

The first records of five mite species (Acari, Mesostigmata) in Norway

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This paper presents five mesostigmatid mite species that are new to Norway's fauna. *Hypoaspis austriacus* (Sellnick), *Ameroseius longitrichus* Hirschmann, *Urobovella pullchella* (Berlese), *Urobovella vinicolora* (Vitzhum) *Discourella modesta* (Leonardi) were found for the first time in Sogn og Fjordane county in South Norway. Localities and occurrence in microhabitats according to literature are given.

Key words: Mites, Acari, Mesostigmata, South Norway, species new for Norway, Parasitengona, Gamasina, Uropodina

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INTRODUCTION

According to a checklist by Gwiazdowicz and Gulvik (2005), 220 mesostigmatid mite species have definitely been recorded in Norway, and these are assigned to four suborders, 26 families and 74 genera. The Norwegian mite fauna is not expected to be as rich as the fauna of central and southern Europe, partly because of Norway's northerly latitude and harsh climate with a short growing season, and partly because Norwegian ecosystems are relatively young (have developed after deglaciation about 8000 years ago). So far only sporadic and piecemeal studies of the gamasid fauna in Norway have been carried out, and it is likely that more species in fact occur in Norway than have been recorded. We studied about 50 samples from South Norway and found five species new to the Norwegian fauna.

This paper is based on the study of Maria E. Gulvik's collection, belonging to Sogn og Fjordane University College, Department of Natural Science, Norway, and deposited in the museum's Heiberg Collections (De Heibergske Samlinger, Vestreim, Kaupanger) in Norway. Microslides of the species new to Norway's fauna have been deposited in the Museum of the University of Bergen (the Natural History Collections) and in the Heiberg Collections in Norway.

METHODS AND MATERIAL

Material was collected from different vegetation types and microhabitats in South Norway in Sogn og Fjordane county. The soil mesofauna was extracted from the samples with a modified Tullgren funnel for six days. The specimens were collected in beakers of 75% ethanol, and then fixed

on permanent slides in Hoyer's medium. Selected adult Gamasida were identified to species level according to Ghilarov & Bregetova (1977), Karg (1993) and Wisniewski & Hirschmann 1993.

The list of species is presented in systematic order by suborder and family, including information about species' microhabitat preferences (based on the literature), and gives details of the finds in Norway (locality, microhabitats and vegetation type). Information on localities is given according to the Strand system for use in biogeographical work in Norway (Økland 1981). This consists of a symbol for a region followed by the name of the municipality. Symbols for the regions are **SFI**: Sogn og Fjordane interior part, **SFY**: Sogn og Fjordane coastal part. Additional information on each sample is provided.

The classification of vegetation types follows Fremstad (1997).

A: Lichen/bryophyte and dwarf-shrub woodland, A4: Bilberry woodland, B1: Low-herb woodland, G: Anthropogenous grassland, G3: *Deschampsia cespitosa* grassland, K: Poor fen, K1: Wooded poor fen, K1a: Wooded st.

GAMASINA

Laelapidae

Hypoaspis austriacus (Sellnick, 1935)

Records: **SFI** Luster at Gullringen beside road No. 55 (61°28' N, 07°32' E), 26 ♀♀ in six samples from moss, rotten stump of *Betula* sp. and organic strata near ants' nests, from stony, xerothermic border of B1 vegetation type.

Occurrence: In humus, litter, ants' nests and nests of Rodentia (Ghilarov & Bregetova 1977, Karg 1993).

Ameroseiidae

Ameroseius longitrichus Hirschmann, 1963

Records: **SFI** Luster: Skjolden (61°13' N, 07°06' E), 16.11.06, 7 ♀♀ in two samples from rotten beam attacked by *Hylotropes bajalus* (Linnaeus, 1758).

Occurrence: Rotting wood, organic layer and under bark in insect' corridors (Ghilarov & Bregetova 1977, Karg 1993).

UROPODINA

Urodinychidae

Urobovella pullchella (Berlese, 1904)

Records: **SFI** Luster: Skjolden (61°13' N, 07°06' E), 6 ♀♀ in one sample from rotten stump of *Betula* sp. in A4 vegetation type with *Betula pendula*, Sogndal: Near museum De Heibergske Samlinger (61°12' N, 07°11' E), 1 ♀ in one sample from rotten trunk of *Populus tremula* in K1a vegetation type.

Occurrence: Organic layer in forest and rotting wood (Wisniewski & Hirschmann 1993).

Urobovella vinicolora (Vitzthum, 1926)

Records: **SFY** Skei, Våtedalen (10 km from Skei), beside road No. E 39 (61°38' N, 06°32' E), 1 ♀ in one sample of rotten trunk (with moss, cortex and rotting wood) of *Alnus incana* in wooded pasture G3 vegetation type with *Alnus incana*.

Occurrence: Litter (Wisniewski & Hirschmann 1993).

Uropodidae

Discourella modesta (Leonardi, 1899)

Records: **SFI** Luster at Gullringen beside road No. 55 (61°28' N, 07°32' E), 1 ♀ in one sample from organic strata beside rotten stump of *Betula* sp. with ants' nests, from stony, xerothermic border of B1 vegetation type.

Occurrence: Organic layer of forest floor (Wisniewski & Hirschmann 1993).

CONCLUSIONS

Knowledge of the distribution patterns of gamasid species in Norway is important for zoogeographical studies of Acari because many of these species reach their northerly distribution limits in Norway, which stretches from 57°58' to 71°11' N. This is illustrated by the fact that more than 1000 species are known from central Europe

(Karg 1993, Wisniewski & Hirschmann 1993), whereas only 13 species have been recorded from Svalbard (Thor 1930, Coulson 2007). Moreover, Norway's varied topography means that climate and vegetation types vary even within very short distances. This permits studies of the ecological preferences of species within small geographical areas. Sogn og Fjordane county is located in the central-western part of South Norway, and extends from the Atlantic coast to the alpine zone of the Scandinavian mountains. The county includes summits reaching more than 2 000 m, the largest glacier in Europe (Jostedalbreen) and the longest and deepest fjord (Sognefjorden), and is therefore particularly suitable for building up ecological knowledge. For example, *Camerotrombidium pexatum* (C.L. Koch, 1837) (Acari, Parasitengona), which has been recorded as a forest species in Poland (Gabryś 1996), also proved to be numerous in Sogn and Fjordane, where it has been recorded exclusively from open habitats close to the fjord shore (Małol & Gulvik 2002).

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