

NOTES ON TASMANIAN ARANEIDÆ

(With a description of a new species).

BY

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Plates XII.-XV. and Seven Text Figures.

(Read 9th November, 1925.)

In the following notes I have adopted the method of description employed by Rainbow and Pulleine in their excellent account of Australian Trap-door Spiders (D), and can only hope that my descriptions will be as clear as theirs are.

Family AVICULARIDÆ.

Sub-Family DIPLURINÆ.

Group DIPLUREÆ.

Genus *Chenistonia* (Hogg).*Chenistonia trevallynia*, sp. nov.

Plates XII. and XIII.

The genus *Chenistonia* was established by H. R. Hogg, in 1901 (A), for the reception of two species which he found at Macedon, Victoria. Since that date, five other Australian species have been described, making a total of seven, namely:—

<i>Chenistonia maculata</i> (Hogg) }	.....	(A)
<i>Chenistonia major</i> (Hogg) . }	.....	(B)
<i>Chenistonia tepperi</i> (Hogg) ..	.....	(B)
<i>Chenistonia hoggi</i> (Rainbow) }*	.....	(C)
<i>Chenistonia giraulti</i> (Rainbow) }	.....	(C)
<i>Chenistonia auropilosa</i> (Rainbow and Pulleine) }	.....	(D)
<i>Chenistonia villosa</i> (Rainbow and Pulleine) }	.....

The following notes deal with a Tasmanian spider of this genus. The writer believes that it is a new species, and also that it is the first member of the genus *Chenistonia* to be recorded from this State. The name, *Chenistonia trevallynia*, is suggested, from the locality where the specimens were obtained.

The description of the male is as follows:—

Measurements in millimetres (excluding the falces).

Length of Cephalothorax	4.9
Breadth of Cephalothorax (across fovea) . .	3.7
Length of Abdomen	4.3
Breadth of Abdomen	2.8

Leg	Coxa	Trochanter and Femur	Patella and Tibia	Metatarsus and Tarsus	Total
1	1.8	3.6	4.3	3.7	13.4
2	1.5	3.2	3.5	3.7	11.9
3	1.2	2.6	2.8	3.3	9.9
4	1.6	4.0	4.3	4.6	14.5
Palpi	1.7	2.6	2.8	0.9	8.0

Cephalothorax: Obovate, dark brown, arched, and sparingly covered with fine, short, down-lying, black hairs.

Pars Cephalica: Narrow in front, gently ascending, smooth. The segmental groove is distinct.

Ocular Area: This forms a well-defined tubercular eminence, 0.7 mm. broad, and 0.5 mm. long. In front of it projects a tuft of six or seven long black bristles. Behind the front median eyes, and between the rear median eyes, there is another tuft of shorter bristles.

Clypeus: Narrow and brown in colour.

Pars Thoracica: Arched and broad, with distinct radial grooves.

Thoracic Fovea: Deep, straight, and situated two-thirds of the length of the cephalothorax from the anterior end.

Marginal Band: Narrow, fringed with a few scattered hairs.

Eyes: Set on an oval prominence, which is black in colour, and one and a half times as broad as it is long. They form a very compact group. The front median eyes are separated from each other by a distance equal to one-third of their individual diameter. The front laterals are the largest of the group, and have a long diameter equal to one and a half times that of the front median eyes, from which they are separated by a distance equal to one-fifth of the diameter of the front median eyes. The front row is procurved, while the rear row is recurved. The long diameter of the rear laterals is slightly less than that of the front laterals, and is equal to that of the rear median eyes. The rear laterals just touch the nearest point of the front laterals, and of the rear median eyes, and the black rims, on which these eyes are mounted, merge into one another between the eyes. See fig. 1.

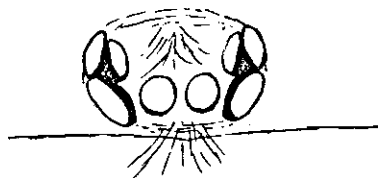


Fig. 1. *Chenistonia trevallynia*. Eyes in male.

