

SOME TASMANIAN HARVESTMEN OF THE FAMILY TRIAENONYCHIDAE (SUB-ORDER LANIATORES)

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(With 296 Text Figures)

ABSTRACT

Ten genera with thirteen species of harvestmen belonging to the Family Triaenonychidae (Sub-Order Laniatores) have been previously recorded from Tasmania. In the present paper twenty-one new genera and forty-nine new species are described. Of the new species seventeen are placed in genera already established. Some additional information on seven of the previously recorded species is given. The following list includes the new species and those previously recorded from Tasmania. Where additional information on a previously recorded species is given, the name is marked with an asterisk.

Sub-family TRIAENONYCHINAE

- Tasmanonyx montanus* gen. et sp. n. (79)
Bryonuncia distincta gen. et sp. n. (39)
Pyenganella striata gen. et sp. n. (19)
 **Lomanella raniceps* Pocock (100)
 **Lomanella atrolutea* Roewer (2)
Lomanella parva Forster
Lomanella exigua sp. n. (19)
Ankylonuncia fallax gen. et sp. n. (10)
Ankylonuncia mestoni gen. et sp. n. (1)
Ankylonuncia barrowensis gen. et sp. n. (7)
Notonuncia diversa gen. et sp. n. (42)
Notonuncia arvensis gen. et sp. n. (11)
Notonuncia obscura gen. et sp. n. (4)
Tasmanonuncia segnis gen. et sp. n. (39)
Leionuncia levis gen. et sp. n. (92)
Allonuncia grandis gen. et sp. n. (12)
Nunciella tasmaniensis sp. n. (94)
Cinuna badia gen. et sp. n. (4)
Cinuna dentata gen. et sp. n. (2)
Nuncioides infrequens gen. et sp. n. (1)
Nuncioides dysmicus gen. et sp. n. (3)
 **Paranuncia gigantea* Roewer (111)
Odontonuncia saltuensis gen. et sp. n. (11)
 **Callihamus inermis* Roewer (1)
Calliuncus odoratus sp. n. (36)
Calliuncus glaber sp. n. (76)
Nucina silvestris gen. et sp. n. (123)
Nucina dispar gen. et sp. n. (1)
Stylonuncia spinosa gen. et sp. n. (2)

- Parattahia u-signata* Roewer
Mestonia picra gen. et sp. n. (51)
Mestonia acris gen. et sp. n. (11)
Monacanthobunus tasmanicus Roewer
Monoxyomma silvaticum sp. n. (4)
Monoxyomma cavaticum sp. n. (7)

Sub-family TRIAENOBUNINAE

- **Triaenobunus pectinatus* Pocock (= *Peckhamius pectinatus* Roewer) (83)
Triaenobunus asper sp. n. (51)
Triaenobunus inornatus sp. n. (3)
Triaenobunus pilosus sp. n. (3)
Triaenobunus mestoni sp. n. (2)
Triaenobunus montanus sp. n. (3)
Triaenobunus cornutus sp. n. (2)
 **Glyptobunus signatus* Roewer (173)
Glyptobunus ornatus sp. n. (11)
Phoxobunus tuberculatus gen. et sp. n. (7)
Phoxobunus rostratus gen. et sp. n. (5)
Eubunus crypsidomus gen. et sp. n. (3)
Allobunus distinctus gen. et sp. n. (3)
Chilobunus spinosus gen. sp. n. (3)
Rhynchobunus arrogans gen. et sp. n. (129)
 **Phanerobunus armatus* Roewer (24)
Phanerobunus saxatilis sp. n. (18)
Phanerobunus asperrimus sp. n. (49)
Phanerobunus hebes sp. n. (23)
Miobunus thoracicus Roewer
Miobunus levis sp. n. (4)
Tasmanobunus constans gen. et sp. n. (51)
Tasmanobunus parvus gen. et sp. n. (32)
Chrestobunus spinulatus Roewer
Chrestobunus inermis Roewer
Chrestobunus fuscus sp. n. (95)
Thelbunus mirabilis gen. et sp. n. (6)

Where a number in parentheses follows a name in the above list, it indicates the number of specimens of the particular species that have been examined. Where no number is given, the species has not been recognized amongst those in the collection.

INTRODUCTION

Harvestmen belonging to the family Triaenonychidae have the following features:—Two eyes are present and usually carried on a rounded or conical elevation, which is called the eyemound and situated on the carapace. The eyemound may be smooth and unarmed or armed with a spine or horn of variable form. The dorsal surface of the body is covered by a scutum and three free tergites (not including the anal operculum). The scutum is composed of the carapace fused with the first five abdominal tergites. In some cases the five tergites are evident as five tergal Areas, which are delimited by five transverse grooves, referred to as tergal grooves. In most species the first tergal groove marking the posterior limit of the carapace is quite distinct. It is referred to as the scutal groove or scutal furrow. A pair of three-segmented chelate chelicerae is present at the front of the body. Pedipalpi are robust, stouter than the legs, usually armed with large setigerous spines and end in a strong raptorial claw. The ventral surface of the body is formed mainly by the coxae of the legs, the sternum, the genital operculum and the nine abdominal sternites. The coxae of the first pair of legs are movable, those of the other legs are immovably fused. The sternum is generally long and narrow but in the sub-family Triaenobuninae its posterior end is wide and crescentic. The genital operculum, which is situated immediately behind the sternum is movable. The first abdominal sternite is vestigial, the second and third are fused into the compound sternite bearing the respiratory spiracles, the fourth to the seventh inclusive are free and the eighth and ninth fused into a broad plate in front of the anus.

The legs may be smooth or armed with spines and tubercles. Each metatarsus is usually marked off into a proximal section, the astragalus, and a distal section, the calcaneus, which are immovable on one another. In the males of some species the calcaneus is bent or has a ventral notch. A variable number of segments compose the tarsi of the legs. In the first and second pair of legs the tarsal segments are arranged in two sections, the distal section being referred to as the distitarsus. The first and second tarsi each end in a simple claw; the third and fourth in a three-pronged claw.

Hitherto only 10 genera with 13 species belonging to the family Triaenonychidae have been recorded from Tasmania. However, the State is comparatively rich in species belonging to the family and in the present study 49 new species and 21 new genera are described. The Mount Wellington area, which, because of its ready accessibility, has been searched more thoroughly than other areas, has yielded no less than 19 different species. Harvestmen have been collected in many parts of the State, with the exception of the south-west quarter, and a total of 1797 specimens have been examined.

Most members of the family Triaenonychidae favour cool moist conditions and are found under decaying logs or in moss and leaf-mould in rain forest areas. A few species such as *Triaenobunus*

pectinatus Pocock (= *Peckhamius pectinatus* Roewer) and *Phanerobunus armatus* Roewer are more tolerant of less humid surroundings and may be found in such comparatively dry regions as the hills at East Risdon. Some species appear to be confined to one small locality; others, such as *Lomanella raniceps* Pocock, occur in most parts of the State.

Some of the species described in the following pages are of special interest. *Tasmanonyx montanus* sp. n. is one of the most common harvestmen on Mount Wellington and is the only Tasmanian species so far discovered, that has the middle prong of the claws on tarsi III and IV smaller than the lateral prongs. *Bryonuncia distincta* sp. n. and *Pyenganella striata* sp. n. each have the calcaneus of the first pair of legs longer than the astragalus. *Nunciella tasmaniensis* sp. n. is remarkable in that the male has eight instead of only five abdominal tergites fused with the carapace to form the dorsal scutum.

The family Triaenonychidae is usually divided into three sub-families, namely Adaeinae, Triaenonychinae and Triaenobuninae, the form of the sternum being the main distinguishing feature between them. However, from a comprehensive study of New Zealand species Dr Forster (1954, p. 15) has relegated the sub-family Triaenobuninae to the status of a *tribe* in the sub-family Triaenonychinae. This may well be justified after more is known of our Australian species. In the present paper the Triaenobuninae are retained with the original status of a sub-family.

In view of the importance attached to tarsal segmentation in the taxonomy of the Triaenonychidae any variations in the segmentation of tarsi I and II occurring in the one species have been noted. Where a large number of specimens has been examined the variations are shown in tabular form after the systematic description. An interesting feature in a number of species is the marked asymmetry exhibited, especially in the segmentation of tarsi II, the number of segments in the tarsus of the left leg often being different from that in the tarsus of the corresponding right leg. Such variations are indicated in the Tables and text by adding the letter L or R to the number of segments present in the corresponding left and right tarsi. If the specimen is symmetrical and there is no difference in the number of segments on left and right sides, only one number is given.

The two sub-families of the Triaenonychidae represented in Tasmania may be distinguished as follows:—

1. Sternum elongate, narrow and not widely crescentic at the posterior end. Respiratory spiracles usually not concealed by fourth coxae. Sub-family Triaenonychinae
2. Sternum short and widely crescentic at the posterior end. Respiratory spiracles usually concealed under bridging granules on fourth coxae. Sub-family Triaenobuninae

KEY TO TASMANIAN GENERA IN THE SUB-FAMILY TRIAENONYCHINAE

1. Lateral prongs on claws of tarsi III and IV larger than the median prong *Tasmanonyx* gen. n.
Lateral prongs on claws of tarsi III and IV smaller than the median prong 2
2. Calcaneus of leg I longer than astragalus 3
Calcaneus of leg I shorter than astragalus 4
3. Tarsal formula: 3, 5-6, 4, 4 *Bryonuncia* gen. n.
Tarsal formula: 4, 12-16, 4, 4 *Pyenganelia* gen. n.
4. Eyemound low and unarmed 5
Eyemound not so constructed 13
5. Femur and tibia of pedipalp almost unarmed *Lomanella* Pocock
Femur and tibia of pedipalp strongly armed 6
6. Calcaneus of leg I of male notched below 7
Calcaneus of leg I of male not notched below 8
7. Tarsus II of male with 6-10 segments *Ankylonuncia* gen. n.
Tarsus II of male with 11-18 segments *Notonuncia* gen. n.
8. Distitarsus of leg II with three segments 9
Distitarsus of leg II with more than three segments 10
9. Tarsus I with 3 segments *Tasmanonuncia* gen. n.
Tarsus I with 4-6 segments *Leionuncia* gen. n.
10. Eyemound near middle of carapace *Allonuncia* gen. n.
Eyemound near anterior margin 11
11. Tarsus I with 3 segments *Nunciella* Roewer.
Tarsus I with more than 3 segments 12
12. Tarsus I with 4 segments *Cinuna* gen. n.
Tarsus I with 5-6 segments *Nuncioides* gen. n.
13. Eyemound conical and unarmed *Paranuncia* Roewer.
Eyemound not so constructed 14
14. Eyemound low and armed above with a small recurved spine *Odontonuncia* gen. n.
Eyemound not so constructed 15
15. Eyemound conical, armed in front with a short spine or hook 16
Eyemound conical, armed above with a large spine or horn 19
16. Tarsus II with 5 segments *Callihamus* Roewer.
Tarsus II with more than 5 segments 17
17. Front margin of scutum smooth *Calliuncus* Roewer.
Front margin of scutum with denticles or spines 18
18. Front margin with 4 denticles on each side *Nucina* gen. n.
Front margin with 4 spines on each side *Stylonuncia* gen. n.
19. Front margin of scutum smooth 20
Front margin of scutum with denticles 21
20. Tergal Areas I-V smooth *Parattahia* Roewer.
Tergal Areas III-V with blunt tubercles *Mestonia* gen. n.
21. Tergal Areas II and III each with a pair of spines *Monacanthobunus* Roewer.
Tergal Area II without spines; Area III with a pair of large spines *Monoxipomma* Pocock.

Genus **TASMANONYX** gen. n.

Eyemound subconical, arising from the anterior margin of the carapace. Scutum unarmed but furnished with a transverse row of small denticles above the anterior margin on each side. First and fifth tergal grooves distinct, other grooves absent. A median pair of granules on tergal Areas I and II. A transverse row of granules on each of the other Areas and free tergites. Sternum long and narrow. Respiratory spiracles large and not concealed. Legs unarmed. The calcaneus of each leg straight and much shorter than the astragalus. That of leg I in the male not notched below. The number of segments in tarsus I varies from 4-5 in the male but is constant at 4 in the female. In tarsus II the number of segments varies from 11-16 in the male and from 7-13 in the female. Tarsi III and IV have 4 segments each in both sexes. Distitarsus I has 2 segments in both sexes. Distitarsus II has 5-6 in the male and 4-5 in the female.

The claws of tarsi III and IV are three-pronged, the middle prong being smaller than the lateral prongs.

Genotype: *Tasmanonyx montanus* sp. n.

Type Locality: Mount Wellington, Tasmania.

Forster (1954, p. 247) has established the sub-family Soerensenellinae for those Triaenonychidae in which the lateral prongs of the claws of tarsi III and IV are equal in length to, or longer than, the median prong. He has assigned to the sub-family the two South African genera *Roeweria* Lawrence and *Speleomontia* Lawrence and the two New Zealand genera *Soerensenella* Pocock and *Karamea* Forster. The Tasmanian genus *Tasmanonyx* differs from *Roeweria* in having large uncealed respiratory spiracles, from *Speleomontia* in the form of the eyemound, from *Soerensenella* in the position of the eyemound and from *Karamea* in tarsal segmentation.

TASMANONYX MONTANUS sp. n.

(Figures 1-7)

Holotype Male

Measurements in millimeters: Body-length 4.85, length of scutum 3.88, length of carapace 1.71.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.91	0.46	2.00	0.86	1.54	2.06	1.43	9.26
Leg 2	1.71	0.57	2.86	1.09	2.28	2.97	2.86	14.34
Leg 3	1.49	0.51	1.88	0.86	1.43	2.28	1.60	10.05
Leg 4	1.77	0.74	2.57	1.03	2.00	3.43	2.00	13.54
Pedi-palp	0.57	0.51	1.88	1.03	1.43	...	1.26	6.68

Colour (in alcohol): Scutum brown with a dark region on each side. A median light brown stripe between two narrow dark brown patches extends from the eyemound to the scutal furrow. Behind the scutal furrow is a median wedge-shaped area reaching to the posterior margin of the scutum. It is composed of four short transverse dark brown bars, one on each of the tergal Areas I-IV. Area V and the free tergites are dark brown. Chelicerae, pedipalpi and legs are light brown with dark markings. The calcaneus of each leg is yellowish. Coxae, sternum and genital operculum light brown with darker brown markings. Abdominal sternites dark brown with a light brown bar between the spiracles.

Scutum (fig. 1) smooth and unarmed except for a transverse row of four small denticles above the anterior margin on each side. Scutal groove distinct medianly. The fifth tergal groove shallow, other grooves absent. A median pair of rounded granules is present on each of tergal Areas I and II, a recurved row of four granules on each of Areas III and IV and a transverse row of about 15 granules on Area V and each free tergite. The eyemound broadly conical and rising directly from the front margin. It is produced into a short point above in front. A few granules are present on each side of the base of the eyemound.

Chelicerae (fig. 2) are moderately strong. The first segment measures 1.14 mm. long and is armed with a median dorsal apical tooth and a row of three smaller teeth on the retrodorsal margin in the proximal half. The second segment is 1.43 mm. long and is unarmed.

Pedipalpi (fig. 3) well developed. The trochanter is armed above with a large tooth. The dorsal surface of the femur has a median row of six teeth. The retrolateral surface is smooth. The prolateral surface has a large tooth in the distal half and a few very small teeth near the prodorsal margin. The ventral surface is armed with a large median proximal tooth, which is somewhat bifid, being furnished with a posterior cusp. The retroventral margin is armed with a row of three teeth, the first of which is the largest. One or two small granules are also present in the row. The proventral margin is furnished with a row of very small granules. The patella has a large curved prolateral tooth. The tibia is armed with three teeth on each side and is slightly tuberculate on the ventral surface. The tarsus has three teeth on each side.

Coxa I has a promarginal row of three very small teeth, the apical tooth being blunt and coarsely bifid. Coxa II is armed with two teeth behind the apex. Coxa III is furnished with a few marginal granules in front of and behind the distal third. Coxa IV has a small tooth in front of the apex and a few granules near the distal end of the posterior margin.

The genital operculum and sternum have the form shown in fig. 4. The penis (fig. 5) has a ventral plate, which is cleft into two parts, each of which has a stout seta on the inner side and is clothed with minute spinules towards the apex. On each side below the ventral plate is a short leaf-like lateral plate. The distal end of the penis is short and tubular. It is protected on each side by a large lateral process.

The respiratory spiracles are large and conspicuous.

The legs are unarmed except for a few granulations on the femora. Each calcaneus is much shorter than the astragalus. The calcaneus (fig. 6) of leg I forms about $\frac{1}{2}$ the length of the metatarsus. It is straight and not notched below. The number of segments in tarsi I-IV is 5, 14, 4, 4. Distitarsi I and II have 2 and 6 segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being smaller than the lateral prongs (fig. 7).

Allotype Female

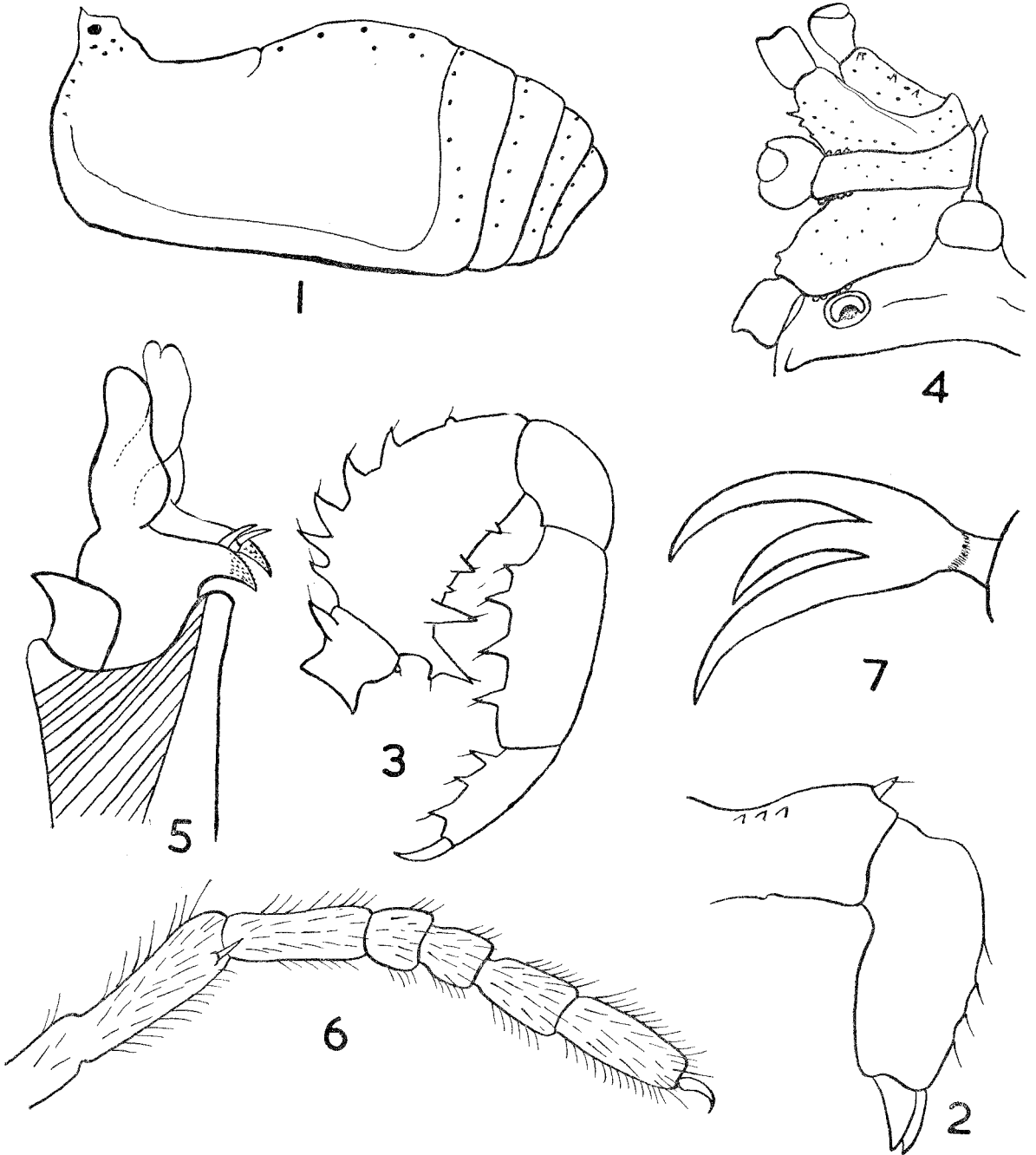
Measurements in millimeters: Body-length 4.17, length of scutum 3.54, length of carapace 1.71.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.46	1.60	0.80	1.26	1.54	1.26	7.89
Leg 2	1.60	0.51	2.17	0.91	1.83	2.40	2.34	11.76
Leg 3	1.31	0.51	1.60	0.69	1.20	1.83	1.26	8.40
Leg 4	1.60	0.74	2.06	0.86	1.71	2.86	1.60	11.43
Pedi-palp	0.57	0.46	1.43	0.80	0.97	...	0.97	5.20

The female resembles the male in colouration and general appearance. However, the dark bars on the tergal region of the scute are not confined to a median wedge-shaped area but extend laterally. The pedipalpi are shorter than those of the male and the proximal ventral tooth on the femur is more slender. The tarsal segmentation is 4, 10, 4, 4. Distitarsi I and II have 2 and 4 segments respectively.

Localities: The type specimens were collected near Saint Crispin's Well on the slope of Mount Wellington, 11th January, 1945. The species is very common at O'Grady's Falls and many other places on the mountain. It also occurs at Hastings, in the Arve Forest, and at National Park. The species is usually found in fern gullies, where it frequents moss, leaf-mould and decaying logs.

Variations: The collection contains 44 males and 35 females. The males vary in body-length from 3.48-5.22 and females from 3.89-5.10 mm. The number of segments in tarsus I varies in males from 4-5, but all the female specimens have four segments. The number of segments in tarsus II varies in males from 11-16 and in females from 7-14. Tarsi III and IV each have four segments in



Tasmanonyx montanus gen. et sp. n.

FIG. 1.—Lateral view of scutum and free tergites of male.

FIG. 2.—Retrolateral view of chelicera of male.

FIG. 3.—Retrolateral view of pedipalpus of male.

FIG. 4.—Ventral view of right coxae, sternum, genital operculum and spiracle of male.

FIG. 5.—Lateral view of penis.

FIG. 6.—Calcaneus and tarsus of leg I of male.

FIG. 7.—Claw of leg IV.

all specimens. Distitarsus I has two segments in all specimens but the number of segments in distitarsus II varies from 5-6 in males and 4-5 in females. Specimens in which tarsus II has the same number of segments in left and right appendages are comparatively rare and, as Table 1 shows, much asymmetry occurs.

Table 1.

Number of specimens.	Sex.	Number of segments in tarsus I.	Number of segments in tarsus II.	Number of segments in distitarsus II.
1	♂	4	11	5
1	♂	4	12	6
1	♂	4	12	6L 5R
3	♂	4	13	6
1	♂	4	13L 11R	5
1	♂	4	13L 12R	6L 5R
1	♂	4L 5R	10L 12R	5L 6R
1	♂	4L 5R	13	6
1	♂	4L 5R	13L 12R	5
1	♂	4L 5R	14L 13R	6
1	♂	5	11L 12R	5
1	♂	5	11L 13R	5L 6R
1	♂	5	12	6
1	♂	5	12	5L 6R
2	♂	5	12L 13R	6
1	♂	5	13L 11R	6L 5R
3	♂	5	13L 12R	6
1	♂	5	13	6
1	♂	5L 4R	13L 14R	6
1	♂	5L 4R	14L 13R	6
3	♂	5	13L 14R	6
1	♂	5	13L 15R	6
1	♂	5	14L 12R	6
1	♂	5	14L 12R	6L 5R
2	♂	5	14L 13R	6
3	♂	5	14	6
3	♂	5	14L 15R	6
1	♂	5	15L 14R	6
2	♂	5	15	6
1	♂	5	15L 16R	6
1	♂	5	16L 14R	6
1	♀	4	7L 9R	4
1	♀	4	8L 9R	4
2	♀	4	9	4
2	♀	4	9L 10R	4
1	♀	4	9L 10R	5
1	♀	4	9L 11R	4
1	♀	4	10L 8R	4
7	♀	4	10L 9R	4
10	♀	4	10	4
3	♀	4	10L 11R	4
4	♀	4	11L 10R	4
1	♀	4	12L 11R	4
1	♀	4	14L 13R	4

Genus **BRYONUNCIA** gen. n.

Carapace with a transverse row of small denticles above the anterior margin on each side. Eyemound low, rounded, unarmed and rising directly from the anterior margin. Scutum unarmed. First and fifth tergal grooves distinct, others indistinct. Each tergal Area and free tergite with a transverse row of rounded granules. Legs unarmed. Calcaneus of legs I and II much longer than astragalus. In males the calcaneus of leg I is notched below. Tarsal segmentation: 3, 5-6, 4, 4. The distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the middle prong larger than the lateral prongs.

Genotype: *Bryonuncia distincta* sp. n.

Type Locality: The Arve Forest, Geeveston, Tasmania.

In having the calcaneus of legs I and II much longer than the astragalus, the genus *Bryonuncia* resembles the South American genera *Triaenonyx* Soerensen and *Diasia* Soerensen and also the South African genera *Cryptobunus* Lawrence and *Biacumontia* Lawrence. However, it differs from all these genera in the form of the eyemound.

BRYONUNCIA DISTINCTA sp. n.

(Figures 8-15)

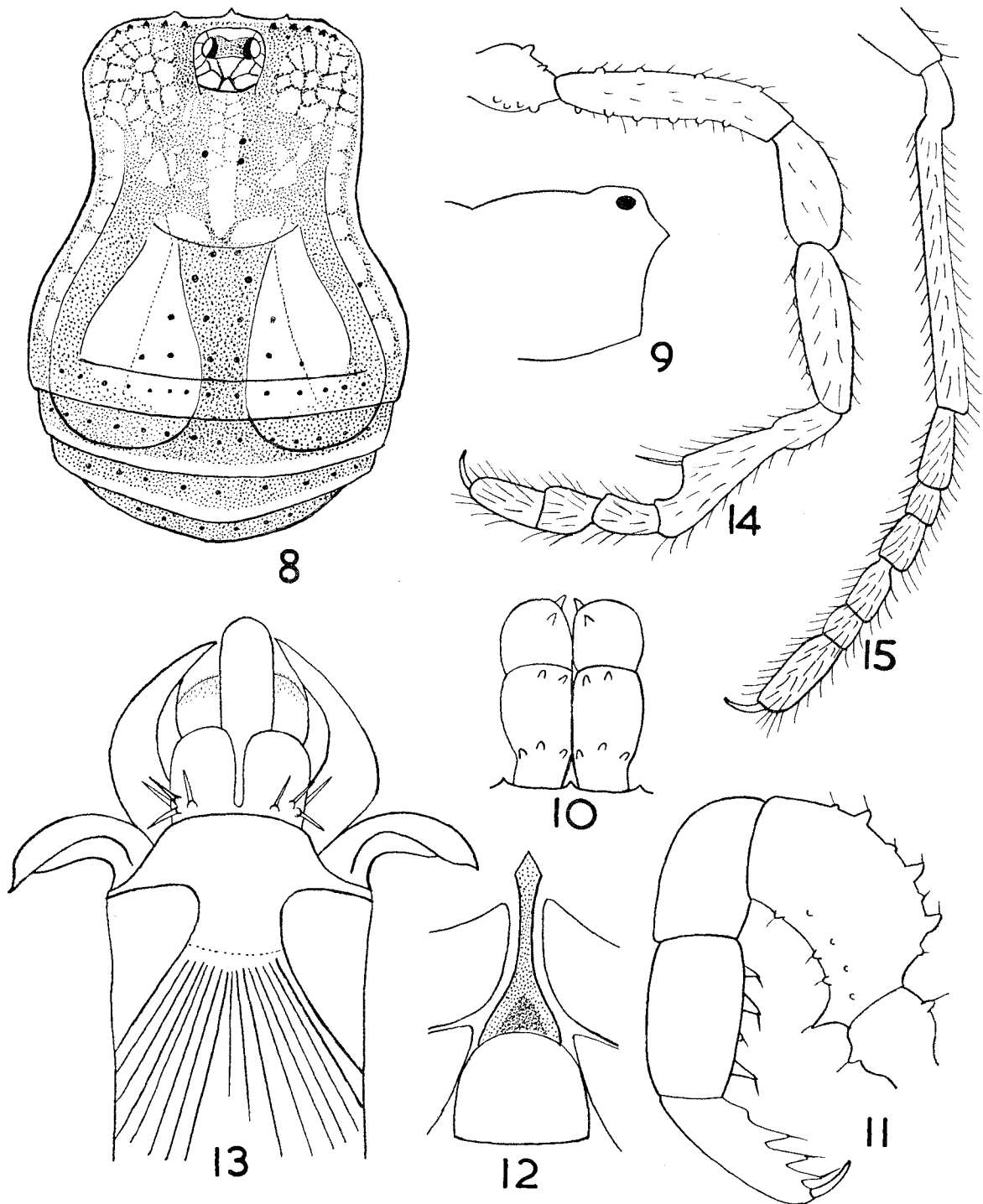
Holotype Male

Measurements in millimeters: Body-length 3.14, length of scutum 2.80, length of carapace 1.31.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.46	0.34	1.08	0.57	0.63	0.91	0.80	4.79
Leg 2	0.86	0.34	1.42	0.63	0.86	1.43	1.43	6.97
Leg 3	0.91	0.30	0.80	0.46	0.63	0.74	0.80	4.64
Leg 4	0.97	0.40	1.26	0.68	1.03	1.37	0.97	6.68
Pedi-								
palp	0.46	0.45	1.20	0.74	0.86	.....	0.86	4.57

Colour (in alcohol): Scutum light-brown with dark-brown markings as indicated in fig. 8. The markings form a reticulate pattern on each side of anterior quarter. Carapace has a pair of dark-brown patches extending from the eyemound to the scutal groove. Behind the carapace is a median wedge-shaped dark brown region situated between two light-brown lobes, which form saddle-like area covering a large part of the abdominal scutum and extending onto the first free tergite. On each side the saddle-like area merges with a longitudinal dark-brown region, which extends forward to the reticulate pattern in the anterior quarter. Pedipalpi and chelicerae are light-brown with dark reticulations. Legs light-brown banded with dark-brown. Coxae light-brown with dark reticulations. Free sternites yellowish-brown with a dark-brown area on each side.

The surface of the dorsal scutum is finely shagreened and unarmed. Frontal margin has a row of five minute tubercles or granules above on each side. The eyemound (fig. 9) slopes down to the front. It is low, rounded and scarcely higher than the rest of the carapace. Behind the eyemound is a crescent-shaped row of small granules and at each side of it a shallow depression. A



Bryonuncia distincta gen. et sp. n.

FIG. 8.—Dorsal view of scutum and free tergites of male.
 FIG. 9.—Lateral view of eyemound.
 FIG. 10.—Dorsal view of chelicerae of male.
 FIG. 11.—Retrolateral view of pedipalpus of male.

FIG. 12.—Sternum and genital operculum of male.
 FIG. 13.—Ventral view of distal part of penis.
 FIG. 14.—Leg I of male.
 FIG. 15.—Metatarsus and tarsus of leg II of male.

few granules are situated near the middle of the carapace. The first and fifth transverse grooves are well marked, the others indistinct. Each scutal Area and free tergite is provided with a transverse row of small rounded granules.

Chelicerae large and stout. Dorsal surface of first segment provided with a median and an inner tubercle at the apex and a transverse row of three tubercles behind the middle (fig. 10). The second segment furnished in front with several conical tubercles, three of which form an inner longitudinal row.

The pedipalpi large and strong. The trochanter has three tubercles in a transverse row above and three below. The femur has a median dorsal row of three teeth and four small tubercles, the teeth alternating with the tubercles. On the ventral surface there is a median basal tooth, and a row of small rounded tubercles on each margin. The pro-lateral surface has two upper and one lower tooth in the distal third. The retrolateral surface has a lower row of about four rounded granules. The patella is smooth and unarmed. The tibia has three teeth on each side, the third prolateral tooth being the largest. A few tubercles are present on the ventral surface. The tarsus has three teeth on each side. The claw is about $\frac{1}{3}$ the length of the segment (fig. 11).

Coxa I has a row of two small tubercles on the front margin, the apical tubercle being bifid. Coxa II is coarsely tuberculate behind the distal end and has a few granules in front. It is provided with two tubercles above. Coxa III has a marginal row of granules in front and behind. Coxa IV is tuberculate in front of the distal end and has a few marginal granules behind the distal third.

The sternum and genital operculum have the form shown in fig. 12. The operculum is finely shagreened but smooth and rounded in front. The penis (fig. 13) has a deeply cleft ventral plate furnished with one pair of superior and three pairs of inferior setae. The glans has the form of a short wide tube with a bluntly rounded end. Above the glans is a wide dorsal plate, which is curved and finely spiculate in front. On each side the glans is protected by a wide pointed process, which curves inwards. At each side of the base of the ventral plate a wing-like lateral process curves outwards from the distal end of the trunk of the penis.

The free sternites are finely shagreened. The respiratory spiracles are oval in shape and not concealed.

The legs are short and stout. They are unarmed but the femora are somewhat tuberculate. In legs I and II the calcaneus is much longer than the astragalus, that of the first leg (fig. 14) being about $\frac{7}{10}$ the length of the metatarsus and that of the second leg about $\frac{6}{7}$ the length of the metatarsus (fig. 15). In legs III and IV the calcaneus is shorter than the astragalus, being about $\frac{2}{5}$ the length of the metatarsus in the case of leg III and $\frac{1}{5}$ in the case of leg IV. Calcaneus I has a ventral notch at its distal end. Metatarsi III and IV each have a false joint near the base. The tarsal segmentation is 3, 6, 4, 4. Distitarsi

I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 3.03, length of carapace 1.14, length of scutum 2.17.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.46	0.29	0.91	0.46	0.63	0.80	0.74	4.29
Leg 2	0.85	0.34	1.26	0.57	0.80	1.31	1.26	6.39
Leg 3	0.80	0.29	0.80	0.46	0.57	0.63	0.69	4.29
Leg 4	0.86	0.40	1.14	0.63	0.91	1.26	0.97	6.17
Pedi-palp	0.46	0.40	1.03	0.63	0.63	...	0.68	3.88

The female closely resembles the male in colouration and general features. However, the saddle-like area on the dorsal scutum is much smaller. The pedipalpi are shorter and less robust. The calcaneus of leg I is straight and not notched. The tarsal segmentation is 3, 5, 4, 4. Distitarsi I and II have two and three segments respectively.

Localities: The holotype and allotype were collected in the Arve Forest at Geeveston, Tasmania, 22nd November, 1955. The species also occurs on Mt. Wellington. The harvestman is usually found in moss.

Variations: The collection contains 17 males and 22 females. The body-length of the males is 2.51-3.25 mm. and of the females 2.46-3.03 mm. The variations in the segmentation of tarsi I and II are shown in Table 2.

Table 2

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II	Number of segments in distitarsus I	Number of segments in distitarsus II
1	♂	3	5	2	3
1	♂	3	5L, 6R	2	3
15	♂	3	6	2	3
8	♀	3	5	2	3
11	♀	3	6	2	3
1	♀	3	5L, 6R	2	3
1	♀	3	6L, 5R	2	3
1	♀	2L, 3R	6	1L, 2R	3

Genus PYENGANELLA gen. n.

Scutum unarmed. Eyemound rounded, unarmed and situated in the anterior third of the carapace. Scutal and tergal grooves distinct. Tergal Areas I-IV each with a transverse row of small blunt tubercles, the median pair in each row larger than the others. Area V and each free tergite with a transverse row of rounded granules. Legs unarmed but femora, patellae and tibiae coarsely granular. Calcaneus of leg I slightly longer than astragalus; straight and not notched below in the male. Calcaneus of leg II slightly shorter than the astragalus. Calcaneus of leg III and that of leg IV much shorter than the astragalus. Tarsal segmentation: 4, 11-16, 4, 4. Distitarsus I has two segments, distitarsus II 4-6 segments. Claws of tarsi III and IV three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Pyenganella striata* sp. n.

Type locality: Near St. Columba Falls, Pyengana, Tasmania.

In having four segments in tarsus I *Pyenganella* resembles the South American genus *Triænonyx* Scerensen and differs from the other genera in which the calcaneus of leg I is longer than the astragalus. It differs from *Triænonyx* in having more than three segments in distitarsus II and in the calcaneus of legs II, III and IV being shorter than the astragalus.

PYENGANELLA STRIATA sp. n.

(Figures 16-21)

Holotype Male

Measurements in millimeters: Body-length 2.63, length of scutum 2.45, length of carapace 1.26.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.29	1.31	0.63	0.97	1.20	0.97	5.94
Leg 2	1.09	0.37	1.83	0.80	1.49	1.65	1.90	9.13
Leg 3	0.91	0.40	1.26	0.62	1.03	1.20	1.14	6.56
Leg 4	1.09	0.46	1.71	0.76	1.37	1.71	1.37	8.47
Pedi-palp	0.46	0.40	1.31	0.79	0.86	.....	0.80	4.62

Colour (in alcohol): Carapace yellowish-brown with dark-brown markings at the sides of and behind the eyemound. Tergal Areas dark-brown with a row of large yellowish-brown spots above the margin on each side. Free tergites dark-brown. Chelicerae, pedipalpi and coxae yellowish-brown with dark reticulations. Legs and free sternites dark-brown.

Scutum (fig. 16) unarmed. Surface granular and marked with numerous longitudinal ridges extending posteriorly as far as the groove between tergal Areas IV and V. Eyemound rounded and unarmed; situated about $\frac{1}{3}$ of its basal diameter from the front margin. All tergal grooves except the second are well marked. The second is faintly marked. A median pair of small tubercles on Area I, a transverse row of four small tubercles on Areas II and III, and a row of about eight on Area IV. The median pair on Area IV being larger and wider apart than the others. Area V and each free tergite with a transverse row of rounded granules.

Basal segment of chelicerae measures 0.80 mm. long and is smooth. The second segment measures 1.20 mm. long and has on the frontal surface a small denticle near the base and one near the middle on the inner side.

Pedipalpi (fig. 17) large and strong. The trochanter has a small blunt tubercle above and below. The femur, which is large and somewhat swollen, has no spines or tubercles on the dorsal surface or on the prolateral and retrolateral surfaces. On the ventral surface there is a small basal tooth and a row of three granules on the retrolateral margin. The patella is smooth. Tibia has three short stout teeth on the retrolateral side and two smaller teeth on the prolateral side. Tarsus has three small teeth on each side.

Coxa I with three small blunt tubercles or granules on the anterior margin. Coxa II coarsely granular behind apex. A marginal row of granules

in front of and behind coxa III and also behind coxa IV. All coxae have rounded granules on the ventral surface, but are without spines or spinous tubercles.

The genital operculum and sternum have the form shown in fig. 18. The operculum is large and longer than wide. Its surface is finely granular and clothed with a few scattered hairs. The form of the penis in the retracted condition is shown in fig. 19. The ventral plate is divided into two long narrow concave dark lobes, below which are three pairs of inferior setae. Projecting on each side of the ventral plate is a long superior seta. The paired lateral processes are not fully extended. Their distal ends are narrow and leaf-like. The glans terminates in a laterally compressed tube.

Each free sternite is provided with two transverse rows of granules. The respiratory spiracles are partly concealed under granules on the posterior margin of coxa IV.

The legs are unarmed but all the femora, patellae and tibiae are coarsely granular. In leg I the calcaneus is slightly longer than the astragalus, Calcanei I-IV form 4/7, 3/7, 2/7 and 1/5 of the respective metatarsi (figs. 20 and 21). The tarsal segmentation is 4, 14, 4, 4. Distitarsi I and II have two and five segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

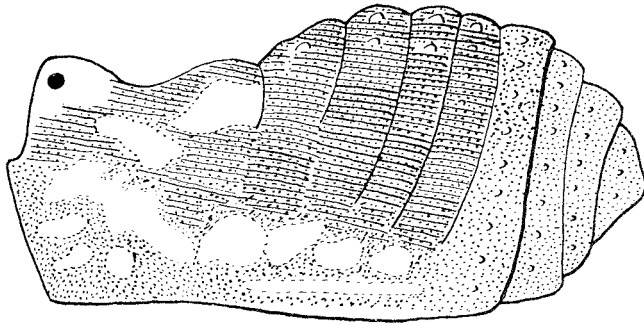
Measurements in millimeters: Body-length 2.97, length of carapace 1.14, length of scutum 2.50.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.29	1.20	0.57	0.91	1.14	0.97	5.65
Leg 2	0.86	0.34	1.59	0.69	1.31	1.43	1.77	7.99
Leg 3	0.79	0.34	1.14	0.57	0.97	1.14	1.08	6.03
Leg 4	1.03	0.46	1.60	0.69	1.31	1.60	1.26	7.95
Pedi-palp	0.45	0.40	0.91	0.57	0.74	.....	0.68	3.75

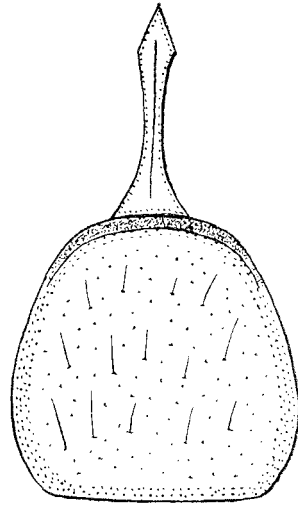
The female resembles the male in colouration, size and general features. The pedipalpi, however, are smaller than those of the male and the femur has two small tubercles on the prolateral surface. The patella also has a prolateral tubercle. The three retrolateral teeth on the tibia are not as stout as in the male. The number of segments in tarsi I-IV is 4, 12, 4, 4. The distitarsi I and II have two and four segments respectively.

Localities: The type specimens were collected under decaying logs near St. Columba Falls, Pyengana, Tasmania, 17th April, 1954. The species also occurs in *Notofagus* forest at the foot of Mount Barrow.

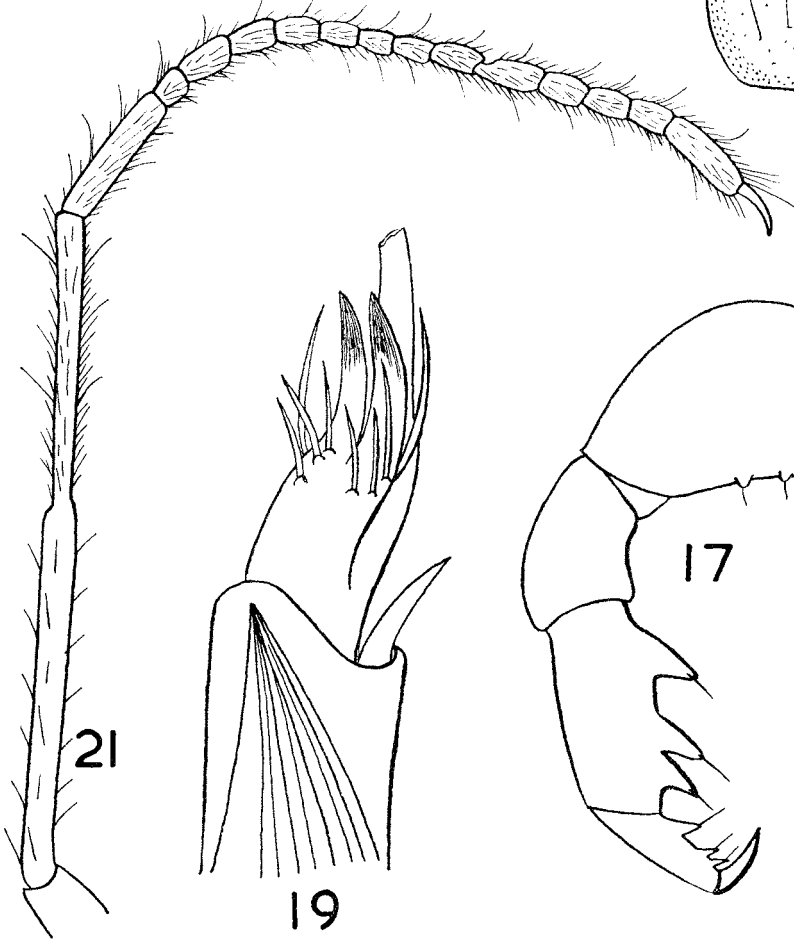
Variations: The collection contains 13 males and 6 females. The males vary in body-length from 2.34-2.85 and the females from 2.32-3.48 mm. In some specimens the eyemound is furnished above in front with a small granule or denticle. In all specimens of both sexes tarsi I, III and IV each have four segments. The number of segments in tarsus II and its distal section (distitarsus II) varies as shown in Table 3.



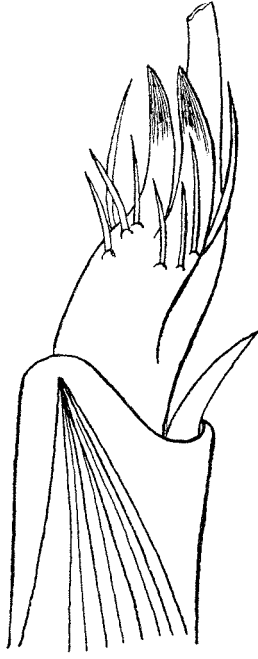
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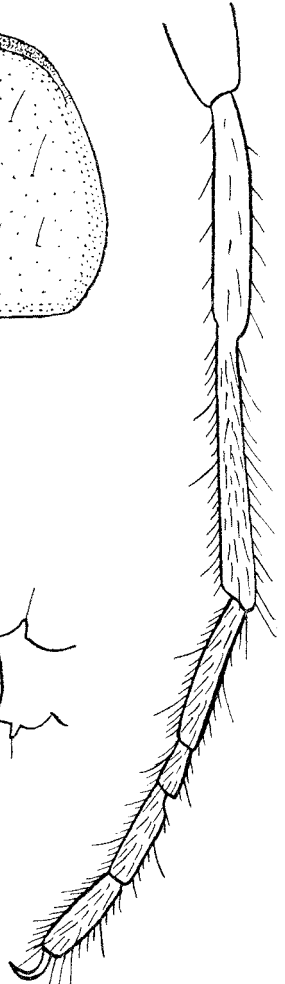
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19



17



20

Pyenganella striata gen. et sp. n.

FIG. 16.—Lateral view of scutum and free tergites of male.
FIG. 17.—Retrolateral view of pedipalpus of male.
FIG. 18.—Sternum and genital operculum of male.

FIG. 19.—Ventrolateral view of penis.
FIG. 20.—Metatarsus and tarsus of leg I of male.
FIG. 21.—Metatarsus and tarsus of leg II of male.

Table 3

Number of specimens	Sex	Number of segments in tarsus II	Number of segments in distitarsus II
1	♂	11L 12R	5
1	♂	12L 13R	5L 4R
2	♂	13	5
1	♂	13L 12R	5
1	♂	13L 12R	6L 5R
1	♂	13L 16R	5L 6R
1	♂	14L 13R	5
2	♂	14	5
1	♂	14L 15R	6
1	♂	15L 13R	5
1	♂	16L 14R	6L 5R
1	♀	11L 12R	4
3	♀	12	4
1	♀	12	4L 5R
1	♀	13L 12R	4

Genus *LOMANELLA* Pocock, 1903

Anterior margin of carapace unarmed. Eyemound removed from front margin and unarmed. Scutum and free tergites without spines. Pedipalpus weakly armed. Legs unarmed. Calcaneus of each metatarsus shorter than astragalus. Tarsal segmentation: 2-3, 2-5, 3-4, 3-4. Third and fourth tarsal claws are three-pronged, the middle prong being larger than the lateral prongs. Sternum long and narrow. Respiratory spiracles not concealed.

Genotype: *Lomanella raniceps* Pocock.

Type locality: Tasmania.

The genus *Lomanella* contains one Victorian species, *Lomanella kallista* Forster, and three Tasmanian species, *L. raniceps* Pocock, *L. atrolutea* Roewer and *L. parva* Forster. A new species from Tasmania is described in the present paper. The five species may be distinguished by the following key.

KEY TO SPECIES IN THE GENUS *LOMANELLA*

1. Eyemound conical *L. kallista* Forster.
- Eyemound rounded 2
2. Tarsus of leg II with five segments 3
- Tarsus of leg II with less than five segments 4
3. Femur I with three ventral tubercles *L. raniceps* Pocock.
- Femur I without tubercles *L. atrolutea* Roewer.
4. Four rows of granules on tergal region *L. parva* Forster.
- No rows of granules on tergal region *L. exigua* n. sp.

LOMANELLA RANICEPS Pocock

(Figures 22-29)

The type of specimen of this species came from Tasmania and was described and figured by Pocock (1903, p. 411). A more detailed description based on a male and a female specimen was published by Roewer (1914, p. 84). Pocock did not state the sex of the type specimen, but Roewer (1914, p. 86) assumed it to be a female. However, as he had not seen the specimen, he was doubtful as to its sex and later (1923, p. 596) considered it to be a male.

The figure of *Lomanella raniceps* given by Roewer (1923, p. 595, fig. 743) shows a lateral view of the body and is stated to be "nach Pocock". However, on comparing the figure with that given by Pocock (1903, p. 410, Text-fig. 84E), two marked differences are apparent. Firstly, Roewer's figure shows the femur of the pedipalpus to be much reduced in the basal half and secondly, the figure depicts the summit of the eyemound higher than the highest part of the scutum. In Pocock's figure no great reduction in the basal half of the femur is indicated and the eyemound is shown distinctly lower than the highest part of the scutum. All specimens examined by me conform to the figure given by Pocock.

The harvestman is one of the most common species in Tasmania and in the course of the present investigation over a hundred specimens from many different parts of the State have been examined. Several new features, especially the male genitalia, have been studied and are described in the following account of the species.

Male

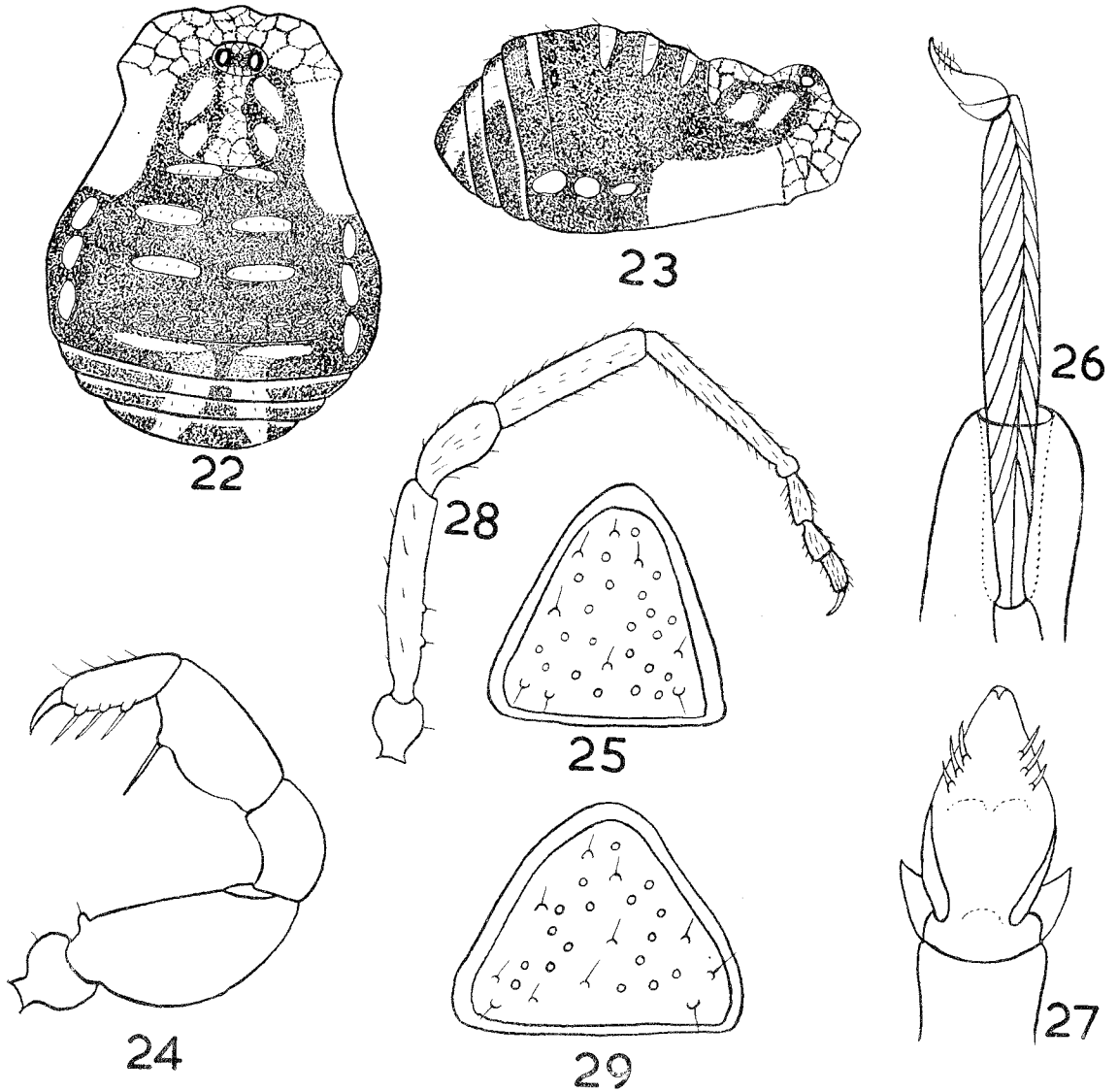
Measurements in millimeters: Body-length 2.91, length of scutum 2.40, length of carapace 1.09.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.63	0.29	1.03	0.46	0.80	1.03	0.63	4.87
Leg 2	0.91	0.34	1.48	0.63	1.34	1.54	1.03	7.27
Leg 3	0.74	0.37	1.14	0.54	0.91	1.09	0.63	5.42
Leg 4	0.91	0.45	1.43	0.57	1.26	1.60	0.69	6.91
Pedipalp	0.57	0.34	0.97	0.63	0.68	.....	0.63	3.82

Colour (in alcohol): Carapace yellow with dark-brown reticulations immediately behind the anterior margin and between the eyemound and the scutal furrow. At the sides the carapace is dark-brown with a yellow margin. Tergal region of scute dark-brown with transverse yellow bars or spots. Three yellow marginal spots on each side. Free tergites yellow marked with dark-brown in the middle and on each side. Chelicerae and pedipalpi yellow and shining, the pedipalpi with dark-brown tarsi and dark-brown reticulations on the basal half of femur, patella and tibia. Legs dark-brown with a yellowish band in the apical half

of femora and tibiae. Coxae and genital operculum yellow, the coxae darker at apex. Sternites mainly yellow marked with dark-brown on each side and with a double row of dark-brown spots in the middle.

Scutum (figs. 22 and 23) with a slight marginal projection above the base of leg II. Surface finely granular, devoid of spines and tubercles. Eyemound rounded and smooth, removed 0.29 mm. from the anterior margin. The scutal groove short but distinct. Tergal region higher than summit of eyemound. Tergal grooves faintly marked, that between Areas IV and V more dis-



Lomanella raniceps Pocock.

FIG. 22.—Dorsal view of scutum and free tergites of male.
 FIG. 23.—Lateral view of scutum and free tergites of male.
 FIG. 24.—Retrolateral view of pedipalpus of male.
 FIG. 25.—Genital operculum of male.

FIG. 26.—Lateral view of penis.
 FIG. 27.—Ventral view of distal part of penis.
 FIG. 28.—Leg I of male.
 FIG. 29.—Genital operculum of female.

tinct than the others. A transverse row of minute hairs on each tergal area and free tergite.

Chelicerae small and unarmed. Basal segment 0.76 mm. long, with a deep transverse depression near middle of dorsal side and the apical half high and rounded. The second segment 0.68 mm. long.

Pedipalpi without coarse teeth. Femur and tibia somewhat swollen (fig. 24). Femur with a small tubercle near the base on the ventral side and a somewhat smaller one near the middle of the pro-

lateral surface. Tibia with a long curved seta rising from a tubercle below on each side. Tarsi with three curved setae on each side. Claw almost straight.

Coxae and sternites finely granular. A posterior marginal row of larger granules on coxae III and IV. Two small posterior tubercles and a wide dorsal tubercle on coxae II. Genital operculum (fig. 25) triangular, 0.41 mm. wide at the base and 0.41 mm. long from base to apex, surface finely granular and with a few scattered setae.

The penis (fig. 26) is 1.29 mm. long when extended. It is strongly narrowed at the base and becomes wider distally. The glans penis is pointed anteriorly and somewhat spoon-shaped. It is furnished with three small setae on each side (fig. 27). A pair of wide dorsal plates cover the base of the glans at its junction with the trunk of the penis.

Legs finely granular and unarmed. Three small tubercles are present below femur I (fig. 28). Calcaneus small and knob-like. Tarsal formula: 3, 5, 4, 4. Distitarsus I has two segments and distitarsus II has three.

Respiratory spiracles not concealed by the fourth coxae.

Female

Measurements in millimeters: Body-length 2.97, length of scutum 2.57, length of carapace 1.03.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.63	0.27	1.01	0.44	0.77	0.96	0.69	4.68
Leg 2	0.91	0.31	1.41	0.59	1.22	1.40	0.97	6.81
Leg 3	0.80	0.37	1.10	0.52	0.90	1.18	0.69	5.56
Leg 4	0.97	0.36	1.42	0.62	1.22	1.56	0.82	6.97
Pedi-palp	0.41	0.27	0.82	0.55	0.64	.....	0.55	3.24

The female resembles the male in size and general appearance. It may be distinguished from the male by having less robust pedipalpi and a distinctly wider genital operculum, which measures 0.51 mm. wide at the base and 0.37 mm. long from base to apex (fig. 29).

Locality: *Lomanella raniceps* is one of the most wide-spread opilionids in Tasmania. Specimens have been collected at Mt. Wellington, the Arve Forest at Geeveston, Hastings, Nugent, Eaglehawk Neck, Highcroft, Mt. Hobbs, National Park, Tarraleah, Great Lake, Lake St. Clair, Liffey Falls, Trevallyn, Forth Falls, Western Creek, Scottsdale, Weldborough and many other places in the State. Adult specimens may be found throughout the year. They often occur under charred fallen logs in moderately damp localities.

Variations: The normal tarsal segmentation, 3, 5, 4, 4 in both sexes is very constant. As shown in Table 4 only three specimens out of a hundred showed any departure from the normal number of segments.

Table 4.

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II	Number of segments in distitarsus I	Number of segments in distitarsus II
55	♂	3	5	2	3
1	♂	3	4L	2	2L
42	♂	3	5	2	3
1	♂	3	5L	2	3
1	♂	3	5L	2	3L
					1R

LOMANELLA ATROLUTEA Roewer

(Figures 30-33)

The description of this species given by Roewer (1914, p. 86) is based on two male specimens from Tasmania. The harvestman is by no means common and the collection before me contains only two examples, one a male, the other a female.

Male

Measurements in millimeters: Body-length 4.28, length of scutum 3.83, length of carapace 1.77.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.46	1.83	0.74	1.43	1.71	0.86	8.05
Leg 2	1.14	0.57	2.63	0.97	2.40	2.74	1.49	11.94
Leg 3	1.13	0.51	1.94	0.86	1.60	2.17	1.03	9.42
Leg 4	1.60	0.63	2.74	1.03	2.17	2.97	1.14	11.68
Pedi-palp	0.69	0.46	1.77	1.09	1.43	.....	1.14	6.58

Colour (in alcohol): Carapace yellow with dark-brown reticulations in front of and at the sides of the eyemound. A large yellow V-shaped area extends from behind the eyemound to slightly beyond the middle of the tergal region. The yellow region encloses three dark-brown spots in the mid line, one on each of the tergal Areas I, II and III. Posteriorly and on each side the scutum is brown, but has three yellow spots on each side of the posterior half. The free tergites are yellow with a brown area on each side and in the middle. The brown lateral regions of the first two free tergites each enclose a yellow spot. Chelicerae yellow with dark reticulations. Pedipalpi with dark-brown patella, tibia and tarsus; the femur is yellow except for the proximal half of the retrolateral side and a small dorsal apical region which are brown. Legs dark-brown except for the trochanters and distal half of femora, which are yellow with brownish markings. Coxae yellow with brown infuscation towards the apex. Genital operculum light-brown. Sternites yellow with brown in the middle and at the sides.

Scutum finely granular but without spines and tubercles. The lateral margin forms a slight angular projection above the base of leg II. Eyemound smooth, rounded, and removed about 0.4 mm. from the front margin. Summit of eyemound slightly lower than the highest part of the tergal region. Scutal groove distinct. Tergal grooves slightly indicated. Free tergites granular but without tubercles (figs. 30 and 31).

Chelicerae short and unarmed. Pedipalpi without spines. The femur and tibia somewhat swollen. A long seta below the base of the femur. No setae on patella. A prolateral and a retrolateral seta below the apical half of the tibia. Three setae on each side of the tarsus. Claw long and but slightly curved (fig. 32).

Coxae granular. The third pair with a marginal row of large granules in front and behind. Fourth pair with a marginal row behind. Respiratory spiracles conspicuous. Genital operculum triangular, 0.48 mm. wide at the base and 0.51 mm. long. Sternum narrow.

Legs long, slender and smooth (fig. 33). All segments devoid of spines and tubercles. Calcaneus small and knob-like. Tarsal formula: 3, 5, 4, 4.

Distitarsus I with two segments, distitarsus II with three segments. Third and fourth tarsal claws three-pronged, the middle prong longer and stronger than the lateral prongs.

Allotype Female

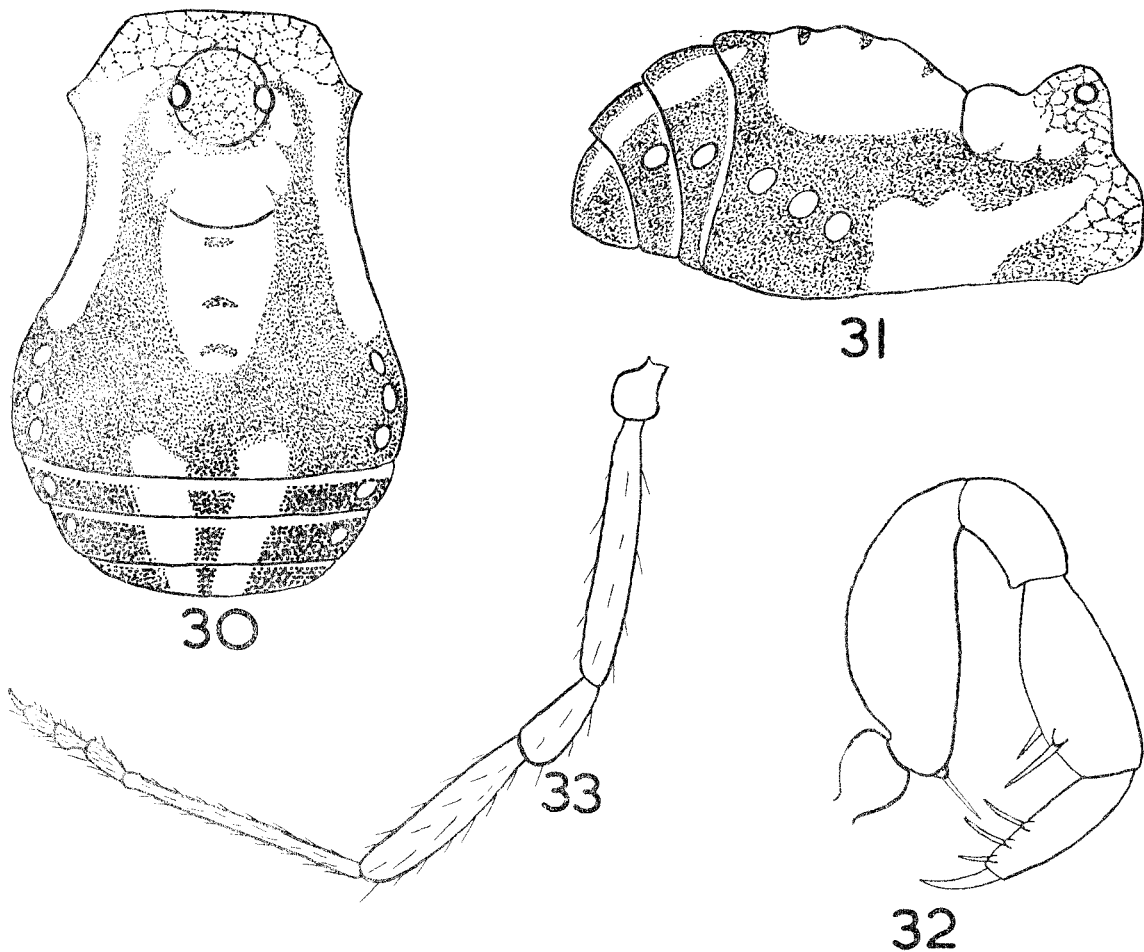
Measurements in millimeters: Body-length 4.00, length of scutum 3.20, length of carapace 1.14.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.09	0.46	1.83	0.69	1.37	1.71	0.91	8.06
Leg 2	1.37	0.57	2.46	0.91	2.28	2.51	1.43	11.53
Leg 3	1.14	0.46	1.88	0.86	1.49	2.17	0.97	8.97
Leg 4	1.37	0.57	2.40	0.86	1.88	2.97	1.14	11.19
Pedi-palp	0.69	0.51	1.60	0.80	1.14	...	0.91	5.65

The female resembles the male in colour, markings and general structure. The pedipalpus is shorter and less swollen than that of the male but has the same arrangement of setae. The genital operculum measures 0.63 mm. wide at the base and 0.46 mm. long, and therefore differs from that of the male.

Locality: The male was found by D. E. Kurth near the Interview River on the West Coast of Tasmania, 2nd January, 1954. The allotype female was found at Daisy Dell, on the road from Wilmot to the Cradle Mountain, December, 1927.

