AUSTRALASIAN ANTARCTIC EXPEDITION

1911 - 1914.

UNDER THE LEADERSHIP OF SIR DOUGLAS MAWSON, D.Sc., B.E.

SCIENTIFIC REPORTS.

SERIES C.—ZOOLOGY AND BOTANY.

VOL. V. PART 1.

ARACHNIDA FROM MACQUARIE ISLAND

BY

W. J. RAINBOW, F.E.S.,

AUSTRALIAN MUSEUM, SYDNEY.

WITH FOURTEEN FIGURES IN THE TEXT.

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CONTENTS.

ARACHNIDA FROM MACQUARIE ISLAND.

By W. J. Rainbow, F.E.S., Entomologist to the Australian Museum.

The Arachnid material collected by the Australian Antarctic Exploring Expedition on Macquarie Island was, as one would naturally expect, small in point of species. The collection consists of one Pœcilophysid and two Araneids. Of the first named, there are about half a dozen examples, while in respect of the spiders one species is represented by one specimen, and that an undescribed male; of the second, there is a fair number of specimens, and both males and females are represented. In this case, too, the male is a novelty, and both will be found described hereunder.

The Pœcilophysid is interesting from the fact that it was originally discovered on Kerguelen Island by the Rev. A. E. Eaton, who accompanied the Transit of Venus Expedition to that island in 1874, and was described and figured by the Rev. O. P. Cambridge in 1876.

Order PŒCILOPHYSIDEA.

Family PŒCILOPHYSIDES.

Genus Pœcilophysis *O. P. Camb.*

PŒCILOPHYSIS KERGUELENENSIS *O. P. Camb.*

Pœcilophysis kerguelenensis O. P. Camb., Proc. Zool. Soc., 1876, p. 263, pl. XIX., fig. 4.

Among the material collected on Macquarie Island there were half a dozen examples of a curious and minute Arachnid, and these bear out Cambridge's description of the above. Hamilton's note in respect of the species reads:—"Small spiders, common under moss and tussock. Distributed generally over island. Date: 30.8.12. Original colour: yellowish white."

In commenting upon the Kerguelen material, Cambridge remarked—"The whole collection consisted but of five species—one of Araneidea and three Acaridea, the fifth being that upon which I propose to found a new genus, family, and order. At first sight this delicate little Arachnid gave me the idea of a Chelifer deprived of its forcipated palpi, but a subsequent examination with a stronger lens showed me that it possessed palpi of an entirely different character from those of the pseudo-Scorpiones; and a final scrutiny under a still higher power led to the detection of eyes. In the number and

position of these there is a remarkable similarity to the Solpugidea, while there are not wanting some general indications of affinity to the Araneidea. Its small size and general appearance when alive would probably induce one to place it among the Acaridea; but the structure of the mouth parts, the distinct cephalothorax and abdomen, and especially the character of the eyes, seem to preclude this allocation."*

In working over literature it does not appear that this species has been met with since 1876, consequently Mr. Hamilton's find is distinctly interesting.

Order ARANEIDEA.

In his paper, "Spiders and Opalines from the Subantarctic Islands of New Zealand,"† Mr. H. R. Hogg, M.A., recorded 14 species of spiders of which all, save two, were new. These species were found upon Campbell, Snares, Auckland, Bounty, Macquarie, and Enderby Islands respectively. Mr. Hamilton's material, however, came solely from Macquarie Island, and consists only of two species—a *Mynoglenes* Sim., and a *Myro* O. P. Camb.

Family AGALENIDAE.

Subfamily CYBŒNIAE.

Group CYBŒEAE.

Genus Mynoglenes *Sim.*

MYNOGLENES MARRINERI *Hogg.*

(Figs. 1 and 2.)

Mynoglenes marrineri Hogg, Subantarctic Is. of New Zealand, vol. I., 1909, p. 165, pl. VIII., figs. 1*a*—1*c*.

Only one example was obtained, and this, I think, can be no other than Hogg's species. The material worked out by the author just quoted consisted of three females from Monument Harbour, Campbell Island, and another slightly smaller from Enderby Island. Those found by Mr. Marriner, at Monument Harbour, were taken from under stones on the seashore. Mr. Hamilton's note reads:—"Spider. Taken on my person when in the vicinity of sealers' huts (probably introduced), north end Macquarie Island. Date: 26.2.13."

♂ Cephalothorax, 2·3mm. long, 1·7mm. broad; abdomen, 2·8mm. long, 1·4mm. broad.