Legs: Similar in colour to the cephalothorax. They are densely clothed with dark hair, but on the upper side of each patella there is a bare longitudinal stripe. Spines are present on legs 2, 3, and 4, and are especially numerous on the metatarsi of legs 3 and 4. In the case of leg 1 there are only a few spines on the upper side of the femoral segment, while the tibial segment carries the apophysis, and powerful spine so characteristic of the genus. Near the base of the apophysis there is a second smaller spine. See fig. 2. This second spine was present in each of the nine

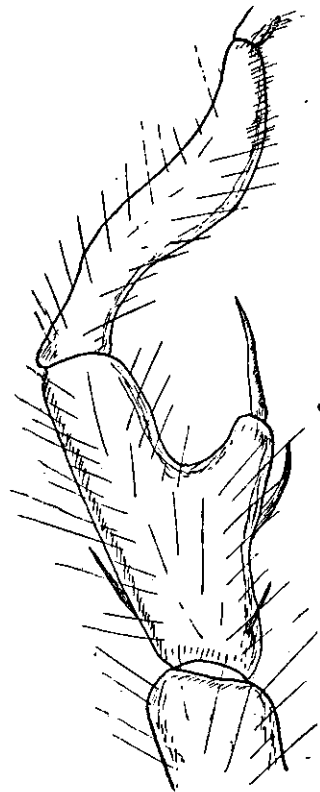


Fig. 2. *Chenistonia trevallynia*. Tibia and metatarsus of leg 1 in the male.

males examined. One abnormal specimen had a powerful double spine rising from the apophysis on the tibia of the right leg, and no spine at all on that of the left leg. The tarsi and metatarsi of legs 1 and 2 are scopulated. No spines are present on any of the tarsi. The superior claws are pectinated in two rows, there being about nine teeth in the inner rows, and twelve in the outer rows. The inferior claw is short and bare.

Palpi: Concolorous with the legs and thickly covered with hairs. The tibial segment is provided with spines and coarse bristles. The bulb is pyriform, and ends in a sharp point. Near the extremity, and on one side, there is a sharp thorn-like projection. See fig. 3.

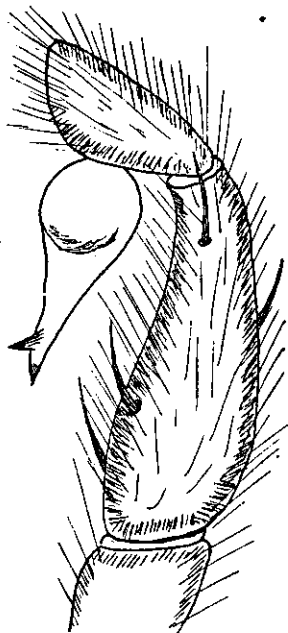


Fig. 3. *Chenistonia trevallynia*. Left palpus of male viewed from outer side.

Falces: Concolorous with the cephalothorax. Densely clothed with fine black hair and coarse bristles. No rastellum is present. The fang is long, well curved, and of a dark red-brown colour. The inner edge of the falx sheath is armed with a row of eight large teeth, and there are five or six minute intermediate teeth near the base.

Maxillæ: Light brown, not very broad, excavated round the labium, and in the excavation there is a cluster of about 37 short blunt spines. The heel is rounded. The beard is red.

Labium: Submerged, devoid of spines, but clothed with long coarse hairs. The apex is slightly rounded.

Sternum: Oval, arched, hairy, and fringed with black bristly hairs.

Sigilla: Very small, marginal, and not well defined.

Abdomen: Light brown mottled with dark brown, and thickly covered with long black hair. The under surface is fawn in colour, and covered with short black hair.

Spinnerets: Yellow and hairy. The superior pair long and tapering. The second segment is the shortest, while the first segment is equal in length to the third. The inferior pair are short, cylindrical, and about their own individual diameter apart.

The description of the female is as follows:—

Measurements in millimetres (excluding the falces).

Length of Cephalothorax	4.4
Breadth of Cephalothorax (across fovea) ..	3.4
Length of Abdomen	6.4
Breadth of Abdomen	4.3

Leg	Coxa	Trochanter and Femur	Patella and Tibia	Metatarsus and Tarsus	Total
1	1.9	3.6	3.7	2.8	12.0
2	1.7	3.2	3.2	2.6	10.7
3	1.4	2.8	2.6	3.0	9.8
4	1.7	3.9	4.1	3.9	13.6
				Tarsus	
Palpi	1.7	3.1	2.6	1.4	8.8

Cephalothorax: Lighter shade of brown than in the male; longer than broad, rounded at the sides, and thinly covered with short black hairs.

