

PROVISIONAL CHECKLIST OF THE ASTIGMATIC MITES OF THE NETHERLANDS (ACARI: ORIBATIDA: ASTIGMATINA)

Henk Siepel, Herman Cremers & Bert Vierbergen

Astigmatic mites probably form the most diverse cohort of mites. At present the former order of Astigmatina is ranked within the suborder Oribatida or moss mites. However astigmatic mites occupy a much wider range of habitats than other oribatid mites: from marine coasts to stored food, plant bulbs and houses. The vast majority live as commensals or parasites on a variety of hosts, ranging from insects to birds and mammals, inhabiting the fur, feathers, skin and even lungs and stomach. This first checklist for the Netherlands contains 262 species, but many more are to be expected. Brief data on occurrence and nomenclature are provided for each species.

INTRODUCTION

Astigmatina are nowadays placed in the suborder Oribatida of the order Sarcoptiformes (Krantz & Walter 2009). The Astigmatina form the third cohort in the supercohort Desmonomata (higher oribatids) next to the Nothrina and the Brachypilina, both cohorts that were traditionally placed in the former order of Oribatida. So, the Astigmatina appear to fit in the heart of the Oribatida and are the most diverse group in the suborder. The Astigmatina have a higher diversity in ecological strategies than the other Oribatida. Many species are phoretic on all kinds of carriers (insects, birds, mammals, reptiles), just as some oribatids, but the Astigmatina managed to develop their phoretic behaviour as an art. Not only is the vast majority of the species phoretic, some of those made their carrier their host. They adopted a parasitic way of life and spent all their life on the host (Siepel 1994). This behaviour has led to an enormous radiation in species diversity, resulting in an ecologically very diverse group (fig. 1-25). See table 1 for a concise overview and references. Free living species are found in most of the superfamilies, but a few of them are exclusively 'free living' and live in various habitats. The Histiostomatoidea live in wet places, where they feed on organic material. The Glycyphagoidea live on stored food and in nests of mammals, the

Pyroglyphoidea live in our houses as house dust mites, and the Acaridoidea contain many species living in stored food, but they are also known as plant pests. Also some species in the Hemisarcophtoidea are free living (in stored food, on marine



Figure 1. *Dermacarus sciurinus*, hypopod, ventral view. From *Sciurus vulgaris*, Almelo. Foto Herman Cremers. Figuur 1. *Dermacarus sciurinus*, hypopod, onderaanzicht. Van eekhoorn *Sciurus vulgaris*, Almelo. Foto Herman Cremers.



2. *Acarus siro*.

Male, from dog food / mannetje, uit hondenvoer. Wageningen.

3. *Neottialges evansi*.

Hypopus, from *Phalacrocorax carbo*. / hypopus, van aalscholver / Noord-Holland.

4. *Dermonoton sclerourus*.

Female, from *Tyto alba* / vrouwtje, van kerkuil. Terwispel.

5. *Ptiloxenoides phoenicopteri*.

Female, from *Phoenicopterus roseus* / vrouwtje, van flamingo. Arnhem Zoo.



6. *Alloptes bisetatus*.

Male, from *Sterna hirundo* / mannetje, van visdief. Blokker.

7. *Analges corvinus*.

Female, on *Pica pica* / vrouwtje, van ekster. Bodegraven.

8. *Analges corvinus*.

Male, on *Pica pica* / mannetje, van ekster. Bodegraven.

9. *Megninia ginglymura*.

Male, on *Gallus gallus* / mannetje, van kip. Bosschenhoofd.

Figure 2-26. Diversity of astigmatic mites. Ventral view. Photos Herman Cremers.

Figuur 2-25. Diversiteit van astigmate mijten. Onderaanzicht. Foto's Herman Cremers.

algae and deciduous trees) but the majority of species of this superfamily are kleptoparasites. Parasitic are the Canestrinoidea feeding on exudates of adult beetles, and the Sarcoptoidea, living in the fur and skin of mammals, while the remaining superfamilies live on birds, either in their nests (Hypoderatoidea) or on their feathers,

in the skin or even inside the birds (Pterolichoidea, Freyanoidea and Analgoidea).

SPECIES RECORDED FROM EXOTIC HOSTS

While making a checklist of a geographic area for a group largely confined to migrating species



10. *Zachvatkinia larica*.
Female, from *Larus ridibundus* / vrouwtje,
van kokmeeuw. Zwolle.



11. *Cytodites nudus*.
From air sac *Gallus gallus* /
van luchtzak kip.



12. *Epidermoptes bilobatus*.
Female, from *Gallus gallus* /
vrouwtje, van kip.
Laag Soeren.



13. *Knemidokopetes pilae*.
Female, from *Ara chloroptera* / vrouwtje, van
groenvleugelara. Utrecht.



14. *Laminosioptes cysticola*.
From *Tragopan satyra* /
van rood saterhoen.
Arnhem Zoo.



15. *Monojoubertia microphylla*.
Male, from *Fringilla coelebs* / mannetje, van
vink. Son en Breugel.



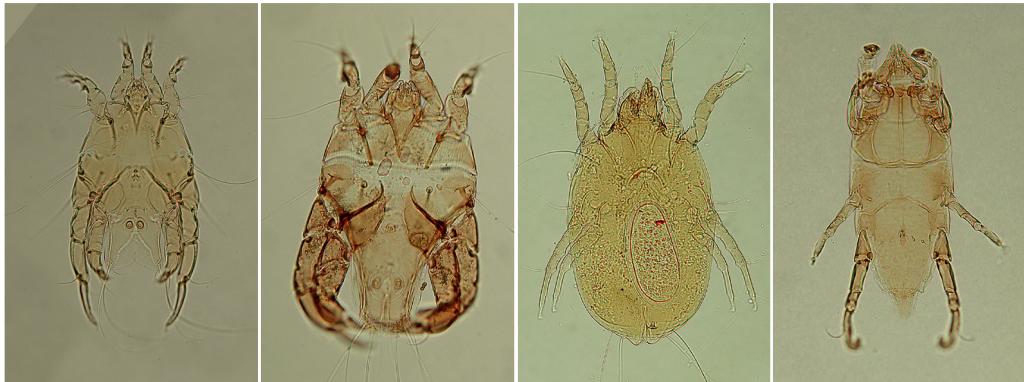
16. *Proctophyllodes pinnatus*.
Male, from *Chloris chloris* / mannetje, van groenling.
Son en Breugel.



17. *Pandalura strigisoti*.
Male, from *Asio otus* / mannetje, van ransuil.
Houten.

(e.g. feather mites in birds), it becomes quite arbitrary which species are listed and which not. We presume that many species recorded from wild birds in Belgium by the late Alex Fain and colleagues might occur in the Netherlands as well. Some of these are actually recorded from the Netherlands, most of them from the vicinity of Nijmegen (Hatert, Hamert, Heyendaal), where his friend and colleague Fritz Lukoschus worked

and lived. From some birds and bats he supplied material to Fain. Given the limited number of localities (near Nijmegen and some in the southern part of the province Limburg), collecting was probably not very intensive. Later, the second author sampled more species, especially those found on domestic animals, but also on wild species sent to the Veterinary Faculty of Utrecht University. So, many more species from birds,



18. *Dubininia melopsittaci*.
Male, from *Melopsittacus undulates* / mannetje, from
grasparkiet. Hilversum.

19. *Glaucalges tytonis*.
Male, from *Tyto alba* /
mannetje, van kerkuil.
Beilen.

20. *Dermatophagoides pteronyssinus*.
Female, from bed /
vrouweltje, van bed.
Utrecht.

21. *Chirodiscoides caviae*.
Male, from *Cavia porcellus*.
Utrecht / mannetje, van
huiscavia.



22. *Lynxacarus mustelae*.
Female, from *Mustela putorius* / vrouweltje, van
bunzing. Amersfoort.

23. *Myocoptes musculinus*.
Male, from *Mus musculus* /
mannetje, van huismuis.
Amsterdam Zoo.

24. *Chorioptes bovis*.
Male, from *Vicugna pacos* /
mannetje, van alpaca.

25. *Sarcoptes scabiei*.
Male, from *Vulpes vulpes* /
mannetje, van vos.
Grathem.

bats and other mammals can be expected from the Netherlands when sampling is intensified. In the list there is a number of species of probably foreign origin. These are recorded from birds or mammals in Dutch zoos. Although probably foreign, the species survived in the Netherlands. Because also in this ecological group from zoos one may find exotic, or now even maybe cosmopolitan species.

IDENTIFICATION OF ASTIGMATA

Identification of astigmatic mites may be a quite tedious job, as there is no basic work covering all groups. A key to the families for both adults as well as deutonymphs is provided in Krantz & Walter (2009). Thereafter you have to look for keys of the separate families (e.g. Gaud & Atyeo 1996a, b for feather mites), specific target groups (e.g. Hughes 1976, for mites in stored food and houses, Jepson et al. 1975 for mites of economic

Table 1. Overview of host and substrate diversity of Astigmatina.
Tabel 1. Diversiteit van gastheren en substraat in de Astigmatina.

Superfamily	Family	Substrate or hosts	Reference
Histiostomoidea	Histiostomatidae	in various wet substrates such as rotten plant tissue, dung, mud and tree holes, some associated with bees	Behura 1957, Bongers et al. 1985, Hughes, 1976, Heitmans & Loonstra 2012
Canestrinoidea	Canestriniidae	larger adult beetles	Haitlinger 1995
Hemisarcotoidea	Carpoglyphidae	sweetened products, such as dried fruit	Chmielewski 1971, Hughes 1976
	Chaetodactylidae	kleptoparasitic in nests of bees	Vicidomini 1996
	Hyadesiidae	marine algae	Pugh & King 1985
	Winterschmidtidae	kleptoparasitic in nests of wasps some are fungivorous, associated with bark beetles, shrubs and trees	OConnor & Klompen 1999, Rack 1980, Türk & Türk, 1959
Glycyphagoidea	Chortoglyphidae	stored herbs	Fang & Cui 2009
	Echimyopodidae	stored food	Van Bronswijk et al. 1973
	Glycyphagidae	nests of rodents and insectivores, stored products, in houses	Wurst & Pfister 1990, Hughes 1976
Acaroidea	Acaridae	plants, organic material, stored food and nests of various mammals	Hughes 1976
	Gaudiellidae	nests of bumblebees	OConnor 1992
	Suidasiidae	stored food products, insect and birds nests	Hughes 1976, Krantz & Walter 2009
Hypoderatoidea	Hypoderatidae	in birds' nests and subcutaneous in birds	Wurst & Havelka 1998
Pterolichoidea	Eustathiidae	on Apodiformes or swifts	Peterson et al. 1980
	Falculiferidae	on Columbiformes or pigeons	Gaud 1976
	Gabuciniidae	on Falconiformes (falcons), Cuculiformes (cuckoos) and other orders	Gaud & Atyeo 1975
	Kramerellidae	Strigiformes (owls), Gruiformes (cranes), Ciconiiformes (storks) and Pelecaniformes (pelicans)	Ehrnsberger et al. 2001
	Pterolichidae	Galliformes or gamefowl	Gaud & Atyeo 1996a, b
	Ptiloxenidae	on Charadriiformes (waders), Podicipediformes (grebes) and Ciconiiformes (storks)	Dabert & Ehrnsberger 1998
Freyanoidea	Freyaniidae	feathers of waterfowl	Gaud & Atyeo 1982a, b, 1985
Analgoidea	Alloptidae	feathers of waterfowl	Mironov & Dabert 1999
	Analgidae	confined to the larger feathers of various birds	Gaud & Atyeo 1996a, b
	Avenzoariidae	feathers of waterfowl	Peterson 1971
	Cytoditidae	in the respiratory tracts of birds	Baker et al. 1956

Table 1. cont.

Superfamily	Family	Substrate or hosts	Reference
Dermatochida	Dermationidae	in the skin of various birds	Fain 1965b
	Dermoglyphidae	blood sucking at the basis of the feathers of various birds	Krantz & Walter 2009
	Epidermoptidae	hyperparasitic on louse flies and in the skin of birds	Philips & Fain 1991
	Laminosioptidae	subcutaneous feeding in birds	Smith et al. 1997
	Proctophyllodidae	on the feathers of mainly Passeriformes or singing birds	Park & Atyeo 1971
	Psoroptoididae	confined to the larger feathers of various birds	Gaud & Atyeo 1982c
	Pteronyssidae	on Passeriformes or singing birds and Piciformes or woodpeckers	Mironov 2001
	Trouessartiidae	on Passeriformes or singing birds and Caprimulgiformes or nightjars, Coraciiformes or kingfishers and bee-eaters	Orwig 1968, Santana 1976
	Xolalgidae	confined to the larger feathers of various birds	Perez 1995
	Pyroglyphoidea	in houses (house dust mites)	Wharton 1976, Fain 1965a, 1967a, Van Bronswijk 1973
Sarcoptoidea	Atopomelidae	in the fur of guinea pigs	Fain 1979
	Chirodiscidae	in the fur of bats, primates, rodents and martens	Fain & Whitaker 1988
	Gastronyssidae	in the orbital cavity and stomach of bats	Stiller & Sullivan 1977
	Listrophoridae	in the fur of rodents and lagomorphs	Fain et al. 1986
	Myocoptidae	feeding on the body juices of mammals	Fain et al. 1970
	Psoroptidae	in the ears and on the skin of rodents and ungulates	Mullen & OConnor 2002
	Sarcoptidae	in the skin of various mammals	Klompen 1992

importance and Zhang & Liang 1997, for mites of agricultural importance), or even generic revisions (e.g. Manson 1972 and Fan & Zhang 2004, on the genus *Rhizoglyphus* and Zahler et al. 2000, 2001 on the genera *Psoroptes* and *Chorioptes*, respectively).

THE CHECKLIST

Such a wide range of habits results automatically in a likewise range of research specialists, which makes the completion of a checklist for such a group quite a challenge. Data had to be obtained from a variety of sources, from medics and veterinarians, agricultural consultants to inspectors

of stored food products, next to the common sources as databases of ecologists and taxonomists. Quite a number of records originate from literature references, as the material itself is often stored in natural history museums abroad, for instance the material collected by Lukoschus and sent to Fain. This first list of astigmatic mites for the Netherlands therefore is provisional. A former count of the number of species (Siepel 2010) resulted in 208 species for the Netherlands, but at the time some species may have been listed under different names. Confusion has been severe; some species have more than ten synonyms and are transferred several times to other genera and even families. One of the reasons for this is that many species have been described from different life stages (e.g. adults, deutonymphs, hypopi). Hypopi, usually deutonymphs are the phoretic stage and were collected often from their carriers, while the adults were caught on their substrates (dung, soil, stored food). Rearing experiments later showed the relationship. The list is primarily composed based on data from collections of Naturalis, including the collections of Oudemans (Buitendijk 1945) and the parasite collection of Utrecht University, the private collection of Herman Cremers and the collection of NVWA (Netherlands Food and Consumer Product Safety Authority, this organization includes the former Plant Protection Service) and data from literature. Only species are listed, which have been identified and/or verified by various professionals in the field of astigmatic systematics. Most of the records are from a single finding on a specific location, but from knowledge about some of these species it can be assumed these species have settled and spread. Species with an asterisk (*) are known in the Netherlands only from the imported product on which they were found, from release for biological control, or from zoo animals. It is not known if these species have actually established populations somewhere in the Netherlands.

CHECKLIST

Class ARACHNIDA

Subclass ACARI

Order SARCOPTIFORMES

Cohort ASTIGMATINA

Superfamily HISTIOSTOMATOIDEA

Family HISTIOSTOMATIDAE

Anoetus Dujardin, 1842

Nodipalpus Karpelles, 1893

1 alicola (Dujardin, 1842)

Hypopus alicola

Anoetus discrepans Oudemans, 1903

Netherlands, on *Lasioglossum quadrinotatum*

(Kirby, 1802) (Hymenoptera, Halictidae)

(Heitmans & Loonstra 2012), col. Naturalis.

Aphodanoetus Bongers, OConnor &

Lukoschus, 1985

2 teinophallus Bongers, OConnor &

Lukoschus, 1985

Nijmegen, 1982, from *Aphodius frater* Mulsant,

1869 (Coleoptera, Scarabeidae) in cattle dung,

col. Naturalis. [the identification of this beetle
maybe wrong as the species is unknown for the
country]

Histiostoma Kramer, 1876

Zschachia Oudemans, 1929

3 berghi (Jensen, 1895)

Hypopus berghi

Hilversum, col. Naturalis in Oudemans
collection (Buitendijk 1945).

4 brevimanus (Oudemans, 1914)

Lipstorbia brevimanus

Anoetus brevimanus

Terschelling (neotypes), vii.1982, from cattle
dung; Sittard, 1914 (lost holotype), col. Naturalis.

5 crenulatus Oudemans, 1909

Arnhem, col. Naturalis in Oudemans collection
(Buitendijk 1945).

6 dugesi (Claparède, 1868)

Sneek, col. Naturalis.