Lomanella atrolutea resembles *Lomanella raniceps* in most features but differs in colour pattern, in having no tubercles below femur I and in being much larger.



Lomanella atrolutea Roewer.

FIG. 30.—Dorsal view of scutum and free tergites of male.
FIG. 31.—Lateral view of scutum and free tergites of male.

FIG. 32.—Retrolateral view of pedipalpus of male.
FIG. 33.—Leg I of male.

Colour and general structure as in the male. The pedipalpi, however, are not so swollen. The genital operculum is 0.34 mm. wide at the base and 0.22 mm. long.

Locality: The Arve Forest at Geeveston, Tasmania, 1st December, 1955. The holotype and allotype together with nine other males and eight other females were collected from moss in rain forest areas.

Variations: Of the nineteen specimens collected ten males and eight females all had the same tarsal segmentation, 3, 3, 4, 4. One adult female, however, had a tarsal segmentation of 2, 2, 4, 4.

Lomanella exigua closely resembles *Lomanella parva*, Forster, in size, in the tarsal segmentation of the female and in the form of the eyemound, pedipalpus and chelicera. It differs in lacking transverse rows of granules on the tergal region of the scutum, in the tarsal segmentation of the male and in the structure of the penis.

LOMANELLA PARVA Forster.

The description of this species given by Forster (1955, p. 390) is based on a male and female specimen found in leafmould at Wallaby Beach, Port Davey, Tasmania, 29th January, 1954. The tarsal segmentations of the male (2, 2, 3, 3) is so unusual that, as Forster remarks, it needs confirmation by the examination of further specimens. The species is not represented in the collection before me but it appears to be so closely related to *Lomanella exigua*, that one might expect it to have the same tarsal formula, 3, 3, 4, 4, in both sexes, instead of in the female only. As pointed out in the description of variations found in *Lomanella exigua*, one of the females collected had the anomalous tarsal formula 2, 2, 4, 4.

Genus ANKYLONUNCIA gen. n.

Scutum unarmed but furnished on each side with a row of small tubercles or granules above the anterior margin. Eyemound low, wider than high and unarmed. Tergal Areas and free tergites each with a row of small granules or tubercles. Basal segment of chelicerae without a retrodorsal proximal boss or condyle in both sexes. Calcaneus of leg I in males notched below. Number of segments in tarsi I-IV in males is 3-4, 6-10, 4, 4, and in females 3, 6-9, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being longer than the lateral prongs.

Genotype: *Ankylonuncia fallax* sp. n.

Type Locality: Tunnack, Tasmania.

The genus *Ankylonuncia* is close to *Notonuncia* gen. n. but differs from the latter genus in not possessing a proximal retrodorsal boss on the basal segment of the chelicerae in males and also in having a smaller number of segments in tarsus II. There is some resemblance to the New Zealand genus *Nuncia*. However, in *Nuncia* the calcaneus of leg I in males is never notched. Three new species have been assigned to the genus *Ankylonuncia*. They may be distinguished by the following key.

LOMANELLA EXIGUA sp. n.

(Figures 34-40)

Holotype Male

Measurements in millimeters: Body-length 1.60, length of scutum 1.37, length of carapace 0.63.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.34	0.18	0.51	0.29	0.40	0.44	0.48	2.64
Leg 2	0.44	0.19	0.72	0.37	0.56	0.58	0.62	3.48
Leg 3	0.44	0.19	0.59	0.33	0.47	0.53	0.41	2.96
Leg 4	0.58	0.22	0.77	0.38	0.62	0.70	0.47	3.74
Pedi-								
palp	0.30	0.18	0.53	0.36	0.36	.....	0.45	2.18

Colour (in alcohol): Carapace yellow with brownish reticulations in front and behind the black eyemound. Sides brown with a yellow region below. Lateral margins brown. Tergal region of scutum brown with transverse yellow bars above and a wide yellow margin below at the sides. Free tergites yellow with a brown region on each side. Pedipalpi and chelicerae yellow with faint brown reticulations. Coxae and genital operculum yellow. Sternites yellow with brown markings on each side. Legs brown, with femora, patellae and tibiae paler distally.

Eyemound smooth and rounded, removed about 0.15 mm. from the front margin. Surface of scutum finely granular but without spines and tubercles. The margin of the scutum forms a slight angular projection anterolaterally and above the base of leg II. Scutal furrow distinct. Tergal region higher than eyemound, tergal grooves indistinct (figs. 34 and 35).

Chelicerae unarmed. Basal segment 0.42 mm. long, with a deep mid dorsal depression and strongly convex apical region (fig. 36). Second segment 0.52 mm. long. Pedipalpus slightly longer than body. Femur and tibia somewhat swollen. Three setae below the femur and a large seta on the prolateral side. Patella without setae. Tibia with a large retrolateral and a smaller prolateral seta below. Tarsus with three setae on each side. Claw slightly curved (fig. 37).

Coxae finely granular but without spines and tubercles. A marginal row of coarse granules in front of and behind coxa III and also behind coxa IV. Respiratory spiracles not concealed. Genital operculum triangular, 0.27 mm. wide at the base and 0.19 mm. long. Penis (figs. 38 and 39) 0.65 mm. long, the trunk portion narrow at the base and increasing in width distally. The gians terminates in a curved hook and is provided with two small setae at each side.

Legs unarmed. The first leg (fig. 40) with a small tubercle below the trochanter and two small tubercles below the femur. Calcaneus small and knob-like. Tarsal formula 3, 3, 4, 4. Distitarsi I and II each with two segments.

Allotype Female

Measurements in millimeters: Body-length 1.66, length of scutum 1.45, length of carapace 0.57

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.41	0.18	0.52	0.27	0.38	0.44	0.47	2.27
Leg 2	0.45	0.19	0.73	0.34	0.56	0.56	0.63	3.46
Leg 3	0.38	0.19	0.59	0.33	0.45	0.52	0.41	2.87
Leg 4	0.52	0.23	0.77	0.40	0.63	0.71	0.47	3.73
Pedi-								
palp	0.26	0.19	0.56	0.37	0.66	.....	0.47	2.51

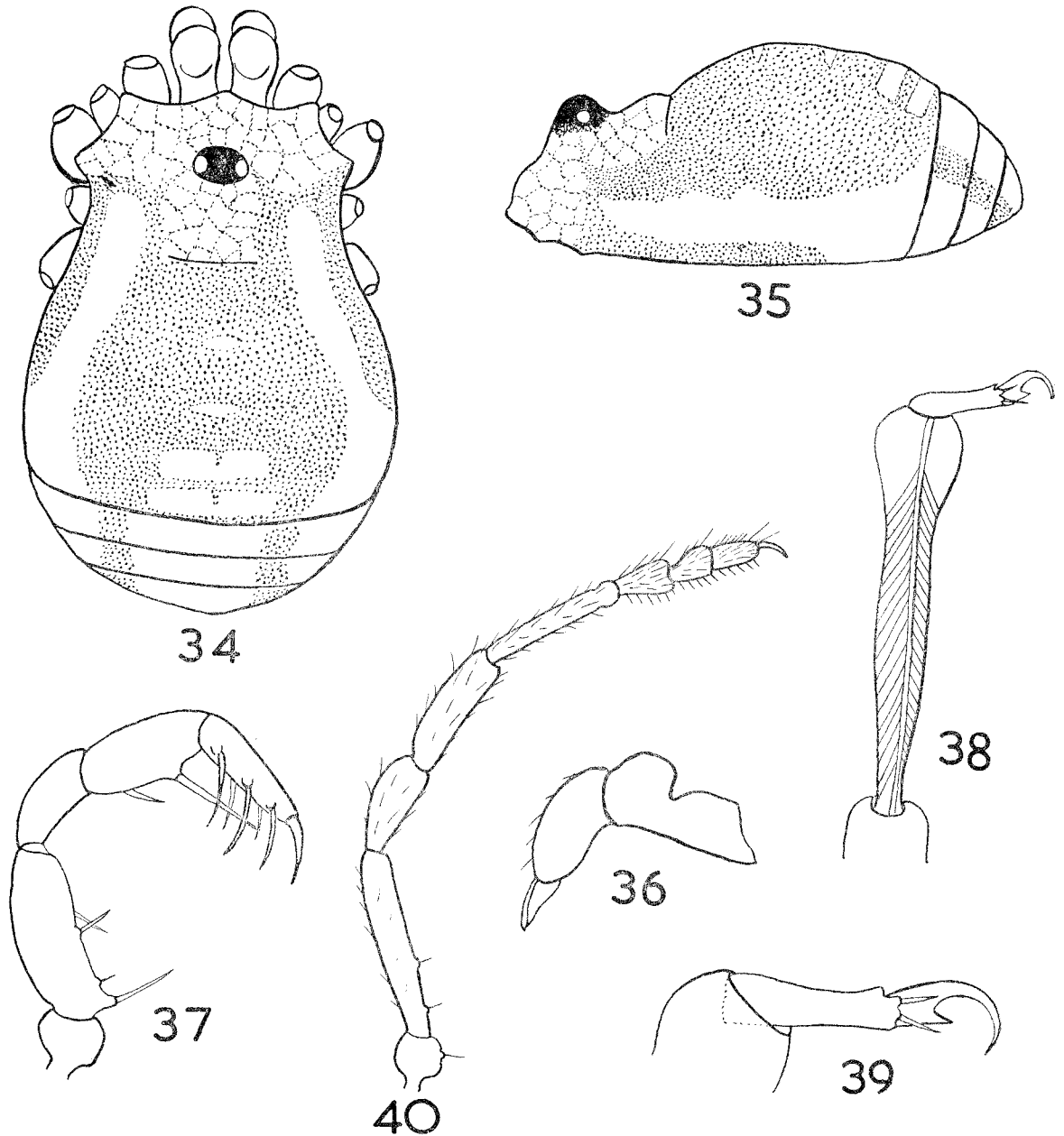
*Lomanella exigua* sp. n.

FIG. 34.—Dorsal view of scutum and free tergites of male.
 FIG. 35.—Lateral view of scutum and free tergites of male.
 FIG. 36.—Retrolateral view of chelicera of male.
 FIG. 37.—Retrolateral view of pedipalpus of male.

FIG. 38.—Ventrolateral view of penis.
 FIG. 39.—Lateral view of distal part of penis.
 FIG. 40.—Leg I of male.

KEY TO SPECIES OF ANKYLONUNCIA

1. Tergal grooves on scutum distinct *A. fallax* sp. n.
 Tergal grooves on scutum indistinct 2
 2. Dorsal spinules on first cheliceral segment numerous *A. mestoni* sp. n.
 Dorsal spinules on first cheliceral segment not numerous *A. barrowensis* sp. n.

ANKYLONUNCIA FALLAX sp. n.

(Figures 41-45)

Holotype Male

Measurements in millimeters: Body-length 2.63, length of scutum 2.17, length of carapace 1.26.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.34	1.14	0.57	0.86	1.08	0.86	5.71
Leg 2	1.14	0.40	1.54	0.69	1.20	1.54	1.60	8.11
Leg 3	0.86	0.34	0.97	0.51	0.74	1.03	0.91	5.36
Leg 4	1.14	0.46	1.37	0.74	1.20	1.71	1.14	7.76
Pedi-palp	0.74	0.40	1.14	0.69	0.91	.....	0.86	4.74

Colour (in alcohol): Scutum light-brown marked with dark-brown as shown in fig. 41. Legs light-brown with dark-brown bands on femora, patellae and tibiae. Chelicerae, pedipalpi and ventral surface of coxae marked with dark-brown reticulations. Genital operculum light-brown with a dark area in the middle. Free tergites dark-brown. Free sternites with a median and two lateral patches of dark-brown on a light-brown ground colour.

Scutum unarmed but with a row of about five minute granules above the anterior margin on each side of the carapace. Eyemound low, wider than high, unarmed and sloping gently up from the front margin. Behind the eyemound the carapace is furnished with 10 granules arranged in two longitudinal rows, five in each row. The scutal groove and tergal grooves well marked. The tergal areas and free tergites each marked with a transverse row of smooth rounded granules or tubercles (figs. 42 and 43).

Chelicerae large and strong. Dorsal surface of first segment with three small conical tubercles at the apex and a transverse row of three small tubercles across the middle of the segment immediately in front of the dorsal depression. Another small tubercle is present on the prodorsal margin in the distal half of the segment, and also on the retrodorsal margin. The dorsal surface of the second segment is coarsely tuberculate and has three short teeth on the prodorsal margin.

Pedipalpi (fig. 44) moderately robust. Trochanter with two small tubercles above and below. Femur with a median dorsal row of four small teeth and several tubercles. Prolateral surface with a group of three teeth in the distal third. Retrolateral surface with a row of five small tubercles below. Ventral surface with a large proximal tooth and a row of three retroventral teeth, of which the first is the largest and the other two very small. The proventral margin is furnished with a row of five small tubercles. Patella unarmed. Tibia armed with three teeth on each side, the distal tooth on the prolateral side being the largest. Ventral surface with a few tubercles in the basal half. The tarsus has three prolateral and four retrolateral teeth, the first prolateral tooth being moderately large and the first retro-

lateral tooth very small. The claw is about $\frac{2}{3}$ the length of the segment.

All coxae finely granulate. Front margin of coxa I is armed with two teeth; the apical tooth being bifid. Coxa II with a group of coarse tubercles behind the apex and two above. Coxa III with a marginal row of granules in front and behind. Coxa IV with a group of coarse tubercles in front of the apex and a row of granules along the posterior margin.

Genital operculum smooth, 0.40 mm. long and 0.40 mm. wide. The sternum is long and narrow. The respiratory spiracles are not concealed by the fourth coxae. Between the spiracles there is a pair of conspicuous depressions on the sternite.

Legs rather short and stout. They are unarmed but the femora and tibiae are somewhat tuberculate. The calcaneus of leg I is notched below and forms slightly more than $\frac{2}{5}$ the length of the segment (fig. 45). The calcaneus of leg II is straight and makes up about $\frac{4}{13}$ the length of the metatarsus. The number of segments in tarsi I-IV is 3, 7, 4, 4. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being the longest.

Allotype Female

Measurements in millimeters: Body-length 3.43, length of scutum 2.40, length of carapace 1.26.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.80	0.34	1.09	0.57	0.74	0.97	0.80	5.31
Leg 2	0.97	0.40	1.26	0.68	1.03	1.31	1.49	7.14
Leg 3	0.86	0.40	0.97	0.57	0.74	0.97	0.80	5.31
Leg 4	1.03	0.46	1.43	0.40	1.14	1.54	0.97	6.97
Pedi-palp	0.46	0.46	0.97	0.63	0.69	.....	0.74	3.95

The female resembles the male in colouration and general appearance. There is little difference in size and the pedipalpi are not much smaller than those of the male. The calcaneus of leg I, however, is straight and not notched below. It makes up about $\frac{1}{3}$ of the length of metatarsus I. The calcaneus of leg II forms about $\frac{1}{2}$ the length of metatarsus II. The number of segments in tarsi I-IV is 3, 7L 6R, 4, 4. The genital operculum measures 0.40 mm. long and 0.51 mm. wide.

Localities: The type specimens were collected from moss at Tunnack, Tasmania, 18th August, 1954. The species is widely distributed but does not appear to be very common. The collection contains specimens from Eaglehawk Neck, Highcroft, Bronte Park and near Swan Bay at the Great Lake.

Variations: Only five males and five females are in the collection examined. The males vary in length from 2.61-2.96 mm. and the females from 2.78-3.43. The number of segments in tarsus I in both sexes is three. In tarsus II the number of segments varies in the males from six to nine and in the females from six to seven.

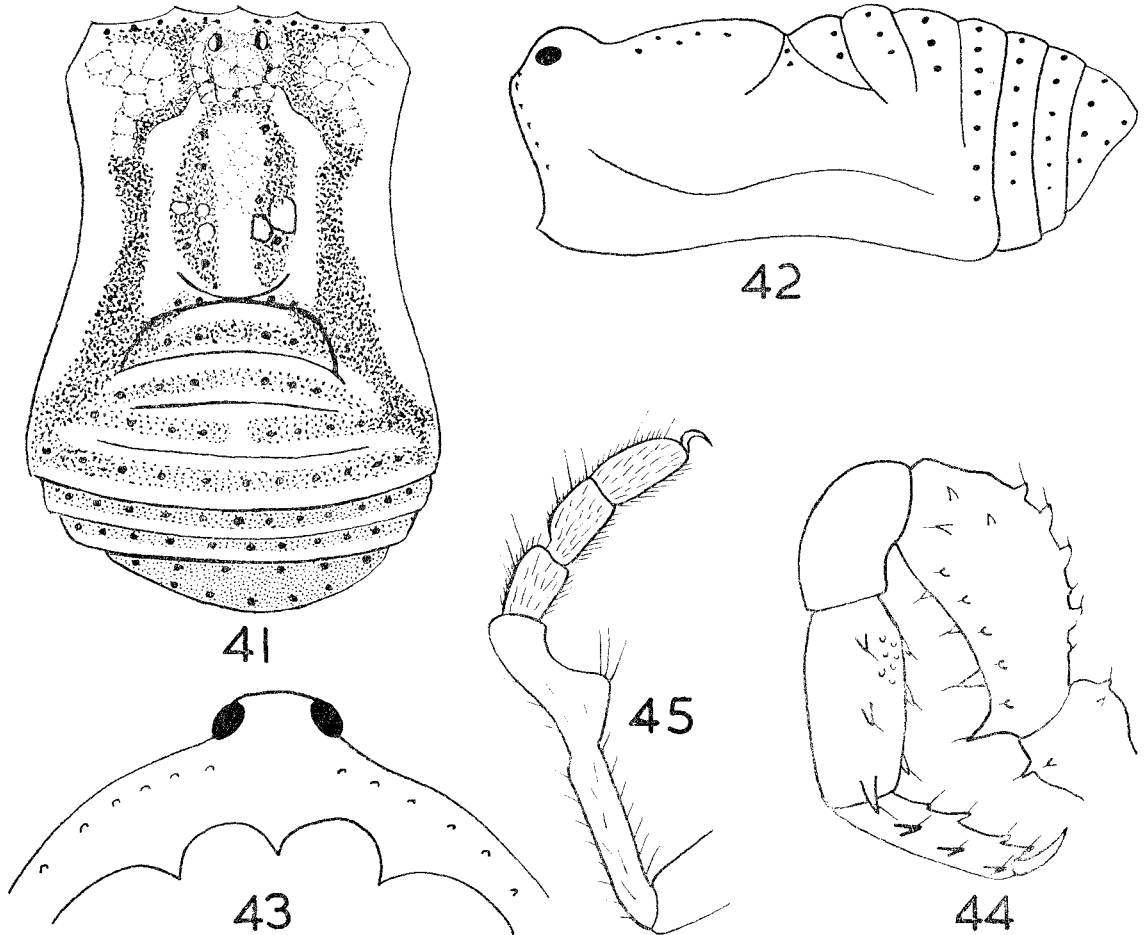
*Ankylonuncia fallax* gen. et sp. n.

FIG. 41.—Dorsal view of scutum and free tergites of male.
 FIG. 42.—Lateral view of scutum and free tergites of male.
 FIG. 43.—Anterior view of eyemound.

FIG. 44.—Prolateral view of pedipalpus of male.
 FIG. 45.—Metatarsus and tarsus of leg I of male.

ANKYLONUNCIA MESTONI sp. n.

(Figures 46-50)

Holotype Male

Measurements in millimeters: Body-length 4.11, length of scutum 3.20, length of carapace 1.60.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.80	0.46	1.62	0.70	1.10	1.39	1.04	7.11
Leg 2	1.37	0.57	2.15	0.93	1.51	2.03	2.20	10.76
Leg 3	1.03	0.51	1.33	0.58	0.99	1.33	1.04	6.81
Leg 4	1.37	0.63	1.91	0.87	1.51	2.20	1.57	10.06
Pedi-palp	0.63	0.57	1.45	0.99	1.10	...	1.16	5.90

Colour (in alcohol): Scutum light-brown with dark markings. On each side the carapace is marked with dark veinings. A pair of irregular dark-brown patches behind the eyemound. Tergal Areas each marked with a short dark transverse bar. The bars lie in a median V-shaped area ex-

tending from the scutal groove to the posterior margin of the scutum and between the light-brown lobes of a large saddle-shaped region on the posterior half of the scutum. On each side the light-brown region merges into dark brown. The free tergites and sternites are dark-brown. Palpi, chelicerae and legs light-brown with dark reticulations. Ventral surface of coxae light-brown with dark reticulations.

Scutum smooth and unarmed. A row of about six small granules above the anterior margin on each side of the carapace. The eyemound low, rounded and unarmed. It is situated about half its length from the front margin. Length of carapace half that of the dorsal scute. Tergal grooves indistinct. Each tergal Area with a few minute granules in a short transverse row not extending onto the sides of the scutum. Each free tergite with a transverse row of minute granules (figs. 46 and 47).

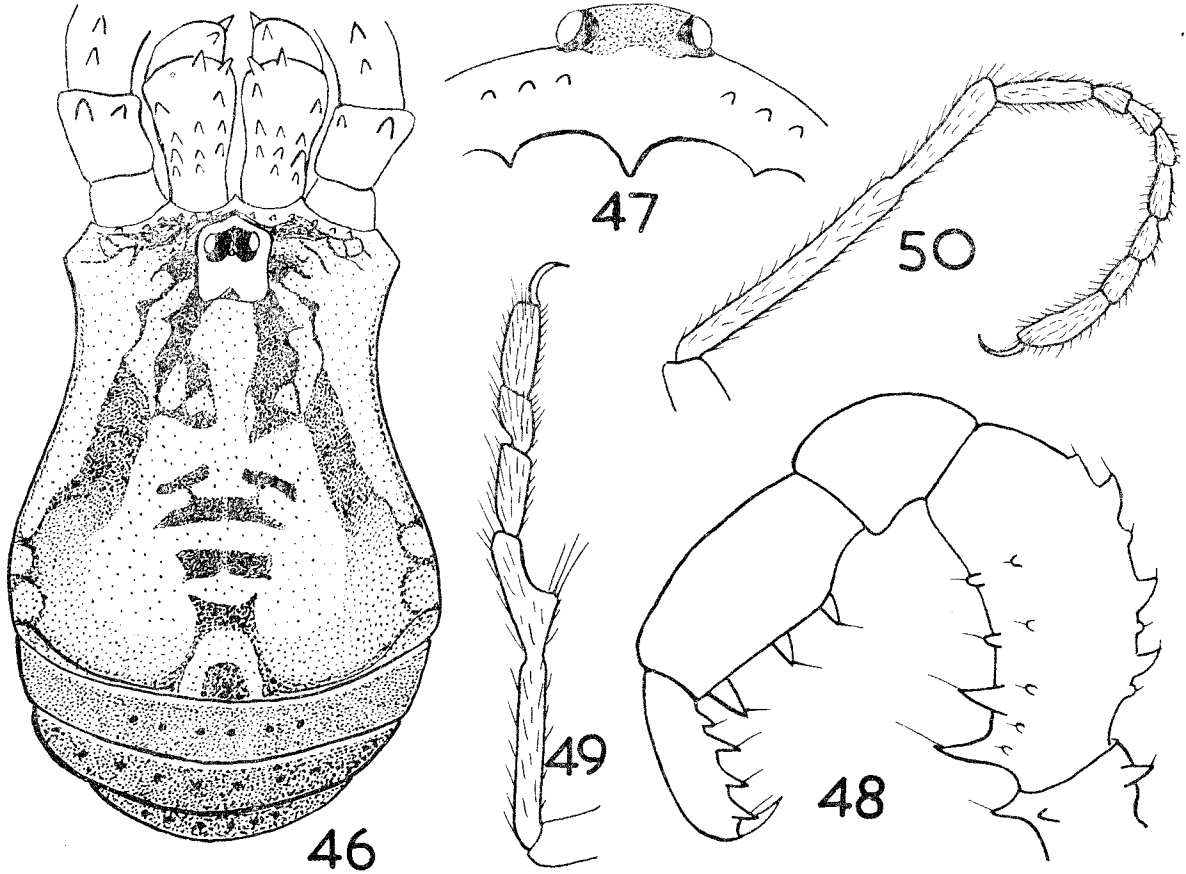


FIG. 46.—Dorsal view of scutum and free tergites of male.

FIG. 47.—Anterior view of eyemound.

FIG. 48.—Retrolateral view of pedipalpus of male.

FIG. 49.—Metatarsus and tarsus of leg I of male.

FIG. 50.—Metatarsus and tarsus of leg II of male.

Ankylonuncia mestoni gen. et sp. n.

Chelicerae stout. Basal segment 1.03 mm. long, with a median and a prodorsal tooth at the apex and about 10 small conical teeth on the dorsal surface between apex and base (fig. 46). There is no proximal boss on the retrodorsal margin. The second segment measures 1.49 mm. long and is coarsely tuberculate on the dorsal surface. It has a prodorsal row of three small teeth.

Pedipalpi (fig. 48) moderately strong. Coxa with two small teeth below the apex. Trochanter with a transverse row of three small teeth below and two teeth above. Femur armed with a median dorsal row of four teeth, a small tubercle being present behind each of the first three teeth. Retrolateral surface with a lower row of five small rounded granules. Proateral surface with a single tooth and three small tubercles in the distal third. Ventral surface with a large proximal tooth, a retroventral row composed of a large tooth and two small teeth, and a proventral row composed of five small tubercles. Patella unarmed. Tibia with three teeth on each side, the distal proateral tooth being the largest. Ventral surface is granulate. Tarsus with three proateral and four retrolateral teeth. Claw about $\frac{1}{2}$ the length of the segment.

Coxa I with a row of three small teeth in front, the apical tooth being the largest and bifid. Coxa

II coarsely tuberculate behind the apex and with two stout tubercles above. Coxa III with a marginal row of granules in front and behind. Coxa IV with a few small tubercles in front near the apex and a row of granules along the posterior margin.

Genital operculum smooth with rounded margin and clothed with a few hairs. It measures 0.51 mm. long and 0.57 mm. wide. The sternum long and narrow. Respiratory spiracles moderately large and not concealed by the fourth coxae. Free sternites smooth.

Legs unarmed but slightly tuberculate on the femora. The metatarsi exhibit pseudosegmentation. The calcaneus of leg I (fig. 49) notched below and forming $\frac{3}{4}$ of the length of the metatarsus. The calcaneus of leg II (fig. 50) straight and forming $\frac{1}{2}$ of the length of metatarsus II. The number of segments in tarsi I-IV is 3, 9L 8R, 4, 4. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Locality: The holotype was found at Eaglehawk Neck by A. L. Meston, 23rd February, 1940, and was the only specimen collected.

ANKYLONUNCIA BARROWENSIS sp. n.

(Figures 51-55)

Holotype Male

Measurements in millimeters: Body-length 4.23, length of scutum 3.43, length of carapace 1.66.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.46	1.88	0.69	1.26	1.71	1.20	8.06
Leg 2	1.43	0.46	2.46	1.03	1.83	2.28	2.57	12.06
Leg 3	1.26	0.51	1.60	0.86	1.14	1.71	1.26	8.34
Leg 2	1.66	0.57	2.11	1.09	1.71	2.28	1.43	10.85
Pedi-palp	0.80	0.57	1.94	1.20	1.37	....	1.09	6.97

Colour (in alcohol): Reddish-brown with dark reticulations on each side of the carapace. A pair of dark-brown patches is situated behind the eyemound. A median dark V-shaped mark, crossed by a short dark bar on each tergal Area, extends from the scutal groove to the first free tergite. Chelicerae and pedipalpi reddish-brown with dark reticulations. Legs mainly dark-brown speckled with reddish-brown, except the tarsi, which are greyish. The free tergites and sternites mainly dark-brown.

Scutum (fig. 51) unarmed but with a row of small denticles or granules above the anterior margin on each side. A few granules are also present behind the eyemound and near the anterior end of the lateral ridge at each side of the scutum. The eyemound is low, wider than high, unarmed and sloping gently upward and backward from the front margin. It is furnished with one or two small granules. The scutal groove is shallow and the tergal grooves indistinct. Each tergal Area and free tergite has a transverse row of small granules.

Chelicerae stout. The basal segment is 1.15 mm. long and has a median and a prodorsal tooth at the apex. On the retrodorsal margin there is an oblique row of four small tubercles, but a proximal boss is absent. The second segment is 1.71 mm. long and is furnished with a median dorsal row of small tubercles and a row of four small teeth on the prodorsal margin.

Pedipalpi (fig. 52) large and strong. Coxa with two small denticles below the apex. Trochanter with two denticles below and two above. Femur with a median dorsal row of two small tubercles and four teeth, the second tooth being the largest. The retrolateral surface has a row of four tubercles near the ventral margin. The ventral surface is armed with a large proximal tooth and two retroventral teeth, which are not far from the median position. The proventral margin has a row of small tubercles. On the prolateral surface there is a large tooth in the distal half and three small denticles above it. The patella is armed with two small distal proventral teeth. The tibia is tuberculate below and has three teeth on each side, the second tooth on the prolateral side being nearer to the third than to the first tooth. The tarsus has three teeth on each side.

Coxa I has two large teeth on the front margin, one being near the middle, the other at the apex.

The middle tooth is the larger and the apical tooth is bifid. Coxa II has a group of about six small tubercles behind the apex. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV has a group of small tubercles in front of the apex and a row of granules along the posterior margin. All coxae are furnished with small granules on the ventral surface.

The genital operculum is smooth and measures 0.57mm. long and 0.63 mm. wide. The penis has the form shown in fig. 53. The ventral plate is provided with a pair of superior and three pairs of inferior setae. The distal end of the glans is tubular and possesses a number of fine setae which are directed backward.

The sternum is long and narrow. The respiratory spiracles are large and not concealed by the fourth coxae.

Legs unarmed. Trochanters, femora and tibiae slightly tuberculate. All metatarsi exhibit pseudo-segmentation. The calcaneus of leg I is slightly notched below and forms $\frac{3}{4}$ of the length of the metatarsus (fig. 54). The calcaneus of leg II is straight and about $\frac{1}{2}$ the length of metatarsus II. The number of segments in tarsi I-IV is 4, 8L 9R, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being longer than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 3.65, length of scutum 3.14, length of carapace 1.54.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.74	0.40	1.71	0.74	1.20	1.60	1.14	7.53
Leg 2	1.31	0.46	2.17	0.91	1.60	2.17	2.28	10.90
Leg 3	1.14	0.46	1.37	0.69	1.20	1.54	1.14	7.54
Leg 4	1.37	0.57	1.88	0.97	1.60	2.34	1.43	10.16
Pedi-palp	0.63	0.69	1.54	0.97	1.14	....	1.09	6.06

The female resembles the male in colouration but lacks the V-shaped mark on the scutum. The transverse dark bars on the tergal Areas are larger and extend from side to side merging in a large brown region on each side of the scutum. The pedipalpi are smaller than in the male (fig. 55). The calcaneus of leg I is not notched below and forms about $\frac{2}{7}$ of the length of the metatarsus. The number of segments in tarsi I-IV is 3, 8, 4, 4.

Locality: The type specimens together with three other males and two other females were found under decaying logs in rain-forest near the foot of Mount Barrow, Northern Tasmania, 8th July, 1957.

Variations: The males vary in length from 3.31-4.28 and the females from 3.43-3.65. All the males have four segments and the females three segments in tarsus I. The number of segments in tarsus II varies from eight to ten in males and eight to nine in females.

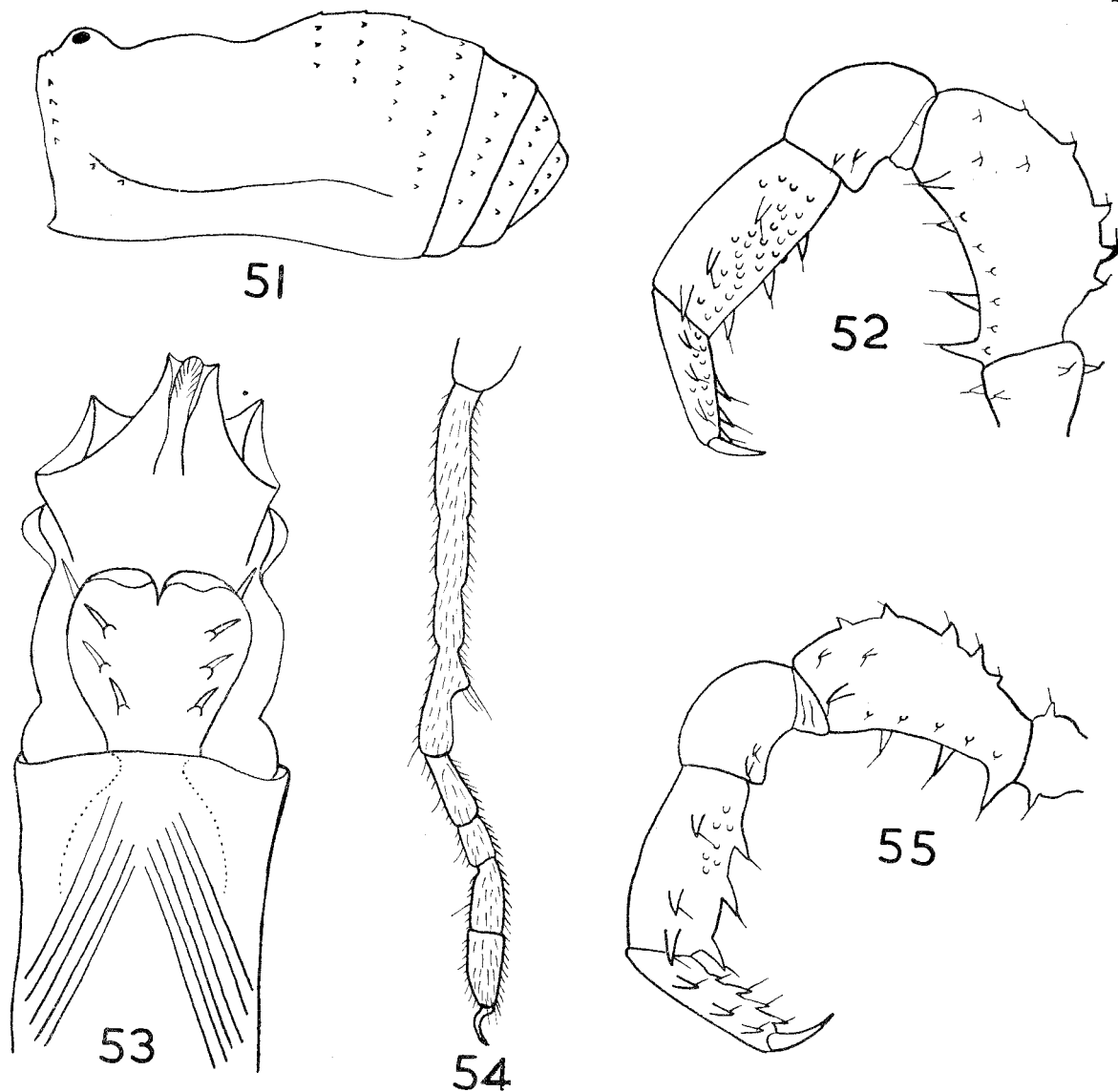


FIG. 51.—Lateral view of scutum and free tergites of male.
 FIG. 52.—Prolateral view of pedipalpus of male.
 FIG. 53.—Ventral view of distal part of penis.

FIG. 54.—Metatarsus and tarsus of leg I of male.
 FIG. 55.—Prolateral view of pedipalpus of female.

Ankylonuncia barrowensis gen. et sp. n.

Genus NOTONUNCIA gen. n.

Carapace provided with a transverse row of granules or small denticles on each side above the anterior margin. Eyemound low, wider than high, unarmed and near the front margin. The tergal Areas and free tergites each provided with a transverse row of granules or small denticles but without spines. First segment of the chelicerae in the male furnished with a proximal retrorodorsal boss or condyle. Tarsus of pedipalpus armed with three prolateral and four retrolateral teeth. Legs unarmed. Calcaneus of each metatarsus shorter than astragalus.

In males the calcaneus of leg I is notched below. The number of segments in tarsi I-IV in males is 4-6, 11-18, 4, 4, and in females 3-4, 10-16, 4, 4. Distitarsi I and II have two and three segments respectively in both sexes. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Notonuncia diversa* sp. n.

Type Locality: Mount Wellington, Tasmania.

The genus *Notonuncia* is closely related to *Holonuncia* Förster (1955, p. 387). It differs from that

genus, however, in possessing three instead of four segments in distitarsus II, and also in having a proximal retrodorsal boss on the first segment of

the chelicerae of the male. Three new species are placed in the genus and may be distinguished by the following key:

KEY TO SPECIES IN GENUS *NOTONUNCIA*

- 1. Femur of pedipalp with three ventral teeth *N. arvensis* sp. n.
- Femur of pedipalp with four ventral teeth 2
- 2. Femur of pedipalp with three dorsal teeth *N. obscura* sp. n.
- Femur of pedipalp with five or more dorsal teeth *N. diversa* sp. n.

NOTONUNCIA DIVERSA sp. n.

(Figures 56-61)

Holotype Male

Measurements in millimeters: Body-length 4.51, length of scutum 3.94, length of carapace 1.66.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.03	0.51	2.28	0.97	1.66	2.00	1.43	9.88
Leg 2	1.60	0.63	2.91	1.26	2.34	2.68	3.71	15.13
Leg 3	1.49	0.57	1.94	0.91	1.48	2.23	1.71	10.33
Leg 4	1.77	0.69	2.74	1.14	2.23	3.26	2.00	13.83
Pedi-palp	0.80	0.74	2.63	1.54	2.11	...	1.49	9.31

Colour (in alcohol): Scutum yellowish-brown with dark-brown reticulations on each side of the carapace and a pair of triangular dark-brown patches behind the eyemound. A median V-shaped mark extends from the scutal groove to the posterior scutal margin and is crossed by short dark bands on the tergal Areas. Chelicerae and pedipalpi yellowish-brown with dark-brown reticulations. Free tergites and sternites dark-brown. Legs mainly brown, except tarsal segments which are greyish.

Scutum has the form shown in fig. 56. On each side of the carapace there is a row of small granules above the frontal margin. The eyemound (fig. 57) is low, wider than high, unarmed and rising from the anterior margin. There is a small granule behind the eyes and a pair of granules about midway between the eyemound and scutal groove. Tergal grooves indistinct. A transverse row of small granules on each tergal Area, the rows increasing in length posteriorly. On each side of the scutum and above the lateral margin is a longitudinal ridge. Free tergites are unarmed but each has a transverse row of granules.

Chelicerae somewhat stout. Basal segment with two small spinous tubercles at the apex, one of which is median, the other prolateral. On the retrolateral side there is an oblique row of small tubercles and near the proximal end a well formed boss. The second segment is provided with a median dorsal row of small tubercles and a pro-dorsal row of three small teeth.

Pedipalpi (fig. 58) large and powerful. Trochanter with two small denticles above and below. Femur with a median dorsal row of about seven small teeth, the fourth tooth being the largest. Retrolateral side with a longitudinal row of granules above the ventral margin. Prolateral surface with a tooth near the apex and a few scattered tubercles. Ventral surface with a large proximal tooth, a retroventral row of three large teeth of about the same size, and a proventral row of small tubercles or granules. Patella with a small prolateral tooth near the apex, elsewhere none. Tibia

with three small retrolateral teeth, and three larger prolateral teeth, of which the distal tooth is very stout. Ventral surface tuberculate. Tarsus with four retrolateral teeth and three prolateral teeth. Claw about 0.7 mm. long.

Coxae are furnished with a few hairs and small rounded granules on the ventral surface. Coxa I has a row of three small blunt teeth on the front margin, the apical tooth being bifid. Coxa II has a group of about five small tubercles behind the apex. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV with a group of small tubercles in front of the apex and a posterior row of marginal granules.

Genital operculum smooth, somewhat triangular with rounded sides. It measures 0.40 mm. long and 0.46 mm. wide. The penis has the form shown in fig. 59. The ventral plate is provided with one pair of superior and three pairs of inferior setae. The distal part of the glans is tubular and protected by two wing-like lateral lobes of the dorsal apophysis.

The sternum is long and narrow. The respiratory spiracles are large and not concealed by the last pair of coxae. The free sternites are smooth.

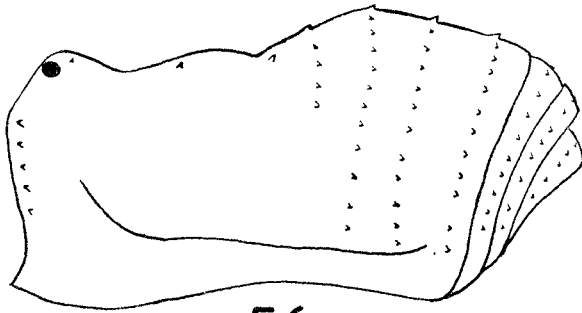
Legs unarmed but the trochanters, femora and tibiae are slightly tuberculate. The calcaneus of leg I is notched below. Its length is about 2/7 that of the metatarsus (fig. 60). All metatarsi exhibit pseudosegmentation. Tarsus I has five segments, tarsus II has 15 on the left and 16 on the right, tarsi III and IV each have four segments. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged the middle prong being longer than the lateral prongs.

Allotype Female

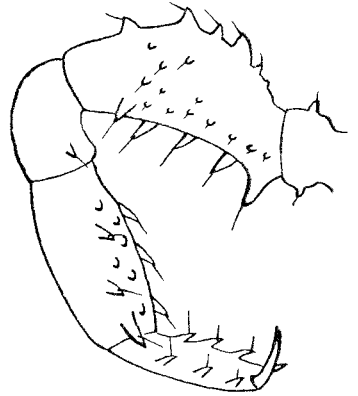
Measurements in millimeters: Body-length 3.60, length of scutum 3.15, length of carapace 1.37.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.74	0.34	1.83	0.74	1.37	1.71	1.31	8.04
Leg 2	1.20	0.40	2.51	0.97	1.94	2.40	3.14	12.57
Leg 3	1.20	0.40	1.71	0.74	1.37	1.94	1.37	8.73
Leg 4	1.54	0.57	2.28	0.97	1.88	2.86	1.71	11.81
Pedi-palp	0.57	0.57	1.66	1.08	1.26	...	1.09	6.23

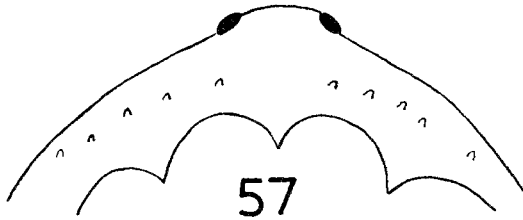
The female is smaller than the male. It resembles it in colour and general appearance. However, it lacks the V-shaped mark on the scutum, which, behind the carapace, is mainly dark-brown, but has a narrow transverse reddish-brown band between tergal Areas IV and V. The pedipalpi (fig. 61) are less robust than in the male and the tibia not so densely tuberculate. The calcaneus of leg I is not notched below and is about 3/13 the length of the metatarsus. The genital operculum is 0.40 mm. long and 0.51 mm. wide.



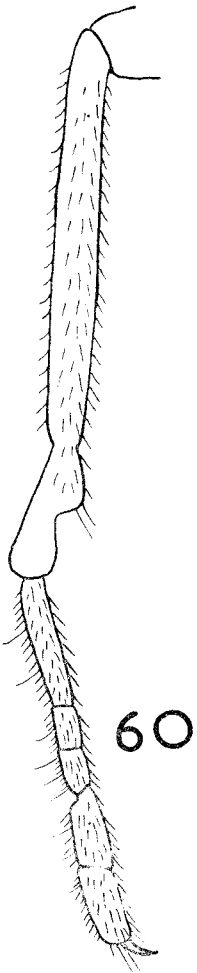
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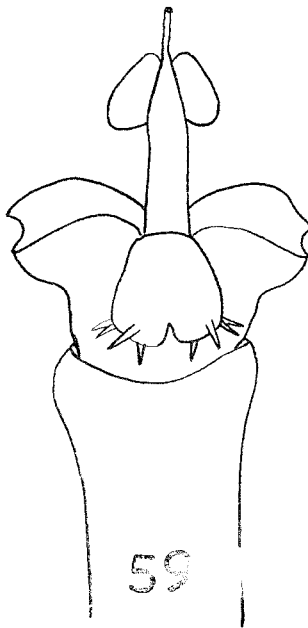
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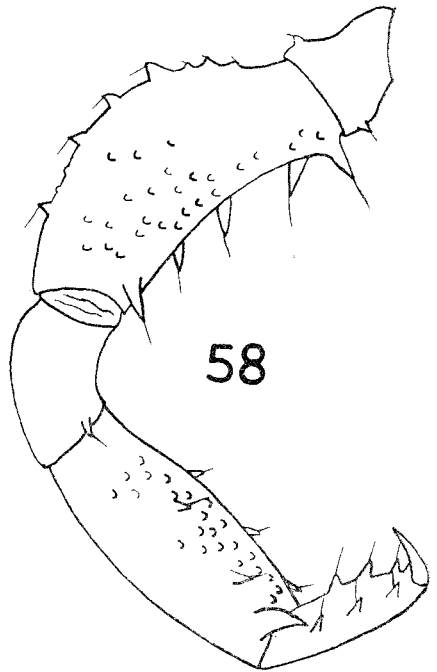
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58

Notonuncia diversa gen. et sp. n.

FIG. 56.—Lateral view of scutum and free tergites of male.
FIG. 57.—Anterior view of eyemound.
FIG. 58.—Prolateral view of pedipalpus of male.

FIG. 59.—Ventral view of distal part of penis.
FIG. 60.—Metatarsus and tarsus of leg I of male.
FIG. 61.—Prolateral view of pedipalpus of female.

Localities: The type specimens were found on Mt. Wellington, Tasmania, 18th August, 1951. The species also occurs on Mount Dromedary, Mount Hobbs and at Eaglehawk Neck. It is mainly found under decaying logs.

Variations: Males vary in length from 2.5-4.6 mm. and females from 2.5-4.5 mm. There is much variation in the number of segments in tarsi I and II. The distitarsi, however, are remarkably constant. In males tarsus I usually has five segments but may have four or six. In some specimens the segmentation differs in the corresponding tarsi of left and right sides. In the females tarsus I may have either three or four segments. Specimens from Mount Hobbs and Eaglehawk Neck tend to have a smaller number of segments in tarsi I and II than do those from Mount Wellington. Table 5 gives the segmentation of tarsi I and II in the 20 males and 22 females examined.

Table 5

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
2	♂	4	11
2	♂	4	12L 13R
1	♂	4L 5R	13
1	♂	4L 5R	? 13R
1	♂	5	13
1	♂	5	13L 14R
1	♂	5	14
1	♂	5	14L 15R
2	♂	5	14L 16R
1	♂	5	15L ?
1	♂	5	15L 14R
2	♂	5	16L 15R
1	♂	5	16
1	♂	5	17L 16R
1	♂	6L 5R	16
1	♂	6	16L 17R
1	♀	3	10L 11R
2	♀	3	12L 11R
1	♀	3	12
3	♀	3	12L 13R
1	♀	3	12L 14R
2	♀	3	13
1	♀	4	7L 13R
1	♀	4	11
1	♀	4	12L 11R
1	♀	4	12L 13R
2	♀	4	13L 12R
3	♀	4	13
2	♀	4	14L 11R
1	♀	4	14L 13R

NOTONUNCIA ARVENSIS sp. n.

(Figures 62-67)

Holotype Male

Measurements in millimeters: Body-length 5.48, length of scutum 4.57, length of carapace 2.40.

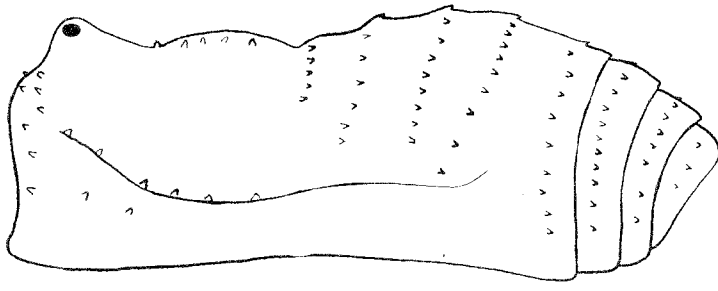
	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.03	0.69	3.71	1.37	2.40	2.97	2.00	14.17
Leg 2	2.11	0.74	4.57	1.60	3.26	3.88	4.34	20.50
Leg 3	1.88	0.80	2.86	1.26	2.28	3.26	1.94	14.28
Leg 4	2.28	0.97	3.83	1.60	2.97	4.80	2.28	18.73
Pedi-palp	1.03	0.86	3.20	1.71	2.80	...	2.11	11.71

Colour (in alcohol): Scutum reddish-brown. Dark-brown reticulations on each side of carapace. A pair of irregular dark-brown patches behind the eyemound. A median V-shaped dark mark extending from the scutal groove to the posterior margin of the scutum and crossed by a short dark-brown bar on each tergal area. Chelicerae and pedipalpi reddish-brown with dark reticulations. Legs mainly dark-brown speckled with yellow. Tarsi grey. Ventral surface of body reddish-brown, somewhat darker on free sternites.

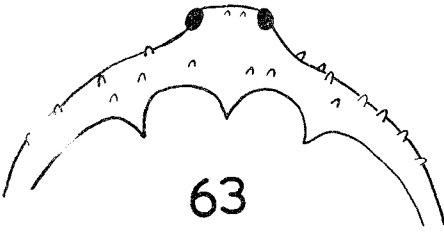
Scutum (fig. 62) unarmed. Carapace furnished with an irregular row of granules above the anterior margin on each side. A few granules are also present between the eyemound and the scutal groove, at the sides of the carapace and along the anterior half of the longitudinal lateral ridge of the scutum. Eyemound (fig. 63) low, wider than high, unarmed, situated about half its diameter from the front margin. Scutal groove distinct medianly. Tergal grooves indistinct. Each tergal area and free tergite with a transverse row of granules or small denticles.

Chelicerae stout. Basal segment 1.43 mm., second segment 2.28 mm. long. Two small teeth are present at the apex of the basal segment, one median, the other prodorsal. On the retrolateral side of the basal segment there is an oblique row of small granules and at the proximal end a small boss. The second segment is large and swollen. It is furnished with a median dorsal row of coarse tubercles and a prodorsal row of three teeth, the middle tooth being the largest.

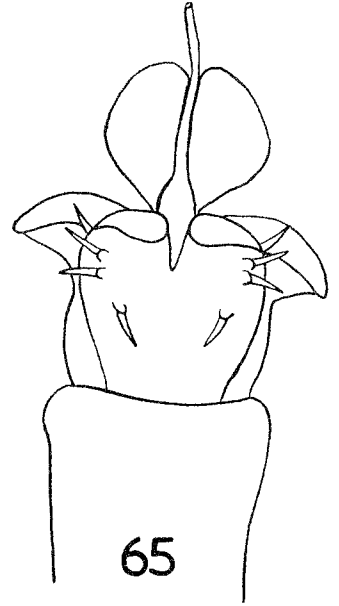
Pedipalpi (fig. 64) large and strong. Coxa with a transverse row of three denticles below the apex. Trochanter with three denticles above and below. Femur swollen and armed with a median dorsal row of three large teeth. Retrolateral surface has a few small granules. Proximal surface with a large tooth in the distal quarter and two smaller teeth above it. Ventral surface with a large proximal tooth, in front of which is a second large tooth, whilst a third tooth of almost the same size is present in the distal half and on the retroventral margin. A few small tubercles are present above the proventral margin. The patella has two small prolateral denticles towards the ventral side. The tibia is armed with three teeth on each side. Those on the retrolateral side are very small. Of the three prolateral teeth the second is nearer to the third than to the first and the third tooth is the largest. The ventral surface is tuberculate. The tarsus is armed with three prolateral and four



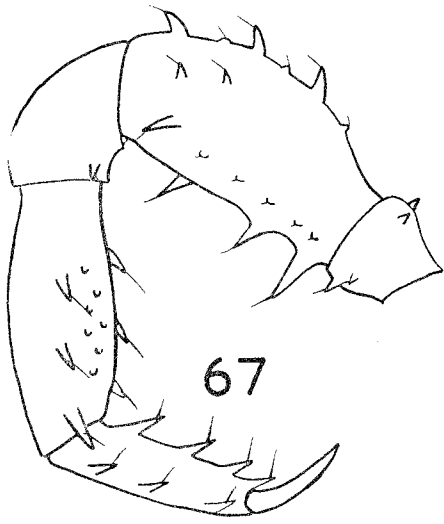
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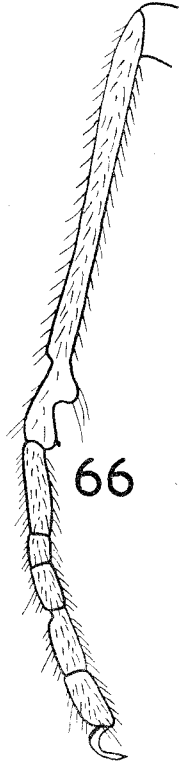
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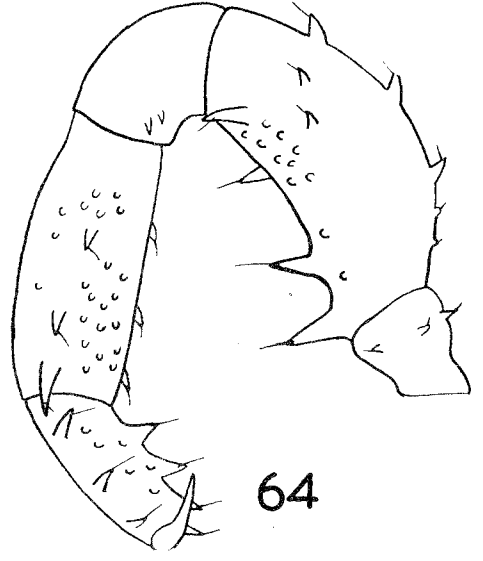
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67



66



64

Notonuncia arvensis gen. et sp. n.

FIG. 62.—Lateral view of scutum and free tergites of male.
FIG. 63.—Anterior view of eyemound.
FIG. 64.—Prolateral view of pedipalpus of male.

FIG. 65.—Ventral view of distal part of penis.
FIG. 66.—Metatarsus and tarsus of leg I of male.
FIG. 67.—Prolateral view of pedipalpus of female.

retrolateral teeth and there are a few tubercles on the ventral surface. The claw is about 0.7 mm. long.

Coxa I has three short blunt spines on the anterior margin, the distal spine being the largest and bifid. Coxa II has a group of about six small blunt tubercles behind the apex. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV has a group of about six small blunt tubercles in front of the apex and a row of granules along the posterior margin. The ventral surface of each coxa is provided with small rounded granules.

The genital operculum is smooth. It measures 0.51 mm. long and 0.57 mm. wide. The penis has the form shown in fig. 65. The distal part of the glans is tubular and protected by a pair of large wing-like lobes of the dorsal apophysis. The ventral plate has one pair of superior and three pairs of inferior setae.

The sternum is long and narrow. The respiratory spiracles are large and not concealed by the fourth coxae.

The legs are unarmed but the trochanters, femora and tibiae are slightly tuberculate. All metatarsi exhibit pseudosegmentation. The calcaneus of leg I (fig. 66) is notched below and forms about $\frac{1}{4}$ of the length of the metatarsus. The calcaneus of metatarsus II is straight and about $\frac{1}{2}$ the length of the segment. The number of segments in tarsi I-IV is 5, 16, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being longer than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 5.37, length of scutum 4.00, length of carapace 1.71.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.26	0.69	2.74	1.14	2.00	2.57	1.71	12.11
Leg 2	1.77	0.80	3.54	1.23	2.68	3.20	4.00	17.25
Leg 3	1.71	0.69	2.46	1.09	1.88	2.86	1.71	12.40
Leg 4	2.00	0.86	3.14	1.31	2.57	4.11	1.88	15.87
Pedi-palp	0.74	0.74	2.23	1.26	1.71	...	1.60	8.28

The female resembles the male in colouration and general appearance. However, it lacks the median V-shaped mark on the tergal region of the scutum and the pedipalpi are smaller and less robust (fig. 67). The calcaneus of leg I is straight and not notched below. It forms about $\frac{1}{6}$ the length of the metatarsus. The number of segments in tarsi I-IV is 4, 14L 15R, 4, 4. The genital operculum measures 0.51 mm. long and 0.63 mm. wide.

Localities: The type specimens were found in the Arve Forest, Geeveston, Tasmania, 11th November, 1955. Other specimens in the collection come from near the Ida Bay Caves at Hythe and a single specimen is from Mount Wellington.

Variations: Males vary in length from 4.9-5.5 mm. and females from 4.8-5.9 mm. The collection contains five males and six females. The males all have five segments in tarsus I, and the females four. The number of segments in tarsus II varies as shown in Table 6.

Table 6

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
1	♂	5	?L 14R
1	♂	5	15
1	♂	5	16L 15R
1	♂	5	16
1	♂	5	18L 17R
2	♀	4	13L 12R
1	♀	4	13
1	♀	4	13L 14R
1	♀	4	14L 15R
1	♀	4	16L 14R

The distitarsi I and II have two and three segments respectively in all the specimens.

NOTONUNCIA OBSCURA sp. n.

(Figures 68-72)

Holotype Male

Measurements in millimeters: Body-length 4.40, length of scutum 3.26, length of carapace 1.43.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.14	0.40	1.77	0.80	1.26	1.54	1.26	8.17
Leg 2	1.37	0.51	2.40	0.91	1.71	2.11	2.46	11.47
Leg 3	1.26	0.46	1.60	0.74	1.20	1.60	1.26	8.12
Leg 4	1.54	0.57	2.17	0.97	1.71	2.46	1.31	10.73
Pedi-palp	0.86	0.46	1.88	1.09	1.54	...	1.26	7.09

Colour (in alcohol): Scutum reddish-brown with dark reticulations on each side of the carapace. Between the eyemound and the reticulations on each side is a dark triangular patch. The two patches unite along the front margin anterior to the eyemound. A pair of irregular dark-brown areas is situated close behind the eyemound and a larger dark-brown region occurs on each side of the scutum. A median elongate V-shaped dark mark extends from the scutal groove to the posterior margin of the first free tergite. Chelicerae and pedipalpi reddish-brown with dark reticulations. Legs mainly dark-brown speckled with reddish-brown. Tarsi grey. Ventral surface of body reddish-brown.

Scutum (fig. 68) unarmed. A row of small denticles or granules above the anterior margin on each side of the carapace. A few granules are also present near the anterior end of the lateral ridge on each side of the scutum and also immediately behind the eyemound. The scutal groove is distinct medianly but the tergal grooves are indistinct. A transverse row of granules is present on each tergal Area and free tergite. The eyemound (fig. 69) is low, wider than high, situated slightly behind the anterior margin and sloping gently towards the front.

Chelicerae stout and strong. The basal segment is 0.91 mm. long, armed at the apex with a short median tooth and a smaller prodorsal tooth. On

the retrodorsal margin there is a row of small tubercles and towards the base a small proximal boss. A few granules are also present on the prodorsal margin. The second segment is 1.43 mm. long, somewhat swollen and furnished with a median dorsal row of tubercles and a prodorsal row of three teeth.

Pedipalpi (fig. 70) large and strong. Coxa with a transverse row of three teeth below the apex, the median tooth being larger than the other two.

Trochanter with two teeth above and below. Femur with a dorsal median row of three teeth and several granules. The first tooth in the row is the largest. Retrolateral surface with a row of granules above the retroventral teeth. Pro-lateral surface without large teeth but with a number of tubercles. Ventral surface with a large proximal tooth, which slopes backwards and is curved slightly forwards at the tip. A row of three large teeth is present on the retroventral

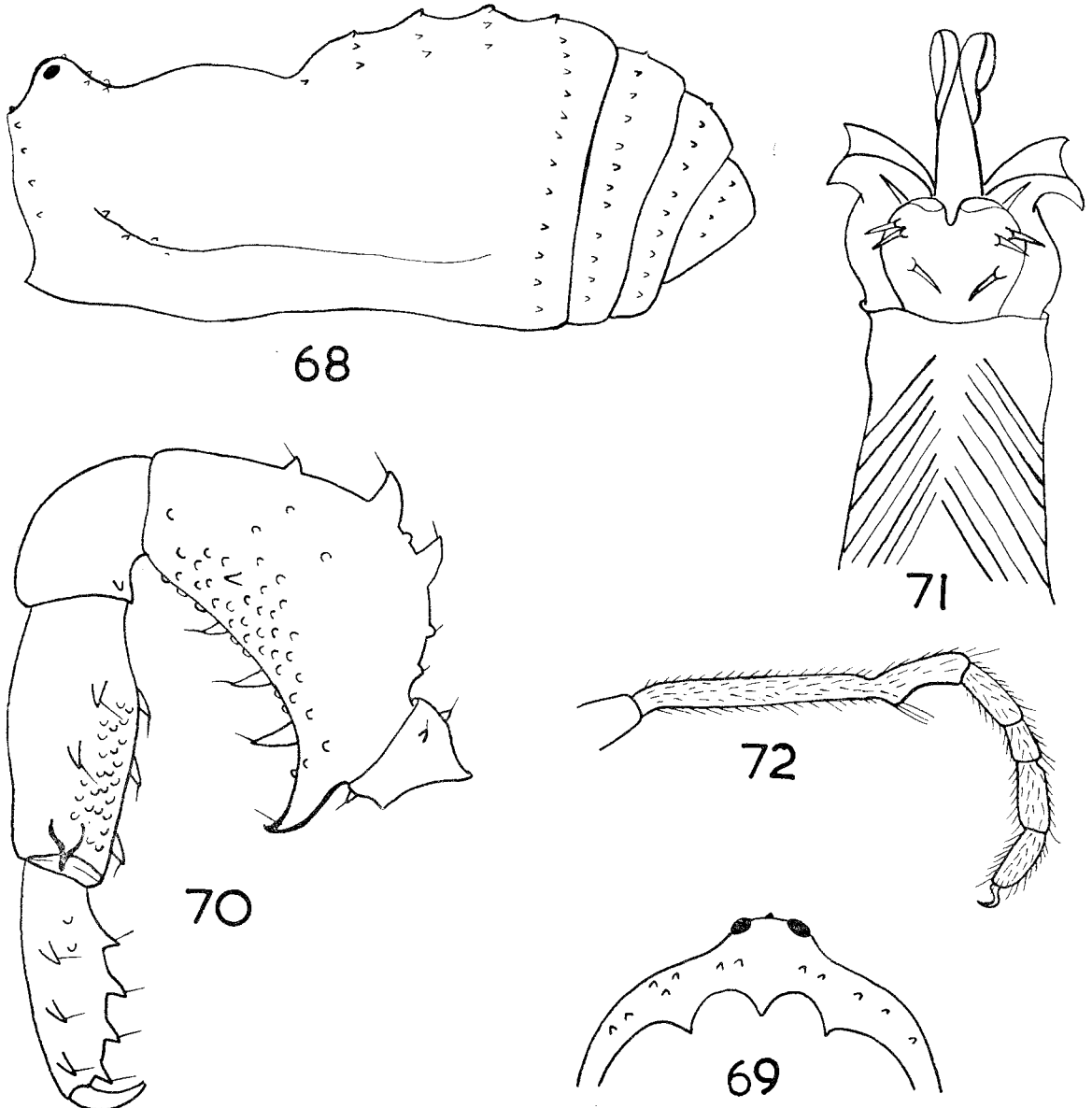


FIG. 68.—Lateral view of scutum and free tergites of male.
FIG. 69.—Anterior view of eyemound.
FIG. 70.—Prolateral view of pedipalpus of male.

FIG. 71.—Ventral view of distal part of penis.
FIG. 72.—Metatarsus and tarsus of leg I of male.

Notonuncia obscura gen. et sp. n.

margin. No teeth are found on the proventral margin but the ventral surface is tuberculate. Patella unarmed. Tibia with three teeth on each side. The distal tooth on the prolateral side is very stout. Ventral surface tuberculate. Tarsus with three prolateral and four retrolateral teeth. Ventral surface almost without tubercles. Claw nearly half as long as the segment.

Coxa I with three small blunt teeth on the anterior margin, the apical tooth being the largest and slightly bifid. Coxa II with a group of about six small blunt tubercles behind the apex. Coxa III with a marginal row of granules in front and behind. Coxa IV with a group of about six small blunt tubercles in front of the apex and a row of granules on the posterior margin. Ventral surface of each coxa furnished with small scattered rounded granules.

Genital operculum smooth, 0.46 mm. long and 0.51 mm. wide. The penis has the form shown in fig. 71. The ventral plate is provided with one pair of superior and three pairs of inferior setae. The distal end of the glans is not fully extended and is concealed between the paired lobes of the dorsal apophysis.

The sternum is long and narrow. Respiratory spiracles large and not concealed by the fourth coxae.

The legs are unarmed but trochanters, femora and tibiae somewhat tuberculate. All metatarsi exhibit pseudosegmentation. Calcaneus of leg I notched below (fig. 72). It forms about 1/3 of the length of the first metatarsus. The calcaneus of the second metatarsus is straight and about 2/7 the length of the segment. The number of segments in tarsi I-IV is 4, 13L 12R, 4, 4. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being longer than the lateral prongs.

Locality: The holotype male and three other male specimens were found under logs in *Notofagus* forest near the entrance to the Hastings Caves, Tasmania, 5th December, 1952. No female specimens were found.

Variations: The four males vary in length from about 3.5-4.4 mm. Each has four segments in tarsus I. The number of segments in tarsus II varies from 11-13.

Genus *TASMANONUNCIA* gen. n.

Eyemound smooth, rounded and unarmed; situated in the anterior third of the carapace. Scutum unarmed except for a single conical tooth above the front margin on each side of the carapace. Scutal groove distinct medianly; other tergal grooves absent. Tergal Areas and free tergites without spines and tubercles. First segment of chelicerae of male without a proximal retrodorsal boss. Proximal median ventral tooth on femur of pedipalpus in male not bifid. Calcaneus of each metatarsus much shorter than astragalus. Calcaneus of leg I of male not notched below. Tarsal segmentation: 3, 5-7, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Tasmanonuncia segnis* sp. n.