Pars Cephalica: Narrow in front, and gently ascending at the sides.

Ocular Area: Forms a well-defined oval eminence as in the male. It is 0.8 mm. broad, and 0.6 mm. long, and pro-

vided with a tuft of bristles in front of the anterior median eyes, and another tuft between the rear median eyes.

Clypeus: Narrow and hyaline.

Pars Thoracica: Broad, arched, radial grooves well defined.

Thoracic Fovea: Deep, straight, and situated as in the male.

Marginal Band: Narrow and without any distinct fringe.

Eyes: Arranged in a compact group on a raised tubercle as in the male. The front median eyes are the smallest of the group, and are separated from each other by a distance equal to half their individual diameter. The front laterals are the largest of the group, and their long diameter is equal to twice the diameter of the front median eyes, from which they are separated by a distance equal to one-third of the diameter of the front median eyes. The front row is procurved, while the rear row is recurved. The long diameter of the rear laterals is equal to about four-fifths that of the front laterals, and the long diameter of the rear median eyes is equal to one and a fifth times the diameter of the front median eyes. The rear laterals almost touch the nearest point of the front laterals, and of the rear median eyes; and the black rims, on which these eyes are mounted, merge into one another between the eyes. See fig. 4.

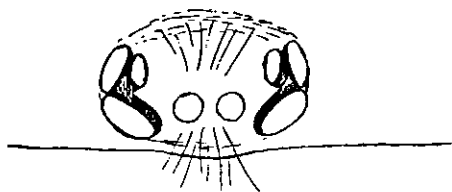


Fig. 4. *Chenistonia trevallynia*. Eyes in female.

Legs: Concolorous with the cephalothorax, moderately hairy. All of the metatarsi are furnished with spines, but those of legs 3 and 4 more densely so than the others. There are no spines on the tarsi. A scopula is present on the tarsi of legs 1 and 2. On the upper surface of each patella is a bare, light-brown, longitudinal stripe. The superior tarsal claws are pectinated in two rows; there are seven teeth in each row. The inferior claw is small and bare.

Palpi: Moderately strong and long. They are similar in colour and clothing to the legs. The tarsal segment is thickly scopulated, and provided with a single claw, having five pectinations.

Falces: Concolorous with the cephalothorax or darker; clothed with black hairs and coarse bristles. The inner ridge of the falx sheath is armed with a row of eight large teeth, and there are five or six minute intermediate teeth near the base. The fang is long, shining, and well curved. It is dark brown in colour. There is no rastellum.

Maxillæ: Light brown, not very broad; excavated round the labium, and in the excavation there is a cluster of about 37 short blunt spines. The heel is well rounded, and the beard reddish in colour.

Labium: Submerged, devoid of spines, but clothed with long coarse hairs. It is separated from the sternum by a groove.

Sternum: Light brown, arched, and hairy, fringed with short black bristles.

Sigilla: Small, round, marginal, distinct in mature specimens, but scarcely visible in young specimens.

Abdomen: Oval, light brown, mottled, with irregular dark brown spots and blotches. Thinly clothed with short and long black hairs. The anterior portion of the abdomen slightly overhangs the base of the cephalothorax. The lower surface is fawn in colour, and marked with two transverse rows of irregular brown spots.

Spinnerets: The superior pair are yellow, hairy, and tapering. The second segment is the shortest, while the first and third are about equal in length. The inferior pair are small, cylindrical, and slightly more than their own individual diameter apart. They are also yellow and hairy.

Locality: Trevallyn, Launceston, 11th September, 1925.

Field Notes: This spider makes a web under stones and logs, usually in damp localities. The web is a silken tube, which frequently branches into crevices in the ground, or in the log. Terrestrial Amphipoda, which are plentiful in damp situations, seem to form the chief food of these spiders. The male is usually found without a web, but sometimes constructs a tubular retreat under a log, just as the female does.

Family AVICULARIDÆ.

Sub-Family MIGINÆ.

Genus *Heteromigas* (Hogg).*Heteromigas dovei* (Hogg).

