

# THIRD SUPPLEMENT TO THE CHECKLIST OF MOSS MITES OF THE NETHERLANDS (ACARI: ORIBATIDA)

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Moss mites live predominantly in the soil, although some species live in fresh water or on the bark of trees. In 2009 the first critical checklist to the Oribatida was published, containing 318 species. Since then the list has grown considerably and in this paper another 13 species are added. This brings the total number of species for the Netherlands to 351. As there are several habitats, like exposed soils, moss on trees and thatched roofs, which have not been studied extensively, more new species for the country are to be expected.

## INTRODUCTION

Since the current checklist of moss mites of the Netherlands has been published (Siepel et al. 2009, with supplements in Siepel & Dimmers 2010 and Siepel et al. 2012) new species have been discovered in recent samples on various locations in the Netherlands. Also some older records popped up from stored slides with samples of former projects of the former Research Institute for Nature Management (RIN), DLO-Institute for

Forest and Nature research (IBN) and Alterra (now Wageningen Environmental Research). Oribatida s.s. form the major group of species in the mite order Sarcopitiformes. Recently, Astigmatina have been grouped into the Oribatida as a new cohort (Krantz & Walter 2009). Siepel et al. (2016) published a first provisional checklist for this cohort for the Netherlands. Where Astigmatina cover a very wide range of habitats ranging from free living mites along the seashore and in wet



Figure 1. *Liochthonius neglectus* ♀, lateral. Putten, Schovenhorst, litter and soil, 2.XI.2016.

All photos Henk Siepel.

Figuur 1. *Liochthonius neglectus* ♀, lateraal. Putten, Schovenhorst, strooisel en bodem, 2.XI.2016.

Alle foto's Henk Siepel.



Figure 2. *Liochthonius propinquus* ♀, lateral. Kats, in soil in ruderal coastal vegetation, 18.XI.2017.

Figuur 2. *Liochthonius propinquus* ♀, lateraal. Kats, in bodem van ruderaale kustvegetatie, 18.XI.2017.

nutrient-rich habitats to inhabitants of stored food items and external and internal parasites in birds and bats, Oribatida s.s. are predominantly found in the topsoil, feeding on algae, roots, dead organic matter or fungi and bacteria. Only few exceptions exist living in fresh water feeding on blue-green algae (e.g. *Limnozetes* and *Hydrozetes* species) and some algal and lichen feeding species occur in trees or on roof tops and other extreme environments (e.g. *Carabodes*, *Trhypochthonius*).

With the additions listed here and previously published by Doğan et al. (2015), the total number of oribatid mite species for the Netherlands is now 351. All specimens are stored in the authors collection unless stated otherwise. Some of the species added now to the list are probably quite rare and live in low densities, such as *Liochthonius neglectus*, *Neolichthonius piluliferus*, *Phthiracarus boresetosus*, *Machuella bilineata* and *Neoribates aurantiacus*. Others may have been overlooked so far or mixed up with other species, such as *Banksinoma lunare*. Finally a group of species occurs in habitats that are currently not much sampled in the Netherlands, such as *Liochthonius propinquus* and *Eupelops hygrophilus* (damp places), *Multioppia laniseta*, *Subiasella quadrimaculata* and *Phauloppia nemoralis* (dead wood and fungi) and *Perlohmannia dissimilis*, *Li acarus acutus*, *Eueremaes valkanovi* and *Oribatula pannonica* (xerotherm places, such as exposed soils or moss on trees or thatched roofs). Especially in the latter category more species are to be expected in the Netherlands.

