

SOME TASMANIAN HARVESTMEN OF THE SUB-ORDER PALPATORES

By

V. V. HICKMAN

*Ralston Professor of Biology, University of
Tasmania*

(With 40 Text Figures)

ABSTRACT

Three new species belonging to the little-known family Acropsopilionidae are described. Two of them are placed in a new genus *Tasmanopilio* and the third in the genus *Austropsopilio* Forster. A key to the genera is provided. An account of four species belonging to the family Phalangidae is also given. One of the species, *Spinicrus tasmanicum* (Hogg), is the only member of the sub-order Palpatores hitherto recorded from Tasmania. Two of the other species are new and also belong to the genus *Spinicrus* Forster. The remaining species is the widely distributed European phalangid, *Opilio parietinus* (De Geer), which is often seen on buildings in Hobart and Launceston during summer.

INTRODUCTION

Little has been written on Tasmanian harvestmen belonging to the sub-order Palpatores. The members of the sub-order are readily recognized by the following features:—

- (1) The sternum of the cephalothorax is short and transverse.
- (2) The tarsi of the legs are provided each with a single simple claw.
- (3) The pedipalpi are slender and cylindrical.
- (4) The openings of the scent glands are situated on the lateral margins of the carapace and are not elevated on a protuberance.

Many species have very long slender legs and are sometimes mistaken for spiders. However, they are readily distinguished from spiders by the fact that the abdomen is not separated from the cephalothorax by a slender pedicel and also by the fact that they do not possess silk glands and therefore are unable to spin.

The only member of the sub-order previously recorded from Tasmania is *Spinicrus tasmanicum* (Hogg), which was described in 1909 under the name *Pantopsalis tasmanica*. The description was based on three dry and mutilated specimens in the British Museum. Some years later the species was again described by Dr. Roewer (1912, p. 277), who had received further specimens from Tasmania. In the present paper some additional information on the harvestman is given. Two new species belonging to the same genus are also described.

Opilio parietinus (De Geer), which is a very common species in Europe, has apparently been introduced into Tasmania and has become quite numerous in many parts of the State. At present it seems to be confined to the settled and cultivated areas.

Of particular interest is the discovery in Tasmania of three representatives of the little-known family Acropsopilionidae. Up to the present only about six species have been recorded for the whole world. However, the family has a wide distribution. One species occurs in Chile, three in South Africa, one in New Zealand and one in Queensland. The members of the family are small, usually being not more than three or four millimeters in length. They occur in moss, grass, leaf-mould, forest debris, &c. Of the three new Tasmanian species, two have been placed in a new genus, *Tasmanopilio*, and the third in the genus *Austropsopilio*, which Dr. Forster erected for the Queensland species. A key to the genera and descriptions of the Tasmanian species are given in the following pages.

Sub-order PALPATORES Thorell

Family ACROPSOPILIONIDAE Roewer

Genus **TASMANOPILIO** gen. n.

Eyemound large but not elongated, divided into two ocular lobes by a deep groove, which ends in a V-shaped notch in front. Eyes large and surrounded by black rims. Carapace divided into two segments by a transverse groove. Three abdominal tergites free, the others fused. Dorsal surface of body smooth and devoid of tubercles and spines. Pedipalpi with multisetose lobes or multisetose spines on all segments except coxa and tarsus. The metatarsi without a calcaneus. Tarsal segmentation: 7-10, 9-13, 9-10, 10. Tarsal claws simple.

Genotype: *Tasmanopilio fuscus* sp. n.

Type Locality: Mount Wellington, Tasmania.

The genera already placed in the family Acropsopilionidae are *Acropsopilio* Silvestri from Chile, *Cadella* Hirst from South Africa, *Zeopsopilio* Forster from New Zealand and *Austropsopilio* Forster from Queensland. The new genus *Tasmanopilio* may be distinguished from them by the characters given in the following key:—

KEY TO GENERA OF THE FAMILY ACROPSOPILIONIDAE

| | |
|--|-------------------------------|
| 1. Eyemound elongated | <i>Austropsopilio</i> Forster |
| Eyemound not elongated | ..... |
| 2. Tarsus of pedipalpus with spines | 3 |
| Tarsus of pedipalpus without spines | 4 |
| 3. Abdomen with segmental grooves | <i>Acropsopilio</i> Silvestri |
| Abdomen without segmental grooves | <i>Zeopsopilio</i> Forster |
| 4. Tibia of pedipalpus with setose lobes | <i>Tasmanopilio</i> gen. n. |
| Tibia of pedipalpus without setose lobes | <i>Cadella</i> Hirst |

TASMANOPILO FUSCUS sp. n.

(Figures 1-7)

Holotype Male

Measurements in millimetres: Body-length 1.19, length of carapace 0.51.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|----------|------|--------|------|------|------|-------|-------|-------|
| Leg 1 | 0.27 | 0.12 | 0.48 | 0.27 | 0.29 | 0.41 | 0.52 | 2.36 |
| Leg 2 | 0.34 | 0.12 | 0.62 | 0.34 | 0.52 | 0.60 | 0.85 | 3.39 |
| Leg 3 | 0.33 | 0.11 | 0.40 | 0.26 | 0.34 | 0.56 | 0.57 | 2.57 |
| Leg 4 | 0.41 | 0.12 | 0.66 | 0.30 | 0.45 | 0.82 | 0.64 | 3.40 |
| Pedipalp | 0.16 | 0.15 | 0.37 | 0.27 | 0.22 | ..... | 0.15 | 1.32 |

Colour (in alcohol): Dorsal surface of body dark-brown, pale between the ocular lobes. Legs dark-brown except the bases of the femora, which are nearly white. Pedipalpi and ventral surface of body pale-brown. Chelicerae dark-brown, black at apex.

Eyemound large, smooth, rounded and projecting slightly over the anterior margin of carapace. Eyes large and surrounded by black rims. A deep groove, which ends in a V-shaped notch in front, divides the eyemound into two ocular lobes. The base of the eyemound, at its junction with the carapace, is surrounded by a narrow groove. The dorsal surface of the body is smooth and clothed with a few short scattered hairs. A strongly recurved furrow bounded in front by a ridge separates the carapace from the tergal region. A short distance in front of the recurved furrow is a transverse groove ending on each side near the apertures of the scent glands and dividing the carapace into two segments. The five anterior tergites are fused but the three posterior ones are free. The fused tergal part is divided into three regions by two shallow transverse grooves. Each of the two anterior regions has a small median oval sclerite and is probably composed of two fused tergites, the segmental groove between them having been obliterated.

The genital operculum is large and pointed in front. Its anterior extremity lies between the first coxal lobes. The surface of the operculum is clothed with a few short setae. The penis (fig. 3) is armed ventrally with a long black strongly chitinized curved spine, opposite the centre of which is a short stout bifid tooth. The curved spine is directed forwards and its apex lies between two lobes, each of which bears five coarse black setae. The glans penis projects anteriorly from between the lobes.

The coxae are clothed with a few scattered setae but are devoid of spines and tubercles. The coxal lobes are widely separated and those of the first pair are flat and immovable. The free sternites are separated by grooves. Each has a transverse row

of setae, about four on each side. The anal operculum is a small crescent-shaped plate. A corona analis is absent.

Chelicerae small and unarmed. Basal segment measures about 0.18 mm. long and the second segment 0.44 mm. The pedipalpi are slightly longer than the body. All the segments are clothed with a few short black setae. The trochanter has a large multisetose spine below. The femur is provided with a dorsal row of four small tubercles, a rounded multisetose lobe near the apex on the prolateral side, a large unisetose spine on the retrolateral side and a large multisetose basal spine ventrally. The patella has a small rounded multisetose lobe at the apex on the prolateral side and the tibia has a large multisetose lobe on the retrolateral side. The tarsus is short and provided with coarse setae below. It ends in a simple claw.

The legs are clothed with a dorsal, a prolateral, a retrolateral and a ventral row of black setae on femora, patellae, tibiae and metatarsi. The tarsi are clothed with fine hairs and a few setae. Fine hairs are also present on the ventral surface of the metatarsi. Each metatarsus has a small proximo-dorsal tubercle. Tarsal segmentation: 10, 13, 10, 10. The distal segments of the tarsus are somewhat moniliform. The tarsal claw is simple.

