SOME MOSSMITES NEW FOR THE NETHERLANDS (ACARI: ORIBATIDA)

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Mossmites are small micro-arthropods which live in the soil. In a number of ongoing Alterra-projects nine mossmite species have been recorded which were not yet included in the recently published Dutch checklist. The total number of mossmite species in the Netherlands is now 327. More species are to be expected in under-explored areas and habitats, some of which are to be investigated in the near future.

INTRODUCTION

After completion of the checklist of the oribatid mites of the Netherlands (Siepel et al. 2009), it became clear that not all databases of Alterra (Wageningen UR) were completely checked. Some parts of the database on soil micro-arthropods have been kept aside for ecological analysis, such as the national monitoring scheme for soil quality (Jagers op Akkerhuis et al. 2009), the check for recolonization of former agricultural soils (Kemmers et al. 2007) and the samples from drift sands (Siepel & Nijssen 2010). A comparison of the species of these databases with the checklist revealed nine species new to the Netherlands, which makes the total for the Dutch fauna now 327. *Peloptulus montanus* was already listed in the checklist (nr 250), but with a question mark on the present status. The species was listed because of specimens found in peat cores, but, due to their bad condition, it could not be excluded that the material was subfossil. The new studies show that the species has been collected alive from soil in 2006. All specimens are stored in the collection of the first author.

NEW SPECIES

Gehypochthonius rhadamanthus

Gehypochthius belongs to the Gehypochthoniidae, which next to the Parhypochthoniidae, is the only family in the Parhypochthonoidea, which is the only superfamily of the cohort Parhyposomatides (Parhyposomata). It has been collected in a soil sample from a drift sand at Drouwenerzand (52°57'34,01"N 6°47'13,51"E, province of Drenthe) (fig. 2), on 19.III.2009 (1 specimen). The sample was taken from a plot which was part of a phosphate fertilizer experiment (PhD thesis research) The vegetation of the plot consisted of lichens.

Quadroppia hammerae

Sampled in the old forest soil from Ulvenhoutse Bos at Ulvenhout (51°33'16,40"N 4°48'59,59"E, province of Noord-Brabant), as part of the monitoring project of multifunctional forests and acidification. The sample has been taken on 14.VI.2007 in an oak-beech forest on sandy soil and is a reference site in comparison with acid forest soils (4 specimens).

Quadroppia longisetosa

Collected from a soil sample from grassland at Oostermeer (53°10'39,07"N 6°03'29,21"E, province of Friesland), on 15.VI.2000 (1 specimen). The sample was taken from a site that is part of the national monitoring scheme on soil quality. The sampling site is a dairy farm on sandy soil and the manure management of the farm is experimental.

Hypogeoppia hypogaeum

Collected from a soil sample from a moist nutrient-poor grassland (*Cirsio dissecti-Molinietum*) at Allemanskamp, near Renswoude (52°03'26,94"N

Figure 1. *Mycobates sarekensis*. Photo Henk Siepel.
Figuur 1. *Mycobates sarekensis*. Foto Henk Siepel.

5°33'49,17"E, province of Utrecht), on 13.v.2004 (4 specimens). The site is part of the national monitoring scheme on soil quality. The soil is a mullmoder on deeper sand.

Suctobelbella latirostris
Sampled from a forest soil in the Gemeentebossen near Heeze (51°23'28,21"N 5°32'39,34"E, province of Noord-Brabant), on 13.vi.2007 (3 specimens). The site, a Scots Pine forest on acid sandy soil, is part of the monitoring project of multifunctional forests and acidification.

Eupelops nepotulus
Collected from a soil sample from a grassland on peat soil, under a regime of biological farming near Ottoland (51°53'22,32"N 4°52'59,98"E, province of Zuid-Holland), on 25.v.2008 (1 specimen). The site is part of the national monitoring scheme on soil quality.