Type Locality: Trevallyn, Launceston, Tasmania.

The genus *Tasmanonuncia* is close to *Psalenoba* Roewer (1931, p. 159) but differs from that genus in the shape of the eyemound and in the presence of a tooth above the anterior margin on each side of the carapace.

TASMANONUNCIA SEGNIS sp. n.

(Figures 73-79)

Holotype Male

Measurements in millimeters: Body-length 1.94, length of scutum 1.65, length of carapace 0.86.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.51	0.23	0.74	0.34	0.51	0.65	0.48	3.46
Leg 2	0.79	0.25	0.97	0.40	0.80	0.91	0.91	5.03
Leg 3	0.57	0.23	0.69	0.37	0.57	0.74	0.48	3.65
Leg 4	0.74	0.29	0.91	0.46	0.74	1.05	0.57	4.76
Pedi-								
palp	0.34	0.23	0.97	0.51	0.57	.....	0.57	3.19

Colour (in alcohol): The scutum has yellow and brown markings. A large saddle-shaped yellow area occurs on the posterior half of the scutum (fig. 73). The pedipalpi are yellowish-brown with dark reticulations. Free tergites and legs brown. Ventral surface of body light-brown.

Scutum (fig. 73) has a finely shagreened surface. The eyemound is low, rounded and unarmed (fig. 74). It is situated about half its diameter from the front margin. Above the anterior margin on each side of the carapace and about midway between the eyemound and the lateral angle is a conical tooth. Tergal grooves are absent. The tergal Areas and free tergites are devoid of tubercles and spines.

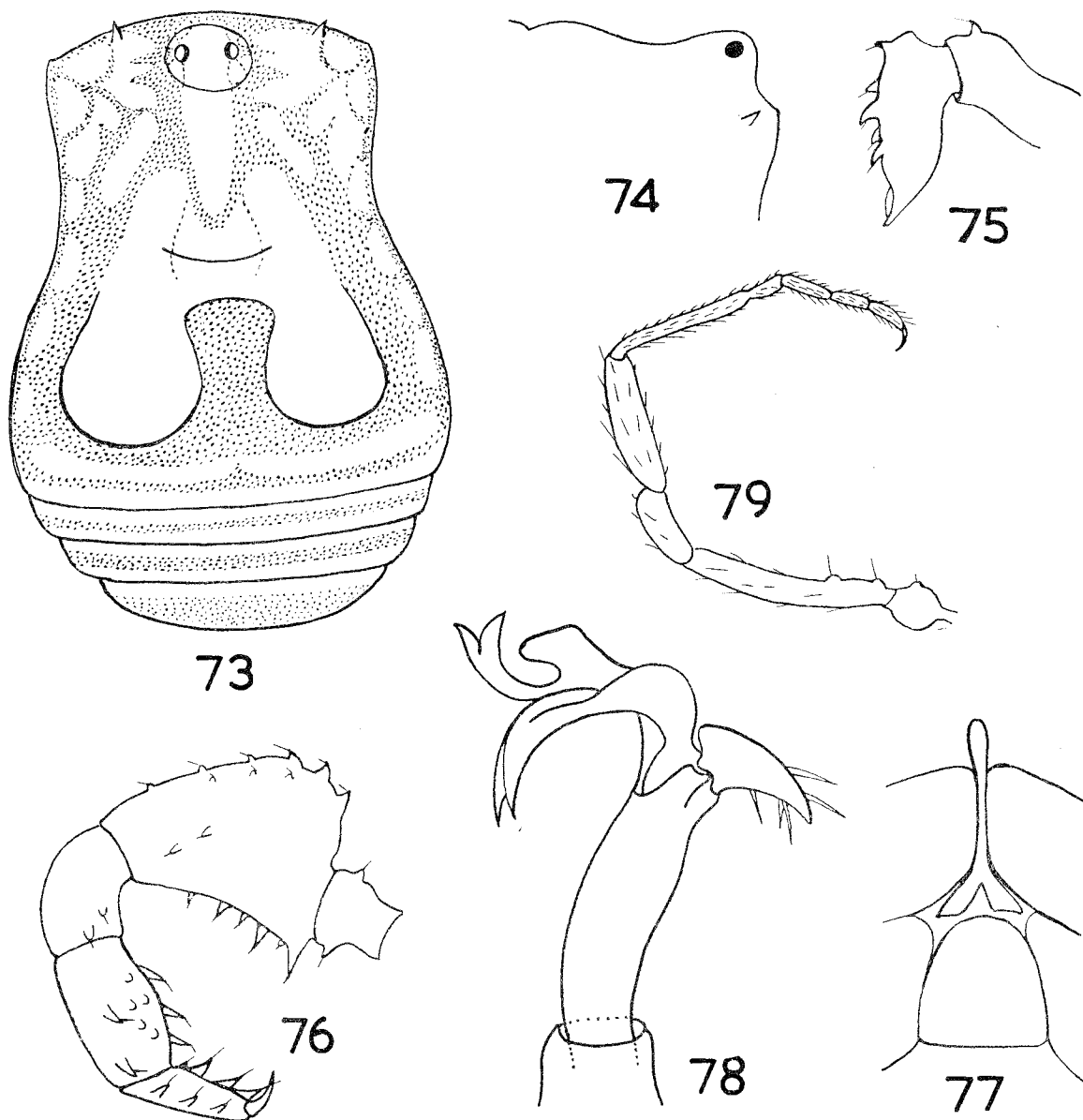
Chelicerae (fig. 75) moderately strong. The basal segment is 0.57 mm. long and has a median dorsal tooth near the apex. A retrodorsal boss is absent. The second segment is 0.74 mm. long and is armed with a prodorsal row of three teeth, the middle tooth being the largest. Two other teeth are present in the median line.

Pedipalpi (fig. 76) strong. Trochanter with a small tooth above and below. Femur arched dorsally and, in the proximal half, enlarged in a dorsoventral direction, its greatest dorsoventral diameter being about 5/8 of its length. It is furnished with a median dorsal row of six small teeth and a prodorsal row of small tubercles. The prolateral surface has two teeth in the distal quarter. The retrolateral surface is provided with a row of small tubercles above the retroventral margin. The ventral surface is armed with a median proximal tooth, a promarginal row of four tubercles and a retromarginal row of four teeth, the first of which being the largest. The patella has two prolateral tubercles. The tibia is tuberculate below and armed with two prolateral and three retrolateral teeth. The tarsus has four retrolateral and three prolateral teeth, the first retrolateral tooth being very small.

Coxa I smooth and polished, with two small blunt teeth on the front margin, the apical tooth being bifid. The other coxae are finely shagreened.

Coxa II has two small teeth behind the apex and a narrow elongate tubercle on the dorsal surface. Coxa III is furnished with a marginal row of four or five granules in front and behind. Coxa IV with a few bridging granules on the posterior margin covering the respiratory spiracle.

Sternum (fig. 77) long and narrow. Genital operculum rounded in front, finely shagreened, and measuring about 0.22 mm. long and 0.23 mm. wide. The penis when fully extended has the form shown in fig. 78. The ventral plate has a deep marginal cleft and is armed with two pairs of superior and



Tasmanonuncia segnis gen. et sp. n.

FIG. 73.—Dorsal view of scutum and free tergites of male.
 FIG. 74.—Lateral view of eyemound.
 FIG. 75.—Prolateral view of chelicera of male.
 FIG. 76.—Prolateral view of pedipalpus of male.

FIG. 77.—Sternum and genital operculum of male.
 FIG. 78.—Lateral view of penis.
 FIG. 79.—Leg I of male.

three pairs of inferior setae. On each side of the glans is a large sickle-shaped lateral process. The distal end of the glans is somewhat blunt and is covered by a two-lobed dorsal apophysis.

The respiratory spiracles are partly concealed under the bridging granules on the posterior margin of the fourth coxae.

Legs unarmed and shagreened. The femur of leg I (fig. 79) has two small rounded tubercles below the basal quarter. The calcanei are short and conical. The number of segments in tarsi I-IV is 3, 5, 4, 4. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being the largest.

Allotype Female

Measurements in millimeters: Body-length 1.83, length of scutum 1.43, length of carapace 0.68.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.40	0.20	0.65	0.34	0.46	0.57	0.46	3.08
Leg 2	0.63	0.24	0.91	0.42	0.74	0.86	0.86	4.66
Leg 3	0.51	0.23	0.69	0.34	0.55	0.68	0.48	3.48
Leg 4	0.69	0.28	0.86	0.40	0.74	0.97	0.59	4.53
Pedi-palp	0.34	0.23	0.69	0.40	0.46	.....	0.40	2.52

The female resembles the male in colouration but the yellow saddle-shaped area on the scutum is much smaller. The teeth on the dorsal surface of the second segment of the chelicerae are also smaller. The pedipalpi are shorter and less robust than those of the male. The tibia is not so strongly granulate below. Tarsal segmentation: 3, 5, 4, 4.

Localities: The type specimens were found near Trevallyn, Launceston, Tasmania, 29th January, 1945. Other specimens were collected at places near Launceston, notably Distillery Creek, Punch Bowl and Exeter. The harvestman occurs in moss or under stones and fallen logs.

Variations: Males vary in length from 1.2-2.1 mm. and females from 1.4-2.2 mm. Seventeen males and 22 females are contained in the collection. All have three segments in tarsus I and four segments in tarsi III and IV. The number of segments in tarsus II varies in the males from 5-7 and in the females from 5-6. Eight males and 21 females have a tarsal segmentation of 3, 5, 4, 4. Five males and one female exhibit asymmetry in the number of segments in tarsus II on left and right sides of the body.

Genus LEIONUNCIA gen. n.

Carapace shorter than scutum. Frontal margin furnished above on each side with a row of minute tubercles or denticles. The eyemound is low and smooth; situated in the anterior third of the carapace. Tergal Areas I-V and the free tergites unarmed, but provided with a transverse row of minute tubercles or granules. Basal segment of chelicerae with a small proximal boss on the retrodorsal margin. Legs unarmed. Trochanters, femora and tibiae somewhat granular. Calcanei shorter than astragali. In both sexes the calcaneus of metatarsus I is straight and without a ventral notch. The segmentation of tarsi I and II is

variable. In the male tarsus I has 4-6 segments and tarsus II 12-16. In the female tarsus I has 3-5 segments and tarsus II 9-16. In both sexes tarsi III and IV each have four segments. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the median prong being larger and stronger than the lateral prongs.

Genotype: *Leionuncia levis* sp. n.

Type Locality: Myrtle Forest, Collinsvale, Tasmania.

Leionuncia is close to *Holonuncia* Forster (1955, p. 387) but differs from the latter genus in that the calcaneus of the first metatarsus of the male is without a ventral notch and the distitarsus of leg II has three instead of four segments.

LEIONUNCIA LEVIS sp. n.

(Figures 80-85)

Holotype Male

Measurements in millimeters: Body-length 3.60, length of scutum 3.14, length of carapace 1.43.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.03	0.46	1.83	0.80	1.43	1.71	1.37	8.63
Leg 2	1.37	0.46	2.46	1.03	2.00	2.28	3.08	12.68
Leg 3	1.20	0.46	1.77	0.69	1.37	1.83	1.43	8.75
Leg 4	1.43	0.63	2.28	0.97	1.83	2.57	1.60	11.31
Pedi-palp	0.69	0.63	2.28	1.26	1.88	.....	1.43	8.17

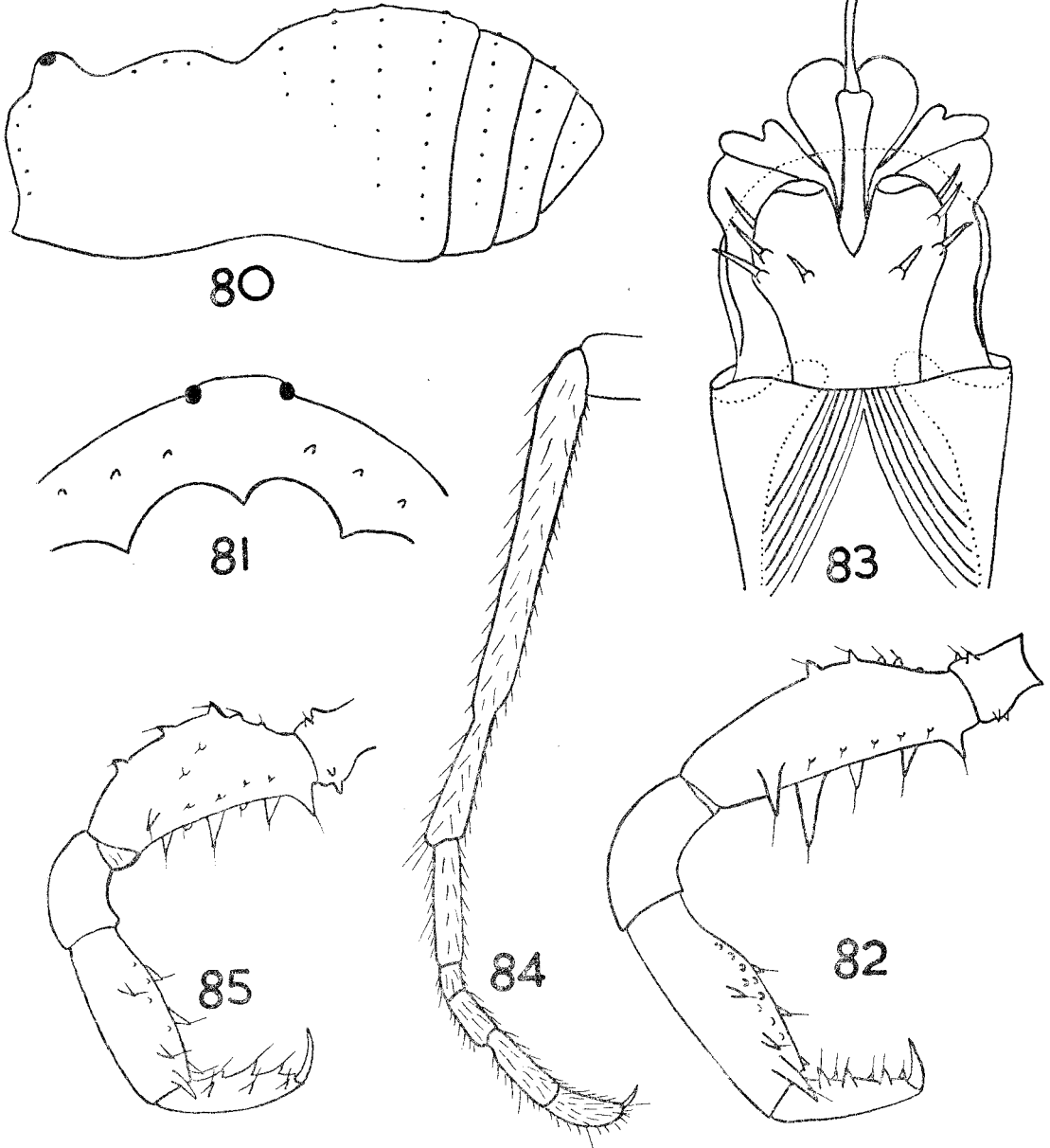
Colour (in alcohol): Chelicerae, pedipalpi, coxae and carapace light-brown with dark-brown reticulate markings. Tergal Areas with short transverse dark-brown bars, which decrease in size posteriorly forming a median wedge-shaped pattern. Free tergites and sternites brown. Legs dark-brown, except the tarsi which are grey.

Scutum (fig. 80) furnished with a row of about five minute tubercles or granules on each side above the frontal margin. The eyemound is low and smooth (fig. 81). It is situated about half its length from the front margin. Behind the eyemound the carapace is distinctly arched longitudinally and provided with a few granules. The first scutal groove is well marked medianly but the other scutal grooves are absent. Tergal Areas II-V each with a transverse row of small granules, the rows increasing in length posteriorly. Above the margin on each side of the scutum is a longitudinal ridge. Each free tergite has a transverse row of small granules. Spines and large tubercles are absent from both the scutum and the free tergites.

Chelicerae short and stout. The basal segment measures 0.97 mm. long and has a small proximal boss on the retrodorsal margin, and two short spines at the apex, one of which is median and the other prolateral. A few small tubercles form an oblique row on the retrodorsal margin of the segment. The second segment is 1.43 mm. long and its dorsal (frontal) surface is tuberculate and has two small teeth on the inner side, one near the middle, the other near the base.

Pedipalpi (fig. 82) large and somewhat elongate. Trochanter with two small teeth above and below. Femur with a dorsal median row of four teeth and several small tubercles. The two teeth near the middle of the row are larger than the others. Prolateral surface and retrolateral surface smooth except for a few scattered granules. Ventral surface with a median proximal tooth and a retroventral row of three teeth, of which the second

is small and the third very large and strong. The proventral margin has a row of granules, at the distal end of which is a large tooth. The patella is unarmed. The tibia is somewhat cylindrical but swollen near the middle of its length. It is elongate, being nearly as long as the femur, and has three teeth on each side. The apical tooth on the prolateral side is much larger than the others. The ventral surface is somewhat tuber-



Leonuncia levis gen. et sp. n.

FIG. 80.—Lateral view of scutum and free tergites of male.
FIG. 81.—Anterior view of eyemound.
FIG. 82.—Prolateral view of pedipalpus of male.

FIG. 83.—Ventral view of distal part of penis.
FIG. 84.—Metatarsus and tarsus of leg I of male.
FIG. 85.—Prolateral view of pedipalpus of female.

culate. The tarsus has three prolateral teeth and four retrolateral teeth. The first tooth on the retrolateral side is minute. The claw is about one-third the length of the segment.

Coxa I has two small teeth on the front margin, one near the middle, the other near the apex. The apical tooth is bifid. Coxa II has a few small tubercles behind the apex. Coxa III is provided with a marginal row of granules in front and behind. Coxa IV has about five small tubercles in front of the apex and a row of granules along the apical half of the posterior margin.

The genital operculum is smooth and rounded in front and at the sides. It measures 0.4 mm. in width and length. The penis has the form shown in fig. 83. The ventral plate is deeply cleft and has three pairs of interior and one pair of superior setae. The distal part of the glans is produced into a narrow tube, which lies between the two leaf-like lobes of the dorsal process. Behind the dorsal process are the lateral apophyses, one on each side. The dorsal plate is large and rounded.

The sternum is long and narrow. Its posterior end is not crescentic. The respiratory spiracles are oval and not concealed by the fourth coxae.

The legs are unarmed but the femora, patellae and tibiae are coarsely granulate. The calcaneus of metatarsus I is straight and not notched below (fig. 84). It is slightly more than $\frac{1}{4}$ the length of the segment. The calcaneus of metatarsus II is $\frac{1}{4}$ the length of the segment. Tarsus I has five segments, tarsus II has 12 segments on the right and 13 on the left leg, tarsi III and IV each have four segments. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger and stronger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 3.83, length of scutum 2.74, length of carapace 1.31.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.74	0.40	1.66	0.74	1.31	1.54	1.20	7.59
Leg 2	1.14	0.51	2.28	1.03	1.83	2.00	3.31	12.10
Leg 3	1.03	0.46	1.54	0.74	1.26	1.54	1.26	7.83
Leg 4	1.31	0.57	2.17	0.86	1.71	2.40	1.66	10.68
Pedi-palp	0.63	0.46	1.77	0.97	1.66	...	1.20	6.69

The female resembles the male in general appearance and colour. The pedipalpi (fig. 85), however, are smaller than those of the male and the distal tooth in the retroventral row on the femur is not so large. The tubercles below the tibia are less numerous. The genital operculum is wider than that of the male. Tarsal segmentation: 4, 12, 4, 4. Distitarsi as in the male.

Localities: The holotype and allotype were found under decaying logs at Myrtle Forest, Collinsvale, Tasmania, on 8th November, 1955. The species also occurs at Hastings, the Arve Forest, Mount Wellington, National Park, Tarraleah and Bronte Park. Adult specimens of both sexes may be found during both summer and winter.

Variations: The collection under examination contains 92 specimens of *Leionuncia levis*, of which

38 are males and 54 females. The species is extremely variable in the segmentation of tarsi I and II. It is rare to find two individuals with the same tarsal segmentation even in the one locality. The species also exhibits considerable asymmetry in the number of segments in tarsus II on left and right sides of the body. There is also some asymmetry in tarsus I, especially in the males. See Table 7, which gives the segmentation of tarsi I and II in the 92 specimens examined.

Table 7

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
1	♂	4	12L 13R
2	♂	4	13
1	♂	4	14L 12R
1	♂	4	14L 13R
1	♂	4	14L 16R
1	♂	4L 5R	12L 13R
1	♂	4L 5R	13
2	♂	4L 5R	13L 14R
2	♂	4L 5R	14L 13R
1	♂	4L 5R	14L 15R
1	♂	4L 5R	15L 13R
1	♂	5	12
1	♂	5	13
2	♂	5	13L 14R
1	♂	5	13L 15R
1	♂	5	14L 12R
1	♂	5	14L 13R
3	♂	5	14
2	♀	5	14L 15R
2	♀	5	15L 14R
1	♂	5	15
1	♂	5	15L 16R
1	♀	5	16L 14R
2	♂	5	16
1	♂	5L 4R	12L 13R
1	♂	5L 6R	15L 14R
1	♂	6L 5R	14L 12R
1	♂	6L 5R	15L 14R
1	♂	6L 5R	15
1	♀	3L 4R	11L 12R
9	♀	4	11
3	♀	4	12
4	♀	4	13
3	♀	4	10L 11R
1	♀	4	10L 12R
4	♀	4	11L 12R
1	♀	4	11L 13R
1	♀	4	12L 9R
8	♀	4	12L 11R
2	♀	4	12L 13R
2	♀	4	12L 14R
1	♀	4	13L 11R
5	♀	4	13L 12R
3	♀	4	13L 14R
3	♀	4	14L 13R
1	♀	4	14L 15R
1	♀	4	15L 16R
1	♀	5	12L 13R

Genus *ALLONUNCIA* gen. n.

Eyemound smooth, rounded, unarmed and removed from the anterior margin of the carapace by a distance greater than its transverse diameter. Scutum, free tergites and legs unarmed. First segment of chelicerae of male devoid of a strong boss on the retrodorsal margin. Proximal ventral tooth on femur of pedipalpus of male not bifid. Each calcaneus shorter than astragalus. Calcaneus of leg I of male not notched below. Tarsi I, III and IV each with four segments. Tarsus II variable with 10-15 segments. Distitarsus I with two segments. Distitarsus II variable with four to six segments. Claws of tarsi III and IV are three-pronged, the middle prong larger than the lateral prongs.

Genotype: *Allonuncia grandis* sp. n.

Type Locality: Near Lake St. Clair, Tasmania.

ALLONUNCIA GRANDIS sp. n.

(Figures 86-91)

Holotype Male

Measurements in millimeters: Body-length 8.06, length of scutum 5.70, length of carapace 3.40.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.67	0.69	3.20	1.25	2.22	2.64	1.52	13.19
Leg 2	2.36	0.83	3.75	1.67	3.48	4.03	4.17	20.29
Leg 3	2.22	0.83	2.64	1.25	2.36	3.61	1.95	14.86
Leg 4	2.78	1.11	3.34	1.67	3.20	4.86	2.64	19.60
Pedi- palp	1.39	0.97	5.42	3.06	3.20	...	2.50	16.54

Colour (in alcohol): The general colour of the body and appendages is reddish-brown. Pedipalpi and legs are marked with dark reticulations. Scutum has a light coloured saddle-shaped region behind the carapace, dark reticulations in front of the eyemound and a pattern of radiating lines in an oval area on each side of the anterior third. Behind the eyemound is a rhomboid patch of dark-brown, which merges into a dark-brown area on each side of the scutum.

Dorsal scutum unarmed (fig. 86). Immediately behind the anterior margin is a groove which is continuous laterally with a longitudinal groove on each side of the scutum. Eyemound smooth, rounded and unarmed; set back from the anterior margin by a distance equal to one and a half times its transverse diameter (figs. 87 and 88). First scutal groove faintly marked, second and third distinct in the median region, fourth and fifth well developed and extending from side to side. The fifth groove is very deep. Tergal Areas and free tergites each have a transverse row of rounded granules. The rows on the first three tergal Areas are composed of only a few granules and do not extend very far laterally. Those on the fourth and fifth Areas and on the free tergites extend to the lateral margins.

Chelicerae strong. Basal segment with a large median tooth at the apex on the dorsal surface and a second tooth near the middle of the retrodorsal margin. Dorsal (frontal) surface of second segment with a median tooth near the base, a longi-

tudinal row of three strong teeth on the inner side and a similar row of three weaker teeth on the outer side.

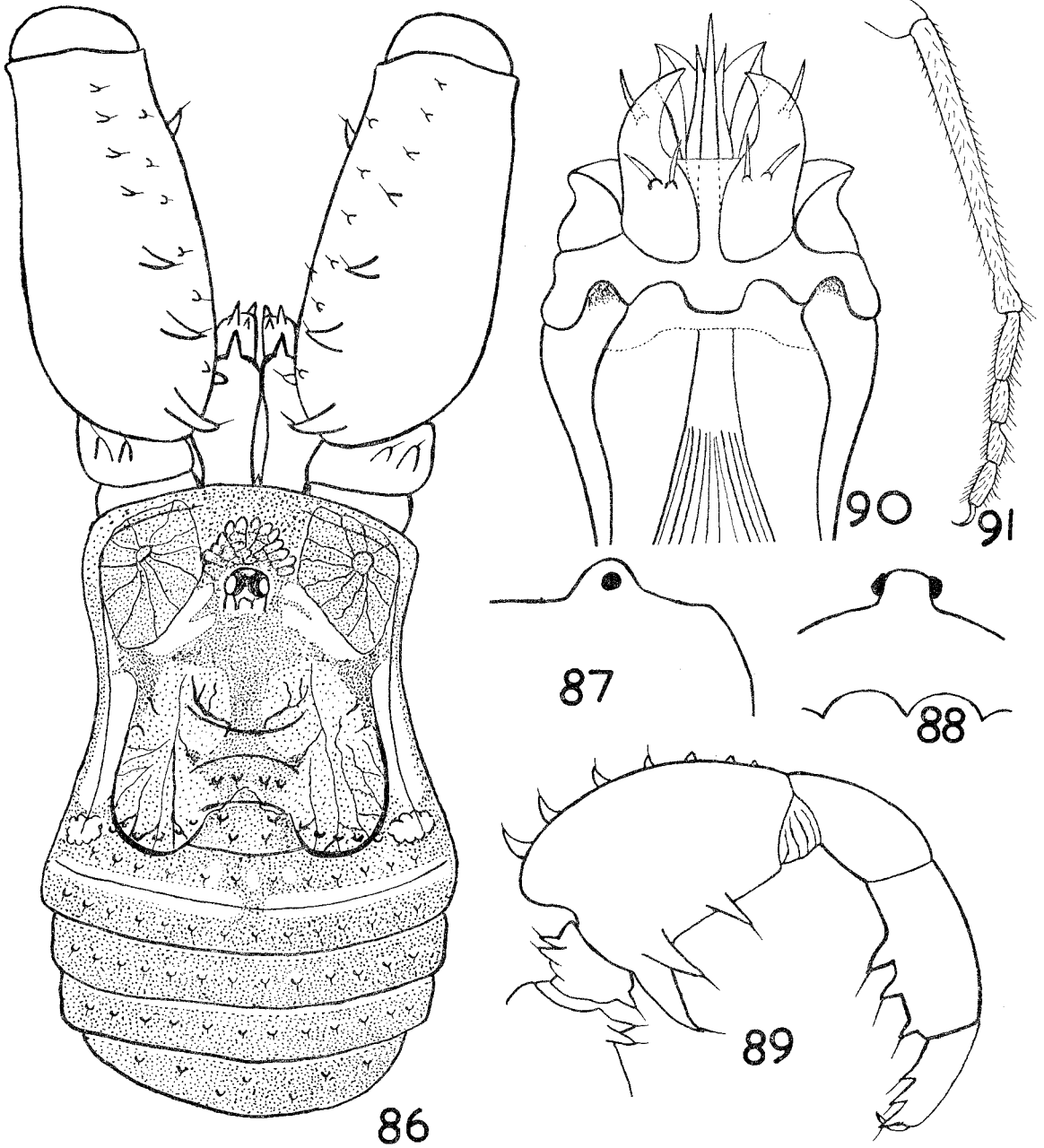
Pedipalpi very powerful and massive. The coxa has two large ventral teeth fused at their bases and a small tubercle on each side of them. Trochanter has a dorsal transverse row of two inner tubercles and two outer teeth. On the lower surface there is a single tooth. The femur is extremely large and swollen. It is almost as long as the dorsal scutum (fig. 86) and posteriorly it bulges backward over the trochanter. The dorsal surface has a median row of seven teeth which decrease in size distally. The teeth curve inwards and the first tooth is the largest. On the prodorsal margin there is an irregular row of small tubercles, below which are several larger tubercles on the prolateral surface. The ventral surface has a very large median tooth at the base, a retroventral row of large teeth and a proventral row of six minute tubercles, the distal one being the largest. The retrolateral surface is smooth. The patella has a single tooth on the prolateral side at the apex. Tibia has three teeth on each side in the distal two thirds, the first tooth on each side being the largest. The tarsus has three short stout teeth on each side. The claw is short being about $\frac{1}{4}$ the length of the segment (fig. 89).

Coxae somewhat granular and clothed with short hairs on the ventral surface. Coxa I has a row of three small teeth on the anterior margin, the first tooth being the largest and near the middle. The other two are small and close together at the apex. Coxa II has two teeth behind the distal third, the larger tooth being near the apex. On the dorsal side an elongated blunt tooth and two rounded granules are present. Coxa III has a marginal row of granules in front and behind. Coxa IV is provided with a conical tubercle and a few granules in front near the apex and a marginal row of about eight granules behind, immediately in front of the respiratory spiracle.

Sternum very narrow, its middle portion being almost hidden by the bases of the third coxae. Genital operculum is rounded in front and wider than long. The margin is smooth and the surface clothed with a few hairs. The penis has the form shown in fig. 90. The ventral plate is divided into two lobes, each of which has one superior and two inferior setae. The glans ends in a sharp point, behind which on the dorsal side is a narrow bifid process. On each side of the glans a pointed lateral process curves outwards.

The free sternites each have a transverse row of short hairs. The respiratory spiracles are large, crescentic, and not hidden by the fourth coxae.

The legs are unarmed. All calcanei are short, straight and conical; that of leg I being about $\frac{1}{6}$ the length of the metatarsus (fig. 91). Tarsi I, III and IV each have four segments. Tarsus II has 14 segments on the left and 15 on the right side of the body. Distitarsus I has two segments and distitarsus II has five. Claws of tarsi III and IV three-pronged, the middle prong being larger than the lateral prongs.



Allonuncia grandis gen. et sp. n.

FIG. 86.—Dorsal view of scutum, free tergites, chelicerae and pedipalpi of male.
 FIG. 87.—Lateral view of eyemound.
 FIG. 88.—Anterior view of eyemound.

FIG. 89.—Retrolateral view of pedipalpus of male.
 FIG. 90.—Ventral view of distal part of penis.
 FIG. 91.—Metatarsus and tarsus of leg I of male.

Allotype Female

Measurements in millimeters: Body-length 6.95, length of carapace 2.64, length of scutum 5.56.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.67	0.83	2.64	1.11	1.95	2.36	1.33	12.09
Leg 2	2.50	0.83	3.89	1.39	3.06	3.61	3.34	18.62
Leg 3	2.08	0.83	2.64	1.25	2.22	3.06	1.81	13.89
Leg 4	2.50	0.97	3.34	1.53	3.06	4.59	2.22	18.21
Pedi-palp	0.83	1.11	2.92	1.67	2.09	...	2.09	10.71

The colouration of the female resembles that of the male except that the light coloured saddle-shaped area on the dorsal scutum is much smaller and confined to the carapace.

The pedipalpi are armed as in the male but are much smaller. The femur is not so massive and does not bulge backwards over the trochanter.

The tarsal segmentation is 4, 12, 4, 4. Distitarsi I and II have two and four segments respectively.

Localities: The holotype and allotype were collected near Lake St. Clair, Tasmania, 7th February, 1945. The species also occurs at Tarraleah in rain forest at the side of the road to Butler's Gorge. This large harvestman is found under decaying logs in very damp situations amongst ferns and *Notofagus*. At Lake St. Clair it is associated with *Paranunciencia gigantea*.

Variations: The collection contains only seven males and five females. The body-length of the males varies from 6.38-8.06 and of the females from 6.09-7.13. The segmentation of the tarsi is shown in Table 8. Both sexes have four segments in tarsi I, III and IV. The males tend to have a greater number of segments in tarsus II, than do the females, but in both sexes the segmentation is variable.

Table 8

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II	Number of segments in distitarsus I	Number of segments in distitarsus II
1	♂	4	14	2	5
1	♂	4	13L 14R	2	4L 5R
1	♂	4	14L 15R	2	5
1	♂	4	14L 15R	2	5L 6R
1	♂	4	15	2	5
1	♂	4	15	2	4L 5R
1	♂	4	15L 14R	2	6L 5R
1	♂	4	11	2	5L 4R
2	♂	4	12	2	4
1	♂	4	12L 10R	2	4
1	♂	4	12L 11R	2	4

KEY TO MALES OF SPECIES IN GENUS *NUNCIELLA*

1. Eyemound smooth 2
- Eyemound granular 6
2. Femur III with a strong basiventral tubercle *N. woolcocki* Forster, 3
- Femur III without a strong basiventral tubercle *N. parvula* Roewer, 4
3. Femur of pedipalp with one prolateral tooth *N. montana* Forster, 5
- Femur of pedipalp without a distal ventral tooth *N. tasmaniensis* sp. n.
- Femur of pedipalp with a distal ventral tooth *N. tuberculata* Forster, 5
4. Femur of pedipalp with four ventral teeth 7
- Femur of pedipalp with six ventral teeth 8
5. Basal segment of tarsus I thickened *N. aspera* (Pocock),
- Basal segment of tarsus I not thickened *N. granulata* Roewer.
6. Femur of pedipalp with five small dorsal teeth *N. granulata* Roewer.
- Femur of pedipalp with two large and two small dorsal teeth *N. cheliplus* Roewer.
7. Femur of pedipalp with four dorsal teeth *N. frontalis* Roewer.
- Femur of pedipalp with eight dorsal teeth *N. frontalis* Roewer.

Genus *NUNCIELLA* Roewer, 1931

Anterior margin of carapace unarmed or with a row of small denticles above. Eyemound arising from the anterior margin. It is low, rounded and unarmed. Scutum without spines and large tubercles. Chelicerae of male with a proximal retrodorsal boss on the first segment. Femur of pedipalpus of male with a large broadly bifid ventral median proximal tooth, which is directed backwards. Calcaneus of each metatarsus much shorter than the astragalus. That of leg I in the male not notched below. The tarsal segmentation: 3, 3-15, 4, 4, except in the male of *Nunciella tuberculata*, which according to Forster (1949, p. 73) has four segments in tarsus I. Distitarsi I and II with two and four segments respectively. Claws of tarsi III and IV three-pronged, the middle prong being much stronger than the lateral prongs.

Genotype: *Nunciella aspera* (Pocock)

Type Locality: Australia.

Seven species belonging to the genus *Nunciella* are recorded from the Australian mainland and one from New Zealand. However, the latter species, *N. granulata* Roewer, is according to Forster (1954, p. 9) 'not found in New Zealand, and the record is probably an error. In the present paper a new species from Tasmania is described. The males but not the females of all species are known. The key at foot of page is therefore based on male characters.

Of the species mentioned in the key *N. woolcocki* is recorded from the Australian Capital Territory, *N. montana* from N.S.W., *N. tuberculata*, *N. cheliplus* and *N. parvula* from Victoria, *N. aspera* and *N. frontalis* from Western Australia and *N. tasmaniensis* from Tasmania. As mentioned above the occurrence of *N. granulata* in New Zealand is doubtful.

NUNCIELLA TASMANIENSIS sp. n.

(Figures 92-97)

Holotype Male

Measurements in millimeters: Body-length 5.43, length of scutum 4.28, length of carapace 2.28.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.43	0.51	1.71	0.74	1.14	1.60	1.03	8.16
Leg 2	1.83	0.63	2.17	1.03	1.71	2.17	2.23	11.82
Leg 3	1.43	0.57	1.54	0.86	1.14	1.71	1.31	8.56
Leg 4	1.71	0.69	2.23	1.09	1.66	2.74	1.49	11.61
Pedi-palp	0.86	0.69	2.34	1.26	1.49	...	1.49	8.13

Colour (in alcohol): Scutum reddish-brown with dark markings as shown in fig. 92. Chelicerae and pedipalpi polished reddish-brown with dark reticulations. Legs yellowish-brown with the femora, patellae, tibiae and metatarsi dark-brown in proximal and distal thirds. Ventral surface of body reddish-brown. Coxae II-IV dark at basal ends. Sternites reddish-brown suffused with dark-brown.

Scutum (fig. 92) without spines, smooth and with a matt surface. Scutal groove faintly marked medianly but tergal grooves in the Areas I-V not apparent. Evemound small, low, smooth and rounded; rising in front from the middle of the anterior margin (fig. 93). A few minute smooth rounded granules are present behind the ocular mound and on the posterior third of the scutum. The granules are difficult to see on specimens immersed in alcohol but are visible on dry specimens. Tergites VI-VIII which are usually free in other species are fused together and to the scutum. Shallow grooves, which do not reach the lateral margins, indicate where fusion has occurred. This unusual condition results in the posterior extension of the scutum so that it covers the whole dorsal surface of the animal. However, the length, 4.28 mm. has been measured from the anterior margin of the carapace to the posterior margin of tergite V. Each of the tergites V-VIII has a transverse row of minute hairs. The anal operculum is free.

Chelicerae strong with a narrow basal segment, 1.94 mm. long, which has on the retrodorsal margin a proximal boss or condyle articulating with the enlarged inner member of the pair of lateral teeth below the anterior margin of the carapace (fig. 92). The second segment is also narrow and measures 2.28 mm. in length. It is unarmed but has a promarginal row of three tubercles on the dorsal surface.

Pedipalpi (fig. 94) large and powerful. Longer than the body. Coxa with a ventral tooth. Trochanter unarmed. Femur armed with a row of three small teeth in the proximal half. Prolateral and retrolateral sides unarmed but the ventral surface has a large proximal bifid tooth and three retroventral teeth. When the femur is depressed the large bifid tooth articulates with a bifid tubercle on the proventral margin of coxa I. Patella with a short blunt prolateral tooth near the apex. Tibia is tuberculate below and with three short teeth on each margin. Tarsus with three teeth on each side. Claw long.

Coxa I with two promarginal teeth, the distal one being wide and bifid at the apex. Coxa II with a blunt tubercle behind the apex. Coxa III with a marginal row of granules in front and behind. Coxa IV with a blunt curved tubercle in front of the apex and a row of granules on the posterior margin. Genital operculum smooth, 0.63 mm. wide and 0.51 mm. from base to apex. Sternum long and narrow. Sternites each with two transverse rows of small hairs but without tubercles. Respiratory spiracles large and not concealed.

Legs smooth except for a few small tubercles below femur I. Calcanei short and conical. Those of the first pair of metatarsi not notched (fig. 95).

Tarsal segmentation: 3, 10, 4, 4. Distitarsi I and II with two and four segments respectively. Tarsal claws normal.

Allotype Female

Measurements in millimeters: Body-length 4.74, length of scutum 3.54, length of carapace 1.71.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.34	1.31	0.63	1.03	1.20	0.91	6.39
Leg 2	1.37	0.40	1.83	0.86	1.43	1.83	1.77	9.49
Leg 3	1.20	0.40	1.31	0.68	0.91	1.43	0.97	6.90
Leg 4	1.48	0.63	1.83	0.91	1.54	2.23	1.26	9.88
Pedipalp	0.68	0.57	1.49	0.86	1.03	...	1.14	5.77

The female exhibits considerable difference from the male. The dark markings on the dorsal surface of the scutum are shown in fig. 96. They are more extensive than in the male. Tergites VI-VIII are free.

Chelicerae are smaller than those of the male. The basal segment has a small promarginal tubercle and two small apical tubercles on the dorsal surface. Second segment has five or six small dorsal tubercles.

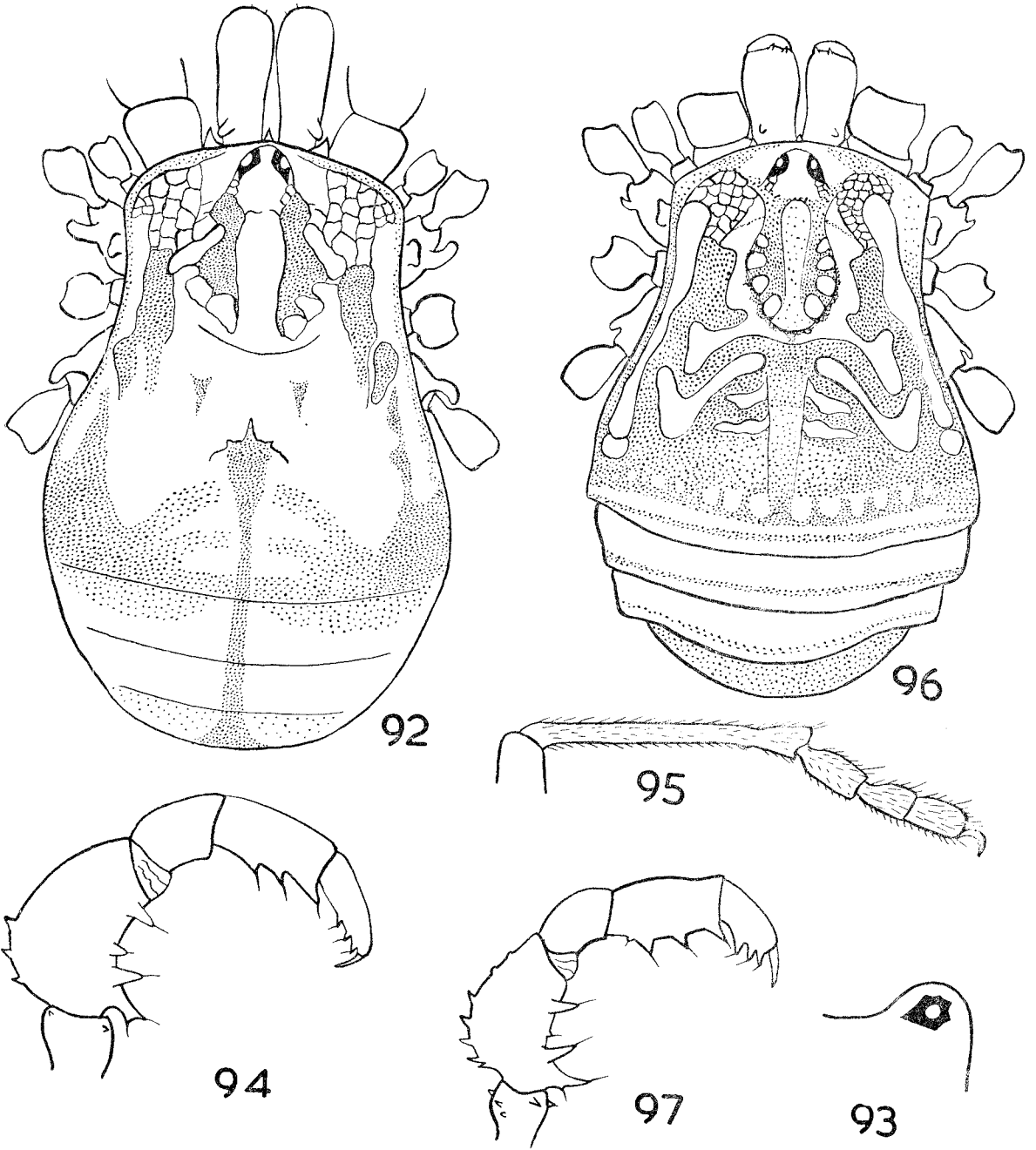
Pedipalpi (fig. 97) strong but smaller than those of the male. Trochanter with a small tubercle below. A median dorsal row of six teeth on the femur. Two teeth are present on the prolateral side, one of which is near the apex. On the ventral surface there is a moderately large and slightly bifid proximal median tooth and a retromarginal row of three teeth, of which the middle tooth is much smaller than the others.

The genital operculum is smooth and measures 0.46 mm. long and 0.63 mm. wide.

The legs resemble those of the male but are shorter. The number of segments in tarsi I-IV is 3, 9, 4, 4. Distitarsi I and II have two and four segments respectively.

Localities: The type specimens and a large number of others were collected under decaying logs at Weldborough Pass, Tasmania, 25th August, 1953. The species also occurs in the neighbouring districts of Lottah, Gould's Country and St. Columba Falls area.

Variations: The collection contains 30 males and 64 females. The males vary in body length from 3.02-5.80 and the females from 3.48-5.45 mm. The number of segments in tarsi I, III and IV is 3, 4, 4 and appears to be constant in both sexes. Also the number of segments in distitarsus I always appears to be two in both sexes. The segmentation of tarsus II and its distal section (distitarsus II) is variable and much asymmetry is exhibited by both sexes. The segmentation of tarsus II and of distitarsus II is shown in Table 9 for the 94 specimens in the collection.



Nunciella tasmaniensis sp. n.

FIG. 92.—Dorsal view of scutum and fused tergites of male.
 FIG. 93.—Lateral view of eyemound.
 FIG. 94.—Retrolateral view of pedipalpus of male.

FIG. 95.—Metatarsus and tarsus of leg I of male.
 FIG. 96.—Dorsal view of scutum and free tergites of female.
 FIG. 97.—Retrolateral view of pedipalpus of female.

Table 9

Number of specimens	Sex	Number of segments in tarsus II	Number of segments in distitarsus II
3	♂	8	4
2	♂	8L 9R	4
5	♂	9	4
2	♂	9L 10R	4
1	♂	9L 10R	4L 5R
1	♂	9L 11R	4L 5R
1	♂	10L 7R	5L 3R
1	♂	10L 8R	4
5	♂	10L 9R	4
3	♂	10	4
2	♂	10L 11R	4L 5R
2	♂	10L 11R	5
1	♂	11L 10R	4
1	♂	11	5
1	♀	8L 7R	4
8	♀	8	4
15	♀	8L 9R	4
1	♀	8L 10R	4L 5R
11	♀	9L 8R	4
1	♀	9L 8R	4L 3R
1	♀	9L 8R	5L 4R
16	♀	9	4
2	♀	9	5L 4R
1	♀	9L 10R	4
3	♀	9L 10R	4L 5R
1	♀	10L 8R	5L 4R
2	♀	10L 9R	4
1	♀	10L 9R	5L 4R

Genus *CINUNA* gen. n.

Eyemound smooth, rounded and unarmed. It is situated in the anterior third of the carapace. Scutum unarmed except for a transverse row of five denticles above the anterior margin on each side. Scutal groove indistinct medianly. Other tergal grooves faintly marked. Each tergal Area and free tergite with a transverse row of granules but without spines and large tubercles. First segment of chelicerae of male with a proximal retrodorsal boss. The median proximal ventral tooth on femur of pedipalp in the male broadly bifid and directed backward. Each calcaneus shorter than the astragalus. Calcaneus of leg I of male not notched below. Tarsi I, III and IV each with four segments in both sexes. Tarsus II variable with 8-14 segments. Distitarsus I has two segments, distitarsus II four to five segments. The claws of tarsi III and IV are three-pronged, the median prong being larger than the lateral prongs.

Genotype: *Cinuna badia* sp. n.

Type Locality: Near Lake St. Clair, Tasmania.

Cinuna is closely related to the genera *Nunciella*

Roewer and *Neonuncia* Roewer, the latter as amended by Forster (1954, p. 126). In all three the first segment of the chelicerae has a strong retrodorsal boss in the male. The proximal ventral tooth on the femur of the male pedipalpus is of

similar form and the calcaneus of leg I in the males is not notched below. *Cinuna*, however, differs from the other two genera in having four segments in tarsus I.

CINUNA BADIA sp. n.

(Figures 98-104)

Holotype Male

Measurements in millimeters: Body-length 2.57, length of carapace 0.97, length of scutum 2.28.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.28	0.93	0.46	0.70	0.75	0.75	4.44
Leg 2	0.91	0.34	1.28	0.64	0.99	1.28	1.57	7.01
Leg 3	0.86	0.34	0.99	0.46	0.70	0.93	0.70	4.98
Leg 4	1.03	0.46	1.22	0.64	0.99	1.33	0.93	6.60
Pedipalp	0.34	0.46	1.10	0.64	0.75	0.75	0.75	4.04

Colour (in alcohol): Dorsal scutum yellowish-brown with dark-brown markings. A pair of elongate light coloured areas situated one on each side of the scutum and connected by a light coloured transverse region immediately behind the carapace. Free tergites brown. Dark reticulations are present on pedipalpi, chelicerae and on each side of the anterior quarter of the scutum. Coxae and genital operculum yellowish. Legs light-brown with dark markings.

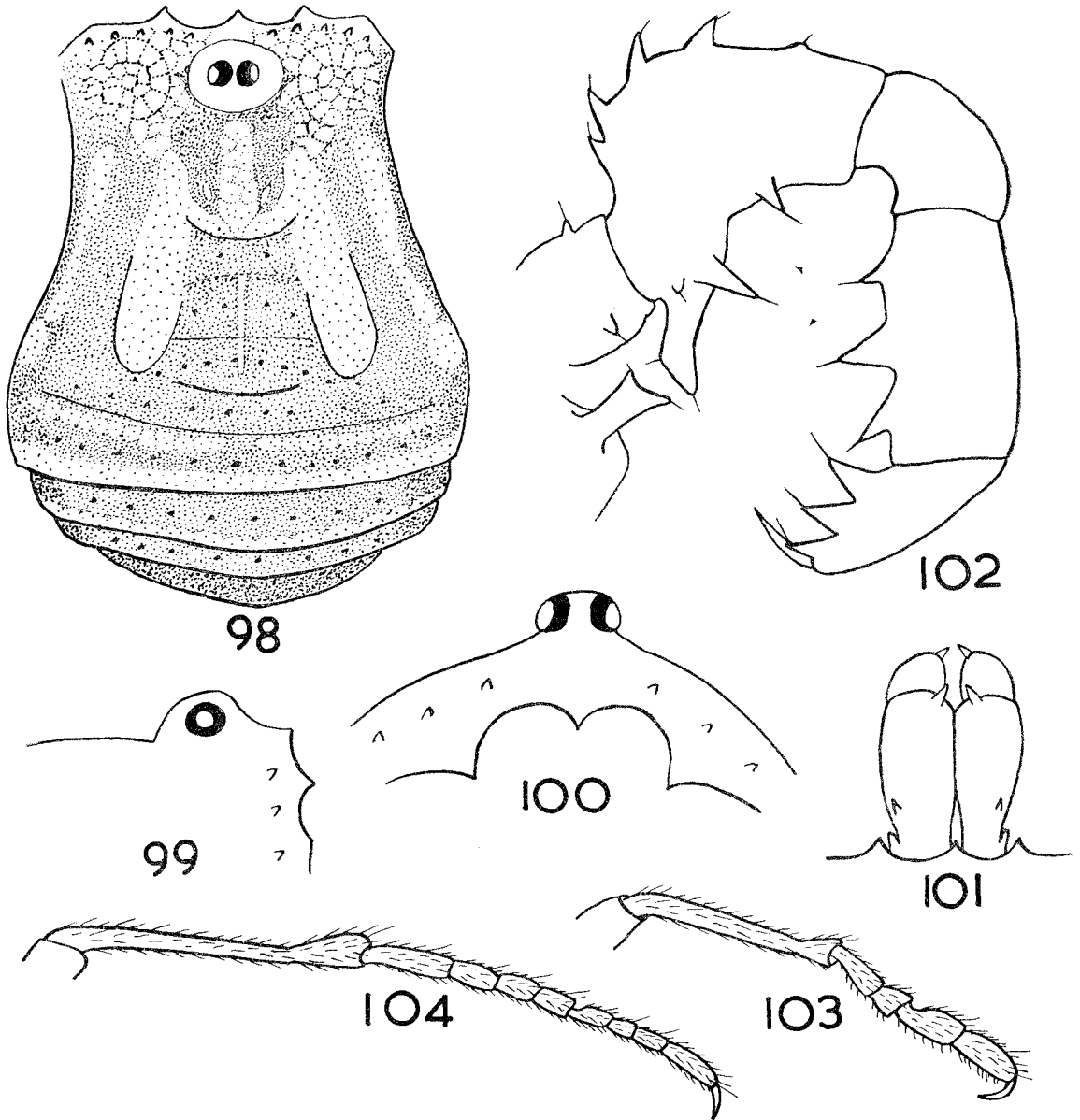
Dorsal scutum (fig. 98) finely shagreened. A row of five small tubercles on each side above the anterior margin. Eyemound smooth, rounded and situated about half its transverse diameter from the front margin (figs. 99 and 100). Transverse grooves distinct in the median scutal region but becoming indistinct laterally. Tergal Areas and each free tergite marked with a transverse row of minute granules. The first three tergal rows having only a small number of granules and not extending onto the sides of the scutum.

Dorsal surface of first segment of chelicerae with a single tooth at the apex and two on the outer side near the base, the more proximal one serving as a boss or condyle (fig. 101). The dorsal (frontal) surface of the second segment is provided with a few tubercles and an inner row of three small teeth.

Pedipalpi (fig. 102) strong. Trochanter with a transverse row of three small teeth above and a single tooth below. Femur has a dorsal median row of four teeth. The prolateral surface has two tubercles above and a tooth below near the apex. The retrolateral surface has two small tubercles below near the base. The ventral surface has a large median proximal tooth, which is directed backwards. The apex of the tooth is somewhat laterally compressed and obliquely truncated. When the femur is depressed the tooth comes into contact with a broad apical tooth on the anterior margin of coxa I. The proventral margin has a row of three small granules. The retroventral margin is provided with two strong teeth, the first being the larger. Patella has a small conical tooth on the inner side near the apex. The tibia has three teeth on each side and a few granules on the ventral surface. The tarsus is armed with three teeth on each side. The claw is about half the length of the segment.

Coxae granulate. Front margin of coxa I has two teeth, one near the middle and the other at the apex. The apical tooth is wide and bifid at the apex. The apical tooth is wide and bifid at the top, narrow at the base. Coxa II has two coarse tubercles above and several smaller rounded tubercles behind the distal end. Coxa III is provided with a marginal row of granules in front

and behind. Coxa IV has a few rounded tubercles in front of the distal end and a marginal row of granules behind. Genital operculum measures 0.41 mm. long and 0.46 mm. wide. It is rounded and smooth in front and is clothed with a few hairs. The respiratory spiracles are crescentic, moderately large and not hidden by the fourth coxae. °



Cinura badia gen. et sp. n.

FIG. 98.—Dorsal view of scutum and free tergites of male.

FIG. 99.—Lateral view of eyemound.

FIG. 100.—Anterior view of eyemound.

FIG. 101.—Dorsal view of chelicerae of male.

FIG. 102.—Retrolateral view of pedipalpus and apical tooth on coxa of leg I of male.

FIG. 103.—Metatarsus and tarsus of leg I of male.

FIG. 104.—Metatarsus and tarsus of leg II of male.

Legs unarmed but the femora and tibiae are slightly tuberculate. Calcaneus of each metatarsus very short, straight and conical (figs. 103 and 104). That of leg I is not notched. Tarsal segmentation is 4, 8, 4, 4. Distitarsi I and II have two and four segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 3.31, length of carapace 1.20, length of scutum 2.68.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.29	1.08	0.51	0.80	0.97	0.86	5.08
Leg 2	1.03	0.40	1.54	0.63	1.14	1.48	1.71	7.93
Leg 3	0.85	0.34	0.97	0.51	0.74	1.08	0.80	5.30
Leg 4	1.14	0.46	1.37	0.68	1.14	1.71	0.91	7.41
Pedi-palp	0.40	0.40	1.25	0.74	0.86	...	0.69	4.34

Colouration and general features of the female resemble those of the male, but the dark-brown areas of the dorsal scutum are more extensive. The pedipalpi are less robust and the proximoventral tooth on the femur is smaller and more slender. The tarsal segmentation is 4, 10, 4, 4. Distitarsi I and II have two and four segments respectively.

Localities: The holotype male was collected under a decaying log near Lake St. Clair, Tasmania, 7th February, 1945 and the allotype female, together with two other females, was found under decaying logs at the side of the Lyell Highway, about 23 miles from Queenstown, 23rd May, 1954.

Variations: The collection contains only the single male and three females. The latter vary in body-length from 2.32-3.31 mm. In all the specimens tarsi I, III and IV each have four segments. Tarsus II has eight to ten segments. Distitarsus II has four segments in all specimens except one of the females which is asymmetrical and has three segments on the left and four on the right side of the body.

CINUNA DENTATA sp. n.

(Figures 105-110)

Holotype Male

Measurements in millimeters: Body-length 4.85, length of carapace 1.43, length of scutum 3.43.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.40	1.74	0.87	1.22	1.68	1.16	8.04
Leg 2	1.43	0.57	2.55	1.10	1.80	2.38	2.49	12.32
Leg 3	1.37	0.51	1.68	0.75	1.28	1.74	1.16	8.49
Leg 4	1.71	0.69	2.03	1.04	1.86	2.61	1.56	11.50
Pedi-palp	0.57	0.57	2.51	1.43	2.00	...	1.71	8.79

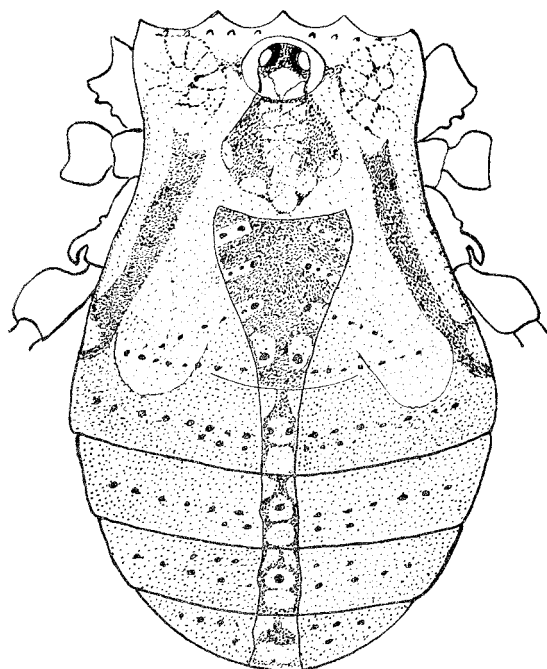
Colour (in alcohol): Dorsal scutum with dark reticulations on each side of the anterior quarter and a light-brown saddle-shaped region behind the carapace. On each side of the saddle-shaped region is a longitudinal dark-brown patch. In a median position an elongate dark-brown club-shaped mark extends from the first scutal groove to the posterior end of the body. The wide anterior end of the mark is divided into four transverse bars corresponding to the first four tergal Areas (fig. 105). The chelicerae, palpi and legs are light-brown with dark reticulations.

The dorsal scutum is provided with five small granules on each side above the anterior margin. Behind the row of granules is a well marked groove. The eyemound is unarmed and rounded. It is situated about half its transverse diameter from the front margin (figs. 106 and 107) and furnished with a few rounded granules. The first scutal groove is deep and well developed medianly, the others are faintly indicated. Each tergal Area and free tergite is marked with a transverse row of granules. Towards the median line the granules tend to form more than one row and are arranged somewhat irregularly. On each tergal Area two of the granules are enlarged to form a median pair of tubercles, and on each free tergite one granule is enlarged to form a single median tubercle.

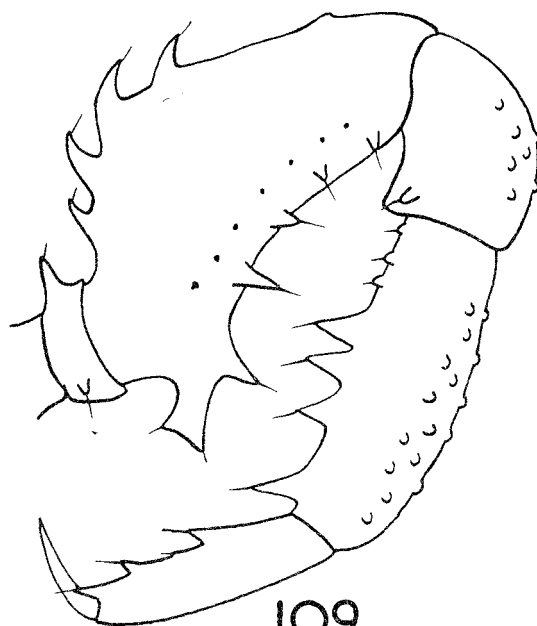
Chelicerae are large and strong. The first segment is 1.71 mm, long and has on the dorsal side a small inner tooth at the apex, two small tubercles near the middle and a large outer boss or tubercle at the base. The second segment measures 2.06 mm, long and has on the dorsal (frontal) surface an inner row of three teeth and a median row consisting of a small basal tooth and four small tubercles. On the outer side immediately above the junction with the movable finger is a very large curved tooth (fig. 108).

Pedipalpi (fig. 109) large and strong. The trochanter has a small tooth above and a small conical tubercle on the outer side below. The femur has a dorsal median row of four teeth in the proximal two thirds. The teeth curve inwards and the third tooth is the largest. The pro-lateral surface has two small teeth above and a larger tooth below in the distal third. The retro-lateral side has a row of about seven small granules below. On the ventral surface there is a large median proximal tooth, which is laterally compressed and obliquely truncated. It is directed backwards and, when the femur is depressed, comes into contact with a large broad apical tooth on the anterior margin of coxa I. In front of the large proximal tooth and united with it is a large conical tooth. On the proventral margin there is a row of small granules, and on the retroventral margin a row of four teeth, the first being the largest. The patella is somewhat tuberculate on the dorsal surface and has a large prolateral tooth and a smaller retrolateral tooth below the apex. The tibia is tuberculate on both dorsal and ventral surfaces. It is armed with three prolateral and four retrolateral teeth. The tarsus is slightly tuberculate on the ventral surface and has three teeth on each side. The claw is about $\frac{1}{3}$ the length of the segment.

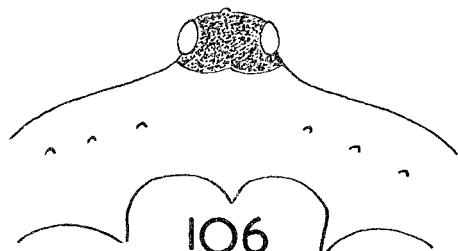
Coxae granulate on the ventral surface. Coxa I has a short stout rounded tooth near the middle of the anterior margin and a large broad bifid tooth at the apex. Coxa II is coarsely tuberculate behind the distal end. Coxa III has a marginal row of granules in front and behind. Coxa IV is furnished with a curved apical tooth and a few tubercles in front of the distal end. A few granules are present on the posterior margin in the distal half. The genital operculum is as long as wide, somewhat triangular, with rounded sides. The surface is clothed with a few hairs.



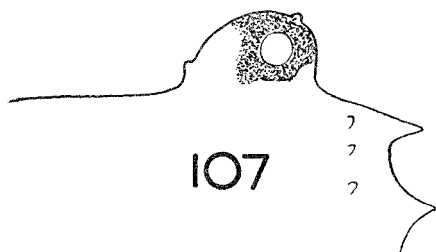
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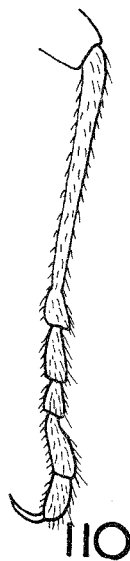
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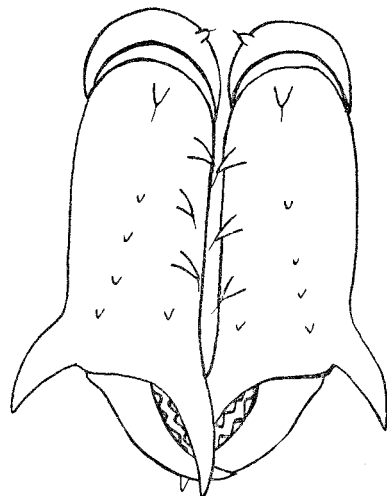
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108

Cinuna dentata gen. et sp. n.

FIG. 105.—Dorsal view of scutum and free tergites of male.
 FIG. 106.—Anterior view of eyemound.
 FIG. 107.—Lateral view of eyemound.

FIG. 108.—Front (dorsal) view of second and third segments of chelicerae of male.
 FIG. 109.—Retrolateral view of pedipalpus of male.
 FIG. 110.—Metatarsus and tarsus of leg I of male.

The respiratory spiracles are large, crescentic and not hidden by the fourth coxae.

The legs are short and unarmed. The calcaneus of each leg is much shorter than the astragalus and somewhat conical in shape. That of leg I is not notched (fig. 110). Tarsi I, III and IV each have four segments. Tarsus II has 12 segments on the left and 10 on the right side. Distitarsi I and II have two and four segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Locality: The holotype and one other male were found by Mr C. Oke on the slopes of Mt Wellington, Tasmania, September, 1949.

Variations: The other male specimen differs from the holotype in having more segments in tarsus II, 14 on the left and 11 on the right. Distitarsus II has five segments on the left and four on the right. In the other tarsi the segmentation of the two specimens is the same.

Genus *NUNCIOIDES* gen. n.

Eyemound low, unarmed and situated behind the anterior margin in the anterior third of the carapace. The anterior margin of the carapace is furnished above with a transverse row of five or six denticles on each side. The scutal groove is distinct medially, the other tergal grooves absent. Tergal Areas and free tergites with or without a transverse row of granules but devoid of spines and large tubercles. First segment of the chelicerae in males provided with a strongly developed proximal retrodorsal boss. Median proximal tooth below the femur of the pedipalpus in males broadly bifid and directed backwards. Calcaneus of each metatarsus straight and much shorter than astragalus. The calcaneus of leg I in males not notched below. Tarsal segmentation: 5-6, 15-21, 4, 4. Distitarsus I has two segments and distitarsus II six to eight segments. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Nuncioides infrequens* sp. n.