## NEW SPECIES

### *Liochthonius neglectus* (fig. 1)

*Liochthonius neglectus* has been found in the soil samples taken at one of the experimental plots of the Loglife project (Cornelissen et al. 2012). In the project a common garden experiment is executed on two rather different locations and soil types (Schovenhorst at the Veluwe and Hollandse Hout in the Flevopolder). Schovenhorst estate near Putten in the Veluwe region is on a post-glacial sand deposit containing a little loam wherein a spodic dystrodept (Soil Survey Staff 1999) has developed. The current vegetation is a *Larix kaempferi* stand with an understory of predominantly wavy hairgrass *Deschampsia flexuosa* some blueberry *Vaccinium myrtillus* and moss patches. The samples were taken 11.11.2016 to investigate the composition and diversity of soil microarthropod species. The aim of the Loglife project is to investigate the decomposition of dead woody material (logs, branches and twigs) from a range of tree species, coniferous trees as well as broad-leaved trees. The coniferous species at Schovenhorst are: *Picea abies*, *Abies grandis*, *Larix kaempferi* and *Pseudotsuga menziesii* and broad-leaved trees are: *Quercus robur* and *Populus tremula*. A few specimen of *L. neglectus* have been found in the litter layer in the middle plot of the experiment (52°22'12" N, 4°53'43" E). The species is known to occur in predominantly in forest soils (Weigmann 2006), but also records from heathland, tundra and abandoned agricultural fields exist, mostly this tiny species (180-205 µm) will be overlooked. From literature another location in the Netherlands was found in Mossel (near Ede), soil sample from a former agricultural site taken in May 1997 (Gormsen et al. 2006). The species is also found in Great Britain (Luxton 1996), Iberian peninsula (Gormsen et al. 2006, Subias & Shtanchaeva 2012), Italy (Migliorini et al. 2002), Rumania (Mahunka et al. 2013), Czech Republik (Miko 2013), Slovakia (L'uptáčík et al. 2012), Germany (Moritz 1976), Sweden (Gormsen et al. 2006, Alatalo et al. 2017), Denmark (Holmstrup



Figure 3. *Phthiracarus boresetosus* ♀, lateral-ventral. Slenaken, Grote bos, litter, 5.x.2015.  
 Figuur 3. *Phthiracarus boresetosus* ♀, lateraal-ventraal. Slenaken, Grote bos, strooisel, 5.x.2015.



Figure 4. *Eueremaes valkanovi* ♀, dorsal. Egmond aan de Hoef, moss on roof, 2.x.2017.  
 Figuur 4. *Eueremaes valkanovi* ♀, dorsaal. Egmond aan de Hoef, mos op dak, 2.x.2017.

et al. 2017), western Russia (Voronezh region) (Kolesnikov 2013), northern Kola peninsula (Leonov & Rakhleeva 2015) and Nova Zembla (Makarova 2002), and on Svalbard (Coulson 2007).

### *Liobthionius propinquus* (fig. 2)

*Liobthionius propinquus* was recently found in a soil sample from a ruderal vegetation at the sea shore near the marina from Kats on 18.xi.2017 (52°22'13" N, 4°53'43" E). With the reconstruction of the dikes around the Oosterschelde, the original vegetation of the site has been damaged and replaced by a ruderal vegetation type. Weigmann (2006) gives as ecological preference dry forest soils in accordance with the type locality from Niedbala (1972). Later the species was found in quite a variety of habitats: Żyromska-Rudzka

(1977) found the species frequently in meadows. Ducarme et al. (2004) list the species as a cave dweller from the caves near Rochefort in Belgium. It was also found as one of the most common species on Surtsey island near Iceland 32 years after volcanic eruption (Gjelstrup 1995). Furthermore the species has been recorded in Rumania (Mahunka et al. 2013), Russia near Baikal lake (Niedbala 1977), Ukraine (Kolodochka & Shevchenko 2013), Czech Republic (Starý 2000, Miko 2013), Austria (Lazarus & Krisper 2014), Germany (Zaitsev et al. 2002), Denmark (Holmstrup et al. 2017) and on the Iberian peninsula (Subias & Shtanchaeva 2012).

### *Neolichthionius piluliferus*

*Neolichthionius piluliferus* has been recorded in a re-examination of the insecticide experiments



Figure 5. *Machuella bilineata* ♀, ventral. Arkemheen, litter at base of former dike of Zuiderzee, 30.III.2016.  
 Figuur 5. *Machuella bilineata* ♀, ventraal. Arkemheen, strooisel onder aan de voormalige Zuiderzeedijk, 30.III.2016.



Figure 6. *Multioppia laniseta* ♀, ventral. Rheden, Middachten, dead log of *Quercus robur* in forest, 9.III.2013.  
 Figuur 6. *Multioppia laniseta* ♀, ventraal. Rheden, Middachten, dode eikenstam in bos, 9.III.2013.

conducted by the former Plant Protection Service of the Netherlands in the 1960s (Van de Bund 1965, 1976). On 31.X.1986 these experimental fields on sandy soil (52°22'13" N, 4°53'43" E) have been sampled once more by Chris van de Bund to study the long-term effects of the pesticides on soil life (see Martijn et al. (1993) and Siepel (1995) for results on pesticide persistence and soil fauna responses respectively). Four specimens were found in the control site of the DDT experiment. The type location in northern Sweden (Kulbäcksliden in the Västerbotten province) is a mixed forest of the *Vaccinium* type. *Neolichthonius piluliferus* is the smallest oribatid species known to present (123-166 µm) in the Netherlands. Weigmann (2006) mention forest floor occurrence. The species is found in Slovenia (Mahunka et al. 2013), Austria (Schatz 2004), in Poland as early colonizers of mine dumps (Skubala 2002), Iberian peninsula (Subias & Shtanchaeva 2012), Great

Britain (Luxton 1996), Greenland (Makarova 2015) and in South Korea (Woo et al. 1987) and Japan (Fujikawa et al. 1993). Distribution is Holarctic.

