

NEW SPECIES OF TOXOPIDAE AND ARCHAEIDAE (ARANEIDA)

By

V. V. HICKMAN

(With thirty figures)

ABSTRACT

A new species, *Laestrygones setosus*, is described and placed in the family Toxopidae. The female has double-pointed fangs on the chelicerae. The same feature is also recorded for the New Zealand spider, *Laestrygones albiceris* Urquhart. Four new species of *Pararchaea* Forster in the family Archaeidae are described. They are *P. corticola*, *P. saxicola*, *P. ornata* and *P. bryophila*. Remarks on the genus *Pararchaea* are added.

Family TOXOPIDAE

Genus **LAESTRYGONES** Urquhart 1894

Laestrygones setosus sp.n.

(Figs 1-9)

Male (holotype).—Measurements in millimetres:—

Body length	1.77
Length of carapace	0.80
Width of carapace	0.68
Height of carapace	0.51
Length of abdomen	0.91
Width of abdomen	0.63

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.57	0.26	0.51	0.45	0.34	2.13
2	0.64	0.27	0.52	0.49	0.40	2.32
3	0.55	0.26	0.48	0.49	0.35	2.13
4	0.68	0.23	0.52	0.64	0.38	2.45
Palp	0.18	0.11	0.11	—	0.38	0.78

Colour.—Carapace yellowish brown with a dark brown longitudinal area on each side. Between the dark brown area and the lateral margin are some irregular dark marks. On the clypeus are two dark marks below the eyes. The chelicerae, maxillae, labium and sternum are yellowish brown. Each chelicera has a black mark in front and the sternum is dark round the margin. The legs are yellowish brown with dark spots on femora, tibiae and metatarsi. The abdomen is yellowish brown with a longitudinal dark mark on each side of the dorsal surface. Laterally the abdomen is marked with a dark brown band speckled with yellow, the two bands uniting above the spinnerets. The ventral surface and spinnerets are yellowish.

Carapace.—High, ovate, widest between the third coxae and becoming narrower towards the front, which is somewhat truncate (fig. 1). Posteriorly it slopes steeply to the hind margin. A thoracic fovea is indistinct. The surface is provided with a number of long erect barbed bristles distributed in a regular manner.

Eyes.—Viewed from above the eight eyes appear in two strongly recurved rows (fig. 2). They may be regarded as forming three rows, the first being composed of AME, the second of ALE and PME, and the third of PLE. The eye ratio AME : ALE : PME : PLE = 5 : 5 : 6 : 6. AME and ALE are mounted on black rings. PME and PLE are slightly yellowish brown and are mounted on yellowish brown rings. The ocular region occupies the full width of the carapace. AME are separated from each other by 4/5 and from ALE by 6/5 of their diameter. PME are separated from each other by 11/6 and from PLE by 5/6 of their diameter. The median ocular quadrangle is wider behind than in front in ratio 11 : 7. Its length is greater than its anterior width in ratio 17 : 14. The height of the clypeus is 8/5 the diameter of AME.

Chelicerae.—Erect and conical. Lateral condyles absent. On the front or prolateral surface there are a few barbed hairs and, near the base, a large stout bristle. On the retrolateral surface are a few short hairs and three long slender barbed bristles. On each side near the base of the fang is a long sinuous barbed hair. The furrow is oblique. There is a light scopula and two teeth on the promargin. Three teeth are present on the retromargin, the basal tooth being small (fig. 3). The fang is moderately long and curved.

Maxillae.—Somewhat rectangular, longer than wide, slightly convergent, with a scopula on the apical half of the inner margin and a well developed serrula on the anterior margin. Surface provided with a few coarse hairs.

Labium.—Wider than long in ratio 10 : 7, rounded at the sides, truncate in front, slightly more than half the length of the maxillae and provided with a few coarse hairs.

Sternum.—Shield-shape, longer than wide in ratio 20 : 19, and ending in a point between the fourth coxae. The surface is clothed with a few coarse hairs, which are inclined forward.

Legs.—Length order 4.2.1.3. Laterigrade, clothed with barbed hairs and armed with long erect bristle-like spines. Two trichobothria and a small drum are present on each tarsus. The more distal trichobothrium is the longer and the drum is close beyond its base. The first, second and fourth metatarsi each have two trichobothria and the third three. The first, second and fourth tibiae each have four distributed two on each side. The third tibiae have five, three on one side and two on the other. Three tarsal claws are present. The upper claws are similar with 8 or 9 teeth on the basal half. The lower claw is bare. Trochanters lack a notch.

Spines.—*First leg.* Femur dorsal 0-1-1, prolateral 0-0-1, retrolateral 0, ventral 1-1-1-2-2. Patella dorsal 1-1. Tibia dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-0. Metatarsus dorsal 0-1-1, prolateral 0-1-1, retrolateral 0-1-1, ventral 2-2-2. Tarsus 0. *Second leg.* Same as first. *Third leg.* Femur dorsal 0-1-1, prolateral 0-0-1, retrolateral 0, ventral 1-1-2-2. Patella dorsal 1-1. Tibia dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 1-2-0. Metatarsus dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-1. Tarsus 0. *Fourth leg.* Femur dorsal 0-1-1, prolateral 0, retrolateral 0-0-1, ventral 0-2-2. Patella dorsal 1-1. Tibia dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 1-1-2. Metatarsus dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-1. Tarsus 0.

Palpi.—Almost equal in length to the carapace. Clothed with barbed hairs and spines. The latter are distributed as follows:—Femur dorsal 1-1, elsewhere 0. Patella dorsal 1-1. Tibia dorsal 1-1, prolateral 1, retrolateral 0, ventral 0. Tarsus dorsal 1-1-1, prolateral 1-1, retrolateral 1-0, ventral 1 near apex. The apical half of the dorsal surface of the tarsus has a dense clothing of short barbed hairs. The tibia has two trichobothria and three apical apophyses (figs 4 and 5). The first apophysis is short, dentiform and on the dorsal side. The second and third are close together on the retrolateral side. The second apophysis ends in two sharp points. The third is below the second apophysis. It is elongate and ends in a blunt point, which has three short setae on one side. The cymbium is spoon-shaped. The median division of the bulb has a short conical apophysis and a number of short spinules. The embolus is short.

