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THE ZOOLOGY OF EAST GREENLAND

ORIBATIDS

BY

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WITH 4 MAPS AND 3 TABLES

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INTRODUCTION

The first records of the oribatids of East Greenland date back to 1904 when TRÄGÅRDH in "Monographie der arktischen Acariden", Fauna arctica, assembled all Arctic mites. In that work mention is made of 8 East Greenland species, of which 7 were found at Scoresby Sound and 1 on Lille Pendulum Ø. Most of the material originated from Ryder's expedition.

For about thirty years this was all that was known of the oribatids of East Greenland. In 1910 BERLESE described a species *Sphaerozetes strandi*, from East Greenland, though afterwards it was found to be identical with one that was already known. In 1912 TRÄGÅRDH published the oribatids of the Danmark Expedition, but referring to only one species, *Oribata notata* THOR., which was already known. In "Insecta et Arachnida Groenlandicae" HENRIKSEN & LUNDBECK 1917 listed all the mites of Greenland. All their information came from Fauna arctica, no new species from East Greenland being mentioned, no new localities or biological conditions. In GRAVERSEN'S "Notizen über grönländische Oribatiden" 1931 we find *Platynothrus peltifer* C. L. KOCH mentioned for the first time in East Greenland, collected by the Danish East Greenland Expedition of 1929. In the course of the Danish Three Year Expedition to East Greenland 1931—34 under Lauge Koch the Berlese funnel was employed for the first time for the collection of these animals on the initiative of the writer. This marked a tremendous advance, the result being quite proportionate, for the material collected (MARIE JØRGENSEN 1934a) contained a total of 18 species, of which 10 had not previously been found in Greenland and 1 in East Greenland. In "Ein revidiertes Verzeichnis über grönländische Milben" (MARIE JØRGENSEN 1934b) the author gathers together all Greenland mites known up to that time. The East Greenland oribatid fauna was not increased by any species. MADSEN (1936) refers to a number of already known species in beach localities in the Franz Joseph Fjord and Scoresby Sund regions. Berlese apparatus was later (MARIE HAMMER¹) 1937) employed for col-

¹) née JØRGENSEN.

lecting on Knud Rasmussen's 7th Thule Expedition 1933 til Southeast Greenland, the result being 23 species, 9 of which had not previously been recorded for Greenland. On the Danish Northeast Greenland Expedition 1938—39 HAARLØV (1942) also used the Berlese apparatus and found three species new to Greenland. Unfortunately, owing to the war the greater part of this material was left in Northeast Greenland; this is much to be deplored, as our knowledge of the oribatid fauna in Northeast Greenland is small.

As collecting is now always undertaken by means of the Berlese apparatus with a special technique, we may still expect to find a number of new species, especially very small ones which cannot be found except with the aid of proper accessories. In "Studies on the Oribatids and Collemboles of Greenland" (MARIE HAMMER 1944) the number of East Greenland's oribatids had increased to 41, of which several had not previously been observed in Greenland, while one family, *Iugoribates gracilis* SELL. is new to science. By means of the special technique in conjunction with regular sampling in various biotopes at different times of the year it has been possible to acquire a knowledge, slight though it is, of the habitats of these animals.

The present paper has chiefly been written on the basis of the literature referred to above and the collections in the Zoological Museum, Copenhagen. As will have been seen from the foregoing, the material originates from the many Danish expeditions to East Greenland. The whole of the collected material is in the Zoological Museum.

Up to the present we know of 41 species of oribatids in East Greenland.

I take this opportunity to thank Mr. W. E. CALVERT, who translated the paper into English.

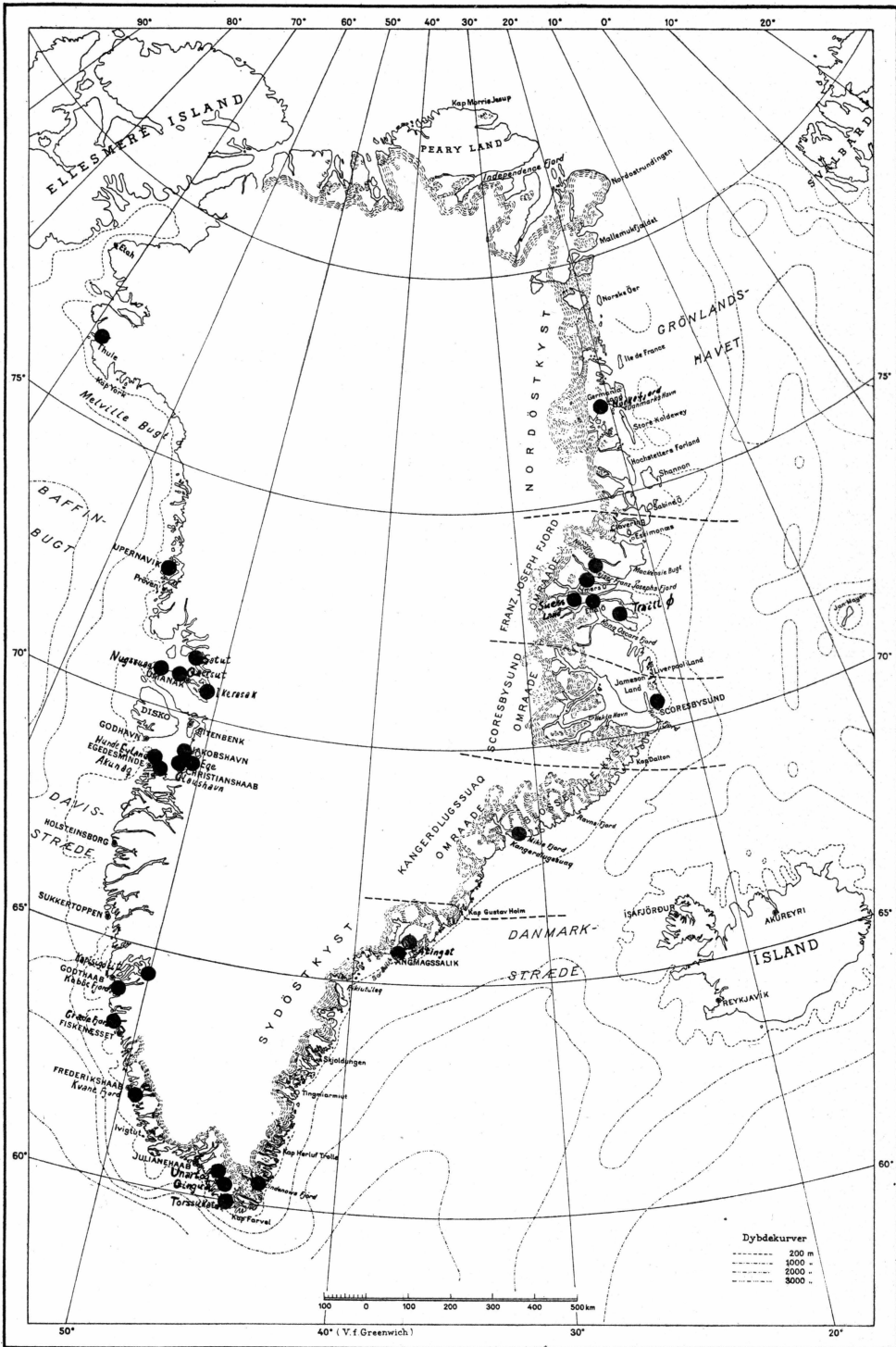


Fig. 1. Localities where oribatids have been collected with the Berlese apparatus.

Synopsis of the Species.

1. *Brachychthonius berlesei* WILLM.

Brachychthonius berlesei WILLM. 1931, p. 100, fig. 23.

East Greenland records:

Brachychthonius berlesei HAARLØV 1942, p. 34.

Brachychthonius berlesei HAMMER 1944, p. 40.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord.

Distribution: Apart from East Greenland the species has so far been found only in Sweden, Germany, Italy and North America. As the taxonomy of the *Brachychthonius* species has not been properly clarified yet, this species and *Brachychthonius brevis*, which it resembles very closely, are difficult to distinguish from each other. The distribution of *Br. berlesei* is probably somewhat wider than that given above.

Remarks: HAARLØV's specimens of *Br. berlesei* is according to K.-H. FORSSLUND who has seen these specimens *Br. immaculatus* FORSSLUND.

2. *Brachychthonius zelawaiensis* SELLN.

Brachychthonius zelawaiensis WILLM. 1931, p. 100, fig. 24.

East Greenland records:

Brachychthonius zelawaiensis HAARLØV 1942, p. 35.

Brachychthonius zelawaiensis HAMMER 1944, p. 40.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord.

Distribution: Sweden, Germany and North America.

Biology: *Br. berlesei* and *Br. zelawaiensis* have been found only in Greenland by HAARLØV. He states that both species were found everywhere in the localities examined, but most numerous in wet, especially rich moss vegetation.

3. *Brachychthonius brevis* MICH.

Brachychthonius brevis WILLM. 1931, p. 101, fig. 26.

East Greenland records:

Brachychthonius brevis JØRGENSEN 1934a, p. 8.

Brachychthonius brevis JØRGENSEN 1934b, p. 41.

Brachychthonius brevis HAMMER 1937, p. 10.

Brachychthonius brevis HAMMER 1944, p. 40.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Nordfjord, Kempe Fjord, Suess Land, Ymer Ø, Ella Ø, Traill Ø. *Scoresby Sound Area*: Scoresby Sound colony. *Kangerdlugssuaq Area*: Mikis Fjord. *Southeast Coast Area*: Angmagssalik.