Plates XIV. and XV.

The female of this species has been described by Hogg (E), who based his description on two specimens from Table Cape. The spider, however, is also found in the vicinity of Launceston. The male of the species is very seldom seen, and has never been described. The following account of a single specimen in the writer's collection may therefore be of interest.

Measurements in millimetres (excluding the falces).

Length of Cephalothorax	5.00
Breadth of Cephalothorax (across fovea) . .	4.75
Length of Abdomen	6.00
Breadth of Abdomen	4.00

Leg	Coxa	Trochanter and Femur	Patella and Tibia	Metatarsus and Tarsus	Total
1	2.1	6.0	6.0	5.2	19.3
2	1.9	5.2	5.0	5.0	17.1
3	1.6	4.0	4.0	4.0	13.6
4	1.7	5.5	5.5	7.0	19.7
Palpi	1.4	4.6	4.7	0.9	11.6

Cephalothorax: Slightly longer than broad; wide in front, but narrow posteriorly.

Pars Cephalica: Dark brown, almost black in colour; rounded in front, and does not rise so abruptly from the thoracic fovea as in the female; segmental groove distinct but not deep.

Ocular Area: Extends more than half the width of the front of the cephalic part. Its breadth is more than twice its length. The front median eyes are on a slight elevation.

Clypeus: Wide, transversely wrinkled, and provided with a few short bristles.

Pars Thoracica: Moderately broad across the fovea, but becomes narrow posteriorly. It is slightly arched; the radial grooves are well defined. A few black hairs are visible, but the greater part of the surface is smooth and hairless. The colour is light reddish-brown.

Thoracic Fovea: Deep, wide, slightly procurved in the centre, with a tendency to recurvature at the ends.

Marginal Band: Broad and fringed with short black hairs.

Eyes: The front median eyes are separated from each other by slightly less than their own individual diameter, and from the front laterals by four-thirds that distance. The front laterals are poised obliquely, and their long diameter is slightly less than that of the front median eyes. The front row is slightly procurved, while the rear row is distinctly recurved and shorter than the front row. The long diameter of the rear laterals is a little more than two-thirds that of the front median eyes; while the long diameter of the rear median eyes is a little less than two-thirds that of the front median eyes. The distance separating the nearest points of front and rear laterals is equal to half the long diameter of the rear laterals; and slightly less than this distance separates the rear median eyes from the rear laterals. See fig. 5.

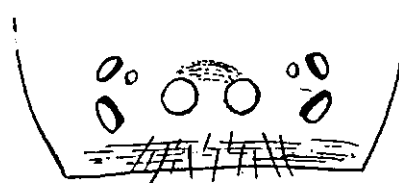


Fig. 5. *Heteromigas dovei* (Hogg). Eyes in male.

Legs: Tapering, brown in colour, thinly clothed with bristly hairs. Two longitudinal bare stripes are visible on the upper surface of the femur, patella, and tibia of each leg. There are no spines on the upper surface of any of the legs. Two small spines are present on the outer side of tarsi I. and II., none on tarsus III., and only a single small spine on the outer side of tarsus IV. The metatarsal and tibial segments of all the legs are bespined on the sides. In the case of metatarsi I. and II., there are about ten curved spines in a double row on the outer side, and on the inner

side a pair of spines near the distal end, a pair near the base, and two single spines in between. Three spines are present on patella I., one on II., and none on III. and IV. The femoral segments are quite devoid of spines. The superior tarsal claws have eight teeth in a single row; the inferior claw is minute and smooth.

Palpi: Long, similar in clothing to the legs, but no spines are present. The tibial segment is long and slender, and is more than five times the length of the tarsal segment. The bulb is large, and almost spherical. It is produced into a sharp, thin, well-curved style. See fig. 6.

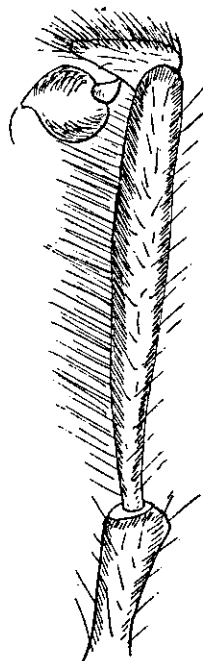


Fig. 6. *Heteromigas dovei* (Hogg). Left palpus of male viewed from outer side.