Cephalothorax.—Obovate, dark yellowish brown, smooth, glossy. *Pars cephalica* raised, strongly arched, a long, dark, brown median stripe is present; *ocular area* broader

* Cambridge.—Proc. Zool. Soc., 1876, p. 259.

† Hogg.—Subantarctic Islands of New Zealand, vol. I., 1909, pp. 155-179, pls. VII. and VIII.

than long; *clypeus* broad, deep, perpendicular. *Pars thoracica* broad, arched, radial grooves dark brown; *thoracic fovea* broad, deep, profound, longitudinal; lateral angles rounded, posterior angle indented; *marginal band* narrow, dark brown.

Eyes.—Eight, in two rows of four each; anterior row slightly recurved, rear row slightly procurved; anterior median eyes smallest of the series, and posterior median eyes slightly the largest; lateral eyes equal in size, and each pair raised upon a protuberance (see Hogg's description and figures); surrounding the eyes are a few scattered erect hairs.

Legs.—Long, tapering, clothed with short, fine hairs, and sparingly armed with fine, moderately long spines; the coxa, trochanter, and femur of each ambulatory limb yellow, while each tibia and metatarsus is broadly ringed with yellow brown; tarsi, yellow brown. The following are the measurements in millimetres:—

Leg.	Coxa.	Trochanter and Femur.	Patella and Tibia.	Metatarsus and Tarsus.	Total.
1	0·5	2·2	2	3	7·7
2	0·5	2·2	2	3	7·7
3	0·5	2	1·5	2·3	6·3
4	0·5	2·5	2·8	3·5	9·3

Fig. 1—*Mynoglenes marrineri* Hogg ♂
Palpus.

Palpi.—Moderately long, slender, similar in colour and armature to legs, yellow, genital bulb darker (fig. 1). Measurements in millimetres—Coxa, 0·3; trochanter and femur, 1; patella and tibia, 0·8; genital bulb, 0·5; total, 2·6.

Falces.—Yellow brown, broad, divergent, long, arched, moderately clothed with rather long hairs; inner margin of the furrow of each falx armed with two moderately strong teeth, one of which is at the base and one near the fang; outer margin armed with five teeth; fang, long.

Maxillæ.—Concolorous, except at apex, where they are yellowish, arched, inclined inwards, furnished with a few long, erect hairs.

Labium.—Somewhat darker, broader than long, arched, apex rounded, and furnished with a few long and erect hairs.

Sternum.—Dark brown, shield-shaped, broad in front, pointed at rear, slightly arched, granulated, and furnished with a few long and erect black hairs; lateral angles hollowed in front of each coxa.

Abdomen.—Oval, narrower than cephalothorax, arched, pubescent, and ornamented with a broad wavy lateral band of dark brown and a few median spots of same colour;

Fig. 2—*Mynoglenes marrineri* Hogg ♂
Abdomen.

laterally there are, close together, a series of dark-brown, wavy, pencillings, whilst ventrally the dull yellowish tint is rendered darker by a number of small, dark-brown spots (fig. 2).

Genus Myro O. P. Camb.

MYRO HAMILTONI *Hogg.*

(Figs. 3-14.)

A considerable number of specimens of this species was collected by Mr. H. Hamilton. One series, consisting of four females, three males, and one very young example, were obtained during January and February, 1912, and the collector's note with this, in addition to date, reads—"Spiders (*Myro hamiltoni*). Collected at various times—chiefly on *Stilbocarpa polaris*. North end Macquarie Island."

Series No. 2 consists of 11 females (a couple of which are immature) and six males; there is also one egg sac. The note with this species reads—"Spiders. Found under masses of *Cotula plumosa*, Aerial Cove, Macquarie Island. Date: 2.8.12. Colour: abdomen, dark brown to black."

Series No. 3 contains four adult females, one about half-grown, and one very young example, and the collector's note accompanying the series is as follows:—"Spiders (*Myro hamiltoni*). Taken under stones on site of Victoria penguin rookery (deserted). North end Macquarie Island. Date: 16.8.12. Colour: light brown."

An examination of the specimens collected by Mr. Hamilton, as narrated above, disclosed the fact that the species not only shows a close affinity to *M. kerguelenensis* Camb., but also it is exceedingly variable in point of colour pattern in both sexes, and

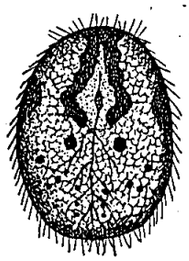

Fig. 3—*Myro hamiltoni* ♀ Hogg. Abdomen.

Fig. 4—*Myro hamiltoni* ♀ Hogg. Abdomen.