Type Locality: National Park, Tasmania.

In the males possessing a strong retrodorsal proximal boss on the first segment of the chelicerae, a broad bifid median proximal tooth on the ventral surface of the pedipalpus, and a straight non-notched calcaneus on leg I, the genus *Nuncioides* shows a close affinity with the genera *Nunciella* Roewer, *Neonuncia* Roewer and *Cimuna* gen. n. However, it differs from these genera in the larger number of segments in tarsus I and also in distitarsus II.

In addition to the genotype one other species is assigned to the genus *Nuncioides*. The two may be distinguished as follows:—

Tarsus I with five segments	....	<i>N. infrequens</i>
		sp.n.
Tarsus I with six segments	....	<i>N. dysmicus</i>
		sp. n.

NUNCIOIDES INFREQUENS sp. n.

(Figures 111-115)

Holotype Male

Measurements in millimeters: Body-length 4.85, length of scutum 4.00, length of carapace 1.83.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.03	0.57	2.23	0.91	1.54	2.06	1.49	9.83
Leg 2	1.71	0.69	2.91	1.20	2.34	2.97	3.31	15.13
Leg 3	1.43	0.57	2.06	0.91	1.49	2.34	1.54	10.34
Leg 4	2.11	0.69	2.86	1.14	2.11	3.54	1.83	14.28
Pedi-palp	0.86	0.57	2.23	1.26	1.71	.....	1.37	8.00

Colour (in alcohol): Scutum reddish-brown with dark reticulations on each side of the carapace. A median pair of elongate dark-brown marks between eyemound and scutal groove. A large dark-brown area is situated on each side of the scutum. Tergal Areas I-III each have a recurved dark band across the median region. Areas IV, V and the free tergites each have a dark-brown transverse band extending from side to side. The chelicerae and pedipalpi reddish-brown with dark reticulations above. Legs dark-brown speckled with reddish-brown. Coxae light-brown with faint dark reticulations. Free sternites dark brown.

Scutum (fig. 111) unarmed and smooth except for a transverse row of small denticles above the anterior margin on each side of the carapace and a row along the lateral ridge at each side of the scutum. Eyemound low and unarmed (fig. 112). It is situated about half its diameter behind the front margin. Scutal groove shallow, other tergal grooves absent. Free tergites smooth.

Chelicerae large and strong. The first segment is elongate and narrow. It measures 1.71 mm. in length and is provided with a small prodorsal tooth at the apex and another small tooth near the middle of the retrodorsal margin. A well developed boss is situated at the proximal end of the retrodorsal margin (fig. 113). The second segment is 2.11 mm. long and furnished with three small tubercles along the prodorsal margin, the middle tubercle being the largest.

Pedipalpi (fig. 114) large and strong. The coxa has two small tubercles below. The trochanter is armed with a small median tubercle above and a small retroventral tubercle below. On the dorsal surface of the femur there is a median row of five teeth and a small tubercle. The retrolateral surface has in the basal half a row of three small denticles close to the retroventral margin. The prolateral surface is armed with a large tooth in the apical half, and behind the tooth are two small tubercles. The ventral surface is provided with a large proximal median tooth, which slopes slightly backwards and is broadly bifid on the posterior surface. The retroventral margin has two large teeth with a small tubercle between them. The proventral margin has two or three minute granules in the basal half. The patella is armed with a short prolateral tooth. The tibia is slightly tuberculate below and has three teeth on each side. The tarsus also is armed with three teeth on each side. The claw is large being nearly half as long as the segment.

The coxae are furnished with numerous small rounded granules on the ventral surface. Coxa I has a large tooth near the middle of the promargin and a broad bifid tooth at the apex. Coxa II is furnished with a small tooth behind the apex and a broad tubercle above. Coxa III has a marginal row of granules in front and behind. Coxa IV is provided with a small tooth in front of the apex and a row of granules along the posterior margin.

The sternum is long and narrow. The genital operculum is small, smooth and rounded in front. It measures 0.51 mm. long and 0.54 mm. wide. The penis has the form shown in fig. 115. The ventral plate is deeply cleft and furnished with three pairs of inferior setae and one pair of superior setae. The distal end of the glans is elongate and laterally compressed. On each side there is a wing-like lateral process.

The respiratory spiracles are large and conspicuous. The free sternites smooth.

The legs unarmed but tuberculate on trochanters, femora, patellae and tibiae. The calcaneus of each metatarsus is conical and much shorter than the astragalus. In leg I the calcaneus is about 1/5 the length of the metatarsus and is not notched below. The number of segments in tarsi I-IV is 5, 15, 4, 4. The distitarsi I and II have two and six segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Locality: The holotype male is the only specimen of the species in the collection. It was found under a decaying log in rain forest at National Park, Tasmania, 28th February, 1952.

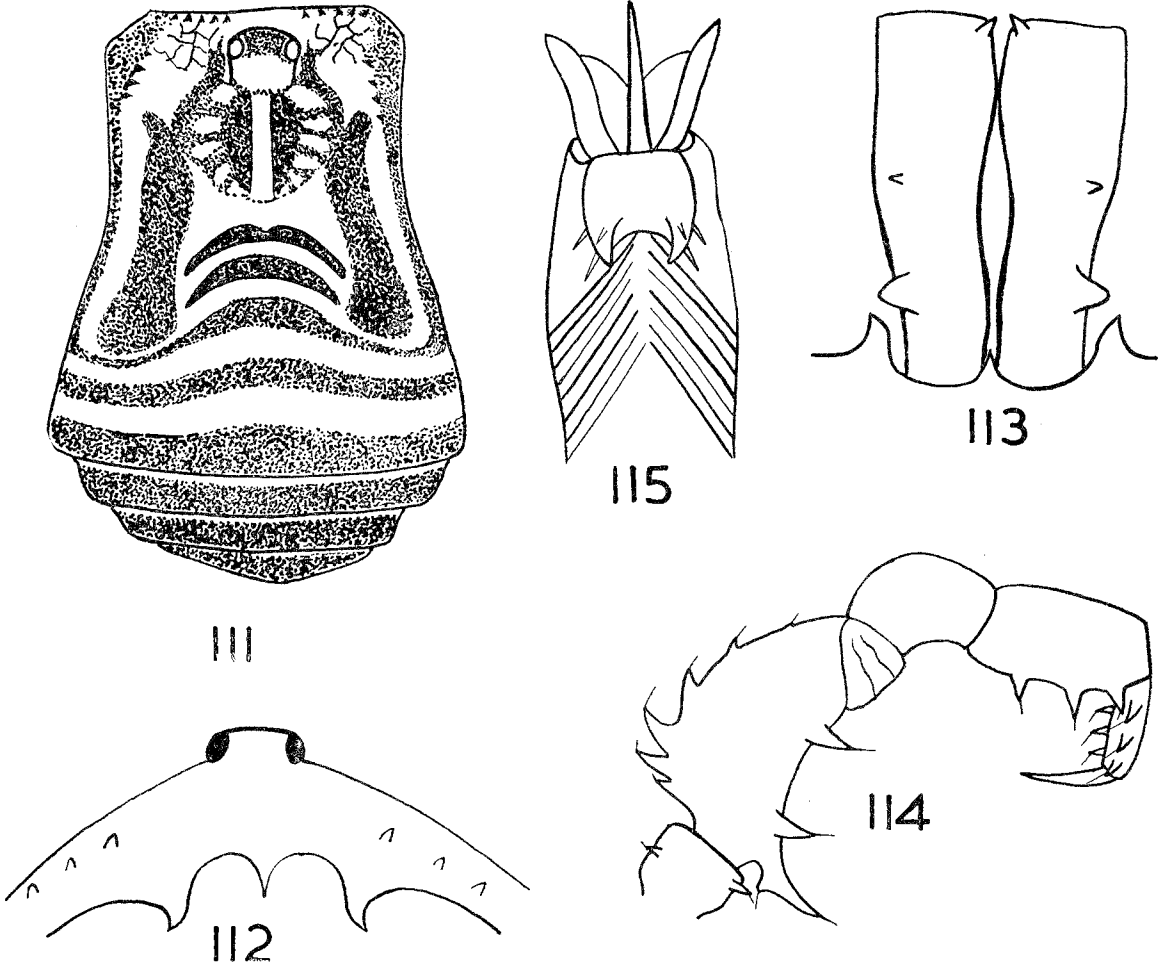


FIG. 111.—Dorsal view of scutum and free tergites of male.
FIG. 112.—Anterior view of eyemound.
FIG. 113.—Dorsal view of first segment of chelicerae of male.

Nuncioides infrequens gen. et sp. n.

FIG. 114.—Retrolateral view of pedipalpus of male.
FIG. 115.—Ventral view of distal part of penis.

NUNCIOIDES DYSMICUS sp. n.

(Figures 116-123)

Holotype Male

Measurements in millimeters: Body-length 4.28, length of scutum 3.83, length of carapace 1.66.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.31	0.51	2.11	0.86	1.54	2.17	1.43	9.93
Leg 2	1.71	0.63	2.74	1.20	2.40	3.08	3.08	14.84
Leg 3	1.43	0.57	1.94	0.91	1.49	2.28	1.60	10.22
Leg 4	1.71	0.74	2.57	1.14	2.06	3.14	1.94	13.30
Pedi-palp	0.80	0.63	2.17	1.14	1.83	...	1.54	8.11

Colour (in alcohol): Scutum dark reddish-brown with dark reticulations each side of the carapace. A pair of longitudinal dark marks is situated between the eyemound and scutal groove. A large dark-brown region on each side of the scutum extends from the carapace almost to the posterior scutal margin. A median dark wedge-shaped area, crossed by a short dark transverse bar on each tergal Area, extends from the scutal groove to the posterior margin of the scutum. The free tergites are dark-brown. Chelicerae and pedipalpi are reddish-brown with dark reticulations. Legs dark-brown speckled with reddish-brown. Coxae reddish-brown. Free sternites dark-brown.

Scutum (fig. 116) unarmed but furnished with a transverse row of six small denticles above the anterior margin on each side. A few denticles are also present on each side in the anterior lateral angles. The eyemound is low, unarmed and situated about its diameter from the front margin (fig. 117). Each tergal Area and free tergite is furnished with a transverse row of small granules but devoid of large tubercles and spines.

Chelicerae large and strong. The first segment (fig. 118) is somewhat narrow and elongate. It measures 1.71 mm. long and has a small prodorsal tooth at the apex. On the retrodorsal margin there is a small denticle near the middle and a large boss at the proximal end. The second segment is 2.00 mm. long and is furnished with a row of four small tubercles along the prodorsal margin.

Pedipalpi (fig. 119) are large and strong. The trochanter has a transverse row of three small denticles above. The dorsal surface of the femur is furnished with a median row of five teeth. The prolateral surface has a conical tooth in the distal half and a row of three small tubercles on the prodorsal margin. The retrolateral surface is furnished with a row of five small granules above the ventral margin. The ventral surface is armed with a large median proximal tooth, which slopes backward and is broadly bifid. The retroventral margin has a row of two large teeth and three small denticles arranged alternately with the teeth. The proventral margin has a row of five granules. The patella is armed on the prolateral side with a tooth and a small tubercle. The tibia is slightly

tuberculate below and has three teeth on each side. The tarsus also has three teeth on each side.

Coxa I (fig. 120) has a large broad bifid tooth at the apex of the promargin and a smaller conical tooth near the middle of the margin. Behind the teeth the ventral surface is furnished with a few small tubercles. Coxa II has several conical tubercles behind the apex and a large broad tubercle above. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV has several conical tubercles in front of the apex and a row of granules along the posterior margin. The ventral surface of all the coxae granulate.

The sternum is long and narrow. The genital operculum is smooth with a rounded margin. It measures 0.40 mm. in length and width. The respiratory spiracles are large and conspicuous.

The legs are unarmed but the trochanters, femora, patellae and tibiae are slightly tuberculate. The calcaneus of each metatarsus is straight and much shorter than the astragalus, that of leg I being about 1/6 the length of the metatarsus. The number of segments in tarsi I-IV is 6, 21L 20R, 4, 4. Distitarsi I and II have two and eight segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

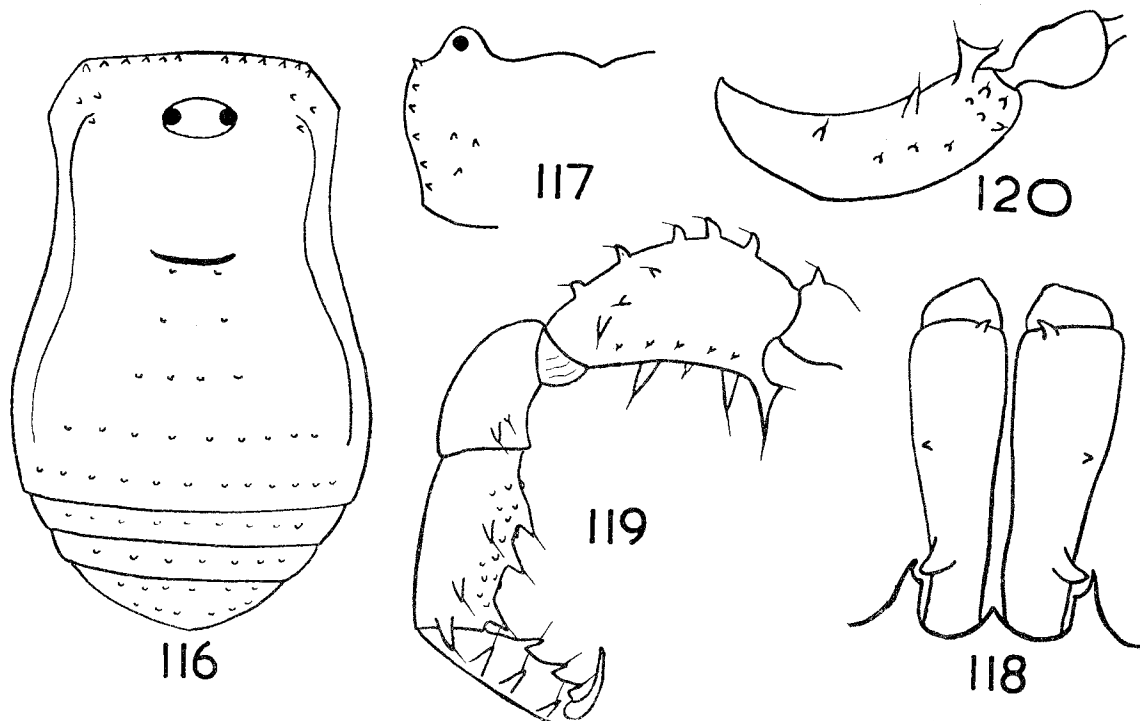
Measurements in millimeters: Body-length 4.85, length of scutum 3.65, length of carapace 1.43.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.14	0.46	1.88	0.80	1.49	1.88	1.26	8.91
Leg 2	1.54	0.57	2.86	1.09	2.28	2.86	3.20	14.40
Leg 3	1.37	0.57	2.00	0.80	1.43	2.23	1.31	9.71
Leg 4	1.60	0.69	2.68	1.03	1.94	3.14	1.71	12.79
Pedi-palp	0.74	0.57	1.71	1.14	1.20	...	1.14	6.50

The female resembles the male in colour and general appearance but does not have the retrodorsal proximal boss on the first segment of the chelicerae. The pedipalpi are smaller than those of the male and the median proximal tooth below the femur is not as large. The genital operculum is smooth and measures 0.57 mm. wide and 0.51 mm. long. The tarsal segmentation: 6, 18L 19R, 4, 4. Distitarsi I and II have two and seven segments respectively.

Locality: The type specimens and one other male were found under decaying logs on the southern side of the Lyell Highway about 25 miles from Queenstown, Tasmania, 23rd May, 1954.

Variations: The second male specimen has the same number of segments in tarsi I-IV as does the holotype, but in distitarsus II there are nine segments on the left and eight on the right side of the body.



Nuncioides dysmicus gen. et sp. n.

FIG. 116.—Dorsal view of scutum and free tergites of male.

FIG. 117.—Lateral view of eyemound.

FIG. 118.—Dorsal view of first segment of chelicerae of male.

FIG. 119.—Prolateral view of pedipalpus of male.

FIG. 120.—Ventral view of left coxa I.

Genus *PARANUNCIA* Roewer, 1914

A row of short conical spines on each side immediately behind the anterior margin of scutum. Eyemound conical and slightly removed from the margin. Tergal Areas I-III each with a pair of spines. Areas IV and V and the free tergites without spines. Legs unarmed. Calcaneus of each metatarsus shorter than the astragalus. In the male the calcaneus of leg I is notched below. Tarsus I has four segments in the male and three in the female. Tarsus II is variable but usually has 9-13 segments. Tarsi III and IV each have four segments. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Paranuncia gigantea* Roewer.

Type Locality: Tasmania.

PARANUNCIA GIGANTEA Roewer

(Figures 121-125)

This large harvestman was first described by Roewer (1914, p. 198). A more detailed account of the species is given by Forster (1949, p. 75), who states, however, both in the definition of the genus and in the description of the species, that the calcaneus of leg IV of the male is notched below. This is an error. It is the calcaneus of leg I and not of leg IV that is notched.

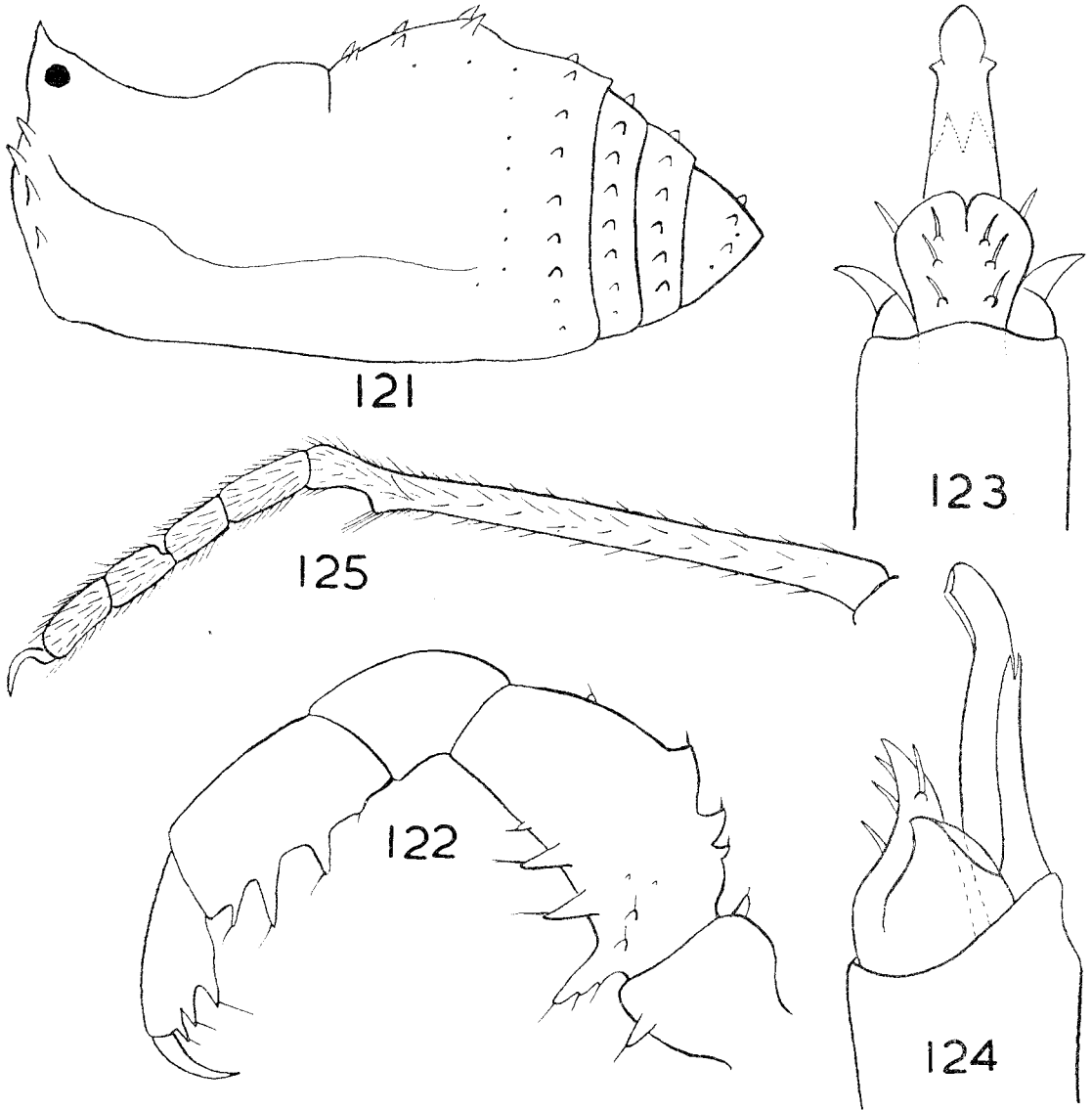
The collection before me contains over a hundred specimens of the harvestman and it is therefore possible to add some further details to existing descriptions.

The form of the penis is shown in figs. 123 and 124. The ventral plate is rounded in front but has a short median cleft. It is furnished with three pairs of inferior and one pair of superior setae. The dorsolateral plates are small. The glans is elongate and slightly curved at the distal end. A long narrow bifid process is closely applied to the dorsal surface of the glans in the proximal three-fifths.

Localities: The collection contains specimens of *Paranuncia gigantea* from Quamby Bluff, Western Creek, Wilmot, Forth Falls, Westmorland Falls, Liffey Falls, Lake St. Clair, Fern Glade at Burnie, Hellyer Gorge, Parrawe and Corinna. It will be noticed that the localities mentioned are all in the north-west quarter of Tasmania. The harvestman occurs in rain-forest areas having such vegetation as *Notofagus*, *Atherosperma* and *Dicksonia* and is usually found under decaying logs. Although the species has been searched for in similar environments in the north-east and south-east of the State, it has not been encountered. No collecting has as yet been carried out in the south-west quarter.

Variations: The collection contains 47 males and 64 females. The males vary in body-length from 5.22-8.70 and females from 6.26-10.01 mm. Tarsus I (fig. 125) has four segments in all the males and three in all the females. The number of segments in tarsus II varies from 9-13 in males and 8-12 in females. One abnormal male has only five segments in the left tarsus II but nine in the right. Tarsi III and IV each have four segments

in all specimens. Distitarsi I and II have two and three segments respectively in both sexes. Many specimens are asymmetrical in the number of segments occurring in tarsus II on left and right sides of the body. (See Table 10.) One very asymmetrical female has 11 segments in tarsus II on the left and only four on the right. The right appendage does not appear to have been injured in any way.



Paranuncia gigantea Roewer.

FIG. 121.—Lateral view of scutum and free tergites of male.
FIG. 122.—Retrolateral view of pedipalpus of male.
FIG. 123.—Ventral view of distal part of penis.

FIG. 124.—Lateral view of distal parts of penis.
FIG. 125.—Metatarsus and tarsus of leg I of male.

Table 10

ODONTONUNCIA SALTUENSIS sp. n.

(Figures 126-131)

Number of specimens	Sex	Number of segments in tarsus II	
1	♂	5L	9R
4	♂		9
1	♂	9L	10R
1	♂	10L	9R
8	♂		10
6	♂	10L	11R
1	♂	10L	12R
1	♂	10L	13R
2	♂	11L	9R
6	♂	11L	10R
7	♂		11
1	♂	11L	13R
1	♂	12L	7R
6	♂	12L	11R
1	♂	13L	12R
3	♀	8L	9R
12	♀		9
8	♀	9L	10R
2	♀	9L	11R
11	♀	10L	9R
11	♀		10
4	♀	10L	11R
1	♀	10L	12R
1	♀	11L	4R
1	♀	11L	9R
3	♀	11L	10R
6	♀		11
1	♀		12

Genus ODONTONUNCIA gen. n.

Eyemound situated slightly behind the anterior margin. It is low and broad, but armed above with a small recurved spine. The front margin of the carapace is furnished above on each side with a transverse row of four denticles. Tergal grooves faintly marked. Tergal Area III with a median pair of small teeth, other tergal Areas and the free tergites each with a transverse row of granules, but without spines and large tubercles. First segment of the chelicerae in the male without a proximal retrodorsal boss. The pedipalpus of both sexes with a large bifid median tooth below the base of the femur. Sternum long and narrow. Legs unarmed but tuberculate below the femora. Calcaneus of each metatarsus conical and straight, much shorter than the astragalus. Calcaneus of leg I of male not notched below. Tarsus I has four segments in males and 3-4 in females. Tarsus II has 8-13 segments. Tarsi III and IV each have four segments. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Odontonuncia saltuensis* sp. n.

Type Locality: Goulds Country, Tasmania.

The genus *Odontonuncia* shows some affinity with *Paranuncia* Roewer. However, it differs from the latter genus in the shape of the eyemound, the spination of the tergal Areas and the form of the calcaneus in leg I of the male.

Holotype Male

Measurements in millimeters: Body-length 7.65, length of scutum 5.82, length of carapace 2.86.

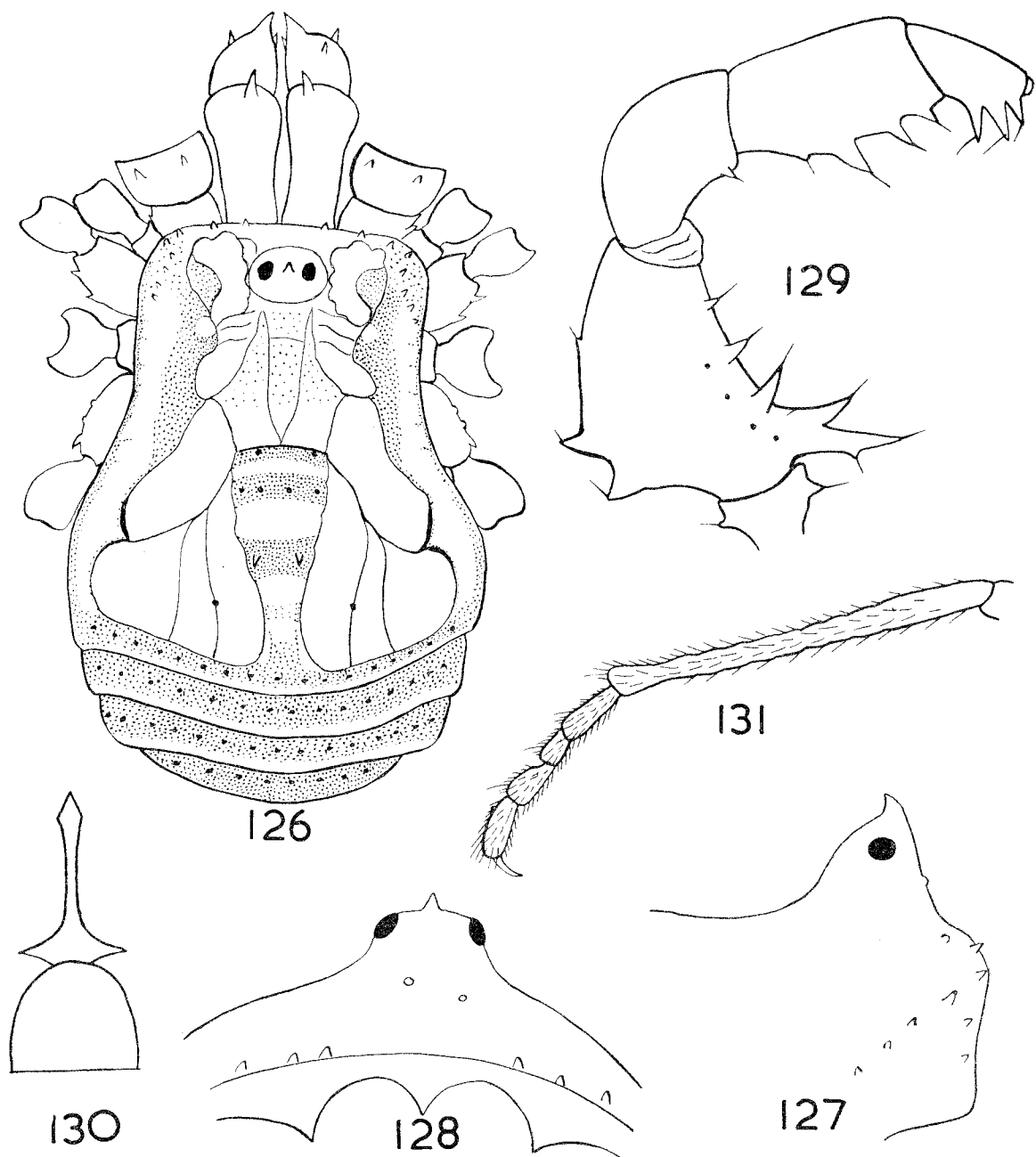
	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.77	0.86	3.26	1.43	2.57	3.08	1.66	14.63
Leg 2	2.86	1.03	4.57	1.71	3.88	4.85	3.60	22.50
Leg 3	2.51	1.03	3.14	1.49	2.40	3.71	2.11	16.39
Leg 4	3.03	1.14	4.40	1.71	3.14	5.60	2.46	21.48
Pedi-								
palp	1.31	1.14	3.43	2.46	2.28		2.17	12.79

Colour (in alcohol): Scutum dark reddish-brown with a large saddle-shaped region of lighter brown on the posterior half. The median tergal region is crossed by a series of short dark bars, one on each of the Areas I-IV. The free tergites and Area V are dark-brown. Appendages reddish-brown with dark reticulations. Ventral surface of body light reddish-brown.

Carapace (fig. 126) furnished with a transverse row of four denticles above the anterior margin on each side, and an oblique row of four denticles across the antero-lateral angles. The eyemound (figs. 127 and 128) is set back from the front margin by a distance equal to about half its diameter. It is somewhat low and broad and is armed above by a small recurved spine. Tergal Area I is furnished with a median pair of granules. Area II with a transverse row of four granules. Area III with a median pair of small conical teeth and Area IV with a pair of widely spaced granules. Area V and each free tergite has a transverse row of granules extending from side to side. Tergal grooves faintly marked.

Chelicerae strong. The first segment is somewhat elongate and measures 2.11 mm. in length. It has a single median apical tooth on the dorsal side but is without a retrodorsal proximal boss. The second segment measures 3.31 mm. long and has two large teeth on the prodorsal margin and three much smaller teeth in a median dorsal row.

Pedipalpi (fig. 129) very robust and powerful. Trochanter armed with a small tooth below and two denticles above. On the dorsal side of the femur there is a median row of three teeth, the first two of which are large and in the proximal half, the third small and in the distal half. On the pro-lateral side there is a row of four small teeth along the prodorsal margin and two larger teeth below near the apex. On the retrolateral side there is a row of four granules above the ventral margin in the proximal half. On the ventral side the femur is armed with a very large bifid median proximal tooth, which is set somewhat obliquely. The posterior prong of the tooth has a small accessory spine behind and also another on its mesial surface. The retroventral margin is armed with two large teeth. The proventral margin is without teeth but has a row of small granules. The patella has two large pro-lateral teeth and a small retro-lateral denticle. The tibia is armed with a pro-lateral row of three teeth, the first two of which are large and about equal in size, the third much smaller. On the retrolateral side there is a row of four teeth, the second and third being larger than



Odontonuncia saltuensis gen. et sp. n.

FIG. 126.—Dorsal view of scutum and free tergites of male.

FIG. 127.—Lateral view of eyemound.

FIG. 128.—Anterior view of eyemound.

FIG. 129.—Retrolateral view of pedipalpus of male.

FIG. 130.—Sternum and genital operculum of male.

FIG. 131.—Metatarsus and tarsus of leg I of male.

the first and fourth. The tarsus has three teeth on each side. The claw is long and well curved.

Coxa I with a promarginal row of three teeth, the apical tooth being bifid, the middle tooth the largest and sloping inwards, the basal tooth the smallest. Coxa II has three small teeth behind the apex. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV has a single tooth and several small tubercles in front of the apex and a row of four granules on the posterior margin opposite the respiratory spiracle.

Sternum (fig. 130) is long and narrow. The genital operculum measures 0.70 mm. long and 0.81 mm. wide. It has a smooth rounded margin, which is rebordered in front.

The free sternites without tubercles but furnished with a transverse row of hairs. Respiratory spiracles not concealed by fourth coxae.

The legs are unarmed but slightly tuberculate below the femora. The calcaneus of each metatarsus straight, conical and much shorter than the astragalus (fig. 131). All metatarsi have a series of ring-like false segments. The number of segments in Tarsi I-IV is 4, 13L 12R, 4, 4. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.83	0.69	2.68	1.14	2.23	2.86	1.60	13.03
Leg 2	2.57	0.74	3.88	1.49	3.14	4.23	3.43	19.48
Leg 3	2.17	0.74	2.86	1.20	2.11	3.37	1.88	14.33
Leg 4	2.68	0.97	3.77	1.31	2.86	5.14	2.00	18.73
Pedi-palp	1.14	0.86	2.46	1.71	1.71	.....	1.71	9.59

The female resembles the male in colouration except that the light-brown saddle-shaped region is replaced by dark-brown. The part of the scutum between eyemound and the scutal furrow is light-brown.

The pedipalpi are smaller than in the male. The proximal ventral tooth of the femur is not as robust as that of the male but has the same general form. The legs are slightly shorter than those of the male and the tarsal segmentation is 4, 10L 11R, 4, 4.

Locality: The type specimens were collected under fallen decaying logs in *Notofagus* forest at Gould's Country, 26th August, 1953. Other specimens were found in the neighbouring area of Weldborough Pass.

Variations: The collection contains five males and six females. The males vary in body-length from 6.90-8.06 and females from 5.92-6.84 mm. In the males the number of segments in tarsus I is 4; in the females it varies from 3-4. Tarsus II has 8-13 segments in the males and 9-11 in the females. Much asymmetry is present in both sexes, 9 of the 11 specimens differing in the number of segments in tarsus II on left and right sides of the body.

R.S.—4.

Genus *CALLIHAMUS* Roewer, 1931

Eyemound rising directly from the anterior margin of the carapace, conical with rounded apex and armed above in front with a small spine or hook. Front margin of carapace without large spines and not marked off by a transverse groove. Tergal Areas and free tergites unarmed. Legs unarmed or merely provided with blunt tubercles. Calcaneus of each metatarsus shorter than the astragalus. That of leg I in the male not notched below. Tarsal segmentation: 3, 5, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Callihamus badius* Roewer.

Type Locality: Near Melbourne, Victoria.

Roewer (1931, p. 161) assigns two species to the genus, namely the genotype from Victoria and *Callihamus inermis* Roewer from Tasmania. The description of the Tasmanian species is based on a single male collected near Hobart. *Callihamus inermis* appears to be rare, since among the numerous harvestmen in the present collection there is only one specimen. This happens to be an adult female and is described below.

CALLIHAMUS INERMIS Roewer.

(Figures 132-135)

Allotype Female

Measurements in millimeters: Body-length 3.31, length of scutum 2.74, length of carapace 1.03.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.46	0.23	1.09	0.46	0.86	0.91	0.63	4.64
Leg 2	0.91	0.34	1.49	0.63	1.26	1.43	1.03	7.09
Leg 3	0.80	0.34	1.09	0.51	0.86	1.20	0.69	5.49
Leg 4	1.14	0.40	1.49	0.69	1.26	1.71	0.86	7.55
Pedi-palp	0.34	0.23	0.80	0.51	0.57	.....	0.57	3.02

Colour (in alcohol): Dorsal surface of body dark-brown with yellowish-brown markings as shown in fig. 132. Chelicerae and pedipalpi yellowish-brown with dark reticulations faintly marked. Legs dark-brown with the distal half of femora, patellae and tibiae light-brown. Coxae light-brown with dark distal ends. Free sternites reddish-brown with broken dark-brown markings medianly and laterally.

Scutum finely shagreened and without tubercles and spines except for a small denticle on the anterior lateral angles. A rounded lobe is situated on the lateral margin of the scutum above the opening of the odoriferous gland on each side. The eyemound is conical and rises directly from the front margin. It is rounded at the apex and armed above in front with a short spine, which is inclined forward (fig. 133). The scutal groove is distinct medianly; the other tergal grooves faintly marked. There is a transverse row of small hairs on each tergal Area and free tergite.

Chelicerae unarmed. The first segment measures 0.46 mm. and the second 0.80 mm. in length.

Pedipalpi (fig. 134) almost unarmed. Trochanter has a small tubercle below. The femur is smooth on dorsal and retrolateral surfaces. The prolateral surface is furnished with a seta in the distal half. The ventral surface has a small median proximal tubercle with a long seta. The retroventral margin is furnished with two minute tubercles. The proventral margin is smooth. The patella is unarmed. The tibia is furnished with a seta on each side in the distal half. The tarsus has three setae on each side.

Coxae are finely shagreened. Coxa I is without sharp spines but has a small slightly bifid blunt tubercle at the apex of the promargin and a few blunt tubercles on the ventral surface. Coxa II with several small tubercles behind the apex and a broad tubercle above. Coxa III with a row of three granules at the distal end of the promargin and about seven along the retromargin. Coxa IV with a few granules in front of the apex and a row of granules along the posterior margin.

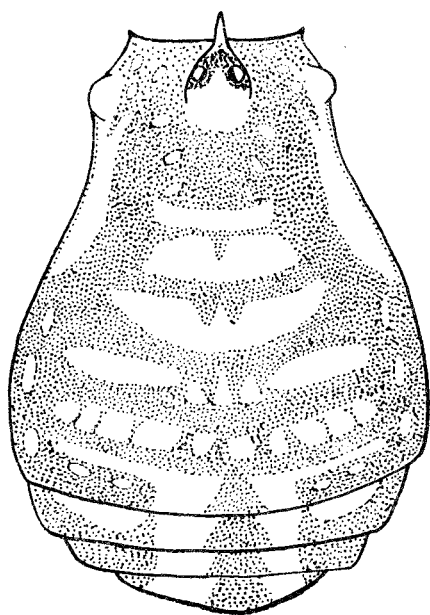
Sternum (fig. 135) long and narrow, not widely crescentic posteriorly. Genital operculum large,

triangular and smooth. It measures 0.51 mm. long and 0.57 mm. wide. The respiratory spiracles are conspicuous and well removed from the posterior margin of the fourth coxae.

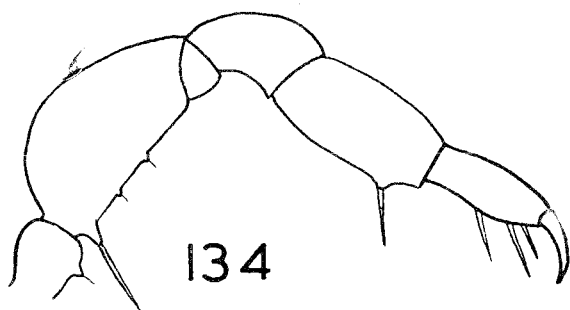
The legs are unarmed but the femora slightly tuberculate below. Calcanei small and knob-like, showing little differentiation. The number of segments in tarsi I-IV is 3, 5, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Locality: The single specimen was found at Surprise Valley, Lyell Highway, Tasmania, 23rd May, 1954.

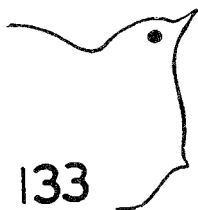
The female agrees very closely with Roewer's description of the male, except that it has a larger spine on the eyemound. From the figure that Roewer gives, it appears that the pedipalpi of the male are more robust than those of the female.



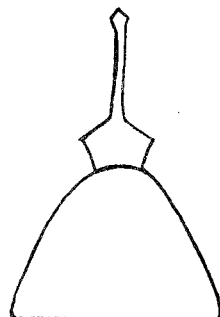
132



134



133



135

..... *Callihamus inermis* Roewer.

FIG. 132.—Dorsal view of scutum and free tergites of female.
FIG. 133.—Lateral view of eyemound.

FIG. 134.—Retrolateral view of pedipalpus of female.
FIG. 135.—Sternum and genital operculum of female.

Genus **CALLIUNCUS** Roewer, 1931

Eyemound rising directly from the unarmed anterior margin, conical, rounded at the apex and armed above in front with a small spine. Scutum and free tergites without spines and tubercles. Tergal Areas not defined by grooves. Proximal ventral tooth on femur of pedipalpus in the male bifid. Legs unarmed but a few tubercles may be present on the femora. Calcaneus of each metatarsus straight, conical and much shorter than astragalus. Tarsal segmentation: 3, 6-9, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Calliuncus ferrugineus* Roewer.

Type Locality: Perth, Western Australia.

Two species belonging to the genus *Calliuncus* have been previously described, namely, the genotype from Western Australia and *Calliuncus ehippiatus* Roewer from Victoria. Two new species from Tasmania are described in the present paper. The four may be distinguished by the following key.

KEY TO SPECIES IN THE GENUS *CALLIUNCUS*

- 1. Patella of pedipalp with a prolateral spine *C. ehippiatus* Roewer.
- Patella of pedipalp without a prolateral spine 2
- 2. Femur II with two distal retroventral teeth *C. glaber* sp. n.
- Femur II without teeth 3
- 3. Tibia of pedipalp with four prolateral teeth *C. ferrugineus* Roewer.
- Tibia of pedipalp with two prolateral teeth *C. odoratus* sp. n.

CALLIUNCUS ODORATUS sp. n.

(Figures 136-138)

Holotype Male

Measurements in millimeters: Body-length 3.36, length of scutum 2.63, length of carapace 1.31.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.34	1.14	0.63	0.86	1.14	0.74	5.71
Leg 2	1.03	0.40	1.66	0.74	1.26	1.54	1.49	8.12
Leg 3	0.91	0.34	1.14	0.51	0.80	1.03	0.91	5.64
Leg 4	1.08	0.51	1.54	0.86	1.26	1.71	1.08	8.04
Pedi-palp	0.46	0.34	1.14	0.74	0.80	.....	0.36	4.34

Color (in alcohol): Carapace yellowish-brown with dark-brown reticulations. Behind the carapace is a yellow saddle-shaped area the sides of which extend posteriorly to Area IV. Between and behind the posterior lobes of the saddle-shaped region the scutum is dark-brown marked with a pair of yellowish spots or transverse bars on Areas II-IV and a transverse row of yellowish spots on Area V. On either side of the saddle-shaped region is a large dark-brown patch, below which is a broad yellowish stripe, continuous posteriorly with a row of three or four large yellowish spots in the posterior lateral corners of the scutum. Chelicerae yellowish with dark reticulations. Pedipalpi yellowish with dark reticulations on the femora and tibiae. Coxae yellowish-brown with darker markings. Sternites and tergites dark-brown with

yellowish posterior margins. Legs dark-brown with yellow trochanters and yellow spots on femora, patellae and tibiae.

Scutum finely granular; without spines and tubercles. Eyemound low, broadly conical, rising slightly behind the front margin, vertical anteriorly and surmounted in front by a small spine or hook (fig. 136). Scutal groove distinct medianly. Tergal grooves indistinct except that between Areas IV and V. Free tergites without spines and tubercles.

Chelicerae with a median dorsal apical spine and a small retrolateral basal tubercle on the first segment. Three promarginal tubercles on the dorsal side of the second segment, the middle one being the largest. First segment measures 0.74 mm. long and the second 1.14 mm.

Pedipalpi (fig. 137) longer than body. Trochanter with a small tubercle above and below. Femur with a row of three dorsal teeth in the proximal half, a single small prolateral tooth in the distal half, no retrolateral teeth, and a row of three ventral teeth. The proximal tooth in the ventral row is directed backwards and has a broad obliquely truncated apex. Patella with a small ventral

tubercle but no spines on either side. Tibia somewhat swollen in the proximal half and has three teeth on the retrolateral side and a small tubercle together with two teeth on the prolateral side. The tarsus is somewhat slender and has three teeth on each side.

Coxa I with two promarginal tubercles of moderate size, one at the apex, the other near the middle. Coxa II with a few small tubercles behind the apex. Coxa III with a marginal row of granules in front and behind in the distal half. Coxa IV with a small tooth in front of and behind the apex, also a few small tubercles in front of the apex and a marginal row of granules behind the coxa. Genital operculum smooth, 0.46 mm. wide and 0.40 mm. long. The penis in the partly extended condition has the form shown in fig. 138. The basal plate is wide and has a short cleft in the middle of the free margin. It is provided with three pairs of inferior and one pair of superior setae. The lateral processes are curved and have a few small denticles at the apex. The distal part of the glans is laterally compressed and ends in a sharp point. It is partly covered by a wide hood which is bifid distally. The sternites are smooth. The respiratory spiracles are small but not concealed. They are situated close behind coxae IV.

Legs are without spines but the femora have a few small tubercles. Calcanei much shorter than the astragali. Tarsal segmentation: 3, 6, 4, 4. Distitarsi I and II with two and three segments respectively.

Allotype Female

Measurements in millimeters: Body-length 3.71, length of scutum 2.74, length of carapace 1.31.

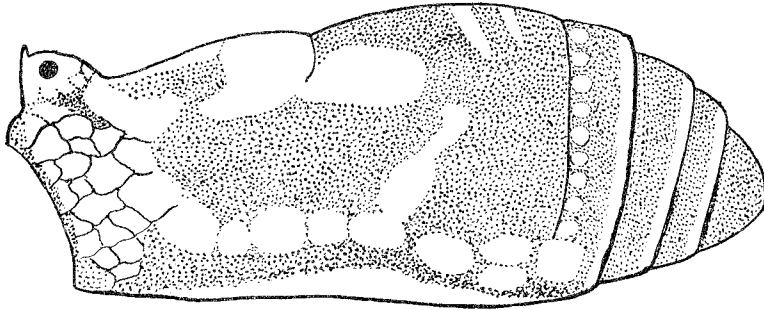
	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.63	0.29	1.14	0.57	0.36	0.97	0.74	5.25
Leg 2	0.97	0.34	1.54	0.74	1.14	1.37	1.43	7.53
Leg 3	0.91	0.40	0.97	0.57	0.80	0.97	0.80	5.42
Leg 4	1.03	0.46	1.43	0.74	1.20	1.60	0.97	7.43
Pedi-palp	0.45	0.34	0.97	0.63	0.74	.....	0.80	3.93

The female resembles the male but the pedipalpi are somewhat smaller and the proximal ventral tooth on the femur is sharper. The genital operculum is 0.51 mm. wide and 0.40 mm. long. The tarsal segmentation is the same as that of the male.

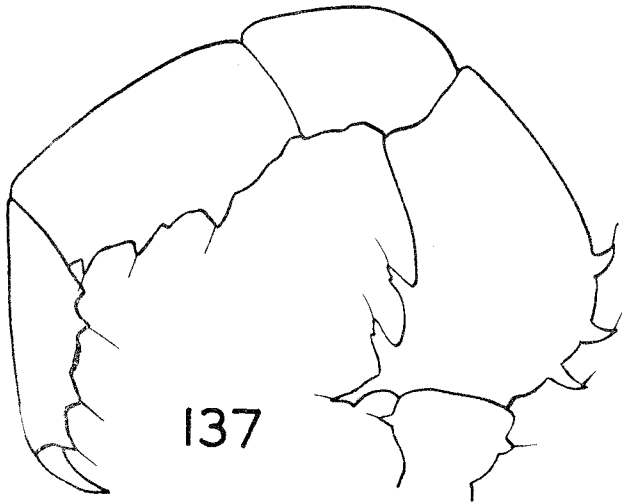
Localities: The type specimens were collected at Fern Tree, Mount Wellington, Tasmania, 27th April, 1950. The species is also found in the Arve Forest

at Geeveston, and at National Park, Fern Glade at Burnie, and Hellyer Gorge. Specimens have been collected from leaf-mould, from moss, amongst fallen leaves, under stones and under decaying logs.

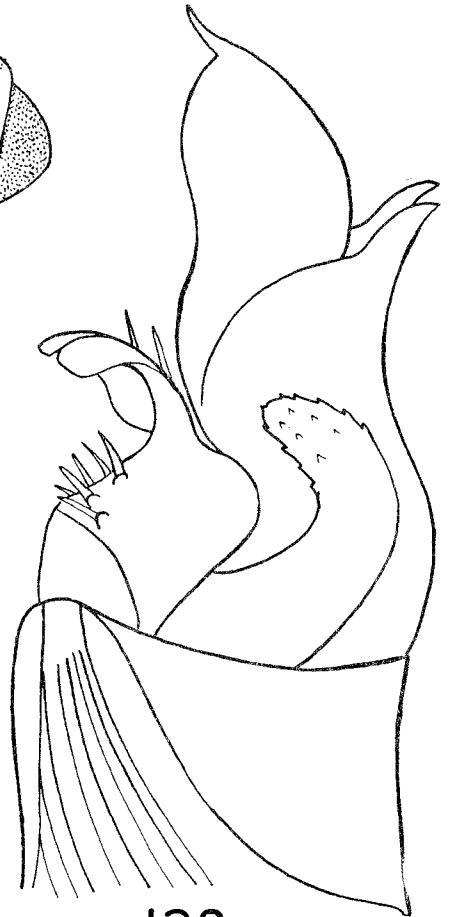
Variations: The collection contains 20 males and 16 females. The males vary in body-length from 2.38-3.65 and the females from 2.84-3.77 mm. They all have the same tarsal formula: 3, 6, 4, 4, and exhibit no variation or asymmetry in the tarsal segmentation. In colouration and markings, however, the males show much variation. In some the saddle-shaped area on the scutum extends to the posterior margin of the scutum and there is a dark-brown club-shaped median mark, which has a broad concave anterior end immediately behind the scutal groove. Towards the posterior the mark gradually narrows to a median band, which is continued onto the free tergites.



136



137



138

Calliuncus odoratus sp. n.

FIG. 136.—Lateral view of scutum and free tergites of male.

FIG. 138.—Lateral view of distal part of penis.

FIG. 137.—Retrolateral view of pedipalpus of male.

CALLIUNCUS GLABER sp. n.

(Figures 139-144)

Holotype Male

Measurements in millimeters: Body-length 4.80, length of scutum 3.71, length of carapace 1.88.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.03	0.46	1.77	0.86	1.31	1.65	1.14	8.22
Leg 2	1.49	0.57	2.51	1.08	1.88	2.40	2.28	12.21
Leg 3	1.31	0.57	1.54	0.74	1.20	1.66	1.43	8.45
Leg 4	1.71	0.68	2.11	1.03	1.71	2.51	1.65	11.40
Pedi-palp	0.68	0.51	1.94	1.14	1.54	...	1.26	7.07

Colour (in alcohol): Scutum yellow with brown markings as indicated on fig. 139. Carapace with dark reticulations on each side and behind the eyemound. Free tergites yellowish-brown with dark median and lateral patches. Chelicerae and pedipalpi yellowish with dark reticulations. Legs mainly dark-brown speckled with yellow. Coxae yellow with dark-brown reticulations. A median yellowish band extends from mouth to anus. On each side of the median yellow band the sternites are dark-brown and intersected by another longitudinal yellow band.

Scutum finely shagreened but without granules, tubercles or spines. The scutal groove is present medianly and the fifth tergal groove faintly indicated. The other grooves are absent. The eyemound is small, conical and rising directly from the front margin. Anteriorly above it is furnished with a small pointed spine (fig. 139). Free tergites shagreened but without granules, tubercles or spines.

Chelicerae moderately strong. First segment is 1.31 mm. long and armed at the apex with a small prodorsal spine. A small proximal boss is present on the retrodorsal margin. The second segment is 1.66 mm. long and armed with a sharp tooth near the middle of the prodorsal margin.

Pedipalpi (fig. 140) strong. Trochanter has a small tubercle above and below near the retrolateral side. The femur is armed with a median dorsal row of three small teeth in the proximal half. The prolateral surface has two small blunt tubercles below in the distal half and a third one above the middle. The retrolateral surface is smooth. The ventral surface is armed with a large median proximal tooth, which is broadly bifid and directed backwards. The retroventral margin has a row of three teeth, of which the second is much smaller than the other two. The proventral margin is furnished with a row of granules. The patella has a small granule on each side. The tibia is slightly granulate below. On the prolateral side there are two teeth in the distal half, and on the retrolateral side a row of three small tubercles. The tarsus is furnished with three small teeth on each side. The claw is about $\frac{1}{3}$ the length of the segment.

Coxa I has a small bifid tooth at the apex of the promargin and another short blunt tooth near the middle of the ventral surface. Coxa II has a small blunt tooth behind the apex and a few granules on the ventral and posterior surfaces in the distal third. Coxa III is furnished with a marginal row of granules in front and behind.

Coxa IV is armed with a blunt tooth in front of and another behind the apex. The posterior margin is furnished with a row of granules. The ventral surface of each coxa is more or less granular and shagreened.

The sternum is narrow and elongate. The genital operculum has a rounded and smooth margin and measures 0.51 mm. long by 0.57 mm. wide. The form of the penis is shown in fig. 141. The ventral plate is deeply cleft and furnished with three pairs of inferior and one pair of superior setae. On each side of the base of the ventral plate is a leaf-shaped rugose lateral process. The glans ends in a hook-shaped structure, which is bent dorsally and protected by a laterally compressed hood or sheath. Above the glans is a narrow bifid dorsal process and on each side a somewhat rough bilobed apophysis.

Each free sternite is smooth and provided with a double row of short hairs. The respiratory spiracles are moderately large and not concealed by the fourth coxae.

The legs are short and stout. Trochanters and femora are somewhat granulate. Femur II (fig. 142) is furnished with two blunt retroventral teeth near the apex. Femur III (fig. 143) has a retroventral row of tubercles, the distal tubercle being tooth-like. Femur IV has a proventral row of tubercles, the distal one also being tooth-like. All calcanei are straight, conical and much shorter than the astragali (fig. 144). Tarsal segmentation: 3, 8, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

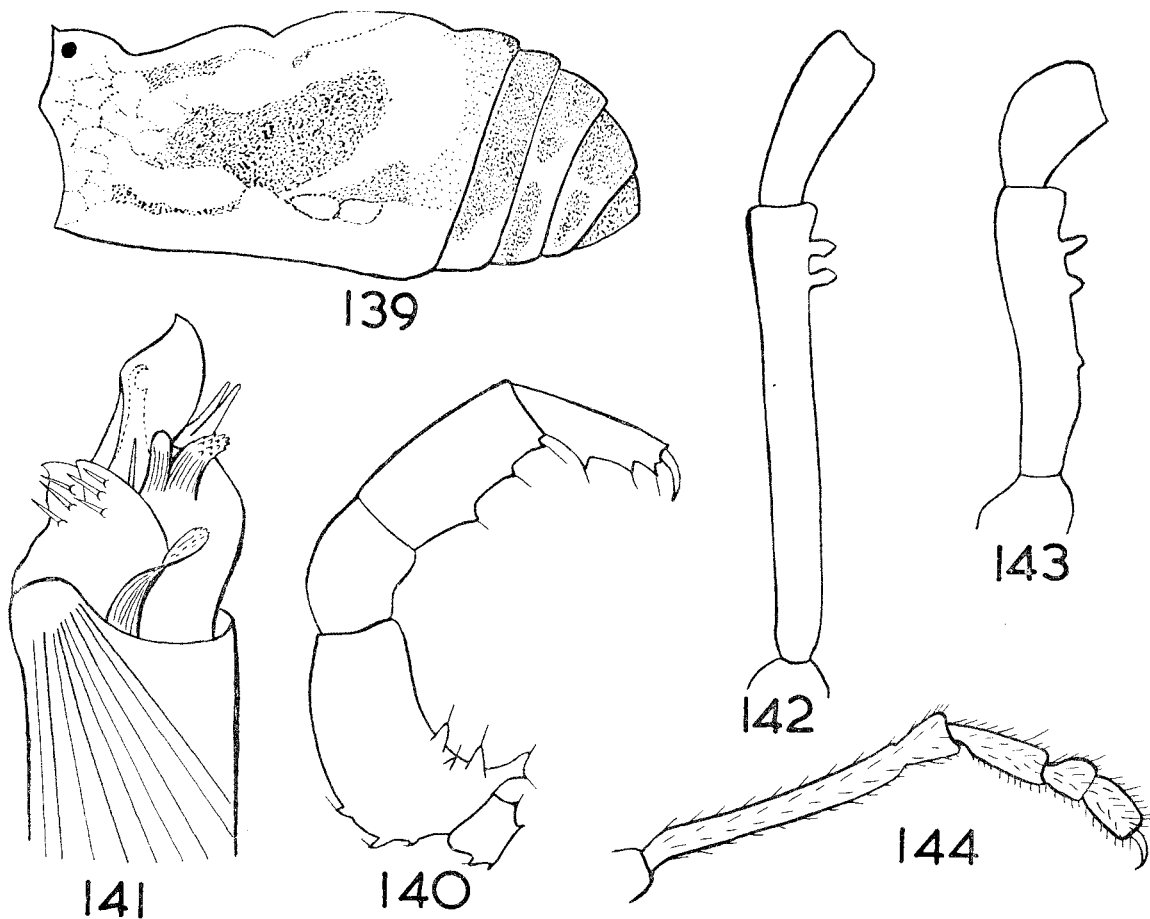
Allotype Female

Measurements in millimeters: Body-length 3.43, length of scutum 3.37, length of carapace 1.71.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.40	1.43	0.74	1.08	1.43	1.03	6.97
Leg 2	1.31	0.46	2.00	0.86	1.54	1.83	1.88	9.88
Leg 3	1.14	0.46	1.25	0.68	0.97	1.25	1.14	6.89
Leg 4	1.43	0.57	1.77	0.91	1.48	2.11	1.31	9.58
Pedi-palp	0.85	0.45	1.31	0.86	1.03	...	1.14	5.64

The female resembles the male in general features but the colouration is somewhat darker. The dorsal scutum has a median dark-brown band which extends backwards from the scutal groove and is continued over the free tergites to the posterior end of the body. On tergal Areas I-III the median band is crossed by a dark-brown chevron. The pedipalpi are not much smaller than those of the male. The proximal median ventral tooth on the femur resembles that of the male but is somewhat smaller. There are only two teeth on the retroventral margin and these are more widely spaced than in the male. The female lacks the prominent distal retroventral teeth, which are present on femora II and III of the male and also the proventral teeth on femur IV.

Localities: The type specimens were collected at National Park, Tasmania, 29th August, 1951. The species also occurs at Liffey Falls, Tarraleah and Lake St. Clair. It is found under decaying logs. Adult specimens may be collected during both winter and summer.



Callinuncus glaber sp. n.

FIG. 139.—Lateral view of scutum and free tergites of male.
 FIG. 140.—Retrolateral view of pedipalpus of male.
 FIG. 141.—Ventrolateral view of distal part of penis.

FIG. 142.—Femur and patella of leg II of male.
 FIG. 143.—Femur and patella of leg III of male.
 FIG. 144.—Metatarsus and tarsus of leg I of male.

Variations: The collection contains 43 males and 33 females. The males vary in body-length from 3.13-4.64 and the females from 3.48-5.05 mm. Tarsi I, III and IV have 3, 4, 4 segments respectively in all specimens. The variations in the number of segments in tarsus II is shown in Table 11.

Table 11

Number of specimens	Sex	Number of segments in tarsus II	
12	♂	7	
5	♂	7L	8R
10	♂	8L	7R
12	♂	8	
2	♂	8L	9R
2	♂	9L	8R
2	♀	7L	6R
20	♀	7	
5	♀	7L	8R
1	♀	8	
5	♀	8L	7R

Genus **NUCINA** gen. n.

Eyemound conical, rising from near the front margin and armed above with a short spine or horn. Anterior margin of carapace with a transverse row of four denticles above on each side. Tergal grooves indistinct. A median pair of short spines is present on tergal Areas III and IV. A transverse row of granules or small tubercles on Area V and each free tergite. Chelicerae of male without a proximal retrodorsal boss on the first segment. Median proximal tooth below femur of the pedipalpus in the male not broadly bifid. The calcaneus of each metatarsus much shorter than astragalus. Calcaneus of leg I of male not notched below. Tarsus I with four segments in the male and three in the female. Tarsus II with 8-15 segments in the male and 8-13 in the female. Tarsi III and IV each with four segments in both sexes. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Nucina silvestris* sp. n.

Type Locality: Tarraleah, Tasmania.

The genus *Nucina* is near *Monacanthobunus* Røewer but differs in the calcaneus of leg I of the male being straight and not notched below. In addition to the genotype one other species, *Nucina dispar* sp. n. is placed in the genus. The two species may be distinguished as follows:—

Tergal Area II with a median pair of spines
N. silvestris sp. n.

Tergal Area II without spines *N. dispar* sp. n.

NUCINA SILVESTRIS sp. n.

(Figures 145-148)

Holotype Male

Measurements in millimeters: Body-length 3.65, length of scutum 2.97, length of carapace 1.48.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.85	0.34	1.43	0.68	1.14	1.54	1.09	7.07
Leg 2	1.14	0.46	2.06	0.86	1.71	2.06	2.51	10.80
Leg 3	1.03	0.40	1.31	0.74	1.14	1.48	1.14	7.24
Leg 4	1.20	0.51	1.94	0.86	1.54	2.40	1.37	9.82
Pedi- palp	0.57	0.40	1.66	0.91	1.54	...	0.97	6.05

Colour (in alcohol): Dorsal scutum yellowish-brown with dark-brown markings as shown in fig. 145. A large light coloured saddle-shaped region covers the posterior two thirds of the scutum. Between the two lobes of the saddle-shaped region is a median wedge-shaped mark composed of four short dark bars, one on each of the tergal Areas I-IV. The bars decrease in width posteriorly. Free tergites each with a transverse row of yellowish spots. Chelicerae yellow with dark reticulations. Pedipalpi yellow with dark reticulations on femora and tibiae, the patellae and tarsi being mainly yellow. Coxae yellowish with dark-brown markings especially on the distal third. Free sternites yellow with dark-brown laterally and a median dark-brown stripe extending posteriorly to the anus. Legs dark-brown speckled with yellow on femora, patellae and tibiae.

Dorsal scutum very finely shagreened. A row of four small granules on each side above anterior margin. The third granule from the eyemound is enlarged to form a small denticle. Scutal groove and tergal grooves faintly marked medially. Each tergal Area is provided with a transverse row of granules. The rows of Areas I-IV are short and a pair of granules on Areas II-IV and within the median wedge-shaped mark are replaced by a pair of small spines. Area V and each free tergite has a transverse row of granules. The eyemound is conical and surmounted by a short horn or spine (fig. 145). It is set back from the front margin by a distance equal to about half its basal diameter.

Chelicerae moderately strong. The first segment measures 0.74 mm. in length and has a very small tubercle on the dorsal side at the apex. The second segment measures 1.20 mm. long. It is provided with a blunt tubercle and a sharp spine on the inner side of the frontal surface and in the distal half.

Pedipalp (fig. 146) large and strong. Trochanter with a small tooth above and a larger one below. Femur with a median dorsal row of three teeth in the proximal half, the second tooth being the largest. The prolateral surface has a row of three rounded tubercles above and a single small tubercle below near the apex. The ventral side has a large proximal tooth, which is provided with a blunt accessory tooth on its inner surface. The proventral margin is furnished with a row of about four small rounded tubercles, and the retroventral margin with three teeth, the first being the largest. Patella smooth and unarmed. Tibia almost as long as the femur, provided with two large rounded tubercles on the distal half of the prolateral side and three smaller tubercles on the retrolateral side. The ventral surface is slightly granular. The tarsus has three short stout teeth on each side. The claw is nearly half the length of the tarsus.

Coxa I has three small blunt teeth on the anterior margin, the two near the apex being close together. A few small tubercles are present on the ventral surface. Coxa II has an apical tooth and several small tubercles behind the distal half. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV has two small blunt teeth in front of the distal half, a blunt tubercle behind at the apex and a few marginal granules in front of the respiratory spiracles.

Sternum is elongate and narrow. Genital operculum is somewhat triangular with smooth rounded sides. The penis has the form shown in fig. 147. The ventral plate is large, oval and concave. Its margin is strongly chitinized. Unlike the ventral plate of most other species, it appears to be closely fused with the glans and not capable of separate movement. It is provided with three pairs of small inferior setae. The glans terminates in a laterally expanded end.

Each free sternite is provided with a double row of short hairs. The respiratory spiracles are small but not concealed.

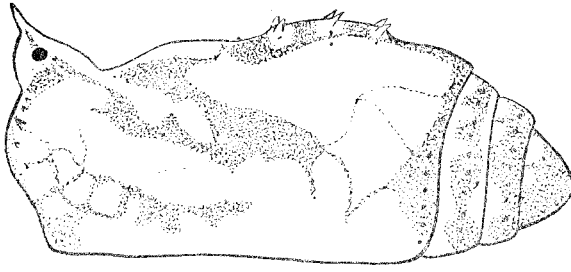
The legs are unarmed but the trochanters and femora are slightly tuberculate. The calcanei are conical and much shorter than the astragali. The calcaneus of leg I is not notched (fig. 148). All metatarsi exhibit false joints. The tarsal segmentation is 4, 10L 11R, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

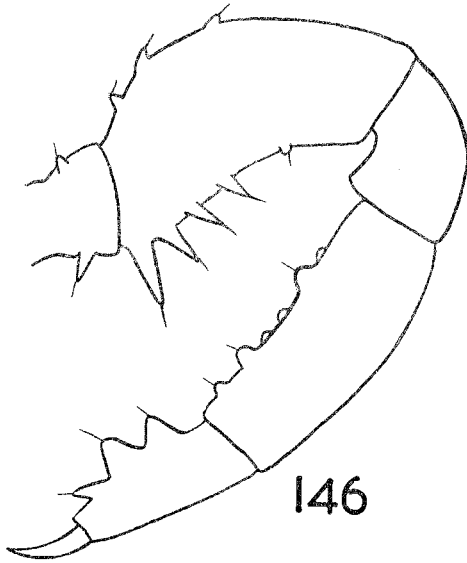
Measurements in millimeters: Body-length 4.00, length of carapace 1.31, length of scutum 2.63.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.80	0.34	1.25	0.57	0.97	1.37	0.91	6.21
Leg 2	1.08	0.40	1.71	0.80	1.43	1.77	1.94	9.13
Leg 3	0.97	0.34	1.14	0.63	0.97	1.37	1.02	6.44
Leg 4	1.19	0.51	1.83	0.80	1.43	2.11	1.20	9.07
Pedi- palp	0.40	0.29	1.14	0.69	0.86	...	0.86	4.24

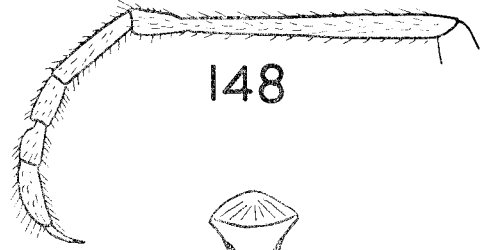
The female resembles the male. However, the saddle-shaped region on the dorsal scutum is much smaller and does not extend posteriorly beyond tergal Area III.