Distribution: West Greenland (Upernavik), Spitsbergen, Lapland, Scotland, England, Ireland, Denmark, Germany, Switzerland (2100 m above s.l.) and Italy.

Biology: *Brachychthonius brevis* is widespread everywhere but, like the other *Brachychthonius* species, especially numerous in luxuriant moss vegetation (*Sphagnum*); in largest numbers, however, it has been found in mixed Chamaephyte vegetation¹).

4. *Brachychthonius sellnicki* THOR.

Brachychthonius sellnicki THOR 1930, p. 58, pl. 7, fig. 2.

East Greenland records:

Brachychthonius sellnicki JØRGENSEN 1934a, p. 8.

Brachychthonius sellnicki JØRGENSEN 1934b, p. 41.

Brachychthonius sellnicki HAARLØV 1942, p. 34.

Brachychthonius sellnicki HAMMER 1944, p. 40.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord. *Franz Joseph Fjord Area*: Suess Land, Ella Ø.

Distribution: Outside of Greenland this species has been found only on Spitsbergen.

Biology: Especially in luxuriant moss.

¹) A more complete description of the East Greenland biotopes will be found in HAMMER 1944, p. 30.

5. *Trhypochthonius tectorum* BERLESE.

Trhypochthonius tectorum WILLM. 1931, p. 103, fig. 32.

East Greenland records:

Trhypochthonius tectorum JØRGENSEN 1934a, p. 8.

Trhypochthonius tectorum JØRGENSEN 1934b, p. 41.

Trhypochthonius tectorum HAMMER 1937, p. 10.

Trhypochthonius tectorum HAMMER 1944, p. 41.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Nordfjord, Suess Land, Ella Ø. *Kangerdlugssuaq Area*: Mikis Fjord. *Southeast Coast Area*: Angmagssalik.

Distribution: West Greenland (Jacobshavn, Kapisigdlit near Godthaab), Iceland, Germany, the Alps near Vienna; and Italy.

Biology: Apparently this species is not partial to too much moisture; it occurs in large numbers in heath vegetation with *Vaccinium uliginosum* and *Cassiope tetragona*, as well as in moraine with vegetation consisting of *Dryas octopetala*, *Sedum* sp., *Salix* sp. and *Carex* sp.

6. *Trimalaconothrus novus* SELL.

Trimalaconothrus novus WILLM. 1931, p. 106, fig. 42.

East Greenland records:

Trimalaconothrus sp. HAMMER 1937, p. 10.

Trimalaconothrus novus HAMMER 1944, p. 41.

Occurrence in East Greenland:

Franz Joseph Area: Ella Ø. *Southeast Coast Area*: Angmagssalik.

Distribution: Lapland, Denmark and Germany.

Biology: A distinctly hygrophilous species found in large numbers in very wet bogs with rich vegetation of various mosses, including *Sphagnum*, as in bog on Ella Ø and at Angmagssalik. A solitary individual was also found on very dry lichen heath at Angmagssalik.

7. *Trimalaconothrus foveolatus* WILLM.

Trimalaconothrus foveolatus WILLM. 1931, p. 106, fig. 45.

East Greenland record:

Trimalaconothrus foveolatus HAMMER 1944, p. 41.

Occurrence in East Greenland:

Southeast Coast Area: Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Ūnartog), Germany and Sunda Isl. (var. *sundaicus*). These localities seem to indicate a very incomplete knowledge of the real distribution of the species.

Biology: Only few individuals of this species have so far been found in East Greenland. Like *Tr. novus* it is a hygrophilous animal living in submerged moss. In East Greenland we know of it only in wet moss; in West Greenland a number of individuals were found in a hot spring with a rich vegetation of mosses.

8. *Camisia horrida* HERM. var. *borealis* THOR.

Camisia horrida WILLM. 1931, p. 109, fig. 59.

East Greenland records:

Nothrus horridus (HERM.) MICH. var. *borealis* (THOR.) TRÄGÅRDH 1904, p. 26, figs. 34—40.

Nothrus horridus HENRIKSEN and LUNDBECK 1917, p. 768.

Nothrus horridus JØRGENSEN 1934a, p. 8.

Nothrus horridus JØRGENSEN 1934b, p. 42.

Camisia horrida HAMMER 1937, p. 10.

Camisia horrida HAARLØV 1942, p. 35.

Camisia horrida HAMMER 1944, p. 41.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord. *Franz Joseph Fjord Area*: Kempe Fjord, Suess Land, Ella Ø, Traill Ø. *Scoresby Sound Area*: Scoresby Sound colony. *Kangerdlugssuaq Area*: Mikis Fjord. *Southeast Coast Area*: Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq (in Lindenow Fjord).

Distribution: West Greenland (Upernavik, Jakobshavn, Taitip ata (on *Lagopus mutus*)), Iceland, Bear Island, Spitsbergen, Waigatsch, Siberia (Lat. 71°40'), Lapland; the main form almost everywhere in Europe: Finland, Sweden, England, Ireland, Germany, Austria, France, Switzerland, Italy, Spain and North Africa: Algeria and Morocco.

Biology: *Camisia horrida* is to be found in localities of all kinds and is widely distributed in East Greenland, but is rarely encountered in large numbers. It has a distinct preference for dry localities. It was found on the Langdal Glacier in Kempe Fjord, 300 m above s.l. in vegetation of *Salix* sp., *Cassiope tetragona* and moss, as well as in moraines, in fell fields, in mixed chamaephyte vegetation, in lichen heath and a few in bog and on the banks of lakes.

9. *Camisia lapponica* TRÄGÅRDH.

Nothrus lapponicus TRÄGÅRDH 1910, p. 526, figs. 306—11.

East Greenland records:

Platynothrus lapponicus HAMMER 1937, p. 10.

Platynothrus lapponicus HAMMER 1944, p. 42.

Occurrence in East Greenland:

Kangerdlugssuaq Area: Mikis Fjord. *Southeast Coast Area*: Atingat, Angmagssalik, Nanuseq (in Lindenow Fjord).

Distribution: West Greenland (Upernavik, Ege, Kobbe Fjord), Lapland, Sweden, Germany (Riesengebirge, East Prussia) and the Alps (2000 m a. s. l.).

Biology: This species occurs in the same kind of localities as *Platynothrus peltifer*, but it is much more rare and seldom occurs in large numbers. Solitary individuals are now and then found in somewhat drier biotopes, e. g. in mixed chamaephyte vegetation.

10. *Nothrus borussicus* SELL.

Nothrus borussicus WILLM. 1935, p. 331, fig. 14.

East Greenland records:

Nothrus biciliatus TRÄGÅRDH 1904, p. 28 Err!

Nothrus biciliatus HENRIKSEN and LUNDBECK 1917, p. 769. Err!

Nothrus biciliatus JØRGENSEN 1934a, p. 8. Err!

Nothrus silvestris JØRGENSEN 1934a, p. 8. Err!

Nothrus biciliatus JØRGENSEN 1934b, p. 42. Err!

Nothrus silvestris JØRGENSEN 1934b, p. 42. Err!

Nothrus silvestris HAMMER 1937, p. 10. Err!

Nothrus borussicus HAMMER 1944, p. 41.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Ella Ø. *Scoresby Sound Area*: Scoresby Sound colony, Hekla Havn. *Kangerdlugssuaq Area*: Mikis Fjord. *Southeast Coast Area*: Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq (in Lindenow Fjord).

Distribution: West Greenland (Upernavik, Jakobshavn, Kangerdsunek (on *Harelda glacialis*), Kvane Fjord, Torssukátak, Qingua), Iceland, Germany and Austria (near Vienna).

Biology: In very large numbers this species was found in *Empetrum nigrum* vegetation in Mikis Fjord, less frequently in localities so widely different as bog, mixed chamaephyte vegetation, in lichen

heath and lake banks, in moss, in fell field etc. Apparently it is not fond of biotopes that are too wet.

Remarks: As *Nothrus borussicus* SELL. has been confused with *Nothrus biciliatus* C. L. KOCH and *Nothrus silvestris* NIC. and probably is still widely confused with these species, the distribution of each is difficult to unravel. For this reason the distribution of *N. borussicus* must be much wider than that stated.

11. *Platynothrus peltifer* C. L. KOCH.

Platynothrus peltifer WILLM. 1931, p. 112, figs. 69—70.

East Greenland records:

- Platynothrus peltifer* GRAVERSEN 1931, p. 10.
Platynothrus peltifer JØRGENSEN 1934a, p. 8.
Platynothrus peltifer JØRGENSEN 1934b, p. 42.
Platynothrus peltifer HAMMER 1937, p. 10.
Platynothrus peltifer HAARLØV 1942, p. 36.
Platynothrus peltifer HAMMER 1944, p. 42.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord. *Franz Joseph Fjord Area*: Hudson Land, Ella Ø. *Kangerdlugssuaq Area*: Mikis Fjord. *Southeast Coast Area*: Atingat, Angmagssalik, Nanuseq (in Lindenow Fjord).

Distribution: West Greenland (Upernavik, Umanasiak in Umanakfjord, Karajak-nunatak in the Umanakdistrikt, Satut, Claushavn, Orpigsuit, Akúnâq, Kapisigdlit near Godthaab, Kobbe Fjord, Græde Fjord, Kvane Fjord, Sydprøven), Iceland, Jan Mayen, Bear Island, Novaya Semlya, Lapland, Sweden, Denmark, Germany and North America.

