

Oribatid species (Acari, Oribatida) new to the fauna of Finland

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Sixteen species of oribatids new to Finland are recorded, five of which [*Microzetorchestes emeryi* (Goggi), *Oppiella minidentata* (Subias), *Quadroppia michaeli* Mahunka, *Xylobates capucinus* (Berlese) and *Oribella sexdentata* Berlese] have not previously been recorded in the Nordic countries. Included is a short survey of their occurrence in that region, and records from Finnish localities according to the uniform grid system (27°E) with 10×10 km squares.

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1. Introduction

The aim of this paper is to update the previous lists of oribatid mites by Karppinen & Krivolutsky (1982) and by Niemi (1988). Sixteen species new for Finland have subsequently been reported. Some of these, *Gymnodamaeus bicostatus* (C.L. Koch), *Xenillus latus* (Nicolet), *Odontocephalus elongatus* (Michael), *Xylobates capucinus* (Berlese), and *Chamobates spinosus* Sellnick, were listed by Nordberg (1936), but Uusitalo (1992) presented evidence that Nordberg's work on mites is unreliable because it contains many erroneous identifications, and because the original material is lost and the localities not clearly specified. Accordingly, I regard Nordberg's identifications as unreliable and will not use them here.

2. Material and methods

The material studied originated from unsorted soil samples of the Zoological Museum, University of Turku. The species have been listed, with a short

survey of their occurrence in the Nordic Countries, and with records from Finnish localities given according to the uniform grid system (27°E) with 10×10 km squares. The systematic order follows Marsall et al. (1987), except for the family *Oppiidae*, which is listed according to Subias & Balogh (1989). The identified material has been deposited in the Zoological Museum, University of Turku.

3. List of species and localities

Nothridae

Nothrus invenusta (Michael, 1888)

Material: 666:20 Nauvo, Berghamn, Boskär, in *Parmelia* sp. on rocks, 30.5.1990, R. Niemi, 1 ex. — 667:22 Nauvo, Kirjais S, in *Parmelia* sp. on rocks, 7.6.1981, R. Niemi, 3 exx. — 669:22 Parainen, Tennäs, Lund, in *Xanthoria* sp. & *Parmelia* sp., 24.7.1981, R. Niemi, 60 exx.

This species has been recorded from Sweden (Sellnick & Forsslund 1955), Norway (Løken 1966) and Denmark (Gjelstrup 1978).

Gymnodamaeidae

Gymnodamaeus bicostatus (C.L. Koch, 1835)

Material: 669:23 Parainen, Sydmo, Ippos, in rocky forest with lichen, 6.9.1966, P.T. Lehtinen, 1 ex. — 696:52 Kuopio, Vuorilampi, in litter at base of rock wall, 22.8.1973, O.V. Lindqvist, 3 exx.

Dalenius (1960) found this species in Swedish Lapland, while the first record from Norway was by Strand (1910).

Zetorchestidae

Microzetorchestes emeryi (Goggi, 1898)

Material: 669:19 Korppoo, Åvensor, in *Sedum* on rock, 30.7.1966, P. T. Lehtinen, 4 exx. — 669:19 Korppoo, Åvensor, Kirmo, in nest of *Lasius fuliginosus* under stone 8.7.1985, P.T. Lehtinen, 1 ex.

This species has not previously been found in the Nordic countries, although, according to Schatz (1983), from Central Europe it has been reported from many countries.

Xenillidae

Xenillus latus (Nicolet, 1855)

Material: 665:20 Korppoo, Björkö, in maritime deciduous forest, 26.6.1980, P.T. Lehtinen, 49 exx. — 668:17 Houtskari, Jungfruskär, in sand with grass, 29.5.–23.7.1990, K. Heikka & P.T. Lehtinen, 1 ex. — 668:23 Parainen, Haradsholm, Byön, in forest with *Mnium-Rhodobryum*, 1.10.1981, P.T. Lehtinen, 2 exx. — 670:20 Korppoo, Åvensor, Hevoslot, in nests of *Camponotus*, *Lasius* & *Formica sanguinea*, 12.6.1983, P.T. Lehtinen, 2 exx.

The species has been found in Sweden (Dalenius 1950) and in Denmark (Thamdrup 1932).

Carabodidae

Odontocephus elongatus (Michael, 1879)

Material: 665:20 Nauvo, Fårö, in litter of *Elymus-Fucus*, 20.6.1991, V. Rinne, 1 ex. — 667:20 Korppoo, Kalgarholm, Hässlö, under bark of decaying pine, 28.7.1986, P.T. Lehtinen, 9 exx. — 669:20 Korppoo, Kärvois, Koivuluoto, from anthill of *Formica* sp., 14.8.1982, P.T. Lehtinen, 1 ex. — 670:20 Korppoo, Åvensor, Hevoslot, in nests of *Camponotus*, *Lasius* & *Formica sanguinea*, 12.6.1983, P.T. Lehtinen, 4 exx.