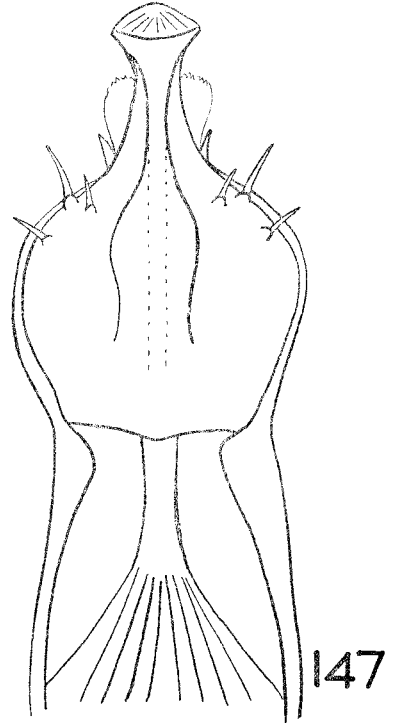
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148



147

Nucina silvestris gen. et sp. n.

FIG. 145.—Lateral view of scutum and free tergites of male.
 FIG. 146.—Retrolateral view of pedipalpus of male.

FIG. 147.—Ventral view of distal part of penis.
 FIG. 148.—Metatarsus and tarsus of leg I of male.

The pedipalpi are smaller and the femur has only two small teeth on the dorsal surface. The prolateral side has one tooth above the middle and one below near the apex. The proximal tooth on the ventral surface has no accessory tooth on its inner surface and the retroventral margin is provided with a row of four teeth. The patella has a small prolateral tubercle. The tibia is much shorter than in the male and about as long as the tarsus. It is armed with three sharp teeth on each side. The distal tooth in both rows being very small. The tarsus has three sharp teeth on each side.

The female also differs from the male in having three segments in tarsus I, the tarsal formula being 3, 10, 4, 4. The distitarsi are as in the male.

Localities: The holotype and allotype were found under decaying logs at Tarraleah, Tasmania, 27th

May, 1954. The species is very common at many places in the north-east quarter of the State and the collection contains specimens from Balfour, Hellyer Gorge, Smithton, Table Cape, Burnie, Wilmot, Forth Falls, Mole Creek, Butler's Gorge and Lake St. Clair.

Variations: Seventy-three males and 51 females have been examined. The body-length of the males varies from 2.61-3.77 mm. and of the females from 2.32-4.00 mm. All the males have four segments in tarsus I and all the females have three segments. The number of segments in tarsus II varies from 8-15 in males and 8-13 in females. The segmentation of tarsi I and II in the specimens examined is shown in Table 12. No variations were observed in the segmentation of distitarsi I and II, which have two and three segments respectively in all specimens.

Table 12

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
2	♂	4	8L 10R
1	♂	4	9L 8R
3	♂	4	9
4	♂	4	9L 10R
1	♂	4	9L 11R
3	♂	4	10L 9R
11	♂	4	10
9	♂	4	10L 11R
2	♂	4	11L 9R
11	♂	4	11L 10R
11	♂	4	11
4	♂	4	11L 12R
1	♂	4	12L 10R
2	♂	4	12L 11R
2	♂	4	12L 13R
1	♂	4	13L 12R
2	♂	4	13
1	♂	4	14L 13R
1	♂	4	14
1	♂	4	15L 14R
3	♀	3	8L 9R
2	♀	3	8L 10R
1	♀	3	8L 11R
4	♀	3	9L 8R
13	♀	3	9
5	♀	3	9L 10R
2	♀	3	10L 8R
10	♀	3	10L 9R
2	♀	3	10
1	♀	3	10L 11R
1	♀	3	11R 9R
3	♀	3	11L 10R
1	♀	3	11
1	♀	3	11L 12R
1	♀	3	11L 13R
1	♀	3	12L 13R

NUCINA DISPAR sp. n.

(Figures 149-152)

Holotype Female

Measurements in millimeters: Body-length 2.97, length of scutum 2.74, length of carapace 1.37.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.34	1.49	0.69	1.20	1.54	1.09	7.21
Leg 2	1.31	0.46	2.11	0.91	1.77	2.06	2.40	11.02
Leg 3	1.20	0.40	1.37	0.69	1.26	1.71	1.20	7.83
Leg 4	1.43	0.51	2.05	0.86	1.71	2.46	1.49	10.51
Pedi-palp	0.46	0.46	1.43	0.80	1.14	...	1.03	5.32

Colour (in alcohol): The specimen appears to have recently undergone ecdysis and is therefore probably much lighter in colour than is usual in the adult. The scutum is pale-cream with a dark greyish-brown margin and a large brownish region on each side of the posterior three quarters. The carapace is dark round the base of the eyemound and has a pair of dark patches between the eye-

mound and scutal groove. Tergal Areas I-III each have a short median transverse pale-yellow bar. Area IV has a median pair of yellow spots, each round the base of a spine. The dark-brown lateral regions are united across the dorsum by dark transverse bars. The free tergites are dark-brown. Chelicerae and pedipalpi pale-yellow. Legs are greyish-brown. Coxae yellowish with darker pigmentation distally. Sternum and genital operculum with dark infuscation. Free sternites dark-brown with a transverse row of yellow dots.

Scutum (fig. 149) finely shagreened. Carapace furnished with a transverse row of four denticles above the anterior margin on each side. Eyemound broadly conical and armed with a short median spine. Scutal groove distinct. Other tergal grooves indistinct. Tergal Area II with a short transverse row of granules. Areas III and IV each with a pair of conical spines, those on Area IV being more widely spaced than those on Area III. Area V and each free tergite furnished with a transverse row of small tubercles.

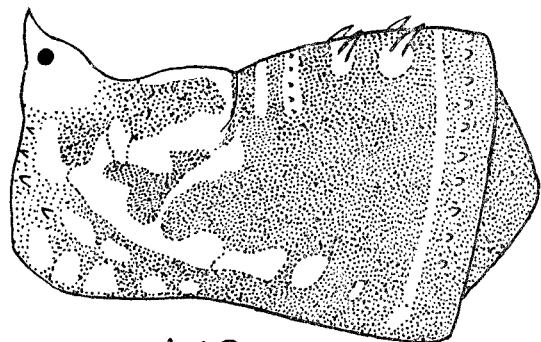
Chelicerae stout. The first segment is 0.86 mm. long. It has a dorsal bulge in the distal half and is unarmed. The second segment is 1.14 mm. long and armed with a median dorsal row of small tubercles and a prodorsal marginal row of three teeth, the middle tooth being the largest.

Pedipalpi (fig. 150) moderately strong. The trochanter armed with a single tooth below and two small prodorsal denticles above. The dorsal surface of the femur has a median row of four small denticles. The retrolateral surface is smooth. The prolateral surface has a large tooth in the distal half and a small tubercle at the apex. A small tooth is also present near the middle of the prodorsal margin. The ventral surface is armed with a large median proximal tooth, which has a small tubercle on its anterior surface. The retroventral margin has a row of four teeth, the first being the largest. The proventral margin is devoid of teeth. The patella has two small proventral teeth. The tibia has a row of four teeth on each side, the first and third tooth in each row being larger than the second and fourth. The tarsus is armed with four teeth on each side, the distal tooth being very small. The claw is about half the length of the segment.

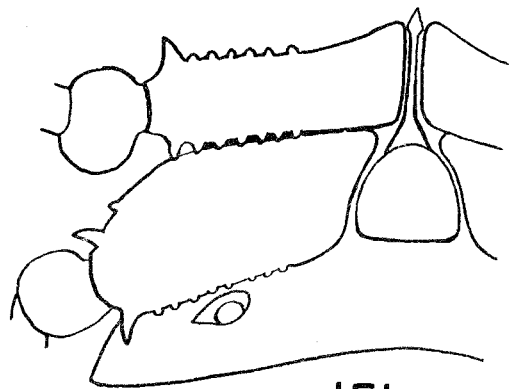
Coxe I is armed with three promarginal teeth, the middle tooth being the largest and the apical tooth deeply bifid. A few tubercles are present behind the promarginal teeth. Coxa II has a large tooth and several tubercles behind the apex and a broad tubercle above. Coxa III is furnished with a marginal row of granules in front and behind, the distal granule being enlarged into a tooth (fig. 151). Coxa IV is furnished with a tooth in front of and another behind the apex. It also has a row of granules along the posterior margin.

The sternum is long and narrow. The genital operculum is smooth and rounded in front. It measures 0.40 mm. in length and width. The respiratory spiracles are moderately large and conspicuous.

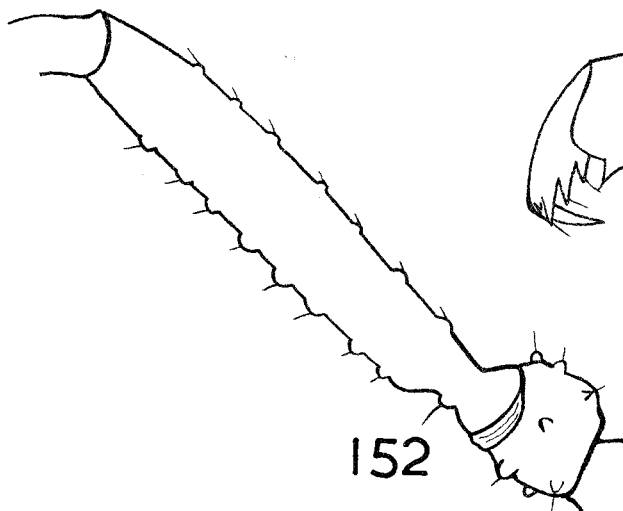
The legs are unarmed but the femora are slightly tuberculate (fig. 152). The calcaneus of



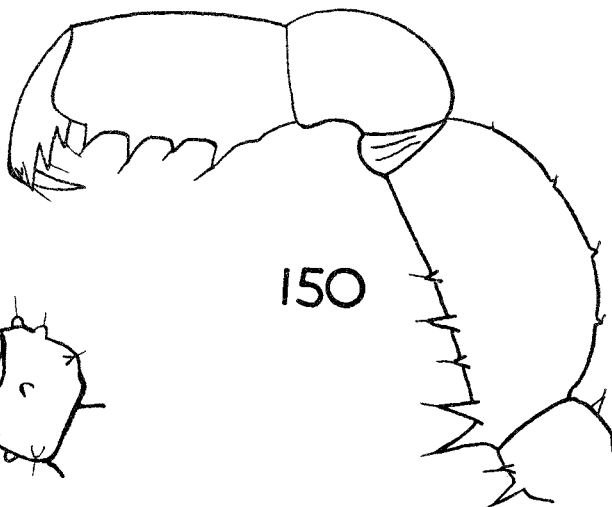
149



151



152



150

Nucina dispar gen. et sp. n.

FIG. 149.—Lateral view of scutum and free tergites of female.
 FIG. 150.—Retrolateral view of pedipalpus of female.

FIG. 151.—Ventral view of right coxae III and IV, sternum, genital operculum, and spiracle of female.
 FIG. 152.—Femur of leg I of female.

each metatarsus is straight and conical. It is much shorter than the astragalus. The number of segments in tarsi I-IV is 3, 11L 10R, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Locality: The holotype female was collected under a decaying log near the lighthouse at Table Cape, Wynyard, Tasmania, 24 August, 1954. It is the only specimen of the species in the collection.

Genus **STYLONUNCIA** gen. n.

Eyemound rises from the front margin. It is high, conical, inclined forward and produced into a short spine. The anterior margin of the carapace is armed above on each side with a transverse row of sharp spines. The scutal groove is shallow; the other tergal grooves absent. Each tergal Area and

free tergite is furnished with a transverse row of granules but is without spines and large tubercles. The first segment of the chelicerae has a median dorsal spine at the apex but is without a proximal retrodorsal boss in the male. The sternum is long and narrow. The respiratory spiracles are concealed under bridging granules on the fourth coxae. The legs are unarmed but the femora are somewhat tuberculate. The calcaneus of each metatarsus is knob-like and much shorter than the astragalus. That of leg I in the male is not notched below. In the male tarsus I has four segments, in the female three. Tarsus II has 10-11 segments and tarsi III and IV each four segments. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the median prong being larger than the lateral prongs.

Genotype: *Stylonuncia spinosa* sp. n.

Type Locality: Hellyer Gorge, Tasmania.

The genus *Stylonuncia* is near *Nucina* gen. n. but differs from the latter genus in the form of the eyemound, the presence of spines on the anterior margin of the carapace and the absence of spines on the tergal Areas.

STYLONUNCIA SPINOSA, sp. n.

(Figures 153-155)

Holotype Male

Measurements in millimeters: Body-length 3.71, length of scutum 3.54, length of carapace 1.77.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.91	0.51	2.28	0.91	1.71	2.28	1.20	9.80
Leg 2	1.31	0.57	3.03	1.14	2.34	3.08	2.46	13.93
Leg 3	1.14	0.51	2.00	0.97	1.71	2.57	1.26	10.16
Leg 4	1.66	0.69	3.03	1.20	2.34	3.65	1.54	14.11
Pedi-palp	0.57	0.46	1.88	1.14	1.14	...	1.20	6.39

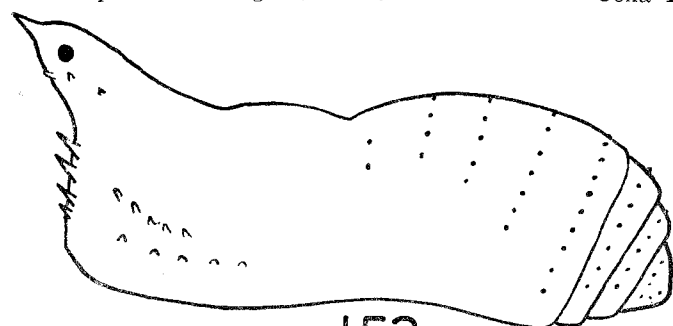
Colour (in alcohol): Body, chelicerae and pedipalpi yellowish-brown without any dark markings. Legs slightly darker than body.

Scutum (fig. 153) armed with a transverse row of four sharp spines on each side above the anterior margin of the carapace, the two inner spines being larger than the two outer ones on each side. The eyemound rises from the front margin. It is high, conical, inclined forward and produced into a short spine. On each side of the carapace in the anterolateral angles and extending a short distance along the lateral ridge on each side of the scutum are two parallel rows of small denticles. The scutal groove is shallow; the other tergal grooves absent. Each tergal Area and free tergite is furnished with a transverse row of very small granules, but is without spines and large tubercles.

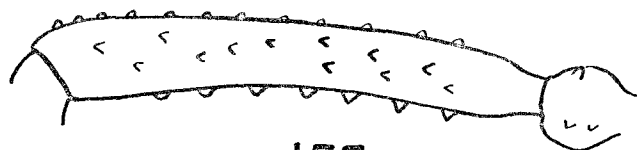
Chelicerae have a rather long basal segment measuring 1.14 mm. and armed with a median dorsal spine at the apex. The second segment is 1.66 mm. long and furnished with two spinous tubercles on the prodorsal margin and a median dorsal row of blunt tubercles.

Pedipalpi (fig. 154) moderately robust. Trochanter has a large spine and small tubercle below with three small tubercles above. The dorsal surface of the femur is armed with a median row of three teeth. The retrolateral surface has a row of about six small denticles above the ventral margin. The prolateral surface has two teeth in the distal half and a small denticle near the middle of the dorsal margin. The ventral surface is armed with a large median proximal tooth having a small tubercle on its posterior surface. The retroventral margin has a row of three teeth alternating with three small denticles. The proventral margin is furnished with a row of five small denticles. The patella has two small teeth on the prolateral side and a small tubercle below on the retrolateral side. The tibia is tuberculate below. On its retrolateral side it is armed with five teeth, of which the first and third are very small. On the prolateral side it is armed with four teeth, the first and fourth being much smaller than the other two. The tarsus has three teeth on each side. The claw is long, being nearly half the length of the segment.

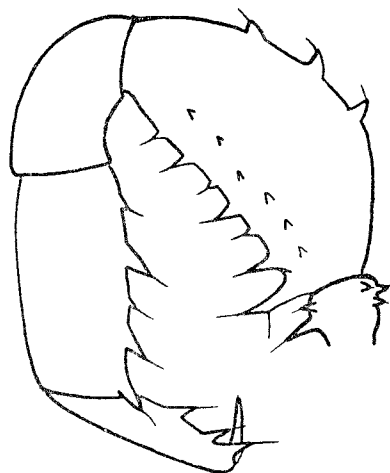
Coxa I has a promarginal row of three teeth, the middle tooth being the largest. The apical tooth is so deeply bifid as to appear almost as two separate teeth. Coxa II is furnished with three blunt teeth and several granules behind the apex and with a broad tubercle above. Coxa III has a marginal row of granules in front and behind. Coxa IV has three small blunt teeth in front of



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154

Stylonuncia spinosa gen. et sp. n.

FIG. 153.—Lateral view of scutum and free tergites of male.

FIG. 155.—Femur of leg I of male.

FIG. 154.—Retrolateral view of pedipalpus of male.

the apex and a row of granules along the distal third of the posterior margin.

Sternum is long and narrow. The genital operculum has a smooth and rounded margin and measures 0.51 mm. long by 0.46 mm. wide. The respiratory spiracles are concealed by bridging granules on the posterior margin of the fourth coxae.

The legs are unarmed but the femora are somewhat tuberculate. The tubercles below the femora of the first pair of legs are coarser than on the other legs (fig. 155). The calcaneus of each metatarsus is knob-like and much shorter than the astragalus. All metatarsi exhibit pseudosegmentation. The number of segments in tarsi I-IV is 4, 11, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 4.05, length of scutum 3.48, length of carapace 1.77.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.46	2.06	0.80	1.66	2.17	1.03	9.15
Leg 2	1.48	0.63	2.91	1.09	2.40	2.86	2.28	13.65
Leg 3	1.26	0.57	2.06	0.86	1.71	2.40	1.26	10.12
Leg 4	1.71	0.69	2.86	1.14	2.28	3.31	1.54	13.53
Pedi-palp	0.46	0.46	1.66	1.03	1.20	...	1.03	5.84

There is little difference in size, colouration and general appearance between the female and male. The spine on the eyemound is shorter than in the male. The genital operculum measures 0.34 mm. long and 0.51 mm. wide. The tarsal segmentation is 3, 11L 10R, 4, 4.

Localities: The holotype male was collected under decaying logs at Hellyer Gorge, Tasmania, 25th August, 1954. The allotype female and one other female were found at Table Cape, Wynyard, Tasmania, 24th August, 1954.

Genus *MESTONIA* gen. n.

Front margin of scutum smooth. Eyemound high, conical and produced into a long horn or spine. Scutal groove and tergal grooves distinct medianly. Tergal Areas III-V and free tergites furnished with blunt tubercles. Sternum long and narrow; not crescentic posteriorly. Respiratory spiracles concealed under bridging granules on the posterior margin of the fourth coxae. Legs without spines but with blunt tubercles on femora, patellae and tibiae. Calcanei conical and much shorter than astragali. Tarsal segmentation: 3, 6-12, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the median prong being larger than the lateral prongs.

Genotype: *Mestonia picra* sp. n.

Type Locality: Mount Wellington, Tasmania.

In addition to the genotype one other species is assigned to the genus. The two species may be distinguished as follows:—

Eyemound near middle of carapace	<i>Mestonia acris</i> sp. n.
Eyemound near front margin	<i>Mestonia picra</i> sp. n.

MESTONIA PICRA sp. n.

(Figures 156-160)

Holotype Male

Measurements in millimeters: Body-length 2.68, length of scutum 1.94, length of carapace 1.09.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.34	1.43	0.57	0.97	1.31	0.63	5.82
Leg 2	0.86	0.51	2.23	0.69	1.60	2.17	1.43	9.49
Leg 3	1.03	0.34	1.60	0.69	1.20	1.88	0.69	7.43
Leg 4	1.31	0.40	2.06	0.80	1.54	2.97	0.74	9.82
Pedi-palp	0.46	0.29	1.26	0.74	0.80	...	0.63	4.18

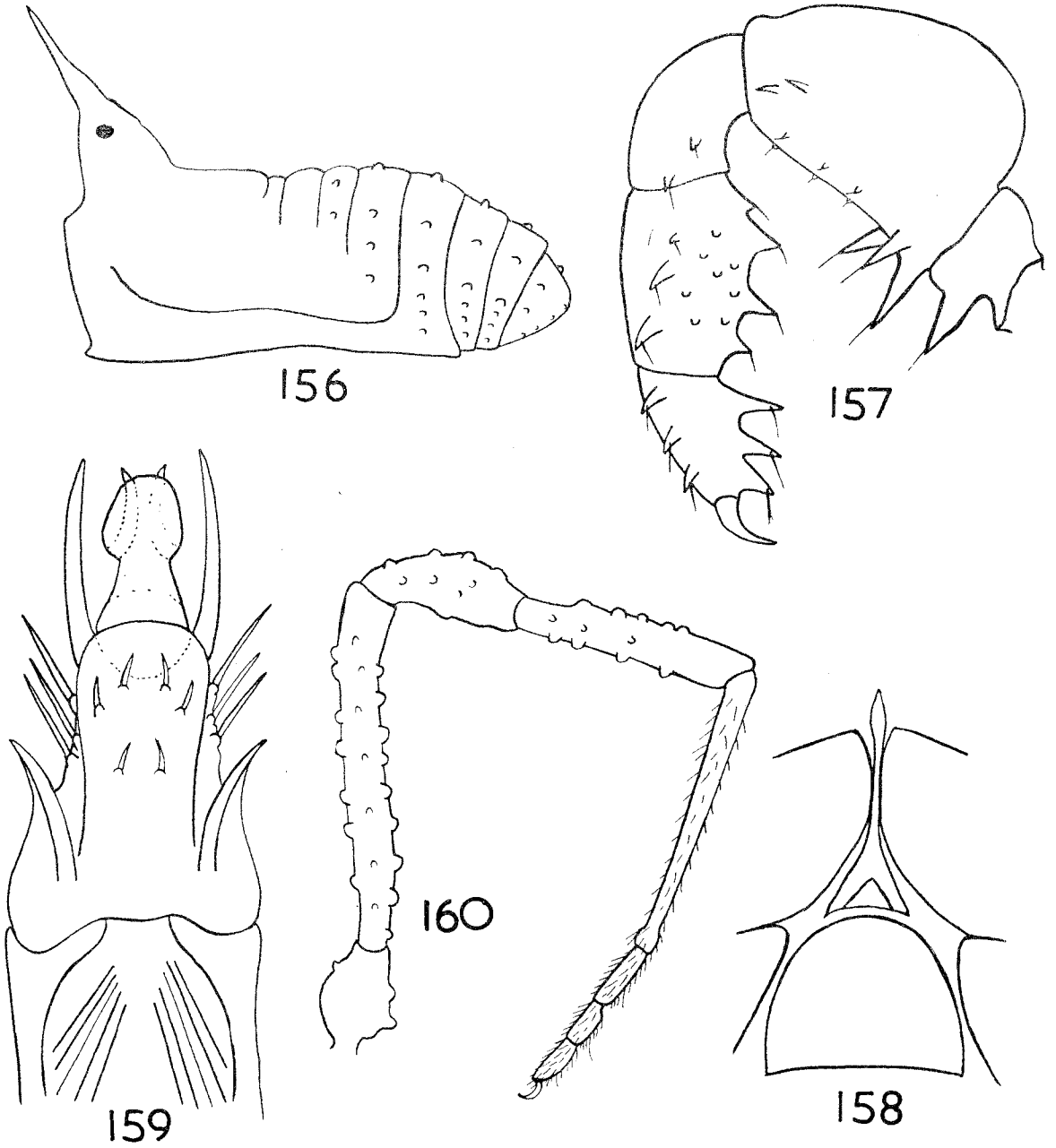
Colour (in alcohol): Carapace yellowish-brown with dark reticulations behind the eyemound and on each side. Rest of scutum dark-brown with lighter coloured margin. Free tergites dark-brown. Chelicerae, pedipalpi and coxae yellowish-brown with dark reticulations. Free sternites dark-brown. Legs brown, speckled with yellowish-brown.

Scutum (fig. 156) finely shagreened. Front margin smooth. A transverse row of blunt tubercles on each of the tergal Areas III-V and on the free tergites. The tubercles decrease in size laterally. Scutal groove and tergal grooves distinct medianly. Eyemound rising from near the front margin in the form of a high cone, which is armed at the apex with a long sharp horn inclined slightly forwards.

Chelicerae moderately strong. The first segment is 0.69 mm. long and has a small prodorsal tubercle at the apex. The second segment is 0.97 mm. long and is furnished with a row of four tubercles on the prodorsal margin, the third tubercle being larger and sharper than the others.

Pedipalpi (fig. 157) large and strong. The coxa has a pair of spinules below. Trochanter is armed with a large tooth below. The femur is much swollen and enlarged dorsoventrally in the proximal half. The dorsal surface is smooth, being devoid of spines and tubercles. The prolateral surface has two teeth in the distal half. The retrolateral surface is smooth. The ventral surface is armed with a large median proximal tooth. A row composed of one large tooth and three small denticles is present on both proventral and retroventral margins. Patella is armed with two prolateral teeth. The tibia is tuberculate below and has four retrolateral teeth, the first one being very small, and two prolateral teeth. The tarsus has three teeth on each side. The claw is nearly half the length of the segment.

Coxae shagreened. Coxa I with two small teeth on the promargin, one at the middle, the other at the apex. The apical tooth is so deeply bifid that it presents the appearance of two teeth close together. The ventral surface is furnished with a few conical tubercles. Coxa II has a few small



Mestonia picra gen. et sp. n.

FIG. 156.—Lateral view of scutum and free tergites of male.
FIG. 157.—Prolateral view of pedipalpus of male.
FIG. 158.—Sternum and genital operculum of male.

FIG. 159.—Ventral view of distal part of penis.
FIG. 160.—Leg I of male.

granules behind the apex. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV has a few granules in front of the apex and a row of granules along the posterior margin, the distal granules being enlarged to form bridging granules covering the spiracle.

Genital operculum smooth, rounded in front and measuring 0.34 mm. in length and width. The penis has the form shown in fig. 159. The ventral plate is not cleft and is armed with three pairs of inferior setae. Near the base of the ventral plate is a pair of leaf-like lateral processes, one on each side. In front of the lateral process on each side are three long setae. The dorsal plate is divided into two long narrow lobes, which extend forward, one on each side of the glans. The distal end of the glans is stout and rounded. It is provided above with a pair of hook-like apophyses.

The sternum (fig. 158) is long and narrow; not widely crescentic posteriorly. The respiratory spiracles are concealed under bridging granules on the fourth coxae.

The legs are unarmed but the femora, patellae and tibiae are tuberculate. In the case of leg I (fig. 160) the tubercles are coarser than on other legs. Calcanei are straight, conical and much shorter than the astragali. The number of segments in tarsi I-IV is 3, 8, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 2.68, length of scutum 2.11, length of carapace 1.03.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.51	0.34	1.09	0.51	0.80	1.14	0.57	4.96
Leg 2	0.86	0.40	1.77	0.63	1.43	1.88	1.26	8.23
Leg 3	0.86	0.34	1.37	0.63	1.09	1.77	0.63	6.69
Leg 4	1.03	0.46	2.00	0.63	1.43	2.74	0.74	9.03
Pedi-palp	0.34	0.29	0.86	0.63	0.69	.....	0.57	3.38

The female resembles the male in colouration but the dark-brown pigmentation is more extensive. The pedipalpi are much smaller than those of the male. The genital operculum measures 0.29 mm. long and 0.46 mm. wide. The number of segments in tarsi I-IV is 3, 7, 4, 4.

Localities: The type specimens were collected from moss on Mount Wellington, Tasmania, 13th January, 1953. The species also occurs at Tarraleah, the Arve Forest at Geeveston and at National Park.

Variations: The collection contains 25 males and 26 females. The males vary in body-length from 2.28-2.74 mm. and the females from 2.26-2.97 mm. In some males the denticles on the proventral margin of the femur of the pedipalpus are reduced or absent. The number of segments in tarsi I, III and IV is 3, 4, 4, respectively in both sexes. The number of segments in tarsus II varies in males from 7-12 and in females from 6-10. Much asymmetry is exhibited by both sexes in the segmentation of tarsus II (see Table 13).

Table 13

Number of specimens	Sex	Number of segments in tarsus II	
1	♂	7L	8R
2	♂	8L	7R
3	♂	8L	9R
10	♂	9L	8R
3	♂	9L	12R
1	♂	10L	8R
1	♂	11L	9R
1	♂	6L	7R
2	♀	7L	8R
9	♀	8L	7R
2	♀	8L	8R
3	♀	8L	9R
1	♀	9L	7R
1	♀	9L	8R
3	♀	9L	9R
1	♀	10L	9R

MESTONIA ACRIS sp. n.
(Figures 161-165)

Holotype Male

Measurements in millimeters: Body-length 3.14, Length of scutum 2.57, length of carapace 1.31.

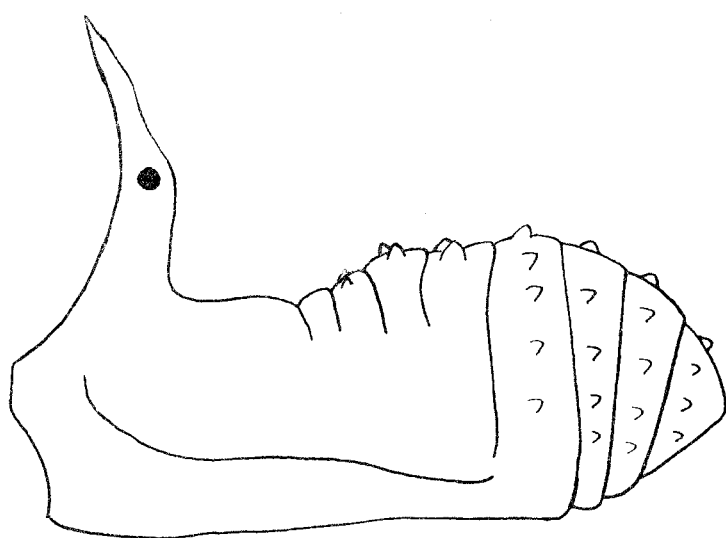
	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.46	1.71	0.74	1.43	1.77	0.97	8.05
Leg 2	1.43	0.57	2.80	0.91	2.28	2.74	2.17	12.90
Leg 3	1.08	0.51	2.00	0.80	1.49	2.23	1.03	9.19
Leg 4	1.26	0.57	2.40	0.91	1.94	3.31	1.26	11.65
Pedi-palp	0.57	0.46	1.83	1.43	1.20	.....	1.37	6.86

Colour (in alcohol): Carapace yellowish with dark reticulations on each side and on the front of the eyemound. A dark v-shaped mark is present immediately behind the eyemound. On each side of the posterior two-thirds of the scutum is a large dark-brown triangular area, the apex of which extends forwards to the sides of the carapace. The two dark-brown regions unite across tergal Area V, the median part of Areas I-IV being occupied by a U-shaped yellow region. The free tergites are dark-brown. Chelicerae and pedipalpi mainly yellowish with dark-brown reticulations, the femoral and tibial segments of the pedipalpi being dark-brown ventrally. The legs are brown, speckled with yellow. Coxae yellow with dark reticulations. Free sternites yellowish with brown pigmentation laterally and in the median line.

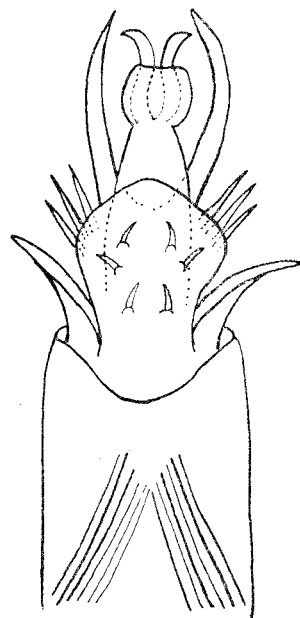
Scutum (fig. 161) finely shagreened and unarmed. Front margin smooth. A median pair of low blunt tubercles is present on each of tergal Areas II-IV, those on Area IV being larger and wider apart than those on Areas II and III. Tergal Area V and each free tergite have a transverse row of small conical tubercles. The eyemound is set back from the margin and situated almost in the middle of the carapace. It is high, conical and produced above into a long horn. Below the level of the eyes the eyemound is inclined slightly back-

ward but above the eyes the horn-like projection is inclined slightly forward. The height of the eyemound including the horn is nearly equal to half the length of the scutum. The scutal groove and tergal grooves are distinct medianly. The fifth groove extends laterally almost to the scutal margin.

Chelicerae moderately strong. The first segment measures 0.63 mm. long and has a small blunt prodorsal tubercle at the apex. The second segment measures 1.08 mm. long and is armed with a row of three small tubercles on the prodorsal margin, the middle tubercle being the largest and dentiform.



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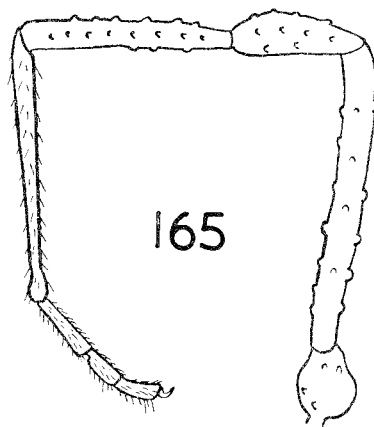
164



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163



165

Mestonia acris gen. et sp. n.

FIG. 161.—Lateral view of scutum and free tergites of male.

FIG. 162.—Prolateral view of pedipalpus of male.

FIG. 163.—Sternum of male.

FIG. 164.—Ventral view of distal part of penis.

Pedipalpi (fig. 162) large and strong. The coxa has a small tubercle below. The trochanter is armed with a large ventral tooth. The femur is swollen and in the proximal half is much enlarged dorsoventrally. Two small denticles are present in the median dorsal line. The retroateral surface has a small conical tubercle below in the proximal half. The proateral surface is furnished with two small tubercles below in the distal half and a third small tubercle near the middle of the surface. The ventral surface is armed with a large median proximal tooth. On the retroventral margin is a row composed of three teeth and two granules, the first and third teeth being larger than the second. The proventral margin is armed with three teeth, the second of which is in the form of a very large blunt peg, which projects inward. The tibia is slightly tuberculate below and has a proateral row of three teeth, the two distal teeth being close together near the apex. The retroateral side is armed with a row of four teeth, the first tooth being very small. The tarsus has three teeth on each side. The tarsal claw is about one-third the length of the segment.

The coxae are finely shagreened. Coxa I has a pre-marginal row of three teeth, the middle tooth being the largest. The apical tooth is deeply bifid. Coxa II is armed with a small conical tooth behind the apex and a large broad tubercle above. Coxa IV is furnished with several small granules in front of the apex and a row of granules along the posterior margin.

Genital operculum smooth and rounded in front. It measures 0.46 mm. in length and width. The penis has the form shown in fig. 164. It closely resembles that of the preceding species *Mestonia picra*.

The sternum (fig. 163) is long and narrow and does not form a wide crescent posteriorly. The respiratory spiracles are concealed by the posterior margin of the fourth coxae.

Legs slender and unarmed but the femora, patellae and tibiae are slightly tuberculate (fig. 165). All calcanei are straight, conical and short, being much shorter than the astragali. The number of segments in tarsi I-IV is 3, 12L 11R, 4, 4. The distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 3.43, length of scutum 2.28, length of carapace 1.14.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.80	0.34	1.43	0.63	1.14	1.54	0.86	6.74
Leg 2	1.14	0.46	2.28	0.88	2.00	2.46	1.77	10.97
Leg 3	1.03	0.40	1.77	0.69	1.37	2.11	1.03	8.40
Leg 4	1.20	0.51	2.28	0.88	1.77	3.03	1.09	10.74
Pedi-								
paip	0.40	0.34	1.26	1.09	1.03	...	0.97	5.09

The female resembles the male in colouration but the dark-brown pigmentation is more extensive. The pedipalpi are much smaller than those of the male and the femur lacks the large peg-like pro-marginal tooth on the ventral surface, its place being taken by a small denticle. The genital operculum is smooth and rounded in front. It measures 0.46 mm. long and 0.51 mm. wide. The number of segments in tarsi I-IV is 3, 12L 10R, 4, 4.

Localities: The type specimens were found under decaying logs on Mount Wellington, Tasmania, 30th November, 1955. The species also occurs at National Park, in the Arve Forest at Geeveston and in Myrtle Forest at Collinsvale.

Variations: The species is not common and the collection contains only nine males and two females. The males vary in body-length from 2.68-3.37 and females from 2.90-3.37 mm. Both sexes have three segments in tarsus I and four in tarsi III and IV. The number of segments in tarsus II varies from 10-14 in the males and 10-12 in the females. Nine of the 11 specimens are asymmetrical.

Genus MONOXYOMMA Pocock, 1903

Anterior margin of carapace with a few spines above on each side. Eyemound conical and armed with a high spine or horn. Tergal Area III with a median pair of large spines. Other tergal Areas and the free tergites each with a transverse row of tubercles. Legs more or less granular and either with or without spines on the trochanter and femur of leg I. Calcaneus of each metatarsus shorter than astragalus. Number of segments in tarsi I and II variable. Tarsus I with 4-7, tarsus II with 9-22, tarsi III and IV with four each. Distitarsi I and II usually with two and three segments respectively. Claws of tarsi III and IV three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Monoxyomma spinatum* Pocock.

Type Locality: Hill Grove, New South Wales.

In its present restricted sense the genus *Monoxyomma* contains only three species, namely the genotype from New South Wales together with *M. manicatum* Roewer and *M. rotundum* Forster, both from Queensland. Two new species from Tasmania are described in the present paper. The five species may be distinguished by the following key.

KEY TO SPECIES IN THE GENUS MONOXYOMMA

1. Apical spine of eyemound half the height of the eyemound proper *M. rotundum* Forster.
 - Apical spine of eyemound at least the height of the eyemound proper 2
2. Calcaneus of leg I of male hooked 3
 - Calcaneus of leg I of male not hooked 4
3. Frontal margin of carapace with 4-5 denticles on each side *M. spinatum* Pocock.
 - Frontal margin of carapace with only one denticle on each side *M. manicatum* Roewer.
4. Horn of eyemound inclined forward *M. silvaticum* sp. n.
 - Horn of eyemound erect *M. cavaticum* sp. n.

MONOXYOMMA SILVATICUM sp. n.

(Figures 166-169)

Holotype Male

Measurements in millimeters: Body-length 5.25, length of scutum 4.28, length of carapace 2.28.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.26	0.69	3.31	1.20	2.57	3.60	1.94	14.57
Leg 2	2.17	0.80	4.91	1.60	4.28	5.14	4.85	23.75
Leg 3	1.71	0.74	3.14	1.31	2.68	4.00	2.34	15.92
Leg 4	2.11	0.86	4.68	1.43	3.31	6.17	3.08	21.64
Pedi-palp	0.69	0.63	2.97	2.00	2.11	.....	1.88	10.28

Colour (in alcohol): Scutum reddish-brown with dark-brown reticulations on each side of carapace and round the base of the eyemound. A large light-brown saddle-shaped area is present on the posterior half of the scutum. The two sides of the saddle-shaped area are separated by a median dark-brown wedge-shaped mark extending from the scutal groove to the posterior margin of the scutum. The free tergites are dark-brown. Chelicerae and pedipalpi are light-brown with dark reticulations. Legs are dark-brown speckled with light-brown. Ventral surface of body mainly reddish-brown. The free sternites are margined with dark-brown posteriorly.

Scutum (fig. 166) is furnished with three denticles on each side above the anterior margin and a row of four granules on each side of the carapace. The eyemound is conical and rises from close behind the anterior margin. It is produced above into a large spine or horn, which is inclined slightly forward. The scutal groove is distinct medially; the other tergal grooves indistinct. A median pair of small denticles is present in the scutal groove and a transverse row of denticles on Areas II-IV, the rows increasing in length posteriorly. The median pair of denticles on Areas III and V is enlarged to form conspicuous blunt spines, the pair on Area III being larger than the pair on Area V. Each free tergite has a transverse row of small denticles, the median pair of denticles in each row being larger than the others and having a small granule midway between them.

Chelicerae (fig. 167) are moderately strong. The first segment is 1.37 mm. long and has a small median tooth on the dorsal side at the apex. The second segment is 2.17 mm. long and has two tubercles on the prodorsal margin, the second tubercle being large, tooth-like and near the middle of the margin.

Pedipalpi (fig. 168) large and strong. Trochanter has a small tooth above and two larger teeth below, one being ventral, the other prolateral. The dorsal surface of the femur is armed with a median row of five teeth, the first two being larger than the others. The retrolateral surface has a row of four small denticles above the ventral margin. The prolateral surface is furnished with two conical tubercles in the distal third and a row of about five denticles near the prodorsal margin. The ventral surface is armed at the base with a large median bifid tooth, which is inclined inwards and has a small tubercle on its anterior surface and another on its posterior surface. The retroventral margin has a row of three teeth, the first of which

is the largest. The proventral margin is provided with a row of about five small denticles. The patella is armed with two prolateral teeth. The tibia is slightly tuberculate below and is armed with four retrolateral and three prolateral teeth. The tarsus has three teeth on each side. The claw is about one-third the length of the segment.

Coxa I has a promarginal row of three teeth, the middle tooth being the largest and the apical tooth deeply bifid. A few conical tubercles are present behind the promarginal teeth. Coxa II has two teeth behind the apex and a coarse tubercle above. Coxa III is furnished with a few granules behind the distal end, but otherwise lacks the marginal rows of granules, which are usually present in other species. Coxa IV has a short tooth and a few small tubercles in front of the apex and a few granules on the distal half of the posterior margin.

The sternum is long and narrow. The genital operculum has a smooth rounded margin and measures 0.57 mm. in length and width. The respiratory spiracles are small but not concealed.

The legs rather long and slender. They are unarmed but the femora, patellae and tibiae are somewhat tuberculate. The calcaneus of each metatarsus is conical, straight and much shorter than the astragalus. The calcaneus of leg I is not notched below and is about 1/6 the length of the metatarsus. The number of segments in tarsi I-IV is 5L 6R, 18, 4, 4. Distitarsi I and II have two and four segments respectively. The claws of tarsi III and IV are three-pronged the middle prong being larger than the lateral prongs.

Allotype Female

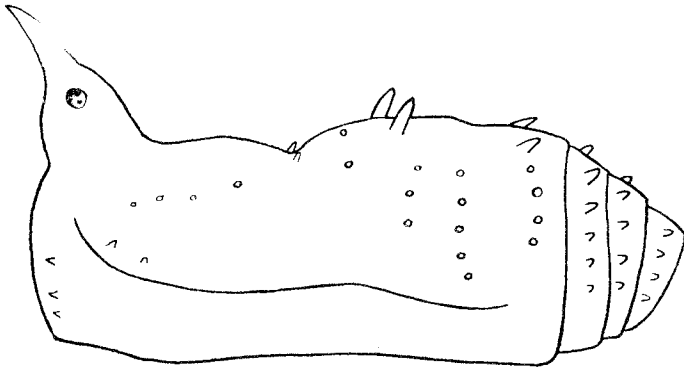
Measurements in millimeters: Body-length 4.68, length of scutum 3.48, length of carapace 1.66.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.03	0.57	2.74	1.03	2.34	3.03	2.00	12.74
Leg 2	1.77	0.69	4.40	1.37	3.03	4.68	4.57	20.51
Leg 3	1.60	0.69	2.91	1.20	2.28	3.54	2.23	14.45
Leg 4	2.00	0.86	4.57	1.31	2.86	5.54	2.68	19.82
Pedi-palp	0.63	0.57	2.00	1.14	1.43	.....	1.31	7.08

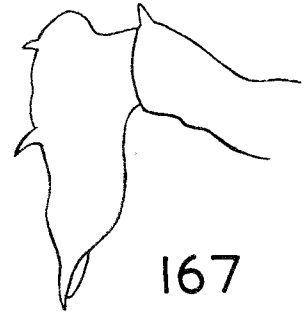
The female resembles the male in colouration but lacks the saddle-shaped region on the scutum. The pedipalpi (fig. 169) are smaller than those of the male and the proximal ventral tooth on the femur is not bifid. The number of segments in tarsi I-IV is 4, 13, 4, 4. Distitarsi I and II have two and three segments respectively. The genital operculum is 0.51 mm. long and 0.57 mm. wide.

Localities: The type specimens were collected under decaying logs in *Notofagus* forest near Weldborough Pass, Tasmania, 16th April, 1954. The species also occurs at St. Columba Falls in the neighbouring district of Pyengana.

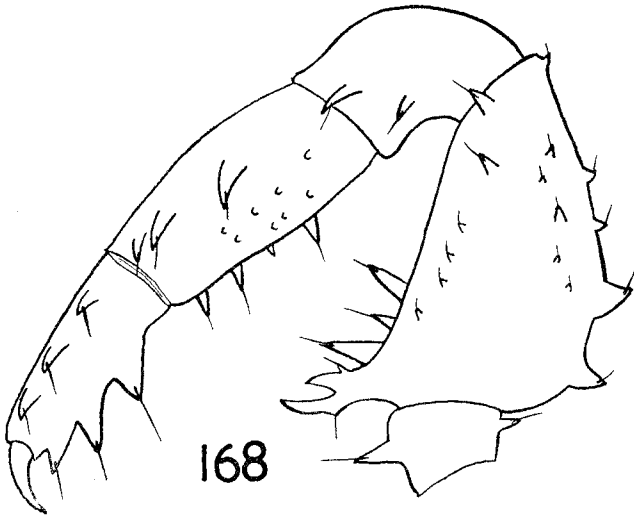
Variations: The species is not common and the collection contains, in addition to the type specimens, only one other male and female. In the male the segmentation of tarsi I-IV is 5, 18, 4, 4 and of distitarsi I and II it is two and five respectively. In the female the segmentation of tarsi I-IV is 5L 4R, 15, 4, 4. The distitarsus of leg I has two segments and is symmetrical but that of leg II has four segments on the left side and five on the right.



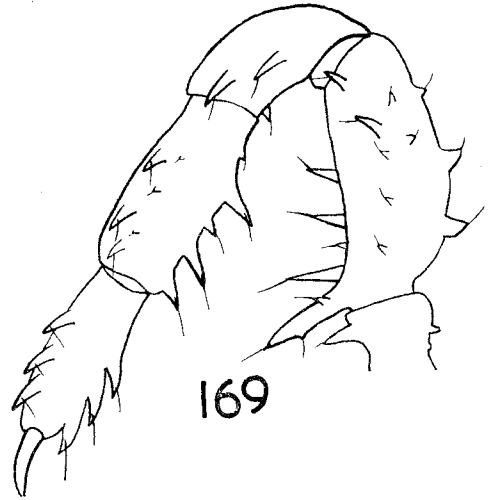
166



167



168



169

Monoxyomma silvaticum sp. n.

FIG. 166.—Lateral view of scutum and free tergites of male.
FIG. 167.—Prolateral view of chelicera of male.

FIG. 168.—Prolateral view of pedipalpus of male.
FIG. 169.—Prolateral view of pedipalpus of female.

MONOXYOMMA CAVATICUM sp. n.
(Figures 170-173)**Holotype Male**

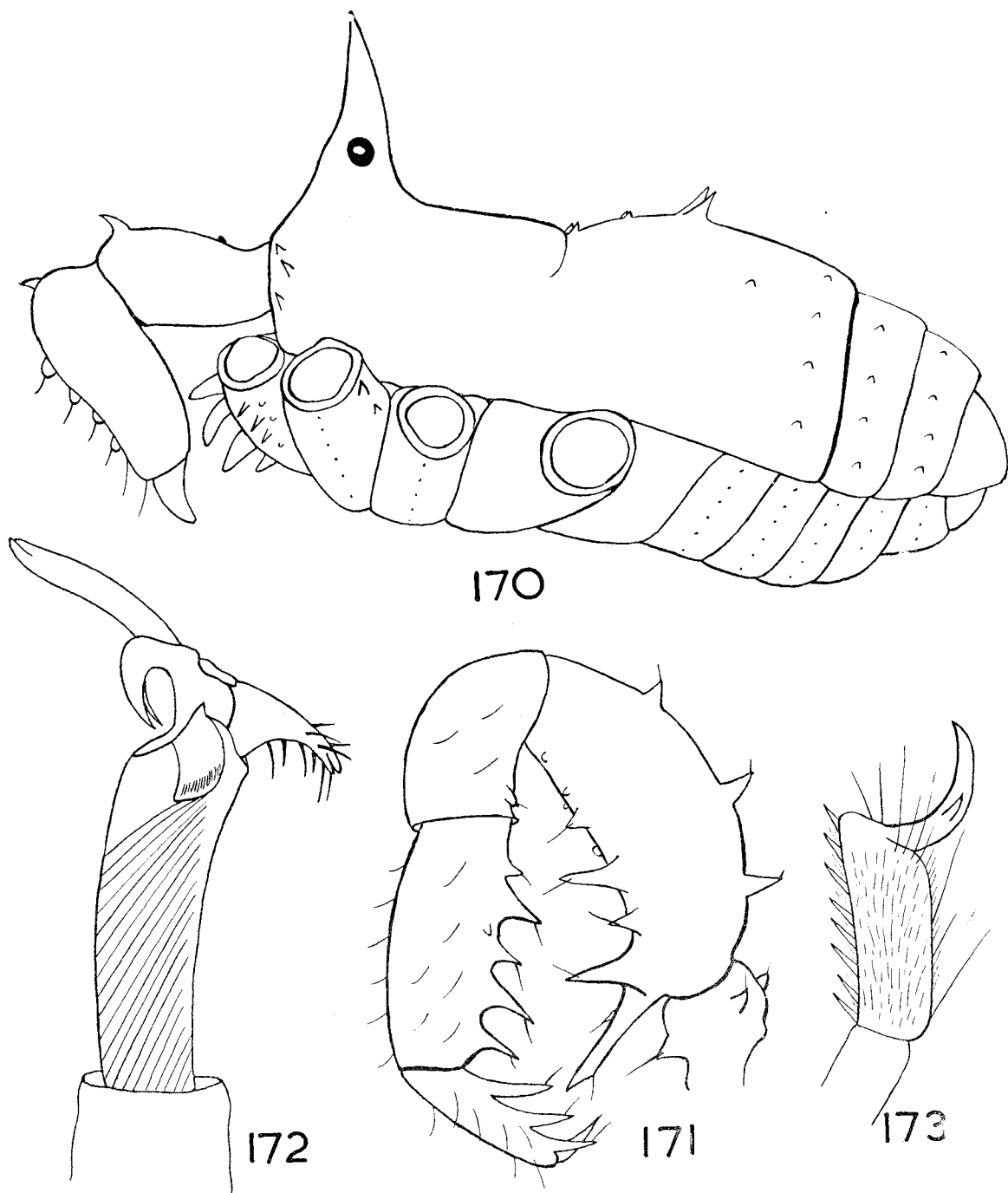
Measurements in millimeters: Body-length 7.65, length of scutum 5.42, length of carapace 2.50.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.81	0.97	5.98	1.67	4.87	6.67	2.92	24.89
Leg 2	2.78	1.25	10.43	2.09	8.62	10.84	10.15	46.16
Leg 3	2.50	1.11	6.53	1.67	4.87	8.20	3.34	28.22
Leg 4	2.78	1.39	10.29	2.36	5.98	12.51	5.00	40.31
Pedi-palp	1.25	0.83	3.48	2.22	2.64	....	2.09	12.51

Colour (in alcohol): Dorsal surface of body, chelicerae and pedipalpi yellowish-brown. Legs yellowish with paler tarsi. Ventral surface of body yellowish-brown.

Surface of scutum finely granular. Anterior margin with a row of three small denticles above on each side. Eyemound high, conical, situated about half its basal diameter from the front margin and surmounted by a long sharp erect horn (fig. 170). It rises steeply both in front and behind. Scutal groove distinct and deep medianly. Tergal grooves not distinct. Areas I and II each furnished with a median pair of small denticles. Area III is raised and forms the highest part of the abdominal scutum. It is provided with a median pair of spines. Area IV has a widely separated pair of small denticles. Area V and the free tergites are each provided with a transverse row of small rounded tubercles.

Chelicerae strong. The basal segment has a single spine near the apex of the dorsal surface



Monoxyomma caraticum sp. n.

FIG. 170.—Lateral view of body and chelicera of male.
 FIG. 171.—Retrolateral view of pedipalpus of male.

FIG. 172.—Lateral view of penis.
 FIG. 173.—Distal tarsal segment and claw of leg III.

and a smaller denticle near the middle. The second segment has two teeth and several smaller tubercles on the dorsal surface (front).

Pedipalpi large and powerful. Coxa with one ventral spine, trochanter with two small spines above and one below. Femur has a median row of three teeth above. The prolateral surface is armed with a row of three spines above and two larger spines below near the apex. The ventral surface has a large basal spine which slopes backward and has a small accessory tooth on its mesial surface. The retroventral margin is armed with a row of four teeth, the first and third being larger than the other two (fig. 171). There are also a few small tubercles on the ventral surface. Patella has two large prolateral spines and a small retrolateral tooth. The tibia is armed with three prolateral teeth and five retrolateral teeth. The tarsus has three teeth on each side.

The coxae and abdominal sternites are finely granular. Coxa I has a promarginal row of three large teeth, the apical tooth being bifid. Behind the promarginal teeth there are three smaller teeth and several tubercles on the ventral surface. Coxae II, III and IV each have a median row of small setose granules on the ventral surface. Coxa II is armed with two small teeth behind the distal end. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV is unarmed in front but is furnished with a few granules on the posterior margin.

The sternum is narrow and not crescentic posteriorly. The genital operculum is small with a rounded and smooth margin. The penis has the form shown in fig. 172. The glans ends in a slender terminal process with a slightly expanded tip, which is divided by a short cleft into dorsal and ventral lobes. Above the glans is a bifid dorsal process, which, in the fully extended condition, is curved backwards. The ventral plate is deeply cleft and has two pairs of superior and three pairs of inferior setae. On each side of the basal part of the ventral plate is a small curved lateral plate, which is folded back against the corpus penis. When the organ is not fully extended the glans is withdrawn into the end of the corpus penis. In this condition the bifid dorsal lobe, the lateral plates and the ventral plate are all bent forwards and rest against the glans, only the ends of the various structures being visible.

The legs are long and slender. Trochanters I, II and III each have two or three small denticles, but segments beyond the trochanters are unarmed. All the femora are somewhat granular. Each calcaneus is straight and shorter than the astragalus. The calcanei of legs I-IV are about $\frac{1}{4}$, $\frac{3}{11}$, $\frac{1}{5}$ and $\frac{1}{2}$ the lengths of the respective metatarsi. The number of segments in tarsi I-IV is 6, 18L 20R, 4, 4. The distitarsi I and II have two and three segments respectively. The tarsal claws are long and slender. Those of tarsi III and IV are three-pronged, the middle prong being much longer and stouter than the lateral prongs. Some of the setae on the ventral surface of the tarsi are coarse and spine-like (see fig. 173). The metatarsi exhibit pseudosegmentation.

The free abdominal sternites are each furnished with a transverse row of granules. The respiratory spiracles are close to the fourth coxae but not concealed.

Allotype Female

Measurements in millimeters: Body-length 7.78, length of scutum 4.86, length of carapace 2.22.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.81	0.70	5.56	1.67	4.45	6.53	3.34	24.06
Leg 2	2.50	1.11	10.01	2.09	8.34	10.43	9.31	43.79
Leg 3	2.35	1.11	6.67	1.67	4.59	7.92	4.17	28.49
Leg 4	2.78	1.25	3.73	1.95	5.28	11.81	4.87	37.67
Pedipalp	1.11	0.70	2.64	1.53	2.09		1.67	9.74

The female resembles the male in size, colouration and general features. The pedipalpi, however, are smaller and less robust. The median proximal tooth on the ventral surface of the femur lacks the small accessory tooth present in the male. The number of segments in tarsi I-IV is 5, 18, 4, 4. Distitarsi I and II have two and three segments respectively.

Locality: The type specimens were found in the Ida Bay Caves, Hastings, Tasmania, 22nd November, 1939. The harvestman lives in almost complete darkness and occurs on the moist walls of the cave about 400 yards from the entrance. It is associated with the luminous larvae of the mycetophilid fly, *Arachnocampa tasmaniensis* Ferguson. These larvae emit a pale bluish light in the otherwise quite dark cave.

Variations: The collection contains four adult males and three adult females together with six immature specimens. The body-length of the adult males varies from 5.68-7.65 mm. and of the adult females from 5.80-7.83 mm. The number of segments in tarsus I varies from six to seven in the males and from four to five in the females. In tarsus II it varies from 18-22 in the males and 16-21 in the females (see Table 14). Tarsi III and IV each have four segments in both sexes.

Table 14

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
1	♂	6	18L 19R
1	♂	6	18L 20R
1	♂	7	19L 22R
1	♂	7	20L 19R
1	♀	4	19L 16R
1	♀	5	18
1	♀	5	21L 19R

Subfamily TRIAENOBUNINAE (Pocock)

The Opiliones belonging to this subfamily are characterized by having the posterior part of the sternum wide and crescentic. In most species, but not in all, the respiratory spiracles are concealed under bridging granules on the posterior margin of the fourth coxae.

Rcwer (1923) in his great work "*Die Weberknechte der Erde*" mentions only six genera with seven species as belonging to the subfamily. Five of the genera are from Tasmania and the sixth

KEY TO TASMANIAN GENERA OF THE SUBFAMILY TRIAENOBUNINAE

1. Eyemound in the form of a trident	<i>Triacnobunus</i> Soerensen
Eyemound not so constructed	2
2. Eyemound conical, armed with a spine or horn	3
Eyemound conical and unarmed	4
3. A granule pattern on scutum	<i>Glyptobunus</i> Roewer
No granule pattern on scutum	4
4. Femur of leg I armed below with spines	<i>Phoxobunus</i> gen. n.
Femur of leg I unarmed	5
5. Front margin of scutum not armed above with spines	6
Front margin of scutum armed above with two or more spines	8
6. Segment I of chelicerae with a long apical spine	<i>Eubunus</i> gen. n.
Segment I of chelicerae without a long apical spine	7
7. Tergal Areas I-IV with a median pair of granules	<i>Allobunus</i> gen. n.
Tergal Areas I, III and IV with a pair of spines	<i>Chilobunus</i> gen. n.
8. Front margin of scutum with a short spine above on each side	<i>Rhynchobunus</i> gen. n.
Front margin of scutum with four spines above on each side	<i>Phanerochobunus</i> Roewer.
9. Tarsus of leg II with four segments	<i>Miobunus</i> Roewer.
Tarsus of leg II with more than four segments	10
10. Tarsus of leg II with five segments	<i>Tasmanobunus</i> gen. n.
Tarsus of leg II with more than five segments	11
11. Tarsus of leg II with six segments	<i>Chrestobunus</i> Roewer.
Tarsus of leg II with 9-11 segments	<i>Thebunus</i> gen. n.

from the Australian mainland. Since 1923 several new genera from New Zealand have been included in the subfamily. However, Forster (1954, p. 15) from a study of the New Zealand species considers that the subfamily should be regarded merely as a *tribe* of the Triaenonychinae. Until more is known of the genital anatomy and biology of the Australian species it is not possible to make an adequate comparison with the New Zealand forms. The subfamily is therefore retained with its original status in the present paper, and a key to Tasmanian genera given at head of page.

Genus **TRIAENOBUNUS** Soerensen, 1886

Eyemound conical, arising from the front margin, directed upwards and forwards, and ending in the form of a three-pronged projection or trident. Scutum somewhat depressed, the front margin being armed on each side with blunt tubercles or sharp spines. Tergal grooves indistinct. Tergal Areas I-IV with a median pair of short spines. Area V and the free tergites each with a transverse row of conical tubercles. Pedipalpi armed with strong spines and tubercles. Legs armed with spines or tubercles on coxae, trochanters, femora, patellae and tibiae. The first leg is more strongly armed than the others. Calcaneus of each meta-

tarsus short and knob-like. Respiratory spiracles concealed.

Genotype: *Triaenobunus bicarinatus* Soerensen.

Type Locality: Near Sydney, New South Wales.

The tarsal segmentation of the genotype is 3, 5, 3, 3 and this is often included in the definition of the genus, although it was not so included by Soerensen. Because of a different tarsal segmentation (3, 6, 4, 4) the Tasmanian species, *Triaenobunus pectinatus* Pocock, was removed from *Triaenobunus* by Roewer (1914, p. 157) and made the type of a new genus, *Peckhamius*. Recently, however, Forster (1955, p. 402) has placed five new species from the Australian mainland in the genus *Triaenobunus* and no two of them agree in having the same tarsal formula, nor has any one of them the same tarsal formula as the genotype. It would therefore appear that the tarsal segmentation in *Triaenobunus* has little value as a generic character. This being so it seems desirable to restore *Peckhamius pectinatus* to the genus *Triaenobunus*, where it was originally placed by Pocock.

In the present paper six new Tasmanian species have been included in the genus and a key to all the species is given hereunder.

KEY TO SPECIES IN THE GENUS *TRIAENOBUNUS*

1. Front margin of scutum without spines	<i>T. pescotti</i> Forster.
Front margin of scutum with spines	2
2. Scutum without pattern of granules	<i>T. inornatus</i> sp. n.
Scutum with a pattern of granules	3
3. Spines and tubercles on body pilose	<i>T. pilosus</i> sp. n.
Spines and tubercles on body not pilose	4
4. Basiventral spine on femur of pedipalp trifurcate	<i>T. asper</i> sp. n.
Basiventral spine on femur of pedipalp not trifurcate	5
5. Tarsus of leg I with two segments	6
Tarsus of leg I with three segments	9
6. Pedipalp granulose	<i>T. armstrongi</i> Forster.
Pedipalp not granulose	7
7. Eyemound without dorsal granules	<i>T. montanus</i> sp. n.
Eyemound with dorsal granules	8
8. Middle prong of trident with granules	<i>T. cornutus</i> sp. n.
Middle prong of trident without granules	<i>T. mestoni</i> sp. n.
9. Tarsi III and IV each with three segments	<i>T. bicarinatus</i> Soerensen.
Tarsi III and IV each with four segments	10
10. Genital operculum smooth	11
Genital operculum with tubercles or granules	12
11. Scutal pattern poorly developed	<i>T. minutus</i> Forster.
Scutal pattern well developed	<i>T. groomi</i> Forster.
12. Leg I with small tubercles below trochanter	<i>T. pectinatus</i> Pocock.
Leg I with long spines below trochanter	<i>T. woodwardi</i> Forster.

Of the species mentioned in the above key *T. pescotti*, *T. bicarinatus* and *T. armstrongi* are from New South Wales, *T. minutus*, *T. woodwardi* and *T. groomi* are from Queensland and all the others are from Tasmania.

TRIAENOBUNUS PECTINATUS Pocock

(Figures 174-178)

This species was first recorded from Tasmania by Pocock (1903, p. 400) and described from a single specimen without the sex being mentioned. Roewer (1914, p. 157) in establishing the genus *Peckhamius* gave a further description based on a single male specimen from this State. The opilionid is one of the most common species found in the south-east quarter of Tasmania and the collection before me contains a large number of specimens. The following description adds some further details to the known features of the species.

Male

Measurements in millimeters: Body-length 4.85, length of scutum 4.00, length of carapace 2.11.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.14	0.68	1.54	0.80	1.08	1.37	0.74	7.35
Leg 2	1.71	0.74	2.63	1.43	1.94	2.51	1.60	12.56
Leg 3	1.65	0.68	1.54	0.86	1.37	1.88	0.86	8.84
Leg 4	2.46	0.80	2.23	1.14	2.00	2.91	1.03	12.57
Pedi-palp	0.68	0.40	1.03	0.86	0.74	.....	0.63	4.34

Colour (in alcohol): Dorsal surface of body dark-brown with a yellowish-brown saddle-shaped area in the middle of the scutum. Chelicerae and pedipalpi pale-brown with dark-brown reticulations. Legs dark-brown with a yellowish band on all femora and on the third and fourth tibiae and metatarsi. Trochanters yellowish. Sternum, genital operculum and bases of coxae yellowish-brown. Sternites and anal operculum dark-brown.

Scutum (fig. 174) with a row of about six sharp spines on each side above the front margin. The three outermost spines usually consisting of two large spines with a small one between them. Eyemound arising from the front margin, conical, and extending forward in the form of a three-pronged projection or trident. The two lateral prongs are shorter than the median prong and behind each is a small spine followed by a larger spine near the base of the eyemound. Dorsal surface of eyemound furnished with granules. The surface of the scutum is decorated with a pattern of lobed granules, each of which measures about 0.135 mm. high, 0.111 mm. wide at the apex and 0.069 mm. wide at the base. The apex of the granule is somewhat flat and divided into four or five lobes, one of which bears a small seta (fig. 175). The scutal groove is distinct in the middle only. Tergal grooves are indistinct but their positions are indicated by transverse rows of lobed granules. A median pair of small spines is present on each of the tergal Areas I-IV. On Area V and each free tergite there is an anterior and posterior marginal row of lobed granules and between the two rows a transverse row of conical tubercles. The two spines, which in the figure given by Roewer (1914, p. 158, fig. 50a) are shown as situated on each side in Areas I-IV, are sometimes present and sometimes absent, or present on one side and not on the other.