Biology: *Platynothrus peltifer* requires a great deal of moisture and is extremely widespread, for which reason it can be found almost wherever it is sufficiently wet as in swamps, bogs, lake banks, in *Sphagnum* etc. It frequently occurs in enormous numbers.

12. *Heminothrus thori* BERLESE.

Heminothrus thori WILLM. 1931, p. 113, fig. 73.

East Greenland records:

- Heminothrus thori* JØRGENSEN 1934a, p. 8.
Heminothrus thori JØRGENSEN 1934b, p. 42.
Heminothrus thori HAMMER 1944, p. 42.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Nordfjord, Suess Land, Ella Ø.

Distribution: Outside of Greenland this species hitherto has been found only in Iceland, Lapland, Norway and Germany.

Biology: Like *Platynothrus peltifer*, *Heminothrus thori* requires very wet localities in order to thrive. In suitable biotopes it may be found in large numbers, e. g. in the bog on Ella Ø, where it is encountered side by side with *Platynothrus peltifer*. As its distribution in East Greenland is confined to the Franz Joseph Fjord Area, *Platynothrus peltifer* is the commonest *Nothrus* species in wet localities.

13. *Heminothrus paolianus* BERLESE.

Heminothrus paolianus WILLM. 1931, p. 113, fig. 75.

East Greenland record:

Heminothrus paolianus HAMMER 1944, p. 42.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Ella Ø. *Southeast Coast Area*: Nanuseq (in Lindenow Fjord).

Distribution: West Greenland (Nugsuaq, Kapisigdlit), Sweden, Norway, Germany (Erzgebirge) and Italy.

Biology: *Heminothrus paolianus* has been found on few occasions only and each time only few individuals. It occurred in bog and fell field on Ella Ø as well as in Lindenow Fjord.

14. *Hermannia reticulata* THOR.

Hermannia reticulata MICHAEL 1887, p. 458, pl. 42, figs. 1—7.

East Greenland records:

Hermannia reticulata TRÄGÅRDH 1904, p. 25.

Hermannia reticulata HENRIKSEN and LUNDBECK 1917, p. 767.

Hermannia reticulata JØRGENSEN 1934a, p. 8.

Hermannia reticulata JØRGENSEN 1934b, p. 42.

Hermannia reticulata HAARLØV 1942, p. 36.

Hermannia reticulata HAMMER 1944, p. 42.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord, Lille Pendulum Ø. *Franz Joseph Area*: Ella Ø. *Scoresby Sound Area*: Scoresby Sound colony. *Southeast Coast Area*: Nanuseq (in Lindenow Fjord).

Distribution: West Greenland (Upernavik, Jakobshavn, Kapisigdlit near Godthaab, Kvane Fjord, Torsukátak), Jan Mayen, Bear Island, Spitsbergen, Novaya Semlya, the Faroes, England, Ireland, Denmark, Holland, France and Italy.

Biology: In other countries this species is recorded as living at the coast under moss and algae. In Greenland it has mostly been found in drier biotopes, for instance in large numbers in mixed chamaephyte vegetation in Scoresby Sound, but a few individuals have also been met with in moist biotopes, e. g. in bog on Ella Ø and in moss on Nanuseq in Lindenow Fjord.

15. *Suctobelba subtrigona* OUDMS.

Suctobelba subtrigona WILLM. 1931, p. 127, fig. 129.

East Greenland records:

Suctobelba cornigera HAMMER 1937, p. 10.

Suctobelba subtrigona HAMMER 1944, p. 42.

Occurrence in East Greenland:

Kangerdlugssuaq Area: Mikis Fjord. *Southeast Coast Area*: Nanuseq (Lindenow Fjord).

Distribution: West Greenland (Kapisigdlit near Godthaab, Kobbe Fjord), Lapland, Denmark, Germany, Switzerland (1900 m a. s. l.), Italy, Ionian Islands and North America (Columbia).

Biology: This species has been found most numerously in lichen heath in Mikis Fjord; a few were also found in *Empetrum* vegetation at the same place and a single individual in a dry biotope in Lindenow Fjord. Owing to its small size *Suctobelba subtrigona* is very easily overlooked in the swarm of various species of *Oppia*, which are found everywhere in moss.

16. *Oppia quadricarinata* MICH.

Oppia quadricarinata WILLM. 1931, p. 128, fig. 131.

East Greenland records:

Oppia quadricarinata JØRGENSEN 1934a, p. 8.

Oppia quadricarinata JØRGENSEN 1934b, p. 42.

Oppia quadricarinata HAMMER 1937, p. 10.

Oppia quadricarinata HAMMER 1944, p. 42.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Ella Ø. *Kangerdlugssuaq Area*: Mikis Fjord. *Southeast Coast Area*: Angmagssalik.

Distribution: West Greenland (Upernavik, Nûgssuaq, Jakobshavn, Kobbe Fjord), Iceland, England, Germany, Switzerland, Italy and North America.

Biology: Nowhere is this species numerous and commonly distributed. It has been found most numerous on lichen heath in Mikis Fjord; it has also been encountered in fell field, in mixed chamaephyte vegetation and only on one occasion has it been found in bog; it thus has a decided predilection for dry localities.

17. *Oppia neerlandica* OUDMS.

Oppia neerlandica WILLM. 1931, p. 128, fig. 132.

East Greenland records:

Oppia neerlandica JØRGENSEN 1934a, p. 8.

Oppia neerlandica JØRGENSEN 1934b, p. 42.

Oppia neerlandica HAMMER 1937, p. 10.

Oppia neerlandica HAMMER 1944, p. 42

Occurrence in East Greenland:

Franz Joseph Fjord Area: Suess Land, Ella Ø, Traill Ø. *Scoresby Sound Area*: Scoresby Sound colony. *Southeast Coast Area*: Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq (in Lindenow Fjord).

Distribution: West Greenland (Upernavik, Jakobshavn, Kapisigdlit near Godthaab, Kobbe Fjord, Torssukátak, Únartoq), Iceland, Spitsbergen, Lapland, Sweden, Germany, North America and Sunda Isl. (var. *sumatrensis*).

Biology: It is difficult to ascertain what localities are really preferred by *Oppia neerlandica*. It would seem that in northern areas it is more numerous in drier localities, in southern areas in moist or wet. For example it is fairly common in fell field on Ella Ø and is also found in mixed chamaephyte vegetation, but hardly ever in bog, moss or on lake banks. On the southeast coast it is extremely common in bog at Angmagssalik, is not uncommon in moss (*Sphagnum*) and on lake bank, but only rarely in dry biotopes such as fell field, lichen heath and similar.

18. *Oppia translamellata* WILLM.

Oppia translamellata WILLM. 1931, p. 129, fig. 133.

East Greenland records:

Oppia translamella JØRGENSEN 1934a, p. 8.

Oppia translamella JØRGENSEN 1934b, p. 42.

Oppia translamellata HAMMER 1944, p. 42.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Suess Land, Ella Ø. *Scoresby Sound Area*: Scoresby Sound colony. *Southeast Coast Area*: Nanuseq in Lindelow Fjord.

Distribution: West Greenland (Upernavik, Jakobshavn, Kobbefjord, Kvane Fjord, Torssukátak), Iceland, Spitsbergen, Lapland, Sweden and Germany.

Biology: In East Greenland *Oppia translamellata* seems to prefer localities with an under-vegetation of moss and lichens, i. e. fairly dry localities such as mixed chamaephyte vegetation, in which it has been found in enormous quantities on Ella Ø and in Scoresby Sound; however, it has also been found in smaller numbers in more moist places such as bog on Ella Ø. WILLMANN states that in Germany it is particularly encountered in wet moss at springs.

Remarks: In JØRGENSEN 1934a and b it was inadvertently called *translamella*.

19. *Oppia ornata* OUDMS.

Oppia ornata WILLM. 1931, p. 130, fig. 138.

East Greenland records:

Oppia ornata? JØRGENSEN 1934a, p. 8.

Oppia ornata JØRGENSEN 1934b, p. 43.

Oppia ornata HAMMER 1937, p. 11.

Oppia ornata HAMMER 1944, p. 42.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Traill Ø. *Scoresby Sound Area*: Scoresby Sound colony. *Southeast Coast Area*: Angmagssalik, Nanuseq in Lindelow Fjord.

Distribution: West Greenland (Nügssuaq, Kapisigdlit near Godthaab, Torssukátak), Iceland, Bear Island, Spitsbergen, Sweden, Denmark, Germany and Austria (near Vienna).

Biology: This species, like *O. translamellata*, prefers biotopes that are not too wet. It has never been found in any great number; most frequently it occurs on grassy slopes, on lichen heath and on grass *Salix* snow-bed at Angmagssalik; a few individuals, however, were found in wet moss at Angmagssalik.

20. *Oppia maritima* WILLM.

Oppia maritima WILLM. 1931, p. 131, fig. 144.

East Greenland records:

Oppia maritima HAARLØV 1942, p. 36.

Oppia maritima HAMMER 1944, p. 42.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord.

Distribution: Outside of Greenland this species so far has been found only in Germany.

Biology: HAARLØV (1942) states that in East Greenland the species was found in dry localities such as *Cassiope* heath and fell field. In Germany it has been encountered in marine areas, having been found in seaweed on the shores of the North Sea.

