



S.1541.



Results of the Oxford University Expedition to Greenland,  
1928.—*Araneæ and Opiliones collected by Major R. W. G.  
Hingston; with some Notes on Icelandic Spiders.* By A.  
RANDELL JACKSON.

[Plate XVII.]

THE following is a list of Spiders and Opiliones captured by Major Hingston in Greenland during August 1928. They were all obtained in West Greenland, in the Godthaab Fjord, at a locality called Kugssuk and at about 30 feet above sea-level, except a small number from a neighbouring place called Matuola. Two places were searched here, one at 2000 feet above sea-level and the other at sea-level. In the first locality three species were obtained: *Lycosa grænländica*, Thor., *L. glacialis*, Thor., and *Araneus grænländicus*, Sim. At the second or low level *Lycosa grænländica*, Thor., *L. furcifera*, Thor., *Oxyptila dura*, Sör., *Thanatus arcticus*, Sör., and *Drassodes signifer*, C. L. K. All the remainder may be regarded as coming from one locality. The collector, Major Hingston, is publishing an account of their habits.

I also include here the description of a new species, some notes on arctic Erigones, some notes on Icelandic spiders, and complete lists of Greenland and Iceland species known. These, of course, are compilations from the works of Professor Strand, Prof. Sörensen, Dr. de Lessert, Dr. E. Schenkel, Mr. J. Braendegaard, and others.

I have to thank for their kind assistance Professor Strand of Riga, Mr. Louis Fage of Paris, Mr. Braendegaard of Copenhagen, and Professor Crosby of Cornell University, New York. Also, of course, Professor Poulton of Oxford for all the trouble he has taken in supplying me with the material and with much information and general assistance.

#### SPIDERS COLLECTED IN GREENLAND.

##### *Dictyna major*, Menge.

*Dictyna hamifera*, Thor.

*Dictyna borealis*, Camb.

*Dictyna arenicola*, Camb.

*Dictyna grænländica*, Lenz.

There would appear to be only one species of *Dictyna* in Greenland, and the name *D. major*, Menge, has priority. The specimens are brownish and dull in colour, resembling somewhat *D. arundinacea*, L., in this respect. *D. arenicola*, Camb., of Scotland, is almost black and white, being very distinctly marked, but there is no difference in the sexual

organs. I was fortunate enough to add this species to the French list by taking a female at Hardelot Plage in 1918. That specimen resembled the Scots examples, but is on the small side. *D. borealis*, Camb., was described as having the eyes of the anterior row equidistant (19), whilst Thorell said that the median eyes of his *D. hamifera* were for the most part farther apart than each from its lateral (34). There is some colour variation too, some examples having very distinctly annulated legs, others only faintly or hardly annulated. These, however, have their eyes either as in *D. hamifera*, Thor., or *D. borealis*, Camb.

Sörensen (28) says, "Nevertheless, I have seen specimens coloured like *D. borealis* with eyes arranged as in *D. hamifera* and *vice versa*." There seems no doubt that all these forms are conspecific, which is also the view of Simon, who also said of the species, "elle est à rechercher dans les dunes du Nord de la France" (23).

The present collection includes one adult male, a number of adult females, and a larger number of young of various ages. The species occurs in East Prussia, Holland, France, and Scotland.

*Drassodes signifer*, C. L. K.

An adult of each sex, the female with egg-sac, and a few immature examples. The adults are rather larger and darker than typical British specimens, but show no structural difference. This is the only known *Drassodes* from Greenland. It has a wide European and Asiatic distribution, and occurs in Iceland and the Faroe Islands.

*Oxyptila dura*, Sör. (25). (Pl. XVII. fig. 6.)

Two adult females and two juveniles were taken. Mr. Jens Braendegaard kindly compared a female with Sörensen's types and confirmed my identification. The vulva varies even in the two present females. In the one not figured the central process is constricted about the middle and expanded distally, whilst the small ducts seen through it assume a semicircular position, instead of being only slightly curved. The spines on the under side of the tibiæ and metatarsi vary in number not only in individuals, but on the two sides of the same individual.

*Thanatus arcticus*, Sör. (25).

About half a dozen specimens, all immature. However, this is the only *Thanatus* known to inhabit Greenland, so

the identification is probably correct. Whether the species is a good one—which I doubt—I am not competent to decide.

*Trochosa alpigena*, Dol.

*Trochosa biunguiculata*, Camb.

A single male. This corresponds well with a specimen of Cambridge's species taken by me in Scotland and identified by Mr. Pickard-Cambridge himself. The Greenland example is a little smaller and less brightly coloured, but differs in no other respect. Occurs also in Grinnell Land, Iceland, and Switzerland.

*Lycosa hyperborea*, Thor. (35). (Pl. XVII. fig. 9.)

