum, 4 = sensillus, 5 = posterior view, 6 = pteromopha, 7 = left anal plate, 8 = tarsus of leg I, left, antiaxial view.

Scale bars (3, 5, 6) 100 µm; (4, 7, 8) = 50 µm.
REFERENCES