Falces: Short, very dark brown, almost black, in colour; they do not fall perpendicularly after a short horizontal portion as in the female, but slope gradually forward and downward in a gentle curve. The fangs are very strong, being reinforced with four ridges as in the female. There are four teeth on the outer, and four on the inner edge of the furrow, and five or six small intermediate teeth.

Maxillæ: Reddish brown, strong, broad; the lower outer corner rounded; no spines are present; the beard is red.

Labium: Slightly longer than broad, rounded in front, separated from the sternum by a well-defined groove; dark brown in colour, clothed with a few short black hairs, and with several long hairs at the apex. No spines are present.

Sternum: Pyriform, yellow, lightly clothed with black hairs.

Sigilla: The posterior pair are large, and placed near the central line. The other sigilla are not distinct.

Abdomen: Obovate, longer than broad, the anterior portion slightly overhanging the cephalothorax. The upper surface is dark grey, and clothed with black hairs. No pattern is visible. The lower surface is yellow, and clothed with black hairs.

Spinnerets: Yellow and hairy; the superior pair are short, and appear to consist of only two segments. The first segment makes up almost the whole length, the second segment is reduced to a ring, and the third consists of a small dome sunk in the ring-like second segment. The inferior pair are small, cylindrical, and about one and a half diameters apart.

Locality: Mulgrave Crescent, Launceston, 4th October, 1925.

Field Notes: The male of this species was found under a stone in close proximity to the nests of several females. These nests are about 13 mm. in diameter, and go down almost vertically to a depth of about 220 mm. They are closed with a thin, neatly bevelled lid, and lined just inside the opening with a thin covering of silk. The lid is kept shut during the day time, and on attempting to open it the spider is sometimes found holding on to the inner side. Although there is no rastellum in this species, the female is able to dig a hole in the ground very quickly by means of the double rows of strong curved spines on her front legs. As soon as sufficient earth has been excavated to allow the spider to get into the hole, the building of the lid is commenced. The spider works inwards from the margin of the hole, gradually closing the opening with concentric rings of earth cemented together with silk. This cover is strengthened with layers of silk on the inside. It is then cut away

round the margin, leaving a hinge on one side. When the lid is finished, the work of deepening the hole is proceeded with. Digging operations are carried out at night, and in the morning little balls of earth may be seen scattered a few inches away from the nest. Frequently these balls of earth form the only indication of the presence of the nest. The accurately fitting lid, whose outside resembles the surrounding earth, renders detection almost impossible. The egg sac is round, cushion-shaped, about 11 mm. in diameter, and made of strong white silk. It is fastened to the side of the burrow about three-quarters of the way down from the opening, which is then sealed up until the young emerge from the sac.

Family ARGIOPIDÆ.

Sub-Family ARGIOPINÆ.

Genus *Arachnura* (Vins.)

Arachnura feredayi (L. Koch).

The female of this species is described and figured in L. Koch's classic work (F), under the name of *Epeira feredayi*. His specimens, however, came from New Zealand. At the Tasmanian Field Naturalists' Camp, 1923, the species was found by Dr. Pulleine, in the vicinity of the Tasman Memorial, on the South-East Coast of Tasmania. This is probably the first record of the spider occurring in this State, and, perhaps, in Australia, since it is not mentioned in Rainbow's census of Australian *Araneidæ* (G), although several closely allied forms are listed. There seems to be no published record of the male. This is also the case with most of the species of this genus found in other countries. Simon mentions a doubtful specimen from Ceylon (H). The minute size of the males probably accounts for their having escaped notice. The following description deals with a Tasmanian specimen of the male of *Arachnura feredayi* found near Launceston:—

Measurements in millimetres.

Total Length (abdomen contracted)	2.00
Length of Cephalothorax	0.70
Breadth of Cephalothorax (in middle)	0.70
Breadth of Cephalothorax (in front)	0.35
Length of Abdomen (Contracted),	1.65
Length of Abdomen (Expanded)	1.85
Breadth of Abdomen	1.10

Leg	Coxa	Trochanter and Femur	Patella and Tibia	Metatarsus and Tarsus	Total
1	0.20	0.55	0.57	0.60	1.92
2	0.16	0.52	0.55	0.55	1.78
3	0.11	0.35	0.35	0.40	1.21
4	0.16	0.52	0.55	0.55	1.78

Cephalothorax: As broad as long; margins well rounded; arched; narrow in front; yellowish brown in colour, with dark brown sides and a dark median stripe; clothed with a few scattered dark hairs.