### *Phthiracarus boresetosus* (fig. 3)

According to Weigmann (2006) the species has a wide distribution: Holarctic and South and Central America (Niebala & Starý 2015, Niedbala & Skubala 2008). *Phthiracarus boresetosus* has been recorded from Spain (Subias & Shtanchaeva 2011), Latvia (Kagainis et al. 2014), Canada (Dwyer et al. 2012), China (Zhen & Dong 2014), Pakistan (Hammer 1977, sub *P. tenuis*), Finland (Huhta et al. 2012a) and Germany (Beck et al. 2014). The species occurs in forest soils where it is tunnelling through fir needles as a juvenile (Jacot 1939). In

the Netherlands the *P. boresetosus* was found in forest floor litter near Slenaken in the south of the country (50°46'26" N, 5°51'27" E). The forest is a mixed oak forest in a hilly environment with in the lower parts also ash and fir and a species-rich understory. The sample was taken on 5.x.2015 in a moist part of the forest under *Fraxinus excelsior*. The moist soil is a slightly sandy clay as a deposit of the river Gulp. *Phthiracarus boresetosus* is among the congeneric species easily recognisable at its rod-like and long sensillus (all others are more spindle-like).

#### *Eueremaes valkanovi* (fig. 4)

In his extensive checklist of the Oribatida of the world Subias (2004) synonymizes *Eueremaes valkanovi* with *E. oblongus* (C.L. Koch, 1835) (and most other European *Eueremaes* species), while Weigmann (2006) distinguishes three species (also *E. silvestris*). Lienhard et al. (2013) argue based on DNA research that the species complex has even three more undescribed cryptic species. *Eueremaes valkanovi* can be distinguished by the combination of a slightly thickened sensillus and costulae that are closer to each other than their length. Weigmann (2006) gives as ecological characterization: in moss on trees. Mihelčič (1965) reports the species also from litter in several locations in East-Tirol and mention the occurrence in Germany as well. Mahunka & Mahunka-Papp (2006) found the species in beech litter on karst rocks in Albania. Lóšková et al. (2013) found *E. valkanovi* in spruce litter in Slovakia. Starý (2002) found *E. valkanovi* in the Czech Republic in Český Krumlov in moss on limestone in a mixed forest. Bonnet et al. (1975) report the species as living on mosses in trees in Southern France (Tarn). In the Netherlands the species was found in Egmond aan de Hoef (52°37'6" N, 4°38'59" E) in moss from a thatched roof on 2.x.2017 (1 specimen); that day, however, the reed from the roof was removed and replaced by a new thatch. Given the predominantly Middle and South European

distribution, our record could be the most northern in Europe.

#### *Machuella bilineata* (fig. 5)

The difference between *Machuella bilineata* and the already listed *M. draconis* Hammer, 1961 is the number of long epimeral setae: where *M. bilineata* has only 4-5 pairs of epimeral setae at the rear end of the epimerae, *M. draconis* has 8-9 pairs. *M. bilineata* is described from the Azores and found in Europe in Great Britain (Luxton 1996) and in Austria in dry grassland soils (Lazarus & Krisper 2014, Schatz & Fischer 2015). In the Netherlands it was found near Arnhem, base former dike of the Zuiderzee (52°15'11" N, 5°27'23" E), in litter, 30.III.2016 (1 specimen) and in the control plot of a liming experiment in young forest on a drift sand near Harderwijk (52°18'56" N, 5°39'53" E) on 19.x.2017, where it is quite abundant (55 specimens).

