



<http://dx.doi.org/10.11646/zootaxa.3884.2.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:9D1670C3-15F7-4AF7-8952-8513D9FC4EB4>

Ptyctimous mites (Acari, Oribatida) from the Joint Russian-Vietnamese Biological Expedition (October 2013–April 2014)

WOJCIECH NIEDBAŁA¹ & SERGEY G. ERMILOV^{2,3}

¹Faculty of Biology, Department of Animal Taxonomy and Ecology, Adam Mickiewicz University, Poznań, Poland.

E-mail: wojciech.niedbala@amu.edu.pl

²Tyumen State University, Tyumen, Russia. E-mail: ermilovacari@yandex.ru

³Corresponding author

Abstract

An annotated checklist of ptyctimous mite taxa, collected from the Joint Russian-Vietnamese Biological expedition (October 2013–April 2014) in four forest zones (Dong Nai Biosphere Reserve, Dong Nai Culture and Nature Reserve, Bu Gia Map National Park, Bi Dup—Nui Ba National Park) is provided. It includes 28 species, 16 genera and six families. One new subgenus, *Euphthiracarus* (*Parapocsia*) Niedbala **subgen. nov.**, and five new species, *Acrotritia paragranelata* Niedbala **sp. nov.**, *Hoplophthiracarus clavatus* Niedbala **sp. nov.**, *Steganacarus* (*Rhacaplacarus*) *spinus* Niedbala **sp. nov.**, *Euphthiracarus* (*Euphthiracarus*) *quasitakahashii* Niedbala **sp. nov.** and *Euphthiracarus* (*Parapocsia*) *medius* Niedbala **sp. nov.**, are described. Supplementary descriptions of *Apoplophora minuscula* Niedbala, 2013 (see Niedbala & Ermilov 2013), *Arphthiracarus parasentus* Niedbala, 2000 and *Atropacarus* (*Hoplophorella*) *stilifer* (Hammer, 1961) are presented.

Key words: Oribatida, ptyctimous mites, checklist, new species, new subgenus, supplementary descriptions, southern Vietnam

Introduction

The present study is based on material collected during a six-month Joint Russian-Vietnamese Biological expedition in October 2013–April 2014 that aimed to explore ptyctimous mites (Acari, Oribatida) of Dong Nai Biosphere Reserve, Dong Nai Culture and Nature Reserve, Bu Gia Map National Park, Bi Dup—Nui Ba National Park in southern Vietnam. An annotated checklist of registered taxa is provided in *Results* section.

One new subgenus of the genus *Euphthiracarus* Ewing, 1917 (Euphthiracaridae) and five new species, belonging to the four genera, *Acrotritia* Jacot, 1923 (Euphthiracaridae), *Hoplophthiracarus* Jacot, 1933 (Phthiracaridae), *Steganacarus* (*Rhacaplacarus*) Niedbala, 1986 (Steganacaridae), *Euphthiracarus* (*Euphthiracarus*) Ewing, 1917 and *Euphthiracarus* (*Parapocsia*) **subgen. nov.** (both Euphthiracaridae), are described. The systematics, generic characters, identification keys and geographical distributions of species of these genera were presented earlier (Niedbala 2000, 2004, 2008).

Also, some remarks and supplementary descriptions of three known species, *Apoplophora minuscula* Niedbala, 2013 (Mesoplophoridae), *Arphthiracarus parasentus* Niedbala, 2000 (Phthiracaridae) and *Atropacarus* (*Hoplophorella*) *stilifer* (Hammer, 1961) (Steganacaridae), are presented.

Material and methods

The ptyctimous mites were submerged in lactic acid and mounted on temporary cavity slides for the duration of the study. Body measurements are presented in micrometers. Length of the body setae was measured in lateral aspect. All types of new species are preserved in the Department of Animal Taxonomy and Ecology, Adam Mickiewicz University, Poznań, Poland.

Measurements of first specimen from locality 1. Prodorsum: length 106, width 96, height 68. Prodorsal setae: sensillus 61, *in* 25, *le* 30, *ro* 61, *ex* 33. Notogaster: length 167, width 152, height 152. Notogastral setae: c_1 28, d_1 38, e_1 66; genital plate 25×25 ; anal plate 40×26 . Distance between genital and anal plates 73. Measurements of second specimen from locality 1. Prodorsum: length 104, width 94, height 66. Notogaster: length 164, width 147, height 88.

Correction of description. Notogaster with eight pairs of setae of different shape. Setae c_1 , c_2 and d_1 similar in shape to lamellar, interlamellar and exobothridial setae, narrow, flexible covered with over a dozen cilia; setae c_3 needleform, smooth; other setae long, large in proximal part and attenuate in distal part, covered with 30–40 cilia at one margin. Setae of row *c* remote from anterior border, setae c_2 more than others. On Fig. 1 in description of holotype (Niedbala & Ermilov 2013) needleform seta c_3 is absent and both setae e_2 are drawn from two sides.