Abdomen.—Broadly ovate. Lightly clothed with recumbent barbed hairs, which on the dorsal side, are intermingled with long erect bristles distributed in a regular manner (fig. 1). The spinnerets are situated ventrally a little in front of the posterior end of the abdomen. They are sub-conical in shape. The anterior pair are the largest and have a very short apical segment. A short colulus bearing about 15 long hairs is present. The tracheal spiracle is immediately in front of the colulus. Serial sections of a paratype specimen show that the spiracle leads into two wide trunks, which pass forward and, near the epigastric furrow, divide into a large number of small tracheal tubes. Eighty or more of these tubes pass through the petiolus and enter the cephalothorax and its appendages. On the ventral side of the abdomen immediately in front of the tracheal spiracle is a transverse group of short barbed spinules (figs 6 & 7). The group is a little wider than the spinnerets and the spinules are arranged in about three irregular rows.

Female (allotype).—Measurements in millimetres:—

Body length	2.11
Length of carapace	0.86
Width of carapace	0.74
Height of carapace	0.57
Length of abdomen	1.25
Width of abdomen	0.91

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.65	0.30	0.52	0.41	0.34	2.22
2	0.68	0.31	0.44	0.44	0.41	2.28
3	0.67	0.27	0.44	0.42	0.37	2.17
4	0.74	0.27	0.49	0.61	0.41	2.52
Palp	0.28	0.15	0.21	0.30	0.94

The female resembles the male in general appearance but is slightly larger and lighter in colour. Only the following features need be described.

Chelicerae.—The fangs are remarkable and differ from those of the male in being double-pointed (fig. 8). The two points are side by side, but the one on the prolateral or front side is the shorter. In other respects the chelicerae resemble those of the male.

Legs.—Length order 4.2.1.3. Clothed with hairs and spines as in the male. There are two trichobothria and a small drum on each tarsus. On the first metatarsus there are also two trichobothria but on each of the other metatarsi there are three. Each tibia has five, two being on one side and three on the other.

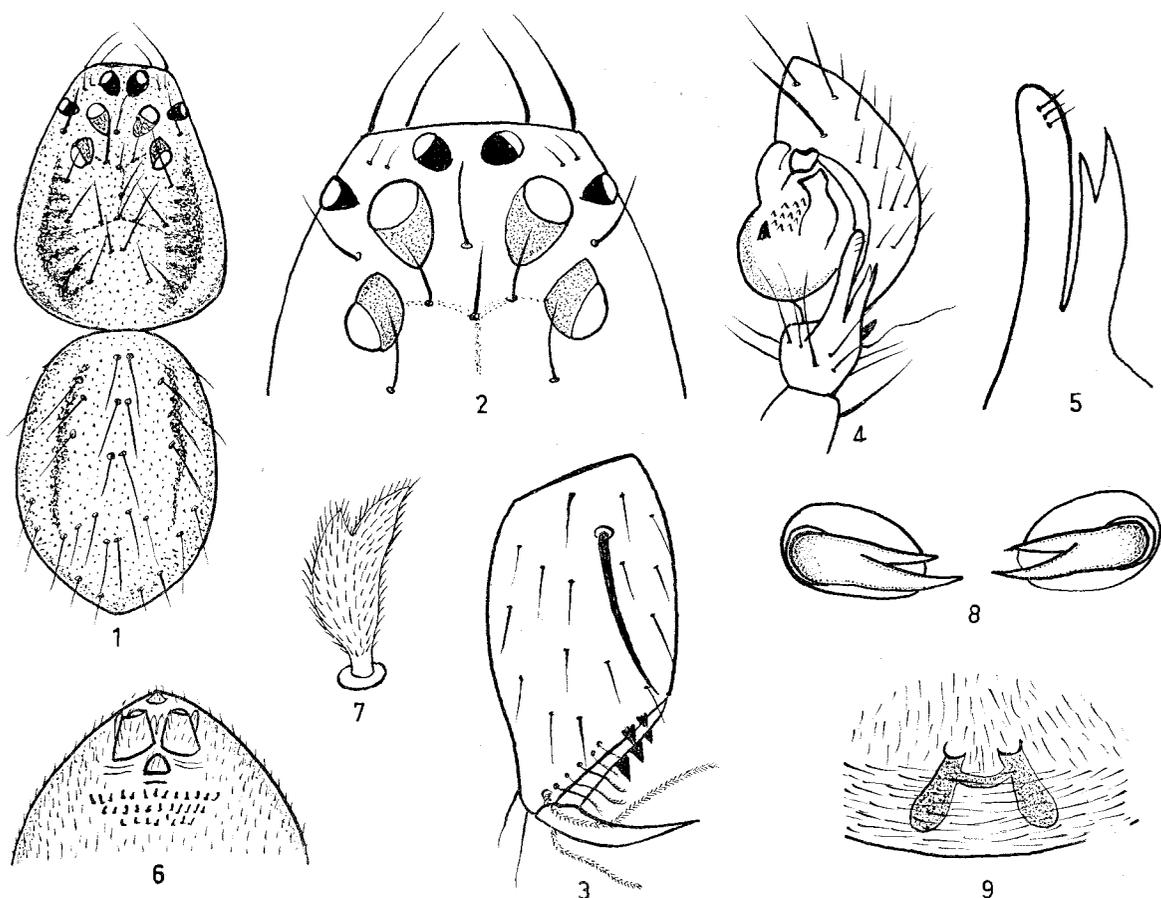
Palpi.—Slightly longer than carapace. The spines are distributed as follows:—Femur dorsal 0-1-1, prolateral 0-0-1, elsewhere 0. Patella dorsal 1-1. Tibia dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 0. Tarsus dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. There are three trichobothria on the tibia and none on the tarsus. The tarsal claw is almost straight and without teeth.

Abdomen.—Broadly ovate. Clothed with barbed hairs and long erect bristles as in the male. The group of spinules and colulus are also as described in the male. The epigynum consists of two small apertures, each bounded behind by a sclerotized half ring. The apertures lead into a pair of pyriform spermathecae, which are partly visible through the integument. Between the two apertures and the epigastric furrow the hairs are directed transversely (fig. 9).

Occurrence.—The holotype male and allotype female were found in grass tussocks at the Domain, Hobart, Tasmania, 26 March 1968. Paratype male and female were also taken.

Affinities.—*Laestrygones setosus* is closely related to the New Zealand spider *L. albiceris* Urquhart, which is the only other species recorded in the genus. (The specific name spelt 'albiceris' by Urquhart and others has been corrected to 'albiceris' by Bonnet (1957).) Forster has described the male and discussed the synonymy of the New Zealand spider in a series of papers (1955(a), 1964(a), 1964(b)). *L. setosus* is only about half the size of *L. albiceris* and may be distinguished by the form of the male palp and female epigynum.

Examination of a female specimen of *L. albiceris* from Mangarei, New Zealand, and sent to me by Mr C. L. Wilton, shows that it likewise has double-pointed fangs on the chelicerae. The feature appears to have been overlooked by Urquhart and other authorities. It is probably of generic importance.