21. *Oppia splendens* C. L. KOCH.

Oppia splendens WILLM. 1931, p. 131, fig. 145.

East Greenland records:

Oppia splendens HAMMER 1937, p. 11.

Oppia splendens HAMMER 1944, p. 42.

Occurrence in East Greenland:

Southeast Coast Area: Angmagssalik.

Distribution: This species has a very wide distribution, having been found in Iceland, England, Ireland, Germany, Switzerland, Italy, North Africa (Algeria), North America and Hawaii.

Biology: *Oppia splendens* has been found in fairly large numbers in fell field at Angmagssalik and a single individual in lichen heath at the same place. Thus like most other *Oppia* species in East Greenland it seems to have a preference for dry localities.

22. *Ceratoppia bipilis* HERM. var. *sphaerica* L. KOCH.

Notaspis bipilis HERM. var. *sphaerica* (L. KOCH) TRÄGÅRDH 1904, p. 24, figs. 31—34.

East Greenland records:

Notaspis bipilis var. *sphaerica* TRÄGÅRDH 1904, p. 24.

Notaspis bipilis HENRIKSEN and LUNDBECK 1917, p. 767.

Ceratoppia bipilis sphaerica GRAVERSEN 1931, p. 13.

Ceratoppia bipilis JØRGENSEN 1934a, p. 8.

Ceratoppia hoeli JØRGENSEN 1934a, p. 8. Err!

Ceratoppia bipilis JØRGENSEN 1934b, p. 43.

Ceratoppia hoeli JØRGENSEN 1934b, p. 43. Err!

Ceratoppia bipilis var. *sphaerica* HAARLØV 1942, p. 36.

Ceratoppia bipilis var. *sphaerica* HAMMER 1944, p. 42.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord. *Franz Joseph Fjord Area*: Traill Ø, Haslum Øerne. *Scoresby Sound Area*: Scoresby Sound colony, Kap Stewart.

Distribution: West Greenland (Kapisigdlit, Kvane Fjord), Jan Mayen, Bear Island, Spitsbergen, Novaya Semlya, Siberia, Lapland. The main form is known in the following countries: The Faroes, Sweden, Finland, England, Ireland, Denmark, Germany, Holland, Switzerland (2700 m above s. l.), Austria (near Vienna), Italy, France, Ionian Islands and North America (Illinois, New York).

Biology: In mixed chamaephyte vegetation which includes *Cassiope tetragona*, *Empetrum nigrum* and *Vaccinium uliginosum* it was found in rather large numbers at Scoresby Sound. Apparently it is not the wetness of the soil that determines the thriving of this species, but undoubtedly a certain host plant, possibly *Betula*, on which it has often been observed. HAARLØV (1942) found it in *Cassiope* heaths.

23. *Tectocephus velatus* MICH.

Tegeocranus velatus MICHAEL 1883, p. 313, pl. 21, figs. 9—15.

East Greenland records:

Scutovertex velatus TRÄGÅRDH 1904, p. 22.

Scutovertex velatus HENRIKSEN and LUNDBECK 1917, p. 766.

Tectocephus velatus JØRGENSEN 1934a, p. 8.

Tectocephus velatus JØRGENSEN 1934b, p. 43.

Tectocephus velatus MADSEN 1936, p. 33.

Tectocephus velatus HAMMER 1937, p. 11.

Tectocephus velatus HAARLØV 1942, p. 37.

Tectocephus velatus HAMMER 1944, p. 43.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord. *Franz Joseph Fjord Area:* Eskimonæs, Nord Fjord, Kempe Fjord, Suess Land, Ella Ø, Traill Ø. *Scoresby Sound Area:* Scoresby Sound colony, Kap Stewart, Røde Ø. *Kangerdlugssuaq Area:* Mikis Fjord. *Southeast Coast Area:* Atingat, Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Upernavik, Nûgssuaq, Jakobshavn, Kapisigdlit, Torssukátak), Iceland, Spitsbergen, Lapland, Sweden, England, Denmark, Germany, Holland, Switzerland (2700 m above s. l.), Italy and North America (Illinois).

Biology: An extremely widespread species, to be found everywhere, no matter whether there is dry or wet, sparse vegetation as in fell field or luxuriant and thick vegetation as in bog; it is numerous everywhere.

24. *Ameronothrus lineatus* THOR. var. *nigrofemorata* L. KOCH.

Scutovertex corrugatus MICHAEL 1887, p. 567, pl. 54, figs. 1—7.

East Greenland records:

Ameronothrus lineatus var. *nigrofemorata* JØRGENSEN 1934a, p. 8.

Ameronothrus lineatus var. *nigrofemorata* JØRGENSEN 1934b, p. 43.

Ameronothrus lineatus var. *nigrofemorata* MADSEN 1936, p. 10.

Ameronothrus lineatus HAMMER 1937, p. 11.

Ameronothrus lineatus var. *nigrofemorata* HAMMER 1944, p. 43.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Eskimonæs, Ella Ø. *Scoresby Sound Area*: Hurry Inlet, Milne Land, Danmarks Ø, Røde Ø. *Southeast Coast Area*: Angmagssalik.

Distribution: West Greenland (Igaliko), Bear Island, Novaya Semlya, Waigatsch. Main form: Jan Mayen, Spitsbergen, Siberia, the Faroes, England, Ireland, Sweden and North America.

Biology: This species is a distinctly littoral form, found e. g. in enormous numbers in lagoons in Hurry Inlet. It often lives in water and can tolerate its habitat being flooded for long periods. It seems to feed on *Cyanophyceae* and the like, which form thick coverings at such places.

Remarks: In JØRGENSEN 1934b, p. 43, it is stated that *Ameronothrus lineatus* var. *nigrofemorata* is not found in East Greenland; by error the species was confused with the main form *Ameronothrus lineatus*. All the individuals known from East Greenland belong to the variety *nigrofemorata*.

25. *Carabodes labyrinthicus* MICH.

Carabodes labyrinthicus WILLM. 1931, p. 149, fig. 202.

East Greenland record:

Carabodes labyrinthicus HAMMER 1944, p. 43.

Occurrence in East Greenland:

Southeast Coast Area: Hitherto this species has been found only at Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Kapisigdlit near Godthaab), Lapland, Sweden, England, Ireland, Denmark, Germany, Holland and Switzerland (1900 m above s.l.).

Biology: *Carabodes labyrinthicus* has only been found once, in dry biotope in Lindenow Fjord; as only one individual has been observed,

it gives no real indication of its habitat in East Greenland. In West Greenland a number of specimens have been found, some in *Empetrum nigrum-Salix* vegetation with wet moss, others in grass and *Salix* vegetation, at both places together with *Calyptozetes sarekensis*, which is a distinctly dry-soil (lichen) dweller.

26. *Liebstadia similis* MICH.

Liebstadia similis WILLM. 1931, p. 153, fig. 219.

East Greenland records:

Liebstadia similis HAMMER 1937, p. 11.

Liebstadia similis HAMMER 1944, p. 43.

Occurrence in East Greenland:

Southeast Coast Area: Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Græde Fjord, Kyana Fjord, Qingua), Iceland, the Faroes, Lapland, Finland, England, Ireland, Denmark, Germany, Holland and Switzerland (2500 m above s.l.).

Biology: Found in large numbers on grassy slopes at Angmagssalik, where there is a rich under-vegetation of lichens and a little moss; it has also been found, though in smaller numbers, in thick *Sphagnum* vegetation as well as in grass-*Salix* snow-bed.

27. *Oribatula exilis* NIC. var. *crassipes* L. KOCH.

Oribatula exilis var. *crassipes* TRÄGÅRDH 1910, p. 511, fig. 276.

East Greenland records:

Notaspis exilis NIC. var. *crassipes* (L. KOCH) TRÄGÅRDH 1904, p. 23.

Notaspis exilis HENRIKSEN and LUNDBECK 1917, p. 767.

Oribatula exilis JØRGENSEN 1934a, p. 8.

Oribatula exilis JØRGENSEN 1934b, p. 43.

Oribatula exilis HAMMER 1937, p. 11.

Oribatula exilis var. *crassipes* HAMMER 1944, p. 43.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Nord Fjord, Kempe Fjord, Suess Land, Ella Ø. *Scoresby Sound Area*: Scoresby Sound colony, Kap Stewart. *Kangerdlugssuaq Area*: Mikis Fjord. *Southeast Coast Area*: Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Upernavik, Nûgssuaq, Kapisigdlit near Godthaab, Kobbe Fjord, Qingua), Iceland?, Bear Island, Spitsbergen, Novaya Semlya, Siberia, Lapland, Finland, England, Ireland,

the Faroes, Denmark, Germany, Holland, Switzerland (2700 m above s. l.), France, Italy.

Biology: *Oribatula exilis* is extremely common everywhere in Greenland, but distinctly prefers dry localities: In lichen heath, on grassy slopes and *Salix herbacea* vegetation at Angmagssalik it has been found in very large numbers.

28. *Scheloribates pallidulus* C. L. KOCH.

Scheloribates pallidulus WILLM. 1931, p. 159, fig. 236.

East Greenland records:

Scheloribates pallidulus HAMMER 1944, p. 43.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Ella Ø.

Distribution: Sweden, Denmark, Germany and Austria (near Vienna).