Pars Cephalica: Not raised above the thoracic region; segmental groove indistinct.

Ocular Area: Broader than long; the portion on which the four median eyes stand projects over the anterior margin of the cephalic region. No fringe is present, but a few hairs are scattered over the ocular area.

Clypeus: Yellowish brown; wide; transversely wrinkled; sloping back.

Pars Thoracica: Broad; well arched; sloping sharply down under the anterior portion of the abdomen; radial grooves clear, but not deep; thoracic fovea distinct.

Eyes: The anterior median eyes are slightly larger than the posterior median eyes. The distance separating the anterior median eyes from the posterior median eyes is greater than that which separates the anterior median eyes from each other. The posterior median eyes are separated from each other by a distance equal to their own individual diameter. The lateral eyes of each side occupy a common prominence, and are separated from each other by about half their own individual diameter, and from the corresponding median eyes by about three times their own individual diameter. Front and rear laterals are about equal in size to the rear median eyes.

Legs: Yellowish brown; femur and tibia of each leg lightly clothed, tarsus and metatarsus more densely clothed with brown hairs. No spines are present on any of the legs. The tarsus ends in the usual three claws. Each of the paired claws possesses a row of four slightly curved teeth. Several terminal hairs are modified to form accessory claws.

Palpi: About 0.8 mm. long when unexpanded; thinly clothed with yellow hairs. The tarsal segment is furnished

with an accessory branch or paracymbium. The tibia is extremely short, being about equal in length to the patella. On the inner side of the femoral segment is a depression for the reception of the coxal spur. In the unexpanded bulb the slender terminal style is visible, and ends in a sharp black point. The medium apophysis with its serrated edge can also be seen. See fig. 7.

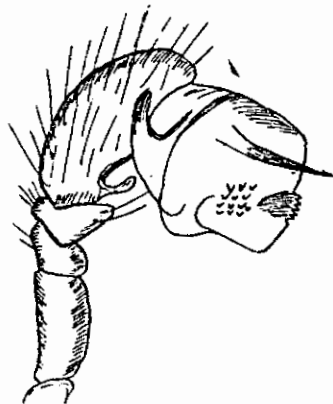


Fig. 7. *Arachnura feredayi* (L. Koch). Right palpus of male.

Falces: Yellowish brown in colour; furnished with a well-curved serrated fang. The basal segment is 0.12 mm., and the fang 0.1 mm. long. The inner angle of the furrow of each falx is armed with a row of three strong teeth, and the outer angle with one, while there are two small intermediate teeth. A few scattered dark-brown hairs are visible on the falces.

Labium: Yellowish brown, triangular, broader than long, one or two hairs at the apex.

Maxillæ: Yellowish brown, furnished with a well-developed serrula. The beard is represented by a few long hairs on the inner margin. A short coxal spur is present on the outer margin.

Sternum: Yellowish brown, shield-shape, terminates in a rounded elongation between the fourth coxæ; clothed with a few dark hairs; length equals 0.55 mm.; breadth, 0.40 mm.

Abdomen: Pyriform; the anterior portion overhangs the base of the cephalothorax. The narrower terminal por-

tion is contractile, and in the contracted condition displays a number of transverse wrinkles. A few hairs are evenly spaced along the wrinkles. When the terminal portion is expanded, it forms a short tail, which ends in five blunt projections. This tail is relatively much shorter, and consequently less mobile than that of the female. The anterior margin of the abdomen is not cleft as in the female, but there is a slight projection on each side. The colour of the abdomen is light brown, with two darker areas, one on each side of a more or less rectangular region on the upper side.

Spinnerets: Brown, hairy, and surrounded by a single row of hairs. They occupy a position on the under surface of the abdomen a little more than half-way from its anterior margin in the contracted condition.