Allotype Female

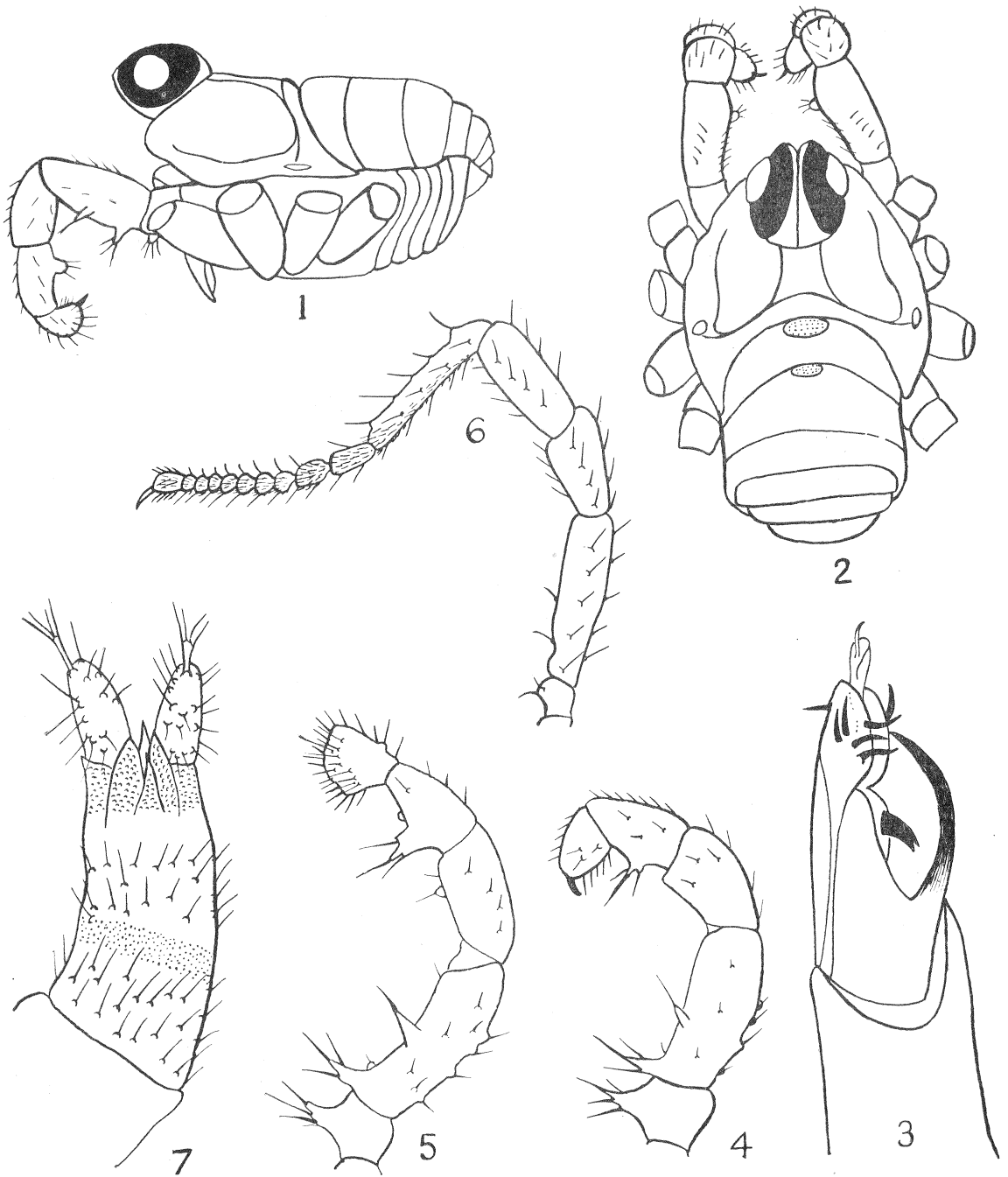
Measurements in millimeters: Body-length 1.26, length of carapace 0.51.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|----------|------|--------|------|------|------|-------|-------|-------|
| Leg 1 | 0.23 | 0.11 | 0.34 | 0.17 | 0.23 | 0.34 | 0.46 | 1.88 |
| Leg 2 | 0.31 | 0.14 | 0.51 | 0.29 | 0.40 | 0.51 | 0.83 | 2.99 |
| Leg 3 | 0.29 | 0.11 | 0.34 | 0.23 | 0.29 | 0.40 | 0.46 | 2.12 |
| Leg 4 | 0.40 | 0.11 | 0.57 | 0.29 | 0.40 | 0.65 | 0.60 | 3.02 |
| Pedipalp | 0.17 | 0.14 | 0.34 | 0.29 | 0.17 | ..... | 0.17 | 1.28 |

The female resembles the male in colour and general appearance but differs in the tarsus of the pedipalpus being more rounded, more densely clothed with setae and without a claw. The tibia has a rounded multisetose lobe on the prolateral as well as on the retrolateral side, and the femur has a large spine as well as a multisetose lobe on the prolateral side.

The legs are slightly shorter than those of the male and the first femur has two small ventral tubercles. The tarsal formula 7, 9, 9, 10 also differs from that of the male.

The ovipositor (fig. 7) measures about 0.82 mm. when extended. The distal part is cleft into two unsegmented lateral finger-like lobes, each of which is clothed with a number of setae and bears at its apex a small brush-like sensilla. Between the bases of the two lobes and surrounding the aperture of the vagina are four dark pointed lobules. A single dark band surrounds the trunk of the ovipositor.



Tasmannoplo fuscus gen. et sp. n.

FIG. 1.—Lateral view of body of male.

FIG. 2.—Dorsal view of body of male.

FIG. 3.—Lateral view of distal end of penis.

FIG. 4.—Retrolateral view of pedipalpus of male.

FIG. 5.—Retrolateral view of pedipalpus of female.

FIG. 6.—Leg of male.

FIG. 7.—Ovipositor.

Locality: Mount Wellington, Tasmania, 14th June, 1944. The harvestman occurs among fallen leaves under dense shrubs such as *Richae scoparia* on the summit of the mountain (4166 ft.). It is also found at lower levels amongst the moss which covers large rocks, but has not been collected below about 2400 ft. Adult specimens are found during the winter months May-July, juvenile specimens during January and December.

TASMANOPILIO MEGALOPS sp. n.

(Figures 8-13)

Holotype Female

Measurements in millimeters: Body-length 0.97, length of carapace 0.40.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|------------|------|--------|------|------|------|------|-------|-------|
| Leg 1 | 0.20 | 0.07 | 0.26 | 0.19 | 0.19 | 0.26 | 0.37 | 1.54 |
| Leg 2 | 0.27 | 0.08 | 0.41 | 0.23 | 0.31 | 0.39 | 0.56 | 2.25 |
| Leg 3 | 0.22 | 0.08 | 0.27 | 0.22 | 0.22 | 0.34 | 0.49 | 1.84 |
| Leg 4 | 0.27 | 0.10 | 0.45 | 0.25 | 0.35 | 0.56 | 0.57 | 2.55 |
| Pedipalp | 0.14 | 0.12 | 0.34 | 0.27 | 0.18 | .... | 0.16 | 1.21 |

Colour (in alcohol): Dorsal surface of body brown, pale between ocular lobes. Appendages brown. Ventral surface light-brown. Genital operculum with a dark area on each side.

Eyemound (figs. 8-9) large and wide, occupying the full width of the carapace in front. It is not elongated but projects slightly over the anterior margin. A deep median furrow divides the eyemound into two ocular lobes and ends in a V-shaped notch in front. The eyes are large and surrounded by black rims. A narrow groove surrounds the base of the eyemound. The carapace is separated from the tergal region by a well marked recurved furrow. Between the base of the eyemound and the recurved furrow is a transverse groove ending on each side near the aperture of the scent gland, and dividing the carapace into two segments. The five anterior tergites are fused and the three posterior ones free. The fused tergal area is divided into three regions by two shallow transverse grooves. Each of the two anterior regions has a small oval median sclerite. The carapace and tergites are devoid of tubercles and spines. The integument, however, is clothed with minute spinules or microtrichia, which are difficult to see except at high magnification.

The genital operculum (fig. 10) is large and pointed in front. Its anterior extremity lies between the first coxal lobes and its surface is clothed with a few scattered setae. The coxal lobes are wide apart and those of the second pair bear two small tubercles. The coxae are clothed with a few setae. The fourth pair have on the ventral surface in the basal half two conspicuous tubercles close together one behind the other. A small projection is present on the retrolateral margin of the coxa and opposite the respiratory spiracle. The free sternites are separated by grooves and each has a transverse row of short setae. A corona analis is absent.

The chelicerae small and unarmed. The pedipalpi (figs. 11-12) are provided with multisetose lobes and spines as described in the case of the female of the preceding species, *Tasmanopilio fuscus*.

The legs also resemble those of *T. fuscus* but in addition to possessing a small proximodorsal tubercle on each metatarsus, they also have a similar dorsal tubercle on the apical half of each patella. Tarsal segmentation: 7, 9, 9, 9.

Locality: Liffey Falls, Tasmania, 14th May, 1953. The holotype and three other adult females were found amongst moss and fallen leaves in *Notofagus* forest. Three immature specimens were collected from moss at the same locality, 22nd January, 1953.

Tasmanopilio megalops differs from *Tasmanopilio fuscus* in having a relatively much larger and wider eyemound, two conspicuous tubercles below the fourth coxae, a dorsal tubercle on each patella and a tarsal formula: 7, 9, 9, 9.

