

A new species of ptyctimous mite (Acari: Oribatida) from the Nearctic Region

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Abstract—A new species of Oribotritiidae, *Oribotritia paracarolinae* sp. nov., is described from Canada and a key is given for Nearctic species of *Oribotritia* Jacot.

Résumé—Une nouvelle espèce de Oribotritiidae, *Oribotritia paracarolinae* sp. nov., est décrite au Canada et une clé d'identification est donnée pour les espèces néarctique d'*Oribotritia* Jacot.

Introduction

Ptyctimous mites (Protoplophoridae, Mesoplophoridae, Euphthiracaroida, and Phthiracaroida) are a group of oribatid mites with the morphological ability to fold the aspidosoma under the opisthosoma to protect their appendages. They live in the soil and litter and play an important role in mechanical fragmentation of organic matter (Luxton 1972). The genus *Oribotritia* Jacot, 1924 is one of the largest genera within the euphthiracaroid family Oribotritiidae and is widespread in regions of the world. However, relative to other widespread genera, it is rarely reported from the Nearctic Region. Among the eight known species in the Nearctic, four have been described only recently (Niedbała 2002). This paper describes an additional new species of *Oribotritia* from the Nearctic Region and provides a key to the Nearctic species in this genus.

Methods

The mites were macerated in lactic acid and mounted on slides in glycerine. Observations, measurements, and illustrations were made using a standard light microscope equipped with a drawing attachment. Terminology is based on Niedbała (2002). All measurements are in micrometres.

Abbreviations

CNC Canadian National Collection of Insects, Arachnids and Nematodes, Agriculture and Agri-Food Canada, Ottawa, Ontario, Canada

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Oribotritia paracarolinae sp. nov.

(Fig. 1)

Type material

Holotype and 4 paratypes: Nova Scotia, Cape Breton Highlands National Park, Beulach Ban Falls, red oak, beech, and maple litter, 8.ix.1983, coll. V. Behan, deposited in the CNC. **Additional paratypes:** 5. British Columbia, Vancouver Island, Englishman River Falls Prov. Park, mixed maple and Douglas-fir litter, 10.iii.1977, coll. B.D. Ainscough, deposited in the CNC and DATE.

Etymology

The Latin prefix *para*, meaning “near”, refers to the similarity between the new species and *O. carolinae* Jacot, 1930.