Two females of this spider, which is of the *tarsalis-monticola* group. Finland, Prussia, Norway, and Sweden, but not apparently in arctic America.

*Lycosa glacialis*, Thor. (34).

One adult female and several immature examples. Also another adult female and immature examples taken in August 1926 by Mr. Remy of the 'Pourquoi Pas,' captured in Liverpool Island, East Greenland, latitude 71°. This spider reaches 2000 feet on the sides of Godthaab Fjord.

*Lycosa grænländica*, Thor (34).

Four adult males, three adult females, and forty immature examples. This spider also reaches an altitude of 2000 feet. It resembles a big darkly-coloured *L. amentata*, Clerck, but the sexual organs are entirely different.

*Lycosa furcifera*, Thor. (36).

Ten adult males, eight adult females, and eighteen immature examples. This is a very pretty species with yellow coxæ and much yellow in its legs. The thoracic bands and abdominal markings are all bright yellow, whilst the ground-colour is nearly black. The lateral thoracic bands are entire. The central band is very characteristic. From behind, it runs forward to the occiput, where it divides into two branches forming a segment larger than a semicircle and embracing the caput. Hence the specific name.

This and the two last species belong to a group not closely related to any of our British forms. They are probably American, although the last two reach Iceland.

*Theridion lundbecki*, Sör. (25). (Pl. XVII. fig. 10.)

Two adult and two immature females. This species is peculiar to Greenland, but is a typical *Theridion* not unlike *T. varians*, Hahn, or *T. denticulatum*, Walck. Its vulva is, however, characteristic. Mr. Braendegaard kindly confirmed my identification by comparing a specimen with Sörensen's types in Copenhagen.

*Enoplognatha intrepida*, Sör. (25). (Pl. XVII. fig. 7.)

*Theridion intrepidum*, Sör.

Three females. This is a typical *Enoplognatha*. In the female chelicerae there are two teeth on the anterior margin, as well as the dentiform projection on the angle of the proximal joint. The proximal tooth is very small, the distal one larger. On the posterior margin there is one strong black tooth nearer the base of the fang. The specimens were accompanied by their egg-sacs when sent.

Mr. Braendegaard, by comparing these specimens with Sörensen's types, kindly prevented me from describing the species as new, which I certainly should otherwise have done. Sörensen's description of the spider, and especially of its vulva, appears very unlike the real thing. I give a figure of the sexual organs to prevent further misunderstanding.

*Erigone whymperi*, Camb. (19).  
(Pl. XVII. figs. 1 & 4.)

About a dozen adults of both sexes and some immature individuals. The species occur in arctic America and Iceland, and reaches 69° 13' at Jakobshavn in North Greenland. See note *postea*.

*Erigone atra*, Bl.

One typical male, a rather small specimen. A very widely distributed holarctic species. All Europe, northern and central Asia, Lapland, Faroës, Azores, United States, Canada. Not yet in Iceland. Reaches the summits of mountains in Britain.

*Typhochrestus borealis*, sp. n.  
(Pl. XVII. figs. 8, 11, 12, 13, 14.)

A single female. I have, however, an adult and several immature males from Disko Island, lat. 69°, West Greenland,

the exact locality being Godhavn. They were taken on August 28, 1921. Mr. W. S. Bristowe sent them to me, having obtained them from Professor Seward of Cambridge University. I feel sure that the female from Godthaab in the present collection is conspecific with these Disko males, and describe it here. Whether *Typhochrestus* is the correct genus I do not know.

In my opinion, the subdivision of the Erigoneæ has gone much too far, and we want fewer genera instead of more. The present species corresponds well generically, except for the secondary sexual modification of the male caput, with *T. digitatus*, Camb., the type. *T. spetsbergensis*, Thor., is quite another thing, and is much nearer *Hilaira* and *Coryphæolanus*.

*Hilaira frigida*, Thor.

A single female, rather small and dark. Arctic America, Jan Mayen, Iceland, Faroes, Britain, Norway. Other alpine localities doubtful. In Britain a mountain spider only.

*Tetragnatha extensa*, L.

*Tetragnatha grænländica*, Thor. (34).

The present collection includes one male and three females, all adult, with numerous immature examples of varying ages. These, I have no doubt, are the *T. grænländica* of Thorell, afterwards more fully described by Sörensen. Nevertheless, I can find no constant difference between these Greenland specimens and *T. extensa*, L.

The specimens are all rather small and deeply pigmented. Their colouring tends towards brown, especially in the middle of the dorsal abdominal folium, which in young examples becomes reddish brown and in one case almost red. The legs are rather short, but not more so than can sometimes be seen in British specimens, amongst which brownish examples can occasionally be found.