#### *Multioppia laniseta* (fig. 6)

With the species, also the genus is new for the Netherlands. *Multioppia laniseta* is found a.o. in Germany (type location, Moritz 1966), Austria (Schatz & Fischer 2015), Czech Republic (Starý 1994), Slovakia (Miko 2016), Romania (Vasilii & Ivan 2009), Poland (Żbikowska-Zdun et al. 2006), Ukraine (Kulbachko et al. 2014), Georgia (Murvanidze et al. 2011) and Iran (Akrami & Subias 2007). In the Netherlands *M. laniseta* is collected from a sample of dead wood, *Quercus robur*, late stage of decay, at Middachten estate near Rheden in a wet spring forest, (52°1'25" N, 6°4'33" E) on 09.III.2013 (24 specimens) and near Beekbergen, Lierderholt, 5.XI.2017 2 specimens in senescent *Fomes fomentarius* on birch (52°8'50" N, 5°57'0" E). *Multioppia laniseta* was found in Germany on dead wood (Bluhm et al. 2015) and also in Poland on rotten bark covered with lichens



Figure 7. *Subiasella quadrimaculata* ♀, dorsal. Beekbergen, Lierderholt, in senescent *Fomes fomentarius* on *Betula pendula*, 5.XI.2017.

Figuur 7. *Subiasella quadrimaculata* ♀, dorsaal. Beekbergen, Lierderholt, in halfvergane *Fomes fomentarius* op *Betula pendula*, 5.XI.2017.



Figure 8. *Banksinoma lunare* ♀, dorsal. Saeftinge, in green algae in salt marsh, 5.V.2016.

Figuur 8. *Banksinoma lunare* ♀, dorsaal. Saeftinge, in groene algen in zoutmoeras, 5.V.2016.

(Żbikowska-Zdun et al. 2006). Some authors rank *M. laniseta* as a subspecies of *M. wilsoni* (Aoki, 1964), however the differences are quite clear and justify a separate species rank.

### *Subiasella quadrimaculata* (fig. 7)

The species is small (200–235 µm) and slender and at first sight it resembles *Microppia minus* (Paoli, 1908) but without small lamellar costulae and two pairs of hell spots instead. *Subiasella quadrimaculata* is collected from senescent *Fomes fomentarius* on birch, 5.XI.2017, ten specimens, near Beekbergen, Lierderholt (52°8'50" N, 5°57'0" E). Kováč et al. (2001) found the species dominant in soil at a pond shore in East Slovakia, however, Siira-Pietikäinen et al. (2008) found the species significantly

more in coarse woody debris than in the soil in Finland and Żbikowska-Zdun et al. (2006) collected *S. quadrimaculata* in dry bark from a fallen tree trunk overgrown with fungi in Poland, where Maślak & Barczyk (2011) the species also found in caves. Totschnig & Schatz (1999) recorded the species in the soil of riverine forests in the Austrian Alps. Subias & Rodriguez (1986) found the species in Spanish Juniper woods. Furthermore the species is found in Ukraine (Zhukov et al. 2013), Italy, South Tirol (Hilpold & Kranebitter 2005), Germany (Bluhm et al. 2015), Great Britain (Evans 1952), the type locality: humus under mixed beech and oak at Woburn, South Bedfordshire. The holotype has been lost.



Figure 9. *Eupelops hygrophilus* ♀, ventral. Kats, in soil in ruderal coastal vegetation, 18.xi.2017.

Figuur 9. *Eupelops hygrophilus* ♀, ventraal. Kats, in bodem van ruderaale kustvegetatie, 18.xi.2017.



Figure 10. *Neoribates aurantiacus* ♀, ventral. Nieuwkoop, birch brook litter, 2.vii.1992.

Figuur 10. *Neoribates aurantiacus* ♀, ventraal. Nieuwkoop, strooisel in berkenbroekbos, 2.vii.1992.

### *Banksinoma lunare* (fig. 8)

Fujikawa (1978) revised the family Banksinomidae and redescribed *Banksinoma lanceolata lunare* as a new combination. Hull (1914) originally described the species as a variety of *Damaeosoma lanceolata* Michael, 1885. Luxton (1987) upgraded the subspecies to the species rank based on the four differences given by Fujikawa (1978). It is to be expected that this species is frequently overlooked and confused with *B. lanceolata*. Hull (1915) himself found *B. lunare* on more locations than *B. lanceolata*: *B. lunare* in pine needles (Delamere), in moss among heather (Hatchmere), in *Polytrichum* and groundmoss (Oakmere), while *B. lanceolata* was found in pine needles and fern debris (Peckforton hills). In the Netherlands *B. lunare* was found in Saeftinge (51°14'46" N, 4°8'59" E), salt marsh, in green algae, on 5.v.2016

and at the Strabrechtse heide (near Geldrop, 51°23'43" N, 5°37'9" E) on 23.v.2016 in cattle dung. In literature no further records are available.