7 feronarium (Dufour, 1839)

Hypopus feronarium

Several records col. Naturalis in Oudemans

- collection. Zaltbommel, 17.xi.1955, in champignon culture; Dusen, 27.ix.1956, idem; Horst (Limburg), 7.viii.1958, idem; Wageningen, 8.v.1969, in wheat straw at experimental insecticide plot; De Lier, 31-xii. 1986, on *Hippeastrum* in glasshouse; Kudelstraart, 17.xi.1987, on *Gerbera*; Aalsmeer and 's Gravenzande 23.ii.1989, on fungus in vitro culture (*Dianthus* tissue), col. NVWA.
- 8 insulare (Oudemans, 1914)**
Anoetus insulare
 Found on a Dutch island (Scheucher 1957).
- 9 laevis (Oudemans, 1929)**
Zschachia laevis
 Valkeveen, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 10 litoralis Oudemans, 1914**
 Terschelling, col. Naturalis in Oudemans collection. Wageningen, 11.ix.1962, experimental insecticide plots; 20.iii.1963, idem, col. NVWA.
- 11 maritimus Oudemans, 1914**
 Terschelling, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 12 neglectus Oudemans, 1902**
 Haarlem, Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 13 phyllophorum (Oudemans, 1905)**
Anoetus phyllophorus
 Leiden, 1905 (type specimen), from *Oniscus asellus* Linnaeus, 1758 (Isopoda, Oniscidae). Nijmegen, 1982, from *Aphodius fimetarius* Linnaeus, 1758 (Coleoptera, Scarabaeidae) in cattle dung from a pasture, col. Naturalis.
- 14 phyllotrichus (Berlese, 1883)**
Anoetus phyllotrichus
Glyphanoetus phyllotrichus
 Velp, Ommen, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 15 polypori Oudemans, 1914**
 Amsterdam, Arnhem, Oosterbeek, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 16 radiferum (Scheucher, 1957)**
Anoetus radiferum
 Pijnacker, 13.vi.1988, on *Gerbera* in glasshouse, col. NVWA.
- 17 sapromyzarum (Dufour, 1839)**
Hypopus sapromyzarum
- Wageningen, Nuland, Valkenburg, col. Naturalis in Oudemans collection (Buitendijk 1945); Aalsmeer, 19.i.1989, on *Dracaena* in glasshouse, col. NVWA.
- Myianoetus Oudemans, 1929**
- 18 dionychus (Oudemans, 1910)**
Anoetus dionychus
 Maastricht, 1910?, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 19 muscarum (Linnaeus, 1758)**
Acarus muscarum
 Amsterdam, Naarden, col. Naturalis
- 20 simplex Mahunka, 1972**
 Nijmegen, 1982, from cattle dung, col. Naturalis.
- Rhopalanoetus Scheucher, 1957**
- 21 fimetarius (Canestrini & Berlese, 1882)**
Histiostoma fimetarium (not sensu Hughes & Jackson, 1958)
Anoetus lanceocrinus Oudemans, 1914
Anoetus tienhoveni Oudemans, 1926
 Nijmegen, 1982, from *Aphodius fimetarius* Linnaeus, 1758 and *Aphodius fossor* Linnaeus, 1758 (Coleoptera, Scarabaeidae) in cattle dung from a pasture, col. Naturalis
- Superfamily CANESTRINIOIDEA**
Family CANESTRINIIDAE
- Coleopterophagus Berlese, 1882**
- 22 megninii (Berlese, 1881)**
Dermoglyphus megninii
Dermoleichus chrysomelinus C.L. Koch, 1841 sensu Oudemans, 1905
Coleopterophagus cetoniae Oudemans, 1923
 Velp, 29.vi.1901, from *Cetonia aurata* Linnaeus, 1758 (Coleoptera, Scarabaeidae), col. Naturalis.
- Percanestrinia Berlese, 1911**
- 23 saetolata Cooreman, 1950**
 Arnhem, vii.1903, four specimens (sub. *Canestrinia* spec.) from *Carabus violaceus (purpurascens)* Linnaeus, 1758 (Coleoptera, Carabidae), col. Naturalis.

Canestrinia Berlese, 1881

24 dorcicola Berlese, 1881

Meerssen, 20.vi.1903, one specimen from *Oxythyrea funesta* (Poda, 1761) (Coleoptera, Scarabaeidae), col. Naturalis.

Superfamily HEMISARCOPTOIDEA

Family CARPOGLYPHIDAE

Carpoglyphus Robin, 1869

25 lactis (Linnaeus, 1767)

Acarus lactis

Amsterdam, Arnhem, col. Naturalis in Oudemans collection; Elst (Gelderland), 26.ix.1952, candied cherries; Rotterdam, 22.vi.1960, dried fruit; Rotterdam, 23.xi.1961, dried apricot; Elst (Gelderland), 3.x.1962, apple molasses; Eindhoven, 24.vii.1968, in branch canker; Tiel (De Betuwe), 21.x.1987, candied cherries; Hardinxveld-Giessendam, 30.vi.1989, dried apricot; Wageningen (glasshouse NVWA), 11.III.2015, *Rhododendron* (leaf), col. NVWA.

Family CHAETODACTYLIDAE

Chaetodactylus Rondani, 1866

26 birulai Zakhvatkin, 1941

Netherlands, data from Van Lith (1957) on *Chelostoma florisomme* Linneaus, 1758 (Hymenoptera Megachilidae) (see Heitmans 2013), col. Naturalis.

27 osmiae (Dufour, 1839)

Trichodactylus osmiae

Amsterdam, Meerssen, col. Naturalis in Oudemans collection, see also Van Lith (1957); Oosterbeek, 25.IX.1970, from nest of *Osmia rufa* Linneaus, 1758 (Hymenoptera, Apidae); Leiderdorp, 15.V.1987, outside window frame house; Goutum, 5.IV.2005, in package wood (on metanotum of males of *Osmia rufa*); Hoorn, 18.III.2008, at skylight from dead *Osmia rufa*, col. NVWA.

Sennertia Oudemans, 1905

28 cerambycina (Scopoli, 1763)

Pediculus cerambycinus

Trichodactylus xylocopae Donnadieu, 1868

Netherlands, on *Xylocopa violacea* Müller, 1776 (Hymenoptera, Apidae) (Van Eyndhoven 1952), col. Naturalis.

Family HYADESIIDAE

Hyadesia Méggnin, 1889

29 fusca (Lohmann, 1894)

Lentugula fusca

Lentugula algivora Michael, 1893 sp. inquir.

Scheveningen, VIII.1919, feeding on green algae on pier (Fain 1979), col. Naturalis.

Family WINTERSCHMIDTIIDAE

Calvolia Fain, 1971

30 squamata (Oudemans, 1909)

Vidia squamata

Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945).

Calvolia Oudemans, 1911

31 hagensis Oudemans, 1911

The Hague, col. Naturalis in the Oudemans collection (Buitendijk 1945).

Czenspinskia Oudemans, 1923

Donndorffia Oudemans, 1931

32 transversostriata Oudemans, 1931

Arnhem, Wageningen, Sneek, and Dieren (sub *D. transversostriata*), col. Naturalis in Oudemans collection (Buitendijk 1945); Winschoten, 19.VII.1961, between felt galls on *Alnus*; Winschoten, 27.VII.1961, between felt galls on *Alnus*; Bennekom, 29.VIII.1961, on *Corylus avellana*; Aalsmeer, 24.XI.1961, *Peperomia*; Tilburg, 29.X.2011, *Carpinus* (leaves), col. NVWA.

Ensliniella Vitzthum, 1925

33 kostylevi Zakhvatkin, 1941

De Lier, Hilvarenbeek (no dates), from *Allo-dynerus rossii* (Lepeletier, 1841) (Hymenoptera,

- Vespidae) (Klompen & OConnor 1995), col. Naturalis.
- 34 parasitica Vitzthum, 1925**
Netherlands, locality unknown, 18.VIII.1950, from *Allodynerus delphinialis* (Giraud, 1866) (Hymenoptera, Vespidae) (Klompen & OConnor 1995), col. Naturalis.
- Riemia Oudemans, 1925**
- 35 hesperidum Oudemans, 1925**
Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945).
- Vidia Oudemans, 1905**
- 36 lineata Oudemans, 1917**
Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945).
- Superfamily GLYCYPHAGOIDEA**
- Family CHORTOGLYPHIDAE**
- Chortoglyphus Berlese, 1884**
- 37 arcuatus (Troupéau, 1879)**
Bennekom, VII.1968, in litter from chicken coop, col. NVWA.
- Family ECHIMYOPODIDAE**
- Blomia Oudemans, 1928**
- 38 tjibodas (Oudemans, 1910)**
Glycyphagus tjibodas
Arnhem, Friesland, col. Naturalis in Oudemans collection (Buitendijk 1945).
- Family GLYCYPHAGIDAE**
- Apodemopus Fain, 1967**
- 39 apodemi (Fain, 1965)**
Lophuromyopus apodemi
Nijmegen, 1965-1968, on *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae) (Lukoschus et al. 1972), col. Naturalis.
- Dermacarus Haller, 1878**
- 40 hypudaei Fain, 1969**
Hamert, 15.VIII.1963, from *Microtus arvalis* (Pallas, 1778) (Rodentia, Cricetidae); 27.III.1968, from *Microtus agrestis* (Linnaeus, 1761); de Horst, II.III.1966, from *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae); Hamert, 26.VII.1965, Hatert, 17.VIII.1965; Valkenburg, 29.XI.1965; Heyendaal, 25.VIII.1965, from *Myodes glareolus* (Schreber, 1780) (Rodentia, Cricetidae); Valkenburg, 23.III.1967, from *Eliomys quercinus* (Linnaeus, 1766) (Rodentia, Gliridae); Hatert, 15.IX.1965, from *Sorex areneus* Linnaeus, 1758 (Soricomorpha, Soricidae); Hamert 3.VIII.1965, from *Sorex minutus* Linnaeus, 1766; Hatert, 22.IX.1965, from *Crocidura russula* (Hermann, 1780) (Soricomorpha, Soricidae) (Fain 1969), col. Naturalis; Amsterdam-Bijlmer, 12.IX.2001, from *Crocidura russula* (Hermann, 1780) (Soricomorpha, Soricidae) (hypopus) fur, col. Cremers.
- 41 sciurinus (C.L. Koch, 1842)**
Homops sciurinus
Bergen op Zoom, Arnhem, Lunteren, col. Naturalis in Oudemanscollection (Buitendijk 1945); De Meern (Squirrel Care Foundation), 20.I.1998, VIII.2000, 3.VII.2001, Almelo, 2.IX.2014, from *Sciurus vulgaris* Linnaeus, 1758 (Rodentia, Sciuridae) (hypopus) fur, col. Naturalis, col. Cremers.
- Glycyphagus Hering, 1838**
- 42 domesticus (De Geer, 1778)**
Acarus domesticus
Amsterdam, Bloemendaal, Arnhem, Mook, Epe, Zuidwolde, col. Naturalis in Oudemanscollection (Buitendijk 1945); Roosendaal, 18.XII.1951, indoors; De Kwakel (Noord-Holland), 22.X.1952, indoors; Aalten, 13.IX.1954, indoors; Wateringen, 16.IX.1954, indoors; Doorn, 19.X.1954, indoors; Giessen, 1.XI.1954, indoors; Hoornaar, 8.XII.1954, indoors; Wageningen, 31.III.1958, *Gladiolus*; Roosendaal, 22.XII.1960, indoors; Andel, 17.IV.1961, indoors; Breda, 9.IV.1961, indoors; Nijmegen, 18.X.1962, indoors; Lienden Schuilenburg, 12.I.1971, caught at branch James Grieve apple section vii; Vollenhove, 5.VI.1973, inside roof with reed; Amsterdam hospital

- Vrije Universiteit, 25.xi.1985, in unfixed cytospin slides; Ede, 27.iii.1987, indoors, col. NVWA; Heteren, 9.iii.2004, from *Parus major* (Passeriformes, Paridae), col. Cremers.
- 43 ornatus Kramer, 1881**
Zwaagwesteinde, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 44 pilosus Oudemans, 1906**
Genemuiden, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 45 privatus Oudemans, 1903**
Amsterdam, col. Naturalis in Oudemans collection (Buitendijk 1945).
- Gohieria Oudemans, 1939**
- 46 fusca (Oudemans, 1902)**
Glycyphagus fuscus
Ferminia fusca
Arnhem, Franeker, Westdongeradeel, col. Naturalis in Oudemans collection (Buitendijk 1945).
- Labidophorus Kramer, 1877**
- 47 platygaster (Michael, 1886)**
Glycyphagus platygaster
Sittard, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 48 talpae Kramer, 1877**
Arnhem, Sneek, col. Naturalis in Oudemans collection (Buitendijk 1945); Hilversum, 24.viii.1974, from *Talpa europaea* Linnaeus, 1758 (Soricomorpha, Talpidae) fur, col. Naturalis.
- Lepidoglyphus Zachvatkin, 1936**
- 49 destructor (Schrank, 1781)**
Acarus destructor
Glycyphagus destructor
Acarus cadaverum Schrank, 1781
Arnhem, Epe, Wijster, col. Naturalis in Oudemans collection (Buitendijk 1945); Amsterdam, 24.x.1952, meat meal; Andel, 21.viii.1953, indoors; Hilversum, 25.xi.1953, indoors; Wageningen, 4.xii.1953, company car seeds; Hengelo, 10.ix.1954, indoors; Hei en Boecop, 13.v.1955, in farm; Arnhem, 17.viii.1957, in farm; Nieuwolda, 19.vii.1962, in farm; Goes, 26.x.1967, stored corn;
- unknown location, 6.viii.2010, *Coriandrum* (seeds); Wageningen, 19.iv.2011, potato peels; Horst, 8.iv.2013, culture (origin Koppert B.V.), col. NVWA; Utrecht, 11.ix.1975, on legs of horse; Wageningen, 14.iv.1982, in crusts round mouth of dwarfgoats, col. Cremers.
- Melesodectes Fain & Lukoschus, 1968**
- 50 auricularis Fain & Lukoschus, 1968**
Zeist, 28.iv.1968, from *Meles meles* (Linnaeus, 1758) (Carnivora, Mustellidae) (Fain & Lukoschus, 1968), col. Naturalis.
- Orycteroxenus Zachvatkin, 1941**
- 51 dispar (Michael, 1886)**
Glycyphagus dispar
Labidophorus dispar
Arnhem, on *Talpa europaea* (Linnaeus, 1758) (Eulipotyphla, Talpidae), col. Naturalis in Oudemans collection (Buitendijk 1945).
- 52 soricis (Oudemans, 1915)**
Labidophorus soricis
Hatert, 21.ix.1965; Hamert, 30.vii.1965, from *Sorex araneus* Linnaeus, 1758 (Soricomorpha, Soricidae); Hamert, 30.vii.1965; Hatert, 21.ix.1965, from *Sorex minutus* Linnaeus, 1766; Texel, 20.ix.1968, from *Neomys fodiens* (Pennant, 1771) (Soricomorpha, Soricidae); Heyendaal, 8.xii.1968, from *Crocidura russula* (Hermann, 1780) (Soricomorpha, Soricidae); Rockanje, 2.xi.1965, *O.s. ohionensis* from *Micromys minutus* (Pallas, 1771) (Rodentia, Muridae); Heer, xii.1965, from *Eliomys quercinus* (Linnaeus, 1776) (Rodentia, Gliridae) (Fain 1969), col. Naturalis.
- Xenoryctes Zachvatkin, 1941**
- 53 krameri (Michael, 1886)**
Glycyphagus krameri
Dermacarus krameri
Labidophorus oudemansi Türk & Türk, 1959
Labidophorus hypudaei sensu Türk & Türk, 1957 nec Koch, 1841
Xenoryctes heptneri Zachvatkin, 1941
The Hague, Sittard, Steenwijk, col. Naturalis in Oudemans collection (Buitendijk 1945); Netherlands, unknown location, iv.2001, from fur of

Crocidura russula (Hermann, 1780) (Soricomorpha, Soricidae), col. Naturalis, col. Cremers; Texel, 29.IX.1968, from *Microtus oeconomus* (Pallas, 1776) (Rodentia, Cricetidae); Nijmegen, 6.XI.1967; Hamert, 17.XI.1967, from *Myodes glareolus* (Schreber, 1780) (Rodentia, Cricetidae); Valkenburg, 23.III.1967, from the nest of *Eliomys quercinus* (Linnaeus, 1776) (Rodentia, Gliridae) (Fain 1969).

Superfamily ACAROIDEA

Family ACARIDAE

Acarus Linnaeus, 1758

Tyroglyphus Latreille, 1796

Aleurobius Canestrini, 1888

54 siro Linnaeus, 1758

Acarus farinae De Geer, 1778

Aleurobius farris Oudemans, 1902

Tyroglyphus farinae (De Geer, 1778)

Zuid-Willemsvaart, Sittard, Zwijndrecht, Leiden, Sassenheim, Amsterdam, Arnhem, from stored flour col. Naturalis in Oudemans collection (Buitendijk 1945); Netherlands, unknown location, 8.IX.1980, from a cage of *Serinus canaria* (Linnaeus, 1758) (Passeriformes, Fringillidae), col. Naturalis; Zevenbergen, 24.IV.1952, stored flax; Numansdorp, 14.VI.1957, stored barley; Kerkdriel, 21.IV.1958, mushroom substrate; Aalsmeer, 13.XII.1958, on roots *Gerbera*; Valkenburg (Zuid-Holland), 10.XII.1964, dog bread; Bennekom, VI.1968, in litter henhouse; Putten, I.X.1970, in cleanings feed mill; unknown location, 22.VI.1973, in pig feed grains; Echt (Limburg), 17.XI.1987, corn stevedoring; Asten, 15.XI.1988, poultry litter; Deest, 1.VIII.1991, apple tree; Bergen op Zoom, 4.IV.2006, predatory mite culture; Velsen, 18.VIII.2011, poultry litter, col. NVWA.