The distance between the two rows of eyes is the same both for centrals and laterals. In the male, which was measured, the central anteriors were .15 mm. removed from the central posteriors, the anterior laterals being exactly the same distance from the posterior laterals. In the females the distances were not measured, but were approximately the same as in the male. According to Sörensen (26), the lateral eyes were farther apart than the anterior and posterior centrals in Danish and Scandinavian specimens of "*T. græn-*

*landica.*" He gives no measurements, but I dare say some variation is possible, and in any case this is really the only character he does give to separate this species from *T. extensa*. Unfortunately, in his dichotomous table he uses this character to separate *T. grænländica* from *T. extensa*, and, having done this, stresses the differences between *T. grænländica* and *T. obtusa*, C. L. K., which are many and obvious. Of course, these Scandinavian specimens may represent another species, and neither Thorell nor Sörensen ever saw an adult *Tetragnatha* from Greenland (34).

The male in the present collection was found *in cop.* with one of the females, and in both of these specimens a slight difference was observed from typical *T. extensa*. This was in the falcate armature. In both sexes the arrangement of teeth at the apex of each falx was exactly as in *T. extensa*, and the curved dorsal spine on the male falces corresponded well. There was, however, a reduction in the number of the very small proximal teeth, one or two of these minute denticles being absent.

Counting the small lobe-like blunt projection near the insertion of the fang, *T. extensa* should have in both sexes *eight* teeth on each margin of the fang-groove. In the Greenland specimens aforesaid the male had *six* teeth on each margin, the two very small proximal ones being absent. In the female there were *six* anterior and *seven* posterior teeth. In another female there were six on each margin in the right falx, six anterior, and seven posterior on the left one. In the third female, however, which was the largest and best developed, there were eight teeth on each margin of each falx, and these were exactly similar to those of *T. extensa*. The sternum in the Greenland specimens is almost black with a yellow central macula as in *T. extensa*. The palpi showed no difference from those of *T. extensa*. So there appear to be no constant tangible differences between *T. grænländica* and *T. extensa*, and I therefore sink the former name as a synonym of the latter.

It is, of course, just possible that Greenland may contain two species of *Tetragnatha*. But as no one has described an adult from this country until now, and as these specimens cannot with certainty be differentiated from *T. extensa*, a spider with a wide distribution in both hemispheres including Alaska, Labrador, and Siberia, I feel it is the only course. Nor do the Greenland specimens appear to be worth a subspecific name, unless a large series of adults were shown to possess the slight diminution of falcate teeth above described constantly.



*Araneus grænelandicus*, Sim. (24).

Two adults and one subadult specimen, all females, were taken. It is closely allied to *A. albovittatus*, Westr., but differs a little in coloration and quite distinctly in the vulva. Of this organ Simon's original description is better than that of Sørensen.

*Araneus ocellatus*, Clerck.

*Araneus patagiatus*, C. L. K.

Three adult males and thirteen adult females. The Greenland examples of this species were called var. *sørensenii* by Strand (31). But the crochet of the vulva varies very much in position and elevation with the changes in the sexual cycle, and my specimens, at any rate, do not deserve a varietal name. Distribution holarctic. All Europe, Siberia, Turkestan, Labrador, Iceland, Canada, Alaska, Newfoundland, United States.

*Araneus quadratus*, Clerck.

Nine adult females. Strand (31) called his Greenland specimens var. *grænelandicola*, on account of their smaller size and darker coloration and structure of the sternum. In these respects, however, my specimens seem very like our British examples. *A. quadratus*, Clerck, is widely distributed in the palæarctic area. All Europe from Lapland, and northern Norway to the Mediterranean, Kamtschatka, and Siberia.

*Mitopus morio*, Fabr.

*Oligolophus alpinus*, Herbst.

One male and three females (adult), with six juveniles, which are probably of the same species. This is the only Opilionid known to inhabit Greenland. Roewer (20) does not maintain *O. alpinus*, Herbst, as that of a subspecies or even a race. Of holarctic distribution.

In the present paper nineteen species of spider and one Opilionid are listed from Greenland. These fall into four groups:—

(1) Species so far peculiar to Greenland, 6 :

*Oxyptila dura*, Sör.

*Thanatus arcticus*, Sör.

*Theridion lundbecki*, Sör.

*Enoplognatha intrepida*, Sör.

*Typhochrestus borealis*, sp. n.

*Araneus grænelandicus*, Sim.

(2) Species common to Greenland and America, not occurring elsewhere, 4 :

- Erigone whymperei*, Camb.
- Lycosa furcifera*, Thor.
- Lycosa grænlandica*, Thor.
- Lycosa glacialis*, Thor.

The first three, however, reach Iceland, but are not recorded further east.

(3) Species occurring in Greenland and the palæarctic area, but not in America, 4 :

- Drassodes signifer*, C. L. K.
- Dictyna major*, Menge.
- Araneus quadratus*, Clerck.
- Lycosa hyperborea*, Thor.

The first three reach Britain amongst other places.