Genus *AUSTROPSOPILIO* Förster, 1955

AUSTROPSOPILIO CYGNEUS sp. n.

(Figures 14-17)

Holotype Female

Measurements in millimeters: Body-length (including the eyemound) 2.11, length of carapace 0.86.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|------------|------|--------|------|------|------|------|-------|-------|
| Leg 1 | 0.40 | 0.17 | 0.57 | 0.29 | 0.40 | 0.51 | 0.63 | 2.97 |
| Leg 2 | 0.51 | 0.23 | 0.86 | 0.40 | 0.69 | 0.86 | 0.86 | 4.41 |
| Leg 3 | 0.40 | 0.23 | 0.57 | 0.29 | 0.51 | 0.63 | 0.69 | 3.32 |
| Leg 4 | 0.63 | 0.29 | 0.86 | 0.46 | 0.63 | 1.03 | 0.97 | 4.87 |
| Pedipalp | 0.29 | 0.29 | 0.63 | 0.40 | 0.29 | .... | 0.23 | 2.13 |

Colour (in alcohol): Carapace and eyemound yellowish-brown, the rest of the dorsal surface mainly dark-brown. Legs yellowish-brown with dark-brown tarsi and dark-brown bands on femora and metatarsi. Pedipalpi and chelicerae brown. Movable and fixed fingers of chelicerae black at apex. Ventral surface of body light yellowish-brown with the genital operculum darker. The multisetose spines and lobes on the pedipalpi have black tips.

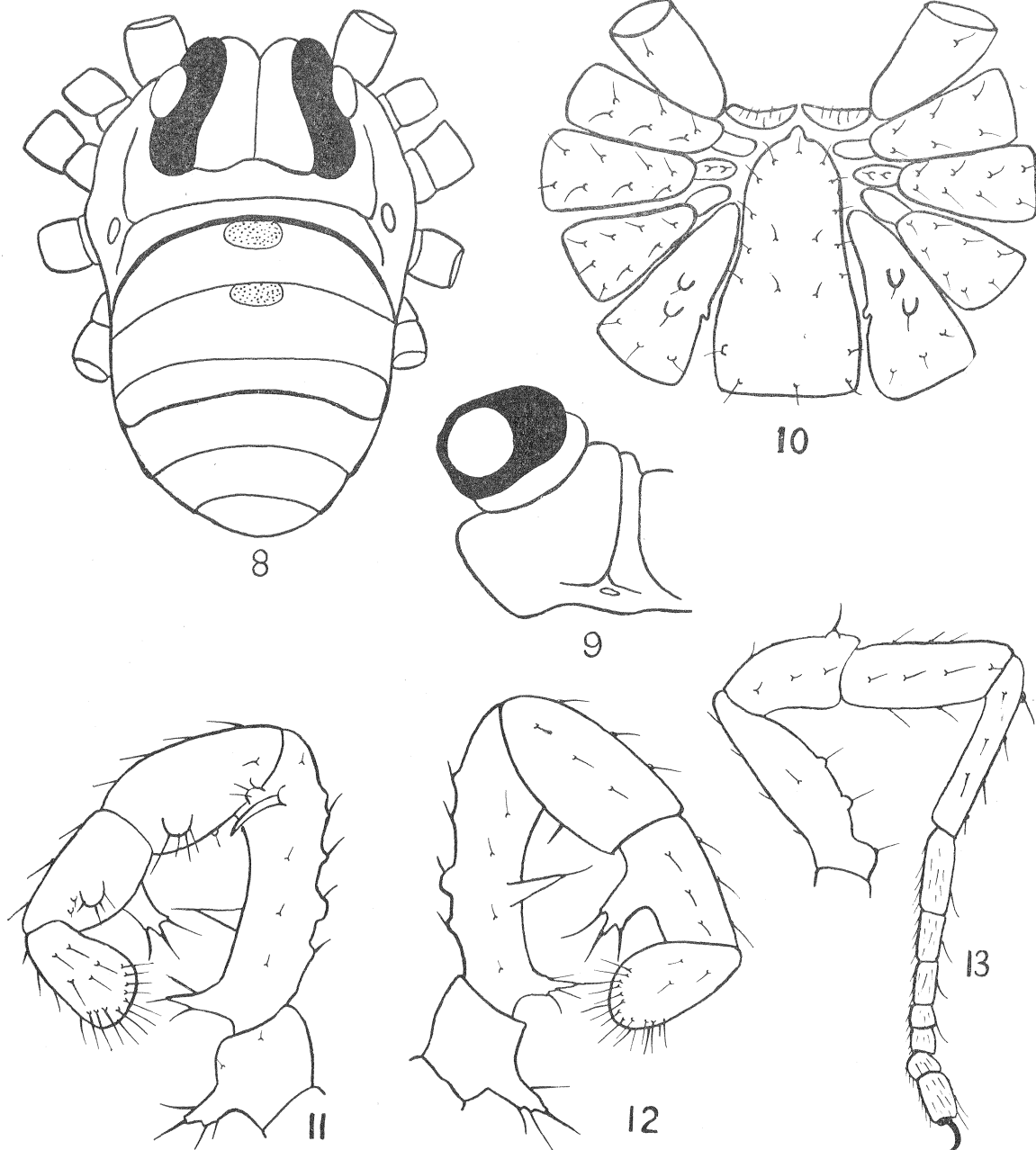
Eyemound long, projecting over the front of the carapace and divided distally by a V-shaped notch into two conical lobes directed forwards (fig. 14). The eyes are large and surrounded by black rims. They are separated from each other by a deep groove which extends forwards to the V-shaped notch. The dorsal surface of the eyemound is furnished with small rounded tubercles, each of which carries a forwardly directed seta. The base of the eyemound, at its junction with the carapace, is surrounded by a narrow groove. On each side of the carapace and extending postero-laterally from the base of the eyemound to near the apertures of the scent glands is a ridge furnished with a row of tubercles. The posterior margin of the carapace is marked by a strongly recurved groove bounded in front by a ridge with a row of tubercles. The region on each side of the eyemound is without tubercles.

The five anterior abdominal tergites appear to be fused and the posterior three free. All are provided with setose tubercles (fig. 15). The fused tergal part is divided into three regions by two transverse grooves. The arrangement of the tubercles suggests that the first region represents tergal seg-

ments I and II, the second III and IV and the third V. Each free sternite is furnished with a transverse row of tubercles, four on each side. The genital operculum is large and extends forwards to the first coxal lobes. Its surface is provided with about 18 small tubercles, six of which form a re-

curved row immediately behind the anterior margin. The coxal lobes are widely separated. Those of the second coxae each bear two small tubercles.

The chelicerae are short and unarmed. The pedipalpi (fig. 16) are about equal in length to the body. The trochanter has a large multisetose spine below.



Tasmanopilio megalops gen. et sp. n.

FIG. 8.—Dorsal view of body of female.

FIG. 9.—Lateral view of carapace and eyemound.

FIG. 10.—Ventral view of genital operculum and coxae.

FIG. 11.—Prolateral view of pedipalpus of female.

FIG. 12.—Retrolateral view of pedipalpus of female.

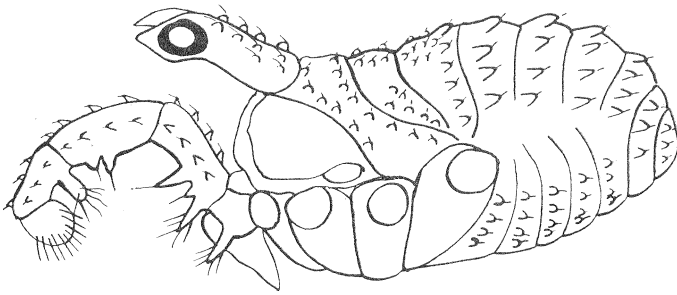
FIG. 13.—Leg I of female.

The femur, patella and tibia are provided with a longitudinal row of conical tubercles on ventral, dorsal, prolateral and retrolateral sides. Below the femur is a large multisetose basal spine, two spines on the outer side, and one spine and a blunt apical multisetose lobe on the inner side. Below the patella on the outer side are two spines and on the inner side a large spine and blunt multisetose spine or lobe. Below the tibia is a stout multisetose lobe on the outer side and a smaller multisetose tooth on the inner side. Tarsus is short with a rounded apex densely clothed with setae.