The chelicerae are small. A dorsal apical tubercle is present on the basal segment and a dorsal longitudinal row of three small tubercles on the second segment.

The pedipalpi (fig. 176) are slightly longer than the scutum. The femur is armed with a pro-dorsal row of about five small teeth, a large proximoventral bifid tooth and two large retro-ventral teeth, one near the base the other near the apex. In some specimens but not in all there is also a proventral row of five minute tubercles. Patella tuberculate above. Tibia tuberculate above and below, with two small denticles on each side. Tarsus with three small teeth on each side.

Large tubercles are present on the distal half of the ventral surface of coxa I, on the anterior margin and behind the apex of coxa II, and in front of the apex of coxa IV. Small rounded tubercles are present on the ventral surfaces of all coxae and on the dorsal surface of coxa IV. Two transverse rows of small tubercles are present on each sternite but the anterior row is generally hidden by the posterior margin of the preceding segment. The genital operculum measures 0.51 mm. wide and 0.46 mm. from base to apex. Its anterior margin is rebordered, and its ventral surface furnished with a few tubercles. The form of the distal end of the fully extended penis is shown in fig. 177. The basal plate has three pairs of inferior and two pairs of superior setae. The dorso-lateral plates are in the form of backwardly curved hooks. The distal part of the glans forms a dorsal and a ventral lobe.

The legs are provided with spinous tubercles on all the trochanters and femora and with smaller conical tubercles on patellae and tibiae. Leg I (fig. 178) is more strongly armed than the other legs. Its femur has a dorsal row of about 10 large spines, a retrolateral row of three large spines in the basal half and several smaller spines in the apical half, a proventral row of four large spines in the basal half and a retroventral row of six large spines and several smaller ones. Calcaneus of each metatarsus small and knob-like. Tarsal segmentation: 3, 6, 4, 4.

Female

Measurements in millimeters: Body-length 4.11, length of scutum 3.30, length of carapace 1.60.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.34	1.26	0.68	0.86	1.09	0.63	5.72
Leg 2	1.43	0.57	1.94	1.14	1.54	1.88	1.31	9.81
Leg 3	1.37	0.51	1.14	0.69	1.20	1.37	0.69	6.97
Leg 4	1.94	0.74	1.71	0.86	1.60	2.28	0.97	10.10
Pedi-palp	0.57	0.29	0.86	0.57	0.63	.....	0.57	3.49

The female resembles the male but is slightly smaller. The pedipalpi are shorter and less robust but armed in a similar manner. The genital operculum is larger and measures 0.63 mm. wide and 0.48 mm. from base to apex.

Localities: Mount Wellington, Dromedary, Huon, Geeveston, Hastings, Catamaran, Andover, Wooddale, Nugent, Eaglehawk Neck and Highcroft. All these places are situated in the south-east quarter of Tasmania.

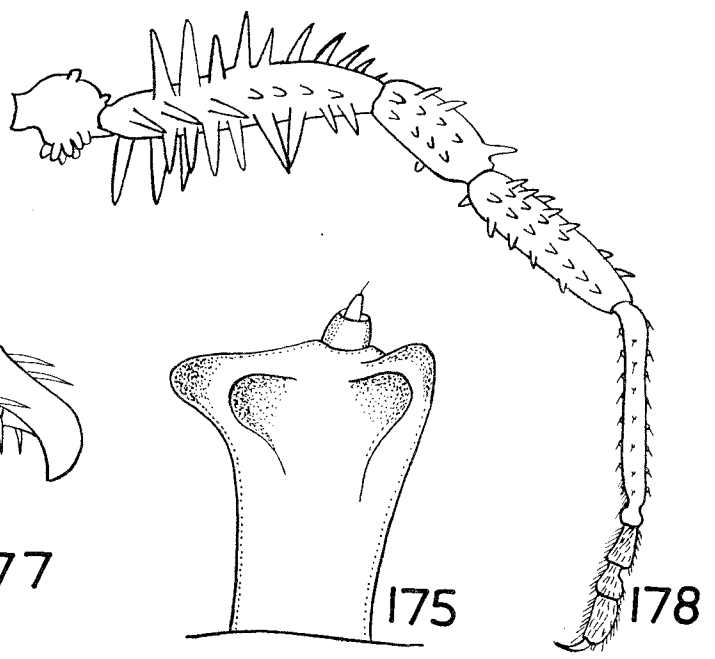
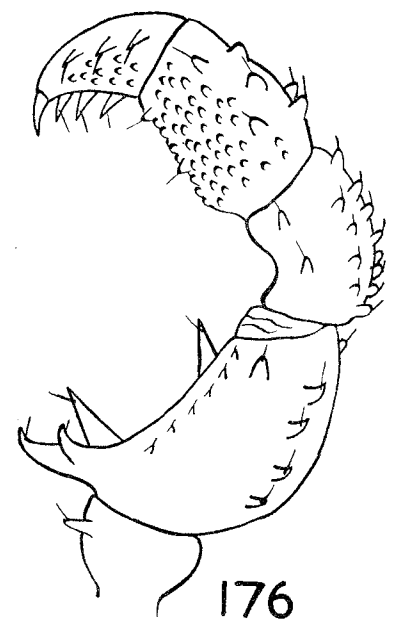
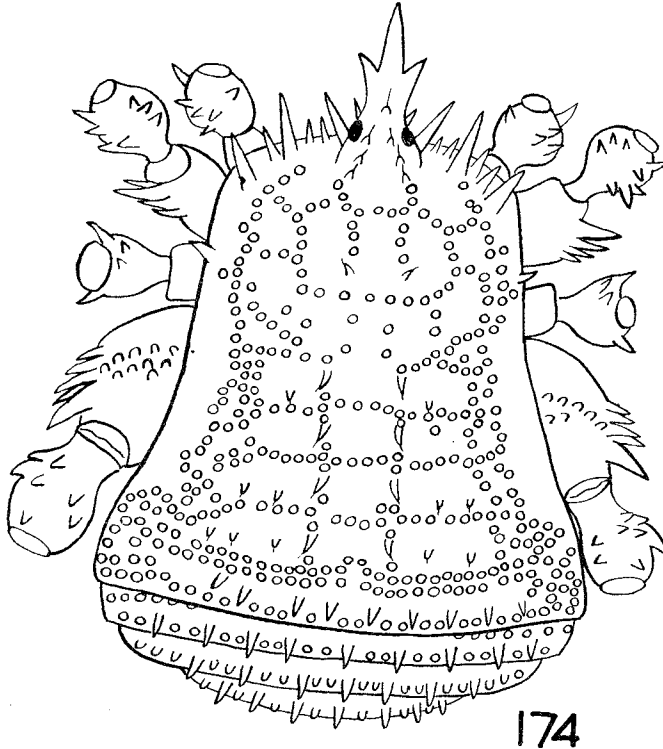


FIG. 174.—Dorsal view of scutum and free tergites of male.
 FIG. 175.—A lobed granule from the scutum.

FIG. 176.—Prolateral view of pedipalpus of male.
 FIG. 177.—Lateral view of distal part of penis.
 FIG. 178.—Leg I of male.

Triacnobunus pectinatus Pocock.

Triaenobunus pectinatus is very common on Mount Wellington. It is more tolerant of dry conditions than are most opilionids and is often found under charred logs on hillsides which become very dry in summer. Adult specimens may be collected throughout the year.

Variations: The collection contains 37 males and 46 females. The males vary in body-length from 3.7-5.3 mm. and the females from 3.19-5.10 mm. The tarsal segmentation in both sexes is normally 3, 6, 4, 4. Only eight out of the 83 specimens in the collection depart from the normal segmentation (see Table 15). All the specimens have four segments in each of tarsi III and IV.

Table 15

Number of specimens	Sex	Number of segments in tarsus II	Number of segments in tarsus I
33	♂	3	6
2	♂	3	7L 6R
1	♂	3L 2R	6
1	♂	3	4L 7R
42	♀	3	6
1	♀	3	4
1	♀	3	6L 5R
1	♀	3	5L 6R
1	♀	3	6L 7R

TRIAENOBUNUS ASPER sp. n.

(Figures 179-185)

Holotype Male

Measurements in millimeters: Body-length 4.00, length of scutum 3.20, length of carapace 1.54.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.40	1.20	0.63	0.69	1.03	0.54	5.46
Leg 2	1.43	0.63	2.06	1.14	1.37	2.00	1.20	9.83
Leg 3	1.31	0.57	1.14	0.63	0.97	1.26	0.63	6.51
Leg 4	1.71	0.69	1.60	0.69	1.31	2.17	0.86	9.03
Pedi-								
palp	0.40	0.29	0.80	0.51	0.51	.....	0.57	3.08

Colour (in alcohol): Carapace and tergal Areas I, II and V yellow. Tergal Areas III and IV yellow in the middle, dark-brown at the sides. Eyemound, spines, tubercles and free tergites dark-brown. Chelicerae and pedipalpi yellowish with brown reticulations. Legs dark-brown with an indistinct yellowish band on femora, tibiae and metatarsi. Calcaneus of legs I, III and IV white. Ventral surface of body yellowish in the middle merging into brown laterally.

Scutum (fig. 179) armed with a row of about five sharp spines on each side of the anterior margin. The three outermost spines on each side consisting of two large spines with a small one between them. Four small spines near the margin above the base of leg II. Eyemound on anterior margin and extending forward as a three-pronged projection, the middle prong being slightly longer than the lateral prongs. Behind the lateral prong on each side is a small spine and behind the small spine a much larger spine below the eye. Between the eyes the dorsal surface of the eyemound is furnished with small tubercles. The scutum is decorated with a pattern of lobed granules as shown in fig. 179. The scutal groove is distinct

in the middle only. A pair of short median spines is present on each of tergal Areas I-IV and also a small spine on each side in Areas I-III. The free tergites and Area V are each provided with an anterior and a posterior marginal row of lobed granules and between the rows of granules a transverse row of conical spines.

Chelicerae have a small dorsal apical spine on the basal segment and two small dorsal tubercles on the second segment. The length of the basal segment is 0.40 mm. that of the second segment 0.85 mm.

The pedipalpi (fig. 180) are about equal in length to the scutum. The trochanter is armed below with a conical tooth. The femur has a row of three small teeth on the prodorsal surface and two small tubercles near the apex on the retrodorsal side. On the prolateral side there is a small apical tubercle. On the ventral surface a large trifurcate basal tooth and two large teeth on the retromargin. Patella tuberculate above. Tibia tuberculate above and below. Tarsus with three teeth on each side.

Tubercles are present on all coxae. Those on the anterior margin of coxae I and II, those behind the apex of coxa II and in front of the apex of coxa IV larger and more spine-like than the rest. The sternum and genital operculum have the form shown in fig. 181. The genital operculum measures 0.4 mm. wide and 0.4 mm. from base to apex. The penis is illustrated in fig. 182. It closely resembles that of *T. pectinatus* described above. Each sternite has a transverse row of small tubercles which are larger at the sides than in the middle. The respiratory spiracles are concealed.

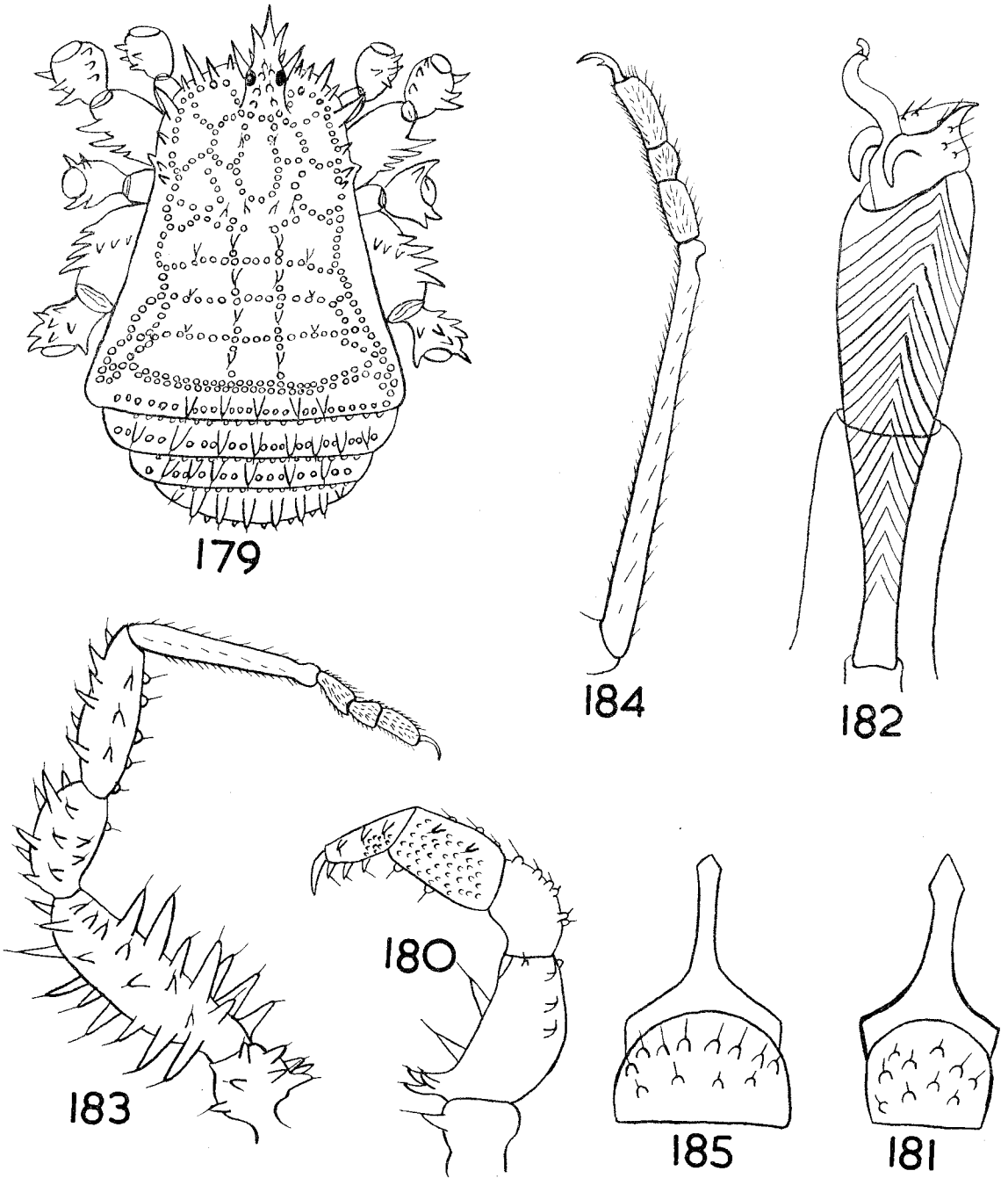
The legs are armed with spinous tubercles on all trochanters, femora, patellae and tibiae. The spines on the femora of legs I and IV are longer than those on other segments. Femur I (fig. 183) has about eight spines in a row on the dorsal surface and about 10 in an irregular double row on the retrolateral side. On the ventral surface there is a proventral row of three large teeth and retroventral row of five. The calcaneus of each metatarsus is small and knob-like (fig. 184). The tarsal segmentation is 3, 6, 3, 3. Distitarsi I and II have two and three segments respectively.

Allo-type Female

Measurements in millimeters: Body-length 3.94, length of scutum 3.08, length of carapace 1.37.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.46	1.09	0.77	0.74	0.91	0.51	5.14
Leg 2	1.31	0.51	1.94	1.20	1.43	1.83	1.20	9.42
Leg 3	1.14	0.46	1.14	0.68	1.03	1.31	0.68	6.44
Leg 4	1.54	0.63	1.60	0.68	1.31	2.06	0.86	8.68
Pedi-								
palp	0.29	0.34	0.69	0.51	0.51	.....	0.45	2.79

The female resembles the male in general form. However, the yellow colouration on the scutum is confined to a U-shaped area on the carapace immediately behind the eyemound and an indistinct median region on tergal Areas I, II and III. The pedipalpi are shorter and the trifurcate basal tooth below the femur is much smaller than in the male. The sternum and genital operculum (fig. 185) are wider than those of the male. The operculum measures 0.57 mm. wide and 0.40 mm. long.



Triaenobunus asper sp. n.

FIG. 179.—Dorsal view of scutum and free tergites of male.
 FIG. 180.—Prolateral view of pedipalpus of male.
 FIG. 181.—Sternum and genital operculum of male.
 FIG. 182.—Dorsolateral view of penis.

FIG. 183.—Leg I of male.
 FIG. 184.—Metatarsus and tarsus of leg IV of male.
 FIG. 185.—Sternum and genital operculum of female.

Localities: The type specimens were collected under decaying logs in a valley on the west of Trevallyn, Launceston, Tasmania, 29th January, 1945. The species also occurs at Gould's Country and St. Mary's Pass.

Variations: The collection contains 24 males and 27 females. The males vary in body-length from 2.78-4.06 mm. and females from 2.90-4.18 mm. The normal tarsal segmentation in both sexes is 3, 6, 3, 3. All specimens have three segments in each of tarsi I, III and IV. Variations in the number of segments in tarsus II are shown in Table 16.

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II	
21	♂	3	6	
2	♂	3	6L	7R
1	♂	3	6L	5R
25	♀	3	6	
1	♀	3	5L	6R
1	♀	3	7L	6R

TRIAENOBUNUS INORNATUS sp. n.

(Figures 186-188)

Holotype Male

Measurements in millimeters: Body-length 3.31, length of scutum 2.74, length of carapace 1.26.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.40	1.54	0.80	0.91	1.49	0.34	6.34
Leg 2	1.31	0.51	2.63	0.91	2.28	2.63	0.86	11.13
Leg 3	1.26	0.40	1.66	0.80	1.43	2.00	0.45	8.00
Leg 4	1.77	0.63	2.28	0.97	1.94	2.80	0.62	11.01
Pedi-palp	0.40	0.34	1.43	1.03	1.14	...	1.03	5.37

Colour (in alcohol): Scutum yellowish with an elongate dark area on each side extending through the posterior three-quarters and ending in the posterior lateral corners. Indistinct dark marks in the middle of the tergal Areas. Free tergites yellowish with faint dark marks. Chelicerae, pedipalpi and legs yellowish. Femora of legs darker in basal half. Sternites yellowish-brown merging into dark-brown laterally and with a pair of dark-brown patches in the middle.

Scutum (fig. 186) depressed and armed on the front margin at each side with a row of about eight tubercles, the five outer ones being short and blunt, the three inner ones being longer, slightly curved and spine-like. The eyemound arises from the front margin and extends forward horizontally in the form of a trident, the two lateral prongs of which bend inwards towards the median prong, which is curved slightly downwards. Behind the lateral prongs and situated below the eyes is a pair of large sharp spines directed forwards and outwards. The surface of the scutum is clothed with coarse granules, which, however, do not form a pattern. The scutal groove is distinct in the middle. Other grooves are not evident. Tergal Area V has a transverse row of spinous tubercles, of which the three median ones are the largest. Each free tergite has a transverse anterior row of small blunt tubercles and a posterior row of large spinous tubercles. The third free tergite is hidden below the second. Anal operculum granular.

Chelicerae granular and unarmed. Pedipalpi (figs. 187) granular and about twice the length of the scutum. Trochanter armed below with about five small tubercles. Femur with a prodorsal row of about 11 spinous tubercles which are directed inwards and three small tubercles at the apex. On the prolateral side a row of four tubercles in the distal half and one at the apex. On the ventral surface a large bifid basal tooth which is directed inwards, four small promarginal teeth and three large retromarginal teeth with a small one between the first and second. Patella tuberculate dorsally and with three small prolateral teeth and one small retroventral tooth. Tibia tuberculate above and below and with an irregular row of six or seven teeth on each side. Tarsus tuberculate above and below and with five teeth on each side.

Coxae granular and provided with a marginal row of tubercles in front and behind. Those in front of coxae I and II being larger and more spine-like than the others. Sternites granular and furnished with a transverse row of small tubercles which increase in size laterally. Genital operculum measures 0.51 mm. wide and 0.40 mm. from base to apex. The surface of the operculum is tuberculate. Respiratory spiracles concealed.

Legs long and slender, armed with spinous tubercles on the trochanters, femora, patellae and tibiae. The tubercles on the femora are larger than those on other segments. Leg 1 (fig. 188) is more strongly armed than the other legs. The trochanter has a promarginal and a retromarginal tubercle above and a group of about six tubercles below. The femur has a dorsal row of about nine teeth and a ventral row of about eight, the two proximal teeth in the ventral row being the largest. The tibia has two conspicuous tubercles on the ventral surface, one near the base, the other near the middle of the segment. Calcaneus of each metatarsus short and knob-like. Tarsal segmentation 2, 4, 4, 4. Distitarsi I and II with one and three segments respectively.

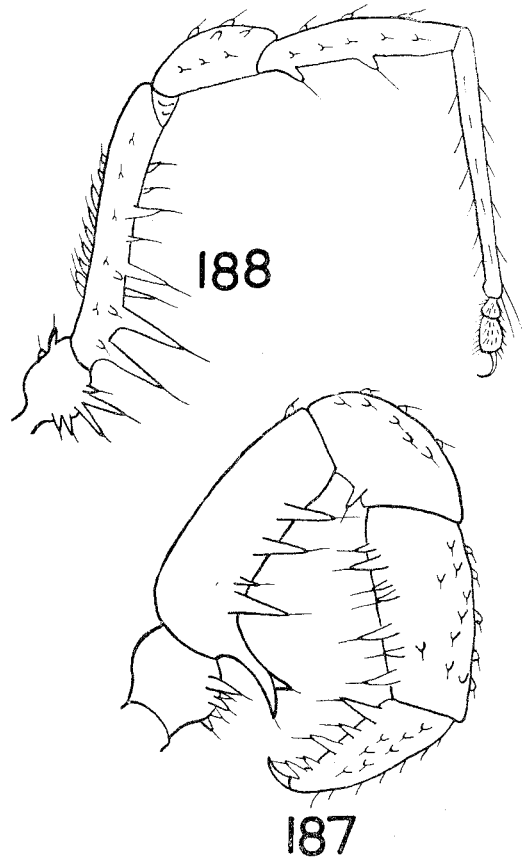
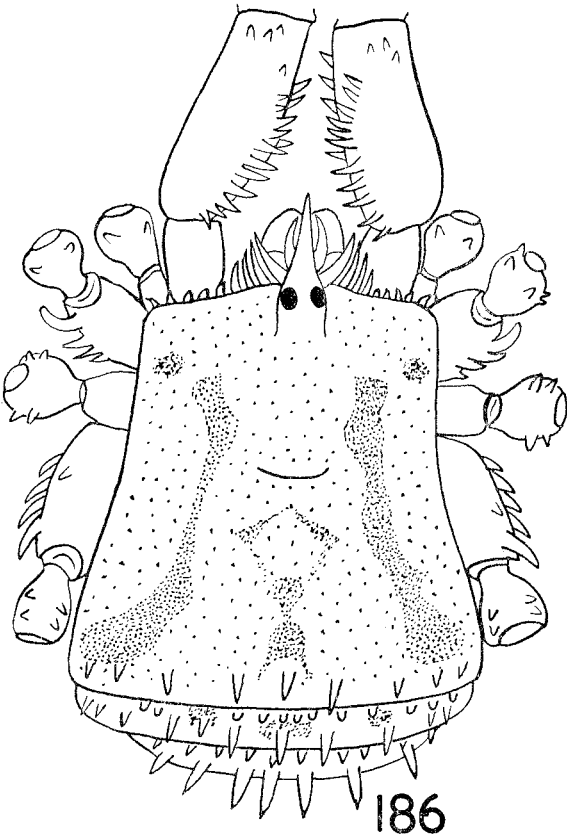
Allotype Female

Measurements in millimeters: Body-length 3.60, length of scutum 2.85, length of carapace 1.43.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.80	0.51	1.71	0.86	1.26	1.60	0.40	7.14
Leg 2	1.43	0.57	3.43	1.14	3.03	3.43	0.86	13.89
Leg 3	1.26	0.51	2.23	0.86	1.71	2.34	0.57	9.48
Leg 4	1.71	0.63	2.86	1.14	2.28	3.54	0.63	12.79
Pedi-palp	0.45	0.40	1.60	0.91	1.21	...	1.14	5.70

The female resembles the male in general appearance. However, the bifid basal tooth on the ventral surface of the femur of the pedipalpus is shorter in the female. The spines forming a row across tergal Area V are much smaller and less spine-like than those of the male. Both sexes have the same tarsal formula.

Locality: The holotype male was collected under a log near Lake Fenton, National Park, Tasmania, 27th March, 1932. The allotype female was found under a log near the Lyell Highway about two miles on the western side of King William Saddle, 23rd May, 1954. Only one other specimen is in the collection before me. It was found near Wilmot.



Triaenobunus pilosus sp. n.

FIG. 186.—Dorsal view of scutum and free tergites of male.
FIG. 187.—Retrolateral view of pedipalpus of male.

FIG. 188.—Leg I of male.

TRIAENOBUNUS PILOSUS sp. n.
(Figures 189-192)

Holotype Female

Measurements in millimeters: Body-length 3.14, length of scutum 2.74, length of carapace 1.20.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.74	0.40	1.66	0.86	1.14	1.37	0.40	6.57
Leg 2	1.20	0.54	3.14	1.20	2.68	2.40	0.97	12.13
Leg 3	1.14	0.51	1.88	0.80	1.54	1.88	0.46	8.21
Leg 4	1.60	0.57	2.46	1.08	2.11	2.86	0.57	11.25
Pedi-palp	0.51	0.34	1.14	0.86	0.86	.....	0.74	4.45

Colour (in alcohol): Scutum pale-cream, almost white, with a dark-brown area on each side of the anterior half. Faint transverse bars on tergal Areas II, III and IV. Tergites pale-cream. Chelicerae, pedipalpi and legs also pale-cream. Ventral surface of body pale-cream except the fused eighth and ninth sternites which are dark-brown.

Scutum (fig. 189) somewhat depressed. Scutal groove distinct in the middle. A small indentation is present on each side at the level of the scutal

groove. Anterior margin with about seven tubercles on each side. Each tubercle is elongate and somewhat cylindrical. Its surface is clothed with short hairs. All tubercles and spines on the body and appendages are pilose. Eyemound small, conical and extending forwards over the front margin in the form of a short trident. The lateral prongs of the trident bend inwards towards the median prong which curves slightly downwards. The three prongs are clothed with short hairs. Below and slightly behind the eye two large spines project outwards and forwards from the base of the eyemound. The surface of the scutum is decorated with a pattern of small pilose erect tubercles, which have the form shown in fig. 190. The tubercles vary in size but most of the ones forming the pattern are about 0.129 mm. high and 0.048 mm. in diameter. Tergal grooves are indistinct but the pattern of tubercles indicates the position of the tergal Areas. The free tergites and tergal Area V each have a transverse row of elongate pilose tubercles. The third free tergite is hidden below the second. The anal operculum is devoid of tubercles.

Chelicerae small and unarmed. Pedipalpi (fig. 191) rather slender and longer than the body. The trochanter is furnished with two tubercles below. The femur has a dorsal row of about 10 tubercles and a prolateral row of three in the distal half. On the ventral surface there is a large simple basal tooth, a retromarginal row of four and a promarginal row of three teeth. Patella tuberculate above and with two prolateral tubercles. Tibia tuberculate above and provided with about nine tubercles on the retrolateral side and seven on the prolateral side. The tarsus has three teeth on each side.

All coxae tuberculate. The tubercles form a group below coxa I and a promarginal row on coxae II, III and IV. Behind the apex of coxa II there are two tubercles, the distal one being large, curved and blunt. In front of the apex of coxa IV there are four or five tubercles, the distal one being the largest. The genital operculum is tuberculate and there is a row of very small tubercles on each sternite. The respiratory spiracles are concealed.

The legs are long and slender. Tubercles are present on the trochanters, femora, patellae and tibiae. Those on the femora are larger than the ones on other segments. Leg I (fig. 192) is more strongly armed than the other legs. The femur has a dorsal row of about seven elongate tubercles, a retrolateral row of six, a proventral row of four and a retroventral row of five. The calcaneus is feebly developed and scarcely to be distinguished on any of the metatarsi. The tarsal segmentation is 3, 5, 4, 4. Distitarsi I and II have two and three segments respectively.

Locality: The holotype female was found under a decaying log in the Fern Glade near the Emu River, Burnie, 24th August, 1954. A male specimen was found at Wilmot in December, 1927, and another at Hellyer Gorge in August, 1954.

Unfortunately the male specimens are damaged and not suitable for description. However, one of them, less damaged than the other, has a tarsal formula 3, 4, 4, 4 and its pedipalpi are larger and stronger than those of the female.

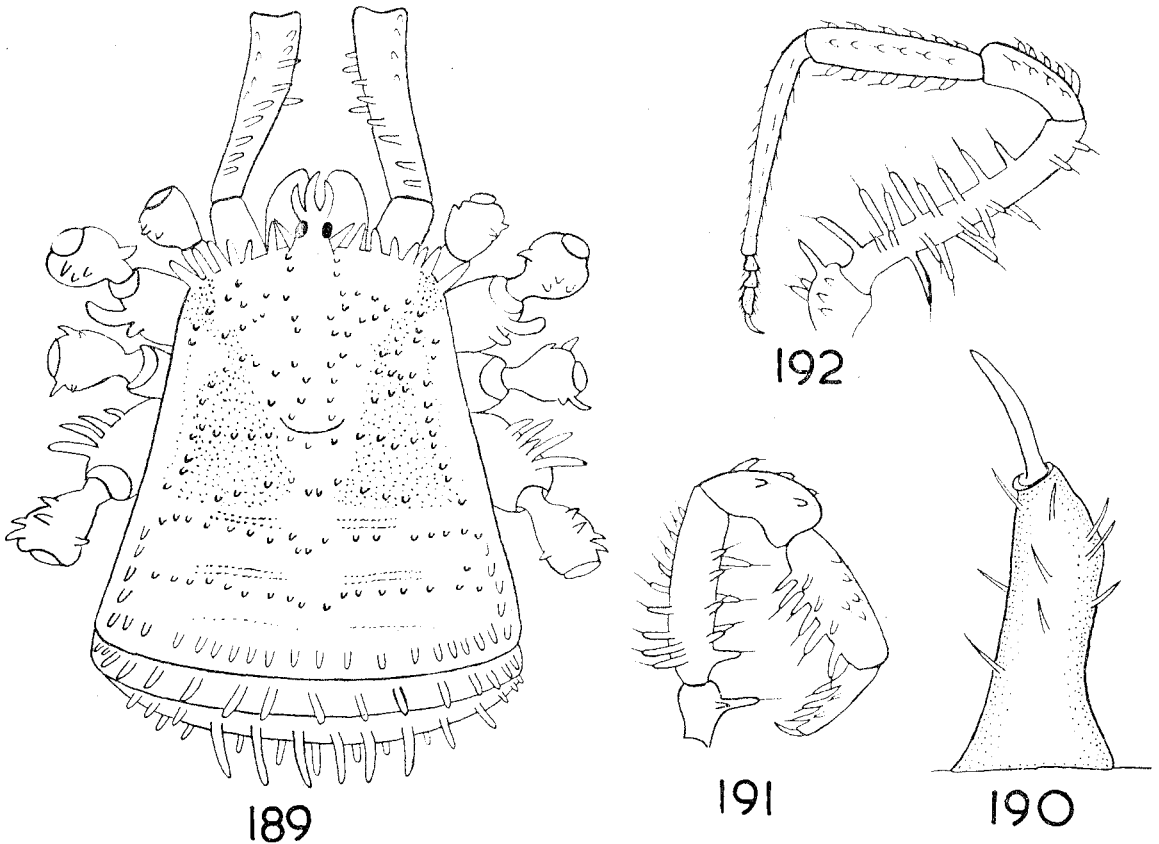


FIG. 189.—Dorsal view of scutum and free tergites of female.

FIG. 190.—A conical tubercle from scutum.

FIG. 191.—Retrolateral view of pedipalpus of female.

FIG. 192.—Leg I of female.

Triaenobunus pilosus sp. n.

TRIAENOBUNUS MESTONI sp. n.

(Figures 193-195)

Holotype Male

Measurements in millimeters: Body-length 3.31, length of scutum 2.40, length of carapace 1.14.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.80	0.34	1.14	0.62	0.80	1.03	0.34	5.07
Leg 2	1.20	0.40	2.00	0.86	1.43	1.77	0.86	8.57
Leg 3	1.14	0.40	1.14	0.63	0.97	1.26	0.34	5.88
Leg 4	1.43	0.37	1.71	0.83	1.43	2.00	0.46	8.46
Pedi-palp	0.40	0.34	1.14	0.74	0.69	.....	0.63	3.94

Colour (in alcohol): Scutum brownish-yellow with a dark-brown longitudinal area on each side in the posterior three-quarters. Between the dark-brown longitudinal areas is an elongated dark-brown shield-shaped patch covering the median region of the tergal Areas I-V, and marked with indistinct yellow bars or spots on each of the Areas I-III. The eyemound dark-brown above with dark reticulations behind. Free tergites yellowish. Chelicerae and pedipalpi yellow with dark-brown reticulations. Tarsi of pedipalpi pale distally. Legs brown with pale trochanters and tarsi. Ventral surface of body dark-brown with coxae I and II yellow and a median yellow band extending from mouth to anus. Sternites brownish on either side of the yellow band.

Scutum (fig. 193) depressed. Scutal groove distinct in the middle. Tergal grooves indistinct. Anterior margin armed on each side with a row of six spines, the four outer ones being shorter than the two inner ones. Eyemound arising from the front margin and bent forward in the form of a horizontal trident. The median prong of the trident is curved slightly downwards and the two lateral prongs, which arise from the sides of the eyemound, are curved slightly inwards towards the median prong. Close behind the lateral prongs and below and slightly in front of the eyes is a pair of long sharp spines, which project forwards and outwards. The surface of the scutum is decorated with an open pattern of lobed granules, a double row of which extends forwards from the scutal groove onto the post-ocular region of the eyemound. On each side of the scutum granules extend forward to the base of the eyemound but do not reach the front margin. On each of the tergal Areas I-IV is a median pair of very small spinous tubercles. On Area V and each free tergite is a transverse row of tubercles preceded by a transverse row of lobed granules. The tubercles on Area V are very small being little larger than the lobed granules, but those on the free tergites, especially on the second, are very large. The third free tergite is generally concealed by the preceding one.

Chelicerae small and unarmed. Pedipalpi (fig. 194) slightly longer than body. Trochanter with one proventral and two retroventral teeth. Femur with a dorsal row of about 10 teeth which are directed inwards, a prolateral row of four in the

distal half, a ventral bifid basal tooth directed inwards, a proventral row of four small teeth and a retroventral row of three large teeth. The patella tuberculate above and armed with a small retro-lateral and two larger prolateral tubercles. Tibia tuberculate above and below with about six small teeth on each side. Tarsus with six teeth on each side, the first and fourth being larger than the others. Tarsal claw short.

Coxae with an anterior and a posterior marginal row of tubercles, those in front of coxae I and II being much larger than the others. There are two tubercles behind the apex of coxa II, the distal one being large, curved and blunt. Three large and several smaller tubercles are situated in front of the apex of coxa IV. Genital operculum tuberculate. Each sternite has a transverse row of small tubercles, which increase in size laterally.

Legs have small conical tubercles or granules on trochanters, femora, patellae and tibiae, except in the case of leg I (fig. 195) which is more strongly armed. The trochanter of leg I has a ventral row of four or five strong teeth. The femur has a dorsal row of about nine teeth, a retroventral double row of about 10 conical tubercles and a ventral row of seven teeth, of which the first, second and fourth are larger than the others. The left tibia has two conspicuous ventral tubercles, one near the base and the other near the middle. The right tibia has a third smaller tubercle in the distal half of the ventral surface. The calcaneus of each metatarsus is small and knob-like. The tarsal segmentation: 2, 4, 3, 3. Tarsus II of the left side is abnormal and has only two segments.

Allotype Female

Measurements in millimeters: Body-length 2.85, length of scutum 2.06, length of carapace 0.97.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.32	0.97	0.57	0.74	0.91	0.29	4.37
Leg 2	1.03	0.46	1.71	0.80	1.54	1.60	0.74	7.88
Leg 3	0.86	0.29	0.91	0.62	0.97	1.14	0.34	5.13
Leg 4	1.37	0.57	1.49	0.68	1.26	1.71	0.46	7.54
Pedi-palp	0.34	0.34	0.91	0.57	0.57	.....	0.57	3.30

The female resembles the male in general appearance but is slightly smaller. The dark-brown areas on the scutum are more extensive than in the male. The pedipalpi are shorter and the basiventral tooth of the femur is much smaller and not bifid. The genital operculum measures 0.57 mm. wide and 0.34 mm. from base to apex. It is larger than in the male.

Locality: The holotype and allotype were found under a decaying log near Highcroft, Tasman Peninsula, Tasmania, 23rd February, 1940. They were collected by A. L. Meston.

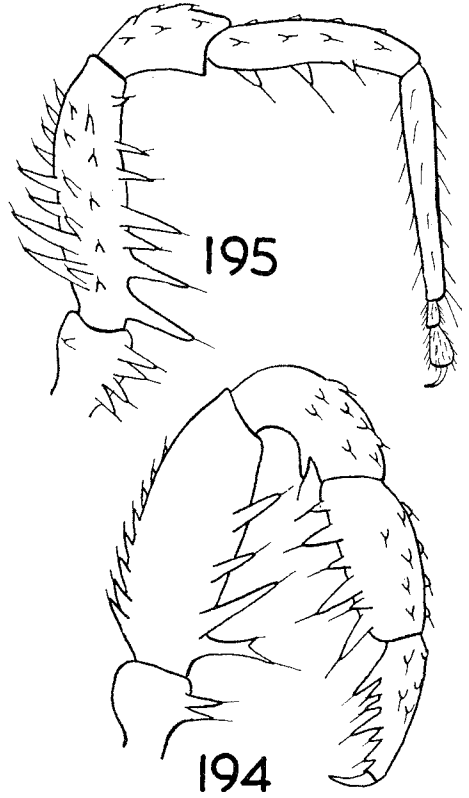
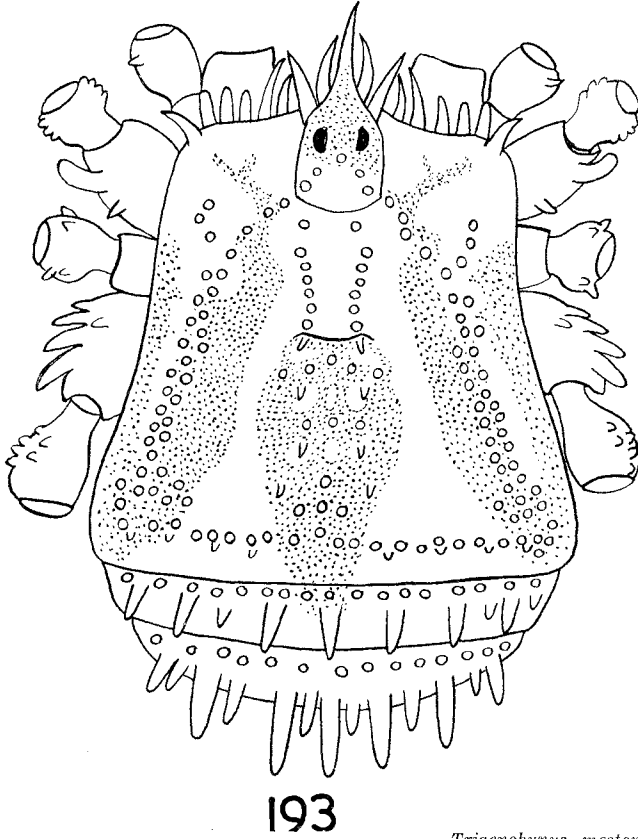


FIG. 193.—Dorsal view of scutum and free tergites of male. FIG. 194. Retrolateral view of pedipalpus of male.

Triaenobunus mestoni sp. n.

TRIAENOBUNUS MONTANUS sp. n.
(Figures 196-198)

Holotype Female

Measurements in millimeters: Body-length 3.26, length of scutum 2.34, length of carapace 1.08.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.74	0.40	1.14	0.68	0.86	1.09	0.34	5.25
Leg 2	1.06	0.46	2.00	1.03	1.77	1.82	0.86	9.00
Leg 3	1.14	0.46	1.26	0.68	1.08	1.37	0.46	6.45
Leg 4	1.54	0.63	1.71	0.86	1.14	2.11	0.46	8.45
Pedi-palp	0.40	0.34	0.97	0.69	0.69	.....	0.69	3.78

Colour (in alcohol): Scutum anteriorly yellowish marked with dark-brown reticulations on either side of and behind the eyemound. Posterior two-thirds of the scutum mainly dark-brown, the tergal Areas I-IV being marked with a pair of yellowish spots or short transverse bars in the median region. Free tergites yellowish-brown. Chelicerae yellowish with brown reticulations. Pedipalpi and legs brown, except the tarsi, trochanters and distal part of the coxae which are paler. Ventral surface of body brown except for a median yellow band extending from the mouth to the posterior margin of the seventh sternite, and

the coxae which are yellowish with dark-brown reticulations on the last three pairs.

Scutum depressed. Scutal groove distinct in the middle. Tergal grooves indistinct. Anterior margin armed on each side with a row of six tubercles, the third and fourth on each side being shorter and blunter than the others. Eyemound conical and bent forward over the anterior margin in the form of a trident, the median prong of which is bent slightly downwards. The lateral prongs curve slightly towards the median prong. Behind the lateral prongs and arising below the eyes is a pair of long spines which project forwards and outwards. The surface of the scutum is decorated with a pattern of lobed granules (fig. 196). The pattern is open in front and, on each side, does not extend far in front of the level of the scutal groove. No tubercles or granules are present on the eyemound or between the eyemound and scutal groove. Each free tergite has a transverse row of large spinous tubercles, immediately in front of which is a transverse row of lobed granules. The third free tergite is hidden below the second.

Chelicerae small and unarmed. Pedipalpi (fig. 197) with two spines below the trochanter. The femur has a dorsal row of about 10 spines which

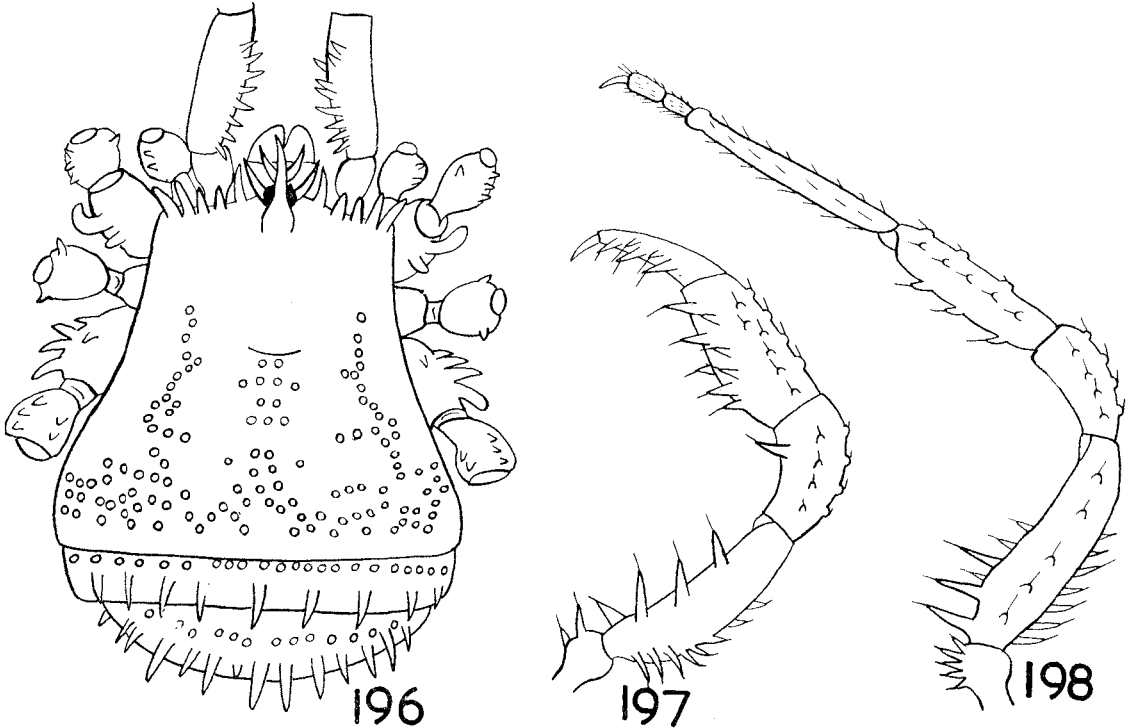
*Triaenobunus montanus* sp. n.

FIG. 196.—Dorsal view of scutum and free tergites of female.
FIG. 197.—Prolateral view of pedipalpus of female.

FIG. 198.—Leg I of female.

are directed inwards, a prolateral row of four in the distal half, a simple non-bifid basiventral tooth, three large retroventral teeth and four small proventral teeth. Patella tuberculate above and armed with two large proventral teeth and one small retroventral tooth near the apex. Tibia tuberculate above and below, armed on each side of the ventral margin with about five teeth, above which is a second row of three smaller teeth. Tarsus tuberculate above and armed with about five teeth on each side.

Coxae provided with a marginal row of tubercles in front and behind. Those on the front margin of coxae I and II being much larger than the others. Behind the apex of coxa II are two tubercles, the distal one being large, blunt and curved. In front of the apex of coxa IV there are about five tubercles, the two distal ones being blunt and curved. The genital operculum is tuberculate. Each sternite has a transverse row of small tubercles, which increase in size laterally. Respiratory spiracle concealed.

Trochanter of leg I (fig. 198) with five ventral teeth. The femur has a dorsal row of about 10 teeth and a ventral row of six. The first, second and fourth in the ventral row are much larger than the others. The tibia has a ventral row of three conspicuous tubercles. Legs II-IV are weakly armed with small tubercles on the trochanters, femora, patellae and tibiae. The calcaneus is poorly differentiated on all the metatarsi. Tarsal segmentation: 2, 4, 3, 3.

Locality: The holotype female was found under a decaying log in the Myrtle Forest, Collinsvale, Tasmania, 8th November, 1955. The collection contains two other female specimens, one from Mount Wellington, the other from the Arve Forest at Geeveston.

TRIAENOBUNUS CORNUTUS sp. n.

(Figures 199-201)

Holotype Male

Measurements in millimeters: Body-length 4.28, length of scutum 3.14, length of carapace 1.43.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.34	1.14	0.57	0.86	0.97	0.46	5.31
Leg 2	1.43	0.46	2.17	0.80	1.71	2.06	1.03	9.66
Leg 3	1.14	0.40	1.37	0.57	1.14	1.71	0.46	6.79
Leg 4	1.71	0.51	1.94	0.86	1.60	2.68	0.57	9.87
Pedi- palp	0.46	0.40	1.26	1.03	0.86	.....	0.69	4.70

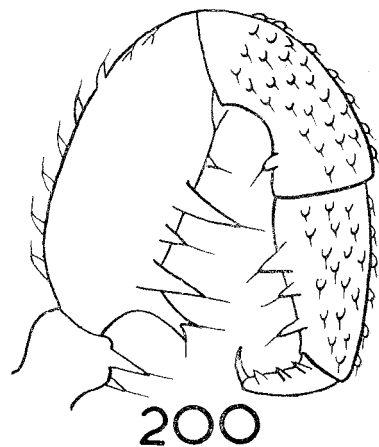
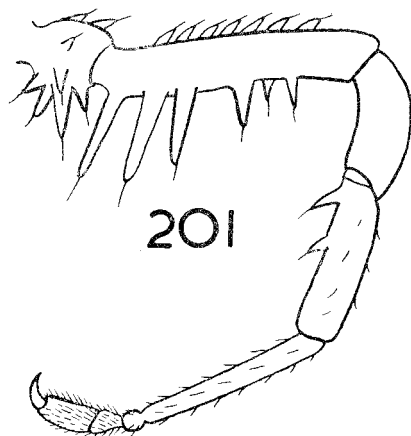
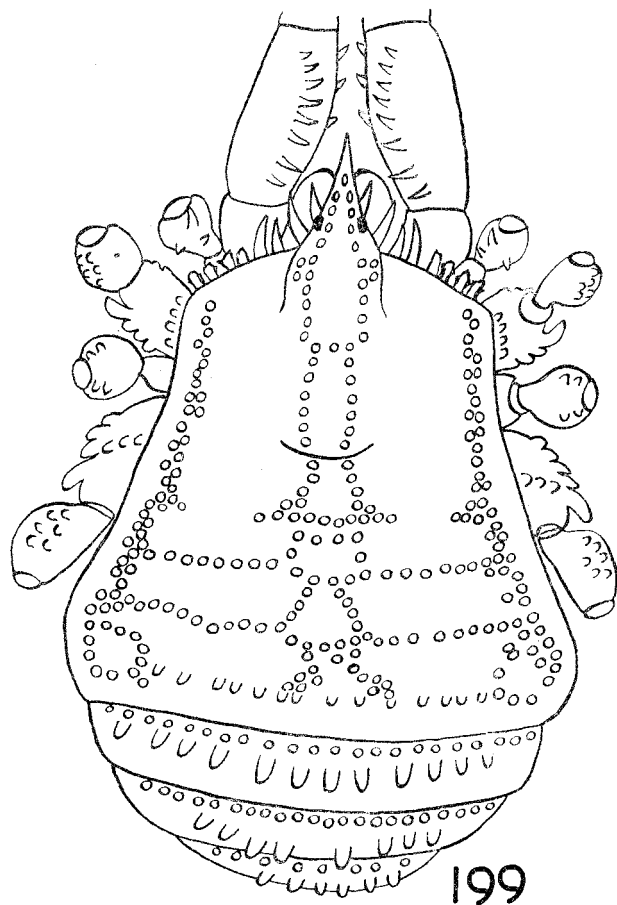
Colour (in alcohol): Scutum yellowish-brown with dark reticulations at the sides of the carapace. Tergal region dark-brown at the sides and with a median dark-brown V-shaped mark on tergal Areas II-IV; that on Area IV being continued posteriorly onto Area V. Free tergites mainly dark-brown. Chelicerae and pedipalpi mainly brownish-yellow. Legs brown with two dark bands on femora, tibiae and metatarsi. Coxae yellowish-brown. Sternum dark-brown. Genital operculum yellow in the middle, brown laterally. Sternites

dark-brown with a pair of longitudinal yellowish stripes converging posteriorly.

Scutum (fig. 199) convex from side to side. Anterior margin on each side of the eyemound is oblique and armed with a row of six tubercles, of which the four outer ones are short, blunt and irregular, the two inner ones sharp and spine-like. The eyemound large, conical and arising from the front margin. It projects forwards and upwards in the form of a trident, the median prong of which is much longer than the lateral prongs. The latter arise below the base of the median prong and in front of the eyes. They are little more than half the length of the median prong. Behind the lateral prongs and below the eyes another pair of large spines project forwards and outwards. The scutal groove is distinct medianly. The tergal grooves indistinct. The surface of the scutum is decorated with an open pattern of lobed granules arranged as shown in fig. 199. A median double row of granules extends from the scutal groove onto the dorsal surface of the eyemound and

is continued forward between the eyes onto the median prong of the trident. Here the two rows converge into a single row of small tubercles leading almost to the distal end of the prong. Each free tergite has a transverse row of short blunt conical tubercles preceded by a transverse row of lobed granules.

Chelicerae unarmed; the basal segment measures 0.63 mm. long and the second segment 1.20 mm. Pedipalpi (fig. 200) are slightly longer than the body. The trochanter is provided with three ventral tubercles. The femur has a dorsal row of about eight teeth, a prolateral row of three in the distal half, a large basiventral tooth which is bifid and directed inwards, two large retroventral teeth with a smaller one between them, and three small proventral teeth. The patella and tibia are tuberculate on the dorsal surface. The patella has two prolateral and one small retrolateral tubercle. The tibia is armed with about five small teeth on each side and the tarsus with three on each side.



Triacnobunus cornutus sp. n.

FIG. 199.—Dorsal view of scutum and free tergites of male.

FIG. 201.—Leg I of male.

FIG. 200.—Retrolateral view of pedipalpus of male.

Coxae are each provided with a marginal row of small tubercles or granules in front and behind. Those on the front of coxa I being larger and more spine-like than the others. The tubercles behind the apex of coxa II and in front of the apex of coxa IV are small and blunt. Genital operculum with a few tubercles towards the front. Sternum wide posteriorly. Sternites each with a transverse row of small granules. Respiratory spiracle concealed.

Leg I (fig. 201) has two marginal tubercles on each side of the dorsal surface of the trochanter and a group of six tubercles on the ventral surface. The femur is armed above with a row of seven uniform teeth and below with eight, the first three of which are much larger than the others. The tibia has two large tubercles on the ventral surface, one near the base, the other near the middle. Legs II-IV are unarmed except for a few small tubercles mainly on the femora. The calcaneus of each metatarsus is small and knob-like. Tarsal segmentation: 2, 4, 3, 4. Distitarsi I and II with one and two segments respectively.

Allotype Female

Measurements in millimeters: Body-length 3.71, length of scutum 2.97, length of carapace 1.20.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.69	0.40	1.14	0.63	0.86	0.91	0.40	5.03
Leg 2	1.26	0.46	2.06	0.80	1.71	2.06	0.97	9.32
Leg 3	1.09	0.40	1.43	0.68	1.14	1.65	0.46	6.85
Leg 4	1.37	0.57	1.94	0.86	1.60	2.57	0.57	9.48
Pedi-palp	0.45	0.46	1.20	0.97	0.80	.....	0.57	4.45

The female resembles the male in general appearance but is slightly smaller. The pedipalpi are shorter and less robust. The bifid basiventral tooth on the femur of the pedipalpus is much smaller. The tarsal segmentation is the same in both sexes.

Locality: The holotype male and allotype female were found under fallen logs in a valley north of the Cataract Gorge, Trevallyn, Tasmania, August, 1931.

Genus *GLYPTOBUNUS* Roewer, 1914

This genus was founded by Roewer (1914, p. 161) on the characters of a single male specimen of *Glyptobunus signatus* from Tasmania. In the definition of the genus tarsus I is said to have three segments. Whilst this is true in many cases, it is not true in all. The collection before me contains over 170 specimens of the harvestman and a large number of the males have four segments in tarsus I. The feature is therefore variable. The definition of the genus is accordingly amended to read as follows.

Eyemound set back from anterior margin by a distance equal to about one half of its basal diameter and surmounted by a median spine. Carapace ornamented with a pattern of lobed granules. The anterior margin furnished above with a row of small tubercles. Transverse furrows of scutum distinctly marked and provided with lobed granules. Tergal Areas each with a transverse row of tubercles. The median tubercles on

Area IV are larger and more widely spaced than those on Areas I-III. Area V and the free tergites each with a transverse row of small tubercles. Tarsus I with three to four segments, tarsus II, 7-12, tarsi III and IV four each. Distitarsi I and II with two and three segments respectively. Claws of legs III and IV three-pronged, the median prong longer and stronger than the lateral prongs.

Genotype: *Glyptobunus signatus* Roewer.

Type Locality: Tasmania.

GLYPTOBUNUS SIGNATUS Roewer

(Figures 202-207)

Male

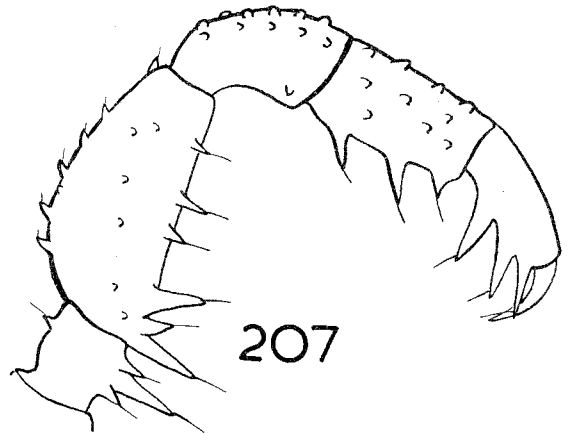
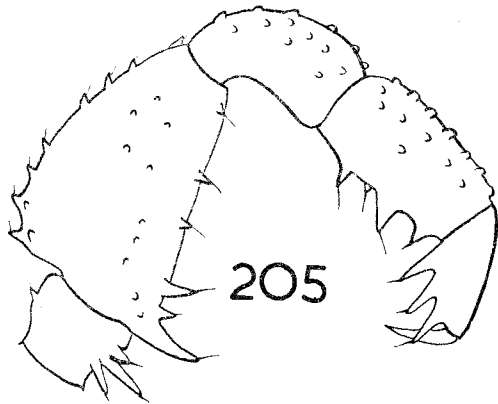
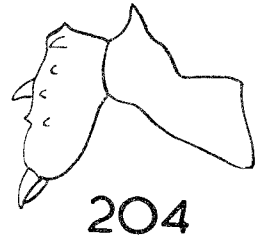
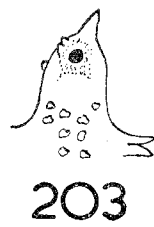
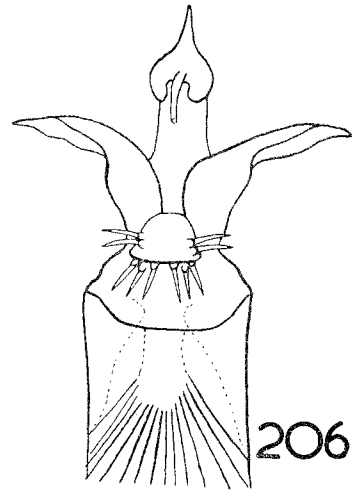
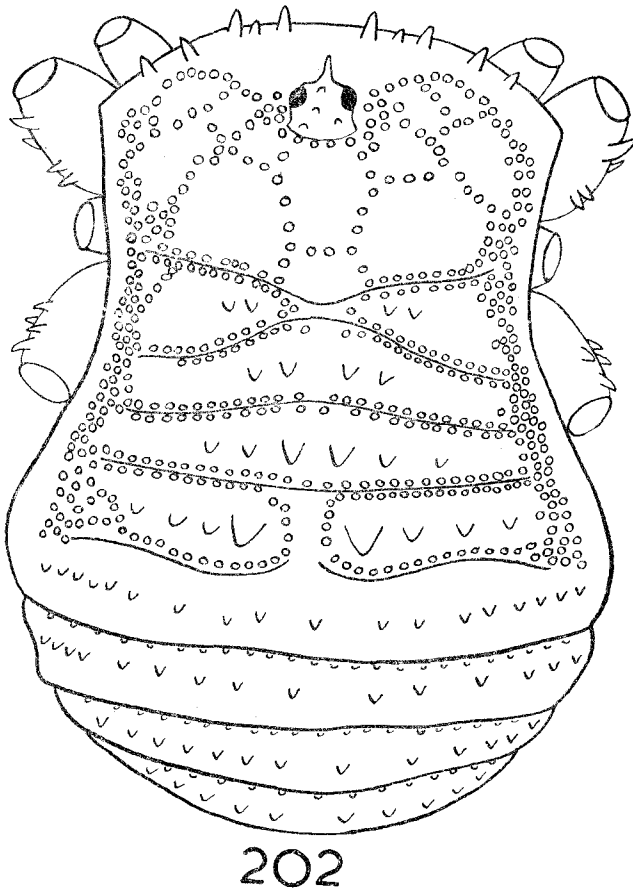
Measurements in millimeters: Body-length 3.14, length of carapace 1.25, length of scutum 2.62.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.91	0.46	1.54	0.63	1.14	1.66	0.80	7.14
Leg 2	1.19	0.51	2.40	0.79	1.94	2.85	1.77	11.45
Leg 3	1.08	0.46	1.71	0.74	1.43	2.11	0.91	8.44
Leg 4	1.26	0.62	2.28	0.80	1.71	3.25	1.20	11.12
Pedi-palp	0.51	0.46	1.60	0.91	0.97	.....	0.91	5.36

Colour (in alcohol): Dorsal surface of body dark-brown with a V-shaped yellowish brown region behind eyemound and a pair of yellowish-brown patches on each of tergal Areas I-III. Coxae and trochanters yellow, other leg segments brown. Pedipalpi with dark-brown reticulations on a yellowish-brown ground colour. Genital operculum yellow. Free sternites brown. Anal region yellow.

Frontal margin of carapace provided on each side with a row of about five small spinous tubercles (fig. 202). Immediately behind the row of tubercles is a transverse groove. Eyemound about half its basal diameter from the front margin, slightly constricted below the eyes and provided with a short apical spine (fig. 203). A few small granules are present on the eyemound both above and below the eyes. The surface of the carapace is ornamented with a pattern of lobed granules as shown in fig. 202. Scutal and tergal grooves strongly marked. The first four grooves are furnished with a double row of lobed granules; the fifth groove with a single row. On each side of the scutum the transverse rows of granules unite with a longitudinal row of granules. The lateral margins of the scute are smooth. In each of tergal Areas I-IV there is a transverse row of tubercles, the median pair of tubercles in Area IV being larger and more widely spaced than those in the other Areas. However, in different specimens considerable variation in the size of the median tubercles occurs. In some cases they are much higher and more conical than in others. Area V and each free tergite has a transverse row of tubercles. Each free tergite also has a transverse row of very small rounded granules close to the anterior margin. These are frequently hidden by the posterior edge of the tergite in front.

Chelicerae with a dorsal spine on the inner side at the apex of the basal segment. The second segment has a small spine on the inner side near the base, a larger spine near the middle of the frontal (dorsal) surface, and a few small rounded tubercles (fig. 204).



Glyptobunus signatus Roewer.

FIG. 202.—Dorsal view of scutum and free tergites of male.
 FIG. 203.—Lateral view of eyemound.
 FIG. 204.—Retrolateral view of chelicera.
 FIG. 205.—Retrolateral view of pedipalpus of male.

FIG. 206.—Ventral view of distal parts of penis.
 FIG. 207.—Retrolateral view of pedipalpus of female (drawn to a larger scale than FIG. 205).

Pedipalpi (fig. 205) strong and longer than the body. The trochanter has a small dorsal spine and a large ventral spine. On the retrolateral side of the ventral spine are two smaller spines. Femur somewhat swollen; armed with a median dorsal row of about eight small teeth. On each side of the median dorsal row are a few small tubercles. Ventral surface with a large basal spine and a retro-marginal row of five spines, of which the second is the largest. The promargin has a row of six small spines. The prolateral surface has two large spines in the distal half. The retrolateral surface is provided with a few small tubercles. The patella is tuberculate above and has two prolateral spines. Tibia tuberculate above and armed with three spines on each side, the middle spine being the largest. Tarsus armed with three spines on each side. Tarsal claw is about three-quarters the length of the tarsus.

Coxa I has a promarginal row of three spines and a few granular spines on the ventral surface. Coxa II has four short spines behind the apex and a transverse row of four small tubercles above the apex and close to the scutal margin. Coxa III with a marginal row of granules in front and behind. Coxa IV with a few short spines in front near the apex and a marginal row of small granules behind.

Genital operculum rounded in front. Surface finely granular and clothed with a few fine hairs. The penis has the form shown in fig. 206. The ventral plate is provided with two pairs of superior setae and three pairs of inferior setae. The glans ends in a sharp point. Posterior to the point the male duct terminates in a narrow tube, which curves downward and backward between two small concave plates. On either side of the base of the glans a large pointed curved lateral process extends outwards and upwards, the two processes appearing like a pair of narrow wings, when viewed from the ventral side.

The respiratory spiracles are concealed under granules on the posterior margin of coxae IV.

Legs with all segments except metatarsi and tarsi coarsely granulate but unarmed. Calcanei short and conical. Segmentation of both tarsus I and II variable. Tarsus I has three to four segments and tarsus II 7-12. Tarsi III and IV each have four segments. Distitarsi I and II have two and three segments respectively.

Allotype Female

Measurements in millimeters: Body-length 4.11, length of carapace 1.20, length of scutum 2.90.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.68	0.40	1.43	0.65	1.14	1.54	0.86	6.70
Leg 2	1.26	0.46	2.28	0.74	2.11	2.63	1.77	11.25
Leg 3	1.08	0.45	1.43	0.69	1.43	2.00	0.97	8.05
Leg 4	1.31	0.57	2.11	0.80	1.77	3.14	1.25	10.95
Pedi-								
palp	0.45	0.46	1.26	0.86	0.80	0.86	0.86	4.69

The female resembles the male in colour and general features. The pedipalpi (fig. 207) are not as strong as those of the male, the femur being much smaller in dorso-ventral diameter and not swollen.

Localities: The male and allotype female described above were collected at Tarraleah, Tasmania, 2nd January, 1953. The species is widely distributed in the State, especially in the north, east and centre. It is not often found in the south. The collection contains specimens from Hellyer Gorge, Table Cape, Western Creek, Liffey Falls, Trevallyn, Scottsdale, Gould's Country, Andover, Parattah, Swanston, Woodsdale, Lake St. Clair, Great Lake region, Butler's Gorge, National Park, and Eaglehawk Neck. The species occurs under decaying logs.

Variations: Adult males vary in body-length from 2.49-3.77 mm. and adult females from 3.02-4.64 mm. The number of spines on the anterior margin of the carapace is usually five on each side but sometimes six. The eyemound varies in height and in granulation. The tubercles on the tergal Areas vary in number and size. As already mentioned the number of segments in tarsus I is either three or four and some asymmetric specimens have three on the left and four on the right side. The segmentation of tarsus II varies from 7-12, and considerable asymmetry is exhibited. Tarsi III and IV each have four segments and this number appears to be constant. Table 17 shows the segmentation of tarsi I and II in 85 males and 88 females.