(4) Holarctic species, 6 :—

- Hilaira frigida*, Thor.
- Erigone atra*, Bl.
- Tetragnatha extensa*, Linn.
- Araneus ocellatus*, Clerck.
- Trochosa alpigena*, Dol.
- Mitopus morio*, Fabr.

All these occur in Britain, and are very widely distributed animals. Two of the list are new to the fauna of Greenland, viz., *Typhochrestus borealis*, sp. n., and *Erigone atra*, Bl. Including these two, fifty species are now recorded for Greenland. Four of these, however, seem to be bad. These are *Erigone modesta*, Thor., described from immature examples, *Erigone penessa*, Thor., described from a single female, *Erigone longipalpis*, Sund., probably a mistake for *E. arctica*, White, and *E. grænlandica*, Lenz., a doubtful species.

This leaves us with forty-six more or less good species, of which exactly half are Linyphiids, the other half belonging to the other families, with one Opilionid.

The present collection includes only four Linyphiids and sixteen of the other families. None of these species occur in Spitzbergen. Eight are found in Iceland, viz., *Erigone whymperei*, Camb., *Hilaira frigida*, Thor., *Araneus ocellatus*, Clerck, *Drassodes signifer*, C. L. K., *Lycosa furcifera*, Thor., *L. grænlandica*, Thor., *Trochosa alpigena*, Dol., and *Mitopus morio*, Fabr. One of these (*Hilaira frigida*, Thor.) occurs

in Jan Mayen, while nine, as has been said above, reach Britain.

Turning to the total list of forty-six species, we find twenty-two species peculiar to Greenland, nine occur also in America (some reaching Iceland), seven occur in the palæ-arctic area, whilst eight are holarctic. Three species are common to Greenland and Spitzbergen, viz., *Erigone psychrophila*, Thor., *Erigone arctica*, White, and *Typhochrestus spetsbergensis*, Thor. The first of these is found also in the far remote Franz Josefland, where it is the only spider known.

#### NOTE ON THE GENUS *ERIGONE*.

An important work on this genus appeared in 1928. This is the "Revision of the spider Genera *Erigone*, *Eperigone*, and *Catabrithorax* (Erigonæ)" by C. R. Crosby and Sherman C. Bishop, published by the University of the State of New York. This is the most important work on the subject since Kulczynski's "Erigonæ Europææ addenda ad descriptiones" published in Cracow in 1902. In the American paper four species found in Europe, including Iceland, are figured. There seems to be some misunderstanding somewhere about the distinct species called by Kulczynski *Erigone arctica*, White. Simon in 1926 (23<sup>2</sup>) (posthumous work) considered it as synonymous with *E. atra*, Bl., and the American writers believed that what they called *E. arctica*, White, was probably different from ours. To settle this I have this year sent British specimens of *Erigone arctica*, White, to Professor Crosby. He has kindly compared them with specimens from arctic America, and states that he can find no difference. This spider is thus of holarctic distribution. It is well figured by both Kulczynski and Professor Crosby.

Messrs. Crosby and Bishop give excellent figures of the male sexual organs, but only rough ones of the vulvæ. Yet when cleared and examined transparently these are seen to be very extraordinary. I include a figure of that of *E. dentipalpis*, Wid., a very common European spider. It will be seen that the female organs are built up in the same way as those of *Leptyphantes* and the allied genera. In other words, that the spermotheçæ open on the one hand into a sort of vestibule, and on the other each emits a long duct, which running round the edges of the covering-plate or operculum opens near its fellow on the lower edge. This is exactly what occurs in the Leptyphantoid genera, but I cannot say whether it denotes relationship or convergence.

In the male, at any rate, there is nothing that corresponds in position with the lamella *characteristica* of *Leptyphantès*. In other species of *Erigone* which I have examined, the details vary a little, but the general arrangement is the same.

*E. whymperi*, Camb., is a very interesting American species, reaching Greenland and Iceland. It belongs to a group of alpine and arctic forms, characterized by the arrangement of *dens medius* and *dens posticus* of the embolic division (*vide* Crosby and Bishop (5)) of the palpi. In these species the *dens medius* runs transversely across the palpus. Its anterior border is curved, the posterior toothed. The *dens posticus* is almost parallel with it, but generally more obliquely placed. The nearest ally of *E. whymperi*, Camb., is *E. cristatopalpus*, Simon, from the French and Swiss Alps. I include drawings of this from specimens kindly lent me by Mr. Louis Fage, of the Paris Museum. Here it will be seen that the *dens posticus* is much less oblique, being in fact very nearly transverse, and the dorsal projection of the palpal tibia is more abrupt and approaches more to the vertical. *E. psychrophila*, Thorell, is a larger spider, but more nearly resembles *E. whymperi* in its palpi. The enormous and strongly-curved patellar apophyses, however, easily distinguish it. These apophyses are nearly as long and nearly as curved in *E. welchii*, Jackson (13), but here the *dens medius* is very different—it is very broad, and quite distinct in shape, bearing a large lobe instead of teeth on its posterior border.