55 nidicolus Griffiths, 1970

Hoog Soeren, 5.IX.2001, from *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae) (hypopus) on flea *Ctenophthalmus agyrtes* (Heller, 1896) (Siphonaptera), (hypopus); Hoog Soeren, VIII.2001, and 4.IX.2001, from *Myodes glareolus* (Schreber, 1780) (Rodentia, Cricetidae) (hypopus), col. Cremers.

Aleuroglyphus Zachvatkin, 1941

56 ovatus (Troupéau, 1878)

Tyroglyphus ovatus

Arnhem, Sittard, col. Naturalis in Oudemans collection (Buitendijk 1945); Nieuwveen, 3.III.2008, culture of *Neoseiulus californicus* (McGregor, 1954) (Mesostigmata, Phytoseiidae), col. NVWA.

Cosmoglyphus Oudemans, 1932

57 krameri (Berlese, 1881)

Tyroglyphus krameri

Meerssen, Velp, col. Naturalis in Oudemans collection (Buitendijk 1945).

Forcellinia Oudemans, 1924

Dorylacarus Mahunka, 1979

Hungaroglyphus Mahunka, 1962

58 wasmanni (Moniez, 1892)

Tyroglyphus wasmanni

Tyroglyphus mycolichus Oudemans, 1909

Forcellinia fungivora Zachvatkin, 1941

Sittard, col. Naturalis in Oudemans collection (Buitendijk 1945).

Histiogaster Berlese, 1883

59 carpio (Kramer, 1882)

Amsterdam, 21.IV.1968, in decaying bark of *Alnus montana* Superba, col. NVWA.

Kuzinia Zachvatkin, 1941

60 laevis (Dujardin, 1849)

Hypopus laevis

Tyroglyphus laevis

Tyroglyphus fucorum Oudemans, 1902

Hilversum, Arnhem, Putten, col. Naturalis in Oudemans collection (Buitendijk 1945).

Mycetoglyphus Oudemans, 1932

61 fungivorus Oudemans, 1932

De Punt, Ouddorp, 16.VI.1966, in litter under see buckthorn shrub in dunes, col. NVWA.

Rhizoglyphus Claparède, 1869

62 echinopus (Fumouze & Robin, 1868)

Tyroglyphus echinopus

- Rhizoglyphus callae* Oudemans, 1924
- Rhizoglyphus lucasii* Hughes, 1948
- In bulbs of *Calla*, imported at Bogor (Indonesia), from the Netherlands, Oudemans collection col. Naturalis; St. Pancras, 7.I.1952, tulip bulbs; Hillegom, 22.X.1952, hyacinth bulb; Wageningen, 29.XI.1957, hyacinth; Lisse, 25.X.1962, tulip bulb; Naaldwijk, 24.II.1987, *Hippeastrum*; Voorhout, 13.IX.1990, *Crocus*; Hillegom 29.X.1996, *Erythronium* corms; Hillegom, 14.IX.2000, *Iris* 'Royal Yellow', from a bulb; Lisse, 12.V.2004, *Zantedeschia*; Voorhout, 15.X.2007, *Fritillaria* (bulb); Lisserbroek, 12.III.2008, *Eucomis montana* (bulb), col. NVWA.
- 63 longispinus Ho & Chen, 2001**
Rijsenhout, 3.II.2003, on *Dracaena* pot plant in greenhouse, col. NVWA.
- 64 robini Claparède, 1869**
Rhizoglyphus solani Oudemans, 1924
Rhizoglyphus hyacinthi Banks, 1937
Rhizoglyphus engeli Van Eydhoven, 1968
Hillegom, Sassenheim, Amsterdam, Arnhem, in Oudemans collection from various kind of bulbs (Buitendijk 1945); Noordwijk, 6.XI.1952, narcis bulb; Lisse, 4.VI.1958, *Zephyranthes*; Hillegom, 1.V.1959, tulip; Wageningen, 19.V.1959, narcis; St. Pancras, 1.VII.1959, *Colchicum*; Aalsmeer, 1.XII.1960, *Eucharis*; Wamel, 16.IV.1973, *Freesia*; Schagerbrug, 18.IX.1976, lily bulbs; Lisse 9.V.1977, *Lilium speciosa* rubra; Utrecht, 15.VII.1988, *Dudleya* sp. (in greenhouse); Aalsmeer, 17.VIII.1990, *Freesia*; Noordwijkerhout, 19.XII.1991, *Lilium*; Leens, 2.I.1992, *Solanum tuberosum*; Wageningen, 22.I.1992, *Lycoris*; Velden 8.IV.1994, *Hippeastrum*; Steenbergen 11.X.1995, *Apium graveolens* (on tubers); Hillegom, 3.XII.2002, *Lilium* 'Dame Blanche'; De Lier, 26.I.2006, *Hippeastrum* (bulb); Noordwijkerhout, 14.III.2008, *Cardiocrinum giganteum* (bulb); 's Gravenpolder, 17.XI.2009, *Allium cepa* (bulb); Pijnacker, 24.V.2011, *Aloe* (laeves); Bruchem 1.IX.2011, *Zantedeschia* (on and in spathe), col. NVWA; Netherlands, 1957 and 1958 (Van Eydhoven 1968), col. Naturalis.
- 65 berlesei (Michael, 1903)**
Caloglyphus Berlese, 1923
Tyroglyphus berlesei
Caloglyphus rodionovi Zachvatkin, 1941
Lelystad (de Schothorst), 21.VIII.1982, from faeces and dead young chicken (adults), col. Naturalis; Kerkdriel, 25.XI.1957, mushroom substrate; Stramproy (Limburg), 7.X.1966, in poultry litter; Bennekom, VII.1968, in poultry litter; de Glind, 1982, numerous in poultry litter; Putten, 25.IV.1988, henhouse; Sevenum, 14.VI.1989, poultry litter; Oploo, 29.VIII.1989, faeces *Vulpes*; Bleiswijk, 3.XII.2002, *Cocos nucifera* (fruit), col. NVWA.
- 66 mycophagus (Berlese, 1881)**
Tyroglyphus mycophagus
Tyroglyphus mycophagus Mégnin, 1874
Naaldwijk, Amsterdam, Velp, col. Naturalis in Oudemans collection (Buitendijk 1945); Eelde, 15.II.1993, mushroom culture; Wageningen, 11.X.1993, culture, col. NVWA.
- 67 cavernicola Vitzthum, 1932**
Ede, XI.1971 till III.1972, in straw package under *Carpinus* hedge in garden; Bunde (L.), v.1969, in litter from hornbeam forest, col. NVWA.
- 68 elongata (Banks, 1906)**
Rhizoglyphus elongatus
Schwiebea athiasae Fain, 1977
Schwiebea codognoensis Fain & Pagani, 1989
Naaldwijk, 23.VI.1989, on *Hippeastrum*; Wijk aan Zee, 13.I.1993, in water pipe, col. NVWA.
- 69 eurynympha (Oudemans, 1911)**
Tyroglyphus eurynympha
Acotyledon eurynympha (Oudemans, 1911)
Schwiebea tshernyshevi Zachvatkin, 1941
Den Haag, 1910, decaying leaves, col. Naturalis in Oudemans collection (Buitendijk 1945); Alkmaar, Huizen, Volendam (Smit et al. 2012).
- 70 lebruni Fain, 1977**
Imbosch, 14.XI.1985, found in litterbags (Siepel 1990), col. Alterra.
- 71 nova (Oudemans, 1906)**
Wageningen, ±1958, *Tephrosia vogelii* pot plant; Zoeterwoude, 16.I.1992, in potting soil, col. NVWA.

- 72 **talpa Oudemans, 1916**
Schwiebea pachyderma Zachvatkin, 1941
 Imbosch, 14.XI.1985, found in litterbags (Siepel 1990); Soest, 23.IV.2009, soil sample, col. Alterra.
- Sennertiaonyx Zachvatkin, 1941**
- 73 **manicati (Giard, 1900)**
Trichotarsus manicati
 Alkmaar, 2.VIII.2011, from *Anthidium manicatum* Linnaeus, 1758 (Hymenoptera, Megachilidae) (hypopos), col. Cremers (see also Heitmans 2013).
- Thyreophagus Rondani, 1874**
Michaelopus Fain & Johnston, 1974
- 74 **corticalis (Michael, 1885)**
Tyroglyphus corticalis
Histiogaster corticalis (Michael, 1885)
 Records in the Oudemans collection, Breda, col. Naturalis; Dode Ven (Ommen), 31.V.1997, on *Ixodes ricinus* (Linnaeus, 1758) (Ixodida, Ixodidae), col. NVWA.
- 75 **entomophagus (Laboulbène & Robin, 1862)**
Acarus entomophagus
Histiogaster entomophagus
 Records in the Oudemans collection col. Naturalis; Rotterdam, 20.X.1960, linseed; Westduinen (Ouddorp), 16.XI.1966, south slope soil under *Hieracium pilosella*; Overberg, 11.XII.2015, *Polypodium vulgare* (leaves); Overberg, 11.XII.2015, *Dryopteris carthusiana* (leaves); Ede, 11.XII.2015, *Polypodium vulgare* (leaf), col. NVWA.
- Tyroborus Oudemans, 1924**
- 76 **lini Oudemans, 1924**
 Arnhem col. Naturalis in Oudemans collection (Buitendijk 1945).
- Tyrolichus Oudemans, 1924**
- 77 **casei (Oudemans, 1910)**
Tyroglyphus casei
 Amsterdam, col. Naturalis in Oudemans collection (Buitendijk 1945); Putten, 1.X.1970, cleanings from cage *Neovison vison* (Schreber, 1777) (Carnivora, Mustellidae), culture, col. NVWA.
- Tyrophagus Oudemans, 1924**
- 78 **curvipenis Fain & Fauvel, 1993**
 Noordwijkerhout, 19.XI.2008, on *Zantedeschia* corm, col. NVWA.
- 79 **fanetzhangorum Klimov & OConnor, 2009**
Tyrophagus putrescentiae (Schrank), sensu Robertson, 1959
 Hilversum, in humus, one male specimen (No. 17, P6984), (designated as neotype for *T. putrescentiae* by Robertson (1959), 22.IV.1902, col. Naturalis in Oudemans collection (Buitendijk 1945). The other records for the Netherlands given by Fan & Zhang (2007) are unclear (Bremen is in Germany; Buitendijk 1945; 'Zuid-Europa' is Dutch for 'Southern Europa') or could not be verified due to the poor condition of Oudemans's *T. putrescentiae* slides (Klimov & OConnor 2009).
- 80 **longior Gervais, 1844**
Tyroglyphus dimidiatus Oudemans, 1924.
Tyroglyphus infestans sensu Nesbitt, 1945 nec Berlese, 1884
Tyroglyphus dimidiatus forma *longior* Oudemans, 1924.
Tyroglyphus dimidiatus forma *dimidiatus* Oudemans, 1924
Tyrophagus dimidiatus forma *humerosus* Oudemans, 1924
Tyroglyphus (Tyrophagus) dimidiatus Oudemans, 1924
Tyrophagus dimidiatus var. *humerosus* Vitzthum, 1929
Tyrophagus dimidiatus var. *longior* Vitzthum, 1929
Tyrophagus dimidiatus var. *infestans* Vitzthum, 1929
Tyrophagus tenuiclavus Zakhvatkin, 1941
Coelognathus dimidiatus (Hermann, 1804?)
Coelognathus tenuiclavus (Zakhvatkin, 1941)
 Gouda, 26.III.1954, 2 males on cheese (No. 237: 3, 4), neotype male (designated by Robertson, 1959), BMNH. Several records sub *T. dimidiatus*, *T. d.* forma *humerosus*, *T. d.* forma *infestans* and *T. d.* forma *longior* col. Naturalis; Horst, 12.VIII.1954, in

- stable; Steenbergen, 26.viii.1954, in barn; Naaldwijk, 29.iii.1955, on *Cucumis*; Hillegom, 23.x.1957, on *Peronospora* spec. sub *Alyssum saxatile*; Borkulo, 11.vi.1958, sausage; Beverwijk, 24.xi.1960, *Tulipa*; Ede, 13.ii.1961, cheese storage; Gouda, 21.ii.1961, cheese; Wageningen, 9.v.1962, experimental insecticide plots; Wageningen, 20.iii.1963, experimental insecticide plots; Putten, 1.x.1970, cleanings from cage *Neovison vison* (Schreber, 1777) (Carnivora, Mustellidae); Zevenbergen, 4.ii.1972, *Cucubis*; Capelle a/d IJssel, 8.i.1999, *Narcissus* (bulb); Wageningen, 7.i.1988, ham, col. NVWA.
- 81 muris Oudemans, 1924**
Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 82 neiswanderi Johnston & Bruce, 1965**
Several records from in New Zealand imported Dutch products (Fan & Zhang 2007). Oostermeier, 15.vi.2000, grassland; Hengelo, 26.iv.2000, grassland; Borgercompagnie, 23.ii.2001, arable field on sandy soil; Breezand, 11.vi.2010, bulb field; Burgerbrug, 11.vi.2010, bulb field; Sint Maartensvlotbrug, 11.vi.2010, bulb field; Sint Maartensdijk, 15.iv.2010, grassland on clay soil; Oude Niedorp, 23.iii.2010, grassland on clay soil; Kwadijk, 28.iv.2010, grassland on peat soil; Meije, 21.iv.2010, grassland on peat soil; Luttelgeest, 17.xii.1984, greenhouse *Cucumis sativa*; Luttelgeest, xi.1996, *Gerbera*; 's Gravezande (bos), 2.i.1987, *Hippeastrum*; Veenendaal, 9.i.1997, under flower pots (indoors); Netherlands, 13.ii.1987, *Cucumis*; Netherlands, 20.ii.1987, *Gerbera*; Naaldwijk, 24.ii.1987, *Hippeastrum*; Netherlands, 2.iii.1987, *Gerbera*; Hendrik-Ido-Ambacht, 25.vi.1987, *Cucumis*; De Lier, 30.vii.1987, *Gerbera*; Haren (tropical greenhouse Hortus), 19.viii.1987, *Oxalis orthiesii*; Haren (tropical greenhouse Hortus), 19.viii.1987, *Delosperma* spec.; Netherlands, 16.ix.1987, Cactaceae; Rijsoord, 6.1.1988, *Saintpaulia*; Nootdorp, 12.1.1988, *Cucumis*; Wageningen, 20.1.1988, Cactaceae; Alphen aan de Rijn, 24.ii.1988, *Cyclamen*; Klazienaveen, 31.iii.1988, *Cucumis*; Wellerloo, 21.x.1988, *Gerbera*; Lent, 19.i.1989, *Ficus benjamina*; Schipluiden, 24.vii.1989, *Ctenanthe* spec.; Assendelft (kas), 3.i.1990, *Guz-*
- mania sanguinea*; Nijnsel (greenhouse), 2.iv.1990, *Euonymus*; Andijk, 18.ix.1990, *Lilium* (tissue culture); Schipluiden, 25.ix.1990, *Ardisia*; Noordwijkerhout, 5.ii.1991, *Phlox*; Huissen, 1.iii.1991, *Kalanchoë*; Aarmelen, 11.vi.1991, *Lilium* meristeme; Aalsmeer, 26.xi.1991, *Croton*; Nieuwekerk, 9.i.1992, *Gerbera*; Lent, 11.iii.1992, *Cyclamen*; Sappemeer, 6.v.1992, *Tillandsia cyanea*; Horst, 10.iii.2005, *Cucumis sativus* (leaves); Aalsmeer, 12.x.2006, *Solanum* (pot plant), in glasshouse, col. NVWA.
- 83 palmarum Oudemans, 1924**
Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945); Bemelen (Het Hoefijzer), 2.vi.2010, calcareous grassland soil; Cadier en Keer (Schiepersberg), calcareous grassland soil, 2.vi.2010, database Alterra; Wageningen, 3.xi.1955, *Juglans*, in nuts; Kerkdriel, 17.iii.1958, mushroom substrate; Kerkdriel, autumn 1958, mushroom substrate; Zaltbommel, 2.i.1959, mushroom substrate; P.D. Proeftuin Wageningen, 9.iv.1964, in grass tussock, orchard; Ouddorp De Punt, in salt-marsh, 16.vi.1966, under sod of *Artemisia*; Lienden Schuilenburg, 12.i.1971, caught on stem apple Cox section III; Lienden Schuilenburg, 12.i.1971, on stem apple James Grieve; Ede in garden, xi.1971 till iii.1972, under hedgerow *Carpinus*; Schuilenburg, winter 1971-1972, caught on apple stems; Noordscharwoude, 30.vi.1987, rape seed; Delft, 1.x.1987, meal feed, col. NVWA.
- 84 perniciosus Zakhvatkin, 1941**
Schijndel, 22.xii.1986, aviary (house) (De Jonge, 1988), col. NVWA.
- 85 putrescentiae (Schrank, 1781)**
Acarus putrescentiae
Tyroglyphus amboinensis Oudemans, 1925
Tyroglyphus australasiae Oudemans, 1916
Tyroglyphus (Tyrophagus) putrescentiae
Tyroglyphus americanus Banks, 1906
Tyroglyphus breviceps Banks, 1906
Tyroglyphus coeciphilus Banks, 1906
Tyroglyphus longior var. *Castellani* Hirst, 1912
Povelsenia neotropicus Oudemans, 1917
Tyrophagus communis Fan & Zhang, 2007
The formerly elected neotype by Robertson (1959) is not the right species (= *T. fanetzhangorum*), see Klimov & OConnor (2009) for new neotype