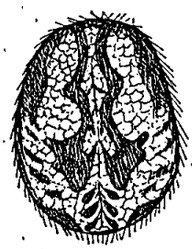

Fig. 5—*Myro hamiltoni* ♀ Hogg. Abdomen.

Fig. 6—*Myro hamiltoni* Hogg ♀ Abdomen.

Fig. 7—*Myro hamiltoni* ♀ Hogg. Abdomen.

to demonstrate this I submit herewith five figures of the abdomen (figs. 3-7) and two (figs. 8 and 9) of the male. Some of the females are decidedly pretty. The darker coloured forms are the commonest, and their ornamentation may be taken as the most typical; the white patches, where they occur, as also the white bars—whether longitudinal or transverse—are delicately reticulated; in some examples there is also a

delicate, wavy, and irregular scheme of tracery. Forms agreeing with Hogg's description of abdominal markings occur, but in the three series before me they are the least numerous.

Fig. 8—*Myro hamiltoni* ♂ Hogg.
Abdomen.

Fig. 9—*Myro hamiltoni* ♂ Hogg.
Abdomen.

I was rather puzzled, however, in respect of Hogg's interpretation of the eye formula, and his description and figures of the epigynum. In respect of the latter, my friend says—"The epigyne is oval, longer than broad, with a rectangular opening reaching from the base to two-thirds of its height upwards."*

In the examples collected by Mr. Hamilton the epigynum conforms more nearly to *M. kerguelenensis;* also, the lateral eyes of the second row are poised obliquely, while the anterior median eyes do not touch their lateral neighbours as depicted by Mr. Hogg.† In fact, the eye formula is very like that of Cambridge's species. Probably the effects as suggested by the figures referred to may be due to the angle at which the specimens were viewed. Being confronted with these difficulties, I wrote to Dr. J. Allan Thompson, Director of the Dominion Museum, Wellington, inquiring as to the whereabouts of the type (*M. hamiltoni*); the latter, however, was not in the museum over which he has charge, but he very courteously interested himself in my behalf, with the result that Professor W. B. Benham, of the Otago University Museum, came to my aid. I wish, here, to record my sincere thanks to each of these gentlemen. Professor Benham, without hesitation or loss of time, forwarded me all his specimens of *M. hamiltoni*, including the type, for examination and comparison with my material. The following are my descriptions and figures of the eye formula and epigynum from the type:—

Eyes.—Ocular area longer than broad. Eyes 8, in two strongly procurved rows of four each; eyes of rear row about equal in size, and mounted on small black tubercles;

Fig. 10—*Myro hamiltoni.*
Eyes.

the black tubercles of the rear pair are obtusely pointed both in front and behind; posterior lateral eyes seated obliquely; anterior lateral eyes are also obliquely poised,

* Hogg.—Subantarctic Is. of New Zealand, vol. I., p. 173, pl. VIII., fig. 5*a*.
† Hogg.—*Loc. cit.*, fig. 5*h*.

and are small; intermediate anterior pair minute, and separated from each other by a space equal to their individual diameter; viewed from certain angles these latter appear to touch their lateral anterior neighbours, but in reality this is not so (fig. 10).

Epigynum.—Transversely oval, similar in many respects to *M. kerguelenensis*, but nevertheless distinct therefrom. To appreciate this, compare Cambridge's figure* with the one (*M. hamiltoni*) given herewith. The lateral discs indicated in the diagram are very indistinct and so are not easily seen (fig. 11). There is some slight variation noticeable in different individuals, but these do not interfere with the general formation or appearance.

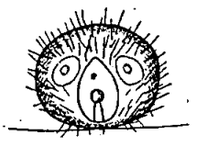

Fig. 11—*Myro hamiltoni.*
Epigynum.

Ova Sac.—The ova sac is white, round, about 15mm. in circumference, plano-convex, strongly arched, closely woven, tough, and surrounded at base by a flattened extension or flange, the latter being about a millimetre in breadth. From its appearance it had evidently been attached to a stone. The following is the description of the male :—

♂ Cephalothorax—2·1mm. long, 1·6mm. broad; abdomen, 2·6mm. long, 1·8mm. broad.

Cephalothorax.—Smooth; in some specimens straw yellow with dark-brown markings, the latter variable in different examples; in other specimens the cephalothorax is of a cloudy yellow, suffused with brown, and having dark-brown markings. *Pars cephalica* raised, strongly arched, furnished with a double row of long black bristles running along the median line from base to apex; there are also a few distributed over the lateral areas; *ocular area* longer than broad, the front fringed with long, black, bristles; *clypeus* sinuous, inclining inwards, *pars thoracica* arched, radial grooves distinct and darker than the surface; surface provided with a few scattered hairs; *thoracic fovea* long and narrow, and having the appearance of a dark, strongly pencilled line; this groove, which is not deep, extends in a straight line from base of cephalic segment towards the lateral angle, and is nearly half as long as that segment; *marginal band* slightly reflexed and dark brown in all specimens.