In *E. tenuimanus*, Sim., from the Alps, which is a very small species, the palpi are very slender, though the *dens medius* and *dens posticus* are much as in *E. whymperi*. The dorsal projection of the palpal tibia is, however, very slight. This is still slighter in *E. tirolensis*, L. Koch, and here there is a difference in the *dens anticus* of the palpal organs, which is hardly angled at all on its inner border near the apex as seen from below. The angle is very distinct in all the other species. *E. tirolensis*, L. K., is so far not known from Greenland or America. It occurs in Tyrol, Switzerland, Spitzbergen, Siberia, Novaya Zembla, and reaches its western limit in Iceland, and a female probably of this species was obtained in Jan Mayen, so it ought to occur in Greenland. I figured the sexual organs of male and female in 1914 (6), but had at that time not many females. The epigynal plate seldom differs as much from that of other species as I then thought, but I still believe it can generally be distinguished.

*Typhochrestus borealis*, sp. n.  
(Pl. XVII. figs. 8, 11, 12, 13, 14.)

*Length*.—Male 1.15 mm. ; female 1.6 mm.

*Colour*.—Cephalothorax yellowish brown with a fine reticulation of dark lines. Male much darker than the female, but otherwise similar. At the occiput is a dark pentagonal macula, pointed behind and slightly crescentic in front. From this mark issue four dark lines. The three which are in front run forwards, the central one to a point midway between the posterior central eyes, the lateral ones to the posterior lateral eyes. The fourth line issues from the posterior pointed end of the macula and runs backwards, and ends in another macula—lozenge-shaped in the male, oval in the female. From these two maculæ dark lines radiate to the edges of the cephalothorax, where they join a dark marginal band surrounding it. The sternum is dark yellowish brown sprinkled with pale yellow spots. Labium yellow-brown in the female, darker in the male. The abdomen also is yellow-brown, dotted with paler yellow spots, about the middle of the upperside. These arrange themselves into a series of pale yellow chevrons, diminishing in size towards the spinners. On the underside are two parallel indistinct yellow lines running from points just behind the spiracles to the region of the spinners.

The falces, palpi, and legs are yellow-brown in the female, similar but somewhat streaked and mottled with brown pigment in the male.

*Cephalothorax*.—In the female this is oval, markedly hollowed in its posterior slope, the hollow beginning at the level of the posterior macula, and corresponding with the coxæ of the third pair of legs. Ocular area rounded, and much longer than the height of the clypeus.

In the female the eyes are arranged in two rows. The posterior row is curved, concave in front. The eyes are subequal and almost equidistant, and the centrals very slightly farther apart than each is from its adjacent lateral. The anterior row is slightly curved, concave behind. Centrals darker than the laterals and slightly smaller. Each is less than half a diameter apart, and only a little further removed from its adjacent lateral.

The male cephalothorax is much modified and the arrangement of the eyes thereby altered. The eyes are arranged in two rows. They are smaller and further apart than in the female. The posterior row is curved, concave in front, the centrals at least a diameter apart and nearer

together than each is to its adjacent lateral. The anterior row is very much curved and concave in front. The centrals are very dark and much smaller than the laterals. They are almost in contact. Each is quite two diameters removed from its adjacent lateral.

The interocular area is nearly black, and covered with hairs, which at its posterior part are long and backwardly directed. The area is raised into a high conical projection, on the front and back slopes of which are placed the anterior and posterior central eyes. There are no post-ocular depressions behind the lateral eyes. The clypeus is much higher than the ocular area in a straight line, and higher, even if the slopes of the ocular area are included. In its lower part it is slightly hollowed, and its profile runs forwards and upwards. A little below the level of the lateral eyes it forms a rounded protuberance or boss, and then runs upwards and backwards to the level of the anterior central eyes, which mark the junction of clypeus and ocular eminence.

The posterior slope of the cephalothorax is at first very gradual, but it is markedly hollowed behind at the level of the posterior macula before described.

*Sternum*.—Heart-shaped.

*Falces*.—In the female the outer borders are faintly concave, almost straight. The internal borders are divergent. Anterior teeth large and widely spaced, four in number. Posterior teeth, four also, very minute and close together. In the male the falces are similar, only darker. On the one side four minute posterior teeth were seen, but only three could be found on the other. Anterior teeth as in the female.

*Maxille* inclined towards the labium.

*Palpi* in the female similarly coloured to the legs. No terminal claw.

*Male palpus*.—Femur and patella coloured as the legs. Tibia produced into a flat dorsal apophysis projecting forwards over the tarsus, its angles salient, the interior one produced further forward than that on the exterior. The apophysis is rather darker than the rest of the article, which it nearly equals in length. Tarsus of normal form. Paracymbium inconspicuous. Lamella characteristica not present. The embolus is short, black, and curved into a tight spiral with the point projecting forwards.