designation; several records from in New Zealand imported Dutch products (Fan & Zhang 2007). Haarlem, 7.III.1952, *Acidanthera* spec.; Tilburg, 21.IX.1954, *Haemanthus katherinae*; Aalsmeer, 18.II.1955, *Chamaedorea*; Wageningen, 1.III.1958, *Hyacinthus* bulb; Kerkdriel, 17.III.1958, mushroom substrate; Kerkdriel, 16.V.1958, mushroom substrate; Rijswijk, 12.II.1959, in fungus culture; Nijmegen, 7.V.1962, roots of *Cactaceae*; Wageningen, 9.IV.1964, in grass tussock, orchard, P.D. proof-tuin; Wekeromse zand, 14.IV.1964, *Festuca* tussock; Bennekom, 15.IV.1964, *Hyacinthus* bulb; Wageningen, 14.IX.1964, in greenhouse on *Solanum dulcamara*; Den Haag, XII.1967, coarse tobacco; Lienden (Schuilenburg), 28.I.1969, apple; Wageningen, 4.X.1971, on *Tripsacum andersoni* from Ceylon in greenhouse; Doornenburg, 21.V.1974, in nuts *Juglans*; Den Helder, 21.VIII.1987, 10.VIII.1987, culture of predatory mites; Woerden, 17.IX.1987, dog food; fungus culture, Groningen (hospital), 30.IX.1988, tissue culture (vitro); Wageningen, 30.X.1991; tissue Rijnsburg, 2.X.1992, culture; Sprang-Capelle, 28.VI.1994, meristeme culture (*Orchidaceae*); Aalsmeer, 17.XI.1994, culture of predatory mites; Bemmel, 4.IV.1995, *Cucumis sativa*; Bemmel, 11.IV.1995, in bran, in greenhouse; Bemmel, 28.XI.1995, *Capsicum annuum*; Bemmel, 30.XII.1996, *Cucumis sativa* (leave); Bemmel, 30.XII.1996, culture with bran of *Neoseiulus cucumeris* (Oudemans, 1930) (Mesostigmata, Phytoseidae); Leiden, 2.II.1998, fungus culture; Netherlands, 6.V.1999, cookies for consumption; Netherlands, 12.II.2003, *Matricaria* (glasshouse culture); Eijsden, 12.I.2005, *Orchidaceae*, in glasshouse; Lisse, 17.VIII.2006, *Tulipa*; Lisse, 17.VI.2008, cultured on bran; 's Gravenpolder, 17.VI.2009, *Allium cepa* (bulb); Wageningen, 19.IV.2011, potato peels; Maarssen, 23.XII.2011, culture; 12.VII.2013, *Harmonica* galls of leafsheats of *Phragmites australis*, col. NVWA.

86 similis Volgin, 1949

Tyrophagus oudemansi Robertson, 1959
Tyrophagus dimidiatus (Hermann, 1804)
Tyroglyphus dimidiatus forma *infestans* (Berlese, 1884).

Tyrophagus infestans Berlese, 1884

Tyrophagus humerosus (Oudemans, 1923)
 Rotterdam, on tomatoes sub *T. infestans*, col.
 Naturalis in Oudemans collection (Buitendijk 1945); several records from in New Zealand imported Dutch products (Fan & Zhang 2007); Wageningen (Bovenbuurt), 22.II.2000, 23.V.2000, grassland on sandy soil; De Lutte, 2.X.2009, arable land; Beneden Leeuwen, 8.V.2009, grassland on clay soil; Ooij, 26.V.2009, grassland on clay soil; Benschop, 12.V.2009, grassland on clay soil; Middelbeers, 7.VI.2010, bare ground vegetable crops; Oosterhesselen, 1.VI.2010, bare ground vegetable crops; Rossum, 2.VI.2010, bare ground vegetable crops; Castenraaij, 14.VI.2010, bare ground vegetable crops; Budel, 10.VI.2010, bare ground vegetable crops; Breda, 1.VI.2010, bare ground vegetable crops; Rijsbergen, 20.V.2010, bare ground vegetable crops; Leusden, 10.XI.2010, heathland, database Alterra; 's Gravenzande, 8.XII.1951, *Cichorium endivia*; Aalsmeer, 19.IX.1952, *Cyclamen*; Zaltbommel, 15.XII.1958, mushroom substrate; Wageningen, 9.V.1962, experimental insecticide plots; Wageningen, 11.IX.1963, experimental insecticide plots (Untreated 0-2,5 cm in soil), Plant Disease Control (P.D.); Wageningen, 11.IX.1963, experimental insecticide plots (DDT 0-2,5 cm in soil), P.D.; Lent, 21.V.1964, beet; Westduinen Ouddorp, 16.VI.1966, under *Corynephorus* on top of dunes; Lienden Schuilenburg, 12.I.1971, on branch James Grieve apple; Wognum, 12.X.1971, spinach; Wageningen, 13.XI.1973, 0-5 cm under *Lolium perenne*; Sevenum, 5.II.1981, radishes; Wageningen Mycological garden P.O., 5.XII.1986, tree trunks *Ulmus* and *Betula*; 22.XII.1986, radishes (greenhouse); Netherlands, 31.XII.1986, radishes (greenhouse); Venlo, 8.VI.1987, radishes; Wellerloo, 15.XII.1987, radishes; Akkerbroek, 18.II.1988, spinach; De Lier, 13.IV.1988, *Verbena* spec.; Venlo, 15.IX.1988, radishes; Horst, 30.VI.1989, radishes; Zevenbergse Hoek, 19.IX.1990, spinach; Boxtel, 23.IV.1990, *Tagetes* (in greenhouse); Huijbergen, 29.X.1990, grassland; 's Gravenzande, 11.XII.1991, radishes; Noordwijkerhout, 10.III.1995, *Phlox*; Hillegom, 5.IX.2000, *Hyacinthus* 'blue jacket' in bulb, col. NVWA.

- 87 **tropicus** Robertson, 1959
Andijk, 6.x.1988, on *Cyclamen*; Netherlands, 12.ii.2003, on *Matricaria* in greenhouse, col. NVWA.
- 88 **vanheurni** Oudemans, 1924*
Tyrophagus palmarum Oudemans 1924; Robertson, 1959 (misidentification).
Tyrophagus longior (Gervais, 1844); Robertson, 1946 (misidentification).
Found in a coconut (imported specimen) in Twello, 10.III.1924, col. Naturalis in Oudemans collection.
- Viedebanttia** Oudemans, 1929
Acotyledon (non Oudemans, 1903; part.)
- 89 **schmitzi** Oudemans, 1929
Robinisca macrocnemis Zachvatkin, 1941
Sittard, from the nest of a mole *Talpa europaea* Linnaeus, 1758 (Soricomorpha, Talpidae) (type specimen), col. Naturalis in Oudemans collection (Buitendijk 1945, Fain 1985); Hackfort (Vorden), 5.VII.1962, soil sample *Quercus* forest, col. NVWA.
- Family GAUDIELLIIDAE**
- Cerophagus** Oudemans, 1902
90 **granulatus** Dujardin, 1849
Glycyphagus bomborum Oudemans, 1902
Cerophagus boborum
Cerophagus gracilis Vitzthum, 1912
Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945).
- Family SUIDASIIDAE**
- Suidasia** Oudemans, 1905
91 **pontifica** Oudemans, 1905
Meerssen, 23.XII.2011, in culture of *Macrocheles robustulus* Berlese, 1904 (Mesostigmata, Macrochelidae), col. NVWA.
- Superfamily HYPODERATOIDEA
Family HYPODERATIDAE
- Amazonectes** Fain, 1967
92 **psittaci** (Fain & Vercammen-Grandjean, 1966)*
Gabucinia psittaci Fain & Vercammen-Grandjean, 1966
Netherlands, 8.II.1965, from *Amazona ochrocephala* (Gmelin, 1788) (Psittaciformes, Psittacidae), (hypopous) subcutis thorax; 7.XII.1981, from *A. albifrons* (Sparrman, 1788) (hypopous) subcutis thorax, col. Naturalis, col. Cremers.
- Hypodectes** Filippi, 1861
93 **propus** (Nitzsch, 1861)
Hypoderas propus
Amsterdam (Artis Zoo), 17.XI.1981, from *Tauraco* spec. (Musophagiformes, Musophagidae), (hypopous) subcutis thorax; XII.1990, from *Mycteria leucocephala* (Pennant, 1769) (Ciconiiformes, Ciconiidae), (zoo) (hypopous) subcutis (sub *Hypodectes propus bubulci* Fain, 1967a); Rotterdam 19.X.1965, from *Ptilinopus* spec. (Columbiformes, Columbidae) (hypopous) subcutis thorax, 8.IX.1967, from *Columba livia* dom. (Columbiformes, Columbidae) (hypopous) subcutis thorax; XII.1990, from *Mycteria leucocephala* (hypopous) subcutis thorax, col. Naturalis; Arnhem (Burgers Zoo) 17.X.2005, from *Ducula pinon* (Quoy & Gaimard, 1824) (Columbiformes, Columbidae) (hypopous) subcutis thorax; Arnhem (Burgers Zoo) 26.V.2010, from *Goura victoria* (Fraser, 1844) (Columbiformes, Columbidae) (hypopous) subcutis legs, col. Cremers.
- Neottialges** Fain, 1966
94 **eurafe** Fain, 1966
Netherlands, unknown location, 1976, from *Ptilinopus occipitalis* Gray, 1844 (Columbiformes, Columbidae) (hypopous) subcutis thorax; unknown location, 1977, from *Columba palumbus* Linnaeus, 1758 (Columbiformes, Columbidae), (hypopous) subcutis thorax, col. Cremers.
- 95 **evansi** Fain, 1966
Netherlands, 26.VIII.1986, 14.XII.2013, from

- Phalacrocorax carbo* (Linnaeus, 1758) (Suliformes, Phalacrocoracidae) (hypopus) subcutis, col. Naturalis., col. Cremers; Arnhem (Burgers Zoo) 5.I.2009, 7.XI.2011, from *Microcarbo melanoleucus* (Vieillot, 1817) (Suliformes, Phalacrocoracidae), col. Cremers.
- 96 **montagui** Fain, 1967*
- Netherlands, 16.VI.1998, from *Platalea ajaja* Linnaeus, 1758 (Pelecaniformes, Threskiornithidae), (hypopus) subcutis, col. Naturalis, col. Cremers.

Phalacrodetes Fain, 1966

- 97 **whartoni** Fain, 1967*
- Netherlands, 16.VI.1998, from *Platalea ajaja* Linnaeus, 1758 (Pelecaniformes, Threskiornithidae), (hypopus) subcutis, col. Cremers; 27.IV.1998, from *Eudocimus ruber* (Linnaeus, 1758) (Pelecaniformes, Threskiornithidae), (hypopus) subcutis, col. Naturalis, col. Cremers.

Passerodectes Fain, 1966

- 98 **pittae** Fain, 1967*
- Amsterdam (Artis Zoo), 17.XII.1999, from *Pitta* spec. (Passeriformes, Pittidae), (hypopus) subcutis, col. Naturalis, col. Cremers.

Picidectes Fain, 1967

- 99 **ramphastos** (Fain, 1968)*
- Toucanectes ramphastos*
Netherlands, unknown location, 1975, from *Ramphastos* sp. (Piciformes, Ramphastidae), (hypopus) subcutis, col. Cremers.

Superfamily PTEROLICHOIDEA

Family EUSTATHIIDAE

- Chauliacia** Oudemans, 1905
- 100 **securigera** (Robin in Robin & Mégnin, 1877)
- Pterolichus securiger*
Arnhem, on *Apus apus* (Linnaeus, 1758) (Apodiformes, Apodidae), col. Naturalis.

Eustathia Oudemans, 1905

- 101 **culturifera** (Robin in Robin & Mégnin, 1877)
- Pterolichus cultrifer*
Arnhem, I.VI.1951, from *Apus apus* (Linnaeus, 1758) (Apodiformes, Apodidae), (m & f, adults), col. Naturalis.

Family FALCULIFERIDAE

Falculifer Railliet, 1896

- 102 **rostratus** (Buchholz, 1869)

- Dermaleichus rostratus*
Falciger rostratus Trouessart, 1885
Utrecht, 17.V.1950, from *Columba livia domestica* (Columbiformes, Columbidae) on (3 x m); Utrecht (Uithof), 12.IX.1977, (f) in stable, II.VIII.1986 (larva), col. Naturalis; Amsterdam (Artis), 20.VIII.2008; Boxtel 20.XI.2012, from *Columba livia domestica* (Columbiformes, Columbidae), feathers (m & f), col. Cremers.

Pterophagus Mégnin in Robin & Mégnin, 1877

- 103 **strictus** Mégnin in Robin & Mégnin, 1877
- Netherlands, 10.V.1950, from *Columba livia domestica* (Columbiformes, Columbidae) (nymph, adults (m & f), col. Naturalis; Utrecht, 21.VII.1976, (f) feathers, col. Cremers.

Family GABUCINIIDAE

Coraciacarus Dubinin, 1956

- 104 **cuculi** (Mégnin & Trouessart, 1884)

- Pterolichus cuculi*
Sneek, col. Naturalis in Oudemans collection (Buitendijk 1945). The validity of these records is doubtful, as mentioned hosts are *Prunella modularis* (Linnaeus, 1758), *Corvus cornix* Linnaeus, 1758, *Alauda arvensis* Linnaeus, 1758 and *Porzana porzana* (Linnaeus, 1766), instead of the real host *Cuculus canorus* Linnaeus, 1758.

- Gabucinia Oudemans, 1905**
- 105 *delibata* (Mégnin in Robin & Mégnin, 1877)
Pterolichus delibatus
 Arnhem, Sneek, from *Corvus cornix* Linnaeus, 1758 (Passeriformes, Corvidae), col. Naturalis in Oudemans collection (Buitendijk 1945); Nieuwe Ter Aar, 16.vi.2015, from *Corvus corone* Linnaeus, 1758 (Passeriformes, Corvidae), feathers (f), col. Cremers.
- 106 *urogalli* (Nörner, 1883)
Dimorphus urogalli
Pterolichus urogalli
 Heerenveen, from *Tetrao tetrix* Linnaeus, 1758 (Galliformes, Phasianidae), col. Naturalis in Oudemans collection (Buitendijk 1945).
- Hieracolichus Gaud & Atyeo, 1975**
- 107 *nisi* (Canestrini, 1878)
Pterolichus nisi
 Utrecht, col. Naturalis in Oudemans collection (Buitendijk 1945); Epe, 8.vi.2015, from *Accipiter nisus* Linnaeus, 1758 (Falconiformes, Accipitridae), feathers (m & f), col. Cremers.
- Family KRAMERELLIDAE**
- Dermonoton Gaud & Mouchet, 1959**
- 108 *parallelilobus* (Trouessart, 1886)*
Pterolichus parallelilobus
 Lopik, 4.mii.2014, from *Strix nebulosa* J.R. Forster, 1772 (Strigiformes, Strigidae), feathers (m & f), col. Cremers.
- 109 *sclerourus* Gaud, 1980
 Beetsterzwaag, 19.mii.2012, Terwispel, 13.v.2012, Apeldoorn 12.mii.2013, Witmarsum, 16.iv.2013, from *Tyto alba* (Scopoli, 1769) (Strigiformes, Tytonidae) feathers (m & f); Swalmen, 31.mii.2013, from *Asio otus* (Linnaeus, 1758) (Strigiformes, Strigidae); feathers (m & f), col. Cremers.
- Freyanopterolichus Dubinin, 1953**
- 110 *anacrotrichus* Gaud, 1982*
 Apeldoorn (Zoo), 28.xi.2011, from *Geronticus eremita* (Linnaeus, 1758) (Ciconiiformes, Threskiornithidae), (m & f) feathers, col. Cremers.