Laestrygones setosus sp.n.

FIG. 1.—Dorsal view of body of male
 FIG. 2.—Eyes
 FIG. 3.—Prolateral view of male chelicera
 FIG. 4.—Retrolateral view of male palp
 FIG. 5.—Tibial apophysis of palp

FIG. 6.—Group of spines in front of spinnerets
 FIG. 7.—A single spine from group in front of spinnerets
 FIG. 8.—Ventral view of partly extended fangs of female
 FIG. 9.—Epigynum

Forster (1964(b)) has placed *Laestrygones* in the family Toxopidae. Lehtinen (1967), however, has transferred it to his group Zodariides, with which it seems to have little affinity.

Family ARCHAEIDAE

Genus PARARCHAEA Forster 1955

Key to females of species of *Pararchaea* Forster

- 1. Tibia of first leg longer than tarsus 2
- Tibia of first leg equal to or shorter than tarsus 3
- 2. A row of five sclerites on each side below abdomen *P. corticola* sp. n.
- No sclerites on each side below abdomen *P. saxicola* sp. n.
- 3. Abdomen yellow with reddish or brown markings 4
- Abdomen uniform pale yellow or cream 5
- 4. Abdomen with dark median stripe and chevrons above *P. ornata* sp. n.

- Abdomen orange yellow with reddish markings *P. rubra* (Forster)
 - 5. Femur of first leg with a row of peg-like spines 6
 - Femur of first leg without such spines *P. bryophila* sp. n.
 - 6. Femur of second leg with stridulating ridges *P. binnaburra* Forster
 - Femur of second leg without such ridges *P. alba* Forster
- Pararchaea corticola* sp. n.
 (Figs 10-15)

Male (holotype).—Measurements in millimetres:—

Body length	2.28
Length of carapace	0.86
Width of carapace	0.69
Height of carapace	0.66
Length of abdomen	1.43
Width of abdomen	1.20
Length of chelicerae	0.55

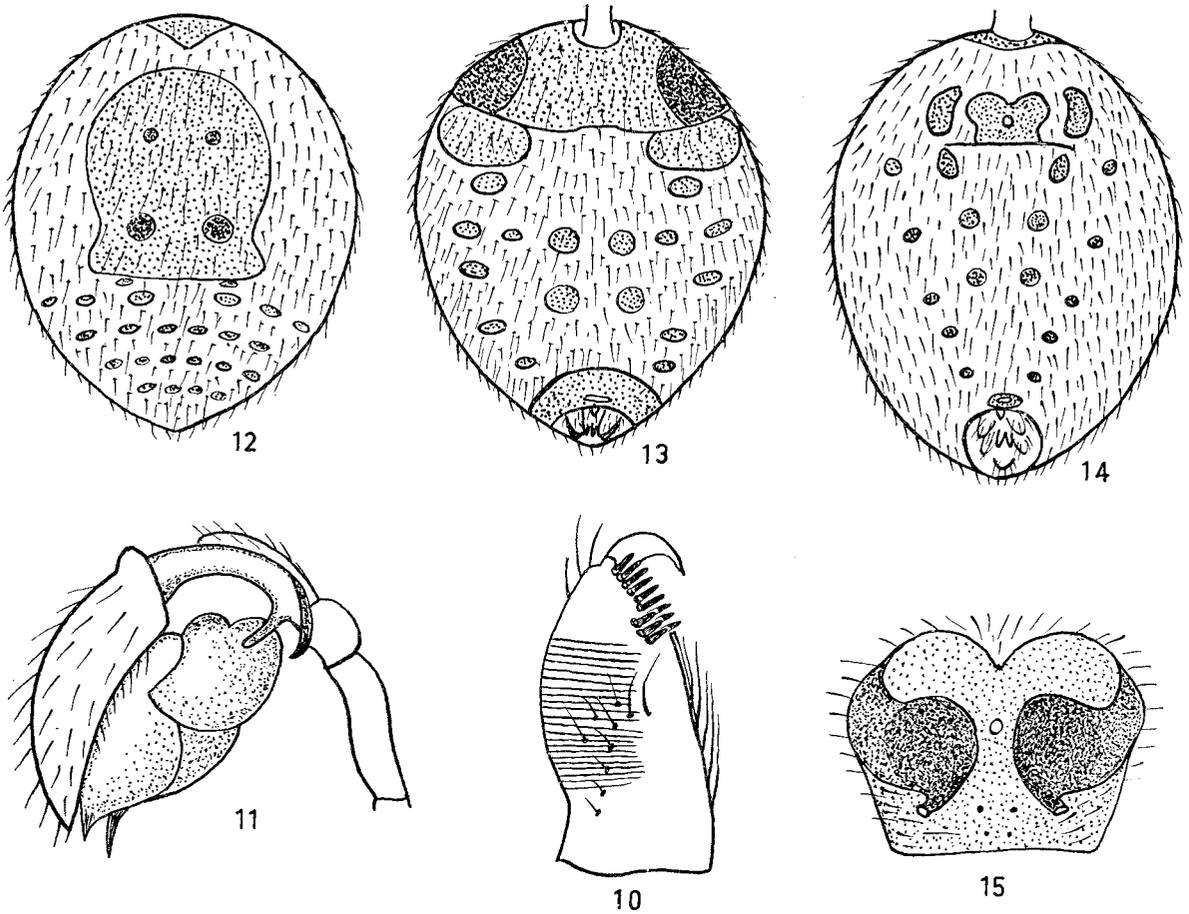
*Pararchaea corticola* sp.n.

FIG. 10.—Prolateral view of male chelicera
 FIG. 11.—Retrolateral view of male palp
 FIG. 12.—Dorsal view of abdomen of male

FIG. 13.—Ventral view of abdomen of male
 FIG. 14.—Ventral view of abdomen of female
 FIG. 15.—Epigynum

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.64	0.25	0.45	0.34	0.38	2.06
2	0.61	0.25	0.41	0.33	0.37	1.97
3	0.55	0.19	0.37	0.31	0.32	1.74
4	0.71	0.26	0.56	0.41	0.36	2.30
Palp .. .	0.25	0.11	0.29	—	0.41	1.06

Colour.—Carapace, chelicerae, palpi and sternum brown. Legs brown except coxae, trochanters and patellae, which are yellowish. Abdomen yellowish except the sclerites, which are brown.

Carapace.—High and sloping forward. Posterior surface slightly indented and descending very steeply to the hind margin. Cephalic part somewhat rounded above and lightly clothed with barbed hairs that slope forward. Thoracic part with radial grooves faintly marked and fovea indistinct.