Table 17

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
2	♂	3	8
1	♂	3	8L 9R
10	♂	3	9
3	♂	3	9L 8R
8	♂	3	9L 10R
13	♂	3	10
10	♂	3	10L 9R
2	♂	3	11
1	♂	3	11L 10R
1	♂	3L 4R	8
1	♂	3L 4R	9L 10R
1	♂	3L 4R	10L 9R
2	♂	4	8
1	♂	4	8L 7R
6	♂	4	8L 9R
5	♂	4	9
1	♂	4	9L 8R
5	♂	4	9L 10R
1	♂	4	9L 11R
4	♂	4	10
1	♂	4	10L 8R
1	♂	4	10L 9R
1	♂	4	10L 11R
1	♂	4	11L 10R
1	♂	4	11L 12R
1	♂	4	11L 10R
1	♂	4L 3R	11
2	♀	3	7
3	♀	3	7L 8R
1	♀	3	7L 9R
3	♀	3	8L 7R
18	♀	3	8
11	♀	3	8L 9R
1	♀	3	8L 10R
1	♀	3	9L 6R

Table 17—(continued)

Number of specimens	Sex	Number of segments in tarsus I		Number of segments in tarsus II	
11	♀	3		9L	8R
24	♀	3			9
5	♀	3		9L	10R
3	♀	3		10L	8R
4	♀	3		10L	9R
1	♀	4L	3R		9

Specimens of *Glyptobunus signatus* occurring in regions on the eastern side of Tasmania tend to have a longer spine on the eyemound and more spine-like tubercles on the tergal Areas and free tergites than do those found on the western side of the State and on the central plateau.

GLYPTOBUNUS ORNATUS sp. n.

Holotype Male

Measurements in millimeters: Body-length 4.57, length of carapace 1.83, length of scutum 4.05.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.20	0.63	2.91	1.14	2.00	2.91	0.86	11.65
Leg 2	1.77	0.69	4.74	1.26	4.23	5.94	2.11	20.74
Leg 3	1.77	0.74	3.60	1.26	2.85	4.68	1.26	16.16
Leg 4	2.06	0.80	4.45	1.31	3.43	6.63	1.43	20.11
Pedi-palp	0.91	0.86	2.86	2.11	2.00	...	1.88	10.62

Colour (in alcohol): Dorsal surface of body dark-brown with a golden-yellow band situated on each side of the eyemound and extending from the anterior margin to the posterior edge of tergal Area IV. Behind the eyemound the two yellow bands unite together, but leave small patches of brown between them in a median line on the carapace and tergal Areas. Eyemound dark-brown, with dark-brown reticulations in front. Chelicerae and pedipalpi with dark-brown reticulations and with yellowish joints between the segments. The large spines on the pedipalpi are mainly white. Legs dark-brown with yellowish joints between trochanter and femur, and femur and patella. Ventral surface of body with brown reticulations on a yellowish ground colour.

Carapace with a row of three or four small blunt tubercles above anterior margin on each side. Eyemound erect, conical, situated about half its basal diameter from the front margin, and surmounted by a short spine (fig. 209). Surface of scutum decorated with a pattern of lobed granules (fig. 208). The granules form a border close to the anterior and lateral margins and also mark the transverse grooves. The first and fifth grooves extend laterally almost to the margin, the other grooves do not reach as far to the side. The granules bounding the grooves likewise reach the marginal granules only in the case of the first and fifth grooves. Tergal Areas I-IV are each provided with a median pair of tubercles, those on Areas I and IV being more widely separated than those on Areas II and III. The tubercles on Area IV are larger than the others. Area V and each free tergite are furnished with a transverse row

of smaller conical tubercles. The free tergites also possess a transverse row of rounded granules in front of the row of tubercles.

Chelicerae (fig. 210) moderately strong. The basal segment with a large dorsal spine situated on the inner side at the apex and directed forward. The second segment with a small tooth on the dorsal surface near the base and a larger tooth near the middle. A few smaller tubercles are also present on the dorsal surface.

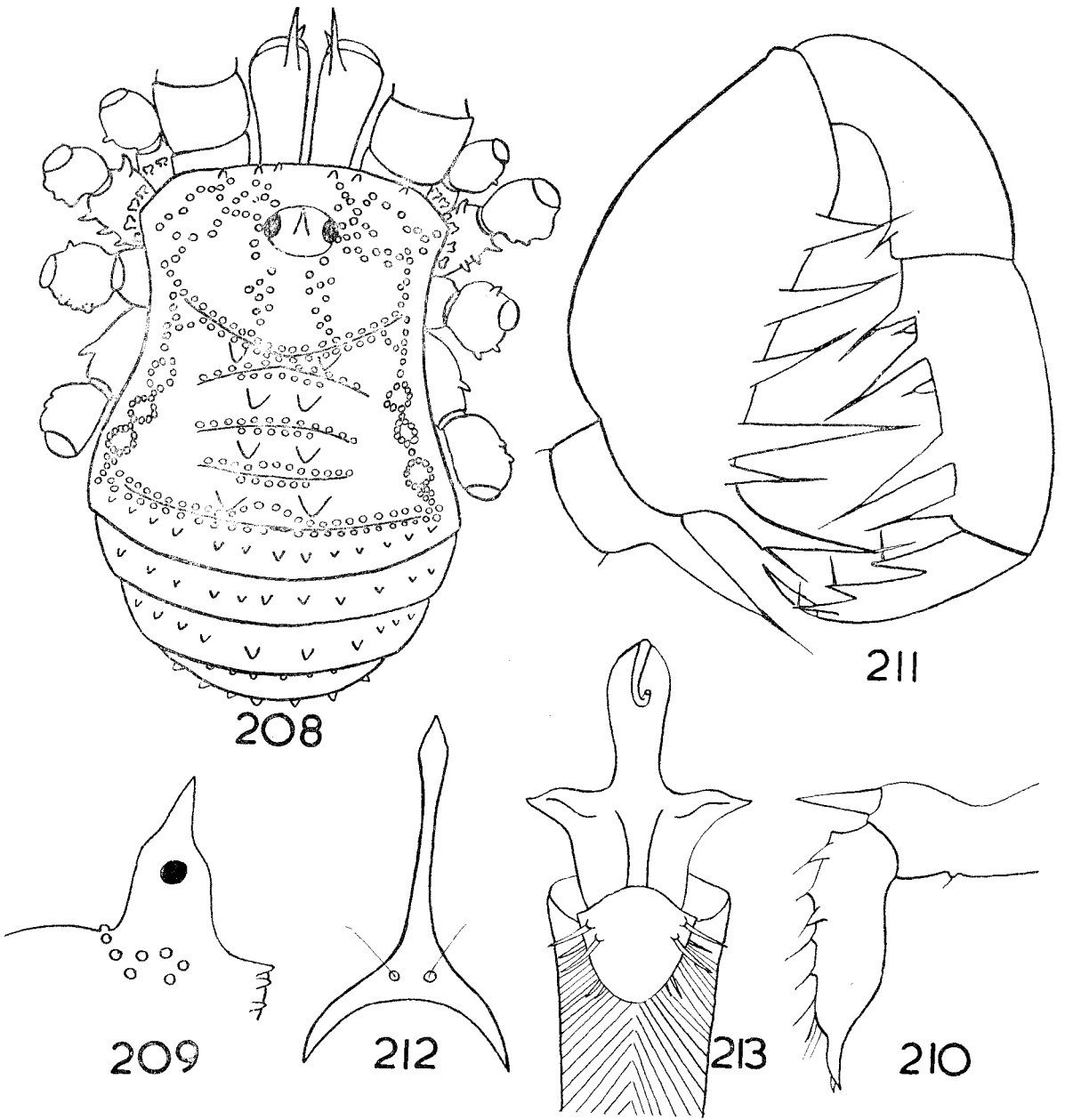
Pedipalpi (fig. 211) strong and armed with very long whitish spines. Trochanter has one large ventral spine but no dorsal spines. Femur has no dorsal spines and no retrolateral spines. The pro-lateral surface is armed with four large spines which increase in length distally. The ventral surface has a large basal spine, which carries a seta near the middle of its posterior surface as well as the usual apical seta. The proventral margin has no spines but is provided with a row of about five small tubercles or granules. The retroventral margin has a row of five large spines, the first being the smallest and the second the largest. The patella is armed with two large proventral spines and a much smaller retroventral spine. The tibia has three proventral and four retroventral spines as well as several small spines on the ventral surface. The tarsus has three strong spines on each side. The tarsal claw is about one-third of the length of the segment.

Coxa I is armed with a row of four spines on the front margin, the two spines near the apex being united at their bases. The ventral surface is furnished with several smaller spines. Coxa II has one tooth in front of the apex and three behind. A row of four small tubercles crosses the dorsal surface close to the margin of the scutum. Coxa III has a row of marginal granules in front and behind. Coxa IV has a small tooth in front of the distal end and a row of granules on the posterior margin.

The genital operculum measures 0.63 mm. long and 0.80 mm. wide. Its margin is smooth and rounded in front. The penis has the form shown in fig. 213. The glans ends in a narrow tube which curves downward and backward. On each side of the base of the glans is a wing-like lateral process, which extends outward and upward ending in a point. The ventral plate is uncleft and furnished with two pairs of superior and three pairs of inferior setae.

The sternum posteriorly is wide and crescent-shaped (fig. 212). Each free sternite is provided with a transverse row of small rounded granules. The respiratory spiracles are hidden by bridging granules on the posterior margin of the fourth coxae.

Legs are unarmed, but all segments from trochanter to tibia are coarsely granulate. Each calcaneus is very short and conical. The number of segments in tarsi I-IV is 3, 10L 8R, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.



Glyptobunus ornatus sp. n.

FIG. 208.—Dorsal view of scutum and free tergites of male.
FIG. 209.—Lateral view of eyemound.
FIG. 210.—Proteral view of chelicera.

FIG. 211.—Retrolateral view of pedipalpus of male.
FIG. 212.—Sternum of male.
FIG. 213.—Ventral view of distal part of penis.

Allotype Female

Measurements in millimeters: Body-length 5.94, length of scutum 3.83, length of carapace 1.71.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	1.03	0.63	2.28	0.91	1.88	2.57	0.86	10.16
Leg 2	1.71	0.68	4.17	1.09	3.71	5.37	2.00	18.73
Leg 3	1.50	0.69	2.96	1.08	2.57	4.23	1.26	14.29
Leg 4	1.94	0.74	4.00	1.14	3.31	6.10	1.43	18.66
Pedi-palp	0.69	0.80	2.28	1.60	1.48	....	1.49	8.34

The female resembles the male in colouration and general features. The pedipalpi are slightly smaller than those of the male. In other external features there is little to distinguish the two sexes.

Localities: The holotype male was collected in the Myrtle Forest at Collinsvale, Tasmania, 9th November, 1955, and the allotype female on Mount Wellington, 18th August, 1951. The harvestman also occurs at National Park and Hastings. It is usually found under decaying logs in damp and shady situations.

Variations: The species is not very common and the collection contains only two males and nine females. The body-length of the two males is 4.57 and 4.93 mm. respectively, that of the nine females varies from 3.48-5.68 mm. All the specimens have four segments in each of tarsi III and IV. The number of segments in tarsus II varies from 8-10 as is shown in Table 18.

Table 18

Number of segments	Sex	Number of segments in tarsus I	Number of segments in tarsus II
1	♂	3	9L 8R
1	♂	3	10L 8R
1	♀	3	8
1	♀	3	8L 9R
4	♀	3	9
2	♀	3	9L 8R
1	♀	3	9L 10R

Genus PHOXOBUNUS gen. n.

Scutum and free tergites unarmed. Eyemound conical, rising from the anterior margin and armed in front with a spine, which projects forwards. Sternum wide and crescentic posteriorly. Respiratory spiracles concealed. Leg I armed with a spine below the trochanter and two large spines below the femur. Other legs unarmed. All calcanei knob-like and short, being much shorter than astragali. Tarsal segmentation 3, 5, 4, 4. The distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Phoxobunus tuberculatus* sp. n.

Type Locality: Highcroft, Tasmania.

PHOXOBUNUS TUBERCULATUS sp. n.

(Figures 214-218)

Holotype Male

Measurements in millimeters: Body-length 2.11, length of scutum 1.60, length of carapace 0.80.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.23	0.74	0.40	0.57	0.69	0.46	3.66
Leg 2	0.74	0.34	1.31	0.57	1.03	1.26	0.86	6.11
Leg 3	0.80	0.29	0.97	0.46	0.69	1.03	0.51	4.75
Leg 4	0.80	0.34	1.20	0.51	1.14	1.60	0.51	6.10
Pedi-palp	0.51	0.23	1.03	0.74	0.74	....	0.40	3.65

Colour (in alcohol): Scutum yellow with a wide W-shaped black mark on the posterior three-quarters (fig. 214). Carapace with black reticulations on each side. Eyemound black between the eyes and with dark reticulations behind. Free tergites each with a pair of black transverse marks, one on each side of the median line. Chelicerae and pedipalpi yellow with dark reticulations. Coxae yellowish with apex and base dark. Free sternites yellow with a dark mark on each side and in the middle. Legs dark-brown banded with yellow on the distal half of the femora, patellae and tibiae.

Scutum coarsely shagreened; furnished with three denticles on each side above the anterior margin. Eyemound conical, rising from the front margin and armed in front with a spine which projects forward beyond the margin (fig. 215). Scutal groove and tergal grooves distinct medianly, the fifth groove extending laterally. Tergal Areas I-IV each provided with a median pair of low rounded tubercles. Area V and the free tergites each with a transverse row of small tubercles, one of which is median in position.

Chelicerae have a small apical tooth on the dorsal side of the basal segment and a median dorsal row of three denticles on the second segment. The basal segment is 0.46 mm. and the second segment 0.86 mm. long.

Pedipalpi (fig. 216) large and strong. The trochanter armed with a tooth below. Femur swollen and much enlarged dorsoventrally in the proximal quarter. It has a median dorsal row of eight teeth, the first six being in the proximal half and larger than the other two, which are in the distal half. The retrolateral side is smooth. The prolateral side has two teeth in the distal quarter and a row of five small denticles immediately below the dorsal margin. The ventral surface is armed with a large median proximal tooth, four teeth along the retroventral margin and a single tooth at the proximal end of the proventral margin. The patella is furnished with two small conical tubercles on the prolateral side and a single blunt tubercle on the retrolateral side. The tibia has four retrolateral teeth, three prolateral teeth and a median row of small tubercles on the ventral surface. The tarsus has three teeth on each side. The claw is about $\frac{1}{2}$ the length of the segment.

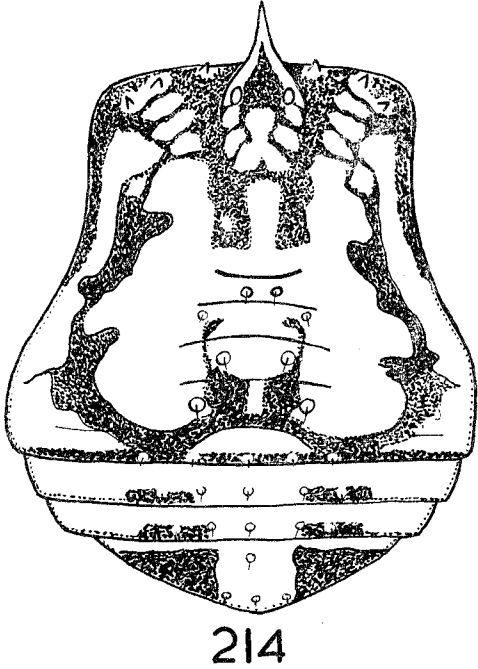
Coxae shagreened. Coxa I armed with a large tooth near the middle of the promargin and a smaller bifid tooth at the apex. Coxa II has near the apex a few granules in front, three blunt teeth behind and a broad tubercle above. Coxa III is furnished with a marginal row of granules in front

and behind. Coxa IV is devoid of tubercles and spines in front of the apex but has a marginal row of granules behind.

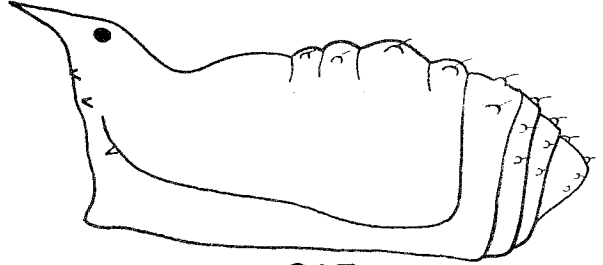
The genital operculum (fig. 217) is shagreened but devoid of spines and tubercles. It measures 0.29 mm. long and 0.40 mm. wide. The sternum is wide and crescentic posteriorly.

The respiratory spiracles are hidden under bridging granules on the posterior margin of the fourth coxae.

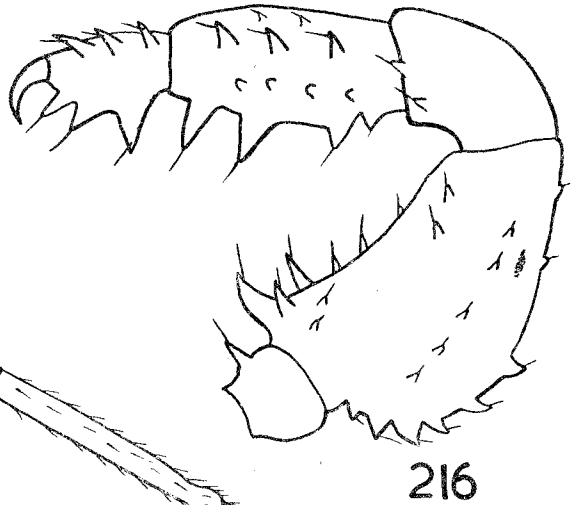
Legs are short and shagreened. Leg I (fig. 218) is armed with a spine below the trochanter and a row of two large spines and several tubercles below the femur. There are also two small tubercles below the proximal half of the tibia. Legs II-IV are unarmed. All calcanei are knob-like and short, being much shorter than the astragali. The number of segments in tarsi I-IV is 3, 5, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.



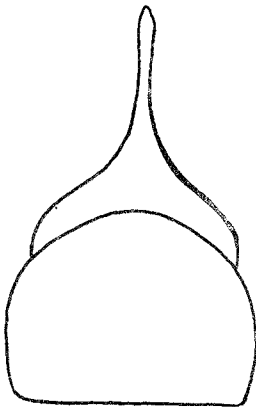
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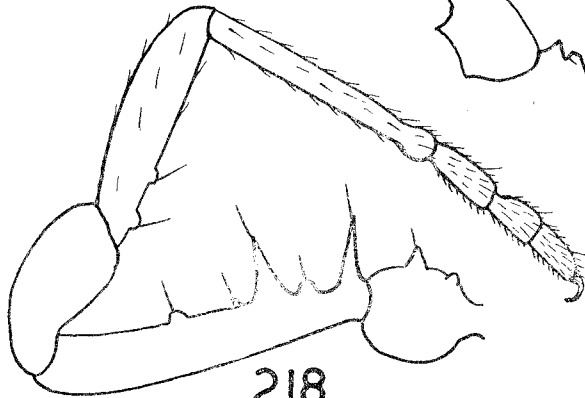
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217



218

Phoxobunus tuberculatus gen. et sp. n.

FIG. 214.—Dorsal view of scutum and free tergites of male.
FIG. 215.—Lateral view of scutum and free tergites of male.
FIG. 216.—Proximal view of pedipalpus of male.

FIG. 217.—Sternum and genital operculum of male.
FIG. 218.—Leg I of male.

Allotype Female

Measurements in millimeters: Body-length 2.00, length of scutum 1.43, length of carapace 0.74.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.46	0.23	0.63	0.34	0.46	0.57	0.40	3.09
Leg 2	0.63	0.29	1.09	0.46	0.91	0.97	0.69	5.04
Leg 3	0.57	0.23	0.74	0.40	0.63	0.86	0.34	3.77
Leg 4	0.74	0.34	1.14	0.46	0.97	1.37	0.46	5.48
Pedi-palp	0.40	0.23	0.63	0.46	0.51	.....	0.29	2.52

The female resembles the male in general appearance and colouration but each tergal Area is marked with a transverse dark bar which extends laterally. The pedipalpi are much smaller and weaker than those of the male but have the same arrangement of spines and tubercles. The trochanter and femur of leg I are armed as in the male and both sexes have the same tarsal segmentation. The genital operculum measures 0.29 mm. long and 0.40 mm. wide.

Localities: The type specimens were collected under decaying logs at Higheroff, Tasmania, by A. L. Meston on 23rd February, 1940. The species also occurs on Mount Wellington but is not very common. The collection contains only seven specimens, all of which have the same tarsal segmentation as the types.

PHOXOBUNUS ROSTRATUS sp. n.

(Figures 219-223)

Holotype Male

Measurements in millimeters: Body-length 1.88, length of scutum 1.43, length of carapace 0.75.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.51	0.29	0.80	0.40	0.51	0.69	0.46	3.66
Leg 2	0.69	0.23	1.20	0.46	1.09	1.37	0.74	5.78
Leg 3	0.69	0.23	0.80	0.40	0.69	0.97	0.40	4.13
Leg 4	0.69	0.29	1.14	0.51	0.97	1.49	0.63	5.72
Pedi-palp	0.40	0.23	1.09	0.63	0.51	.....	0.51	3.37

Colour (in alcohol): Scutum yellowish with dark reticulations each side of the carapace. A wide black U-shaped mark is present on the posterior two-thirds of the scutum. The fifth tergal Area and first two free tergites marked with a transverse dark bar; the third free tergite with a pair of triangular dark patches, one on each side. Chelicerae, pedipalpi and coxae yellowish with dark reticulations. Free sternites yellowish with transverse broken dark bars. Legs dark-brown with pale bands round the distal half of femora, patellae and tibiae.

Scutum (fig. 219) shagreened, devoid of spines and tubercles. Scutal and tergal grooves absent. The margin of the scutum on each side above the aperture of the scent gland is raised up to form a small lobe, which is in contact with a large tubercle above the apex of coxa II. Eyemound (fig. 220) conical, rising from the front margin and armed with a spine which projects beyond the margin. Free tergites devoid of spines and tubercles.

Chelicerae moderately large. The first segment is 0.40 mm. long and is unarmed. The second segment is 0.86 mm. long and on the dorsal side is armed with a large tooth near the base and two teeth in the distal quarter, one of which is median, the other prodorsal.

Pedipalpi (fig. 221) large and strong. The trochanter has a small tooth below. The femur, which is much enlarged projects backwards in the form of a dorsal posterior bulge above the trochanter. The bulge is armed with a large bifid tooth, in front of which are two smaller simple teeth. The rest of the dorsal surface is unarmed. The prolateral surface has a row of four small teeth. The retrolateral surface is smooth. The ventral surface is armed with a large median proximal tooth, the tip of which is curved forwards. On the retroventral margin is a row of three teeth, the first of which is the largest. No teeth or tubercles are present on the proventral margin. The patella has a small retrolateral tooth and two small prolateral tubercles. The tibia is furnished with three teeth on each side. On the retro-lateral side the first tooth is in the proximal quarter, the other two, which are larger, are close together in the distal quarter. On the prolateral side the distal tooth is the largest. The ventral surface is furnished with a few coarse tubercles. The tarsus has three teeth on each side. The claw is about one-third the length of the segment.

The sternum (fig. 222) is wide and crescentic behind. The genital operculum measures 0.23 mm. long and 0.29 mm. wide. It is devoid of spines and tubercles.

Coxa I has three promarginal teeth, the first of which is very small, the other two much larger. The apical tooth is bifid. Behind the promarginal teeth there are several coarse tubercles. Coxa II has a large tooth and two smaller tubercles behind the apex. A large broad tubercle is present above the apex and opposite the lobe on the margin of the scutum. Coxa III is provided with a marginal row of coarse granules in front and behind. Coxa IV has a few small tubercles or granules in front of the apex and a row of granules along the posterior margin.

The respiratory spiracles are concealed under granules on the posterior margin of the fourth coxae.

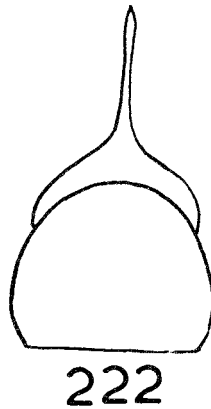
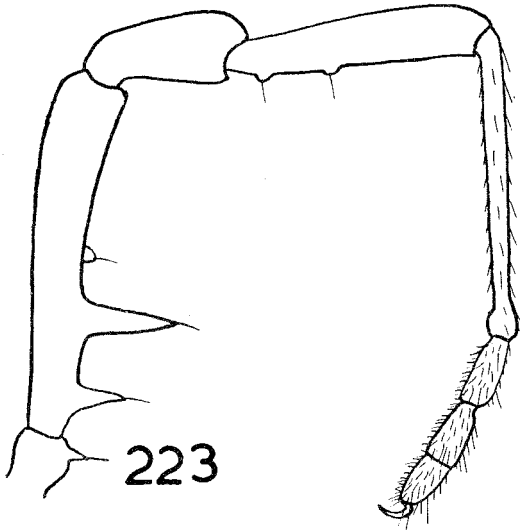
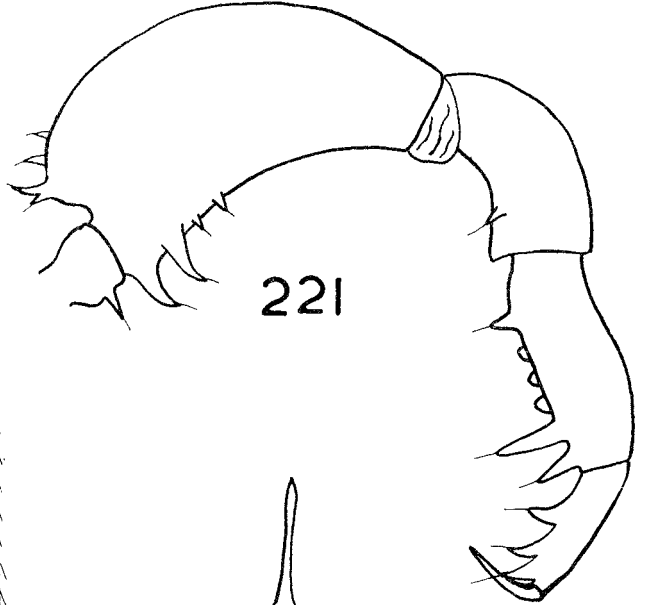
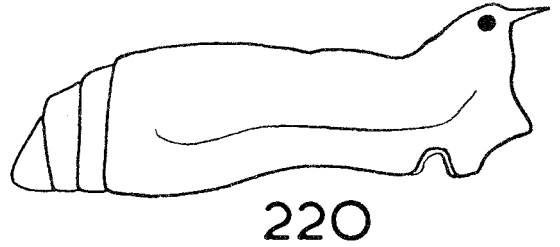
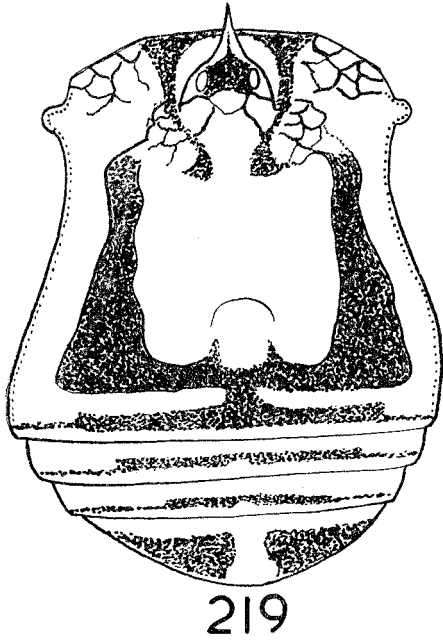
Leg I (fig. 223) is armed with a small spine below the trochanter, and two much larger spines below the proximal half of the femur. Two small tubercles are situated below the proximal half of the tibia. Legs II-IV are unarmed. All calcanei are knob-like and short, being much shorter than the astragali. The number of segments in tarsi I-IV is 3, 5, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 1.77, length of scutum 1.31, length of carapace 0.69.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.46	0.23	0.57	0.34	0.40	0.57	0.46	3.03
Leg 2	0.63	0.23	0.97	0.40	0.86	1.03	0.69	4.81
Leg 3	0.57	0.17	0.69	0.34	0.63	0.80	0.46	3.66
Leg 4	0.63	0.23	0.97	0.40	0.86	1.26	0.51	4.86
Pedi- palp	0.34	0.17	0.57	0.40	0.34	....	0.34	2.16

The female resembles the male in colour but the black regions on the scutum and free tergites are more extensive. The pedipalpi are much smaller than those of the male. The femur is not greatly enlarged and lacks the posterior dorsal bulge. It is furnished with a median dorsal row of three simple teeth in the proximal half. The ven-



Phoxobunus rostratus gen. et sp. n.

FIG. 219.—Dorsal view of scutum and free tergites of male.
 FIG. 220.—Lateral view of scutum and free tergites of male.
 FIG. 221.—Retrolateral view of pedipalpus of male.

FIG. 222.—Sternum and genital operculum.
 FIG. 223.—Leg I of male.

tral spines are more slender than in the male. The femur of leg I is armed with spines as in the male but the spines are smaller. The tarsal segmentation is the same in both sexes. The genital operculum measures 0.23 mm. long and 0.34 mm. wide.

Locality: The type specimens and three others were collected in *Notofagus* forest near Liffey Falls, Tasmania, 14th May, 1953.

Variations: Males vary in body-length from 1.45-1.88 mm. and females from 1.45-1.77 mm. The five specimens collected all had the same tarsal segmentation, 3, 5, 4, 4.

Genus *EUBUNUS* gen. n.

Eyemound conical, armed above with a short spine. Anterior margin of carapace unarmed. Scutum unarmed but tergal Areas I-IV each with a median pair of low rounded tubercles. Area V and each free tergite with a transverse row of low tubercles. First segment of chelicerae with a long median dorsal apical spine. Legs unarmed but tuberculate on trochanters, femora, patellae and tibiae. Each calcaneus knob-like and much shorter than astragalus. Tarsal segmentation: 3, 7-8, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Eubunus crypsidomus* sp. n.

Type Locality: Mount Wellington, Tasmania.

The genus *Eubunus* is near *Allobunus* gen. n. but differs in the form of the sternum and in the presence of a long spine at the apex of the first segment of the chelicerae.

EUBUNUS CRYPSIDOMUS sp. n.

(Figures 224-228)

Holotype Male

Measurements in millimeters: Body-length 3.77, length of scutum 3.54, length of carapace 1.60.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.57	1.88	0.86	1.43	1.83	1.03	8.46
Leg 2	1.43	0.63	2.74	0.97	2.34	3.43	2.00	13.54
Leg 3	1.54	0.57	1.83	0.86	1.54	2.34	1.14	9.82
Leg 4	1.71	0.63	2.40	0.97	2.11	3.60	1.20	12.62
Pedi-palp	0.40	0.40	1.88	1.43	1.20	.....	1.14	6.45

Colour (in alcohol): Scutum dark-brown, almost black, on each side with the median region and lateral margins yellowish. Eyemound dark-brown surrounded at the base by a U-shaped yellow area. Anterior lateral angles of scutum marked with dark reticulations. Dark markings in scutal groove and other tergal grooves. Free tergites dark-brown with transverse rows of yellow tubercles. Chelicerae and pedipalpi yellowish with dark reticulations. Legs mainly dark-brown with the trochanters yellow above and brown below. Patellae and tibiae paler in the middle and femora IV paler distally. Each calcaneus almost white. Ventral

surface of body yellowish. Sternites with dark-brown transverse markings.

Body and appendages finely shagreened. Anterior margin of scutum with two small granules above on each side. Eyemound, conical, vertical and slightly behind the anterior margin. The short spine which surmounts the eyemound is missing in the holotype, and apparently has been either lost or not developed. Since the female and immature males possess a spine, it is reasonable to suppose that the adult male will also possess one. In fig. 224 its probable position is shown in dotted outline. The scutal groove and other tergal grooves are well marked medianly. Tergal Areas I-IV each furnished with a median pair of low yellow tubercles; Area V and each free tergite with a transverse row of low yellow tubercles. Spines are absent.

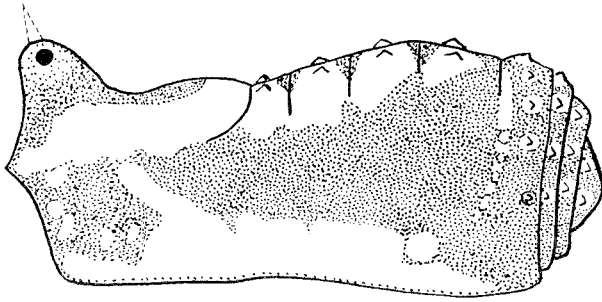
Chelicerae (fig. 225) each with a very long apical spine on the dorsal surface of the first segment and three pairs of small tubercles on the dorsal surface of the second segment. The first segment measures 0.69 mm. and the second 1.14 mm. in length.

Pedipalpi (fig. 226) large and powerful. The trochanter has a single ventral tubercle. The femur is much enlarged and forms a posterior dorsal bulge, which is surmounted by a small tooth. On the prodorsal margin is a row of four or five teeth, which point inwards. On the prolateral side in the distal half there are two or three teeth. On the ventral surface there is a large median non-bifid proximal tooth, a retromarginal row of two large teeth and a promarginal row of two or three small teeth in the basal half. The patella has two prolateral spines. The tibia has three prolateral teeth and three smaller retrolateral teeth. The ventral surface is slightly tuberculate. The tarsus has three teeth on each side. The claw is small.

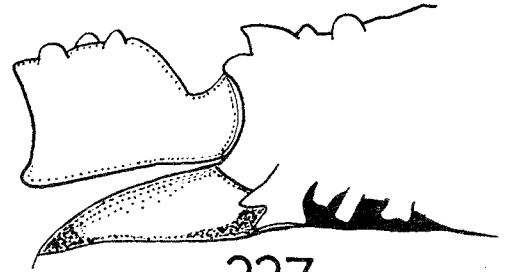
Coxa I has two or three spinous tubercles on the promargin and a few smaller rounded tubercles on the ventral surface. Coxa II is furnished with a few tubercles in front of the apex and three small teeth behind. There is also a large promarginal tubercle above the apex. Coxa III has a marginal row of granules in front and behind. Coxa IV is furnished with a few tubercles in front of the apex and a row of granules on the posterior margin. A few of the distal granules form bridging granules which conceal the respiratory spiracle (fig. 227).

Sternum (fig. 228) short and widely crescentic posteriorly. Genital operculum 0.57 mm. long and 0.86 mm. wide. The margin is rounded and smooth. The surface with a few small granules.

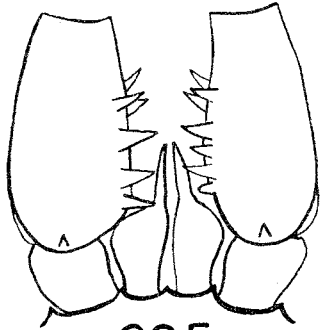
Legs unarmed but the trochanters, femora, patellae and tibiae are tuberculate. The tubercles on the ventral surface of the femur of leg I are coarser than elsewhere. Each calcaneus is short and knob-like, being much shorter than the astragalus. Tarsal segmentation: 3, 8L 7R, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the median prong being larger than the lateral prongs.



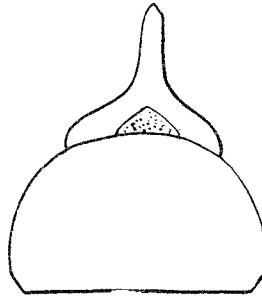
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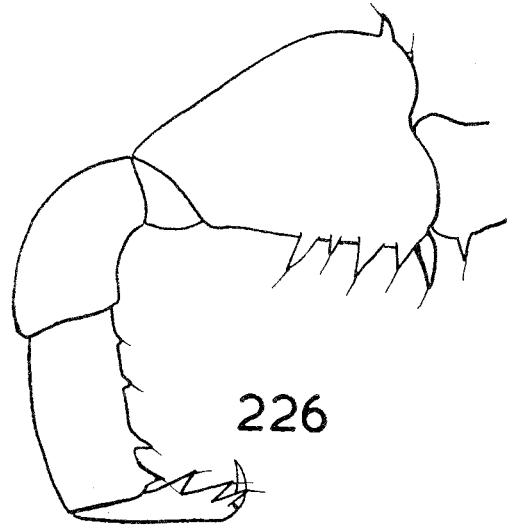
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226

Eubunus crypsidomus gen. et sp. n.

FIG. 224.—Lateral view of scutum and free tergites of male. (Spine of eyemound not present on specimen.)
 FIG. 225.—Dorsal view of basal segments of chelicerae and femora of pedipalpi of male.

FIG. 226.—Retrolateral view of pedipalpus of male.
 FIG. 227.—Ventral view of distal end of right coxa IV.
 FIG. 228.—Sternum and genital operculum of male.

Allotype Female

Measurements in millimeters: Body-length 4.85, length of scutum 4.17, length of carapace 1.60.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.69	0.46	1.54	0.86	1.20	1.66	0.86	7.27
Leg 2	1.49	0.69	2.46	1.08	2.28	3.08	1.94	13.02
Leg 3	1.49	0.51	1.71	0.86	1.49	2.23	1.03	9.32
Leg 4	1.71	0.69	2.51	1.03	2.00	3.31	1.26	12.51
Pedi-palp	0.51	0.34	1.14	0.91	0.80	.....	0.86	4.56

The female resembles the male in colouration and general features. The pedipalpi, however, are much smaller than those of the male and the apical spine on the dorsal surface of the first segment of the chelicerae is shorter than in the male. The genital operculum is 0.63 mm. long and 0.97 mm. wide. The tarsal segmentation: 3, 8, 4, 4.

Locality: The type specimens were found under pieces of charred wood lying on the ground near the Organ Pipes, Mount Wellington, November,

1955. Another female was collected at the same locality in 15th May, 1956, and two immature forms on 2nd September, 1957.

Genus ALLOBUNUS gen. n.

Scutum unarmed, eyemound conical, rising from the anterior margin and armed at the apex with a short spine. Tergal Areas I-IV furnished with a median pair of granules. Area V and the free tergites each with a transverse row of granules. Sternum wide and shaped like an arrow head, approaching the form of the sternum in certain *Adaestinae*. Respiratory spiracles concealed. Legs unarmed. Calcanei much shorter than astragali. Tarsal segmentation: 3, 7-9, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Allobunus distinctus* sp. n.

Type Locality: Near Lake St. Clair, Tasmania.

ALLOBUNUS DISTINCTUS sp. n.

(Figures 229-232)

Holotype Male

Measurements in millimeters: Body-length 2.68, length of scutum 2.34, length of carapace 1.14.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.74	0.40	1.20	0.63	0.80	1.26	0.80	5.83
Leg 2	1.14	0.46	1.77	0.74	1.54	1.88	1.71	9.24
Leg 3	0.86	0.34	1.26	0.69	0.91	1.37	0.97	6.40
Leg 4	1.03	0.46	1.66	0.80	1.43	2.00	1.14	8.52
Pedi-								
palp	0.40	0.34	0.80	0.63	0.57	.....	0.57	3.31

Colour (in alcohol): Scutum yellowish-brown with dark reticulations on each side of the carapace and in front of the eyemound. A large dark-brown area on each side extends from slightly behind the eyemound to the posterior margin of the scutum and is intersected by a yellowish-brown bar on Areas IV and V. On each of the tergal Areas I-IV there is a median pair of dark marks and on Area V a single median dark mark. The apical half of the eyemound is black. The first two free tergites are yellowish-brown with median and lateral dark marks. The third free tergite is brown. Chelicerae, pedipalpi and trochanters mainly yellow. Legs dark-brown with a wide yellowish band round the distal half of the femora and tibiae. Calcaneus of each leg white, except that of leg II which is brown. Coxae yellowish with the inner ends of coxae II and III dark-brown. The sternum is dark in the middle and the genital operculum has a longitudinal dark mark on each side. The free sternites are yellowish with dark transverse markings.

Scutum (fig. 229) shagreened and unarmed. The scutal and tergal grooves faintly marked. Tergal Areas I-IV each with a median pair of small granules. Area V and each free tergite with a transverse row of small granules. Eyemound broadly conical, rising from the anterior margin and surmounted by a short spine at the apex.

Chelicerae rather stout. The first segment measures 0.46 mm. long and is provided with a small prodorsal tubercle at the apex. The second segment is 0.97 mm. long and has a row of three small tubercles on the prodorsal margin.

Pedipalpi (fig. 230) not very robust. The trochanter has a large tooth below. The dorsal surface of the femur has two teeth in a median row on the proximal third. The retrolateral surface is furnished with a small tooth above the middle of the retroventral margin. The prolateral surface has three teeth in the distal half, the second tooth being the largest. The ventral surface is armed with a large median proximal tooth and with two teeth on the retroventral margin. The patella has two large prolateral teeth. The tibia is armed with two prolateral and three retrolateral teeth. The tarsus has three teeth on each side. The claw is rather straight and about one-third the length of the segment.

The coxae are shagreened. Coxa I is furnished with two small promarginal denticles, the larger of which is near the middle, the other at the apex. Coxa II has a small tooth and several granules behind the apex. Coxa III is furnished with a marginal row of about six granules in front of and behind the distal half. Coxa IV has a few granules in front of the apex and a row of granules along the posterior margin, the two distal granules of the row being enlarged to cover the spiracle.

The sternum (fig. 231) is wide and shaped like the head of an arrow. Its posterior margin is crescentic. The genital operculum is large and triangular with a smooth surface and margin. The apex is rounded. The operculum measures 0.63 mm. long and 0.57 mm. wide.

Legs are short, stout and unarmed. Leg I (fig. 232) is furnished with a few blunt tubercles below the femur and tibia. The other legs are devoid of tubercles. All calcanei are knob-like and short, being much shorter than the astragali. The number of segments in tarsi I-IV is 3, 8, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

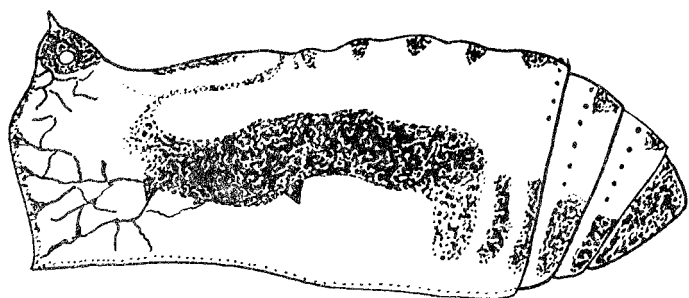
Measurements in millimeters: Body-length 3.26, length of scutum 2.40, length of carapace 1.14.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.69	0.34	1.03	0.51	0.69	1.14	0.80	5.20
Leg 2	1.03	0.40	1.54	0.69	1.43	1.54	1.43	8.06
Leg 3	0.86	0.34	1.03	0.57	0.86	1.26	0.91	5.83
Leg 4	1.03	0.46	1.49	0.63	1.37	1.83	1.03	7.84
Pedi-								
palp	0.34	0.29	0.80	0.57	0.57	.....	0.46	3.03

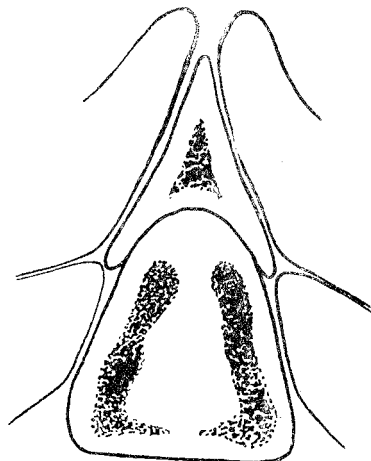
The female resembles the male very closely in colouration and general form. The pedipalpi of the two sexes do not differ much in length but those of the male are slightly stouter. The female genital operculum is shorter and wider than the male operculum and measures 0.57 mm. long and 0.63 mm. wide. The number of segments in tarsi I-IV is 3, 7L 8R, 4, 4.

Locality: The type specimens were found under decaying logs in rain-forest near the southern end of Lake St. Clair, Tasmania, 7th February, 1945. The collection contains only one other specimen, a female from the same locality.

Variations: The second female specimen measures 3.01 mm. in body-length. Its tarsal segmentation is 3, 8L 9R, 4, 4.



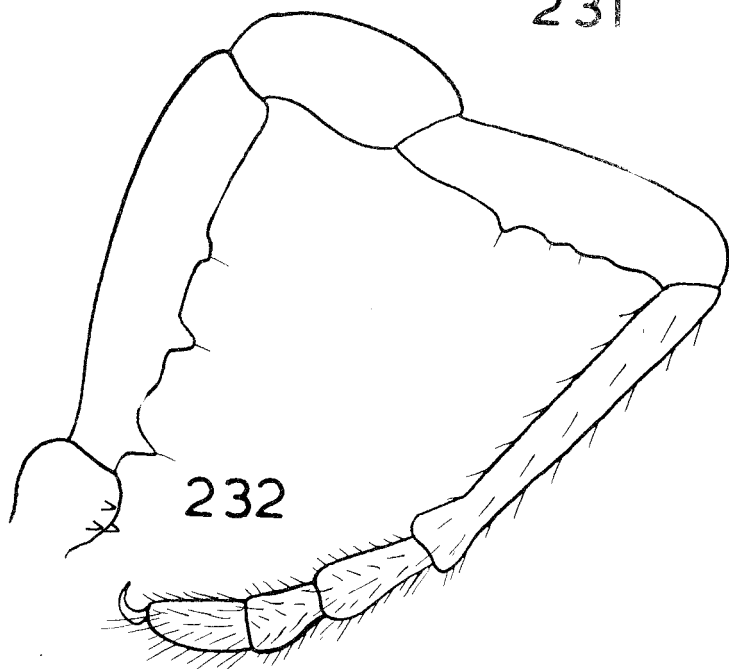
229



231



230



232

Allobunus distinctus gen. et sp. n.

FIG. 229.—Lateral view of scutum and free tergites of male.
FIG. 230.—Proximal view of pedipalpus of male.

FIG. 231.—Sternum and genital operculum of male.
FIG. 232.—Leg I of male.

Genus **CHILOBUNUS** gen. n.

Anterior margin of scutum unarmed. Eyemound high, conical, slightly behind the front margin and armed above with a strong spine. Tergal Areas I, III, and IV armed with a median pair of spines. Area II is unarmed. Area V and free tergites each armed with a transverse row of spines. Sternum wide and crescentic behind. Respiratory spiracles concealed. Legs unarmed. Calcanei much shorter than astragali. Tarsal segmentation 3, 6, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the middle prong larger than the lateral prongs.

Genotype: *Chilobunus spinosus* sp. n.

Type Locality: The Arve Forest, Geeveston, Tasmania.

CHILOBUNUS SPINOSUS sp. n.

(Figures 233-237)

Holotype Male

Measurements in millimeters: Body-length 2.00, length of scutum 1.71, length of carapace 0.91.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.63	0.23	1.09	0.46	0.80	0.91	0.63	4.75
Leg 2	0.86	0.29	1.83	0.57	1.31	1.66	1.14	7.66
Leg 3	0.74	0.29	1.26	0.57	0.91	1.43	0.66	5.86
Leg 4	0.91	0.40	1.77	0.63	1.20	2.34	0.86	8.11
Pedi-palp	0.34	0.23	0.86	0.57	0.57	...	0.57	3.14

Colour (in alcohol): Scutum with a large dark-brown area on each side and a median yellow region extending from eyemound to the posterior margin of the scutum. On tergal Areas III-V transverse yellow bars extend from the median yellow region into the dark-brown areas on each side. Dark reticulations are present on each side of the carapace and in the median line behind the eyemound. The spines on the tergal Areas and free tergites are pale-yellow and each is surrounded at the base by a yellowish patch. Chelicerae and pedipalpi yellowish with dark reticulations. On the pedipalpi the reticulations occur mainly at the sides of and below the femur, patella and tibia. The legs are yellowish with dark-brown infuscation proximally and distally on the femora, tibiae and metatarsi. Trochanters and coxae yellow with dark reticulations. Sternites yellow with a dark median band extending from the genital operculum to the anus and with dark lateral patches.

Scutum (fig. 233) unarmed in front but with a median pair of blunt spines on tergal Areas I, III and IV. Those on Area I are small and curved forwards. Those Areas III and IV are large and curved backwards. Area II is unarmed. Area V and the first two free tergites are each provided with a transverse row of blunt spines. The third free tergite has a median pair of large blunt spines. The eyemound is high, conical, rising a little behind the front margin and produced at the apex into a large spine, which is inclined slightly forwards.

Chelicerae moderately large. The first segment is 0.40 mm. long, unarmed and with a dorsal bulge in the distal half. The second segment is 0.74 mm. long and furnished with a promarginal row of three tubercles on the dorsal surface, the middle tubercle in the row being spinous.

Pedipalpi (fig. 234) not greatly enlarged. The trochanter has a spine below. The dorsal surface of the femur has a median row of four large teeth. The retrolateral surface is unarmed. The prolateral surface has a small denticle above near the middle of the prodorsal margin and three spinous tubercles in the distal half, the third tubercle being smaller than the other two. The ventral surface is armed with a large median proximal tooth and a retromarginal row of three teeth, the first and third in the row being larger than the second. The patella has two large prolateral teeth. The tibia is slightly tuberculate below and provided with three teeth on each side, the distal tooth being the smallest in each case. The tarsus is armed with three teeth on each side and the claw is about half the length of the segment.

Coxa I with a promarginal row of three teeth, the apical tooth being deeply bifid. Coxa II has a small tooth behind the apex and a large blunt tubercle above. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV is devoid of spine and tubercles in front but has a row of granules along the posterior margin.

Sternum (fig. 235) is wide and crescentic posteriorly. The genital operculum is smooth, and rounded in front. It measures 0.34 mm. in length and width. The penis has the form shown in fig. 236. The ventral plate is furnished with three pairs of inferior and three pairs of superior setae. In the fully extended condition the lateral processes curve upwards and backwards. The glans ends distally in a narrow sigmoid duct, which is protected by a dorsal hood-like structure.

The respiratory spiracles are concealed by the posterior margin of the fourth coxae.

The legs are unarmed but femur I (fig. 237) has a few rounded tubercles below. All calcanei are straight, conical and much shorter than the astragali. The number of segments in tarsi I-IV is 3, 6, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

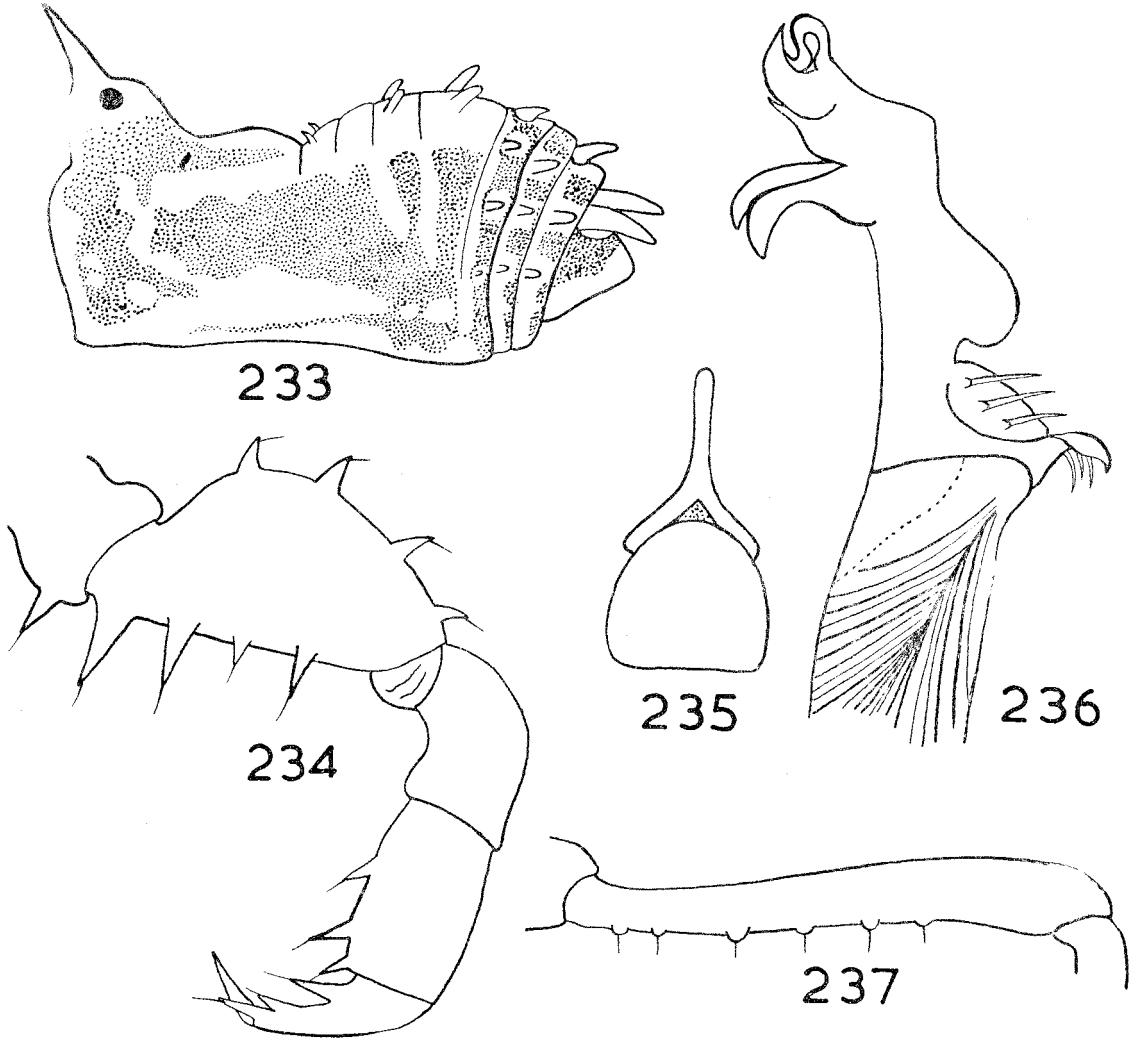
Measurements in millimeters: Body-length 2.46, length of scutum 1.88, length of carapace 0.91.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.40	0.23	0.91	0.46	0.74	0.91	0.57	4.22
Leg 2	0.74	0.34	1.66	0.63	1.26	1.54	1.03	7.20
Leg 3	0.69	0.29	1.14	0.51	0.91	1.37	0.74	5.65
Leg 4	0.91	0.40	1.71	0.63	1.31	2.34	0.80	8.10
Pedi-palp	0.23	0.23	0.80	0.46	0.57	...	0.51	2.80

The female resembles the male in colouration and general form. There is very little difference in the pedipalpi of the two sexes. The third free tergite has a large median single spine, instead of the pair of spines present in the male. The genital operculum measures 0.31 mm. long and 0.46 mm. wide and is much wider than that of the male. The

tarsal segmentation in both sexes is the same: 3, 6, 4, 4.

Locality: The type specimens were found among moss growing on the base of a large eucalypt in the Arve Forest, Geeveston, Tasmania, 22nd November, 1955. The collection contains only one other specimen, a male from the same locality.



Chilobunus spinosus gen. et sp. n.

FIG. 233.—Lateral view of scutum and free tergites of male.
 FIG. 234.—Retrolateral view of pedipalpus of male.
 FIG. 235.—Sternum and genital operculum of male.

FIG. 236.—Lateral view of distal part of penis.
 FIG. 237.—Femur of leg I of male.

Genus **RHYNCHOBUNUS** gen. n.

Eyemound rising directly from the front margin, conical and armed with a short spine, which is directed forwards and upwards. Carapace with a small conical spine on each side close behind the anterior margin. Tergal Areas and free tergites each furnished with a transverse row of tubercles. Chelicerae without a proximal boss on the retrolateral margin of the basal segment of the male. Legs unarmed. Calcanei much shorter than astragali. Calcaneus of leg I in male not notched below. Number of segments in tarsi I-IV is 3, 5-9, 4, 4. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being longer than the lateral prongs. The sternum is wide and crescent shaped posteriorly. The respiratory spiracles are concealed.

Genotype: *Rhynchobunus arrogans* sp. n.

Type Locality: Mount Dromedary, Tasmania.

The genus *Rhynchobunus* is close to *Chrestobunus* Roewer (1914) but differs in having a short spine on the eyemound and a small spine on each side of the carapace behind the anterior margin. It also differs in the form of the genitalia.

RHYNCHOBUNUS ARROGANS sp. n.

(Figures 238-244)

Holotype Male

Measurements in millimeters: Body-length 3.20, length of scutum 2.6, length of carapace 1.3.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.80	0.40	1.31	0.63	0.91	1.37	0.86	6.28
Leg 2	1.20	0.46	1.77	0.80	1.49	1.83	1.77	9.32
Leg 3	1.03	0.40	1.20	0.69	0.97	1.49	0.86	6.64
Leg 4	1.14	0.46	1.71	0.86	1.37	2.17	1.03	8.74
Pedi-								
palp	0.63	0.46	1.60	0.86	0.86	.....	0.80	5.21

Colour (in alcohol): Carapace reddish-brown with dark reticulations. Tergal region of scutum dark-brown with a median orange-coloured saddle-shaped area. Free tergites dark-brown with paler margins. Chelicerae and pedipalpi reddish-brown with dark reticulations. Coxae yellowish-brown with dark reticulations. Genital operculum yellowish with brown in the centre. Free sternite dark-brown with paler margins. Legs dark-brown with the femora, patellae and tibiae yellowish distally. The surface of the body and appendages is a dull matt, except the chelicerae, pedipalpi, coxae I and II and the bases of coxae III, which are polished.

Scutum with a small spine on each side above the anterior margin of the carapace and about mid-way between the eyemound and the anterior lateral angle. Surface of scutum finely shagreened. Eyemound conical, rising from the anterior margin and surmounted by a short spine, which is directed forwards and upwards (fig. 238). The apex of the spine has a slight upward curve and projects over the front margin. The scutal groove is distinct medianly. The groove between tergal Areas IV and V is well marked and extends onto the sides of the scutum. The other tergal grooves are indistinct. A median pair of tubercles occurs on each of Areas I-IV and a transverse row of

tubercles on Area V and each free sternite. Each transverse row has a median tubercle, on each side of which the other tubercles decrease in size.

Chelicerae strong. Basal segment measures 0.69 mm. long and has a dorsal bulge in the distal half, and a median spine at the apex. The second segment measures 1.14 mm. long and has a row of three small tubercles on the prodorsal margin.

Pedipalpi (fig. 239) strong. Femur is enlarged proximally and has a median dorsal row of seven teeth, the fourth tooth being the largest. On the prodorsal margin is a second row of five small teeth. The prolateral surface has two larger teeth in the distal half. The retrolateral surface has a row of three granules below. The ventral surface has a median proximal tooth, a proventral row of five small denticles and a retroventral row of five teeth. Patella is armed with two prolateral teeth. The tibia is tuberculate below and has two prolateral and three retrolateral teeth. Tarsus has three teeth on each side.

Coxa I with three teeth on the front margin, the middle tooth being the largest. Coxa II with a small tooth behind the apex. Coxa III with a marginal row of granules in front and behind. Coxa IV with a marginal row of granules behind.

Genital operculum (fig. 240) large and smooth, 0.63 mm. wide and 0.57 mm. long. The penis has the form shown in figs. 241 and 242. The ventral plate has two pairs of superior and three pairs of inferior setae. The distal part of the glans is very long and slender. At each side of the base is a large lateral process. In the fully extended condition the lateral processes bend backwards. The sternum is wide and crescentic posteriorly. The respiratory spiracles are hidden by the fourth coxae.

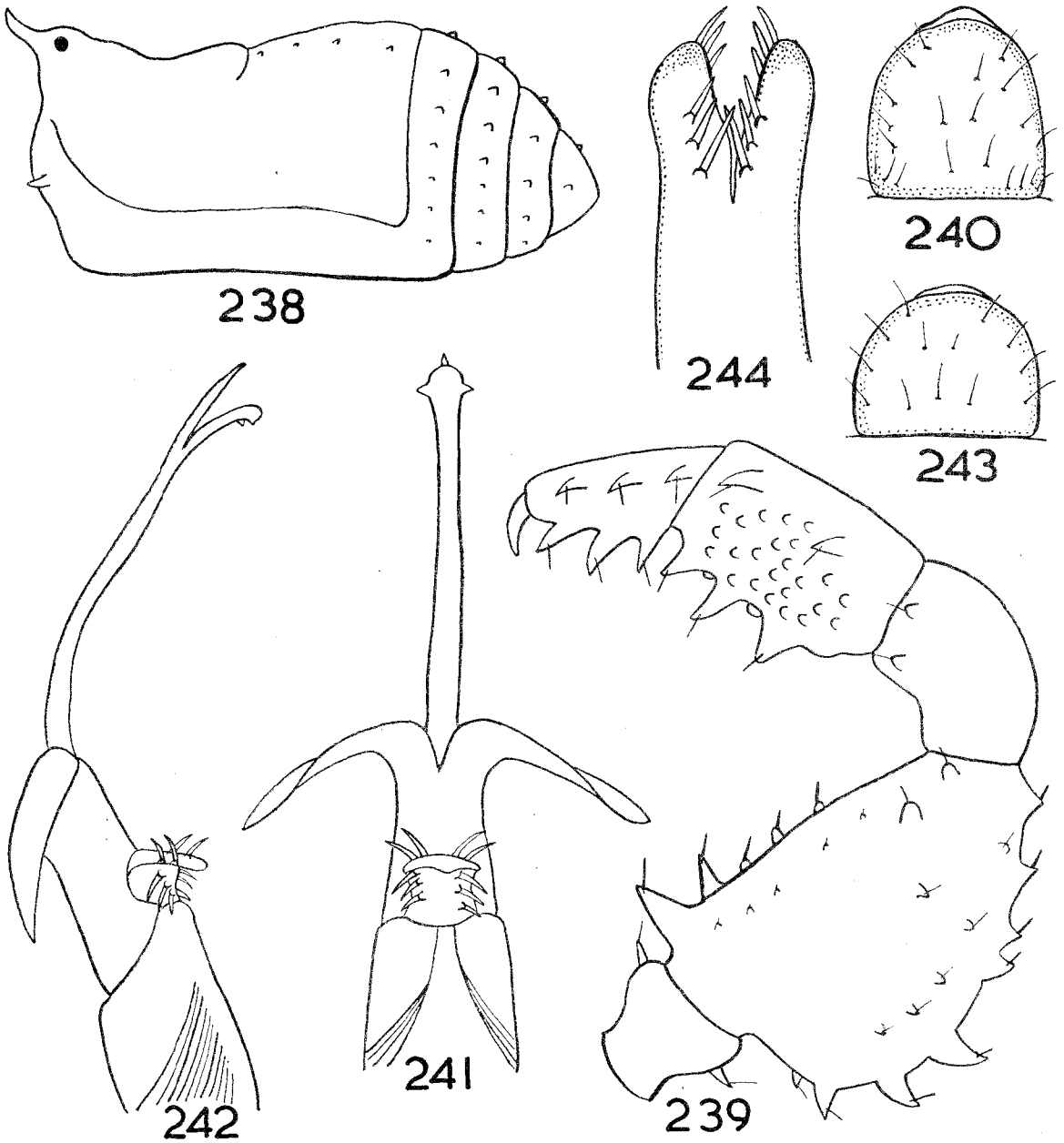
Legs smooth and unarmed except in the case of the femora which have a few small tubercles or granules. All the calcanei are short and conical. Number of segments in tarsi I-IV is 3, 6, 4, 4. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the middle prong being longer than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 3.31, length of scutum 2.34, length of carapace 1.08.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.74	0.40	1.14	0.62	0.86	1.14	0.68	5.58
Leg 2	1.03	0.46	1.60	0.69	1.31	1.54	1.37	8.00
Leg 3	0.91	0.34	1.09	0.51	0.97	1.20	0.68	5.70
Leg 4	0.97	0.46	1.43	0.69	1.31	1.94	1.03	7.83
Pedi-								
palp	0.40	0.34	1.09	0.63	0.69	.....	0.63	3.78

The female resembles the male in form and colouration but lacks the saddle-shaped mark on the scutum. The pedipalpi are smaller than those of the male and the tibia is not tuberculate on the ventral surface. The genital operculum (fig. 243) measures 0.62 mm. wide and 0.46 mm. long. It differs in shape and size from that of the male. The distal end of the ovipositor (fig. 244) is deeply cleft into two lobes, each of which is strongly chitinized and furnished with coarse setae on the inner dorsal and ventral margins. Tarsal segmentation as in the male.



Rhynchobunus arrogans gen. et sp. n.

FIG. 238.—Lateral view of scutum and free tergites of male.
 FIG. 239.—Prolateral view of pedipalpus of male.
 FIG. 240.—Genital operculum of male.
 FIG. 241.—Ventral view of distal part of penis.

FIG. 242.—Lateral view of distal part of penis.
 FIG. 243.—Genital operculum of female.
 FIG. 244.—Ventral view of distal part of ovipositor.

Localities: The type specimens were found on Mount Dromedary, Tasmania, 10th November, 1955. The species is widely distributed in the State and the collection contains specimens from Dry's Bluff, Western Creek, Trevallyn, National Park, Mount Hobbs, Highcroft, Nugent, Eaglehawk Neck, Tarra-leah, Weldborough, Pyengana and Liffey Falls. The harvestman usually occurs under decaying logs and adult specimens may be found throughout the year.

Variations: Males vary in length from 2.03-3.20 mm. and females from 2.09-3.31 mm. The collection contains 68 males and 61 females, all of which have three segments in tarsus I and four segments in both tarsus III and IV. The number of segments in tarsus II varies from six to nine in males and five to eight in females. Specimens from Weldborough and Pyengana in the north-east quarter of the State tend to have more segments in tarsus II than do specimens from other localities. Table 19 shows the number of segments in tarsi I and II of the 129 specimens examined.