- Kramerella Trouessart, 1915**
- 111 *aprotuberantia* Dubinin, 1953*
 Lopik, 4.mii.2014, from *Strix nebulosa* J.R. Forster, 1772 (Strigiformes, Strigidae), feathers (m & f), col. Cremers.
- 112 *flammei* (Lönnfors, 1937)
Krameria flammei
 Netherlands, from *Asio flammeus* (Pontopidan, 1763) (Strigiformes, Strigidae), feathers (Oudemans 1897).
- 113 *lunulata* (Haller, 1878)
Crameria lunulata
 Netherlands, 11.vi.2013, from *Athene noctua* (Scopoli, 1763) (Strigiformes, Strigidae), feathers (m & f), col. Cremers.
- 114 *lyra* (Canestrini, 1878)
Dermaleichus lyra
Pterolichus major Canestrini, 1879
 Staphorst, 25.mii.2013; Kootwijk, 27.mii.2013, from *Asio otis* (Linnaeus, 1758) (Strigiformes, Strigidae), feathers (m & f), col. Cremers.
- 115 sp.*
 Rhenen (Ouwehands Zoo), 15.viii.2011; Arnhem (Burgers Zoo), 27.vii.2015, from *Nyctea scandiaca* (Linnaeus, 1758) (Strigiformes, Strigidae), feathers (m & f), probably undescribed species, col. Cremers.
- Petitota Gaud & Mouchet, 1950**
- 116 *aluconis* (Buchholz, 1869)
Dermaleichus aluconis
 Arnhem, 24.mii.2013, from *Strix aluco* Linnaeus, 1758 (Strigiformes, Strigidae), (m & f) feathers, col. Cremers.
- Family PTEROLICHIDAE**
- Apatelacarus Atyeo & Gaud, 1980**
- 117 *brachychaetus* (Gaud, 1968)*
Geranolichus brachychaetus
 Netherlands, unknown location, mii.1982, from *Balearica pavonina* (Linnaeus, 1758) (Gruiformes, Gruidae), (m & f) feathers, col. Naturalis, col. Cremers.

- Grallobia Hull, 1934**
118 porzanae (Canestrini, 1878)
Dermaleichus porzanae
Thecartha porzanae
 Arnhem, from *Porzana porzana* Linnaeus, 1766
 (Gruiformes, Rallidae), col. Naturalis in
 Oudemans collection (Buitendijk 1945).

- Pelargolichus Gaud, 1982**
119 didactylus Trouessart, 1885
Xoloptes didactylus
 Overloon (Zoo), 1.VII.2002, from *Ciconia ciconia* (Linnaeus, 1758) (Ciconiiformes, Ciconiidae), (m & f) feathers, col. Naturalis, col. Cremers;
 Lathum, 17.VIII.2012, from *Ciconia ciconia* (Linnaeus, 1758) (Ciconiiformes, Ciconiidae), feathers (m & f), col. Cremers.

- Pterolichus Robin, 1877**
120 obtusus Robin, 1877
 From poultry: Bunnik, 18.IV.1977, (m & f) feathers; Utrecht, 5.X.1981 (m & f) feathers; Rijswijk (Gld.), VIII.2000, (m & f) feathers, col. Naturalis, col. Cremers; Utrecht, 27.VII.2008, feathers; Leidschendam, 7.VIII.2002, 29.VI.2007; Arnhem (Burgers Zoo), 31.XII.2012, from *Lophophorus impejanus* (Latham, 1790) (Galliformes, Phasianidae), feathers, col. Cremers.

- Pseudalloptes Trouessart, 1885**
121 bisubulatus (Mégnin in Robin & Mégnin, 1877)
 Netherlands, from *Perdix perdix* (Linnaeus, 1758) (Galliformes, Phasianidae) (Oudemans 1897), not collected?

- Sideroferus Gaud & Atyeo, 1996**
122 lunula (Robin, 1877)*
Pterolichus lunula
Protolichus lunula
 Netherlands, Emmen (Zoo), 8.VII.1998, from *Melopsittacus undulatus* (Shaw, 1805) (Psittaciformes, Psittacidae), (m & f) feathers and 9.X.1998, (larvae); Rhenen (Zoo) 20.XI.2007, feathers (m & f), col. Naturalis, col. Cremers.

- Triphyllochaeta Dubinin, 1956**
123 vanelli (Canestrini, 1878)
Dermaleichus vanelli
 Bunnik, 1.IV.2013; Houten, 19.III.2014, from *Vanellus vanellus* (Linnaeus, 1758) (Charadriiformes, Charadriidae), feathers (f), col. Cremers.

Family PTILOXENIDAE

- Ptiloxenus Hull, 1934**
124 major (Mégnin & Trouessart, 1884)
Pterolichus major
 Netherlands, unknown location, VIII.1956, col. Naturalis.

- Ptiloxenoides Gaud, 1982**
125 phoenicopteroi (Mégnin & Trouessart, 1884)*
Pterolichus phoenicopteroi
 Amsterdam (Artis Zoo), 17.I.2002; Arnhem (Burgers Zoo), 25.III.2013, from *Phoenicopterus roseus* Pallas, 1811 (Phoenicopteriformes, Phoenicopteridae), (m & f) feathers; Amsterdam (Artis Zoo), 1976; Emmen (Zoo), 22.XI.2011, from *Phoenicopterus ruber* Linnaeus, 1758 (Phoenicopteriformes, Phoenicopteridae), (f) feathers; Emmen (Zoo), 16.II.2010, from *Phoenicopterus chilensis* Molina, 1782 (Phoenicopteriformes, Phoenicopteridae), (m & f) feathers; X.1986, from *Phoenicopterus* spec., (m & f) feathers, col. Naturalis, col. Cremers.

- Sokoloviana Dubinin, 1951**
126 mariae Dubinin, 1956
 Amsterdam (Artis Zoo), 17.VII.2001, from *Recurvirostra avosetta* Linnaeus, 1758 (Charadriiformes, Recurvirostridae), (m & f) feathers; 10.VI.2003, (m & f) feathers, col. Naturalis, col. Cremers.
127 rehbergi (Canestrini & Berlese, 1880)
Pterolichus rehbergi
 Utrecht (de Uithof), V.1977, from *Haematopus ostralegus* Linnaeus, 1758 (Charadriiformes, Haematopidae), (m & f) feathers; Vlieland (Kroonspolders), 7.IX.1964, (f) feathers, col. Naturalis, col. Cremers; Leeuwarden, 3.XI.2012, (m & f) feathers, col. Cremers.

Superfamily FREYANOIDEA

Family FREYANIDAE

Freyana Haller, 1877

128 anatina (Koch, 1944)

Dermaleichus anatinus

Arnhem, from *Anas platyrhynchos* Linnaeus, 1758
(Anseriformes, Anatidae), col. Naturalis in
Oudemans collection (Buitendijk 1945).

Superfamily ANALGOIDEA

Family ALLOPTIDAE

Alloptes Canestrini, 1879

129 bisetatus (Haller, 1881)

Pterocolus bisetatus

Sneek, col. Naturalis in Oudemans collection (Buitendijk 1945, Oudemans 1897); Blokker, 15.v.2014, from *Sterna hirundo* Linnaeus, 1758 (Charadriiformes, Laridae), (m & f) feathers, col. Cremers.

130 crassipes (Canestrini, 1878)

Dermaleichus crassipes

Netherlands, 29.IX.2012, from *Haematopus ostralegus* Linnaeus, 1758 (Charadriiformes, Haematopodidae), (m & f) feathers, col. Cremers.

131 limosae Dubinin, 1951

Hoofdplaat, 29.IX.2012, from *Limosa limosa islandica* (Brehm, 1831) (Charadriiformes, Scolopacidae), (m & f) feathers, col. Cremers.

132 obtusolobus Dubinin, 1951

Streefkerk, 3.XII.2015, from *Larus argentatus* Pontoppidan, 1763 (Charadriiformes, Laridae), (f), col. Cremers.

133 oxylobus Dubinin, 1951

Zwolle, 2.XI.2015, from *Larus ridibundus* Linnaeus, 1766 (Charadriiformes, Laridae), (m & f) feathers, col. Cremers.

134 pelecani Dubinin, 1956*

Plicatalloptes pelecani

Leeuwarden (Zoo), 15.VII.2011, from *Pelecanus onocrotalus* Linnaeus, 1758 (Pelecaniformes, Pelecanidae), (m & f) feathers; Overloon (Zoo), 19.III.2013, from *Pelecanus crispus* (Bruch, 1832) (Pelecaniformes, Pelecanidae), (m & f) feathers, col. Cremers.

Brephosceles Hull, 1934

135 anatina Dubinin, 1951

Driebergen, IV.1972, from *Anas platyrhynchos*

Linnaeus, 1758 (Anseriformes, Anatidae), (m & f) feathers, col. Naturalis, col. Cremers; Rhenen (Zoo), 18.VII.2013, from *Marmaronetta angustirostris* (Ménétrier, 1832) (Anseriformes, Anatidae), (m & f) feathers, col. Cremers.

136 discidicus Peterson, 1971

Rotterdam, 19.IV.2012, from *Cygnus olor* (Gmelin, 1803) (Anseriformes, Anatidae).

Psilobrephosceles Peterson & Atyeo, 1968

137 ortygometrae (Canestrini, 1878)

Pteroscolus ortygometrae

Sneek, from *Corvus corone* Linnaeus, 1758 (Passeriformes, Corvidae), col. Naturalis in Oudemans collection (Buitendijk 1945).

Family ANALGIDAE

Analges Nitzsch, 1818

138 beaucournui Gaud, 1973

Netherlands, from *Troglodytes troglodytes* (Linnaeus, 1758) (Passeriformes, Troglodytidae) (Gaud 1973).

139 bidentatus Giebel, 1871

Dermaleichus passerinus Koch, 1841

Utrecht, col. Naturalis in Oudemans collection (Buitendijk 1945). Validity of the records is questionable, because Oudemans refers to hosts (e.g. *Emberiza citrinella* Linnaeus, 1758 Passeriformes, Emberizidae) that are not known for this species.

140 chelopus (Hermann, 1804)

Acarus chelopus

Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945).

141 certhiae Haller, 1877

Rijswijk (Gld.), 30.III.2001, from *Certhia brachydactyla* C.L.Brehm, 1820 (Passeriformes, Certhiidae), feathers (adult m & tritonymph), col. Cremers.

142 corvinus Mégnin in Robin & Mégnin, 1877

Velp, Sneek, Wedde, Blijham, Nieuwwolde, col. Naturalis in Oudemans collection (Buitendijk

- 1945); Utrecht (de Uithof), 20.v.1974, from *Pica pica* (Linnaeus, 1758) (Passeriformes, Corvidae), (m & f) feathers; 18.II.1965, from *Corvus frugilegus* Linnaeus, 1758 (Passeriformes, Corvidae), (m & f) feathers, col. Naturalis; Bodegraven, 8.V.2011, from *Pica pica* (Linnaeus, 1758) (Passeriformes, Corvidae), (m & f) feathers; Nieuwe Ter Aar, 16.VI.2015, from *Corvus corone* Linnaeus, 1758 (Passeriformes, Corvidae), (m & f) feathers, col. Cremers.
- 143 macropus Zimmermann, 1894**
Warnsveld, 11.VII.2015, from *Pyrrhula pyrrhula* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers, col. Cremers.
- 144 mucronatus (Buchholz, 1869)**
Dermaleichus mucronatus
Utrecht (de Uithof), 18.III.1972, from *Parus major* Linnaeus, 1758 (Passeriformes, Paridae), (m & f) feathers; Wassenaar, 2.III.1966, (adults) feathers, col. Naturalis; Heteren, 9.III.2004; Veldhoven, 1.XII.2008, from *Parus major* Linnaeus, 1758 (Passeriformes, Paridae), (m & f) feathers, col. Cremers.
- 145 pachysphyrus Gaud, 1973**
Netherlands, from *Pyrrhula pyrrhula* (Linnaeus, 1758) (Passeriformes, Fringillidae) (Gaud 1973).
- 146 passerinus (Linnaeus, 1758)**
Acarus passerinus
Acarus avicularum De Geer, 1778
Dermaleichus fringillarum Koch, 1841
Utrecht, Arnhem, in Oudemans collection (Buitendijk 1945); Netherlands, 8.VI.1956, from *Chloris chloris* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers, *Carduelis carduelis* (Linnaeus, 1758) (Passeriformes, Fringillidae); 1986 and VII.2003, (m & f) feathers; Zeist, VII.1977 and 1986, *Serinus canaria* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers; De Bilt, 21.V.1964, *Fringilla coelebs* Linnaeus, 1758 (Passeriformes, Fringillidae), (m) feathers; Wassenaar, 7.XI.1966, (adult) feathers; Wassenaar (dunes), 7.XI.1966, *Fringilla montifringilla* Linnaeus, 1758, (m & f) feathers; Baarn, 30.XII.1968, (adults) feathers, col. Naturalis; Son en Breugel, 23.VII.2015, from *Chloris chloris* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers; Schiedam, 9.VII.2003; Voorburg, 14.XI.2007, from *Serinus canaria* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers; Son en Breugel, 18.VIII.2015, from *Fringilla coelebs* Linnaeus, 1758 (Passeriformes, Fringillidae), (m & f) feathers, col. Cremers.
- 147 spiniger Giebel, 1871**
Netherlands, 23.V.1964, from *Hippolais icterina* (Vieillot, 1817) (Passeriformes, Acrocephalidae), (m) feathers, col. Naturalis, col. Cremers.
- 148 sturninus Gaud, 1973**
Utrecht (de Uithof), 5.VI.1972, from *Sturnus vulgaris* Linnaeus, 1758 (Passeriformes, Sturnidae), (f) feathers, col. Naturalis; De Bilt, 21.III.1965, from *Sturnus vulgaris* Linnaeus, 1758 (Passeriformes, Sturnidae), (m & f) feathers, col. Cremers.
- Diplaegidia Hull, 1934**
- 149 columbae (Buchholz, 1869)**
Dermaleichus columbae
Analges asternalis Mégnin in Robin & Mégnin, 1877
Dimorphus bifidus (Nitzsch, 1818)
Acarus bifidus Nitzsch, 1818
Eindhoven, 29.X.2001, from *Columba livia* dom., (m & f) feathers, 15.VI.1950, (m & f) feathers, 22.VII.1950, (m & f) feathers, 28.VIII.1974, (m & f) feathers; Wilp, 12.III.1960, from *Streptopelia roseogrisea* (Sundevall, 1857) (Columbiformes, Columbidae), (m & f) feathers, in the Oudemans collection sub *Dimorphus bifidus*, col. Naturalis; Drachten, 21.VII.1997, on feathers ornamental poultry, col. NVWA; Utrecht, 10.X.2007, from *Columba palumbus* Linnaeus, 1758 (Columbiformes, Columbidae), (f) feathers, col. Cremers.
- Megninia Berlese, 1883**
- 150 californica Mironov & Galloway 2002***
Netherlands, V.1980, from *Callipepla californica* (Shaw, 1798) (Galliformes, Odontophoridae), (adult) feathers, col. Naturalis, col. Cremers.
- 151 cubitalis (Mégnin, 1877)**
Dermaleichus cubitalis
Netherlands, 3.XI.1950, from poultry, (m & f) feathers, 18.V.1972, (f) feathers, col. Naturalis; Zeist, 18.I.2011, from poultry, (m & f) feathers, col. Cremers.

152 *ginglymura* (Mégnin, in Robin & Mégnin, 1877)

Analges ginglymura

Netherlands, 16.IX.1999, from *Syrmaticus reevesii* (Gray, 1829) (Galliformes, Phasianidae), (m & f) feathers, 14.III.1963, from *Phasianus colchicus* Linnaeus, 1758 (Galliformes, Phasianidae), (m) feathers; Amsterdam (Artis Zoo), 14.IX.2001, from *Lophophorus impejanus* (Latham, 1790) (Galliformes, Phasianidae), (m & f) feathers; Wissel (Zoo), 11.IX.2001, from *Lophura edwardsi* (Oustalet, 1896), (m & f) feathers, col. Naturalis; Rijswijk (Gld.), 1.II.1998, Bosschenhoofd, 11.XI.2008, from poultry (m & f); Harkema, 5.XII.2007, from *Lophura edwardsi* (Oustalet, 1896), (m & f) feathers, col. Cremers.

153 *glandarii* (Buchholz, 1869)

Dermaleichus glandarii

Ouddorp, 16.IV.1964, from *Garrulus glandarius* (Linnaeus, 1758) (Passeriformes, Corvidae), (adults) feathers, col. Naturalis.

Megniniella Gaud & Mouchet, 1959

154 *gallinulae* (Buchholz, 1870)

Dermaleichus gallinulae

Dimorphus gallinulae

Loenersloot, 4.V.1961, from *Gallinula chloropus* (Linnaeus, 1758) (Gruiformes, Rallidae), (m & f) feathers, col. Naturalis, col. Cremers; Utrecht, 16.V.1972, (m & f) feathers, col. Cremers.

Strelkoviacarus Dubinin, 1953

155 sp.*

Odijk, 1.VII.1994, from *Serinus canaria* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers head and 12.IX.2001, (f) feathers head, col. Naturalis, col. Cremers; IX.1992, (m & f) feathers head and 28.V.2002, (m & f) feathers head, col. Cremers.

Family AVENZOARIIDAE

Avenzoaria Oudemans, 1905

156 *totani* (Canestrini, 1878)*

Dermaleichus totani

Amsterdam (Artis Zoo), 17.VII.2001, from *Tringa totanus* (Linnaeus, 1758) (Charadriiformes, Scolopacidae), (f) feathers, col. Cremers.