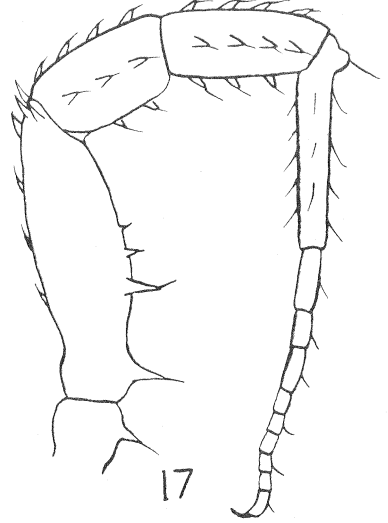
Legs slender, the fourth pair being the longest and slightly more than twice the length of the

body. A longitudinal row of conical setose tubercles on dorsal, prolateral, retrolateral and ventral surfaces of each patella and tibia. Each femur has a longitudinal dorsal row of conical tubercles, which increase in size distally. At the apex of the femur there are two tubercles on each side. The first leg (fig. 17) has a large spine below the trochanter, and two large and two small spines below the femur. Tarsal segmentation: 9, 13, 10, 11. Each tarsus ends in a simple claw. All the metatarsi have a rounded proximodorsal tubercle. Calcaneus absent.

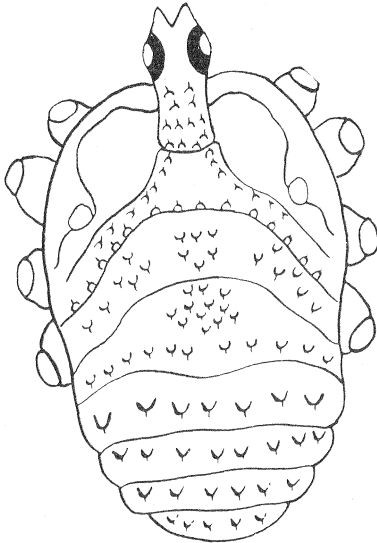
Locality: Liffey Falls, Tasmania, 23rd February, 1929. The holotype was found among fallen leaves



14



17



15



16

Austropsopilio cygneus sp. n.

FIG. 14.—Lateral view of body of female.
FIG. 15.—Dorsal view of body of female.

FIG. 16.—Retrolateral view of pedipalpus of female.
FIG. 17.—Leg I of female.

under *Notofagus* trees. A second immature specimen was collected from moss at the same locality, 9th February, 1947.

The species shows a close relationship to *Austrosopilio novaehollandiae* Forster from Queensland, especially in the form of the pedipalpi. However, it differs from that species in possessing tubercles on the elongated eyemound, in the armature of the legs and in the segmentation of the tarsi.

Family PHALANGIIDAE Simon

Genus OPILIO Herbst

Eyemound rounded. Interocular furrow denticulate. The eyemound is removed from the front margin by a distance equal to 1-2 times its diameter. The surface of the carapace in front of and at the sides of the eyemound provided with small denticles. Thoracic and abdominal tergites each with a transverse row of denticles. Chelicerae and pedipalpi of similar form in both sexes. Patella and tibia of pedipalp without apophyses. Legs long and slender. Sexual dimorphism very slight.

Genotype: *Phalangium parietinum* De Geer.

Locality: Europe.

OPILIO PARIETINUS (De Geer)

(Figs. 18-22)

This harvestman is a common European species, which has probably been introduced into Tasmania by the agency of shipping. The species also occurs in Asia and North America.

Male

Measurements in millimeters: Body-length 6.72, length of carapace 1.54.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|----------|------|--------|-------|------|------|-------|-------|-------|
| Leg 1 | 2.31 | 0.63 | 7.00 | 1.75 | 4.90 | 6.37 | 10.50 | 33.46 |
| Leg 2 | 2.17 | 0.77 | 11.20 | 2.10 | 9.17 | 8.33 | 24.00 | 57.74 |
| Leg 3 | 2.45 | 0.56 | 6.09 | 1.61 | 4.69 | 6.65 | 10.00 | 32.05 |
| Leg 4 | 3.22 | 0.77 | 7.70 | 1.75 | 5.95 | 9.66 | 9.76 | 38.81 |
| Pedipalp | 0.29 | 0.40 | 1.26 | 0.80 | 0.86 | ..... | 2.00 | 5.61 |

Colour (in alcohol): Carapace and abdomen cream, speckled and blotched with white, yellow and brown. Abdomen without a saddle-shaped area or median stripe. Chelicerae and pedipalpi cream spotted with brown. Legs mainly dark-brown with some yellowish spots. Coxae pale with elongated dark-brown spots on ventral surface. Sternites with a few dark-brown spots arranged in transverse rows.

Carapace provided with small denticles as shown in fig. 18. Eyemound set back from front margin by a distance equal to its diameter and furnished with a longitudinal row of about six denticles above each eye. The thoracic and abdominal tergites each provided with a transverse row of denticles. Segmental grooves on abdomen shallow.

Chelicerae small. The first segment measures 1.20 mm. and the second 2.23 mm. long. A few small denticles are present above the distal half of the first segment and the proximal quarter of the second. The sectorial margin of the movable finger has a large conical tooth near the middle

and that of the fixed finger a slightly smaller tooth nearer the base. Both sectorial margins have serrations on the distal half.

Pedipalpi (fig. 19) short and small. Femur, patella and tibia furnished with denticles and short setae. Tarsus clothed with short setae and fine hairs but devoid of denticles. The tarsal claw is non-pectinate.

Legs long and slender. An erect spine-like process above the distal end of coxae I-III. Small denticles are present on all trochanters, femora, patellae, tibiae, metatarsi and some tarsal segments. Metatarsi I-IV have 2, 3, 2, 3 pseudosegments respectively. Tarsi I-IV have 35, 79, 37, 37 segments respectively.

The form of the penis is shown in fig. 20. The glans ends in a curved spine-like point. At the distal end of the trunk of the penis there is a pair of oval concave plates, which are situated on the dorsal side immediately behind the base of the glans.

Female

Measurements in millimeters: Body-length 6.0, length of carapace 1.54.

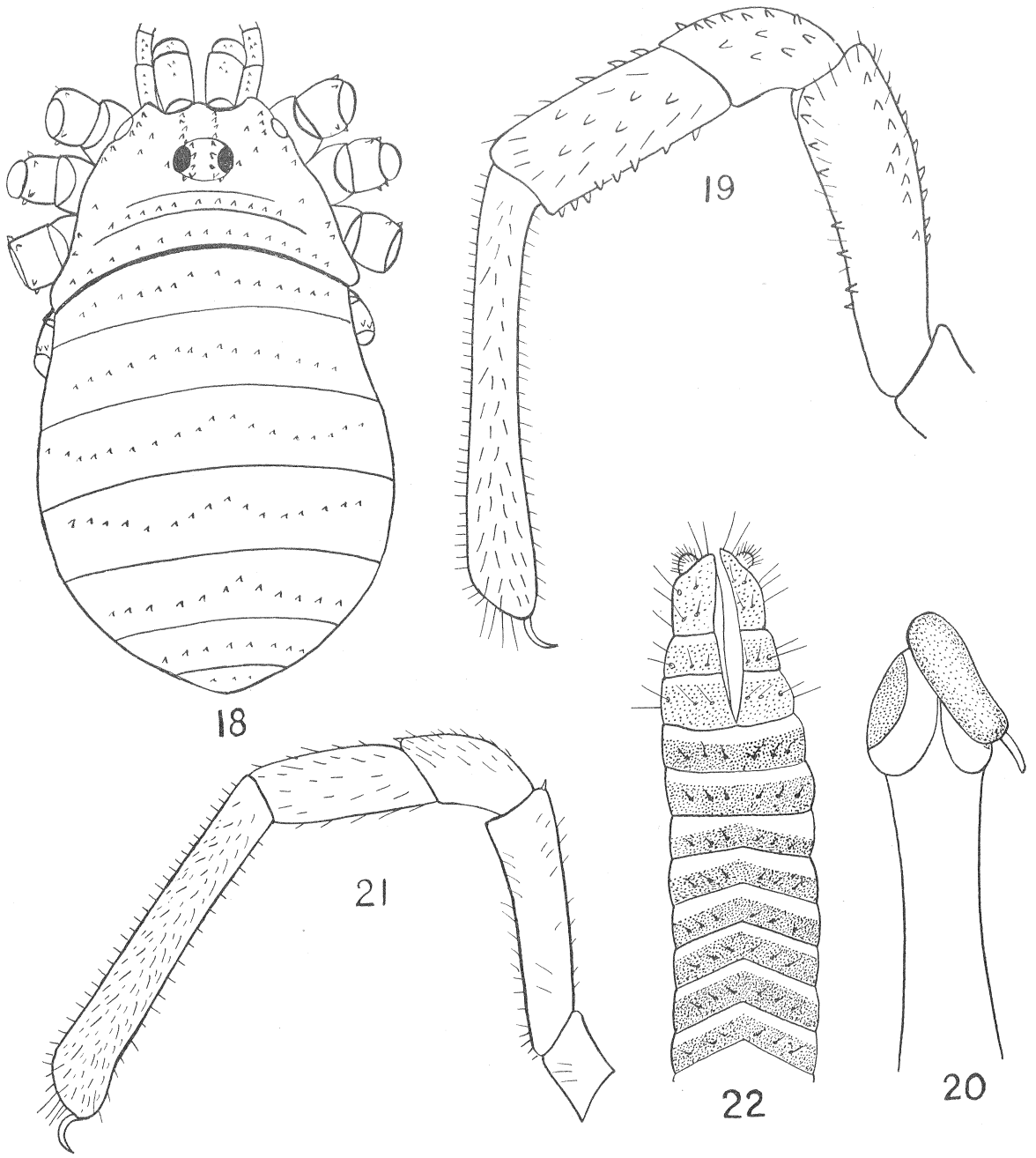
| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|----------|------|--------|------|------|------|-------|-------|-------|
| Leg 1 | 1.43 | 0.40 | 4.00 | 1.26 | 3.14 | 3.71 | 7.20 | 21.14 |
| Leg 2 | 1.54 | 0.46 | 7.54 | 1.71 | 6.17 | 4.91 | 15.88 | 38.21 |
| Leg 3 | 1.71 | 0.51 | 4.00 | 1.26 | 3.14 | 4.34 | 7.14 | 22.10 |
| Leg 4 | 2.11 | 0.46 | 6.06 | 1.43 | 4.40 | 6.11 | 10.17 | 30.74 |
| Pedipalp | 0.23 | 0.29 | 1.14 | 0.54 | 0.63 | ..... | 1.54 | 4.37 |