Peloptulus montanus
This species was already listed in Siepel et al. 2009 (nr. 250) with the remark: 'Probably subfossil records only (peat core Vriezenveen, RMNH)'. In a soil sample from drift sand, Otterlose Zand (52°06'50,58"N 5°48'15,33"E, province of Gelderland), collected on 7.xi.2006 (1 specimen). The locality is part of a monitoring project of Dutch drift sands. The vegetation on the site are grasses and sand sedge *Carex arenaria*. The species shows a wide range of biotopes from drift sands, heath lands to peat lands, all poor in nutrients, whereas the moisture of the soil obviously matters less.

***Mycobates sarekensis* (fig. 1)**
Collected from a soil sample in a grassland on sandy soil near Soerendonk (Baronie Cranendonck, section 19 B) (51°17'50,08"N 5°32'02,90"E, province of Noord-Brabant), on 19.iv.2006 (1 specimen). The site is part of a recolonization study on former agricultural land. After the agricultural management stopped in the 1970s no fertilizer was added to the soil. The grassland is dominated by *Agrostis stolonifera* L. The species (also 1 specimen) was also found in a sample nearby from a reference site (ref-1) in the same study area. The vegetation of this site also consisted of grasses.

Phauloppia saxicola
Sampled from a *Calluna vulgaris* heath land from the National Park De Sallandse heuvelrug at Haarlerberg near Nijverdal (52°20'52,59"N 6°26'53,45"E, province of Overijssel), on 28.iv.2004 (1 specimen). The locality is part of the national monitoring scheme on soil quality. The site had a dry, nutrient poor sandy soil.

Zygoribatula knighti
Collected from soil samples from a drift sand, Wekeromse Zand, near Wekerom (52°06'26,40"N 5°41'14,34"E, province of Gelderland), on 14.iv.2009 (12 specimens). The site is part of a monitoring project of Dutch drift sands. The species was found in a sample from a plot with a

Figure 2. Drouwenerzand, locality dominated by lichens, where *Gehypochthonius rhadamanthus* was found. Photo Marijn Nijssen.
Figuur 2. Drouwenerzand, korstmosvlakte waar *Gehypochthonius rhadamanthus* gevonden is. Foto Marijn Nijssen.

Polytrichum piliferum moss vegetation. The species was also found in a sample from a plot with a *Corynephorus canescens* vegetation (another 7 specimens).

UPDATED CHECKLIST

GEHYPOCHTHONIIDAE
Gehypochthonius Jacot, 1936
42a rhadamanthus Jacot, 1936

QUADROPPIIDAE
Quadroppia Jacot, 1939
164a hammerae Minguez, Ruiz & Subias, 1985
164b longisetosa Minguez, Ruiz & Subias, 1985

OPPIIDAE
Hypogeoppia Subias, 1981
174a hypogaeum (Paoli, 1908)

SUCTOBELBIDAE
Suctobelbella Jacot, 1937
204a latirostris (Strenzke, 1950)

PELOPSIDAE
Eupelops Ewing, 1917
243a nepotulus Berlese, 1916
Pelops pulchellus Berlese, 1916

MYCOBATIDAE
Mycobates Hull, 1916
296a sarekensis Trägårdh, 1910

ORIBATULIDAE
Phauloppia Berlese, 1908
314a saxicola Travé, 1961
Zygoribatula Berlese, 1916
319 knighti Luxton, 1987

DISCUSSION

With increasing numbers of studied plots and habitats in the Netherlands, it is expected that the number of species for the checklist of our country will also increase. Some areas and habitats are still underexplored such as the old forest remains in the east of the country, peatlands in the centre and western part of the country and

chalk grasslands in the south. In the near future some of these ecosystems will be sampled in upcoming projects.

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SAMENVATTING

Enkele mosmijten nieuw voor Nederland (Acari: Oribatida)
Bestudering van materiaal uit enkele Alterra-projecten leverde negen soorten mosmijten op die nog niet waren opgenomen in de recent gepubliceerde Nederlandse naamlijst. Het totaal aantal soorten voor Nederland komt hiermee op 327.

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