Bdellorhynchus Mégnin & Trouessart, 1884

157 *polymorphus* Trouessart, 1885*

Rhenen (Zoo), 18.VII.2013, from *Marmaronetta angustirostris* (Ménétries, 1832) (Anseriformes, Anatidae), (m & f) feathers, col. Cremers.

Bychovskiata Dubinin, 1951

158 *bisulcata* Mironov, 1994

Leeuwarden, 3.XI.2012, from *Haematopus ostralegus* Linnaeus, 1758 (Charadriiformes, Haematopidae), (f) feathers, col. Cremers.

Scutomegninia Dubinin, 1951

Dubininia Gaud & Mouchet, 1951

159 *ibidis* (Trouessart, 1885)*

Megninia ibidis

Amsterdam (Artis Zoo), 15.VI.2000, 28.VIII.2008 and 23.XII.2010, Rotterdam (Blijdorp Zoo), 11.VIII.2014, from *Platalea leucorodia* Linnaeus, 1758 (Pelecaniformes, Threskiornithidae), (m & f) feathers, col. Naturalis, col. Cremers.

Zachvatkinia Dubinin, 1949

160 *sternae* (Canestrini & Fanzago, 1876)

Dermaleichus sternae

Pteronyssus sternae

Giebelia sternae

Netherlands, from *Sterna hirundo* Linnaeus, 1758 (Charadriiformes, Laridae) (Oudemans 1897).

161 *larica* Mironov, 1989

Zwolle, 2.XI.2015, from *Larus ridibundus* Linnaeus, 1766 (Charadriiformes, Laridae), (m & f) feathers; Alblasserdam, 3.XII.2015, from *Larus argentatus* Pontoppidan, 1763 (Charadriiformes, Laridae), (m & f) feathers, col. Cremers.

Family CYTODITIDAE

Cytodites Mégnin, 1877

Kytodites

162 nudus (Vizioli, 1870)

Sarcoptes nudus

Utrecht, col. Naturalis in the Oudemans collection (Buitendijk 1945); Utrecht (Inst. Vet. Parasitol.), 20.VIII.1954, from poultry, (f) mesenterium, 28.XI.1975, 9.XI.1976, in airsacs, col. Naturalis; Utrecht, XII.1980; Lelystad (Centr. Vet. Inst.), III.1987, in airsacs, col. Cremers.

Family DERMATIONIDAE

Dermation Trouessart & Neumann, 1888

163 gallinulae Lukoschus, Fain & Driessen, 1969

Nijmegen, 13.I.1968, from *Gallinula chloropus* (Linnaeus, 1758) (Gruiformes, Rallidae) (Lukoschus et al. 1969), col. Naturalis.

Neodermination Fain, 1965

164 anatum Fain, 1965

Netherlands, from *Mergus merganser* Linnaeus, 1758 and *Mergellus albellus* (Linnaeus, 1758) (Anseriformes, Anatidae) (Fain 1965).

Passeroptes Fain, 1964

165 latior (Canestrini, 1894)

Rivoltasia latior

Nijmegen, 30.XI.1970, from *Garrulus glandarius* (Linnaeus, 1758) (Passeriformes, Corvidae) (Fain et al. 1973), col. Naturalis.

166 oenanthe Fain & Bochkov, 2003

Nijmegen, 24.VIII.1966, from *Oenanthe oenanthe* (Linnaeus, 1758) (Passeriformes, Muscicapidae) (Fain & Bochkov 2003), col. Naturalis.

Rivoltasia Canestrini, 1894

167 bifurcata (Rivolta, 1876)

Epidermoptes bifurcata

Rotterdam, col. Naturalis in Oudemans collection (Buitendijk 1945).

Family DERMOGLYPHIDAE

Dermoglyphus Mégnin in Robin & Mégnin, 1877

168 passerinus Gaud, 1973*

Netherlands, unknown location, 14.XII.1994, from *Serinus canaria* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) quill, col. Naturalis, col. Cremers (Dorresteijn et al. 1997).

Family EPIDERMOPTIIDAE (incl. Knemidocoptidae)

Apocnemidocoptes Lambert, Lukoschus & Fain, 1984

169 tragicola Lambert, Lukoschus & Fain, 1984

Leeuwarden, 29.VI.1981, from *Apus apus* (Linnaeus, 1758) (Apodiformes, Apodidae) (Lambert et al. 1981), col. Naturalis.

Epidermoptes Rivolta, 1876

Symbiotes Caparini, 1880

170 bilobatus Rivolta, 1876

Symbiotes avium Caparini, 1880

Dermatophagus gallinarum Fiedberger, 1881
Laag Soeren, V.1992, from poultry, (f) head
col. Naturalis; (m & f), col. Cremers.

Knemidokoptes Furstenberg, 1870

171 jamaicensis Turk, 1950

Kockengen, 14.XII.2001, from *Pyrrhula pyrrhula* (Linnaeus, 1758) (Passeriformes, Fringillidae), (f) legs (mange), col. Naturalis, col. Cremers.

172 mutans (Robin & Lanquetin, 1859)

Sarcoptes mutans

Amsterdam, Eerbeek, col. Naturalis in Oudemans collection (Buitendijk 1945); Spijkenisse, 14.IX.2004; Rhenen (Zoo), 30.VI.2015, from poultry, (f) legs (mange), col. Cremers.

173 pilae Lavoipierre & Griffiths, 1951*

Rotterdam (Zoo), 17.XI.1952, from *Ara* spec.
(Psittaciformes, Psittacidae), (f) head (mange),
col. Naturalis, col. Cremers; unknown location,
19.XII.1995, from *Ara chloroptera* (Psittaciformes,
Psittacidae), (f) head (mange), col. Cremers;
Netherlands, from *Psittacula krameri* (Scopoli,

1769) and *Melopsittacus undulatus* (Shaw, 1805) (Psittaciformes, Psittacidae) (Jansen 1956, 1957).

Microlichus Trouessart & Neumann, 1888

174 americanus Fain, 1964*

Netherlands, unknown location, 1.XII.1934, from *Sturnella defilippi* (Bonaparte, 1851) (Passeriformes, Icteridae), (imported) adults skin (mange), col. Naturalis., col. Cremers.

175 avus (Trouessart, 1887)

Symbiotes avus

De Bilt, 4.IV.1966, from *Chloris chloris* (Linnaeus, 1758) (Passeriformes, Fringillidae), (f) skin, col. Naturalis.

Neocnemidocoptes Fain, 1966

176 laevis (Railliet, 1885)

Sarcoptes laevis

Netherlands, (1949), 24.IV.1950, II.VIII.1986, from *Columba livia* dom. (Columbiformes, Columbidae), (adult) base of feathers, col. Naturalis, col. Cremers.

Rallepidermoptes Fain, 1965

177 rallicola Fain & Bochkov, 2003

Nijmegen, 13.I.1967, from *Oenanthe oenanthe* (Linnaeus, 1758) (Passeriformes, Muscicapidae) (Fain & Bochkov 2003), col. Naturalis.

Family LAMINOSIOPTIDAE

Laminosioptes Méggnin, 1880

178 cysticola (Vizioli, 1870)

Sarcoptes cysticola

Bunnik, 18.IV.1977, from poultry, subcutis, col. Naturalis; Blerick, 9.XI.1976, from poultry, subcutis, Arnhem (Zoo), 4.I.2006, from *Tragopan satyra* (Linnaeus, 1758) (Galliformes, Phasianidae), air sacs, col. Cremers.

Family PROCTOPHYLLODIDAE

Joubertophyllodes Atyeo & Gaud, 1971

179 modularis (Berlese, 1895)

Alloptes modularis

Joubertia aphyllus Dubinin, 1956

Utrecht, 9.VI.2008, from *Prunella modularis* (Linnaeus, 1758) (Passeriformes, Prunellidae), (f) feathers, col. Cremers.

Megalodectes Park & Atyeo, 1971

180 major (Trouessart, 1885)*

Pterodectes major

Noord-Holland, undated, col. Naturalis in Oudemans collection (Buitendijk 1945) only known from *Menura novaehollandiae* (Passeriformes, Menuridae), so probably from Artis Zoo.

Monojoubertia Radford, 1950

181 microphylla (Mégnin in Robin & Mégnin, 1877)

Proctophyllodes microphylla

Alloptes palmates Canestrini, 1897

Eindhoven, 17.X.1997, from *Serinus canaria* (Linnaeus, 1758) (Passeriformes, Fringillidae), (f & m & nymphae) and X.2000, (f) feathers, col. Naturalis, col. Cremers; Son en Breugel, 18.VIII.2015, from *Fringilla coelebs* Linnaeus, 1758 (Passeriformes, Fringillidae), (m & f) feathers, col. Cremers.

Montesauria Oudemans, 1905

182 cylindrica (Robin, 1968)

Pterodectes cylindrica

Pterodectes corvincola Oudemans, 1905

Unknown location (sub *P. corvincola*), col. Naturalis in Oudemans collection (Buitendijk 1945); Houten, 23.VI.2010; Bodegraven, 8.V.2011, from *Pica pica* Linnaeus, 1758 (Passeriformes, Corvidae), (m & f) feathers, col. Cremers.

Proctophyllodes Mégnin in Robin & Mégnin, 1877

183 caulifer Trouessart, 1886

Nijkerk, 13.IX.1965, from *Luscinia svecica* (Linnaeus, 1758) (Passeriformes, Muscicapidae),

- (f & nymphae) feathers, col. Naturalis, col. Cremers.
- 184 detruncatus Oudemans, 1905**
Proctophyllodes separatifolius Oudemans, 1905
 Arnhem (sub *P. separatifolius*), col. Naturalis in Oudemans collection (Buitendijk 1945).
- 185 glandarinus (Koch, 1941)**
Dermaleichus glandarinus
Proctophyllodes arcuaticaulis Poppe, 1889
Proctophyllodes mirus Cerny, 1961
 Noord-Holland, 14.I.1967, from *Fringilla montifringilla* Linnaeus, 1758 (Passeriformes, Fringillidae), (f) feathers, col. Naturalis; Utrecht, 7.XI.2008, from *Garrulus glandarius* (Linnaeus, 1758) (Passeriformes, Corvidae), (m & f) feathers, col. Cremers.
- 186 hipposideros Gaud, 1953**
 Nijkerk, 15.IX.1965, from *Oenanthe oenanthe* (Linnaeus, 1758) (Passeriformes, Muscicapidae), (m) feathers; Nijkerk, 11.IX.1965, from *Saxicola rubetra* (Linnaeus, 1758) (Passeriformes, Muscicapidae), (f) feathers, col. Naturalis.
- 187 musicus Vitzthum, 1922**
 De Bilt, 3.VI.1964, from *Turdus merula* Linnaeus, 1758 (Passeriformes, Turdidae), (m & f) feathers, col. Cremers.
- 188 picae (Koch, 1840)**
Dermaleichus picae
Proctophyllodes aquaticus Vitzthum, 1922
 Utrecht (de Uithof), 26.XI.1976, from *Pica pica* (Linnaeus, 1758) (Passeriformes, Corvidae), (f) feathers, col. Naturalis, col. Cremers.
- 189 pinnatus (Nitzsch, 1818)**
Analges pinnatus
Proctophyllodes profuses Robin, 1868
 Zeist, VII.1977, from *Serinus canaria* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers; Netherlands, XII.1980, feathers and 28.IV.1998, (m & f) feathers tail and II.IX.1966, from *Chloris chloris* (Linnaeus, 1758) (Passeriformes, Fringillidae), (f) feathers, col. Naturalis; Odijk, 12.IX.2001; Rhoden, 26.X.2001, from *Serinus canaria* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers; Sint-Maartensdijk, 14.VII.2015; Son en Breugel, 23.VII.2015, from *Chloris chloris* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers, col. Cremers.
- 190 reguli Gaud, 1957**
 Noord-Holland, 20.X.1965, from *Regulus ignicapillus* (Temminck, 1820) (Passeriformes, Regulidae), (m) feathers, col. Naturalis.
- 191 robustipennis Cerny, 1961**
Proctophyllodes clavatus Fritsch, 1961
 Nijkerk, 11.IX.1965, from *Acrocephalus paludicola* (Vieillot, 1817) (Passeriformes, Acrocephalidae), feathers, col. Naturalis.
- 192 simillimus Cerny, 1971**
 Warnsveld, 11.VII.2015, from *Pyrrhula pyrrhula* (Linnaeus, 1758) (Passeriformes, Fringillidae), (f) feathers, col. Cremers.
- 193 stylifer (Buchholz, 1869)**
Dermaleichus stylifer
Dermaleichus acre dulinus Koch, 1841
 Leersum, 11.IX.1993, from *Parus major* (Linnaeus, 1758) (Passeriformes, Paridae), (m & f) feathers, col. Naturalis, col. Cremers.
- Pterodectes Mégnin in Robim & Mégnin, 1877**
- 194 rutilus Mégnin in Robim & Mégnin, 1877**
Dermaleichus hirundinis Canestrini, 1878
Pterodectes rhodesiensis Till, 1954
 Nijkerk, 11.IX.1965, from *Hirundo rustica* Linnaeus, 1758 (Passeriformes, Hirundinidae), (m & f) feathers, col. Cremers.

Family PSOROPTOIDIDAE

Mesalgoides Gaud & Atyeo, 1967

195 diaphanoxus (Bonnet, 1924)

Mesalges diaphanoxus

Arnhem, 18.II.1965, from *Corvus frugilegus* Linnaeus, 1758 (Passeriformes, Corvidae), (m & f) legs; Rotterdam (Zoo), 13.X.2010, from *Corvus corone* Linnaeus, 1758 (Passeriformes, Corvidae), (m & f) feathers, col. Cremers.

196 oscinum (Koch, 1840)

Dermaleichus oscinum

Analges oscinum

Utrecht, col. Naturalis in Oudemans collection (Buitendijk 1945); St-Maartensdijk, 14.VII.2015, from *Chloris chloris* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers, col. Cremers.

- 197 *picimajoris* (Buchholz, 1870)**
Dermaleichus picimajoris
Dimorphus pici majoris
 Arnhem, Loenen Gld., col. Naturalis in Oudemans collection sub *Dimorphus pici majoris* (Buitendijk 1945); 21.vi.1985, from *Dendrocopos major* (Linnaeus, 1758) (Piciformes, Picidae), (m & f) feathers; Lelystad, 25.vii.1996; Mijdrecht, 8.vii.2014, from *Dendrocopos major* (Linnaeus, 1758) (Piciformes, Picidae), (m & f) feathers, col. Cremers.
- 198 *pyrrhulinus* Mironov, 1997**
 Warnsveld, 11.vii.2015, from *Pyrrhula pyrrhula* (Linnaeus, 1758) (Passeriformes, Fringillidae), (m & f) feathers, col. Cremers.

Pandalura Hull, 1934

- 199 *strigisoti* (Buchholz, 1869)**
 Arnhem, 24.iii.2013, from *Strix aluco* Linnaeus, 1758 (Strigiformes, Strigidae), (m) feathers; Lopik, 4.iii.2014, from *Strix nebulosa* J.R. Forster, 1772 (Strigiformes, Strigidae), (m) feathers; Houten, 18.viii.2015, from *Asio otus* (Linnaeus, 1758) (Strigiformes, Strigidae), (m & f) feathers; 's Hertogenbosch, 3.i.2016, from *Asio flammeus* (Pontepiddan, 1763) (Strigiformes, Strigidae), (m & f) feathers, col. Cremers.

Family PTERONYSSIDAE

- Pteronyssoides Hull, 1934**
- 200 *pari* (Linnaeus, 1758)**
Acarus pari
 Utrecht, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 201 *parinus* (Koch, 1840)**
Dermaleichus parinus
 From *Parus caeruleus* (Sneek), *Carduelis flammea* (Utrecht) and *Carduelis spinus* (Utrecht) (Oudemans 1897).
- 202 *striatus* (Mégnin in Robin & Mégnin, 1877)**
 Son en Breugel 18.viii.2015, from *Fringilla coelebs* Linnaeus, 1758 (Passeriformes, Fringillidae), (m & f) feathers, col. Cremers.