The legs show no femoral or metatarsal spines. Each patella bears one above. Each of the tibiæ of the first three pairs possesses two dorsal spines. The fourth tibia on each side wants the distal spine and thus possesses only one.

Trichobothria are present on the metatarsi of the first three pairs about the middle. None occur on the fourth metatarsi.

*Tarsal claws* three in number. Inferior claw simple. Superior claws armed with about six teeth arranged in a single row, and diminishing in size upwards, the sixth or proximal tooth being very small indeed.

*Spinners and spiracles* normal.

*Epigyne*.—Simple and inconspicuous (Pl. XVII. fig. 8).

The female of this species resembles *Typhochrestus digitatus* in size, facies, and general structure. It also resembles the male in most respects. The ocular arrangement and cephalothorax of the male are, however, far from typical. It is, of course, possible that they belong to different species, and they were certainly found some hundreds of miles apart. I believe, however, that they are conspecific and that they are more nearly related to *Typhochrestus* than any other genus.

#### LIST OF GREENLAND SPIDERS UP TO DATE.

Excluding *Erigone penessa*, Thor., *E. modesta*, Thor., *E. longipalpis*, Sund., and *L. grænlandica*, Lenz., 46 species of Araneæ and Opiliones are now known to inhabit Greenland. Of these 23 belong to the Linyphiidæ and 23 to the other families:—

- Dictyna major*, Menge. 4, B.
- Drassodes signifer*, C. L. K. 4, B.
- Gnaphosa islandica*, Sör. 1 (occurs also in Iceland).
- Trochosa alpigena*, Döl. 3, B.
- Lycosa glacialis*, Thor. 2.
- *grænlandica*, Thor. 2 (with Iceland).
- *furcifera*, Thor. 2 (with Iceland).
- *hyperborea*. 4.
- Tegenaria detestabilis*, Camb. 2.
- Hahnia glacialis*, Sör. 1.
- Oxyptila dura*, Sör. 1.
- Xysticus deichmanni*, Sör. 1.
- Thanatus arcticus*, Sör. 1.
- Salticus scenicus*, Clerck? 3, B.
- Theridion lundbecki*, Sör. 1.
- *petrense*, Sör. 1.
- Stearodea bipunctata*, L. 4, B.
- Enoplognatha intrepida*, Sör. 1.
- Tetragnatha extensa*, L. 3, B.
- Araneus grænlandicus*, Sim. 1.
- *quadratus*, Clerck. 4, B.
- *ocellatus*, Clerck. 3, B.
- Brachycentrum simile*, Sör. 2.
- Erigonella grænlandica*, Strand. 2.

- Cnephalocotes pygmæus*, Sör. 1.  
*Areoncus ruderalis*, Sör. 1.  
*Walckenaera insolens*, Sör. 1.  
 — *similis*, Sör. 1.  
*Typhochrestus borealis*, Jackson. 1.  
 — *spetsbergensis*, Thor. 4.  
*Gonatum inflatum*, Sör. 1.  
*Ædothorax lapidicola*, Sör. 1.  
*Notioscopus* ? *curvitarvus*, Sör. 1.  
*Erigone atra*, Bl. 3, B.  
 — *arctica*, White. 3, B.  
 — *psychrophila*, Thor. 3.  
 — *whymperi*, Camb. 2 (with Iceland).  
*Minicia gibbosa*, Sör. 1.  
*Hilaira frigida*, Thor. 3, B.  
*Oreonetides vaginatus*, Thor. 4, B.  
*Tmeticus levinsoni*, Sör. 1.  
*Leptyphantes turbatrix*, Camb. 1.  
 — *grœnlandicus*, Thor. 1.  
 — *audax*, Sör. 1.  
*Linyphia emertoni*, Thor. 2.  
  
*Mitopus morio*, Fabr. 3, B.

The numbers affixed are as follows:—1 Peculiar, 2 Nearctic, 3 Holarctic, 4 Palæarctic, B British.

It will be seen that thirteen species are common to Greenland and Britain. Simon in 'Histoire Naturelle des Araignées,' Tome ii. p. 343, states that *Pirata piratica*, Clerck, is found in Spitzbergen and in Northern Greenland. Strand repeats this in 'Fauna Arctica,' p. 467. I can find no record of this anywhere, nor did the Oxford expeditions get it in Spitzbergen. I think there must be some mistake about it, so have not included it in the above list nor in my Spitzbergen papers.