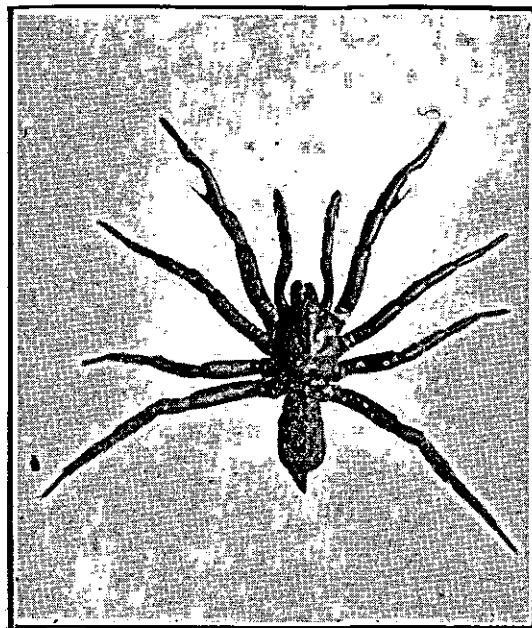
Field Notes: The males were found during the latter part of January, in the webs of the females. These webs are usually hung three or four feet from the ground, in a shady situation, near a creek. They are often found on the common gorse (*Ulex europæus*). Sometimes four or five webs are hung on the one bush. The snare consists of an irregular net-work of threads, in the centre of which is suspended at an incline an incomplete circular web 10 to 15 centimetres in diameter. This web is made up of about 20 to 29 radii, which converge to a meshed hub in the centre. Round the hub is a notched zone of three or four turns, and outside this a free space of about one centimetre. The radii, hub, and notched zone are made of non-viscid thread. Outside the free space is an incomplete viscid spiral. Three or four sectors above the hub are left open. Below the hub the spiral consists of 20 to 30 turns. To the radius which bisects the open sectors, the spider frequently attaches dry leaves, twigs, etc., and behind these takes cover when disturbed. Here also is hung the string of egg cocoons, sometimes as many as twelve in number. The web is always made so that the lowest egg cocoon is at the hub. Here the spider hangs from the under side of the web head downwards, with her tail resting on the lowest egg cocoon. These cocoons are oblong in shape, about one centimetre long, made of strong brown thread, and strung together in such a way that the lower end of one cocoon overlaps the upper end of the next, and so on. Each cocoon contains about 46 eggs, which are small, nearly spherical in shape, and of a pale yellow colour.

The males were found in the irregular net-work, which surrounds the circular snare. In several instances two males were present in the one web.

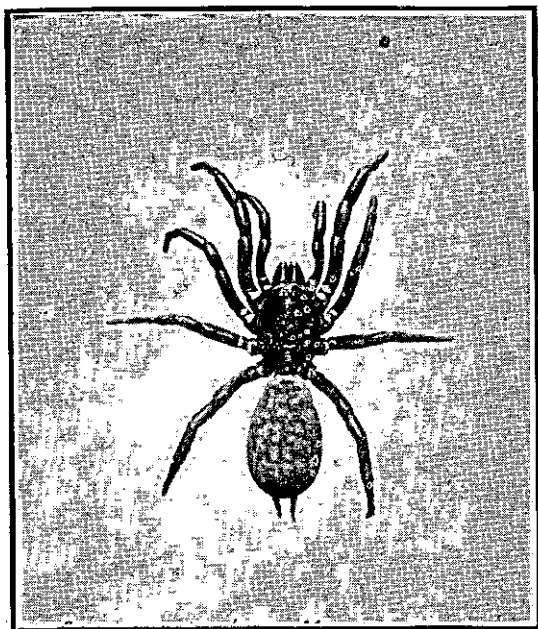
Locality: Punch Bowl Reserve, Launceston.

REFERENCES.