- Pteronyssus Mégnin in Robin & Mégnin, 1877**
- 203 *brevipes* Berlese, 1884**
 Lelystad, 25.vii.1996; Mijdrecht, 5.vii.2014, from *Dendrocopos major* (Linnaeus, 1758) (Piciformes, Picidae), (m & f) feathers, col. Cremers.
- Scutulanysus Mironov, 1985**
- 204 *obscurus* (Berlese, 1884)**
Pteronyssus obscurus
Pteronyssoides atticorae Cerny, 1975
Pteronyssoides besselingi (Oudemans, 1925)
Pteronyssoides bifurcatus (Hall, 1912)
Trouessartia obscurus (Berlese, 1884)
 Amsterdam and Arnhem, col. Naturalis in Oudemans collection (sub *Pteronyssus besselingi*) (Buitendijk 1945); Nijkerk, 1.ix.1965, from *Hirundo rustica* Linnaeus, 1758 (Passeriformes, Hirundinidae), (m & f) feathers, col. Cremers.
- Sturnotrogus Mironov, 1989**
- 205 *subtruncatus* (Trouessart, 1885)***
Pteronyssus subtruncatus
Pteronyssoides subtruncatus
 Netherlands, unknown location, undated, from *Gracula religiosa* Linnaeus, 1758 (Passeriformes, Sturnidae) (Mironov & Wauthy 2010).
- 206 *truncatus* (Trouessart, 1885)**
Pteronyssus truncatus
 Utrecht, from *Sturnus vulgaris* Linnaeus, 1758 (Passeriformes, Sturnidae) (Oudemans 1897); Lelystad (Oostvaardersplassen), 21.viii.2015, from *Sturnus vulgaris* Linnaeus, 1758 (Passeriformes, Sturnidae), (m & f) feathers, col. Cremers.
- Family TROUESSARTIIDAE**
- Trouessartia Canestrini & Kramer, 1899**
- 207 *corvina* (Koch, 1941)**
Dermaleichus corvinus
Pterocolus corvinus
 Utrecht, Arnhem, Sneek, col. Naturalis in Oudemans collection (Buitendijk 1945); Friesland, 3.v.1972, Nieuwe Ter Aar, 16.iv.2015, from *Corvus corone* Linnaeus, 1758 (Passeriformes, Corvidae), (m & f) feathers, col. Cremers.

- 208 microcaudata Mironov, 1983**
Netherlands, unknown location, 23.v.1964, from *Hirundo rustica* (Linnaeus, 1758) (Passeriformes, Hirundinidae), (m & f) feathers neck, col. Naturalis.
- 209 rosterii (Berlese, 1886)**
Pteronyssus rosterii
De Bilt, 21.III.1965; Lelystad (Oostvaardersplassen), 21.VIII.2015, from *Sturnus vulgaris* Linnaeus, 1758 (Passeriformes, Sturnidae), (m & f) feathers, col. Cremers.
- Family XOLALGIDAE**
- Dubininia Vassilev, 1958**
- 210 accipitrina (Trouessart, 1885)**
Protalges accipitrinus
Dubininia dobrevelikovi Vassilev, 1958
Bunnik, 18.I.1979, from *Falco tinnunculus* Linnaeus, 1758 (Falconiformes, Falconidae), (m & f) feathers, col. Cremers.
- 211 melopsittaci Atyeo & Gaud, 1987***
Bunnik, 1.I.1995; Hilversum, 10.IX.1999; Harmelen, 24.IV.2002; Rhenen (Zoo), 20.XI.2007, from *Melopsittacus undulatus* (Shaw, 1805) (Psittaciformes, Psittacidae), (m & f) feathers; Netherlands, 27.I.1982, 1983, 10.VIII.1994, from *Neophema splendida* (Gould, 1841) (Psittaciformes, Psittacidae), (m & f) feathers; Netherlands, 2.XI.1994; Tilburg, XI.1986; Krimpen aan de IJssel, 8.III.2000, from *Neophema pulchella* (Shaw, 1792) (Psittaciformes, Psittacidae), (m & f) feathers; Nieuwegein, XII.1992; Netherlands, 30.XI.1995, from *Neophema bourkii* (Gould, 1841) (Psittaciformes, Psittacidae), (m & f) feathers; *Agapornis* sp. (Psittaciformes, Psittacidae), (m & f) feathers, col. Cremers.
- Glaucalges Gaud, 1980**
- 212 attenuatus (Buchholz, 1869)**
Protalges attenuatus
Emmen (Zoo), 12.X.1999, from *Athene noctua* (Scopoli, 1769) (Strigiformes, Strigidae), (m & f) feathers, col. Naturalis, col. Cremers; Middenmeer, 8.IV.2013, from *Athene noctua* (Scopoli, 1769) (Strigiformes, Strigidae), (m & f) feathers; Nether-
- lands Rijksweg A28, 25.III.2013, A73, 30.III.2013; Swalmen, 30.III.2013; Cuyk, 31.III.2013, from *Asio otus* (Linnaeus, 1758) (Strigiformes, Strigidae), (m & f) feathers; 's Hertogenbosch, 3.I.2016, from *Asio flammeus* (Pontepiddan, 1763) (Strigiformes, Strigidae), (m & f) feathers, col. Cremers.
- 213 tytonis Dabert, Ehrnsberger & Dabert, 2008**
Achterhoek, 3.I.2011; Peize, 13.XII.2012; Beilen, 26.III.2013; Drachten, 23.IV.2013; Veeningen, 14.V.2013, from *Tyto alba* (Scopoli, 1769) (Strigiformes, Tytonidae) (m & f) feathers, col. Cremers.
- Ingrassia Oudemans, 1905**
- 214 forcipata (Haller, 1882)**
Dimorphus forcipata
Rotterdam, col. Naturalis in Oudemans collection (Buitendijk 1945).
- 215 velata (Mégnin in Robin & Mégnin, 1877)**
Leptosphyra velata Mégnin in Robin & Mégnin, 1877
Netherlands, unknown location, 15.VIII.1994, from *Anas platyrhynchos* Linnaeus, 1758 (Anseriformes, Anatidae), (m & f) feathers, col. Naturalis, col. Cremers.
- Ingrassiella Dubinin, 1949**
- 216 discigera Gaud, 1973**
Netherlands (Gaud 1973).
- Leptosphyra Hull, 1934**
- 217 centropoda (Mégnin in Robin & Mégnin, 1877)**
Bunnik, 1.IV.2013; Houten, 19.III.2014, from *Vanellus vanellus* (Linnaeus, 1758) (Charadriiformes, Charadriidae), (m & f) feathers, col. Cremers.
- Pteralloptes Trouessart, 1885**
- 218 stellaris (Buchholz, 1869)**
Dermaleichus stellaris
Pteralloptes gambettae Oudemans, 1904
Protalges stellaris
Hartingia stellaris
Utrecht, col. Naturalis in Oudemans collection (Buitendijk 1945).

Superfamily PYROGLYPHOIDEA
Family PYROGLYPHIDAE

Dermatophagoides Bogdanov, 1864

Mealia Trouessart, 1897

Pachylichus Canestrini, 1894

Visceropites Sasa, 1948

Paralgooides Gaud & Mouchet, 1959

Hullia Gaud, 1968

219 farinae Hughes, 1961

Visceropites takeuchii Sasa, 1948

Dermatophagoides takeuchii (Sasa, 1948)

Dermatophagoides culinae De Leon, 1963

Noordwijk, 1965, from dust, col. NVWA, De Boer (1990).

220 pteronyssinus (Trouessart, 1897)

Mealia pteronyssina

Paralgooides pteronyssoides Trouessart, 1886

Mealia toxopei Oudemans, 1928

Visceropites satoi Sasa, 1947

Amsterdam, col. Naturalis in Oudemans collection (Buitendijk 1945); Wageningen, 19.IX.2011: potato peels, NVWA; Utrecht, 12.IV.1978, in dust-sample from dog (m); Utrecht, 4.XII.1980, in dust-sample from housecat (m); Utrecht, 23.VII.1993, in dust-sample from bed (f), col. Cremers.

Euroglyphus Fain, 1965

221 longior (Trouessart, 1897)

Mealia longior

Dermatophagoides longior

Dermatophagoides dalarnaensis Sellnick, 1958

Netherlands, unknown location, 27.VII.1981, from *Equus caballus*, (adult) skin with alopecia, col. Naturalis, col. Cremers.

222 magnei (Cooreman, 1950)

Mealia magnei

Dermatophagoides magnei

Leiden, IX.1964, many specimens in various residential houses (Fain 1965).

Superfamily SARCOPTOIDEA
Family ATOPOMELIDAE

Chirodiscoides Hirst, 1917

223 caviae Hirst, 1917

Netherlands, unknown location, 31.III.1981 and 21.V.1985, from *Cavia porcellus* (Linnaeus, 1758) (Rodentia, Caviidae) fur col. Naturalis; Utrecht, IX.1984, from *Cavia porcellus* (Linnaeus, 1758) (Rodentia, Caviidae), fur, col. Cremers.

Cytostethum Domrow, 1956

224 wallabia Fain & Domrow, 1975*

Netherlands, unknown location, 25.I.1982, from *Wallabia bicolor* (Desmarest, 1804) (Diprotodontia, Macropodidae), fur, col. Naturalis, col. Cremers.

Family CHIRODISCIDAE

Alabidocarpus Ewing, 1929

225 intercalatus Fain, 1971

Netherlands, unknown location from *Myotis myotis* (Borkhausen, 1797) (Chiroptera, Vesperilionidae) (Fain 1981a).

Olabidocarpus Lawrence, 1948

226 belsorum (Van Eynhoven, 1940)

Labidocarpus belsorum

Labidocarpus cristatus Lawrence, 1953

Netherlands, unknown location from *Myotis myotis* (Borkhausen, 1797) (Chiroptera, Vesperilionidae) (Fain 1982, Van Eynhoven 1940), col. Naturalis.

Family GASTRONYSSIDAE

Yunkeracarus Fain, 1957

227 faini Hyland & Clark, 1959

Nijmegen (de Horst), 3, 14, and 23.III.1967, from *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae) Fain et al. (1967), col. Naturalis.

Family LISTROPHORIDAE

Afrolistrophorus Fain, 1970

228 apodemi Fain, 1970

Hatert and Nijmegen (without dates), from *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae) (Fain 1981b), col. Naturalis; Hoog Soeren, 4.IX.2001; Amsterdam (Bijlmer), 12.IX.2001, from *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae), (m & f) fur, col. Cremers.

Leporacarus Fain, 1970

229 brevicaudatus (Ullrich, 1938)

Listrophorus brevicaudatus

Utrecht, de Uithof, v.1977, from *Lepus europaeus* Pallas, 1778 (Lagomorpha, Leporidae), (m) fur, col. Naturalis, col. Cremers.

230 gibbus (Pagenstecher, 1861)

Listrophorus gibbus

Groenekan, 12.VIII.1974, from *Oryctolagus cuniculus* dom. (Linnaeus, 1758) (Lagomorpha, Leporidae), (m & f) fur, 16.I.1975, (m & f) fur; Utrecht (Vet. Facul.), 28.XI.1994, (m & f) fur, (De Vos & Dorresteijn 1978), col. Naturalis, col. Cremers; Nieuwegein, 16.IX.2010, from *Oryctolagus cuniculus* dom. (Linnaeus, 1758) (Lagomorpha, Leporidae), (m & f) fur; Delden, 6.XII.2011; Noord Sleen, 17.VII.2012, from *Lepus europaeus* Pallas, 1778) (Lagomorpha, Leporidae), (m & f) fur, col. Cremers.

Listrophorus Pagenstecher, 1861

231 americanus Radford, 1944

Rhenen (Grebbeberg), 14.III.1984, from *Ondatra zibethicus* (Linnaeus, 1766) (Rodentia, Cricetidae), (m) fur, 11.1999, (m & f), fur col. Naturalis, col. Cremers; 3.VII.2013, (m & f) fur, col. Cremers.

232 brevipes Dubinina, 1968

Netherlands, location unknown, IV.2001, from *Myodes glareolus* (Schreber, 1780) (Rodentia, Cricetidae), (m & f) fur, col. Naturalis, col. Cremers.

233 leuckarti Pagenstecher, 1861

Haarlem, Arnhem, Gramsbergen, col. Naturalis in Oudemans collection (Buitendijk 1945).

Lynxacarus Radford, 1951

234 mustelae (Mégnin, 1885)

Listrophorus mustelae

Arnhem, Gramsbergen in the Oudemans collection col. Naturalis; Breda VIII.1995, from *Mustela putorius furo* Linnaeus, 1758 (Carnivora, Mustelidae), (m & f) fur; Bilthoven, 16.VIII.1995; Amersfoort, 9.IV.2015, from *Mustela putorius* Linnaeus, 1758 (Carnivora, Mustelidae), (m & f) fur; Breda VIII.1995, from *Mustela putorius furo* Linnaeus, 1758 (Carnivora, Mustelidae), (m & f) fur, col. Cremers.

Metalistrophorus Fain, 1970

235 pagenstecheri (Haller, 1880)

Listrophorus pagenstecheri

Utrecht, Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945); Nijmegen, from *Sciurus vulgaris* (Fain 1981b); De Meern (Squirrel Care Foundation), 7.VIII.2000; Almere, Stg. AAP, 26.XI.2012 and Dieren 16.IX.2014, from *Sciurus vulgaris* Linnaeus, 1758 (Rodentia, Sciuridae), fur, col. Cremers.

Family MYOCOPTIDAE

Criniscansor Poppe, 1889

236 apodemi Fain, Munting & Lukoschus, 1970

Hatert, 12.IX.1967, 21.IX.1965, de Horst, 15.III.1967; de Hamert, 5.VIII.1965; surrounding of the university of Nijmegen, 25.VIII.1968, (all locations near Nijmegen) from *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae) (Fain et al. 1970), col. Naturalis.

237 criceti Poppe, 1889

Valkenburg, 15.VII.1967; Heerlen, 30.VI.1965, from *Cricetus cricetus* (Linnaeus, 1758) (Rodentia, Cricetidae) (Fain et al. 1970), col. Naturalis.

Gliricopes Lawrence, 1956

238 eliomys Kok, Lukoschus & Fain, 1971

Valkenburg, 23.III.1967, from *Eliomys quercinus* (Linnaeus, 1766) (Rodentia, Gliridae) (Kok et al. 1971), col. Naturalis.

- Myocoptes Claparède, 1868**
- 239 japonensis Radford, 1955**
- Myocoptes jamesoni* Radford, 1955
 - Myocoptes glareoli* Samsinak, 1957
 - Hamert, 28.VII.1965, 2.VIII.1965, 10.X.1966 and 27.X.1966, Duckenburg, 29.XI.1965; Hatert, 16.XII.1964, 3.IV.1965, 15.IV.1965, 21.IX.1965 and 12.I.1967 (all in the vicinity of Nijmegen), from *Myodes glareolus* (Schreber, 1780) (Rodentia, Cricetidae); Valkenburg, 14.IX.1967; Hamert, 15.III.1968, 7 and 9.VII.1968, from *Microtus arvalis* (Pallas, 1778) (Rodentia, Cricetidae); Huisken, 25.VII.1967; Hatert, 22.IX.1966, 22.V.1967; Hamert, 27.VII.1965 and 22.IX.1966, from *Arvicola amphibius* (Linnaeus, 1758) (Rodentia, Cricetidae) (Fain et al. 1970), col. Naturalis.
- 240 musculinus (Koch, 1836)**
- Sarcoptes musculinus*
 - Listophorus larisi* Vorobov, 1938
 - Arnhem, Leiden, Sneek col. Naturalis in Oudemans collection; Amsterdam (Artis Zoo), 29.XI.1999, col. Cremers; Nijmegen, 22.III.1965, 28.VIII.1965, 11.I.1968, from *Mus musculus* Linnaeus, 1758 (Rodentia, Muridae), (f) fur (Fain et al. 1970), col. Naturalis.
- 241 squamosus Fain, Munting & Lukoschus, 1970**
- 1970**
- Texel, 26.IX.1968, from *Microtus oeconomus* (Pallas, 1776) (Rodentia, Cricetidae) (Fain et al. 1970), col. Naturalis.
- Sciuroptes Fain, Munting & Lukoschus, 1970**
- 242 sciurinus (Henneman, 1910)**
- Myocoptes sciurinus*
 - Myocoptes hintoni* Hirst, 1919
 - Arnhem, 8.VIII.1968; Nijmegen, 17.IV.1966, from *Sciurus vulgaris* Linnaeus, 1758 (Rodentia, Sciuridae) (Fain et al. 1970), col. Naturalis.
- Trichoecius Canestrini, 1899**
- 243 apodemi Fain, Munting & Lukoschus, 1970**
- Hatert, 14.IX.1966, 12.IX.1967; de Horst 14 and 16.III.1967; Oss 10.I.1966, from *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae) (Fain et al. 1970), col. Naturalis.
- 244 micromys Fain, Munting & Lukoschus, 1970**
- Hamert, 27.X.1966, 2 and 11.XI.1966; Hatert, 15.IV.1967, 17.IX.1967 and 2.XI.1966, from *Micromys minutus* (Pallas, 1771) (Rodentia, Muridae) (Fain et al. 1970), col. Naturalis.
- 245 muris Fain, Munting & Lukoschus, 1970**
- Nijmegen, 1.II.1967, 25 and 29.XI.1967, 12.XII.1967, 22 and 23.I.1968; Hamert, 2.VIII.1965, from *Rattus norvegicus* (Berkenhout, 1769) (Rodentia, Muridae) (Fain et al. 1970), col. Naturalis.
- 246 romboutsi (Van Eyndhoven, 1946)**
- Myocoptes romboutsi*
 - Haarlem, 15.VIII.1944; Hamert, 26.VII.1965; Nijmegen, 5.V.1969, from *Mus musculus* Linnaeus, 1758 (Rodentia, Muridae) (Fain et al. 1970), col. Naturalis.
- 247 tenax (Michael, 1889)**
- Myocoptes tenax*
 - Myocoptes brevipes* Trouessart & Canestrini, 1895
 - Trichobius brevipes* Canestrini, 1897
 - Trichoecius brevipes* Canestrini, 1899
 - Neomyocoptes tenax* Lawrence, 1956
 - Hatert, 13.IX.1966, 26.VI.1968, 15.IX.1967 and 22.X.1968; de Horst, 27.III.1968 and 29.VI.1968 (all locations near Nijmegen), from *Microtus agrestis* (Linnaeus, 1761) (Rodentia, Cricetidae); Hatert, 15.III.1968; Hamert, 15.III.1968 and 9.VII.1968; Valkenburg, 14.IX.1968, from *Microtus arvalis* (Pallas, 1778) (Rodentia, Cricetidae); Texel, 26.IX.1968, from *Microtus oeconomus* (Pallas, 1776); Heyendaal (Nijmegen), 25.VIII.1968; Hatert, 17 and 21.IX.1965, 17.XI.1966; Hamert, 12.I.1965, 2.VIII.1965, 10 and 27.X.1966 and 17.IX.1966, from *Myodes glareolus* (Schreber, 1780) (Rodentia, Cricetidae) (Fain et al. 1970), col. Naturalis.