Biology: This species seems to prefer very wet or moist moss, where it has been found in large numbers (the bog on Ella Ø) together with oribatids so hygrophilous as *Platynothrus peltifer* and *Heminothrus thori*. A few individuals have also been found in drier biotopes such as mixed chamaephyte vegetation.

29. *Edwardzetes edwardsii* NIC.

Edwardzetes edwardsii WILLM. 1931, p. 161, fig. 244.

East Greenland records:

Edwardzetes edwardsii HAMMER 1937, p. 11.

Edwardzetes edwardsii HAMMER 1944, p. 43.

Occurrence in East Greenland:

Southeast Coast Area: Atingat (interior of Angmagssalik Fjord), Angmagssalik.

Distribution: West Greenland (Qingua), Iceland, Spitsbergen, Lapland, Finland, Sweden, England, Ireland, Denmark, Germany, Switzerland, France and Italy.

Biology: Is to be found in moist or wet moss; a good many have been observed in moss (*Sphagnum*) at Angmagssalik. Nevertheless it is by no means common, and in most cases there are only a few individuals, as in bog and in moss vegetation at Atingat, on lake bank and in the bog at Angmagssalik—all wet localities. Two individuals were also taken in a dry biotope, the grassy slope at Angmagssalik.

30. *Chamobates cuspidatus* MICH.

Chamobates cuspidatus WILLM. 1931, p. 163, fig. 250.

East Greenland records:

Chamobates cuspidatus HAMMER 1937, p. 11.

Chamobates cuspidatus 1944, p. 43.

Occurrence in East Greenland:

Kangerdlugssuaq Area: Mikis Fjord. *Southeast Coast Area*: Atingat, Angmagssalik.

Distribution: West Greenland (Kvane Fjord), Iceland, Spitsbergen, Lapland, Finland, Sweden, England, Ireland, Denmark, Germany, Holland, Austria (near Vienna), Switzerland (2700 m above s.l.), Italy and North Africa (Algeria).

Biology: *Chamobates cuspidatus* is found everywhere in lichen heath; in large numbers it has been observed in lichen heath at Angmagssalik, though a few individuals have been found in other biotopes such as grassy slope, *Salix herbacea* vegetation, in moss, bog and on lake bank.

31. *Iugoribates gracilis* SELL.

Iugoribates gracilis SELLNICK 1944 (HAMMER 1944, p. 43, figs. 12—14).

East Greenland record:

Iugoribates gracilis HAMMER 1944, p. 43.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Ymer Ø, Ella Ø.

Distribution: Known only in Greenland. In West Greenland it has been found at Thule colony and at Upernavik.

Biology: In largest numbers *Iugoribates gracilis* has been observed in fell field on Ella Ø as well as in mixed chamaephyte vegetation at the same place. A single individual was also found in fell field on Ymer Ø. In West Greenland too it has been encountered exclusively in these two dry biotopes. At Thule it is the sole representative of the oribatids, and here again it was found in fell field.

32. *Ceratozetes thienemanni* WILLM.

Ceratozetes thienemanni WILLM. 1943, p. 232, figs. 14—15.

East Greenland record:

Ceratozetes thienemanni HAMMER 1944, p. 45.

Occurrence in East Greenland:

Southeast Coast Area: Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Kapisigdlit near Godthaab, Kobbe Fjord, Qingua), Lapland, Sweden and Germany (Riesengebirge).

Biology: *Ceratozetes thienemanni* has been found in large numbers in lichen heath at Angmagssalik, in smaller numbers in grass *Salix* snow-bed in the same locality, and in dry biotopes at Nanuseq. A single individual was also collected in wet moss (*Sphagnum*) at Angmagssalik.

33. *Melanozetes ?mollicomus* C. L. KOCH.

Melanozetes mollicomus WILLM. 1931, p. 167, fig. 267.

East Greenland records:

Melanozetes mollicomus HAMMER 1937, p. 11.

Melanozetes ?mollicomus HAMMER 1944, p. 45.

Occurrence in East Greenland:

Kangerdlugssuaq Area: Mikis Fjord. *Southeast Coast Area*: Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Upernavik, Nûgssuaq, Qaersut, Jakobshavn, Akúnâq, Claushavn, Kapisigdlit near Godthaab, Kobbe Fjord, Torssukátak, Qingua), Iceland?, Lapland, Sweden, Finland, Scotland, England, Ireland, Denmark, Germany and Switzerland.

Biology: *Melanozetes ?mollicomus* lives for preference in very wet biotopes. It has been found in large numbers on lake bank and in bog at Angmagssalik, less numerous in moss in the same locality, and in bog at Atingat. It may also be met with in drier biotopes, but then the numbers are always small; for example, solitary individuals have been found in fell field, in lichen heath and on grassy slope at Angmagssalik, in somewhat larger numbers in *Salix herbacea* vegetation there, and in *Empetrum nigrum* vegetation in Mikis Fjord.

34. *Trichoribates trimaculatus* C. L. KOCH.

Trichoribates trimaculatus WILLM. 1931, p. 169, fig. 272.

East Greenland records:

Oribata notata TRÄGÅRDH 1904, p. 12.

Oribata notata TRÄGÅRDH 1912, p. 422.

Sphaerozetes strandi TRÄGÅRDH 1912, p. 423.

Oribata notata HENRIKSEN and LUNDBECK 1917, p. 765.

Murcia trimaculata notata GRAVERSEN 1931, p. 7.

- Trichoribates trimaculatus* JØRGENSEN 1934a, p. 8.
Trichoribates trimaculatus JØRGENSEN 1934b, p. 43.
Trichoribates trimaculatus MADSEN 1936, p. 19.
Trichoribates trimaculatus HAMMER 1937, p. 11.
Trichoribates trimaculatus HAARLØV 1942, p. 37.
Trichoribates trimaculatus HAMMER 1944, p. 48.

Occurrence in East Greenland:

Northeast Coast Area: Mørkefjord, Maroussia. *Franz Joseph Fjord Area:* Eskimonæs, Hudson Land, Moskusokse Fjord, Nord Fjord, Ymer Ø, Antarctic Sound, Suess Land, Ella Ø, Haslum Ø, island (lat. 72°46' N., long. 22°56' W.), Traill Ø. *Scoresby Sound Area:* Scoresby Sound colony, Kap Stewart. *Kangerdlugssuaq Area:* Mikis Fjord. *Southeast Coast Area:* Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Upernavik, Nûgssuaq, Qaersut, Kapisigdlit near Godthaab, Igaliko, Sydprøven), Iceland, Jan Mayen, Bear Island, Spitsbergen, Franz Joseph archipelago (Kap Flora, Northbrook Ø), Novaya Semlya, Waigatsch, Siberia, Lapland, Finland, England, Ireland, Denmark, Germany, Netherlands, Austria (near Vienna), Switzerland (3200 m above s.l.) and Italy.

Biology: An extremely widespread species which can be encountered in all kinds of biotopes, most numerous in the wet ones like lake bank, bog and in moss (*Sphagnum*), but also very commonly in mixed chamaephyte vegetation. Even the very dry biotopes such as fell field contain it.

35. *Trichoribates* sp.

East Greenland record:

Trichoribates sp. HAMMER 1944, p. 48.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Kempe Fjord, Suess Land, Ella Ø. *Kangerdlugssuaq Area:* Mikis Fjord. *Southeast Coast Area:* Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Nûgssuaq, Kapisigdlit near Godthaab).

Biology: This oribatid, of which the species has not yet been determined, seems to be closely associated with *Salix herbacea* vegetation, whether due to direct dependence on this plant or conditions

peculiar to it such as a certain under-vegetation of lichens or the like. It was found in large numbers in *Salix herbacea* vegetation at Angmagssalik, in small numbers in *Salix herbacea* vegetation in Mikis Fjord and at Atingat. It has also been found in moraine on Suess Land, in bog and in mixed chamaephyte vegetation on Ella Ø, in bog, in lichen heath, on grassy slope at Angmagssalik, and in dry biotope on Nanuseq. It is thus a dry soil dweller.

36. *Oromurcia bicuspidata* THOR.

Oromurcia bicuspidata TUXEN 1943, p. 326, fig. 1.

East Greenland record:

Oromurcia bicuspidata HAMMER 1944, p. 49.

Occurrence in East Greenland:

Southeast Coast Area: Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: Iceland, Spitsbergen and possibly Germany (*Oromurcia sudetica* in Germany according to WILLMANN (1939) is possibly a Central European race of *O. bicuspidata* THOR).

Biology: Only few specimens have been found in East Greenland. In habitus it closely resembles *Trichoribates trimaculatus*, for which reason it may have been confused with it, having been found together on lake bank and in bog at Angmagssalik and in moss and dry biotope on Nanuseq. It seems to prefer the wet biotopes.

37. *Oromurcia lucens* L. KOCH.

Oribata lucens TRÄGÅRDH 1904, p. 14, figs. 5—10.

East Greenland records:

Oribata lucens TRÄGÅRDH 1904, p. 14.

Oribata lucens HENRIKSEN and LUNDBECK 1917, p. 765.

Oribata lucens JØRGENSEN 1934a, p. 8.

Oribata lucens JØRGENSEN 1934b, p. 44.

Oromurcia lucens HAMMER 1944, p. 49.

Occurrence in East Greenland:

Scoresby Sound Area: Hekla Havn.

Distribution: West Greenland (Upernavik, Ikerasaq, Claushavn, Taitip ata, Sydprøven). Iceland?, Spitsbergen, Novaya Semlya, Siberia and Lapland.