Eyes.—The eight eyes are arranged in two transverse rows. When viewed from above the front row appears recurved and the hind row straight. All the eyes are surrounded by black rims. The AME are dark, the other eyes pearly white. The eye ratio AME : ALE : PME : PLE = 6 : 6 : 5 : 6. AME are separated from each other by $\frac{5}{6}$ and from ALE by $\frac{1}{2}$ of their diameter. The lateral eyes are contiguous. PME are separated from each other by twice their diameter and from PLE by $\frac{7}{5}$ of their diameter. The median ocular quadrangle is wider behind than in front in ratio 19 : 16. Its length is shorter than its posterior width in ratio 15 : 19. The height of the clypeus is equal to $\frac{4}{3}$ the diameter of AME.

Chelicerae.—Long, moderately stout, constricted near the base and devoid of lateral condyles. The front or prolateral surface is provided with stridulo-

lating ridges. The fang is short and well curved. The furrow is shallow and indistinct. On the promargin is a row of nine rod-like teeth placed close to one another. Slightly in front of the three basal teeth is a second row of three somewhat larger teeth. When the fang is closed it lies behind the two rows instead of between them. Hence both rows are prolateral in position and there are no teeth on the retromargin (fig. 10).

Maxillae.—Strongly converging over front of labium. Provided with an apical scopula and well developed serrula.

Labium.—Wider than long, immobile, rounded in front and provided with a few long barbed hairs.

Sternum.—Shield-shaped, convex, longer than wide in ratio 15:14 and ending in a truncated point between the fourth coxae, which are separated by slightly more than twice their diameter. The surface is marked with a reticulate or polygonal pattern and clothed with a few barbed hairs. The margin is excavated opposite the bases of the coxae.

Legs.—Length order 4.1.2.3. Clothed with barbed hairs, the bars being more strongly developed on the tarsal hairs than elsewhere. Spines are absent except for an oblique row of five short peg-like spines on the retrodorsal surface near the base of the femora of the first pair of legs. A single trichobothrium is present on each metatarsus; two on the tibiae of the first, second and third legs and four on the tibiae of the fourth legs. Each tarsus has a drum but no trichobothria. Three tarsal claws are present, the upper claws being similar with two or three teeth. The lower claw is strongly bent and has one tooth. Accessory claws are also present. The trochanters are without a notch.

Palpi.—Rather short. There are no apophyses on femur, patella or tibia. A single trichobothrium is present on the tibia. The tarsus is spoon-shaped with the base produced into a large hook-like apophysis on the retrolateral side (fig 11). The embolus projects from the bulb in a sharp point near the apex of the tarsus. The palpi are lightly clothed with a few barbed hairs.

Abdomen.—Ovoid. A small scute is present on the anterior two-thirds of the dorsal surface (fig 12). Between the hind margin of the scute and the spinnerets there are four transverse rows of small sclerites. In the front of the abdomen the petiolus is surrounded by a large sclerotized plate, which extends upward almost to the front of the dorsal scute. Behind the petiolus the plate covers the epigastrium (fig 13). Near the middle of the ventral surface are four circular sclerites or muscle spots forming a quadrangle. On each side immediately behind the epigastric furrow is a large oval sclerite followed by a longitudinal row of five smaller sclerites extending towards the spinnerets. Immediately in front of the spinnerets is a small conical colulus bearing two setae. A sclerotized ring surrounds the colulus and spinnerets. On the ventral surface the ring is enlarged and in the middle is occupied by the tracheal spiracle.

Female (allotype).—Measurements in millimetres:—

Body length	2.86
Length of carapace	0.86
Width of carapace	0.74
Height of carapace	0.63
Length of abdomen	2.00
Width of abdomen	1.49
Length of chelicerae	0.48

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.62	0.22	0.48	0.33	0.39	2.04
2	0.59	0.25	0.44	0.30	0.38	1.96
3	0.44	0.23	0.40	0.30	0.34	1.71
4	0.73	0.33	0.62	0.42	0.41	2.51
Palp	0.19	0.11	0.21	—	0.27	0.78

The female resembles the male in form and general features. Only the following characters need be described.

Chelicerae.—Slightly shorter than those of the male and without stridulating ridges.

Legs.—Length order 4.1.2.3. Clothed with barbed hairs and provided with trichobothria as in the male. The oblique row of five peg-like spines on the retrodorsal side of the femora of the first pair of legs is also present. There are no stridulating ridges on the femora of the second legs.

Palpi.—Clothed with barbed hairs. A single trichobothrium on the tibia is present and a drum on the tarsus. A tarsal claw is absent.

Abdomen.—A dorsal scute is absent. The petiolus is surrounded by a narrow sclerotized ring but there is no plate on the front of the abdomen or covering the epigastrium. On each side behind the epigastric furrow is a longitudinal row of five small sclerites, the two rows converging towards the spinnerets. Between the two rows and immediately behind the epigastric furrow are two larger oval sclerites, one behind each lung cover. In the middle of the ventral surface are four circular sclerites forming a quadrangle as in the male. The tracheal spiracle opens on a single sclerite in front of the colulus and spinnerets, but there is no sclerotized ring surrounding the spinnerets (fig. 14). The epigynum has the form shown in figure 15.

Occurrence.—The holotype male and allotype female were found under the loose bark on eucalypts at the Domain, Hobart, Tasmania. The male was collected 24 May 1937 and the female in March 1955.

Parachaea saricola sp. n.

(Figs 16-20)

Male (holotype).—Measurements in millimetres:—

Body length	2.17
Length of carapace	0.91
Width of carapace	0.69
Height of carapace	0.79
Length of abdomen	1.31
Width of abdomen	1.03
Length of chelicerae	0.52

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.55	0.25	0.48	0.33	0.44	2.05
2	0.60	0.26	0.47	0.29	0.41	2.03
3	0.55	0.23	0.41	0.28	0.38	1.85
4	0.69	0.29	0.59	0.38	0.41	2.36
Palp	0.21	0.11	0.23	—	0.36	0.91

Colour.—Mainly yellowish brown with the chelicerae, femora, tibiae, metatarsi and tarsi somewhat darker.

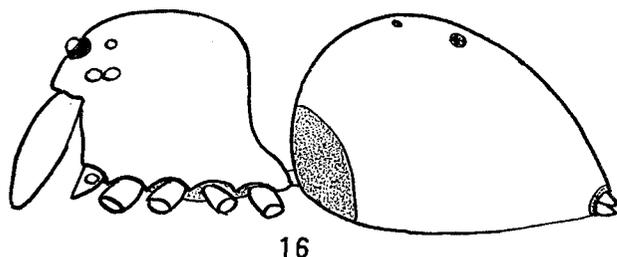
Carapace.—Higher than wide. Posteriorly it descends steeply and is slightly indented (fig. 16). The cephalic part is rounded above and lightly clothed with barbed hairs that slope forward.