The female closely resembles the male in colour, markings and general appearance. The carapace, eyemound and tergites are denticulate as in the male.

The chelicerae and pedipalpi (fig. 21), however, are smooth and devoid of denticles. The legs are shorter than those of the male and denticles are present on only the trochanters and the femora. Metatarsi I-IV have 2, 3, 2, 3 pseudosegments respectively. Tarsi I-IV have 34, 72, 37, 37 segments respectively.

The ovipositor (fig. 22) is long and composed of about 34 dark-brown segments. The two distal segments are cylindrical the remainder somewhat angular. Each segment is encircled by about 12 setae. The distal end of the ovipositor is divided into two finger-like lobes, each composed of three segments and having an oviducal furrow on the inner surface. On the outer side near the apex each lobe bears a hemispherical, setose sensory organ.

Localities: This introduced harvestman is common in both Hobart and Launceston. During summer it may often be seen with its long slender legs spread out radially round its body resting on the shady side of houses and other buildings. Up to the present it has been found only in settled areas and does seem to have penetrated into the bush.



Opilio parietinus (De Geer).

FIG. 18.—Dorsal view of body of male.

FIG. 19.—Retrolateral view of pedipalpus of male.

FIG. 20.—Distal end of penis.

FIG. 21.—Retrolateral view of pedipalpus of female.

FIG. 22.—Distal end of ovipositor.

Genus *SPINICRUS* Forster, 1949

This genus was established by Forster (1949, p. 63) in order to separate Australian from New Zealand species of *Pantopsalis*, the claw of the pedipalp being pectinate in the Australian forms and non-pectinate in the New Zealand forms.

The genus may be defined as follows: Eyemound rounded, with a slight interocular groove, and situated little more than once its transverse diameter from the anterior margin of the carapace. In the males the carapace is usually (but not always) provided with denticles or spicules. In the females it is smooth. The abdomen is smooth in both sexes and the segmental grooves shallow. Chelicerae of males at least twice the length of

the body and furnished with numerous denticles. Chelicerae of females short and smooth. Pedipalpi in both sexes smooth, slender and without apophyses. Claw of pedipalpi pectinate. Legs very long and thin. Tibia II with pseudosegmentation.

Genotype: *Pantopsalis tasmanica* Hogg, 1910.

Type Locality: Tasmania.

Three species belonging to the genus *Spinicrus* have been recorded from the mainland of Australia and one from Tasmania. Two new forms are described in the present paper. The species are readily distinguished by the features of the males as indicated in the following key.

KEY TO MALES OF SPECIES IN THE GENUS *SPINICRUS*.

| | | |
|----------------------------------|-------|---------------------------------|
| 1. Carapace with two humps | ..... | <i>S. camelus</i> Forster |
| Carapace without humps | ..... | 2 |
| 2. Eyemound armed with denticles | ..... | 3 |
| Eyemound without denticles | ..... | 4 |
| 3. Tibia I with denticles below | ..... | <i>S. thrypticum</i> sp. n. |
| Tibia I without denticles | ..... | <i>S. stewarti</i> Forster |
| 4. Femur I without denticles | ..... | <i>S. nigricans</i> sp. n. |
| Femur I with denticles | ..... | 5 |
| 5. Trochanter I without spines | ..... | <i>S. tasmanicum</i> (Hogg) |
| Trochanter I with two spines | ..... | <i>S. continentale</i> (Roewer) |

Of the species mentioned in the foregoing key *S. camelus* occurs in N.S.W., *S. stewarti* and *S. continentale* in Victoria and the others in Tasmania.

SPINICRUS TASMANICUM (Hogg)

(Figures 23-28)

As mentioned above this species was originally described under the name of *Pantopsalis tasmanica* by Hogg (1910, p. 279). The description was based on three dry and mutilated specimens in the British Museum. A revised description based on two males and four females from Hobart was published by Roewer (1912, p. 277). In the following account of the species some additional information is given.

Male

Measurements in millimeters: Body-length 4.85, length of carapace 1.68.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|----------|------|--------|------|------|------|-------|-------|-------|
| Leg 1 | 1.37 | 0.40 | 4.40 | 1.14 | 3.83 | 5.43 | 7.71 | 24.28 |
| Leg 2 | 1.43 | 0.40 | 7.19 | 1.20 | 7.42 | 6.63 | 18.90 | 43.17 |
| Leg 3 | 1.37 | 0.40 | 3.54 | 1.14 | 3.43 | 5.25 | 6.80 | 21.93 |
| Leg 4 | 1.49 | 0.57 | 5.71 | 1.20 | 5.30 | 8.17 | 9.54 | 31.98 |
| Pedipalp | 0.23 | 0.34 | 1.26 | 0.57 | 0.69 | ..... | 1.71 | 4.80 |

Colour (in alcohol): Dorsal surface of body fawn with a median silvery white stripe bordered with brown extending from the eyemound to the posterior end of the abdomen. Eyemound silvery white with a black ring round each eye. A median pair of short brown stripes extends from the eyemound to the front margin. A few dark-brown marks are present on each side of carapace and abdomen. Appendages are fawn. Ventral surface of body pale.

Except for two or three minute spicules on each side of the anterior margin in front of the eyemound, the carapace and abdomen are smooth.

Eyemound low, rounded and smooth, with a very slight interocular groove. It is situated about its diameter from the front margin. Segmental grooves of abdomen distinct.

Chelicerae (fig. 24) very long, the first and second segments each being longer than the body. The first segment decreases slightly in diameter towards the middle of its length and then expands near the apex. The second segment gradually increases in diameter distally and is widest at the base of the movable finger. Both segments are covered with small spinules of uniform size, those on the second segment being more densely arranged than those on the first segment. Movable and fixed fingers cross near the apex. There is a large black conical tooth near the middle of the sectorial margin of the movable finger and a large blunt, somewhat truncate, tooth in a more basal position on the fixed finger (fig. 25). Distal to these teeth the sectorial margins of both fingers are furnished with fine serrations.

Pedipalpi are short and smooth; clothed with short setae but without spinules. Tarsus longer than other segments. Claw furnished with about eight teeth in basal half (fig. 26).

Coxae I, II, and III with a slender apical spine above the distal end. The spine on coxa I is immediately below the aperture of the scent gland. Legs long and slender. In the resting position the two anterior pairs are extended forwards and the two posterior pairs backwards. With the exception of femur I, which is armed with small denticles, the segments of all the legs are smooth. The denticles on femur I are more numerous on the ventral than on the dorsal surface. Tibia II has 5-7 pseudosegments. The other tibiae show no signs of segmentation. Metatarsi I-IV have 3, 7, 3, 6 segments respectively and tarsi I-IV have 41, 77, 43, 45 segments respectively.

The genital operculum extends forward as far as the bases of coxae I and is slightly indented at the apex. The penis has the form shown in fig. 27. The glans is short and pointed. It is bent dorsally at right angles to the long axis of the main trunk of the penis. Behind the glans and on the ventral side are four tufts of long curved setae. The tufts are situated two on each side, one close behind the other.