Nordenskiöld (1901) reported *Carabodes* sp. cfr. *elongatus* (Mich.) from Finland. Because of the uncertainty of the previous identifications of this species, I consider it to be newly recorded. The species has been recorded by Dalenius (1950) from Sweden and listed by Mehl (1979) from Norway; according to Hallas (1978) there are many records from Denmark.

Oppiidae

Berniniella bicarinata (Paoli, 1908)

Material: 669:19, Korppoo Åvensor, in *Sedum* on rock, 30.7.1966, P.T. Lehtinen, 1 ex.

Dalenius (1950) has recorded this species from Sweden, Solhøy (1975) from Norway, and Haarløv (1957) from Denmark.

B. sigma (Strenzke, 1951)

Material: 665:20, Korppoo Björkö, in maritime deciduous forest, 26.6.1980, P.T. Lehtinen, 1 ex.

According to Hallas (1978) the only other Nordic country in which this species has been found is Denmark.

Moritzoppia keilbachi (Moritz, 1969)

Material: 665:20 Korppoo Björkö, in maritime deciduous forest, 26.6.1980, P.T. Lehtinen 14 exx. — 666:20 Nauvo Berghamn Boskär, in decaying aspen, 30.5.1990, P.T. Lehtinen, 8 exx — 668:17 Houtskari Jungfruskär, in *Juniperus* litter at seashore, 29.5.1990, R. Niemi 13 exx. — 668:23 Parainen Haradsholm Byön, in *Mnium*, 1.10.1981, P.T. Lehtinen, 23 exx. — 668:23 Parainen Haradsholm Byön, in *Mnium-Rhodobryum*, 1.10.1981, P.T. Lehtinen, 76 exx. — 670:20 Korppoo Åvensor Hevoslot, in nests of *Camponotus*, *Lasius* & *Formica sanguinea*, 12.6.1983, P.T. Lehtinen, 1 ex. — 671:24 Turku Kurala Kylämäki, Vähä-Kohmo, in wood litter on dirt floor of woodshed, 20.6.1990, R. Niemi & V. Rinne, 11 exx. — 671:24 Lieto Vanhalinna, in moist wood litter on floor of old cottage, 8.3.1992, R. Niemi, 49 exx. — 674:19 Uusikaupunki Varanpää Petes, from anthill of *Formica* sp., 26.6.1984, P.T. Lehtinen, 3 exx. — 674:26 Pöytyä Himainen, in abandoned anthill, 9.4.1983, P.T. Lehtinen, 11 exx. — 674:26 Pöytyä Himainen, in abandoned anthill of *Formica polyctena*, 9.4.1983, P.T. Lehtinen, 7 exx. — 677:19 Uusikaupunki Pyhämaa Santalahti, in abandoned anthill of *Formica*, 2.10.1982, R. Niemi, 61 exx. — 677:19 Uusikaupunki Pyhämaa Santalahti, from old *Formica*-anthill, 2.10.1982, R. Niemi, 54 exx. — 678:32 Kylmäkoski,

in horse dung, 25.8.1985, R. Niemi, 3 exx. — 686:25 Kankaanpää Makkaramäki, from *Formica polyctena*-anthill, 29.9.1986, R. Niemi, 2 exx. — 691:30 Virrat Peltoperä, in anthill of *Formica exsecta* in dried mud, 10.8.1985, P.T. Lehtinen, 47 exx. — 709:33 Kälviä, in straw litter on dirt floor of haybarn, 1.7.1988, R. Niemi, >100 exx. — 772:49 Utsjoki Kevo Nature Reserve, from burned birch forest, 25.6.1986, S. Koponen, 5 exx. — 772:49 Utsjoki Kevo Nature Reserve, from birch forest, 10.7.1973, S. Koponen, 1 ex.

Before the description of this species in 1969, a very similar species, *M. unicarinata*, was recorded many times in Finland (Karppinen 1958a, b, c, 1962, Krogerus 1960, Mahunka 1968). However, after my study of the Finnish oribatid material I have found *M. unicarinata* to be very rare in our country, whereas *M. keilbachi* is quite common and sometimes very abundant. The species has been recorded from Sweden (Hippa et al. 1988), but is absent in the lists from Norway and Denmark.

M.(?) tridentata (Forsslund, 1942)

Material: 735:60 Kuusamo Juuma, in pile of sawdust, 3.8.1982, P.T. Lehtinen, 1 ex.

Recorded in Nordic countries only from Sweden (Forsslund 1942).

Oppiella minidentata (Subias, 1977)

Material: 772:49 Utsjoki Kevo Nature Reserve, from burned birch forest, 17.9.1986, S. Koponen, 1 ex.

Subias (1977) has described this species from a mountain range north of Madrid. Pérez-Iñigo (1988) considered it an Iberian endemic species.