Eyes.—The eight eyes are mounted on black rims and form two transverse rows. When viewed from above the front row appears slightly recurved and the hind row slightly procurved. The eye ratio $AME : ALE : PME : PLE = 7 : 6 : 5 : 7$. The AME are mounted on a black tubercle and separated from each other and from ALE by $6/7$ of their diameter. The PME are separated from each other by three times their diameter and from PLE by $6/5$ of their diameter. The lateral eyes are contiguous. The median ocular quadrangle is wider behind than in front in ratio $6 : 5$, and its posterior width is greater than its length in ratio $24 : 17$. The height of the clypeus is about equal to the diameter of AME.

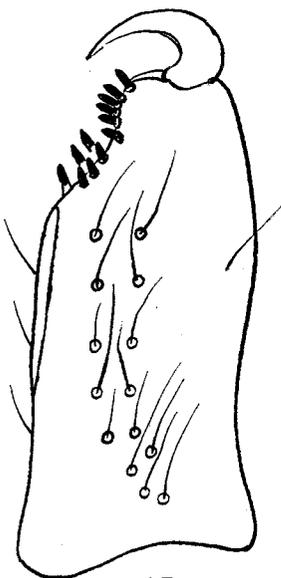
Chelicerae.—Almost as long as the femora of the first legs. They are moderately stout, constricted at the base and devoid of lateral condyles. The front or prolateral surface is provided with transverse stridulating ridges. The fang is short and strongly curved. The furrow shallow and indistinct. There are nine small rod-like teeth on the promargin and slightly in front of the basal three there is a short row of three larger teeth (fig. 17). The dentition is similar to that in the preceding species, *Pararchaea corticola*. On the inner or ventral surface there is a long lamella. Fourteen long setae arranged in a double row are present on the retrolateral surface.

Maxillae.—Strongly convergent over front of labium. The apex is pointed and furnished with a scopula. A well developed serrula is present.

Labium.—Immobile, fused to the sternum, wider than long and furnished with three pairs of setae. The basal half of the labium is sclerotized and the distal half membranous.



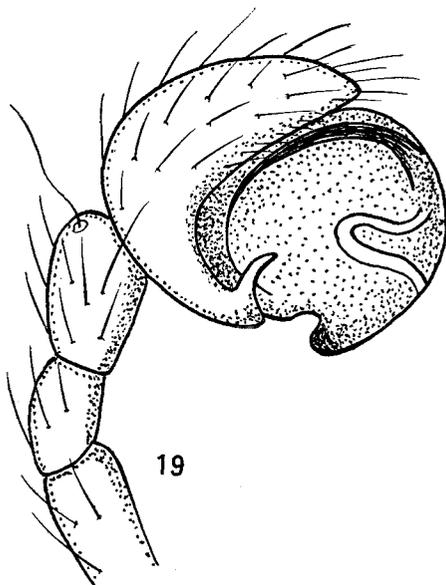
16



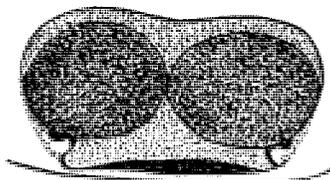
17



18



19



20

Pararchaea saxicola sp.n.

FIG. 16.—Lateral view of body of male
FIG. 17.—Retrolateral view of male chelicera
FIG. 18.—Retrolateral view of femur of first leg

FIG. 19.—Retrolateral view of male palp
FIG. 20.—Epigynum

Sternum.—Longer than wide in ratio 14 : 11, convex, shield-shaped, ending in a rounded point between the fourth coxae. The surface has a reticulate or polygonal pattern and is clothed with a few long hairs. The margin is slightly excavated opposite the bases of the coxae.

Legs.—Length order 4.1.2.3. Moderately short and stout. Lightly clothed with barbed hairs. On the femora of the first legs there is an oblique row of five short peg-like spines on the retrodorsal surface of the basal half (fig. 18). A drum is present on each tarsus. A single trichobothrium occurs on each metatarsus, three on the first and second tibia, two on the third and four on the fourth. Three tarsal claws and accessory claws are present. The upper claws are similar and have three teeth on the basal half. The lower claw is strongly bent and has a single tooth.

Palpi.—Lightly clothed with barbed hairs. There are no apophyses on femur, patella or tibia (fig. 19). The tarsus is spoon-shaped and has a large hook-like apophysis at the base on the retrolateral side. On the inner side of the apophysis is a short blunt tooth. A trichobothrium is present on the tibia and a drum near the apex of the tarsus. The genital bulb is rounded and the embolus curves round the inner surface.

Abdomen.—Broadly oval with two small and two large rounded sclerites or muscle spots forming a quadrangle on the anterior half of the dorsal surface. There is no dorsal scute. The front of the abdomen has a large sclerotized plate, which surrounds the petiolus and extends posteriorly to cover the epigastrium. Behind the epigastric furrow is a narrow transverse sclerotized bar. Four muscle spots form a quadrangle in the middle of the ventral surface. The six spinnerets and a small colulus are surrounded by a narrow sclerotized ring. The tracheal aperture is situated in the ventral part of the ring. The colulus is conical and bears two setae. The surface of the abdomen is clothed with barbed hairs.

Female (allotype).—Measurements in millimetres:—

Body length	3.20
Length of carapace	1.14
Width of carapace	0.91
Height of carapace	0.82
Length of abdomen	2.17
Width of abdomen	1.71
Length of chelicerae	0.63

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.62	0.29	0.51	0.36	0.45	2.23
2	0.60	0.29	0.51	0.33	0.41	2.14
3	0.55	0.27	0.45	0.31	0.41	1.99
4	0.79	0.34	0.70	0.46	0.48	2.77
Palp	0.22	0.12	0.21	—	0.25	0.80

The female resembles the male in colour and appearance but is slightly larger.

Chelicerae.—The form and dentition are as in the male but stridulating ridges on the prolateral surface are lacking.

Legs.—Length order 4.1.2.3. Clothed as in the male. There is also an oblique row of five peg-like spines on the retrodorsal side of the basal half of the femur of the first legs. No stridulating ridges

are present on the femur of the second legs. There is a drum on each tarsus. A single trichobothrium occurs on each metatarsus, three on the first and second tibiae and four on the third and fourth.