Biology: Hitherto mentioned only from Scoresby Sound, with no particulars as to locality or the like. In West Greenland a number of

individuals have been found in wet moss; it is also said to have been taken on *Lagopus mutus* (Taitip ata).

38. *Calyptozetes sarekensis* TRÄGÅRDH.

Oribata sarekensis TRÄGÅRDH 1910, p. 504, figs. 259—67.

East Greenland records:

Calyptozetes sarekensis HAMMER 1937, p. 11.

Calyptozetes sarekensis HAMMER 1944, p. 49.

Occurrence in East Greenland:

Franz Joseph Fjord Area: Ella Ø. *Scoresby Sound Area*: Scoresby Sound colony. *Kangerdlugssuaq Area*: Mikis Fjord. *Southeast Coast Area*: Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Upernavik, Kapisigdlit near Godthaab, Kobbe Fjord), Iceland, Spitsbergen, Lapland and Norway (Dovre).

Biology: *Calyptozetes sarekensis* is very common in the very dry biotopes with an under-vegetation of lichen, on which it undoubtedly feeds. In lichen heath at Angmagssalik, where it is by far the commonest oribatid, it has been found in very large numbers, but grassy slope and *Salix herbacea* vegetation at Angmagssalik also shelter a considerable number of the species. Frequent as it is in dry biotopes, it is equally rare in the wet ones, where beyond all doubt it occurs only exceptionally.

39. *Pelops ureaceus* C. L. KOCH.

Pelops ureaceus WILLM. 1931, p. 187, fig. 335.

East Greenland record:

Pelops ureaceus HAMMER 1944, p. 49.

Occurrence in East Greenland:

Southeast Coast Area: Nanuseq in Lindenow Fjord.

Distribution: Germany, Switzerland, Italy.

Biology: This species has been found only in Lindenow Fjord, where it was observed on a flat beach meadow with sand and a little sporadic grass.

Remarks: As *Pelops* species are very difficult to distinguish from one another it may perhaps have the same distribution in East Greenland as *Pelops ?septentrionalis*.

40. *Pelops ?septentrionalis* TRÄGDH.

Pelops septentrionalis TRÄGÄRDH 1910, p. 489, figs. 226—31.

East Greenland records:

Pelops ?septentrionalis HAMMER 1937, p. 11.

Pelops ?septentrionalis HAMMER 1944, p. 49.

Occurrence in East Greenland:

Southeast Coast Area: Atingat (interior of Angmagssalik Fjord), Angmagssalik, Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Nûgssuaq, Græde Fjord, Kvane Fjord), Iceland, Lapland, Italy?

Biology: This species is fairly common everywhere on the south-east coast, whether the biotopes are dry or wet. In greatest number it was found in *Salix herbacea* vegetation at Atingat, but also in bog, in lichen heath and on grassy slope at Angmagssalik a number of individuals were encountered. On lake bank, in moss (*Sphagnum*) and fell field it is rare.

41. *Phthiracarus piger* SCOPOLI.

Phthiracarus piger WILLM. 1931, p. 192, fig. 351a.

East Greenland record:

Phthiracarus piger HAMMER 1944, p. 49.

Occurrence in East Greenland:

Southeast Coast Area: Nanuseq in Lindenow Fjord.

Distribution: West Greenland (Qingua), Iceland, Sweden, Germany and Austria (near Vienna).

Biology: Only solitary examples of this species were found, one individual in dry *Betula* vegetation with foliage on a rock shelf, three in dry *Empetrum nigrum* vegetation on mountain slope.

In addition to the species referred to above, a number of individuals were found belonging to the genus *Mycobates*. In lichen heath at Angmagssalik it was not rare. It has also been observed in West Greenland (Upernavik, Nûgssuaq, Jakobshavn, Kapisigdlit, Kvane Fjord, Torssukátak).

A nymph of a *Belba* species was found in Franz Joseph Fjord area in fell field and in the Scoresby Sound area.

General Remarks.

Table 1 is a summary of the distribution of the East Greenland oribatids, the species of the most northerly distributed being given first, the southern ones last. It will be seen that a large number of the East Greenland oribatids are evenly spread over the entire coast from north to south. This probably holds good of *Ceratoppia bipilis* v. *sph.* and the following species to and including *Oromurcia lucens* in Table 1. A large number of these species, however, have not been found on the northeast coast, though this presumably is due to insufficient investigation in that region, where, although searches and collections have been made with the aid of the Berlese funnel, the material has been left and thus has not been worked up, as was stated in the introduction. As a consequence, only ten species are known from that region. The *Brachychthonius* species and *Oppia maritima* found on the northeast coast cannot be northern types, but should probably be referred to the large group of oribatids just mentioned as being spread evenly all over East Greenland. The presence of these species solely on the northeast coast may be due to the collector (HAAERLØV) having been more on the look-out for these small animals than earlier collectors.

Heminothrus thori and *Schelorbates pallidulus* have been found only in the Franz Joseph Fjord area, but there is no doubt that they also occur more to the south, as both of them, like most of the oribatids mentioned above, are spread over Europe. Thus the only northern form remaining is *Iugoribates gracilis*, which for the present must be regarded as a distinctly northern species. Fig. 2 shows its occurrence in Greenland. On all the maps I have marked the occurrence of the species in both East and West Greenland, as in my opinion the find-spots in East Greenland alone say nothing of the real distribution and the reasons for it. This becomes much clearer when the distribution for the whole of Greenland is shown—in so far as it is known. In East Greenland *Iugoribates gracilis* has been found on Ella Ø and Ymer Ø, in West Greenland it occurs in the Thule colony and at Upernavik. As it is not known outside of Greenland, fig. 2 shows the present localities of the species.

The Franz Joseph Fjord area has a total of 24 species, whereas Scoresby Sound and Kangerdlugssuaq areas each have only 15. This picture of a much poorer oribatid fauna in these two areas is undoubtedly a true one of the actual position, as they have been relatively well investigated. The reason for the poorer fauna may be the more homo-

Table 1. Distribution of the Oribatidae in East Greenland.

Species	Northeast Coast Area	Franz Joseph Fjord Area	Scoresby Sound Area	Kangerdlugssuaq Area	Southeast Coast Area
<i>Brachychthonius berlesei</i>	×	·	·	·	·
— <i>sellnicki</i>	×	×	·	·	·
— <i>zelawaiensis</i>	×	·	·	·	·
<i>Oppia maritima</i>	×	·	·	·	·
<i>Heminothrus thori</i>	·	×	·	·	·
<i>Scheloribates pallidulus</i>	·	×	·	·	·
<i>Iugoribates gracilis</i>	·	×	·	·	·
<i>Ceratoppia bipilis</i> v. <i>sph.</i>	×	×	×	·	·
<i>Hermannia reticulata</i>	×	×	×	·	×
<i>Camisia horrida</i>	×	×	×	×	×
<i>Platynocheilus peltifer</i>	×	×	·	×	×
<i>Tectocephus velatus</i>	×	×	×	×	×
<i>Trichoribates trimaculatus</i>	×	×	×	×	×
<i>Brachychthonius brevis</i>	·	×	×	×	×
<i>Trhypochthonius tectorum</i>	·	×	·	×	×
<i>Nothrus borussicus</i>	·	×	×	×	×
<i>Oppia quadricarinata</i>	·	×	·	×	×
— <i>neerlandica</i>	·	×	×	·	×
— <i>translamellata</i>	·	×	×	·	×
— <i>ornata</i>	·	×	×	·	×
<i>Ameronothrus lineatus</i>	·	×	×	·	×
<i>Oribatula exilis</i>	·	×	×	×	×
<i>Trichoribates</i> sp.	·	×	·	×	×
<i>Belba</i> sp.	·	×	×	·	·
<i>Calyptozetes sarekensis</i>	·	×	×	×	×
<i>Heminothrus paolianus</i>	·	×	·	·	×
<i>Trimalaconothrus novus</i>	·	×	·	·	×
<i>Oromurcia lucens</i>	·	·	×	·	·
<i>Camisia lapponica</i>	·	·	·	×	×
<i>Suctobelba subtrigona</i>	·	·	·	×	×
<i>Chamobates cuspidatus</i>	·	·	·	×	×
<i>Melanozetes ? mollicomus</i>	·	·	·	×	×
<i>Oppia splendens</i>	·	·	·	·	×
<i>Oromurcia bicuspidata</i>	·	·	·	·	×
<i>Trimalaconothrus foveolatus</i>	·	·	·	·	×
<i>Carabodes labyrinthicus</i>	·	·	·	·	×
<i>Liebstadia similis</i>	·	·	·	·	×
<i>Edwardzetes edwardsii</i>	·	·	·	·	×
<i>Pelops ? septentrionalis</i>	·	·	·	·	×
<i>Phthiracarus piger</i>	·	·	·	·	×
<i>Ceratozetes thienemanni</i>	·	·	·	·	×
<i>Mycobates</i> sp.	·	·	·	·	×
Number of species in the various areas...	10	24	15	15	32



Fig. 2. Occurrence of *Iugoribates gracilis* in Greenland.

Figur og reproduktion med Gærdet. Institut. København, 1952.

geneous vegetation as a result of the climate, whereby special biotopes which are the home of the various species are lacking there.

