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**LIOCHTHONIUS NORTONI, A NEW SPECIES FROM CHILE (ORIBATIDA : BRACHYCHTHONIIDAE)**

BY Rodrigo I. MARTINEZ ¹ and Maria E. CASANUEVA ¹

**ABSTRACT:** *Liochthonius nortoni* sp. nov., a new species collected from soil samples under *Araucaria araucana* and *Nothofagus pumilio* in the Alto Bio-Bio, IX Region-Chile, is described and illustrated.

**RESUME:** Une espèce nouvelle, *Liochthonius nortoni* nov. spec., récoltée a partir des échantillons du sol environnant *Araucaria araucana* et *Nothofagus pumilio*, Alto Bio-Bio, IX Région-Chile, est décrite et illustrée.

During the course of studies on the forest floor mite fauna of southern forests (*Araucaria araucana* and *Nothofagus pumilio*) of Chile, specimens representing an undescribed species of oribatid mite were collected. The purpose of this paper is to describe and illustrate this species. Morphological terminology used in the description follows that developed by F. GRANDJEAN (see Trévé and Vachon, 1975 for references to these papers), Grandjean (1963), Reeves and Marshall (1971), Moritz (1976) and Norton (1977) for the setal nomenclature of the legs.

*Liochthonius nortoni* sp. nov.  
(Fig. 1-4)

**GENERAL:** Integument mostly lightly sclerotized; color light brown. Mean total length of eight specimens 227 μm (range 212-242 μm); mean maximal notogastral width 132 μm (range 127-136 μm).

**PRODORSUM** (Fig. 1): Integument of aspis not porose, well delineated and sclerotized. Stegasime; tectum developed, naso not evident. Rostral border smooth, without teeth or ridges. Propodosoma slightly narrower than hysterosoma. Sensillus (ss) long, directed posteriorly; distal end longitudinally barbed. Bothridium with external part disc-like, with large central opening through which sensillus passes. Interlamellar seta (in) attenuate, about as long as sensillus, with sparse, equal length barbs, directed posteriorly. Lamellar seta (le) similar in shape but slightly shorter than seta in. Rostral seta (ro) anteriorly directed, similar in size and shape to le. Exobothridial seta (exa) barbed, dorsolateral and posteriorly directed; exp absent. One pair of “light spots” (sigillae) between the interlamellar setae.

**NOTOGASTER** (Fig. 1, 2): Smooth and rounded posteriorly, divided into three sclerites by two transverse sutures of soft striated integument. Posteroventral margin of notogaster with narrow band of unsclerotized integument (ph). Holotrichous, with 16 pairs of setae almost similar in length; c₃, cp, h₃, pₛ₁ and pₛ₂ slightly shorter than the rest. All setae are leaf-shaped, asymmetric, directed poste-

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FIG. 1: *Liochthonius nortoni* n. sp., adult: dorsal aspect (slide-mounted specimen).
riorly; setae $h_2$, $h_3$ reach beyond the posterior margin of the hysterosoma.

**Ventral Region (Fig. 2):** Integument slightly punctuated. Epimera not fused medially; I and II distinct, III and IV weakly developed. Epimeral setation (I-IV) 3-1-3-4. Genital plates well defined laterally, rounded and wider posteriorly. Aggenital and adanal plates not fused. Seven pairs of genital
setae \((g)\); 1 pair of aggenital \((ag)\), 3 pairs of adanal \((ad)\), 2 pairs of anal \((an)\) and 1 pair of peranal seta \((pa)\); all setae similar in length and shape. Lyristis are present, lateral to adanal \(ad\). Three pairs of genital papillae under the genital plates.

**Gnathosoma** (Fig. 3): Infracapitulum anarthric, with separate labial and genal zones; with usual setal complement of 4 pairs \((a, ma, m, h)\) plus adoral seta \((or)\). All infracapitular setae simple, smooth; seta \(a\) 2.5 times longer than \(or\); setae \(a, ma, m, h\) aligned in longitudinal row; adoral seta \((or)\) inserted anterolaterad of seta \(a\). Rutellum \((Ru)\) atelobasic, thin, with two pointed teeth of different length and apical end also pointed. Labrum \((L)\) glabrous.

**Palp** (Fig. 4): 5-segmented. Setation (trochanter to tarsus) 0-2-1-3-9; setae \(ul', ul'', cm\) and \(acm\) eupathidic. Solenidion \(\omega\) long, reaching tip of tarsus, baculiform.

**Chelicera:** Strong, chelate-dentate. The fixed digit with two unequal sized teeth; the movable digit with minute prominence, but without teeth. Cheliceral setae \((cha, chb)\) smooth; \(chb\) dorsolaterally positioned.

**Legs:** Ambulacrum monodactylos on all legs. Setal formulae (trochanter to tarsus) as follows: leg I 0-3-3-4-18; leg II 0-4-3-3-13; leg III 2-3-3-4-13; leg IV 1-2-3-4-11. Solenidiotaxy (genu to tarsus) as follows: leg I 2-1-3; leg II 1-1-1; leg III 1-0-0; leg IV 1-1-0. On tarsus I solenidion \(\omega 1\) is cylindrical, with rounded tip (digitiform); solenidia \(\omega 2\) and \(\omega 3\) are long and pointed, not coalescent. Solenidion \(\omega 1\)
of genu I inserted at the same level of seta d, solenidion \( \sigma_2 \) slightly shorter than \( \sigma_1 \). Solenidia of genu II and III thin, pointed and coupled to seta d.

The position and homology of setae and solenidia are similar to that of *Liochthonius perpusillus* (Berl.) as described by GRANDJEAN (1963). *Liochthonius australis*, the only other *Liochthonius* species for which leg setation is described, differs in lacking seta d of genu I (COVARRUBIAS, 1968).

**Holotype and paratypes** : from soil samples under *Nothofagus pumilio* and *Araucaria araucana* on Alto Bio-Bio, IX Región-Chile, 22-1-90, ORTIZ coll. The Holotype and three paratypes deposited at the MZUC (Museo de Zoología Universidad de Concepción) and one paratype at the Field Museum of Natural History (Chicago).

**Etymology** : This species is dedicated to Dr Roy A. NORTON (State University of New York, USA), an outstanding oribatid mite specialist.

**Remarks** : In Chile the genus *Liochthonius* was represented by the following eight species: *L. altimonticola, L. australis, L. fimbriatissimus, L. nodifer, L. pepitensis, L. rigidisetosus, L. saltaensis* and *L. unilateralis* (HAMMER, 1958, 1962; COVARRUBIAS, 1968, 1986), all collected from southern parts of Chile (from Puerto Montt to Antarctica) mainly in moss, lichen, grass and fern. *L. nortoni* sp. nov., is the first species collected from soil under *Araucaria araucana* and *Nothofagus pumilio* forests.

*Liochthonius nortoni* sp. nov. is clearly related to *L. fimbriatissimus* (HAMMER, 1962) found in Puerto Montt, Punta Arenas and Tierra del Fuego, Chile. However, the following differences were found: propodosoma slightly narrower than hysterosoma; with only one pair of "light spots" (muscular insertions or sigillae) between the in setae; interlamellar setae directed posteriorly; rostral setae with sparse and equal length barbs; all dorsal setae similar in length, \( f_1 \) (HAMMER’S \( C_1 \)) not the longest of all setae.

In order to make a more detailed comparison including also the features of the gnathosoma, palps, legs and the ventral region, it would have been necessary to have available exemplars of *L. fimbriatissimus* Hammer, 1966. This was impossible and HAMMER’S description is very poor in morphological details.

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