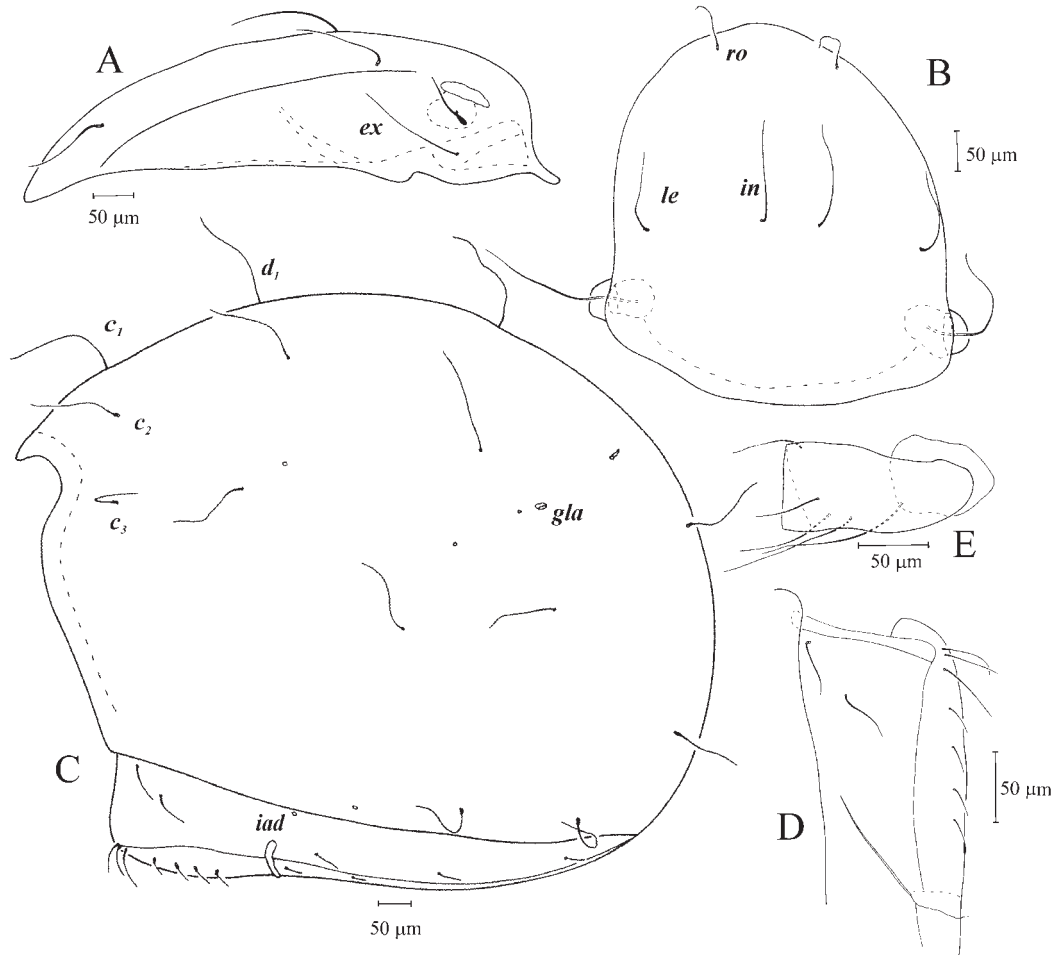
Description

Measurements of holotype: prodorsum: length 545, width 404, height 162, sensillus 75.7, lengths of setae: interlamellar 121, lamellar 111, rostral 75.7, exobothridial 146; notogaster: length 1040, width 788, height 707, setae: c_1 126, h_1 121, ps_1 106; genital and aggenital plates 217×85.8 , anal and adanal plates 530×65.6 .

Sexual dimorphism not pronounced, immature stages unknown.

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Fig. 1. *Oribotritia paracarolinae*, holotype: (A) prodorsum, lateral view, (B) prodorsum, dorsal view, (C) opisthosoma, lateral view, (D) genital and aggenital plates, and (E) trochanter and femur of leg I. Abbreviations: ex, exobothridial setae; gla, lateral-opisthosomal gland; in, interlamellar setae; le, lamellar setae; ro, rostral setae.



Large species. Colour brown. Integument finely punctate.

Prodorsum with single, distinct, long lateral carinae. Sensilli short, filiform, smooth. Prodorsal setae: interlamellar, lamellar, and rostral setae procumbent, fairly short, fine, attenuate, smooth, exobothridial setae longest.

Notogaster with moderately long, fine, and flexible setae (setae c_1 shorter than distance between setae c_1 and d_1). Setae c remote from anterior margin, setae c_1 more removed than setae c_2 and c_3 . Opening of lateral-opisthosomal gland, five lyrifissures, and two vestigial setae present and positioned normally.

Infracapitulum as for superfamily (Mahunka 1990). Setae h of mentum considerably longer

than the distance between them. Palps five-segmented with formula 0-4-2-9(1).

Ventral region: genital plates with seven pairs of setae, three pairs in progenital position longest; setae g_4 remote from setae g_5 . Two pairs of aggenital setae present. Anal plates with two pairs of setae. Adanal plates with three pairs of setae. Lyrifissures iad situated anteriorly from ad_3 setae.

Leg chaetome: I, 1-4-5(2)-5(1)-23(3); II, 1-4-4(1)-3(1)-19(2); III, 3-2-3(1)-3(1)-16; IV, 3-2-2(1)-3(1)-14. Anterodorsal spine on femora I absent. Tarsi heterotridactylous.

Discussion

The new species differs from *O. carolinae* in that it has seven pairs of genital setae, the

exobothridial setae are longer than other prodorsal setae, the interlamellar setae are procumbent, and lyrifissures *iad* are situated anterior to the *ad*₃ setae. In *O. carolinae*, there are eight pairs of genital setae, the exobothridial setae are shorter than other prodorsal

setae, the interlamellar setae are erect, and the lyrifissures *iad* are lateral (between the *ad*₂ and *ad*₃ setae).

Distribution

Nearctic: Nova Scotia, British Columbia.

Key to adults of Nearctic species of the genus *Oribotritia*

1. Anal plates without setae *O. banksi* (Oudemans, 1916)
- Anal plates with 1–3 pairs of setae. 2
2. One pair of anal setae present *O. pipara* Niedbała, 2002
- 2–3 pairs of anal setae present 3
3. Two pairs of anal setae present 4
- Three pairs of anal setae present. 6
4. Single pair of lateral carinae of prodorsum present 5
- Lateral carinae of prodorsum as laminae composed of four lines *O. oregonensis* Niedbała, 2002
5. Interlamellar setae erect; eight pairs of genital setae present; lyrifissures *iad* posterior to *ad*₃ setae *O. carolinae* Jacot, 1930
- Interlamellar setae procumbent; seven pairs of genital setae present; lyrifissures *iad* anterior to *ad*₃ setae *O. paracarolinae* sp. nov.
6. Single pair of lateral carinae of prodorsum present *O. henicos* Niedbała, 2002
- More than one pair of lateral carinae of prodorsum present. 7
7. Interlamellar setae very long, many times longer than sensilli, erect *O. megale* (Walker, 1965)
- Interlamellar setae short, not longer than sensilli, not erect 8
8. Two pairs of lateral carinae of prodorsum present; upper carinae very short; lyrifissures *iad* located laterally to setae *an*₃ *O. cherokee* Niedbała, 2002
- Lateral carinae consisting of three lines; lyrifissures *iad* located laterally of setae *ad*₃ *O. magna* (Ewing, 1907)

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