### *Eupelops hygrophilus* (fig. 9)

*Eupelops hygrophilus* is reported for the Netherlands already in Van Geel et al. (2010) as subfossil, found in a peat layer under the forum building of Wageningen University campus north of Wageningen. Fischer & Schatz (2010) found the species in a small grassy verge in a brook forest in northern Italy. Seniczak (2011) found *E. hygrophilus* in a *Rhynchosporium albae* vegetation in Jeziora Kozie Reserve in northwest Poland. In the Netherlands *E. hygrophilus* was found in a soil sample 0-5 cm from a ruderal vegetation at the



Figure 11. *Oribatula pannonica* ♀, dorsal. Slenaken, Grote bos, litter, 5.x.2015.  
 Figuur 11. *Oribatula pannonica* ♀, dorsaal. Slenaken, Grote bos, strooisel, 5.x.2015.



Figure 12. *Phauloppia nemoralis* ♀, dorsal. Rheden, Middachten, dead log of *Quercus robur* in forest, 9.III.2013.  
 Figuur 12. *Phauloppia nemoralis* ♀, dorsaal. Rheden, Middachten, dode eikenstam in bos, 9.III.2013.

sea shore near the marina from Kats on 18.XI.2017 (52°22'13" N, 4°53'43" E) (southwest of the country). The site was moist and is flooded only at spring tide.

### *Neoribates aurantiacus* (fig. 10)

At first sight *Neoribates aurantiacus* looks like a member of the Galumnidae, but it has sacculi instead of areae porosae on its notogaster. Therefore it belongs to the superfamily Oripodoidea (Family Parakalumnidae). Both genus and family are new for the Netherlands. Note that Oudemans described the species after material from Bremen (Germany). *Neoribates aurantiacus* has a Holarctic distribution. It was found in decaying wood and bracket fungi in North America and Canada (Behan-Pelletier 1999) and in Mongolia

in litter of a birch forest and under willow along a riverbank (Bayartogtokh & Weigmann 2005). Markkula (2014) found the species significantly more in palsa soils (small elevations due to permafrost working) in the tundra of northern Scandinavia. It also found by the author in France (department Yonne, in Vézelay, 13.VII.2016, in moss on the southern city wall; 47°27'54" N, 3°44'56" E). In the Netherlands the species was found near Beekbergen on 14.VII.1991, in *Mnium hornum* along a ditch at roadside Elsbosweg (52°10'27" N, 6°1'59" E) (3 specimens) and near Nieuwkoop 2.VII.1992, in a birch brook (52°8'46" N, 4°47'12" E) (1 specimen).



### *Oribatula pannonica* (fig. 11)

In the Netherlands *Oribatula pannonica* was found in forest floor litter near Slenaken in the south of the country (50°46'18" N, 5°51'29" E). The habitat is a mixed oak forest with in the lower parts ash and fir and a species-rich understory. The soil sample (loess) was taken on 5.X.2015 at a steep edge of the path under *Fraxinus excelsior*. In Romania it is reported as a typical lawn species (Ivan 2006). In Slovakia Starý & Pizl (2007) recorded the species in the litter of a thermophilous oak forest and Miko (2016) in the litter and upper soil layer of a xerotherm shrubby forest-steppe (*Querceto-Carpinetum*). Lehmitz et al. (2012) report *O. pannonica* from the east of Saxonia in Germany in a *Dactylus glomerata* meadow. Kontschán et al. (2016) found the species in Hungary in the soil of alfalfa fields. Schatz & Fischer (2007) consider the species as characteristic for dry soils in Austria. Kolesnikov (2013) list the species for western Russia (Voronezh region). Subias (2004) lists the species as Palaearctic. The record for the Netherlands is the most north-western but is in agreement with the dry soil requirements (south facing side of a hollow road).

### *Phauloppia nemoralis* (fig. 12)

*Phauloppia nemoralis* is collected from a sample of dead wood, oak *Quercus robur*, late stage of decay, at Middachten, wet forest, near Rheden (52°01'25.43" N, 6°04'33.12" E, province of Gelderland), on 9.III.2013 (1 specimen) and at Millingerwaard, collected from dead wood, willow *Salix*, late stage of decay, near Nijmegen (51°52'22.02" N, 5°59'45.73" E, province of Gelderland), on 8.II.2013 (1 specimen). The species occurs on the Iberian peninsula (Subias & Shtanchaeva 2012). Erdmann et al. (2006) found *P. nemoralis* dominant on the bark of oak trees in National Park Pusza Białowieża in eastern Poland. Weigmann (2014) reports the species as new to Germany from a dry deciduous forest litter from

Altmuehl valley in Bavaria. Huhta et al. (2012b) characterize the species as typical for live tree trunks in southern Finland. Fischer & Schatz (2013) list the species for Austria as characteristic for xeric habitats, lichens and moss and forest soils.