#### NOTE ON SOME ICELANDIC SPIDERS.

My friend, Mr. W. S. Bristowe, recently sent me some spiders, collected in 1926 by Mr. Remy, who was apparently cruising in a ship called the 'Pourquoi Pas.' He called at Greenland, at any rate—at Liverpool Island, where he found specimens of *L. glacialis*, Thor., as recorded above. He also did some collecting near Reykjavik in Iceland, where he obtained four species of spiders in August of that year. These are:—

- Halorates reprobus*, Camb. Both sexes.  
*Leptyphantes mengii*, Kulcz. Both sexes.  
*Hilaira frigida*, Thor. One female.  
*Porrhomma thorellii*, Herm. One female.



These were all found on the shore near Reykjavik. The first two are apparently new to Iceland, and should bring the total of its spider fauna to 39 species. The *Leptyphantès mengii* do not exactly resemble the species as seen in Britain. They are larger and have the facies of *L. tenuis*, Bl. The tooth on the paracymbium of the male is stronger and projects more forwards than upwards, but I cannot make out any other difference in the sexual organs except size. According to Simon and his editors (23<sup>b</sup>) this species is absent in France, where it is replaced by *L. gallicus*, Sim.

Through the kindness of Mr. Louis Fåge, who has given me a pair of specimens, I have been able to compare *L. mengii*, Kulcz., *L. gallicus*, Sim., and these Icelandic examples. The tooth on the paracymbium varies, *L. gallicus* being intermediate in strength and forward direction between *L. mengii* from Britain and the Icelanders. I noticed a slight difference between the vulva of *L. gallicus* and the Iceland example, but on examining a series of *L. mengii* it became evident that this organ varied a good deal, and specimens were found resembling both forms together with intermediate examples. In size, too, *L. gallicus* is intermediate between the tiny *L. mengii* and the larger Icelanders. The Icelanders at present have a very boldly marked black and white pigmented abdominal pattern. Long immersion in spirit will, however, reduce this considerably. There seems no constant difference, except size, between the specimens of *L. mengii*, Kulcz. (from Britain), *L. gallicus*, Sim., and these Icelandic forms.

I here append a list of Iceland spiders up to date. Professor Strand has kindly sent me a copy of his 'Isländische Arachniden,' published at Stuttgart in October 1906. Amongst those he recorded in 'Fauna Arctica' in June 1906 he removes *Tmeticus affinis*, Bl., and *Nemastoma lugubre*, O. F. M., as it seems they were recorded from the Faroës and got into the Iceland list by mistake. Including one Opilionid, there were 26 species known in 1906. In 1913 de Lessert (18) added one more, *Pardosa riparia*, C. L. K., subspecies *sphagnicola*, Dahl. In 1929 J. Braendegaard (1) added ten more. I now record two new ones here, so that the total number of species of Aranææ and Opiliones known to inhabit Iceland is 39, as follows:—

- Gnaphosa islandica*, Sör.
- Drassodes signifer*, C. L. K.
- Xysticus cristatus*, Clerck.
- *pini*, Hahn.
- Tegenaria derhami*, Scop.
- Trochosa alpigena*, Dahl.

- Pirata piraticus*, C. L. K.  
 — *piscatorius*, Clerck.  
*Lycosa riparia*, C. L. K., subsp. *sphagnicola*, Dahl.  
 — *pullata*, Clerck.  
 — *tarsalis*, Thor., var. *islandica*, Strand.  
 — *herbigrada*, Bl.  
 — *grænlandica*, Thor.  
 — *furcifera*, Thor.  
*Stearodea bipunctata*, L.  
*Diplocephalus cristatus*, Bl.  
*Savignya frontata*, Bl.  
*Entelecara erythropus*, Westr.  
*Tmeticus* ? sp., Sim.  
*Gonatium rubens*, Bl.  
*Erigone whymperi*, Camb.  
 — *longipalpis*, Sund.  
 — *tirolensis*, L. K.  
 — *arctica*, White, and var. *maritima*, Kulcz.  
*Halorates reprobus*, Camb.  
*Phaulothrix hardii*, Bl.  
*Leptorhoptrum huthwaitii*, Camb.  
*Hilaira frigida*, Thor.  
*Porrhomma thorellii*, Herm.  
*Leptyphantes zimmermannii*, Bertk.  
 — *cristatus*, Menge.  
 — *mengii*, Kulcz.  
*Bolyphantes index*, Thor.  
*Mengea scopigera*, Gr.  
*Araneus diadematus*, L., var. *islandicus*, Strand.  
 — *ocellatus*, Clerck, var. *islandicolus*, Strand.  
 — *sericatus*, Clerck.  
 — *cornutus*, Clerck.  
*Mitopus morio*, Fabr.

All these occur in Britain, except *G. islandica*, Sör., *Erigone whymperi*, Camb., *Lycosa grænlandica*, Thor., and *Lycosa furcifera*, Thor. These are all found in Greenland but not in Europe. It is thus seen that nearly 90 per cent. of the fauna of Iceland occur in Britain, compared with only 28 per cent. of the fauna of Greenland.