Female

Measurements in millimeters: Body-length 6.85, length of carapace 1.78.

| | Cox. Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|------------|-------------|------|------|------|------|-------|-------------|
| Leg 1 | 1.20 | 0.68 | 3.60 | 1.14 | 3.43 | 4.63 | 7.99 22.67 |
| Leg 2 | 1.31 | 0.40 | 6.51 | 1.26 | 7.14 | 6.00 | 16.23 38.85 |
| Leg 3 | 1.54 | 0.40 | 3.37 | 1.20 | 3.08 | 4.68 | 6.28 20.55 |
| Leg 4 | 2.97 | 0.51 | 5.76 | 1.26 | 5.14 | 8.28 | 8.85 32.77 |
| Pedipalp | 0.34 | 0.23 | 1.20 | 0.86 | 0.85 | .... | 1.88 5.36 |

The female resembles the male in colour and markings. The carapace is smooth and without spicules. The chelicerae small and smooth; the basal segment measures 0.80 mm. and the second segment 1.71 mm. Both segments are without spicules. The pedipalp is slender and unarmed. The legs long and slender. Tibia II has 6-7 pseudo-segments. Metatarsi I-IV have 4, 7, 3 (or 4), 6 pseudo-segments respectively. Tarsi I-IV have 44, 75, 41, 47 segments respectively.

The ovipositor (fig. 28) has the usual form found in the Phalangiidae. The distal end is divided into two narrow lobes, each of which is composed of three segments and has a longitudinal furrow on the inner surface. On the outer side near the apex of each lobe is a conical sensory organ clothed with short setae. The trunk of the ovipositor is composed of about 25 dark-brown annular segments. The 10 segments immediately behind the distal lobes are each encircled by eight setae. The remaining segments are without setae.

Localities: The species is widely distributed in Tasmania. The collection contains specimens from the Cascades, Risdon, National Park, Tarraleah, Great Lake region, Forth Falls, Wilmot, Fingal, Trevallyn, Bruny Island and elsewhere. Adults may be found during the months October-March. The harvestman occurs in various situations. Specimens have been found under fallen logs and stones, in curled bark on the ground, under the loose bark on Eucalypts and sometimes in low shrubs.

SPINICRUS THRYPTICUM sp. n.

(Figures 29-33)

Holotype Male

Measurements in millimeters: Body-length 4.0, length of carapace 1.43.

| | Cox. Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|------------|-------------|------|------|------|------|-------|-------------|
| Leg 1 | 1.43 | 0.46 | 3.14 | 1.09 | 2.86 | 2.17 | 7.70 18.85 |
| Leg 2 | 1.40 | 0.46 | 5.82 | 1.14 | 5.65 | 1.83 | 18.30 34.60 |
| Leg 3 | 1.54 | 0.34 | 3.03 | 1.14 | 2.63 | 2.57 | 7.70 18.95 |
| Leg 4 | 1.71 | 0.51 | 4.57 | 1.03 | 4.00 | 3.71 | 10.60 26.13 |
| Pedipalp | 0.23 | 0.34 | 1.14 | 0.51 | 0.57 | .... | 1.70 4.49 |

Colour (in alcohol): Carapace light-brown. Margin and lateral angles dark-brown. Eyemound silvery-white between the eyes. Two broken dark-

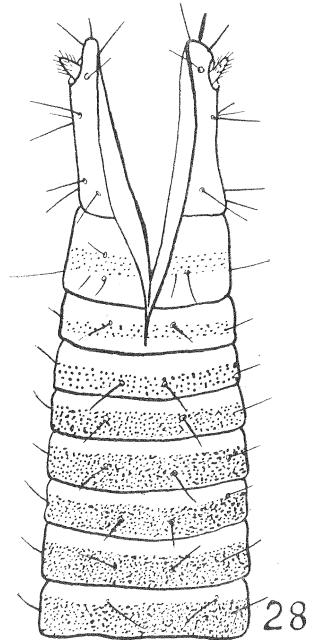
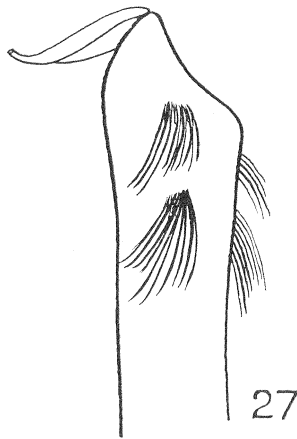
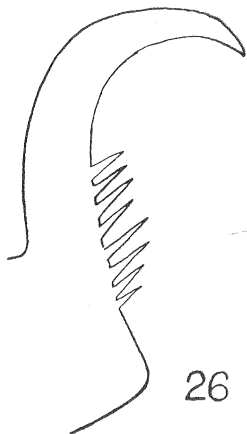
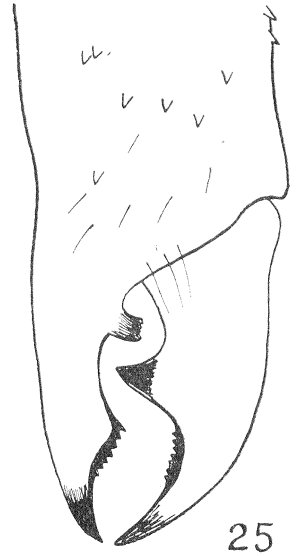
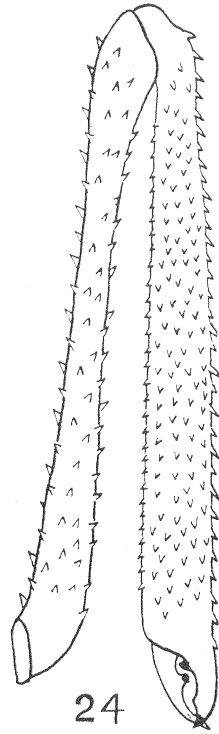
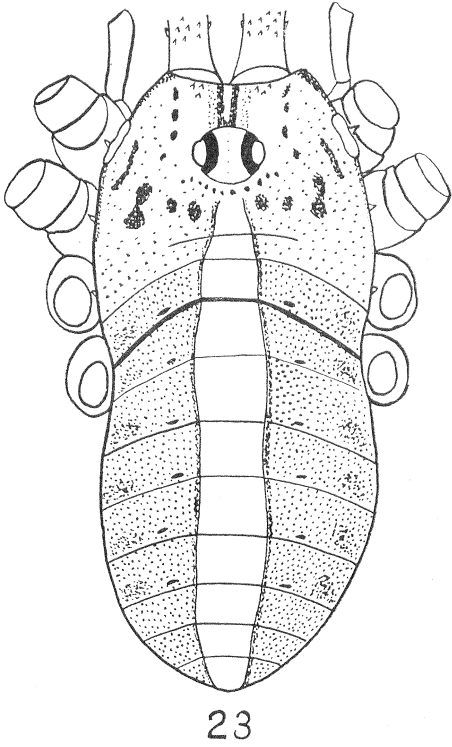
brown lines extend forward from the base of the eyemound to the anterior margin. An irregular silvery-white patch is present on each side of the eyemound and extends forward to the front margin. Behind the eyemound is a pair of black patches disposed transversely. The anterior two thirds of the dorsal surface of the abdomen has a wide median region, which is brown marked with a few silvery flecks. Behind the brown region is a narrow dark transverse bar followed by a large silvery-white patch bearing a transverse row of brownish dots. On each side the dorsal surface is marked with irregular patches of dark-brown intermingled with silvery flecks. Chelicerae, pedipalpi and legs brown. Femora, tibiae and metatarsi banded with dark-brown. Some silvery-white marks are also present on the legs, especially on the patellae. Two dark patches occur on the intersegmental membrane between coxa and trochanter on the dorsal side of each leg. Ventral surface of body is light-brown with the distal third of each coxa dark-brown. Sternites marked with transverse dark-brown bars bearing silvery-white spots.

The carapace is furnished with small denticles arranged in six groups, two on each side close behind the front margin and one on each side of the eyemound (fig. 29). In front of and behind the aperture of the scent gland is a small conical projection. The eyemound is set back from the front margin by a distance equal to once its transverse diameter. The interocular furrow is very shallow. Above each eye is a double row of denticles. The abdomen is smooth, but each tergite is furnished with a few short setae.

The chelicerae (fig. 30) are more than twice the length of the body. The first segment measures 4.0 mm. and the second 5.4 mm. long. Both segments are densely covered with denticles of uniform size. The movable finger has a large black conical tooth near the middle of its sectorial margin. When the fingers are closed together the tooth fits in between a more basal conical tooth and a truncate serrated projection on the fixed finger (fig. 31).

The pedipalpi are small, slender and smooth. Clothed with short setae but without spines and denticles. The tarsal claw has about six teeth (fig. 32).

The legs are long and slender. On the dorsal side of the distal end of each coxa in the case of legs I-III is a slender erect spine. Trochanters I-IV each with a group of small spines on the anterior surface. Femora I and III are armed with denticles throughout the full length of the segment, especially on the ventral surface. Femur II has denticles on the proximal two-thirds and femur IV is almost smooth. Patella I and tibia I have a double row of denticles below (fig. 33); other patellae and tibiae are smooth. Tibia II has six pseudo-segments on the right and five on the left side; tibia IV has two pseudo-segments on both sides. Metatarsi I-IV are short and have 2, 1, 1, 3 pseudo-segments respectively. Tarsi I-IV are very long and have 35, 66, 36, 39 segments respectively. Tarsus IV is slender proximally but gradually becomes stouter towards the sixth segment and then thinner towards its distal end.