On the southeast coast the oribatid fauna is very rich, with a total of 32 species. Here we find nearly all the species occurring in more northerly regions as well as a number which occur only in the most southerly part of the country. This is true of the species *Oppia splendens* to and including *Mycobates* sp. in Table 1.

Fig. 3 shows some of the find-spots of these southerly species in Greenland. *Ceratozetes thienemanni* has been found at several places in South Greenland, on both west and east coasts, where its most northerly occurrence is Angmagssalik. *Edwardzetes edwardsii* and *Liebstadia similis* also have their most northerly limit in the Angmagssalik area, but they also occur on the southernmost tip of Greenland, and *Liebstadia similis* also in the southern part of West Greenland down to round about Godthaab. In East Greenland *Carabodes labyrinthicus* has been observed only in the most southerly part, Lindenow Fjord. On the west coast it extends as far north as to the area about Godthaab. Finally, there are two species that have been found only in the most southerly part of Greenland, on the southern tip. The find-spots for these two, *Phthiracarus piger* and *Trimalacoноthrus foveolatus*, are shown on fig. 4. Both have been found on the east and west coasts, though here they merge together into one area. Both species must be southerly forms, thriving only in the somewhat milder climate on the southern point of Greenland. That they are thermophilous is also seen from the fact that in West Greenland *Trimalacoноthrus foveolatus* was found in a hot spring, and nowhere else. The distribution of all these southerly forms in the Angmagssalik area and to the south of it and in the most southerly part of West Greenland, where the number of southern species is higher than on the east coast, seems to be connected with the milder climate.

Table 2. gives a survey of the distribution of the East Greenland oribatids outside of Greenland. From this it appears that the great majority of the oribatids have their main distribution in the Old World, no fewer than 17 being common to the oribatid fauna of Spitsbergen, while 21—22 are common to that of Iceland. The resemblance to Finmarken (Lapland) is also very great, 22 common species. On the other hand, there is markedly little agreement between the oribatid fauna of East Greenland—or in fact of Greenland as a whole—and that of North America; only 10 of East Greenland's 41 species, 12 of Greenland's 60, are so far known in North America. As the oribatid fauna of North America is relatively well investigated (cf. HAMMER 1944, p. 58), this discordance is probably connected with the European origin of the Greenland oribatids, whose distribution in Greenland is supposed to have proceeded at a time when Greenland, Europe and Asia formed a

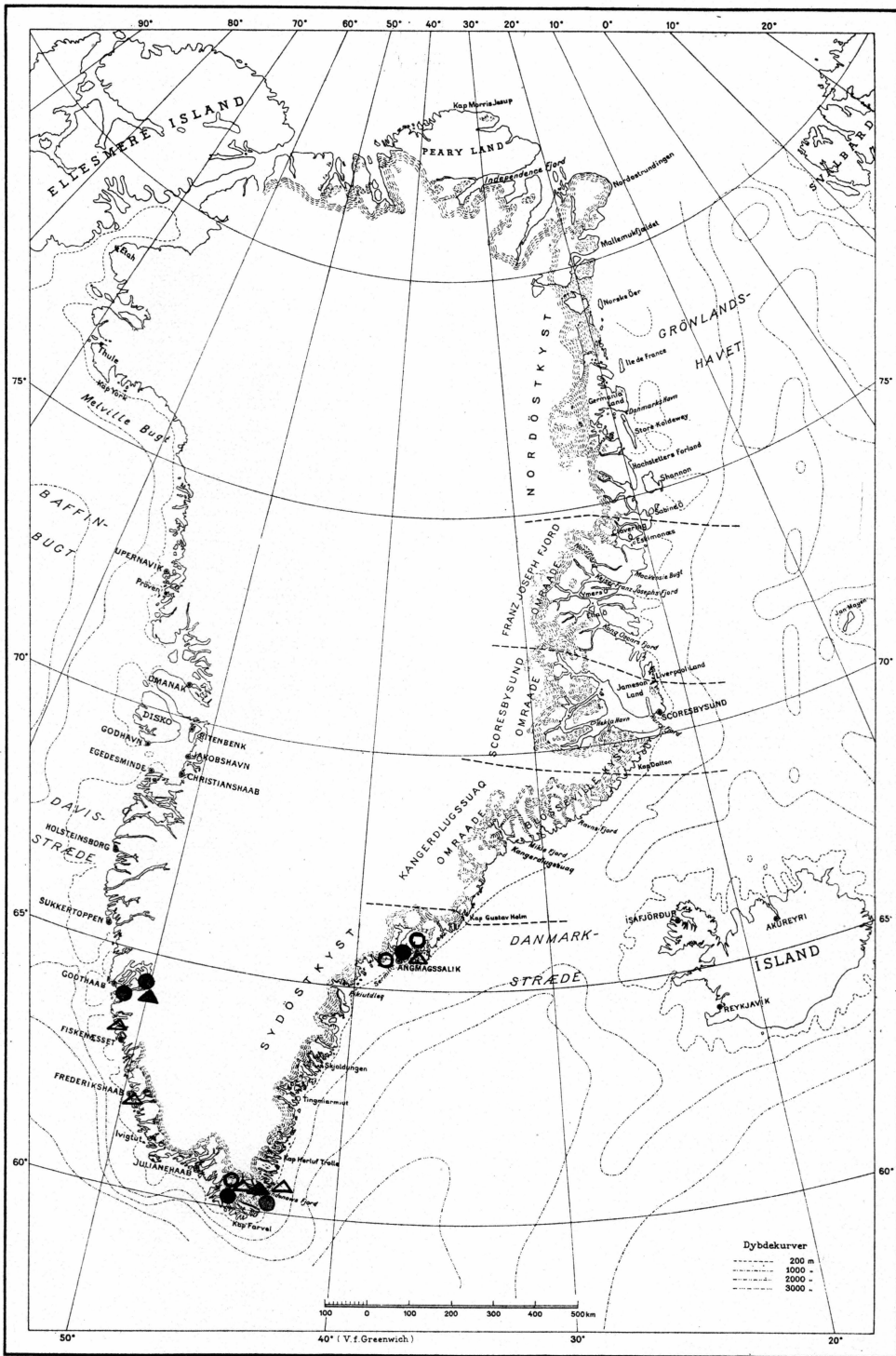


Fig. 3. Occurrence of *Ceratozetes thienemanni* (●), *Carabodes labyrinthicus* (▲), *Edwardzetes edwardsii* (○) and *Liebstadia similis* (△) in Greenland.

Table 2. Distribution of the East Greenland oribatids outside of Greenland.

Species	Canada and North America	West Greenland	Iceland	Spitsbergen	Finmarken (Lapland)	Northern (Russia ¹)
<i>Brachychthonius berlesei</i>	×
— <i>zelawaiensis</i>	×
— <i>brevis</i>	×	..	×	×	..
— <i>sellnicki</i>	×	..	×
<i>Trhyochthonius tectorum</i>	×	×
<i>Trimalacoonthrus novus</i>	×	..
— <i>foveolatus</i>	×
<i>Camisia horrida</i>	×	×	×	×	×
— <i>lapponica</i>	×	×	..
<i>Nothrus borussicus</i>	×	×
<i>Platynothrus peltifer</i>	×	×	×	..	×	×
<i>Heminothrus thori</i>	×	..	×	..
— <i>paolkanus</i>	×
<i>Hermannia reticulata</i>	×	..	×	..	×
<i>Suctobelba subtrigona</i>	×	×	×	..
<i>Oppia quadricarinata</i>	×	×	×
— <i>neerlandica</i>	×	×	×	×	×	..
— <i>translamellata</i>	×	×	×	×	..
— <i>ornata</i>	×	×	×
— <i>maritima</i>
— <i>splendens</i>	×	..	×
<i>Ceratopfia bipilis</i> v. <i>sph.</i>	×	×	..	×	×	×
<i>Tectocephus velatus</i>	×	×	×	×	×	..
<i>Ameronothus lineatus</i>	×	×	..	×	..	×
<i>Carabodes labyrinthicus</i>	×	×	..
<i>Liebstadia similis</i>	×	×	..	×	..
<i>Oribatula exilis</i>	×	×(?)	×	×	×
<i>Schelorbates pallidulus</i>
<i>Edwardzetes edwardsii</i>	×	×	×	×	..
<i>Chamobates cuspidatus</i>	×	×	×	×	..
<i>Iugoribates gracilis</i>	×
<i>Ceratozetes thienemanni</i>	×	×	..
<i>Melanozetes ? mollicomus</i>	×	?	..	×	..
<i>Trichoribates trimaculatus</i>	×	×	×	×	×
— <i>sp.</i>	×
<i>Oromurcia bicuspidata</i>	×	×
— <i>lucens</i>	×	?	×	×	×
<i>Calyptozetes sarekensis</i>	×	×	×	×	..
<i>Pelops ureaceus</i>
— <i>? septentrionalis</i>	×	×	..	×	..
<i>Phthiracarus piger</i>	×	×

¹) Northern Russia with the adjoining islands: Waigatsch and Novaya Semlya.



Fig. 4. The occurrence of *Phthiracarus piger* (▲) and *Trimalaconothrus foveolatus* (●) in Greenland.

connected whole which was separate from North America (cf. HAMMER 1944, pp. 151—152).

As further evidence of the association of East Greenland oribatids with Europe it may be mentioned that practically all are well known in Europe, though it should be remarked that some of these "well known" species have been found only in Sweden, Lapland and Germany, due to the fact that in those countries the work on this animal group has been particularly intense. There is no doubt that species with this distribution will be found in many other countries.