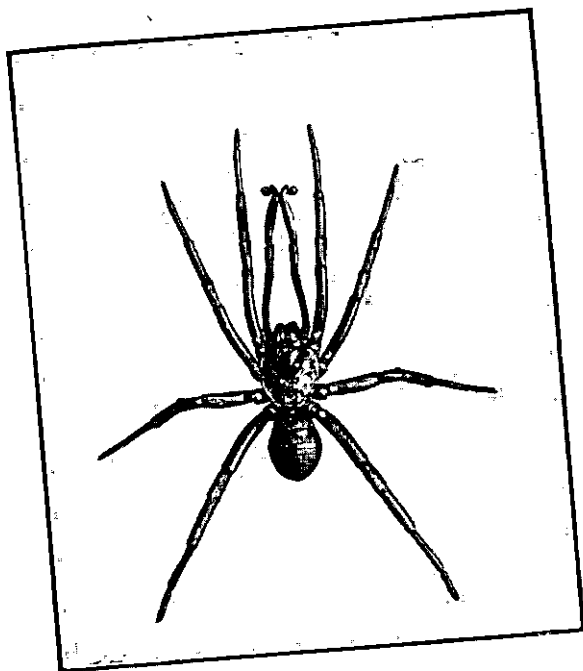
- (A) Hogg, Proc. Zool. Soc., 1901, Vol. II., Part I., page 261.
- (B) Hogg, Proc. Zool. Soc., 1902, Vol. II., Part I., page 137.
- (C) Rainbow, Rec. Austr. Mus., X., 8, 1914, page 239.
- (D) Rainbow and Pulleine, Rec. Austr. Mus., XII., 7, 1918, page 160.
- (E) Hogg, Proc. Zool. Soc., 1902, Vol. II., Part I., page 123.
- (F) L. Koch, "Die Arachniden Australiens," 1871, page 122.
- (G) Rainbow, Rec. Austr. Mus., IX., 2, 1911, page 179.
- (H) Simon, "Histoire Naturelle des Araignées," 1895, I., page 777.



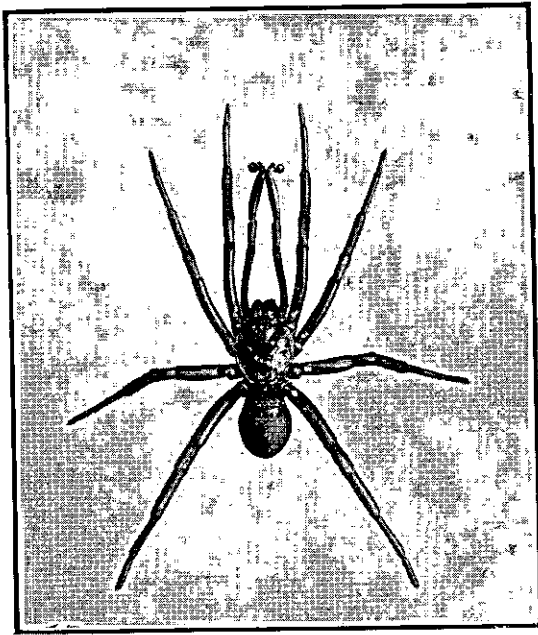
Chenistonia trevallymia ♂ (sp. nov.)
(enlarged).



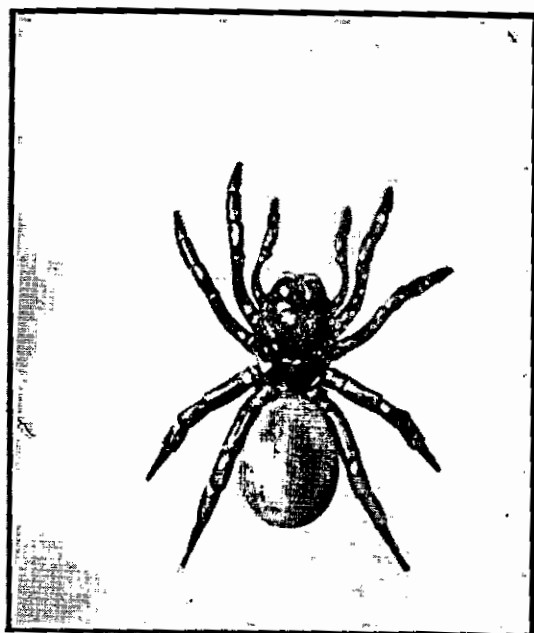
Chenistonia trevallynia ♀ (sp. nov.)
(enlarged).



Heteromigas dovei (Hogg) ♂
(enlarged).



Heteromigas dovei (Hogg) ♂
(enlarged).



Heteromigas dovei (Hogg) ♀
(enlarged).