Family PSOROPTIDAE

Caparinia Canestrini, 1894

248 tripilis (Michael, 1889)

Symbiotes tripilis

Rotterdam, 12.III.2007, from *Erinaceus europaeus* Linnaeus, 1758 (Erinaceomorpha, Erinaceidae), (m & f) skin, col. Naturalis, col. Cremers;

Netherlands, unknown location, 17.VIII.1983;
Nijmegen, 15.VI.2007, from *Erinaceus europaeus*
Linnaeus, 1758 (Erinaceomorpha, Erinaceidae),
(m & f) skin, col. Cremers.

Chorioptes Gervais & Beneden, 1859

249 *bovis* (Hering, 1845)

Sarcoptes bovis

Chorioptes ovis Railliet, 1893

Chorioptes symbiotes Verheyen, 1862

Symbiotes bovis Gerlach, 1857

Utrecht, 7.XI.1949, from *Bos taurus* Linnaeus, 1758
(Artiodactyla, Bovidae), (nymph) skin (mange),
13.VIII.1981 (m & f) udder (mange); RIN Arnhem,
10.VIII.1981, from *Capra aegagrus hircus* (Linnaeus,
1758) (Artiodactyla, Bovidae), (m & f) legs
(pastern); Westbroek, 17.III.1980, from *Ovis aries*
Linnaeus, 1758 (Artiodactyla, Bovidae), (m & f) legs
(pastern); Amersfoort (Zoo), 19.VI.1981, from
Camelus bactrianus Linnaeus, 1758 (Artiodactyla,
Camelidae), (m & f) legs (pastern); Best, 19.IV.1983,
from *Vicugna pacos* (Linnaeus, 1758) (Artiodactyla,
Camelidae), (m & f) legs (pastern); Overloon
(Zoo), 12.V.2006, from *Rangifer tarandus* (Linnaeus,
1758) (Artiodactyla, Cervidae), (m & f) skin
(mange), col. Naturalis; Utrecht, 25.XI.1980, from
Equus caballus Linnaeus, 1758 (Perissodactyla,
Equidae), (m) skin legs; Utrecht, 24.III.1980, from
Ovis aries Linnaeus, 1758 (Artiodactyla, Bovidae),
(m & f) legs (pastern); Utrecht, 22.I.1976, from
Capra aegagrus hircus (Linnaeus, 1758) (Artiodactyla,
Bovidae), (m & f) legs (pastern); Utrecht
(circus), 22.I.1981, from *Camelus bactrianus* Linnaeus,
1758 (Artiodactyla, Camelidae), (m & f)
legs (pastern); Wassenaar (Zoo), 25.VIII.1981;
unknown location, 10.III.2011, from *Vicugna pacos*
(Linnaeus, 1758) (Artiodactyla, Camelidae),
(m & f) legs (pastern); Heemskerk, 18.II.1983,
from *Lama glama* Linnaeus, 1758 (Artiodactyla,
Camelidae), (m & f) legs (pastern), col. Cremers.

Fonsecalges Fain, 1962

250 *saimiri* Fain, 1963*

Netherlands, 1959, from *Saimiri sciureus* (Linnaeus, 1758) (Primates, Cebidae), col. Naturalis,
(f) col. Cremers.

Otodectes Canestrini, 1894

251 *cynotis* (Hering, 1838)

Sarcoptes cynotis

Chorioptes ecaudatus Megnin, 1896

Sarcoptes auricularium Lucas & Nicolet, 1849

Symbiotes auricularium Neumann, 1892

Symbiotes canis Bendz, 1859

Symbiotes felis Huber, 1860

Leersum, 5.VII.1983, from *Mustela putorius furo*

Linnaeus, 1758 (Carnivora, Mustelidae), (m & f)

ears; Amersfoort (KNVJ), 13.II.2007, from *Vulpes vulpes* (Linnaeus, 1758) (Carnivora, Canidae),

(m & f) ears, col. Naturalis, col. Cremers;

Vroomshoop, from *Canis lupus familiaris* Linnaeus, 1758 (Carnivora, Canidae), (m & f) ears;

Rotterdam (Zoo), 13.X.2010, from *Alopex lagopus* (Linnaeus, 1758) (Carnivora, Canidae), (m & f)

ears; Rotterdam (Zoo), 23.XI.2012 from *Pudu pudu* (Molina, 1782) (Artiodactyla, Cervidae), (m & f)

ears, col. Cremers.

Psoroptes Gervais, 1841

252 *equi* (Hering, 1838)

Sarcoptes equi

Dermatodectes bovis Gerlach, 1857

Dermatoplayus euniculi Zürn, 1872

Psoroptes caprae Railliet, 1893

Psoroptes cervinus Ward, 1915

Dermatodectes cuniculi Delafond, 1859

Psoroptes cuniculi (Delafond, 1859)

Psoroptes hippotis Railliet & Henry, 1920

Sarcoptes ovis Hering, 1838

Psoroptes ovis (Hering, 1838)

Sarcoptes communis var. *ovis* Hering, 1838

Psoroptes natalensis Hirst, 1919

Utrecht, 14.II.1914, from *Equus ferus caballus*

Linnaeus, 1758 (Perissodactyla, Equidae), (skin),

(m & f), 12.III.1954 sub *P. cuniculi* (m) from *Oryctolagus cuniculus* dom. (Linnaeus, 1758) (Lagomorpha, Leporidae) (ears) and sub *P. ovis*, x.1965, from

Ovis aries Linnaeus, 1758 (Artiodactyla, Bovidae),

(skin) col. Naturalis; Utrecht, 23.XII.1955, sub *P.*

ovis from *Ovis aries* Linnaeus, 1758 (Artiodactyla,

Bovidae) (skin); Utrecht, v.1983 sub *P. cuniculi* from

Capra aegagrus hircus (Linnaeus, 1758) (Artiodactyla, Bovidae), (m & f) ears, col. Cremers.

Family SARCOPTIDAE

Lophuromyopus Fain, 1965

253 apodemi Fain, 1965

Nijmegen, from *Apodemus sylvaticus* (Linnaeus, 1758) (Rodentia, Muridae) (Fain 1967b), col. Naturalis.

Notoedres Railliet, 1893

254 cati (Hering, 1838)

Sarcoptes cati

Woerden, 28.IX.1964, from *Felis catus* Linnaeus, 1758 (Carnivora, Felidae), (stray cat) (adults) skin of head, col. Naturalis, col. Cremers.

255 centrifera Jansen, 1963*

Zoo, 20.X.1988, from *Tamias striatus* (Linnaeus, 1758) (Rodentia, Sciuridae), (m & f) skin (mange), col. Naturalis, col. Cremers (type specimens have been lost).

256 chiropteralis (Trouessart, 1896)

Sarcoptes chiropteralis

Prosopodectes chiropteralis

Notoedres vanschaiki Van Eydhoven, 1946

Arnhem, col. Naturalis in Oudemans collection (Buitendijk 1945); Gulpen, 14.VI.1941, from *Eptesicus serotinus* (Schreber, 1774) (Chiroptera, Vespertilionidae) (Van Eydhoven 1946); Warmond, 9.VIII.1953, from *Nyctalus noctula* Schreber, 1774 (Chiroptera, Vespertilionidae) (Fain & Lukoschus 1969), col. Naturalis.

257 muris (Mégnin, 1877)

Sarcoptes muris

Arnhem, Sneek, col. Naturalis in Oudemans collection (Buitendijk 1945); Bilthoven, 25.XI.1996, from *Rattus norvegicus* (Berkenhout, 1769) (Rodentia, Muridae), (larva) ear, col. Cremers.

258 musculi (Kraemer, 1865)

Sarcoptes musculi

Notoedris musculi Oudemans, 1926

Arnhem, Sneek, col. Naturalis in Oudemans collection (Buitendijk 1945).

Nycteridocoptes Oudemans, 1898

259 poppei Oudemans, 1898

Netherlands, from *Myotis myotis* (Van Eydhoven 1954), col. Naturalis.

Sarcoptes Latreille, 1802

260 scabiei (Linnaeus, 1758)

Acarus scabiei

Acarus siro var. *scabiei* Linnaeus, 1758

Sarcoptes homines Raspail, 1834

Sarcoptes wombati Railliet, 1893

Sarcoptes equi Rainbow, 1906

Acarus bubulus Oudemans, 1926

Sarcoptes suis Seddon, 1952

Utrecht (Vet. Facul.), 16.VII.1951 and 21.I.1953, from *Sus scrofa* dom. Erxleben, 1777 (Artiodactylidae, Suidae), (f) ear; 22.XII.1983, from *Canis lupus*

familiaris Linnaeus, 1758 (Carnivora, Canidae), (m) dust sample; Utrecht, 8.VII.1949, from *Lama glama* (Linnaeus, 1758) (Artiodactyla, Camelidae), (m) skin (mange); Rotterdam (Zoo), X.1951, from

Tapirus spec. (Perissodactyla, Tapiridae), (m) skin (mange); 27.X.1949, from *Mustela putorius furo*

Linnaeus, 1758 (Carnivora, Mustelidae), (m & larvae) skin (mange); 7.VI.1957, from *Hydrochoerus hydrochaeris* (Linnaeus, 1766) (Rodentia, Cavidae), (Zoo), (m & f) skin (mange), col. Naturalis,

col. Cremers; Amsterdam, 7.II.2005, from *Canis lupus familiaris* Linnaeus, 1758 (Carnivora,

Canidae), (f); Utrecht, XI.2013, from *Lama glama* (Linnaeus, 1758) (Artiodactyla, Camelidae), (f)

skin; unknown location from *Vicugna pacos*

(Linnaeus, 1758) (Artiodactyla, Camelidae), skin (in histol. slide); Grathem, 4.II.2014, from *Vulpes vulpes* (Linnaeus, 1758) (Carnivora, Canidae),

(m & f) skin; Almere (Care Foundation AAP),

24.I.2007, from *Nyctereutes procyonoides* (Gray, 1834), (f) skin; Utrecht, 22.X.2015, from human (f)

skin wrist, col. Cremers.

Satanicoptes Fain & Lawrence, 1975

261 armatus Fain & Lawrence, 1975*

Amsterdam (Artis Zoo), LXII.1981, from *Sarcophilus harrisii* (Boitard, 1841) (Dasyuromorpha, Dasyuridae), (m & f) skin (mange) col. Naturalis, col. Cremers.

Trixacarus Sellnick, 1944

262 caviae Fain, Howell & Hyatt, 1972

Netherlands, unknown location, from *Cavia porcellus* (Linnaeus, 1758) (Rodentia, Caviidae) (Dorresteijn & Van Bronswijk 1979); Driebruggen, from *Cavia porcellus* (Linnaeus, 1758) (Rodentia, Caviidae), (f) skin, col. Cremers.

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SAMENVATTING

Voorlopige naamlijst van de astigmatische mijten van Nederland (Acari: Oribatida: Astigmatina)
Astigmatische mijten vormen waarschijnlijk het meest soortenrijke mijtencohort. Momenteel worden de Astigmatina gezien als een cohort binnen de onderorde van de mosmijten (Oribatida), maar hun overlevingsstrategieën zijn veel meer divers dan die van de overige oribatiden. Astigmatische mijten worden gevonden van algen aan de kust, slibsel in waterleidingen, bloeiende planten, tot in opgeslagen voedingsproducten en huisstof. Een groot aantal soorten leeft met of op insecten, zoogdieren en vogels. Daar leven ze in de vacht, de veren, de huid (schurft) en zelfs in longen en in de maag. Dit is de eerste checklist voor Nederland en bevat 262 soorten, maar er zijn er veel meer te verwachten.

H. Siepel
Dept. Animal ecology & physiology
rwwr, Radboud University Nijmegen
Heyendaalseweg 135
6525 AJ Nijmegen, the Netherlands
H.Siepel@science.ru.nl
Chairgroup Plant ecology & Nature management
Wageningen Universiteit
P.O. Box 47
6700 AA Wageningen, the Netherlands

H.J.W.M. Cremers
veterinary parasitologist, spec. wildlife and exotic animals
Dr. H.Th. 's Jacoblaan 62
3571 BN Utrecht, the Netherlands
herman.cremers@ziggo.nl

G. Vierbergen
Dept. Entomology, National Reference Centre
Netherlands Food and Consumer Product Safety Authority
Ministry of Economic Affairs
Geertjesweg 15
6706 EA Wageningen, the Netherlands
g.vierbergen@nvwa.nl

AANWIJZINGEN VOOR AUTEURS

In de Nederlandse Faunistische Mededelingen worden artikelen en korte mededelingen over ongewervelde dieren in Nederland gepubliceerd. Het tijdschrift is het publicatiemedium voor de werkgroepleden van EIS Kenniscentrum Insecten en andere ongewervelden. Het doel van het tijdschrift is het leveren van een bijdrage aan de kennis van de Nederlandse biodiversiteit.

De volgende onderwerpen komen in aanmerking voor opname: faunistiek en ecologie van een soort of soortgroep, naamlijsten, korte monografieën, determinatietafels etc. Naast korte stukken kunnen ook grotere artikelen (eventueel als extra nummer) worden gepubliceerd. Ook kan een geografische ingang gekozen worden (besprekking van de fauna van een gebied), mits de gegevens in een landelijke context worden geplaatst. De voorkeur gaat uit naar rijk geïllustreerde artikelen waarin verschillende aspecten naar voren komen: bijvoorbeeld verspreiding, biologie, ecologie en/of bescherming. Het gepresenteerde moet nieuwe gegevens bevatten, of op een nieuwe manier gebundeld zijn. In de rubriek 'Waarnemingen en Mededelingen' is ook plaats voor overzichten van elders gepubliceerde gegevens.

Manuscripten worden digitaal aangeleverd, bij voorkeur in WORD. De teksten dienen met zo min mogelijk opmaak aangeleverd te worden. Gebruik één lettertype in één lettergrootte; laat de tekst links uitlijnen, zonder afbreken, inspringen, centreren, etc.; gebruik zeker geen automatisch genummerde lijsten, noten e.d. Wetenschappelijke soort- en genusnamen dienen gecursiveerd te worden. Speciale tekens voor mannetjes en vrouwtjes kunnen weergegeven te worden als respectievelijk \$ en #.

Diagrammen, tabellen en digitale figuren worden achteraan het document geplaatst. Tabellen dienen zonder opmaak aangeleverd te worden, de kolommen slechts gescheiden door één tab (zeker geen spaties gebruiken!). Illustraties bij voorkeur digitaal aanleveren, in tiff- of jpg-formaat met een hoge resolutie.

De artikelen zijn gesteld in het Nederlands, bij een duidelijke internationale context is Engels ook toegestaan. De opbouw van een artikel is bij voorkeur traditioneel,

met een inleiding, methodes, onderzoeksgebied, resultaten, discussie, literatuurlijst en summary. Geef steeds duidelijk aan welke resultaten nieuw zijn ten opzichte van bestaande kennis. Elk artikel wordt vooraf gegaan door een leader waarin de inhoud kort wordt samengevat. Bijschriften van figuren en tabellen worden in het Nederlands en Engels gesteld. Vindplaatsinformatie wordt ofwel in een tabel of als opsomming weergegeven. Zie voor details een recent nummer.

Soortnamen van ongewervelde dieren dienen tenminste éénmaal volledig met auteur en jaartal weergegeven te worden. Bij hogere planten wordt de spelling uit de meest recente versie van de Heukel's Flora van Nederland gevuld en kan de auteursnaam worden weggeleggen. Bij andere soortgroepen (zoals gewervelde dieren, mossen, korstmossen) kan de auteursnaam weggeleggen worden. Nederlandse namen beginnen met een kleine letter.

Bij de melding van nieuwe soorten voor de Nederlandse fauna bevelen we aan:

- dit goed te documenteren met foto's en, bij voorkeur, collectiemateriaal,
- om bewijsexemplaren veilig op te slaan in de landelijke collectie van Naturalis,
- om een Nederlands exemplaar af te beelden in het artikel, hetzij een veld- of studiofoto of een foto van het dode verzamelde exemplaar.

Referenties zijn conform de volgende voorbeelden opgebouwd. Let op het ontbreken van de komma tussen auteur en jaartal en de volledig uitgeschreven naam van het tijdschrift.

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