#### ADDITIONS TO DUTCH ORIBATIDA CHECKLIST

Next to the species listed above, two new species for the Netherlands have been published by Doğan et al. (2015) and are given their place in the checklist below: *Perlohmannia dissimilis*, first record of the family Perlohmanniidae in the Netherlands and *Liacarus acutus*.

#### BRACHYCHTHONIIDAE

*Liochthonius* Van der Hammen, 1959

15a *neglectus* Moritz, 1976

17a *propinquus* Niedbała, 1972

*Neoliochthonius* Lee, 1982

23a *piluliferus* (Forsslund, 1942)

*Brachychthonius piluliferus*

*Paraliochthonius piluliferus*

#### PERLOHMANNIIDAE

*Perlohmannia* Berlese, 1916

44a *dissimilis* (Hewitt, 1908)

*Lobmannia insignis* var. *dissimilis* Hewitt, 1908

One record Flevopark Amsterdam

23.IX.2014 from bark and mosses on a tree

(Doğan et al. 2015)

#### PHTHIRACARIDAE

*Phthiracarus* Perty, 1841

47a *boresetosus* Jacot, 1930

*Phthiracarus dudichi* Mahunka, 1982

*Phthiracarus kaszabi* Mahunka, 1981

*Phthiracarus minimarginatus* Woolley, 1954

*Phthiracarus tenuis* Hammer, 1977

**EREMAEIDAE****Eueremaus Mihelcic, 1963****131a valkanovi (Kunst, 1957)***Eremaeus valkanovi***LIACARIDAE****Liacarus Michael, 1898****141a acutus Pschorn-Walcher, 1951***Liacarus claviger* Mihelcic, 1956*Cultroribula grandis* Mihelcic, 1956*Liacarus infissus* Gunhold, 1953

One record (8 specimen) Flevopark

Amsterdam 23.ix.2014 from bark and

mosses on a tree (Doğan et al. 2015)

**MACHUELLIDAE****Machuella Hammer 1961****168a bilineata Weigmann, 1976***Machuella ventrisetosa* ssp. *bilineata*

Weigmann, 1976 (Subias 2004)

**OPPIIDAE****Multioppia Hammer, 1961****175a laniseta Moritz, 1966***Multioppia (Hammeroppia) wilsoni* ssp.*laniseta* Moritz, 1966 (Subias 2004)**Subiasella Balogh, 1983****192a quadrimaculata (Evans, 1952)***Oppia quadrimaculata***THYRISOMIDAE****Banksinoma Oudemans 1930****217a lunare (Hull, 1914)***Damaeosoma lanceolata* var. *lunare* Hull,

1914

**PELOPSIDAE****Eupelops Ewing, 1917****243a hygrophilus (Knülle, 1954)***Pelops hygrophilus***PARAKALUMNIDAE****Neoribates Berlese, 1914****303a aurantiacus (Oudemans, 1914)***Galumna aurantiaca**Protokalumna aurantiaca* (Oudemans, 1914)*Neoribates neglectus* Willmann, 1953**ORIBATULIDAE****Oribatula Berlese, 1895****312a pannonica Willmann, 1949***Oribatula tenella* Mihelčič, 1956*Oribatula tenella longipilus* Mihelčič, 1966**Phauloppia Berlese, 1908****314b nemoralis (Berlese, 1916)***Lucoppia nemoralis* Berlese, 1916**ACKNOWLEDGEMENTS**

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#### SAMENVATTING

##### **Derde supplement op de checklist van Nederlandse mosmijten (Acari: Oribatida)**

Mosmijten zijn vooral bodembewoners, maar komen ook voor in het water of op en onder schors van bomen. De eerste kritische checklist bevatte 318 soorten. Daarna is de lijst geleidelijk gegroeid en in deze publicatie worden weer 13 soorten toegevoegd. Hiermee komt de huidige naamlijst tot een totaal van 351 soorten. De verwachting is dat er nog meer soorten te ontdekken zijn, vooral op warme, droge locaties, mosvegetaties op bomen en rieten daken.

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