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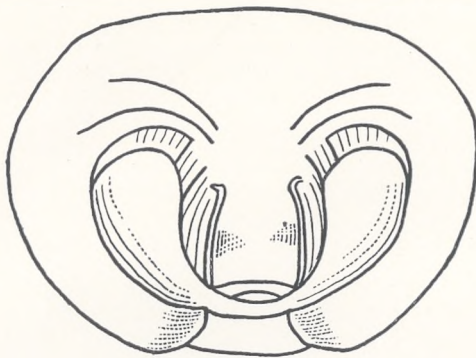
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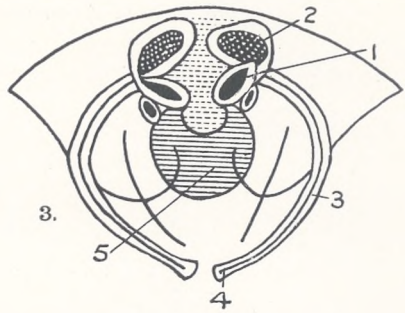
## EXPLANATION OF PLATE XVII.

- Fig. 1. *Erigone whymperi*, Camb. Right palpal tibia from outer side.
- Fig. 2. *Erigone cristatopalpus*, Sim. Right palpal tibia from outer side.
- Fig. 3. *Erigone dentipalpis*, Wid. Epigyne, cleared and seen transparently. Semidiagrammatic. 1, spermotheca; 2, spermothecal gland; 3, seminal tube; 4, aperture of same; 5, vestibule.
- Fig. 4. *Erigone whymperi*, Camb. Right palpus from below. *a*, dens anticus; *b*, dens medius; *c*, dens posticus; *d*, embolus.
- Fig. 5. *Erigone cristatopalpus*, Sim. Right palpus from below. Lettering as in the last.
- Fig. 6. *Oxyptila dura*, Sör. Vulva from below.
- Fig. 7. *Enoplognatha intrepida*, Sör. Vulva from below and slightly behind.
- Fig. 8. *Typhochrestus borealis*, sp. n. Vulva from below.
- Fig. 9. *Lycosa hyperborea*, Thor. Vulva from below.
- Fig. 10. *Theridion lundbecki*, Sör. Vulva from below.
- Fig. 11. *Typhochrestus borealis*, sp. n. Left palpal organs from outer side. *p*, paracymbium; *e*, embolus.
- Fig. 12. *Typhochrestus borealis*, sp. n. Left palpus from outer side, slightly different position.
- Fig. 13. *Typhochrestus borealis*, sp. n. Male cephalothorax from left side.
- Fig. 14. *Typhochrestus borealis*, sp. n. Right palpus from above.

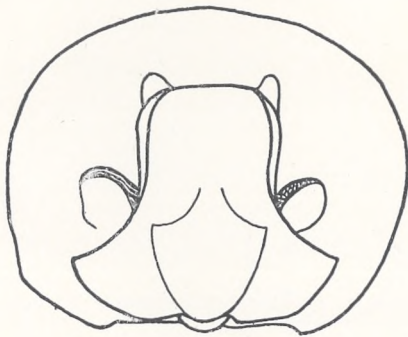




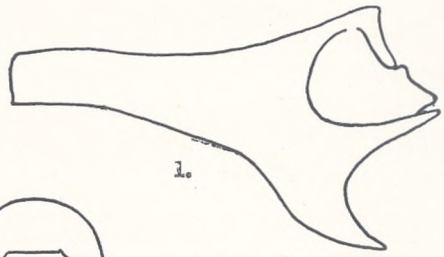
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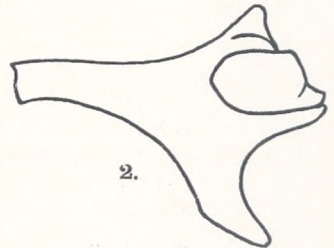
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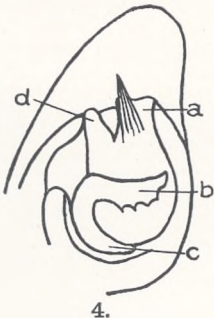
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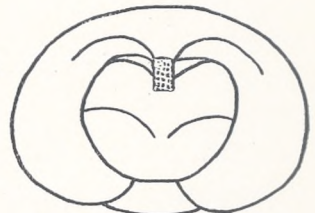
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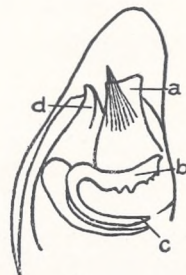
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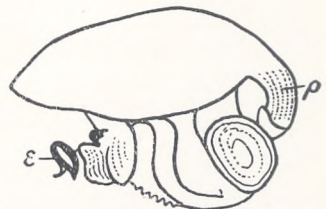
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