Quadroppia michaeli Mahunka, 1977

Material: 665:20 Korppoo Björkö, in maritime deciduous forest, 26.6.1980, P.T. Lehtinen, 96 exx. — 666:20 Nauvo Berghamn Boskär, in spruce litter, 13.9.1990, R. Niemi, 32 exx. — 668:23 Parainen Haradsholm Byön - N, from stand of *Mnium-Rhodobryum*, 1.10.1981, P.T. Lehtinen, 25 exx. — 668:17 Houtskari Jungfruskär, from *Juniperus* litter at seashore, 29.5.1990, R. Niemi, 16 exx. — 668:17 Houtskari Jungfruskär, in hazel litter, 12.9.1990, R. Niemi 1 ex. — 669:19 Korppoo Ävensor, on sloping meadow, 30.7.1966, P.T. Lehtinen, 1 ex. — 669:22 Parainen Tennäs Lund, in *Xanthoria & Parmelia*, 24.7.1981, R. Niemi, 1 ex. — 671:17 Brändö, in hazel litter, 26.8.1989,

R. Niemi, 52 exx. — 671:24 Turku Kurala Kylämäki, Iso-Rasi, in attic of old house, 20.6.-22.8.1990, Niemi R. & Rinne V., 1 ex. — 674:26 Pöytyä Himainen, in abandoned anthill of *Formica polyctena*, 9.4.1983, P.T. Lehtinen, 5 exx. — 671:24 Turku Varissuo, from *Cladonia*, 14.11.1982, R. Niemi, 1 ex.

Quadroppia quadricarinata is the only *Quadroppia* species previously recorded from the Nordic countries (Lundqvist 1987, Hallas 1978, and Mehl 1979). Because both *Q. michaeli* and *quadricarinata* are very small species, the differences between them can be recognized with certainty only from mounts. Therefore, I believe that in some cases specimens labelled *Q. quadricarinata* may in fact be *Q. michaeli*.

Scutoverticidae

Scutovertex sculptus Michael, 1879

Material: 665:20 Nauvo Fårö, in *Elymus & Fucus*-litter, 20.6.1991, V. Rinne, 3 exx. — 694:63 Liperi Ylämylly, in *Formica rufa* anthill, 20.8.1986, P.T. Lehtinen, 2 exx.

This species has been recorded previously from Denmark (Gjelstrup 1978). Most finds have been made in Southern and Central Europe (e.g. Pérez-Iñigo 1988 and Gil & Subias 1990).

Haplozetidae

Xylobates capucinus (Berlese, 1908)

Material: 665:20 Korppoo Björkö, in maritime deciduous forest, 26.6.1980, P.T. Lehtinen, 1 ex. — 666:24 Dragsfjärd, at rim of a spring among *Mnium* sp, 14.8.1982, R. Niemi, 3 exx. — 669:19 Korppoo Ävensor, in *Sedum* on rock, 30.7.1966, P.T. Lehtinen, 2 exx. — 669:20 Korppoo Ävensor Kirmo, in nest of *Lasius fuliginosus* under stone, 8.7.1985, P.T. Lehtinen, 1 ex. — 677:19 Uusikaupunki Pyhämaa Santalahti, in *Hippophae rhamnoides*-litter, 2.10.1982, R. Niemi, 1 ex.

Not previously found in the Nordic countries. In Southern and Central Europe this species is common (Schatz 1983).

Chamobatidae

Chamobates spinosus Sellnick, 1928

Material: 665:20 Korppoo Björkö, in maritime deciduous forest, 26.6.1980, R. Niemi, 19 exx. — 668:17

Houtskari Jungfruskär, in *Juniperus* litter at seashore, 29.5.1990, R. Niemi, 12 ex. — 671:17 Brändö, in hazel litter, 26.8.1989, R. Niemi, 2 ex. — 671:24 Lieto Vanhalinna, in moist wood litter on floor of old cottage, 8.3.1992, R. Niemi, 4 ex. — 677:19 Uusikaupunki Pyhämaa Santalahti, in old *Formica*-nest, 2.10.1982, R. Niemi, 23 ex. — 677:19 Uusikaupunki Pyhämaa Santalahti, in abandoned anthill of *Formica* sp., 2.10.1982, R. Niemi, 73 ex. — 6903:422 Muurame, in forest of *Myrtillus*-type (ca. 100 years old), 1991, J. Laakso, 1 ex.

This species has been recorded from Sweden (Dalenius 1960), and from Denmark (Thamdrup 1932).

C. voigtsi (Oudemans, 1902)

Material: 669:19 Korppoo Åvensör, in *Sedum* on rock, 30.7.1966, P.T. Lehtinen, 3 ex. — 6903:422 Muurame, in forest of *Myrtillus*-type (ca. 100 years old), 1991, J. Laakso, 1 ex.

This species has been recorded from Sweden by Dalenius (1950), and from Denmark by Hammer (1972).

Oribatellidae

Oribatella sexdentata Berlese, 1916

Material: 666:20 Nauvo Berghamn Boskär, in decaying aspen, 30.5.1990, P.T. Lehtinen, 1 ex. — 674:26 Pöytyä Himainen, from abandoned anthill of *Formica polycytena*, 9.4.1983, P.T. Lehtinen, 1 ex.

No other records from the Nordic countries have been reported. In Southern and Central Europe the species seems to be common (Bernini 1977 and Schatz 1983).

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