Eyes.—Similar to those of the ♀ (fig. 10).

Legs.—Long, tapering; in the lighter-coloured specimens the coxæ and femora are straw yellow, but the other joints are reddish yellow; in the darker specimens the legs are brownish yellow, and their femora more or less distinctly annulated with brown; these annulations are most distinct on the underside; all the legs are clothed with short,

* Cambridge.—Proc. Zool. Soc., 1876, pl. XIX., fig. 5*h*.

fine hairs, and armed with long spines, some of which are at right angles to the different joints; claws as described by Hogg. The following are the measurements in millimetres :—

Leg.	Coxa.	Trochanter and Femur.	Tibia and Patella.	Metatarsus and Tarsus.	Total.
1	0·7	1·7	2	2·5	6·9
2	0·7	1·7	2	2·5	6·9
3	0·7	1·6	1·8	2·2	6·3
4	0·7	1·9	2·1	2·7	7·4

Palpi.—Equal in length to cephalothorax, each example however variable, similar in colour and armature to legs; cubital joint short and bent; radial joint slightly longer, and produced on its outer angle into a distinct and prominent apophysis, similar

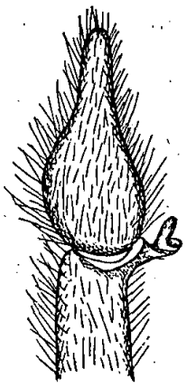

Fig. 12—*Myro hamiltoni* ♂
Palpus, from above.

to that of *M. kerguelenensis* O. P. Camb. (fig. 12); digital joint long and narrow and bluntly acuminate; palpal organs are again similar to the species just quoted. For details, see figs. 13 and 14.

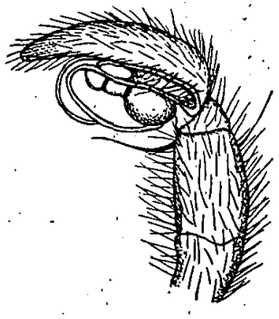

Fig. 13—*Myro hamiltoni* Hogg ♂
Palpus, from the side.

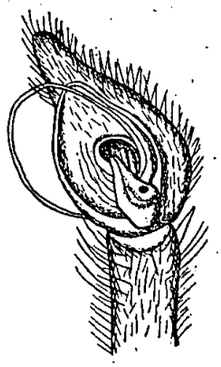

Fig. 14—*Myro hamiltoni* ♂ Hogg
Palpus, from beneath.

Falces.—In each case similar in colour to cephalothorax, long, arched, vertical, strong; inner angle of each falx armed as in the ♀ with two large teeth and one small one; outer angle armed with five small teeth; fang, long.

Maxillæ.—Long, arched, yellow brown (darker in some specimens), curving inwards; apices produced, somewhat club-shaped; inner apical angles rather obliquely truncated; surface of each sparingly clothed with stiff, bristly hairs.

Labium.—Yellow brown, lighter at tip; nearly as broad as long, rather more than half as long as maxillæ; apex rounded; sparingly clothed with short, blunt, bristly hairs.

Sternum.—Yellowish, suffused with dark brown laterally; arched, cordate, terminating in a somewhat obtuse point between fourth pair of coxæ; surface moderately clothed with short, stiff, black hairs.

Abdomen.—Ovate, moderately overhanging base of cephalothorax; hairy; arched; colour and ornamentation variable (figs. 8 and 9), some examples being much darker than the others; in the majority of cases the abdomen of the ♂ is dark brown (almost black), with pale yellowish, longitudinal and transverse bars (echelons) and spots; other examples are of a lighter brown, with large yellowish areas relieved by dark-brown transverse bars (echelons) or dark-brown patches; in the dark forms the underside is dark yellowish brown, with two slightly curved lateral, longitudinal yellow stripes, which latter commence near the *rima epigasteris* and terminate just in front of the spinnerets; in the lighter coloured forms the ventral surface is yellowish and suffused in parts with brown.

INDEX.

Series C.—REPORTS IN COURSE OF PREPARATION.

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FORAMINIFERA	Mr. F. Chapman, A.L.S., F.R.M.S., National Museum, Melbourne.
MONAXONID SPONGES AND TETRAXONID SPONGES	Mr. E. F. Hallmann, B.Sc., University, Sydney.
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* Issued.