A few facts may be given about the species that are not generally distributed in Europe:

Iugoribates gracilis has been found only in Greenland.

Brachychthonius sellnicki only in Greenland and on Spitsbergen.

Oromurcia bicuspidata has been found only in Greenland, Spitsbergen and Iceland.

Calyptozetes sarekensis has been found only in Greenland, Spitzbergen, Iceland, Lapland and Norway (Dovre).

Oromurcia lucens is known only in Arctic regions.

If furthermore we compare the oribatid faunas of the North Atlantic islands we shall see (Table 3) that that of East Greenland is much more closely related to Spitzbergen's than with Iceland's: 17 of Spitzbergen's 26 species occur in East Greenland whereas only 17 of Iceland's 68 species are common with East Greenland. Iceland and Spitzbergen have only 10 species in common. Thus despite the fact that the number of species in Iceland (68) and in Greenland (60) is almost the same, there are surprisingly few common species. Probably the explanation is that the fauna of Iceland is very much younger than that of Greenland, as according to LINDROTH (1931) it immigrated in the last inter-glacial period when the climate was boreal, whereby it acquired a composition differing from the fauna already inhabiting the Arctic islands in the North Atlantic.

Table 3 also shows that the North Atlantic islands possess an extremely rich oribatid fauna, for altogether they have no fewer than 111 species, though only relatively few inhabit each of them. This difference in the faunas may mean either that the oribatids there as yet have been insufficiently examined and that further investigations will increase the number of species on all the islands, whereby species known on one of them but not on the others, will be found there, and vice versa; or, as stated above, the disagreement may be due to their faunas having immigrated at different times with different climates, and that since then there has been no chance for the animals to spread to the other islands and thus become mixed mutually. To judge from the many species that have been found recently for the first time in Greenland

Table 3. The oribatid fauna of the North Atlantic Islands.

Species	East Greenland	West Greenland	Iceland	Spitsbergen
<i>Eulomania ribagai</i> BERL.	×	..
<i>Nanhermannia nana</i> NIC.	×	..
<i>Hypochthonius rufulus</i> C. L. KOCH	×	..
<i>Brachychthonius berlesesi</i> WILLM.	×	..	} sp.	..
— <i>zelawaiensis</i> SELL.	×
— <i>brevis</i> MICH.	×	×		×
— <i>laetepictus</i> BERL.	×		×
— <i>sellnicki</i> THOR.	×	..		×
— <i>grandis</i> SELL.	×
<i>Cosmochthonius lanatus</i> MICH.	×	..
<i>Trhypochthonius tectorum</i> BERL.	×	×	×	..
<i>Trhypochthoniellus setosus</i> WILLM.	×	..
<i>Trimalaconothrus novus</i> SELL.	×
— <i>glaber</i> MICH.	×	..
— <i>foveolatus</i> WILLM.	×	×
<i>Malaconothrus egregius</i> BERL.	×	..
<i>Camisia biverrucata</i> C. L. KOCH.	×
— <i>horrida</i> HERM.	×	×	×	×
— <i>lapponica</i>	×	×
— <i>bicarinata</i> C. L. KOCH
— <i>spinifer</i> C. L. KOCH	×	×
<i>Nothrus palustris</i> C. L. KOCH
— <i>biciliatus</i> C. L. KOCH	×	..
— <i>silvestris</i> NIC.	×	..
— <i>borussicus</i> SELL.	×	×
<i>Platynothonus peltifer</i> C. L. KOCH	×	×	×	..
— <i>capillatus</i> BERL.	×
<i>Heminothrus thori</i> BERL.	×	..	×	..
— <i>paolianus</i> BERL.	×	×
<i>Hermannia reticulata</i> THOR.	×	×	..	×
— <i>scabra</i> L. KOCH.	×	×	..
<i>Belba gracilipes</i> KULCZ.	×
— <i>tenuipes</i> MICH.	×
— <i>clavipes</i> HERM.	×	..
— <i>compta</i> KULCZ.	×	..
— <i>tatica</i> KULCZ.	×
— <i>tecticola</i> MICH.	×	..
— <i>ursina</i> THOR	×
— <i>trägardhi</i> GRAVERSEN.	×
<i>Suctobelba subtrigona</i> OUDMS.	×	×
— <i>sarekensis</i> FORSSL.	×	..
<i>Oppia quadricarinata</i> MICH.	×	×	×	..
— <i>neerlandica</i> OUDMS.	×	×	×	×

Table 3 (continued).

Species	East-Greenland	West-Greenland	Iceland	Spitsbergen
<i>Oppia translamellata</i> WILLM.	×	×	×	×
— <i>unicarinata</i> PAOLI.	×	..
— <i>bicarinata</i> PAOLI.	×	..
— <i>ornata</i> OUDMS.	×	×	×	×
— <i>fallax</i> PAOLI.	×
— <i>fallax</i> v. <i>obsoleta</i> PAOLI.	×	..
— <i>falcata</i> PAOLI.	×	..
— <i>maritima</i> WILLM.	×
— <i>splendens</i> C. L. KOCH.	×	..	×	..
— <i>nitens</i> C. L. KOCH.	×	..
— <i>subpectinata</i> OUDMS.	×	..
<i>Oribella castanea</i> HERM.	×	..
— <i>lanceolata</i> MICH.	×	..
— <i>pectinata</i> MICH.	×	..
— <i>paolii</i> OUDMS.	×	..
<i>Eremaeus oblongus</i> C. L. KOCH.	×	×	..
<i>Hydrozetes confervae</i> SCHRANK.	×
— <i>terrestris</i> BERL.	×	..
<i>Ceratoppia bipilis</i> HERM. v. <i>sph.</i> L. KOCH.	×	×	..	×
<i>Tectocephus velatus</i> MICH.	×	×	×	×
<i>Scutovertex minutus</i> C. L. KOCH.	×	..
<i>Ameronothrus lineatus</i> THOR.	×	×	..	×
— <i>maculatus</i> MICH.	×
<i>Carabodes labyrinthicus</i> MICH.	×	×
— <i>marginatus</i> MICH.	×	..
<i>Liacarus globifer</i> KRAMER.	×
<i>Liebstadia similis</i> MICH.	×	×	×	..
<i>Oribatula tibialis</i> NIC.	×	..
— <i>exilis</i> NIC.	×	×	..	×
— <i>venusta</i> BERL.	×
<i>Scheloribates confundatus</i> SELL.	×	..
— <i>pallidulus</i> C. L. KOCH.	×
— <i>laevigatus</i> C. L. KOCH.	×	..
<i>Edwardzetes edwardsii</i> NIC.	×	×	×	×
<i>Chamobates cuspidatus</i> MICH.	×	×	×	×
<i>Iugoribates gracilis</i> SELL.	×	×
<i>Ceratozetes gracilis</i> MICH.	×	..
— <i>thienemanni</i> WILLM.	×	×
— <i>spitsbergensis</i> THOR.	×
<i>Melanozetes mollicomus</i> C. L. KOCH.	?×	?×
— <i>meridianus</i> SELL.	×	..
— sp.	×
<i>Fuscozetes fuscipes</i> C. L. KOCH.	×	..

Table 3 (continued).

Species	East-Greenland	West-Greenland	Iceland	Spitzbergen
<i>Hammeria groenlandica</i> SELL. ....	..	×	..	..
<i>Trichoribates trimaculatus</i> C. L. KOCH	×	×	×	×
— <i>incisellus</i> KRAMER .....	..	..	×	..
— <i>setiger</i> TRGDH. ....	..	..	×	..
— <i>monticola</i> TRGDH. ....	..	..	×	..
— <i>novus</i> SELL. ....	..	..	×	..
— sp. ....	×	×	..	..
<i>Oromurcia bicuspidata</i> THOR	×	..	×	×
— <i>lucens</i> L. KOCH	×	×	..	×
<i>Svalbardia paludicola</i> THOR .....	..	..	..	×
<i>Limnozetes ciliatus</i> SCHRANK .....	..	..	×	..
<i>Calyptozetes sarekensis</i> TRGDH.	×	×	×	×
<i>Tegoribates latirostris</i> C. L. KOCH .....	..	..	×	..
<i>Oribatella calcarata</i> C. L. KOCH .....	..	..	×	..
— <i>berlesei</i> MICH. ....	..	..	×	..
— <i>arctica</i> THOR .....	..	..	..	×
<i>Notaspis punctatus</i> NIC. ....	..	×	×	..
— <i>coleopratus</i> L. ....	..	×	×	..
<i>Pelops bilobus</i> SELL. ....	..	×?	..	..
— <i>wreaceus</i> C. L. KOCH.	×	..	sp.	..
— <i>septentrionalis</i> TRGDH.	×?	..	×	..
<i>Peloptulus montanus</i> HULL .....	..	..	×	..
<i>Hoploderma striculum</i> C. L. KOCH. ....	..	×	..	..
<i>Phthiracarus piger</i> SCOPOLI	×	×	×	..
— <i>borealis</i> TRGDH. ....	..	..	×	..
Total number of species...	41	48	68	26

and in Iceland, it is to be anticipated that with the aid of the Berlese funnel still more remain to be found. But in spite of the appearance of these new species in Greenland and Iceland, the difference between the oribatid faunas of the two countries has not been levelled out—on the contrary. Evidently the difference goes deeper than an insufficient knowledge of the faunas can explain.

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