Spinicrus tasmanicum (Hogg).

FIG. 23.—Dorsal view of body of male.
 FIG. 24.—Retrolateral view of chelicera of male.
 FIG. 25.—Chela of chelicera.

FIG. 26.—Claw of pedipalpus.
 FIG. 27.—Lateral view of distal end of penis.
 FIG. 28.—Ovipositor.

Allotype Female

Measurements in millimeters: Body-length 3.88, length of carapace 1.26.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|----------|------|--------|------|------|------|-------|-------|-------|
| Leg 1 | 1.43 | 0.46 | 2.34 | 1.08 | 2.28 | 1.54 | 6.40 | 15.53 |
| Leg 2 | 1.43 | 0.40 | 4.74 | 1.08 | 4.85 | 1.43 | 15.70 | 29.63 |
| Leg 3 | 1.31 | 0.40 | 2.28 | 0.97 | 2.28 | 1.94 | 6.30 | 15.48 |
| Leg 4 | 1.71 | 0.46 | 3.83 | 1.14 | 3.43 | 3.14 | 8.00 | 21.71 |
| Pedipalp | 0.17 | 0.23 | 1.14 | 0.51 | 0.68 | ..... | 1.50 | 4.23 |

Colour (in alcohol): Carapace cream with dark-brown lateral angles and dark-brown spots at each side of the eyemound. Dorsal surface of abdomen with a broad median dark-brown area on the anterior two-thirds. On each side of and immediately behind the dark-brown area the dorsum is silvery-white merging into cream. The last three or four tergites are mainly brown. Basal segment of chelicera silvery-white with brown

spots; second segment white with brown sides. Coxae yellowish with a dark-brown band at the distal end. Other leg segments as in male.

Carapace and eyemound smooth, otherwise as in male.

Chelicerae small and smooth. The first segment measures 0.74 mm. and the second segment 1.66 mm. long. Pedipalpi as in the male.

Legs long and slender. All segments are smooth and unarmed. Tibia II has seven pseudosegments

and tibia IV two. The metatarsi I-IV have 2, 1, 2, 3 pseudosegments respectively. Tarsi I-IV have 36, 66, 35, 39 segments respectively. Tarsus IV is slender and not swollen as in the male.

Localities: The holotype was found by J. L. Hickman near St. Columba Falls at Pyengana, Tasmania, 17th April, 1954, and the allotype in the neighbouring district of Weldborough, 16th April, 1954.

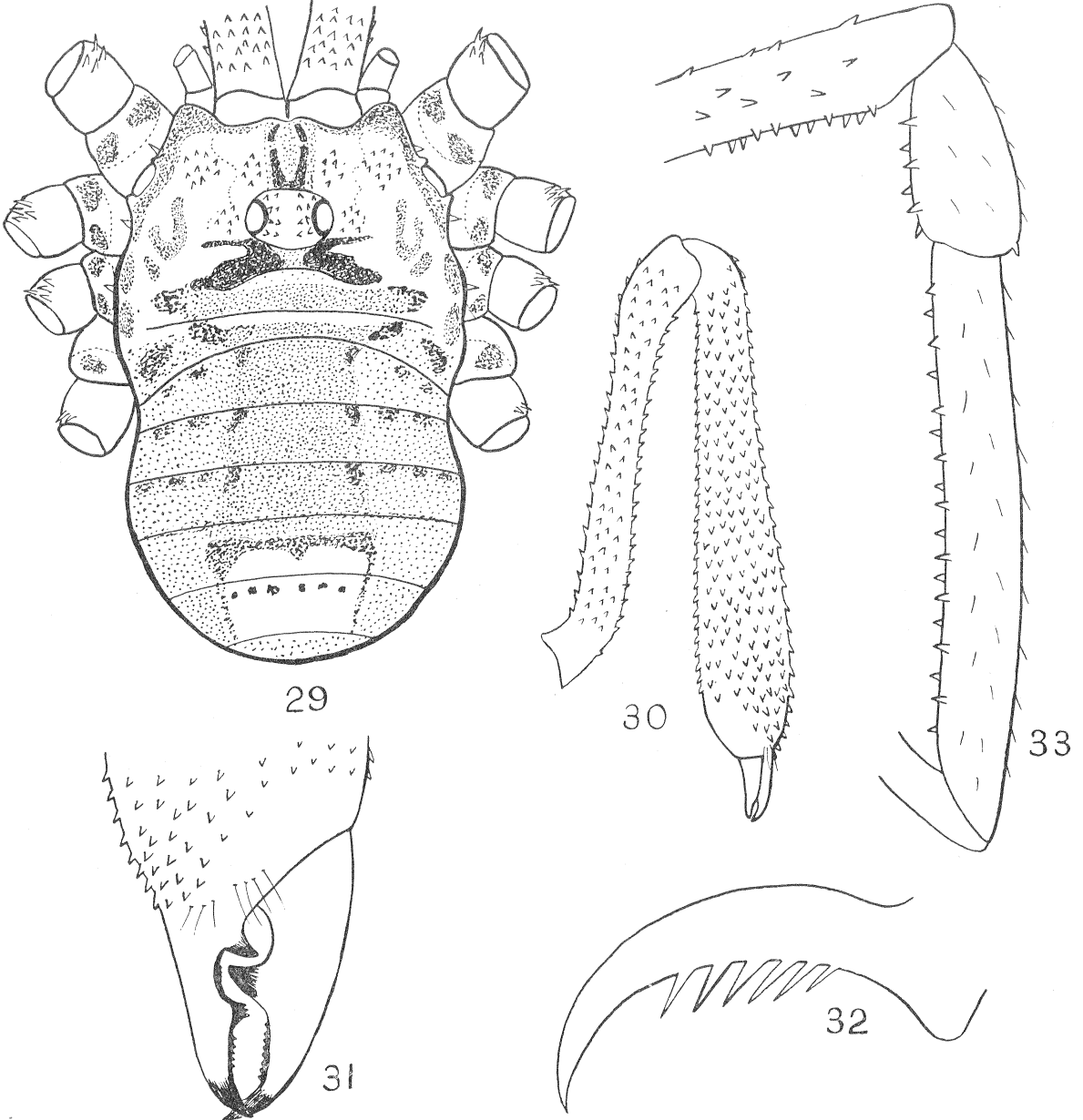


FIG. 29.—Dorsal view of body of male.

FIG. 30.—Retrolateral view of chelicera of male.

FIG. 31.—Chela of chelicera.

Spinicrus thrypticum sp. n.

FIG. 32.—Claw of pedipalpus.

FIG. 33.—Patella and tibia of leg I of male.

SPINICRUS NIGRICANS sp. n.

(Figures 34-40)

Holotype Male

Measurements in millimeters: Body-length 2.4, length of carapace 0.84.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|----------|------|--------|------|------|------|------|-------|-------|
| Leg 1 | 0.86 | 0.28 | 4.05 | 1.03 | 3.71 | 2.17 | 10.51 | 22.61 |
| Leg 2 | 0.86 | 0.29 | 6.97 | 0.97 | 7.14 | 1.49 | 24.54 | 42.26 |
| Leg 3 | 0.91 | 0.34 | 3.43 | 0.86 | 3.54 | 2.23 | 11.13 | 22.44 |
| Leg 4 | 1.14 | 0.40 | 5.48 | 0.97 | 5.43 | 2.57 | 15.60 | 31.59 |
| Pedipalp | 0.23 | 0.29 | 2.17 | 1.03 | 0.86 | ... | 2.28 | 6.86 |

Colour (in alcohol): Carapace light-brown with dark-brown margin and dark-brown marks on each side. A silvery-white patch on each side of the eyemound extends forward to the front margin. Abdomen with a large dorsal dark-brown median region and silvery-white patches on each side. Chelicerae dark-brown; paler at the sides of the first segment and in the mid-dorsal region and distal end of the second segment. Pedipalpi, legs and ventral surface of body brown with a pale median stripe extending from mouth to anus.

Carapace and abdomen soft and smooth. Denticles and spicules absent. Eyemound smooth and without spicules; situated about its diameter from the front margin. Interocular groove shallow and furnished with a few short setae.

Chelicerae long and spinous. The first segment measures 2.17 mm. in length and is shorter and thinner than the second segment, which measures 3.14 mm. long. Both segments are armed with spines and denticles. The first segment has about five large erect spines on the dorsal side in the basal half and a larger number of smaller spines on the ventral surface. The second segment is armed with numerous large curved spines on the dorsal surface (or front). The lateral spines are shorter and on the retrolateral surface some of them form a longitudinal row (fig. 35). The movable finger is almost straight and has a large black conical tooth near the middle of the sectorial margin. The fixed finger has a low serrated projection in the basal half. Both fingers have fine serrations on the distal half of the sectorial margins (fig. 36).