Palpi.—Lightly clothed with barbed hairs. There is a single trichobothrium on the tibia and a drum near the apex of the tarsus. A claw is lacking.

Abdomen.—Four small sclerites or muscle spots form a quadrangle on the dorsal surface as in the male. In the front of the abdomen the petiolus is surrounded by a narrow sclerotized ring and there is no large plate covering the epigastrium. However, in the epigastric region there are several small sclerites separate from the lung covers and epigynum. Near the middle of the ventral surface are four muscle spots forming a quadrangle. The six spinnerets and colulus are surrounded by a circle of separate sclerites and not by a continuous sclerotized ring. The colulus is small and conical and bears two setae. The tracheal aperture is on a small sclerite in front of the colulus. The abdomen is clothed with barbed hairs. The epigynum as in figure 20.

Occurrence.—The holotype male and allotype female were found *in copulo* on the undersurface of a loose stone on the ground at the Domain, Hobart, Tasmania, 4 May 1938.

Pararchaea ornata sp. n.

(Figs 21-24)

Female (holotype).—Measurements in millimetres:—

Body length	1.94
Length of carapace	0.82
Width of carapace	0.57
Height of carapace	0.65
Length of abdomen	1.12
Width of abdomen	0.90
Length of chelicerae	0.45

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.48	0.20	0.29	0.22	0.31	1.50
2	0.41	0.19	0.30	0.22	0.27	1.39
3	0.36	0.19	0.25	0.21	0.25	1.26
4	0.52	0.23	0.40	0.27	0.31	1.73
Palp	0.15	0.09	0.16	—	0.18	0.58

Colour.—Carapace yellow with the thoracic part dark brown on each side. Chelicerae yellowish brown. Maxillae, labium and sternum yellow. Legs yellow except metatarsi and tarsi which are mainly dark brown. Abdomen yellow with a dark brown median stripe on the anterior half of the dorsal surface and four transverse dark chevrons on the posterior half (fig. 21). On each side of the abdomen is a large dark brown area. A pair of brown muscle spots occur one on each side of the posterior end of the median dorsal stripe. On the ventral surface the epigynum is dark brown; lung covers, sclerites and spinnerets yellowish brown.

Carapace.—Higher than wide, sloping forward with the posterior surface very steep and slightly indented (fig. 22). The upper part of the cephalic region is furnished with a few long barbed hairs.

Eyes.—The eight eyes are arranged in two transverse rows. When viewed from above the front row appears slightly recurved and the hind row procurved. The AME are dark and mounted on wide black rims. They are directed forwards and outwards. The other eyes are pearly white and

also surrounded by black rims. The eye ratio AME : ALE : PME : PLE = 5 : 5 : 5 : 6. The AME are separated from each other by $6/5$ of their diameter and from ALE by once their diameter. The PME are separated from each other by $11/5$ of their diameter and from PLE by once their diameter. The lateral eyes are contiguous. The median ocular quadrangle is wider behind than in front in ratio 4 : 3 and its length is about equal to its anterior width. The height of the clypeus is equal to the diameter of AME.

Chelicerae.—Long, moderately stout, constricted near the base and without lateral condyles. The fang is short and well curved. The furrow indistinct. As in the preceding species there are two rows of teeth on the prolateral side, one row slightly in front of the other. The hinder row has nine small rod-like teeth and the other row three larger teeth which are opposite the basal teeth of the hinder row and in front of them. When the fang is closed it lies behind both rows of teeth. There are no teeth on the retrolateral side. A thin lamina extends along the ventral or inner surface of the chelicera. Two rows of long thin bristles occur on the retrolateral side.

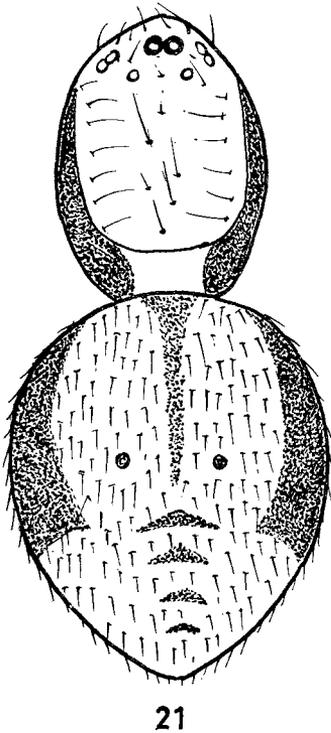
Maxillae.—Strongly converging over the front of the labium. An apical scopula and well developed serrula are present.

Labium.—Wider than long and somewhat pointed in front. It is provided with a few barbed hairs. It is fused to the sternum and appears to be immobile.

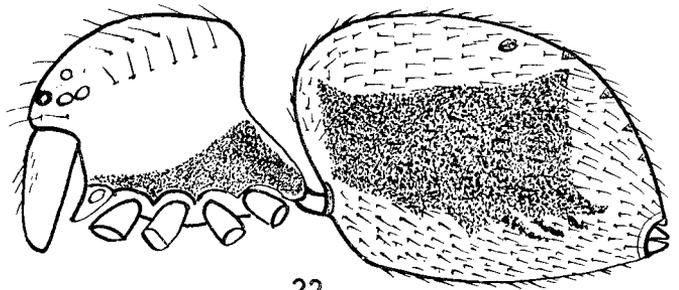
Sternum.—Shield-shaped, convex, longer than wide in ratio 11 : 9 and ending in a blunt point between the fourth coxae, which are well separated. The margin is excavated opposite the bases of the coxae. The surface is marked with a polygonal pattern and provided with a few long hairs.

Legs.—Length order 4.1.2.3. Integument somewhat rugose, lightly clothed with barbed hairs. An oblique row of five short peg-like spines is present on the retrodorsal side of the femora of the first legs, but there are no stridulating ridges on the femora of the second pair. There is a drum on each tarsus. A single trichobothrium is present on each metatarsus, three on the first and second tibiae, two on the third and four on the fourth. Three tarsal claws and accessory claws are present. The upper claws are similar and have three teeth on the basal half. The lower claw is strongly bent and has a single tooth (fig. 23). The trochanters lack a notch.

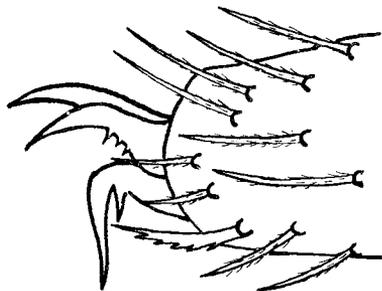
Palpi.—Short and clothed with barbed hairs. A single trichobothrium is present on the tibia and a drum on the tarsus. A claw is lacking.