***Arphthycarus parasentus* Niedbala, 2000**

(Fig. 6E)

Measurements of one specimen from locality 4. Prodorsum: length 263, width 207, height 126. Prodorsal setae: sensillus 86, *in* 313, *ro* 50. Notogaster: length 540, width 394, height 353. Notogastral setae: c_1 328, c_2 308, c_3 379, cp 404, p_1 369, $c_1/c_1-d_1=2.5$.

Remarks. Two found specimens have notogastral setae not only attenuate, but longer and flexible. All other morphological characters the same as in holotype.

***Atropacarus (Hoplophorella) stilifer* (Hammer, 1961)**

(Fig. 6F)

Measurements of one specimen from locality 2. Prodorsum: length 243, height 119. Notogaster: length 459, height 278.

Remarks. The specimen from Vietnam is bigger than “syntype” (Niedbala 1992) and has slightly longer notogastral setae ($c_1/c_1-d_1=0.64$) than in “syntype” ($c_1/c_1-d_1=0.52$).

Acknowledgements

We gratefully acknowledge two anonymous reviewers for the valuable comments and Dr. Alexander E. Anichkin (Institute of Ecological and Evolutionary Problems, RAS, Moscow, Russia) for sampling assistance. We thank the staff of Dong Nai Biosphere Reserve, Dong Nai Culture and Nature Reserve, Bu Gia Map National Park, Bi Dup—Nui Ba National Park for support during the field work. The study was supported by the Russian Foundation for Basic Research (research project № 14-04-31183 mol_a).

References

- Aoki, J. (1980a) A revision of the Oribatid mites of Japan. I. The families Phthiracaridae and Oribotritidae. *Bulletin Institute of Environmental Science and Technology, Yokohama*, 6 (2), 1–88.
- Aoki, J. (1980b) A revision of the Oribatid mites of Japan. II. Family Euphthiracaridae. *Acta Arachnologica*, 29 (1), 9–24.
- Ewing, H.E. (1917) A synopsis of the genera of beetle mites with special reference to the North American fauna. *The Entomological Society of America*, 10 (2), 117–132.
- Hammer, M. (1961) Investigations on the oribatid fauna of the Andes Mountains. II. Peru. *Det Kongelige Danske Videnskabernes Selskab Biologiske Skrifter*, 13 (1), 1–157.
- Jacot, A.P. (1923) Oribatoidea Sinensis II. *Royal Asiatic Society. North China Branch Journal*, 54, 168–181.
- Jacot, A.P. (1933) Phthiracarid mites of Florida. *Journal of the Elisha Mitchell Scientific Society*, 48 (2), 232–267.
- Mahunka, S. (1983) Oribatids from the Eastern Part of the Ethiopian Region II. *Acta Zoologica Academiae Scientiarum Hungaricae*, 29 (1–3), 151–180.
- Mahunka, S. (1988) The oribatid fauna of Tanzania (Acari), I. *Acta Zoologica Hungarica*, 34 (4), 345–378.

- Mahunka, S. (1993) A new series of publication on new or little known Oribatid taxa from Africa (Acari), I. *Acta Zoologica Hungarica*, 39 (1–4), 91–119.
- Mahunka, S. (1999) Ptychoid oribatids from Madagascar. *Folia Entomologica Hungarica*, 60, 69–82.
- Niedbala, W. (1986) Catalogue des Phthiracaroida (Acari), clef pour la détermination des espèces et descriptions d'espèces nouvelles. *Annales Zoologici*, 40 (4), 309–370.
- Niedbala, W. (1992) *Phthiracaroida (Acari, Oribatida)*. *Systematic Studies*. Elsevier, Amsterdam-Oxford-New York-Tokyo, Państwowe Wydawnictwo Naukowe, 612 pp.
- Niedbala, W. & Corpuz-Raros, L.A. (1998) Ptyctimous mites (Acari, Oribatida) from the Philippines. *The Philippine Agriculturist*, 81 (1–2), 1–58.
- Niedbala, W. (2000) The ptyctimous mite fauna of the Oriental and Australian regions and their centers of origin (Acari: Oribatida). *Genus*, supplement, 1–493.
- Niedbala, W. (2004) Ptyctimous mites (Acari, Oribatida) of the Neotropical region. *Annales Zoologici*, 54 (1), 1–288.
- Niedbala, W. & Penttinen, R. (2007) New species of ptyctimous mites (Acari, Oribatida, Steganacaridae) with some new records from Australasian region. *Annales Zoologici*, 57 (3), 517–532.
- Niedbala, W. (2008) Ptyctimous mites (Acari, Oribatida) of Poland. In: Iwan, D. & Makol, J. (Eds.), *Fauna in Poloniae. Vol. 3. Fauna Polski, Museum and Institute of Zoology, Polish Academy of Sciences*. Natura optima dux Foundation, Warszawa, pp. 1–242.
- Niedbala, W. & Ermilov, S.G. (2013) Ptyctimous mites (Acari, Oribatida) from Southern Vietnam with descriptions of three new species. *Zootaxa*, 3608 (6), 521–530.
<http://dx.doi.org/10.11646/zootaxa.3608.6.5>