Pedipalpi slender and unarmed. Tarsus is longer than the other segments and its claw is furnished with about eight fine teeth (fig. 37).

Legs very long and slender. The femora and all other segments except coxae I-III are smooth and quite devoid of denticles and spines. Coxae I-III each have a slender erect spinous process on the dorsal side of the distal end. Tibia II has eight pseudosegments. The other tibiae show no signs of segmentation. The metatarsi are very short and each has two pseudosegments. Tarsi I-IV are very long and have 36, 78, 34, 36 segments respectively.

The genital operculum extends forward to the bases of the first coxae. The penis has the form shown in figs. 38-39. It resembles that of *Spinicrus tasmanicum*. The glans is short and bent dorsally. Behind the glans and on the ventral side are four tufts of long curved setae. The tufts are situated two on each side, one close behind the other.

Allotype Female

Measurements in millimeters: Body-length 4.17, length of carapace 1.07.

| | Cox. | Troch. | Fem. | Pat. | Tib. | Met. | Tars. | Total |
|----------|------|--------|------|------|------|------|-------|-------|
| Leg 1 | 0.91 | 0.28 | 4.60 | 0.91 | 3.77 | 2.57 | 14.05 | 26.49 |
| Leg 2 | 0.97 | 0.28 | 6.96 | 0.97 | 7.71 | 1.37 | 27.20 | 45.46 |
| Leg 3 | 1.14 | 0.34 | 3.71 | 0.86 | 3.71 | 2.86 | 11.43 | 24.05 |
| Leg 4 | 1.19 | 0.34 | 5.42 | 0.91 | 5.65 | 2.80 | 15.70 | 32.01 |
| Pedipalp | 0.17 | 0.17 | 1.14 | 0.68 | 0.63 | ... | 1.43 | 4.22 |

Colour (in alcohol): Carapace yellowish-brown with dark-brown margin and a pair of dark lines in front of eyemound. Dorsal surface of abdomen with a median light coloured stripe. On either side of the stripe the segments are dark-brown with silvery-white markings in the transverse grooves. There is also a large silvery-white patch on each side immediately behind the carapace. Legs and pedipalpi yellowish-brown banded with dark-brown. Coxae dark-brown on distal third.

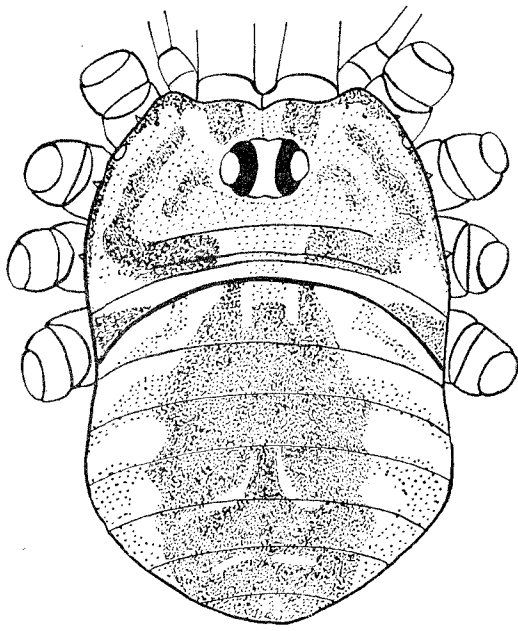
Carapace, eyemound and abdomen smooth.

Chelicerae unarmed and much smaller than those of the male. The first segment measures 0.63 mm. and the second 1.37 mm. long.

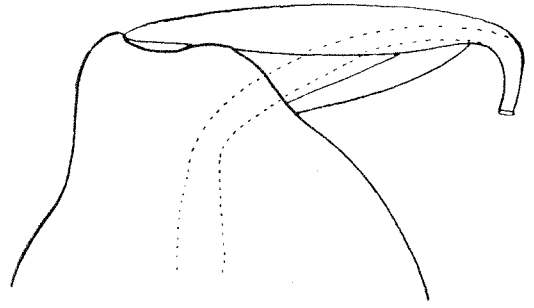
Pedipalpi and legs resemble those of the male. Tibia II has six pseudosegments on the right and eight on the left side of the body. Metatarsi are short and each has two pseudosegments. Tarsi I-IV have 40, 93, 38, 44 segments respectively.

The ovipositor (fig. 40) is long and cylindrical. It is composed of about 19 dark-brown annular segments, each of which in the distal half is surrounded by eight setae. The distal end of the ovipositor is divided into two finger-like lobes, each of which is composed of three segments, and bears on the outer side near the apex a small hemispherical setose sensory organ.

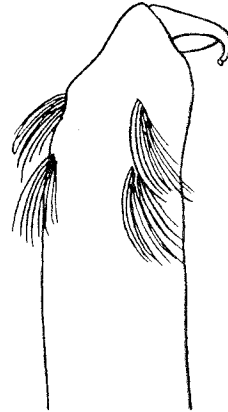
Localities: The holotype male was collected in the Myrtle Gully, Cascades, Tasmania, 26th February, 1945, and the allotype female at Hastings, Tasmania, 21st November, 1939. The species is widely distributed in the State. The collection contains specimens from Trevallyn, Forth Falls, Western Creek, Table Cape, National Park, Great Lake region and elsewhere. Adults are usually found during the period November to April. The species occurs under logs and stones in damp and shady situations.



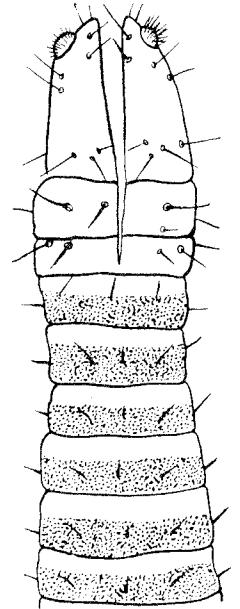
34



39



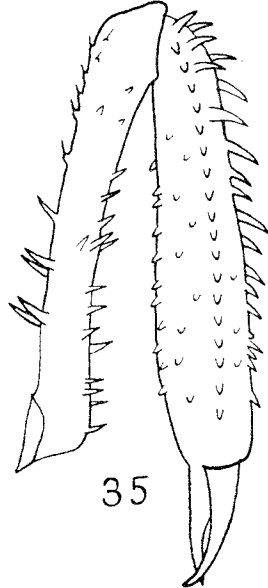
38



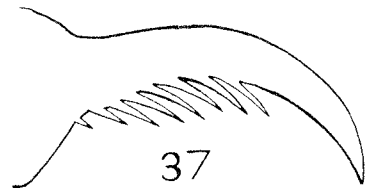
40



36



35



37

Spinicrus nigricans sp. n.

FIG. 34.—Dorsal view of body of male.
 FIG. 35.—Retrolateral view of chelicera of male.
 FIG. 36.—Chela of chelicera.
 FIG. 37.—Claw of pedipalpus.

FIG. 38.—Distal end of penis.
 FIG. 39.—Lateral view of glans.
 FIG. 40.—Ovipositor.

ACKNOWLEDGEMENTS

I am much indebted to the late Messrs. A. L. Meston and G. Craw, who made it possible for me to collect harvestmen in many parts of Tasmania. I am also grateful to the Trustees of the John Ralston Bequest, under whose auspices the above investigation was carried out. My thanks are also due to Messrs. D. E. Kurth and J. L. Hickman for assistance in obtaining specimens.

REFERENCES

- FORSTER, R. R., 1948.—A New Genus and Species of the Family Acropsopilionidae (Opiliones) from New Zealand. *Trans. Roy. Soc. New Zealand*, 77, (1), pp. 139-141.
- , 1949.—Australian Opiliones. *Mem. Nat. Mus. Melbourne*, 16, pp. 59-89.
- FORSTER, R. R., 1955.—Further Australian Harvestmen. *Aust. Journ. Zoology*, 3 (3), pp. 354-411.
- HIRST, S., 1925.—On some New Genera and Species of Arachnida. *Proc. Zool. Soc. London*, pp. 1272-1278.
- HOGG, H. R., 1910.—Some New Zealand and Tasmanian Arachnida. *Trans. N.Z. Inst.*, 42, pp. 273-283.
- LAWRENCE, R., 1933.—New South African Opiliones. *Ann. S. Afr. Mus.* 30 (4), pp. 549-586.
- ROEWER, C. F., 1912.—Revision der Opiliones Palpatores. Tl. II: Familie der Phalangidae. *Abh. natw. Ver. Hamburg*, 20 H, 1, pp. 1-295.
- , 1923.—Die Weberknechte der Erde. Jena (G. Fischer).
- SILVESTRI, F., 1905.—Note Aracnologiche. Descrizione di un nuovo genere di Opilioni del Chile (*Acropsopilio*, n. gen.). *Redia*, Firenze, 2. fasc. 2 (1904), pp. 254-256.