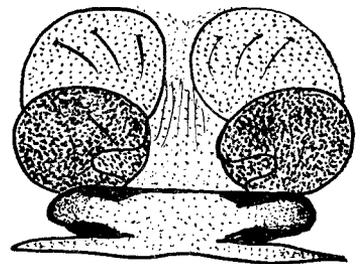
21



22



23

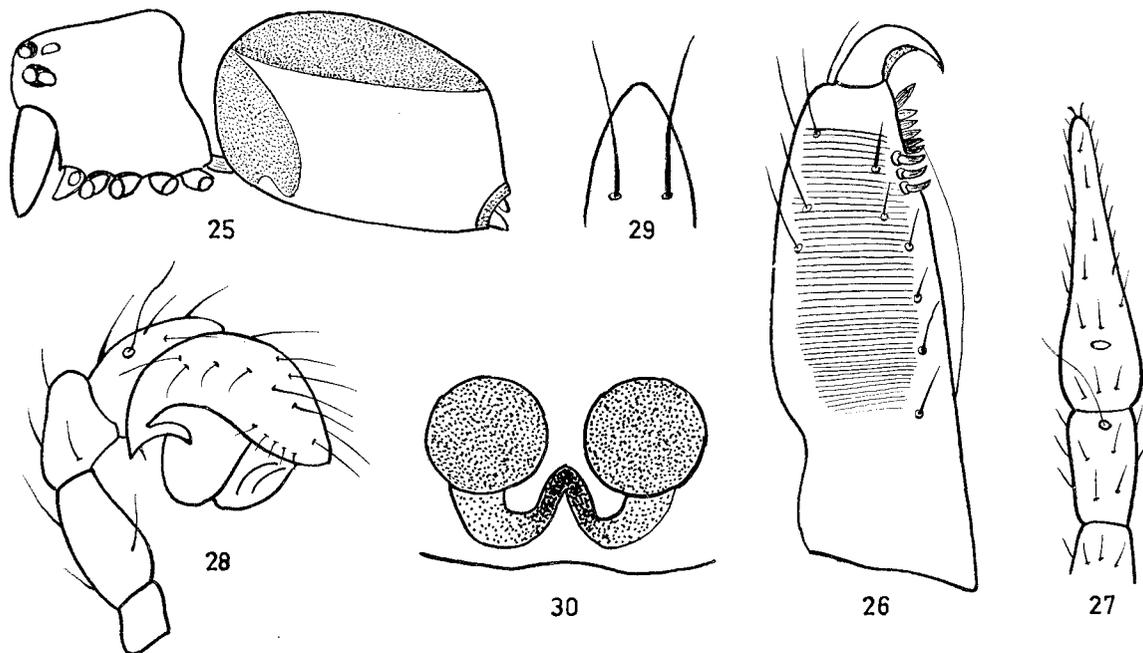


24

Pararchaea ornata, sp.n.

FIG. 21.—Dorsal view of body of female
FIG. 22.—Lateral view of body of female

FIG. 23.—Tarsal claws.
FIG. 24.—Epigynum



Pararchaea bryophila sp.n.

FIG. 25.—Lateral view of body of male
FIG. 26.—Prolateral view of male chelicera
FIG. 27.—Tarsus of first leg of male

FIG. 28.—Retrolateral view of male palp
FIG. 29.—Colulus
FIG. 30.—Epigynum

Abdomen.—Ovoid, clothed with barbed hairs. There are two muscle spots near the middle of the dorsal surface and four in a quadrangle near the middle of the ventral surface. There are no large sclerotized plates but the front of the abdomen has a narrow sclerotized ring round the petiolus. Behind each lung cover is a small sclerite. Six spinnerets and a colulus are present. They are surrounded by a lightly sclerotized ring. The colulus is small and conical. It bears a pair of long setae. The tracheal spiracle opens on a weak sclerite immediately in front of the colulus. The epigynum has the form shown in figure 24.

Occurrence.—The holotype female was taken by shaking gorse (*Ulex europeus*) at the Domain, Hobart, Tasmania, 13 April 1968.

Pararchaea bryophila sp. n.
(Figs 25-30)

Male (holotype).—Measurements in millimetres:—

Body length	1.46
Length of carapace	0.57
Width of carapace	0.46
Height of carapace	0.41
Length of abdomen	0.89
Width of abdomen	0.68
Length of chelicerae	0.30

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.33	0.16	0.23	0.12	0.33	1.17
2	0.27	0.15	0.23	0.12	0.29	1.06
3	0.23	0.14	0.20	0.11	0.25	0.93
4	0.33	0.18	0.31	0.16	0.26	1.24
Palp	0.14	0.11	0.14	—	0.20	0.59

Colour.—Carapace, appendages, sternum and abdominal sclerites tan. Rest of abdomen yellowish.

Carapace.—High, posteriorly almost vertical and slightly indented (fig. 25). Thoracic fovea absent. Dorsal surface sloping slightly towards the front and clothed with a few hairs. Thoracic region marked with a reticulate or polygonal pattern.

Eyes.—Ocular area occupies the full width of the carapace. The eight eyes are arranged in two transverse rows. When viewed from above the front row appears slightly recurved and the hind row almost straight. The eye ratio AME : ALE : PME : PLE = 9 : 8 : 7 : 9. The AME are mounted on a black tubercle and separated from each other by 8/9 and from ALE by 2/9 of their diameter. The lateral eyes are contiguous. PME are separated from each other by twice their diameter and from PLE by 6/7 of their diameter. The median ocular quadrangle is wider behind than in front in ratio 23 : 21 and its length is equal to its anterior width. The AME are dark, the other eyes pearly white. The height of the clypeus is equal to 11/9 of the diameter of AME.

Chelicerae.—Long, moderately stout, constricted near the base and without lateral condyles. Stridulating ridges are present on the front or prolateral surface (fig. 26). The fang is short, strong and well curved. The furrow is shallow and indistinct. There are two rows of teeth on the promarginal side. The first row consists of seven short rod-like teeth close together and the second row of three larger curved teeth, which are situated slightly in front of the basal end of the

first row. All the teeth are on the prolateral side of the fang when it is closed and there are no teeth on the retrolateral side. On the inner or ventral side of the chelicera there is a long lamina. There are a few short barbed hairs on the prolateral surface and a double row of long barbed setae on the retrolateral surface.

Maxillae.—Strongly convergent over the front of the labium and provided with an apical scopula and a well developed serrula.

Labium.—Immobile being fused to the sternum. It is wider than long with parallel sides and pointed in front. The surface has a few coarse hairs.

Sternum.—Longer than wide in ratio 25:22, shield-shape, and ending in a bluntly rounded point between the fourth coxae. The surface is convex and marked with a reticulate or polygonal pattern. The margin is slightly excavated opposite the bases of the coxae.

Legs.—Length order 4.1.2.3. The tarsi of the first legs are distinctly swollen in the basal half becoming narrower towards the apex (fig. 27). Each tarsus is provided with a drum on the basal half of the dorsal surface. A single trichobothrium is present on each metatarsus, three on the first and fourth tibiae and two on the second and third tibiae. The legs are lightly clothed with barbed hairs. The short peg-like spines found on the first femora of some species are absent. Three tarsal claws are present. The upper claws are similar and have two teeth in the basal half. The lower claw has a single tooth.

Palpi.—About twice the length of the chelicerae. Femur, patella and tibia are devoid of apophyses. A single trichobothrium is present on the tibia. The tarsus is spoon-shaped and, near the base, its retrolateral margin is produced into a hook-like apophysis, which rests against the genital bulb and is provided with a sharp spine on the inner side (fig. 28). The median division of the bulb has a group of small dentiform spines.

Abdomen.—Ovoid, lightly clothed with finely barbed hairs and provided with a scute that covers about three quarters of the dorsal surface. The front of the abdomen is also covered by a sclerotized shield, which surrounds the petiolus and covers the epigastrium on each side. Above the petiolus it extends upward to meet the front of the dorsal scute. There are six spinnerets and a colulus. The anterior pair of spinnerets are the largest and have a very short terminal segment. The colulus is small and conical (fig. 29). It bears two setae. A sclerotized ring surrounds the spinnerets and colulus. In front of the colulus is the tracheal spiracle, which leads into two pairs of tracheal tubes, which are confined to the abdomen. Near the middle of the ventral surface are four muscle spots arranged in a quadrangle.

Female (allotype).—Measurements in millimetres:—

Body length	1.72
Length of carapace	0.62
Width of carapace	0.49
Height of carapace	0.38
Length of abdomen	1.10
Width of abdomen	0.89
Length of chelicerae	0.30

Leg	Femur	Patella	Tibia	Meta-tarsus	Tarsus	TOTAL
1	0.34	0.15	0.25	0.14	0.27	1.15
2	0.29	0.15	0.23	0.12	0.25	1.04
3	0.25	0.12	0.21	0.10	0.22	0.90
4	0.36	0.16	0.33	0.16	0.27	1.28
Palp	0.10	0.07	0.10	—	0.10	0.37

The female resembles the male in colour and general appearance. Only the following features need be described.

Chelicerae.—Have the same form as those of the male but lack the stridulating ridges on the prolateral surface.

Palpi.—Lightly clothed with hairs. A single trichobothrium is present on the tibia. A tarsal claw is absent.

Abdomen.—Broadly ovate. No dorsal scute is present and the large sclerotized plate on the front of the abdomen of the male is also absent. However, a narrow sclerotized ring surrounds the petiolus. The spinnerets and colulus are also surrounded by a narrow sclerotized ring. The surface of the abdomen is lightly clothed with hairs, each of which rises from a small circular sclerite. The form of the epigynum is shown in figure 30.

Occurrence.—The holotype male and allotype female were found amongst moss at the Punch Bowl, Launceston, Tasmania; 24 August 1929. The species has also been taken from moss at Fingal, Tarraleah, The Arve Forest and Mount Wellington.

Remarks on the genus *Pararchaea* Forster

The genus *Pararchaea* Forster (1955) was founded on the characters of *Pararchaea alba* Forster from New Zealand. Two other species have been assigned to the genus, namely *P. binnaburra* Forster from Queensland and *P. rubra* (Forster) from New Zealand, the latter species being originally placed in the genus *Zearchaea* Wilton. The four Tasmanian species described in the present paper bring the number recorded to seven.

In his definition of the genus *Pararchaea* Forster states that the sternum is 'wider than long'. This appears to be an error since in the three species, which he assigns to the genus, the sternum is described as longer than wide, which is also the case in the four Tasmanian species. Furthermore, in the diagnosis the chelicerae are said to have teeth on both pro- and retromargins. However, the description of *P. rubra* (Forster) states 'The cheliceral groove is shallow and armed on the retromargin with a row of eight small teeth which extend from the base of the fang to the tip. There is a further more lateral group of three similar teeth. Pro-margin smooth'. This statement does not agree with figure 12, plate XLI (Forster, 1949), which shows all the teeth to be on the promarginal side and not on the retromargin. In the four Tasmanian species the teeth are likewise on the promarginal side. This appears to be a generic character and a re-examination of the other species seems desirable. The definition of the genus also states that a colulus is absent. However, in the four Tasmanian species a small conical colulus bearing two setae is present.

Lehtinen (1967) considers that a new family Mecysmaucheniidae should be established for the genera *Pararchaea* Foster, *Zearchaea* Wilton and *Mecysmauchenius* Simon.

TYPE SPECIMENS

The holotypes and allotypes of the species described in the present paper will be lodged in the Australian Museum, Sydney.

ACKNOWLEDGMENTS

I am indebted to Mr C. L. Wilton for specimens of *Laestrygones albiceris* Urquhart from New Zealand.

REFERENCES

- BONNET, P., 1957—Bibliographia Araneorum. T.2, (G-M).
 FORSTER, R. R., 1949—New Zealand Spiders of the Family Archaeidae. *Rec. Cant. Mus.*, Vol. V, No. 4, pp. 193-203, Plates XL-XLII.
 ———, 1955(a)—Spiders from the subantarctic islands of New Zealand. *Rec. Dom. Mus.*, Vol. 2, pp. 167-203.
 ———, 1955(b)—Spiders of the Family Archaeidae from Australia and New Zealand. *Trans. Roy. Soc. N.Z.*, Vol. 83, pp. 391-403.
 ———, 1964(a)—Aranea and Opiliones of the subantarctic islands of New Zealand. *Pacific Insects Monograph 7*, pp. 58-115.
 ———, 1964(b)—The spider family Toxopidae (Araneae). *Ann. Natal. Mus.* Vol. 16, pp. 113-151.
 LEHTINEN, P. T., 1967—Classification of the Cribellate Spiders and some allied families, with notes on the evolution of the suborder Araneomorpha. *Ann. Zool. Fenn.* Vol. 4, pp. 199-468.
 URQUHART, A. T., 1894—Descriptions of New Species of Araneae. *Trans. N.Z. Inst.* Vol. 26, pp. 204-218.
 WILTON, C. L., 1946—A new spider of the family Archaeidae from New Zealand. *Dom. Mus. Rec. Entom.* Vol. 1, pp. 19-26.