Table 19

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
23	♂	3	6
7	♂	3	6L 7R
12	♂	3	7L 6R
10	♂	3	7
2	♂	3	7L 8R
4	♂	3	8
3	♂	3	8L 9R
5	♂	3	9L 8R
2	♂	3	9
29	♀	3	6
3	♀	3	5L 6R
7	♀	3	7L 6R
8	♀	3	7
4	♀	3	7L 8R
4	♀	3	8L 7R
5	♀	3	8
1	♀	3	9L 8R

Genus PHANEROBUNUS Roewer, 1914

Anterior margin of carapace furnished with long spines on each side. Eyemound situated in the anterior third of the carapace and separated from the front margin by a distance about equal to its basal diameter. It is conical in shape and surmounted by an erect sharp spine. Scutal groove and other tergal grooves distinctly marked. Tergal Areas and free tergites each armed with a transverse row of spinous tubercles, the median tubercles, being larger than the lateral ones. The respiratory spiracles are situated under the posterior margin of the fourth coxae and are covered by bridging teeth. The calcaneus of each metatarsus is indistinct and very short, being less than

one-seventh the length of the astragalus. The metatarsi show faint indications of pseudosegmentation. The tarsal segmentation is 3, 5-9, 4, 4. Distitarsi I and II have two and three segments respectively. Claws of tarsi III and IV are three-pronged, the median prong being larger than the lateral prongs. Males are distinguished from females by the larger size of their pedipalpi and by the presence of a large peg-like projection on the prolateral surface of the femur of the pedipalpi.

Genotype: *Phanerobunus armatus* Roewer.

Type Locality: Tasmania.

The genus was established on the characters of a single male specimen, and contains only the one species. Three new species are described in the present paper. They may be distinguished from the genotype and from each other by the key at foot of page.

PHANEROBUNUS ARMATUS Roewer, 1914

(Figures 245-250)

Male

Measurements in millimeters: Body-length 2.40, length of scutum 1.94, length of carapace 0.97.

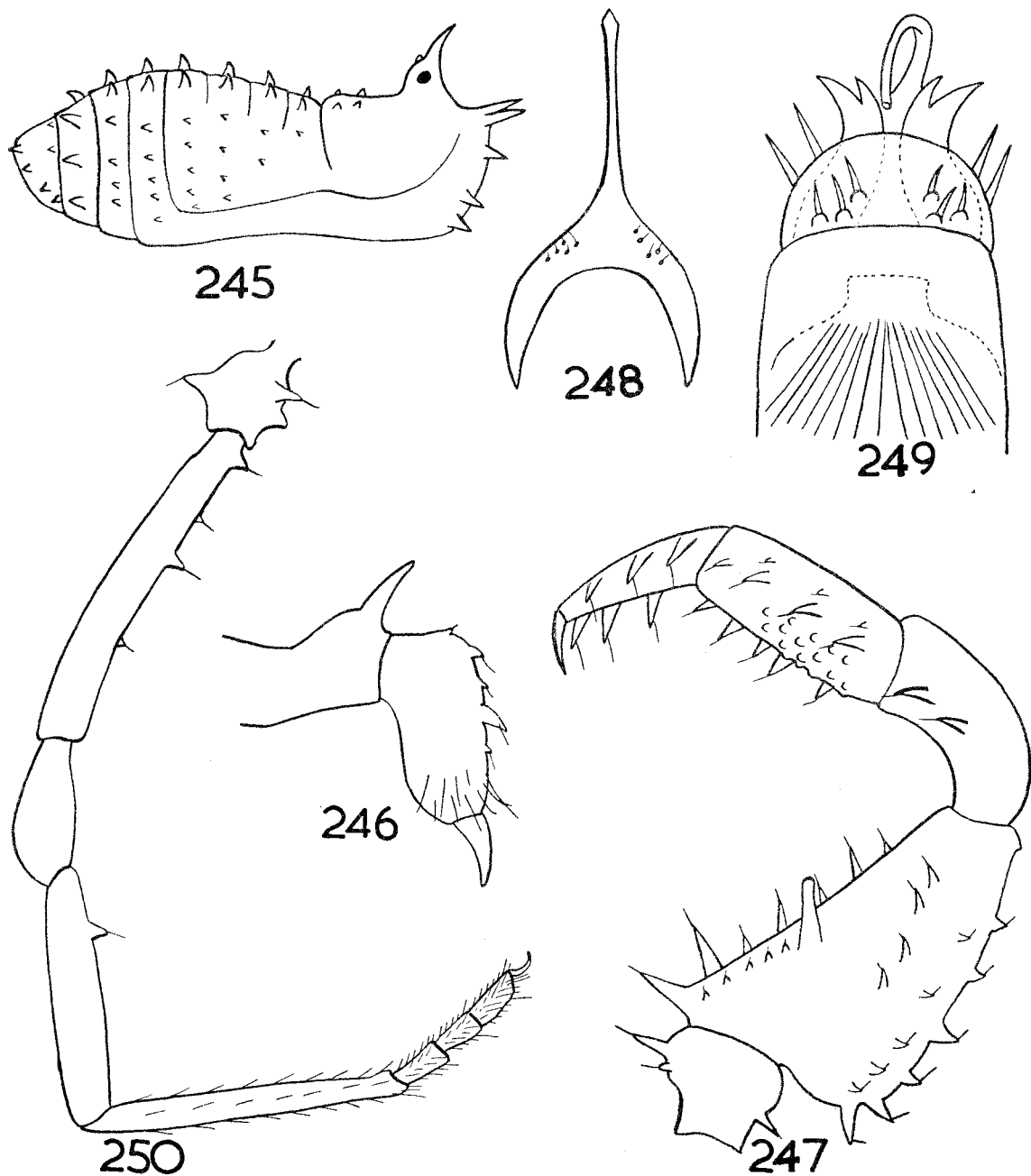
	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.51	0.29	1.03	0.40	0.68	0.80	0.46	4.17
Leg 2	0.80	0.34	1.31	0.51	1.37	1.71	0.97	7.01
Leg 3	0.74	0.29	1.14	0.46	0.86	1.43	0.40	5.32
Leg 4	0.97	0.49	1.48	0.63	1.20	2.11	0.46	7.34
Pedi-								
palp	0.34	0.40	1.37	0.91	0.91	.....	0.74	4.67

Colour (in alcohol): Scutum yellowish-brown with a dark-brown margin and a long dark area on each side. Carapace with dark reticulations on each side of and behind the eyemound. Chelicerae and pedipalpi yellowish with dark-brown reticulations. Free tergites dark-brown with yellowish margins and yellow round the base of each spine. Coxae yellowish with faint dark-brown reticulations on the posterior two pairs. Genital operculum yellow. Sternites brown with yellow margins. A median yellow band extends from the genital operculum to the anus. Legs dark-brown.

Scutum (fig. 245) finely granular. Anterior margin with a row of four spines on each side, the median pair being larger than the others. Eyemound conical, situated immediately in front of the middle of the carapace and armed with an apical spine, which is inclined slightly forward. Behind the base of the spine is a small granule. Between the eyemound and the scutal groove the carapace is furnished with several granules or small tubercles. The scutal groove and tergal grooves are well marked. Tergal Areas I-IV each with a transverse row of spinous tubercles, the

KEY TO SPECIES IN THE GENUS PHANEROBUNUS

- 1. Tergal spines truncate *R. hebes* sp. n.
- Tergal spines not truncate 2
- 2. Tibia I with two ventral granules *P. sazautilis* sp. n.
- Tibia I with one ventral tubercle 3
- 3. Femur I with four ventral tubercles *P. armatus* Roewer.
- Femur I with two ventral tubercles *P. asperimus* sp. n.



Phanerobunus armatus Roewer.

FIG. 245.—Lateral view of scutum and free tergites of male.
 FIG. 246.—Prolateral view of chelicera of male.
 FIG. 247.—Prolateral view of pedipalpus of male.

FIG. 248.—Sternum of male.
 FIG. 249.—Ventral view of distal part of penis.
 FIG. 250.—Leg I of male.

median pair in each row being larger than the others. On Area V and each free tergite there is also a transverse row of tubercles, each row consisting of a median tubercle with about five or six on each side.

Chelicerae with a large median dorsal spine near the apex of the basal segment and several smaller tubercles on the dorsal surface of the second segment (fig. 246). The length of the basal segment is 0.46 mm. and that of the second segment 0.74 mm.

Pedipalpi (fig. 247) very large and powerful; almost twice the length of the body. The trochanter is armed with a small tooth above and a larger one below. The femur has a median dorsal row of six teeth and a prodorsal row of five smaller teeth. On the prolateral surface is an oblique row of four teeth, below which is a very large peg-like tooth situated above the middle of the proventral margin and projecting inwards and downwards. On the ventral surface there is a large proximal tooth, a proventral row of five small tubercles and a retroventral row of six teeth. On the retrolateral side there is a row of small granules above the row of retroventral teeth. The patella has two prolateral teeth; the tibia four prolateral and five retrolateral teeth and the tarsus three teeth on each side. The ventral surface of the tibia tuberculate.

Coxa I has two large teeth on the front margin, the apical tooth being bifid. Coxa II has a small tooth and two tubercles behind the apex. Coxa III has a marginal row of granules in front and behind. Coxa IV is furnished with a tooth in front of the apex and a row of granules on the posterior margin. The sternum has the form shown in fig. 248. The genital operculum is smooth and measures 0.40 mm. wide and 0.34 mm. long. The distal end of the partly extended penis has the form shown in fig. 249. The ventral plate is uncleft and has two pairs of superior and three pairs of inferior setae. The distal part of the glans is long, slender and curved ventrally in the form of a hook. On each side of the base of the glans is a broad curved process which ends in two sharp points. The dorsal side of the base of the glans is covered by a hood-like structure. The respiratory spiracles are concealed. The sternites are smooth.

Legs smooth, except leg I which has four small tubercles below the femur and one large tubercle below the proximal third of the tibia (fig. 250). Calcanei small and not strongly marked. Tarsal segmentation: 3, 6, 4, 4. Distitarsi I and II with two and three segments respectively.

Allotype Female

Measurements in millimeters: Body-length 2.74, length of scutum 2.00, length of carapace 0.86.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.46	0.28	0.80	0.40	0.57	0.74	0.40	3.65
Leg 2	0.74	0.34	1.37	0.51	1.20	1.43	0.91	6.50
Leg 3	0.80	0.29	1.08	0.46	0.86	1.20	0.40	5.09
Leg 4	0.97	0.40	1.43	0.57	1.14	1.88	0.51	6.90
Pedi-palp	0.29	0.29	1.09	0.74	0.74	...	0.63	3.78

The female resembles the male but is more darkly coloured. The spine on the eyemound and those on the scutum and free tergites are smaller than in the male. The pedipalpi also are much smaller. The femur has a median dorsal row of five tubercles and a prodorsal row of four. On the prolateral side there is an oblique row of four tubercles, below which is an ordinary spine in place of the large peg-like tooth of the male. The ventral surface has a large proximal spine, a proventral row of three small teeth and a retroventral row of seven larger teeth.

The genital operculum measures 0.40 mm. wide and 0.29 mm. long.

Localities: The male and allotype female were collected at East Risdon, Tasmania, 4th June, 1945. The opilionid also occurs on the Queen's Domain, Hobart. It is usually found on the under surface of stones.

Variations: The collection contains eight males and 16 females. The males vary in body-length from 2.10-2.67 mm. and the females from 2.20-3.02 mm. All the specimens have four segments in each of tarsi III and IV. In the females the number of segments in tarsus II varies from five to six as is shown in Table 20.

Table 20

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II	
8	♂	3	6	
5	♀	3	5	
1	♀	3	6L	5R
10	♀	3	6	

PHANEROBUNUS SAXATILIS sp. n.

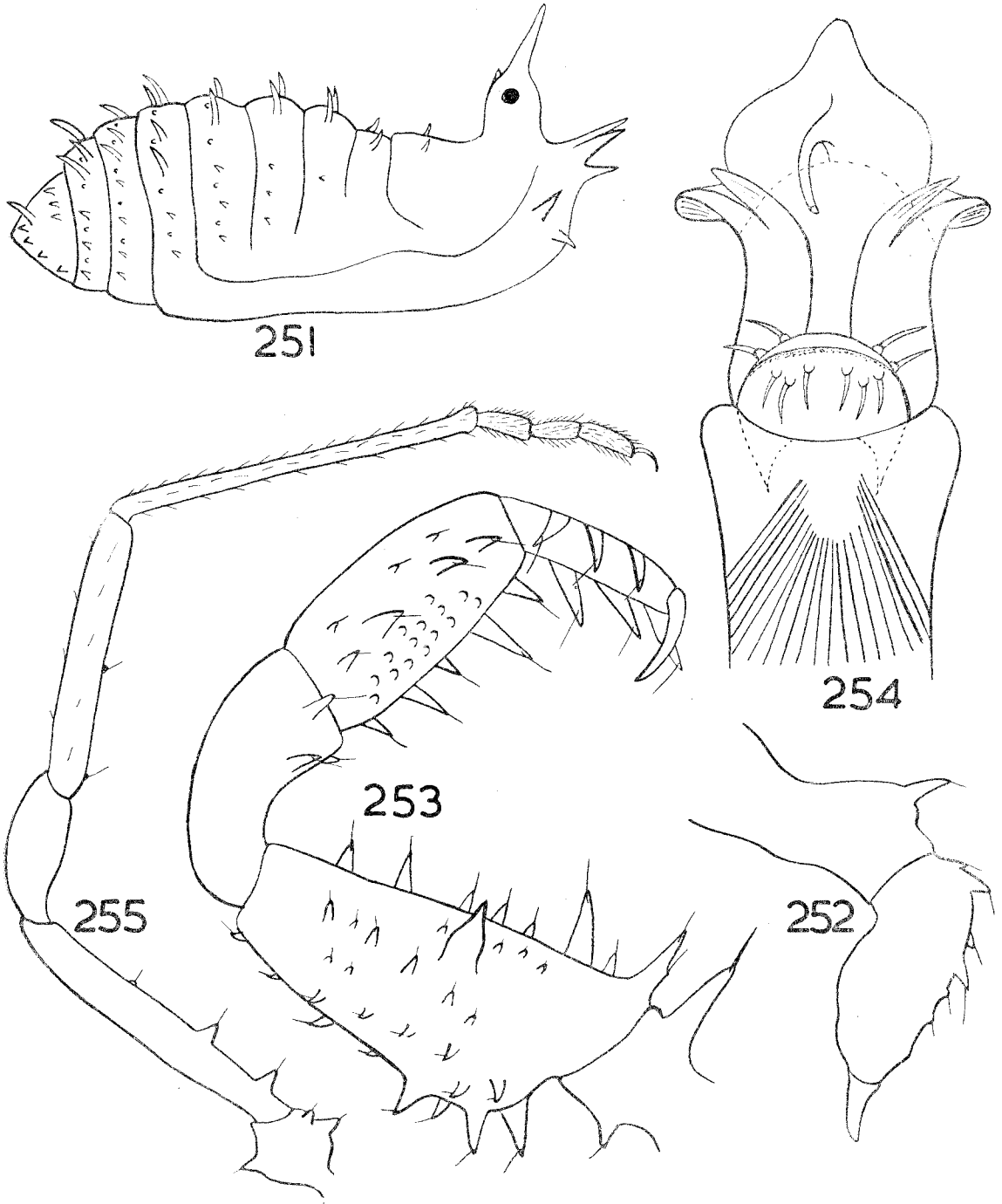
(Figures 251-255)

Holotype Male

Measurements in millimeters: Body-length 3.03, length of scutum 2.34, length of carapace 1.09.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.86	0.34	1.20	0.57	0.91	1.37	0.57	5.82
Leg 2	1.14	0.51	2.51	0.80	2.06	2.86	1.20	11.08
Leg 3	1.03	0.40	1.71	0.68	1.43	2.40	0.63	8.28
Leg 4	1.14	0.51	2.45	0.74	1.71	3.43	0.69	10.67
Pedi-palp	0.57	0.46	1.66	1.14	1.20	...	0.97	6.00

Colour (in alcohol): Scutum yellowish with a large black patch on each side, an irregular longitudinal black line between the median spines, and black reticulations in the anterior corners. Eyemound black with dark reticulations in front of the base. Free tergites mainly black with yellow round the base of each spine. Pedipalpi yellowish with dark-brown at the sides of and below the femur and dark reticulations on the dorsal surface of femur, patella, tibia and tarsus. Chelicerae yellowish with dark markings. Ventral surface of body yellow but dark-brown towards the distal ends of the coxae and on the sternites.



Phancrobunus saxatilis sp. n.

FIG. 251.—Lateral view of scutum and free tergites of male.

FIG. 252.—Prolateral view of chelicera of male.

FIG. 253.—Prolateral view of pedipalpus of male.

FIG. 254.—Ventral view of distal part of penis.

FIG. 255.—Leg I of male.

Scutum finely granular. Anterior margin armed with four large spines on each side. Eyemound situated about its basal diameter from the front margin and surmounted by a long spine, which is inclined slightly forwards and has a small granule behind its base (fig. 251). Between the eyemound and the scutal groove is a median pair of short spines. The scutal groove and other tergal grooves are strongly marked. Tergal Areas I-IV are each furnished with a transverse row of spines, the median pair in each row being slender, erect and longer than the spines on each side. Area V and each free tergite are also provided with a transverse row of spines, each row having a median spine with about four others on each side. Between adjacent spines in the row is a small granule. The third free tergite has an anterior as well as a posterior row of small spinous tubercles.

Chelicerae (fig. 252) are small. The first segment is armed on the dorsal side with a median row of five teeth, of which the first is the largest. The second segment has two small spines and several tubercles on the dorsal surface.

Pedipalpi (fig. 253) large and strong. The femur is armed on the dorsal side with a median row of five teeth, of which the first is the largest. On the prodorsal margin is a row of six smaller teeth and on the retrodorsal margin a row of five granules. The prolateral surface is armed with a row of five teeth, below which is a large stout conical projection directed inwards and downwards. The ventral surface has a large median proximal tooth, a retromarginal row of seven teeth and, in the basal half, a promarginal row of small granules. The patella is armed with two large prolateral teeth. The tibia is tuberculate below and is armed with a prolateral row of four and a retrolateral row of five teeth. The tarsus has three teeth on each side.

Coxae are finely granular. Coxa I has two large promarginal teeth, the apical tooth being bifid. Coxa II is armed with one large and two small teeth behind the apex. Coxa III has a marginal row of granules in front and behind. Coxa IV is armed with one large and two small teeth in front of the apex and a row of granules on the posterior margin.

The genital operculum is somewhat triangular, rounded at the sides and bluntly pointed in front. The penis (fig. 254) is provided with an unclaved ventral plate, which has two pairs of superior and three pairs of inferior setae. The distal end of the glans is swollen and the male duct terminates in a ventral hook-like structure. On each side of the base of the glans is a wide lateral process, which has its distal end curved outwards and divided into two lobes, the inner lobe being sharp and the outer lobe blunt.

The sternites are smooth. The respiratory spiracles are concealed under bridging granules on the posterior margin of the fourth coxae.

The legs are long and slender. They are unarmed and smooth except the femur of leg I (fig. 255), which has a row of two tubercles and two small granules on the ventral surface. The tibia also has two small ventral granules. All calcanei are small and weakly developed. The tarsal segmentation is 3, 6, 4, 4. Distitarsi I and II have two and three segments respectively. The claws

of tarsi III and IV are three-pronged, the lateral prongs being smaller and weaker than the median prong.

Allotype Female

Measurements in millimeters: Body-length 3.36, length of scutum 2.34, length of carapace 1.03.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.74	0.34	1.08	0.57	0.91	1.26	0.57	5.47
Leg 2	1.14	0.45	2.40	0.74	2.11	2.74	1.14	10.72
Leg 3	1.03	0.40	1.83	0.68	1.48	2.34	0.51	8.27
Leg 4	1.20	0.51	2.51	0.80	1.77	3.43	0.68	10.90
Pedi-palp	0.40	0.46	1.43	0.97	1.08	.....	0.86	5.20

The female differs from the male in having much smaller pedipalpi, in lacking the large conical projection on the prolateral side of the femur of the pedipalpi and in the absence of tubercles below the tibia. Tarsal segmentation is the same as that of the male.

Localities: The type specimens were collected under stones at Fern Tree, Tasmania, 22nd February, 1945. The species also occurs at many other places on Mount Wellington.

Variations: The collection contains 12 males and 6 females. The males vary in body-length from 2.38-3.19 mm. and the females from 2.44-3.94 mm. All specimens have four segments in each of tarsi III and IV. The number of segments in tarsus II varies from six to nine as shown in Table 21.

Table 21

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
8	♂	3	6
1	♂	3	6L 7R
1	♂	3	7L 6R
1	♂	3	8L 7R
1	♂	3	9L 8R
5	♀	3	6
1	♀	3	7

PHANEROBUNUS ASPERRIMUS sp. n.

(Figures 256-261)

Holotype Male

Measurements in millimeters: Body-length 2.86, length of scutum 2.28, length of carapace 1.14.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.63	0.34	1.20	0.57	0.86	1.14	0.63	5.37
Leg 2	1.14	0.42	2.11	0.74	1.71	2.17	1.20	9.49
Leg 3	1.03	0.40	1.48	0.63	1.26	1.94	0.63	7.37
Leg 4	1.26	0.46	2.00	0.69	1.71	2.80	0.68	9.60
Pedi-palp	0.40	0.40	1.83	1.26	1.20	.....	0.91	6.00

Colour (in alcohol): Scutum yellow with a large black region on each side and irregular black markings across the tergal Areas and around the margin. A yellow transverse line between Areas IV and V. Eyemound dark with black reticulations round the base. Free tergites black with yellowish margins. Spines on scutum and free tergites with yellow round the base. The chelicerae and pedipalpi yellowish brown with dark reticulations. Ventral

surface of body yellow with dark reticulations on the greater part of coxae I and IV and on the distal part of coxae II and III. Sternites black with yellowish margins and a transverse row of yellow spots. A median yellow stripe extends from the genital operculum to anus. Legs dark-brown but paler on trochanters, patellae and distal end of femora. A pale band on the distal half of tibiae III and IV.

Scutum (fig. 256) has a row of four spines on each side in front. Eyemound is situated about its basal diameter from the anterior margin, and is surmounted by a long spine, which is inclined forward and has a small posterior projection above the eyes (fig. 257). The carapace is furnished with several small granules behind the eyemound. Scutal groove and tergal grooves are well marked. Tergal Areas I-IV each with a transverse row of short conical spines, the median pair being larger than the lateral ones. Tergal Area V and free tergites I and II each with a transverse row of conical spines. Each row has a single median spine and about four lateral spines on each side. Free tergite III has a row of three or four small tubercles in front and several small tubercles on posterior margin.

Chelicerae are furnished with a prominent dorsal spine at the apex of the basal segment and three conical tubercles on the dorsal surface of the second segment.

Pedipalpi (fig. 258) are large and strong. The trochanter is armed with a tooth above and below, the ventral one being the larger. The femur has a mid-dorsal row of seven teeth and a prodorsal row of four smaller teeth. The prolateral surface has three teeth near the middle and one at the apex. Near the middle of the proventral margin is a large stout conical projection. The ventral surface is armed with a large proximal tooth, a proventral row of five small tubercles in the basal half and a retroventral row of seven teeth; of which the second, fourth and sixth are larger than the others. The retrolateral surface has a few small granules above the retroventral row of teeth. The patella has two prolateral teeth and a small retrolateral granule. The tibia is tuberculate below and has three prolateral and five retrolateral teeth. The tarsus has three teeth on each side.

Coxa I with two large teeth on anterior margin, the apical tooth being bifid. Several smaller conical tubercles are present on the ventral surface. Coxa II has a small tooth and two granules behind the apex. Coxa III with a marginal row of granules in front and behind. Coxa IV with a small tooth and several granules in front of the apex and a row of granules on posterior margin. The sternum has the form shown in fig. 259. Genital operculum somewhat triangular, rounded at the sides and wider than long. The penis has the form shown in fig. 260. The ventral plate is uncleft and has two pairs of superior and three pairs of inferior setae. The distal part of the glans has the form of a narrow tube, which lies between two sharp-pointed processes and is covered dorsally by a delicate hood with a serrate margin. The tube ends in a sharp point, which extends slightly beyond the aperture of the male duct.

On each side of the base of the glans is a bilobed lateral process. The lobes are blunt and curved outwards.

The sternites are smooth and the respiratory spiracles hidden under the posterior margins of the fourth coxae.

The legs are slender. Leg 1 (fig. 261) has two conical tubercles below the basal half of the femur and a single ventral tubercle near the base of the tibia. The other legs are smooth and unarmed. Calcanei are small and weakly developed. All metatarsi show indistinct signs of pseudosegmentation. Tarsal segmentation: 3, 6, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of legs III and IV are three-pronged, the lateral prongs being smaller and weaker than the median prong.

Allotype Female

Measurements in millimeters: Body-length 3.26, length of scutum 2.17, length of carapace 1.09.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.34	1.03	0.51	0.69	0.97	0.51	4.62
Leg 2	0.97	0.40	1.77	0.68	1.48	1.88	1.03	8.21
Leg 3	0.91	0.34	1.43	0.63	1.08	1.66	0.54	6.59
Leg 4	1.09	0.46	1.77	0.69	1.37	2.46	0.68	8.52
Pedi-								
palp	0.34	0.34	1.26	0.86	0.91	.....	0.74	4.45

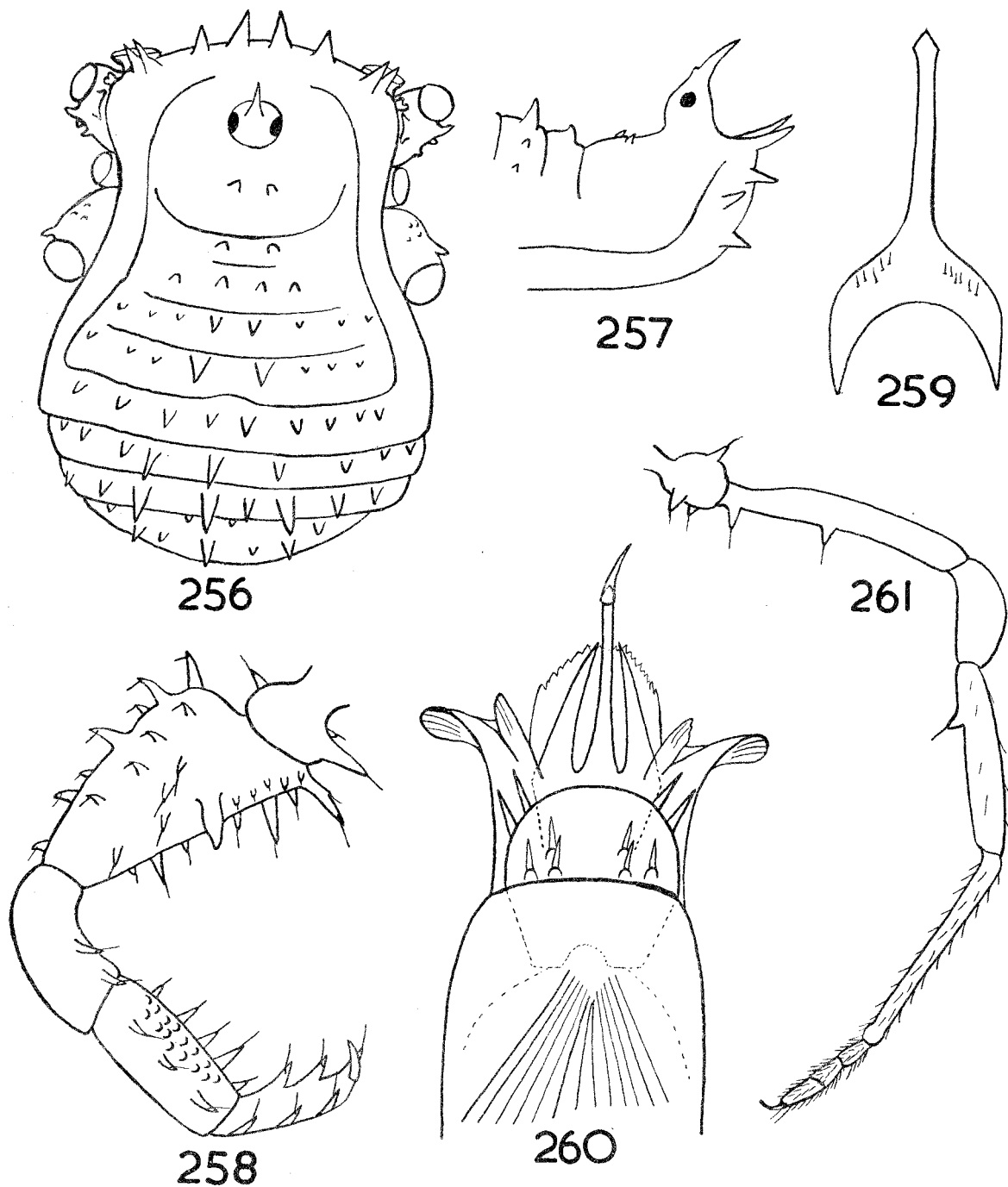
The female resembles the male in colour and general features. It differs, however, in having much smaller pedipalpi, in lacking the large conical projection, which is present on the prolateral side of the femur of the male pedipalp and in the tibia being less tuberculate on the ventral surface. The genital operculum is wider in proportion to its length than in the male.

Localities: The holotype and allotype were found under decaying logs on Mt. Dromedary, Tasmania, 10th November, 1955. The harvestman also occurs on Mount Wellington, Mount Hobbs, Spring Hill and on the central plateau at Tarraleah, Bronte Park and regions near Great Lake. Besides occurring under decaying logs, it is also found under stones, in grass tussocks, and amongst the debris that collects at the base of tree-ferns.

Variations: The collection contains 21 males and 28 females. The males vary in body-length from 2.60-3.20 mm. and the females from 2.67-3.54 mm. The normal tarsal segmentation in both sexes is 3, 6, 4, 4. The number of segments in tarsus II varies from 5-8. All the specimens have four segments in each of tarsi III and IV. Much asymmetry is exhibited in the segmentation of tarsus II (see Table 22).

Table 22

Number of specimens	Sex	Number of segments in	
		tarsus I	tarsus II
13	♂	3	6
1	♂	3	5L 6R
1	♂	3	6L 5R
2	♂	3	6L 7R
2	♂	3	7
1	♂	3	7L 6R
1	♂	3	7L 8R
19	♀	3	6
5	♀	3	5
3	♀	3	6L 5R
1	♀	3	6L 7R



Phancrobunus asperrimus sp. n.

FIG. 256.—Dorsal view of scutum and free tergites of male.

FIG. 257.—Lateral view of eyemound.

FIG. 258.—Prolateral view of pedipalpus of male.

FIG. 259.—Sternum of male.

FIG. 260.—Ventral view of distal part of penis.

FIG. 261.—Leg I of male.

PHANEROBUNUS HEBES sp. n.

(Figures 262-267)

Holotype Male

Measurements in millimeters: Body-length 3.26, length of scutum 2.68, length of carapace 1.26.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.80	0.40	1.43	0.63	1.03	1.43	0.57	6.29
Leg 2	1.26	0.46	2.57	0.80	2.17	2.57	1.14	10.97
Leg 3	1.08	0.46	1.71	0.74	1.43	2.34	0.63	8.39
Leg 4	1.31	0.48	2.17	0.74	1.60	3.48	0.74	10.52
Pedi-								
palp	0.51	0.57	2.00	1.43	1.31	...	0.97	6.79

Colour (in alcohol): Scutum yellowish brown marked with black near the margin and with a large black area on each side. Eyemound black. Tergal grooves with a median dark mark. Areas IV and V separated by a transverse yellow line. Area V and the free tergites black with yellow round the base of each spine. Segments of pedipalpi yellow with dark reticulations above merging into black at the sides. Coxae yellow with dark reticulations towards the distal ends. Sternites yellow with a dark patch on each side and a pair of dark patches in the middle. Legs mainly brown.

Scutum (fig. 262) finely granular. Front margin with three teeth on the left side and three on the right. The two teeth in front of the eyemound are larger than the others. Eyemound (fig. 263) conical and surmounted by a long spine which is inclined slightly towards the front. The eyemound is situated about its basal diameter from the anterior margin. Several small granules are present on the carapace behind the eyemound. Scutal and tergal grooves are clearly defined. Tergal Area I has a single pair of median spines; Area II-IV a transverse row of four spines, of which the median pair are the largest. Area V and the free tergites each with a transverse row of spines, the median one being the largest. All spines are widely spaced and have blunt, somewhat truncated, ends.

Chelicerae are provided with a single apical spine on the dorsal surface of the first segment and with two teeth on the dorsal surface of the second segment, one near the base the other near the middle.

Pedipalpi (fig. 264) large and powerful, more than twice the length of the body. The trochanter has a small tooth above and a larger one below. The femur large and swollen; its greatest dorso-ventral diameter is equal to slightly more than half its length. The dorsal surface is furnished with a median row of five teeth, of which the first three are much larger than the others, and a promarginal row of four small teeth. The pro-lateral surface has an oblique row of four truncate teeth, below which is a large stout conical projection situated slightly above the middle of the proventral margin and directed inwards and downwards. On the ventral surface is a large proximal tooth, a promarginal row of five small denticles and a retromarginal row of six teeth, of which the second, fourth and sixth are larger than the others. The patella has two blunt pro-lateral teeth and a small retrolateral tubercle. The tibia is tuberculate below and has five teeth on each side. The tarsus has three teeth on each side.

Coxa I has two large teeth on the anterior margin, the apical tooth being bifid. A few smaller tubercles are present on the ventral surface. Coxa II has an apical tooth and several small tubercles on the posterior surface. Coxa III has a marginal row of granules in front and behind. Coxa IV has a small apical tooth in front and a row of marginal granules behind. The genital operculum is somewhat triangular, rounded at the sides and slightly wider than long. The penis has the form shown in fig. 266. The ventral plate has two pairs of superior and three pairs of inferior setae. The distal part of the glans is a narrow tube curved ventrally and covered by a hood-like structure, which is somewhat pointed in front and produced into two sharp spines on each side. A pair of lateral processes is situated on one each side at the base of the glans. Their extremities are bilobed and curve outwards. The sternum has the form shown in fig. 265. It is wide and crescentic at the posterior end and its anterior part long and narrow. The sternites are smooth and unarmed. The respiratory spiracles are concealed.

Legs are smooth and unarmed except in leg 1 (fig. 267) which has three small tubercles below the femur and two below the tibia. The calcanei are very small and poorly differentiated. All the metatarsi exhibit traces of pseudosegmentation. Tarsal segmentation: 3, 6, 4, 4. Distitarsi I and II with two and three segments respectively. The claws of legs III and IV are three-pronged, the middle prong being larger and stronger than the lateral prongs.

Allotype Female

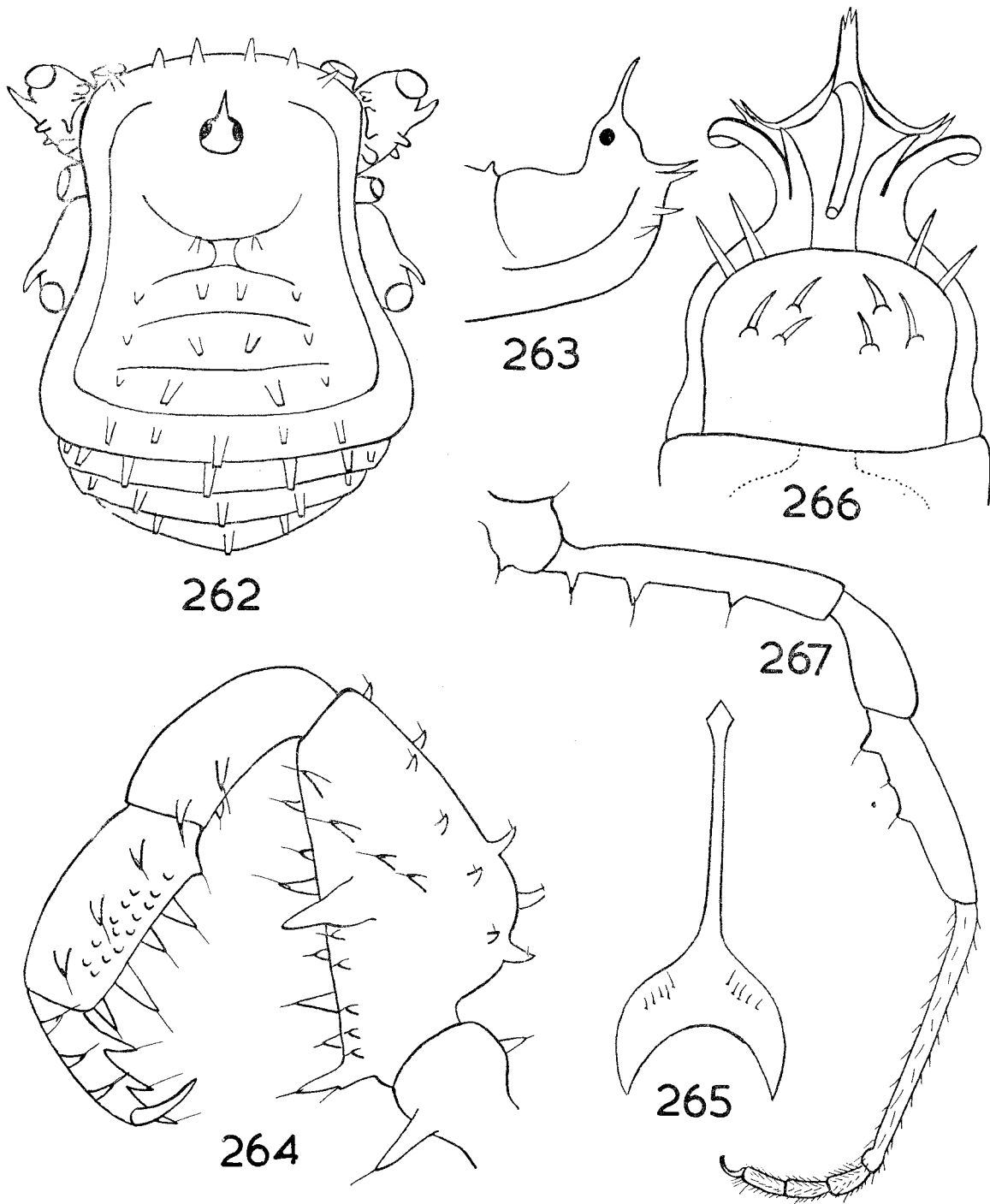
Measurements in millimeters: Body-length 3.48, length of scutum 2.46, length of carapace 1.08.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.31	1.14	0.51	0.96	1.14	0.57	5.10
Leg 2	1.03	0.40	2.17	0.68	1.77	2.23	1.14	9.42
Leg 3	1.02	0.40	1.49	0.63	1.26	2.05	0.57	7.42
Leg 4	1.14	0.51	2.05	0.74	1.48	2.80	0.74	9.46
Pedi-								
palp	0.40	0.40	1.43	1.09	0.91	...	0.80	5.03

The female resembles the male in colour and general appearance. However, the pedipalpi are much smaller and lack the large conical projection on the pro-lateral side of the femur, its place being taken by an ordinary spine. The genital operculum is broadly triangular and wider in proportion to its length than in the male. Tarsal segmentation is the same as in the male.

Localities: The holotype and allotype were found at Eaglehawk Neck, Tasmania, 22nd August, 1951. The species also occurs at Highcroft. It is usually found under decaying logs.

Variations: Males vary in body-length from 2.38-3.26 mm. and females from 2.44-3.48 mm. Some examples have three spines on each side of the anterior margin of the carapace and others have four. The normal tarsal segmentation in both sexes is 3, 6, 4, 4. Eleven males and twelve females were examined. All had the normal tarsal segmentation except two of the males, in which the tarsi of the second pair of legs had seven segments on the left side and six on the right.



Phanerobunus hebes sp. n.

FIG. 262.—Dorsal view of scutum and free tergites of male.

FIG. 263.—Lateral view of eyemound.

FIG. 264.—Prolateral view of pedipalpus of male.

FIG. 265.—Sternum of male.

FIG. 266.—Ventral view of distal part of penis.

FIG. 267.—Leg I of male.

Genus MIOBUNUS Roewer, 1914

Anterior margin of scutum unarmed and not marked off by a transverse groove. Eyemound arising almost from the margin, ascending steeply in front and forming a sharp angle above but unarmed. The scutum has five distinct transverse grooves, which are not marked by a series of granules. Tergal Areas and free tergites without a median pair of projecting tubercles or spines. Respiratory spiracles concealed under bridging teeth on the posterior margin of the fourth coxae. Sternum wide and crescentic behind. Calcaneus of each metatarsus conical and about 1/7-1/9 the length of the astragalus. Tarsal segmentation: 3, 4, 4, 4. Distitarsi I and II with two and three segments respectively.

Genotype: *Miobunus thoracicus* Roewer.

Type Locality: Tasmania.

Hitherto the genotype, described by Roewer from a single male specimen, has been the sole representative of the genus, and there does not appear to be an example of it in the present collection. However, a new species, *Miobunus levis*, is described below and may be distinguished from *M. thoracicus* as follows:

Tergal Areas and free tergites each furnished with a transverse row of coarse tubercles *M. thoracicus* Roewer
Tergal Areas and free tergites not furnished with transverse rows of coarse tubercles *M. levis* sp. n.

MIOBUNUS LEVIS sp. n.

(Figures 268-271)

Holotype Male

Measurements in millimeters: Body-length 1.54, length of scutum 1.14, length of carapace 0.57.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.34	0.17	0.51	0.29	0.40	0.46	0.46	2.63
Leg 2	0.63	0.23	0.74	0.34	0.63	0.63	0.74	3.94
Leg 3	0.46	0.17	0.51	0.29	0.40	0.51	0.46	2.80
Leg 4	0.51	0.23	0.69	0.40	0.63	0.80	0.57	3.83
Pedi-palp	0.23	0.23	0.57	0.40	0.40	....	0.34	2.17

Colour (in alcohol): Scutum light-brown with dark reticulations on each side of the carapace and round the base of the eyemound. A median light-brown saddle-shaped region is present on tergal Areas I and II. Behind and at the sides of the saddle-shaped region the scutum is dark-brown. Tergal Area V and the first two free tergites are light-brown with a transverse band of dark-brown. The third free tergite is dark-brown. Chelicerae, pedipalpi and coxae light-brown with faint dark reticulations. Free sternites dark-brown laterally and light-brown in the middle. Legs mainly dark-brown, the femora, patellae and tibiae being pale distally.

Scutum (fig. 268) shagreened. A small denticle is present on each side above the anterior margin. Eyemound unarmed, and broadly conical. In front it rises almost vertically from the margin of the scutum and ends in a blunt point at the apex. The scutal groove is distinct medianly. The other tergal grooves are not distinct. Tergal Areas and free tergites unarmed and without tubercles and granules.

Chelicerae moderately strong. The first segment is 0.34 mm. long and furnished with a short median dorsal apical spine. The second segment is 0.57 mm. long and provided with a row of three small tubercles on the prodorsal margin.

Pedipalpi (fig. 269) strong. The trochanter is armed with a small tooth above and a larger one below. The dorsal surface of the femur has a median row of four teeth. The retrolateral side is furnished with a small tubercle above the middle of the retroventral margin. The prolateral side has a row of three teeth. The ventral surface is armed with a large median proximal tooth and a row of three smaller teeth on both the retro-marginal and promarginal. The first tooth in each row being larger than the other two. The patella has two small blunt prolateral tubercles. The tibia is tuberculate below and furnished with two prolateral and three retrolateral teeth. The tarsus has three teeth on each side. The claw is about half the length of the segment.

Coxae shagreened. Coxa I has three small pro-marginal teeth, the distal tooth being bifid. Coxa II is armed with a large conical tooth behind the apex and a broad tubercle above. Coxa III has a marginal row of granules in front and behind.

Coxa IV is without spines and tubercles in front of the apex but has a row of granules on the posterior margin. The distal granule is large and extends over the respiratory spiracle.

The genital operculum measures 0.23 mm. long and 0.25 mm. wide. It is smooth and rounded in front. The sternum (fig. 270) is somewhat longer than is usual in members of the subfamily but is wide and crescentic behind. The respiratory spiracles are concealed under bridging granules on the fourth coxae.

Legs are unarmed but the first pair (fig. 271) have a few coarse tubercles below the femur and three below the tibia. All calcanei are conical, straight and much shorter than the astragali. The number of segments in tarsi I-IV is 3, 4, 4, 4. Distitarsi I and II each have two segments. The claws of tarsi III and IV are three-pronged, the median prong being larger than the lateral prongs.

Allotype Female

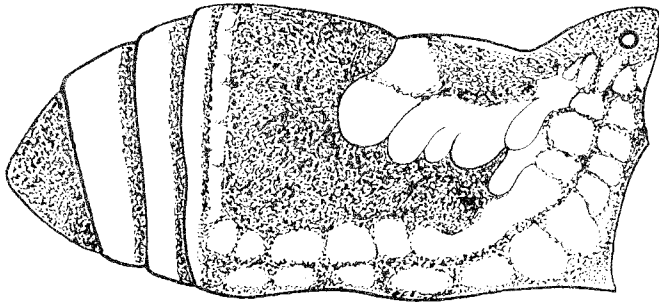
Measurements in millimeters: Body-length 1.71, length of scutum 1.20, length of carapace 0.63.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.29	0.17	0.51	0.29	0.37	0.40	0.40	2.43
Leg 2	0.57	0.23	0.69	0.29	0.57	0.63	0.80	3.78
Leg 3	0.40	0.17	0.51	0.25	0.46	0.51	0.46	2.76
Leg 4	0.51	0.25	0.63	0.31	0.63	0.74	0.57	3.64
Pedi-palp	0.23	0.20	0.46	0.29	0.34	....	0.29	1.81

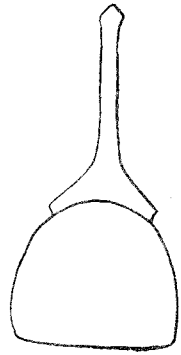
The female resembles the male in general appearance, but the saddle-shaped region on the scutum is smaller and the pedipalpi less robust. The genital operculum is 0.25 mm. long and 0.29 mm. wide. Tarsal segmentation as in the male.

Locality: The type specimens and two other specimens, both females, were found amongst fallen leaves at the side of a moss-covered log at Tarra-leah, Tasmania, December, 1952.

Variations: The three females varied in body-length from 1.62-1.74 mm. No variation in the number of segments in the tarsi was exhibited by the four specimens and all had two segments in both distitarsi I and II.



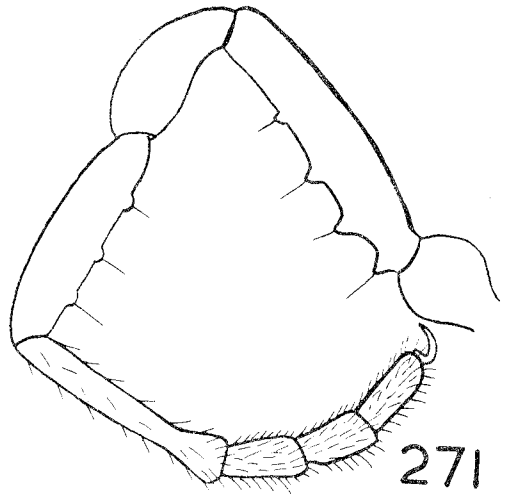
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Miobunus levis sp. n.

FIG. 268.—Lateral view of scutum and free tergites of male.
FIG. 269.—Retrolateral view of pedipalpus of male.

FIG. 270.—Sternum and genital operculum of male.
FIG. 271.—Leg I of male.

Genus TASMANOBUNUS gen. n.

Eyemound unarmed, conical and rising directly from the middle of the anterior margin. Carapace without spines but with a small tubercle on each side above the front margin. Each tergal Area and free tergite with a transverse row of small tubercles but without spines. Posterior end of sternum wide and crescentic. Genital operculum smooth. Respiratory spiracles partly concealed

by bridging teeth on the fourth coxae. Leg I with a few ventral tubercles; other legs smooth and unarmed. Calcanei short and knob-like. Tarsal segmentation: 3, 5, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Tasmanobunus constans* sp. n.

Type Locality: Mount Wellington, Tasmania.

The genus *Tasmanobunus* is close to *Miobunus* Roewer, but differs in the segmentation of the second tarsi. There is also some resemblance to the New Zealand genus *Psalenoba*, which Roewer (1931, p. 159) places in the subfamily *Triakenonychinae*.

TASMANOBUNUS CONSTANS sp. n.

(Figures 272-276)

Holotype Male

Measurements in millimeters: Body-length 2.11, length of scutum 1.77, length of carapace 0.86.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.57	0.25	0.80	0.40	0.57	0.74	0.51	3.84
Leg 2	0.80	0.29	1.20	0.51	0.97	1.14	0.91	5.82
Leg 3	0.68	0.28	0.74	0.46	0.69	0.86	0.57	4.28
Leg 4	0.80	0.34	1.03	0.46	0.94	1.20	0.63	5.40
Pedi-								
palp	0.29	0.23	1.03	0.57	0.63	...	0.57	3.32

Colour (in alcohol): Carapace orange with brown reticulations. Tergal region orange with a median brown stripe crossed by four transverse brown bars situated between the tergal Areas. On each side the brown bars merge in a large lateral brownish region, below which is a row of large orange spots. Chelicerae orange with brown reticulations. Pedipalpi orange with brown reticulations, except on the distal part of the femur, the patella, the distal third of the tibia and the basal half of the tarsus, which are orange without dark markings. Coxae, sternum and genital operculum orange. Free tergites yellow, the second and third marked with brown anteriorly. Each sternite is dark-brown anteriorly and orange posteriorly. A median yellow band extends from the genital operculum to the anus.

Scutum finely granular and without spines. A minute tubercle is situated on each side of the anterior margin above the base of each pedipalpus. Eyemound low, broadly conical, pointed and rising almost vertically from the front margin (fig. 272). Scutal groove and tergal grooves distinct and extending laterally. Each tergal Area and free tergite provided with a transverse row of minute tubercles, which are seen most clearly in dry specimens.

Chelicerae (fig. 273) moderately strong. Basal segment 0.51 mm. long, second segment 0.80 mm. long. The first segment is armed with a short median apical spine. The second segment has three retrodorsal tubercles and three prodorsal teeth, of which the middle one is larger than the others.

Pedipalpi (fig. 274) are large and powerful. The trochanter is armed with a ventral tooth. The femur has a mid-dorsal row of four small teeth in the basal half continuous with a row of four granules in the apical half. There is also a prodorsal row of four teeth and a single prolateral tooth. On the ventral side there is a large proximal tooth, a proventral row of five granules and a retroventral row of one large proximal tooth, two much smaller teeth and a granule. The patella has two prolateral teeth. The tibia has two prolateral and three retrolateral teeth. The tarsus has three teeth on each side.

Coxa I has a row of three promarginal teeth, the middle tooth being the largest and the apical one slightly bifid. Behind the promarginal teeth are a few small tubercles. Coxa II has three small tubercles behind the apex. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV is without teeth or tubercles in front of the apex, but has a marginal row of granules behind.

The sternum (fig. 275) is somewhat elongate but wide and crescentic posteriorly. The genital operculum is smooth and rounded in front. It measures 0.31 mm. long and 0.34 mm. wide. The penis (fig. 276) is provided with a large unclleft ventral plate, which has three pairs of superior and three pairs of inferior setae. On each side of the ventral plate is a leaf-like lateral process, which in the fully extended condition is curved backwards. The distal part of the penis is wide and has two somewhat spatulate setae which project forwards. On the dorsal side about half way between the basal plate and the distal end is a pair of blade-like dorsal processes, which stand erect when fully extended. In the partly extended condition they lie close against the dorsal surface of the penis.

The respiratory spiracles lie close against the posterior margin of the fourth coxae and are partially concealed. The free sternites are smooth and without tubercles.

The legs are smooth and unarmed, except leg I which has two ventral tubercles on the proximal half of the femur. Each calcaneus is short and knob-like. The number of segments in tarsi I-IV is 3, 5, 4, 4. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 2.23, length of scutum 1.71, length of carapace 0.80.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.65	0.23	0.63	0.40	0.46	0.57	0.45	3.39
Leg 2	0.80	0.28	0.97	0.46	0.80	0.91	0.80	5.02
Leg 3	0.63	0.23	0.68	0.34	0.57	0.74	0.51	3.70
Leg 4	0.68	0.29	0.91	0.51	0.86	1.08	0.57	3.90
Pedi-								
palp	0.25	0.23	0.63	0.46	0.40	...	0.46	2.43

The female resembles the male in colouration, markings and general appearance. The pedipalpi, however, are shorter and less robust than those of the male. The genital operculum measures 0.25 mm. long and 0.34 mm. wide. The tarsal segmentation is the same as that of the male.

Locality: The holotype and allotype were found on Mount Wellington by J. L. Hickman, 15th May, 1956. The species also occurs at Weldborough, Bronte Park, and Highcroft. It is found in moss and also under decaying logs.

Variations: Males vary in body-length from 1.62-2.20 mm. and females from 1.62-2.55 mm. Over fifty specimens have been examined. In all of them the tarsal segmentation was 3, 5, 4, 4.

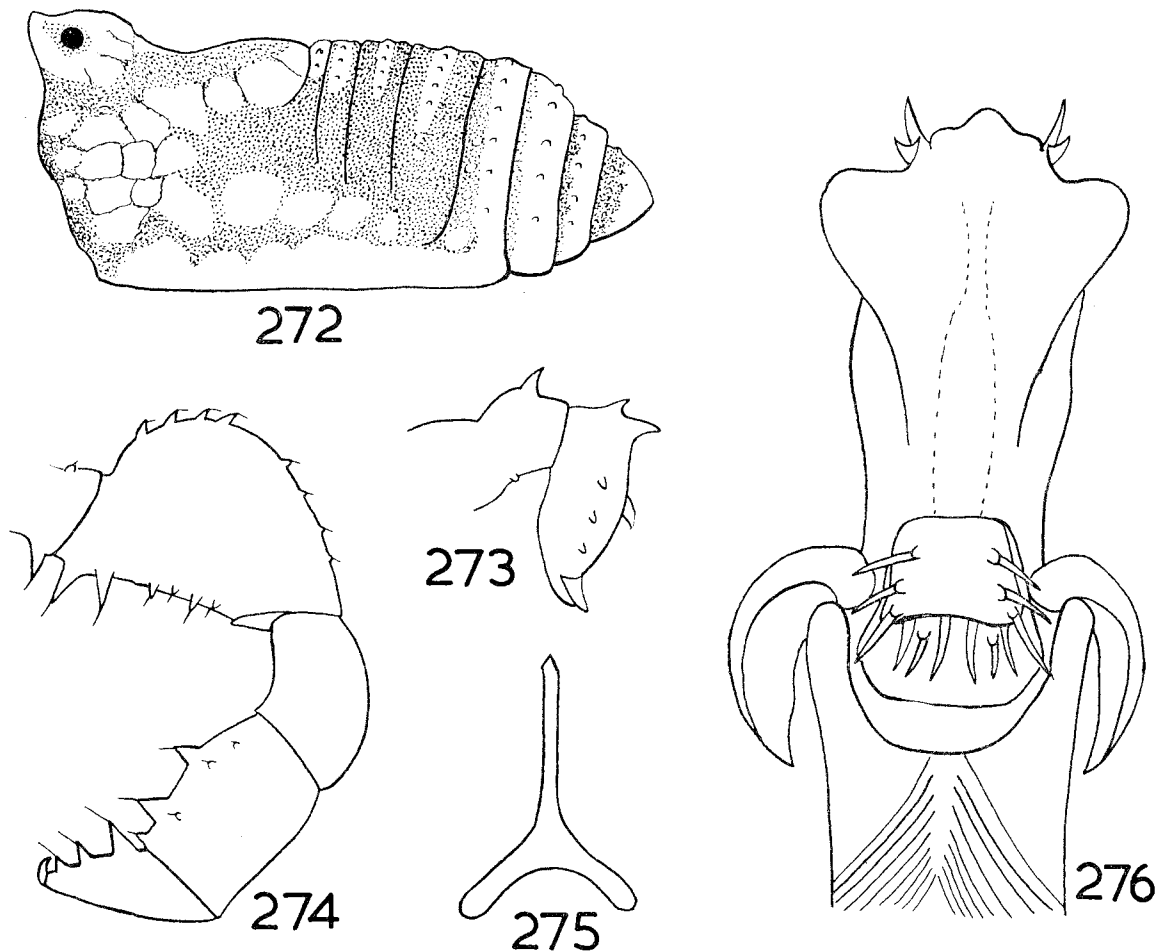


FIG. 272.—Lateral view of scutum and free tergites of male.
 FIG. 273.—Retrolateral view of chelicera of male.
 FIG. 274.—Retrolateral view of pedipalpus of male.

FIG. 275.—Sternum of male.
 FIG. 276.—Ventral view of distal part of penis.

Tasmanobunus constans gen. et sp. n.

TASMANOBUNUS PARVUS sp.n.

(Figures 277-282)

Holotype Male

Measurements in millimeters: Body-length 1.62, length of scutum 1.22, length of carapace 0.70.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.41	0.18	0.56	0.30	0.44	0.51	0.48	2.88
Leg 2	0.55	0.23	0.81	0.33	0.67	0.72	0.79	4.10
Leg 3	0.46	0.19	0.56	0.29	0.48	0.59	0.45	3.02
Leg 4	0.52	0.25	0.75	0.35	0.66	0.89	0.55	3.97
Pedi-palp	0.22	0.15	0.64	0.41	0.37	.....	0.37	2.16

Colour (in alcohol): Body and appendages yellow. Scutum with a saddle-shaped area on the posterior half faintly outlined in brown. Tergites dark-yellow.

Scutum (fig. 277) finely granular. A small denticle is situated on each side above the anterior

margin and about midway between the eyemound and the lateral angle. The eyemound, which is conical and rounded at the apex, rises from the middle of the front margin of the carapace. Scutal groove distinct medianly. The tergal grooves indistinct. A median pair of minute tubercles on Areas I-IV and a transverse row of minute tubercles on Area V and each free tergite.

Chelicerae (fig. 278) armed with a median apical spine above the basal segment and with two large promarginal and a smaller retromarginal tubercle on the dorsal side of the second segment. Length of the basal segment is 0.41 mm., that of the second segment 0.60 mm.

Pedipalpi (fig. 279) large. The trochanter with a small tubercle above and a larger tooth below. Femur with a dorsal row of four teeth, two prodorsal teeth and two prolateral teeth. The ventral surface has a large basiventral tooth and a retro-

ventral row of three teeth, the proximal one being much larger than the other two. Patella has two prolateral teeth. Tibia has two prolateral and three retrolateral teeth, and a few tubercles on the ventral surface. Tarsus has three teeth on each side and a long claw.

Coxa I has a promarginal row of three tubercles, the apical one being bifid. Coxa II is provided with three tubercles behind the apex. Coxa III has a marginal row of granules in front and behind. Coxa IV has a small tubercle in front of the apex and a row of granules on the posterior margin. The sternum (fig. 280) is wide and crescent-shaped posteriorly.

Genital operculum is smooth, rounded in front, and measures 0.23 mm. wide and 0.23 mm. long. The penis has the form shown in figs. 281 and 282. The genital duct ends in a club-shaped structure, from the dorsal side of which a curved median bifid process projects forward. On each side the glans is protected by a long curved sickle-shaped process. The ventral plate is broad and not cleft. It is furnished with three pairs of inferior setae and one pair of superior setae. Below the basal plate and on each side there is a short curved leaf-like lateral process. However, owing to the penis not being fully extended, the processes cannot be clearly seen.

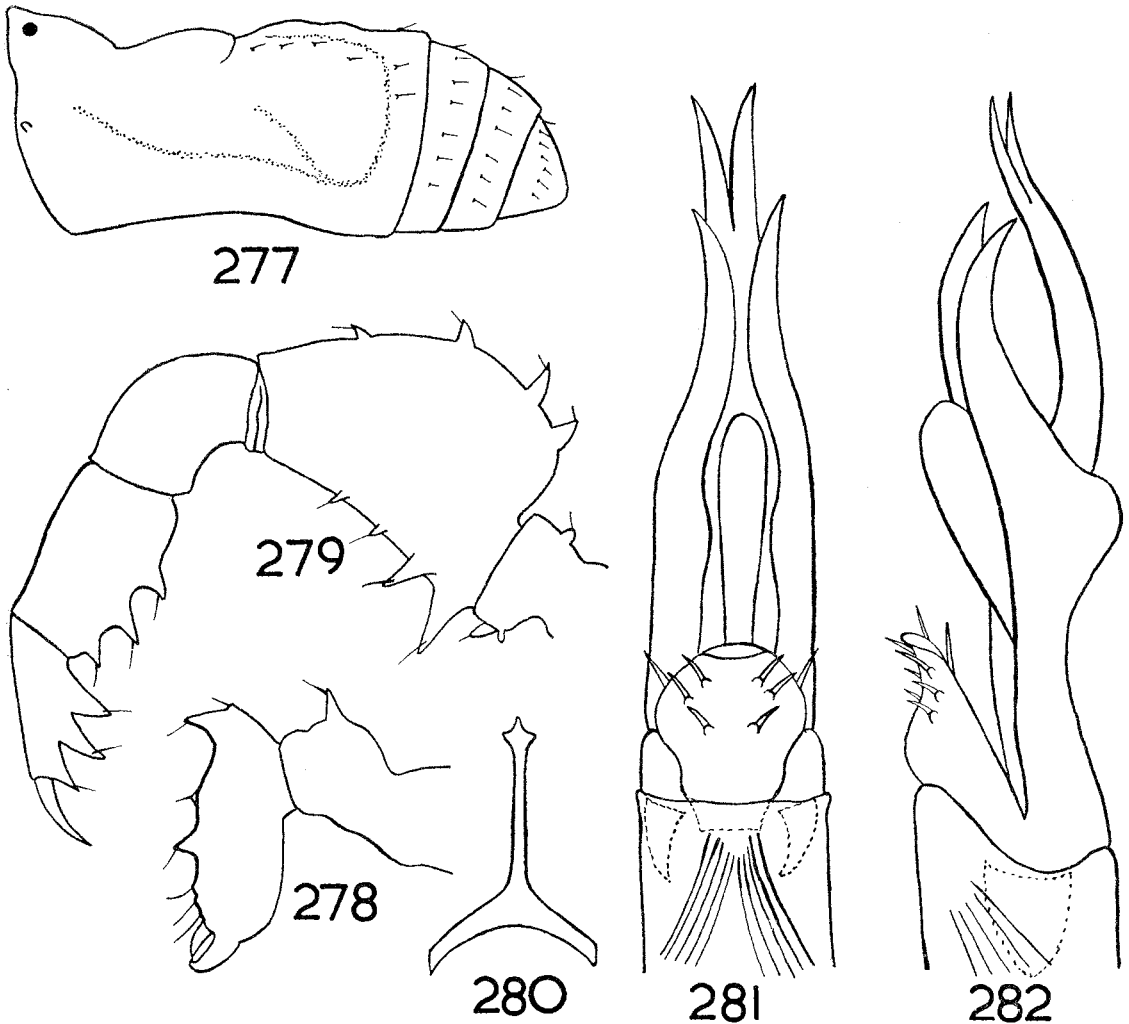


FIG. 277.—Lateral view of scutum and free tergites of male.
FIG. 278.—Prolateral view of chelicera of male.
FIG. 279.—Retrolateral view of pedipalpus of male.

FIG. 280.—Sternum of male.
FIG. 281.—Ventral view of distal part of penis.
FIG. 282.—Lateral view of distal part of penis.

Tasmanobunus parvus gen. et sp. n.

The respiratory spiracles are partially hidden by the posterior margins of the fourth coxae. The sternites are smooth.

The legs are smooth and unarmed, except for a row of four small tubercles below the femora of the first pair. Calcanei small and knob-like, much shorter than the astragali. Tarsal segmentation: 3, 5, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the lateral prongs being smaller and weaker than the median prong.

Allotype Female

Measurements in millimeters: Body-length 1.49, length of scutum 1.14, length of carapace 0.57.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.40	0.15	0.52	0.29	0.38	0.42	0.41	2.57
Leg 2	0.51	0.19	0.69	0.33	0.57	0.62	0.70	3.61
Leg 3	0.45	0.19	0.48	0.27	0.42	0.52	0.41	2.74
Leg 4	0.51	0.22	0.69	0.34	0.59	0.81	0.48	3.64
Pedi-palp	0.19	0.18	0.48	0.32	0.30	...	0.33	1.80

The female resembles the male in colouration and general appearance but lacks the saddle-shaped mark on the scutum. The pedipalpi are smaller and the tubercles below the femora of the first pair of legs are somewhat larger than in the male. The tarsal segmentation of both sexes is the same.

Localities: The type specimens were found among fallen leaves in *Nototagus* forest near Liffey Falls, Tasmania, 9th February, 1947. The species also occurs at Western Creek.

Variations: The collection contains 14 males and 18 females. The males vary in body-length from 1.22-1.56 mm. and the females from 1.04-1.80 mm. With the exception of one abnormal specimen all have the same tarsal segmentation: 3, 5, 4, 4. The abnormal specimen has only two segments in tarsus III on the left side.

Genus *CHRESTOBUNUS* Roewer, 1914

Eyemound rising from the anterior margin of the carapace, conical and pointed but unarmed. Scutum and free tergites without spines. Legs smooth except for a few tubercles below the femur and tibia of leg 1. Calcanei much shorter than astragali. Tarsal segmentation usually 3, 6, 4, 4. Distitarsi I and II with two and three segments respectively. Claws of tarsi III and IV three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Chrestobunus spinulatus* Roewer.

Type Locality: Tasmania.

The genus *Chrestobunus* contains only the genotype and one other species, *C. inermis* Roewer, both from Tasmania. A new species *C. fuscus* is described in the present paper. The three may be distinguished by the following key.

KEY TO SPECIES IN GENUS *CHRESTOBUNUS*

1. A proximal median spine below femur of pedipalp *C. fuscus* sp. n.
No median spine below femur pedipalp 2
2. Tergal Areas I-IV with a median pair of granules *C. spinulatus* Roewer
Tergal Areas I-IV without a median pair of granules *C. inermis* Roewer

CHRESTOBUNUS FUSCUS sp. n.

(Figures 283-289)

Holotype Male

Measurements in millimeters: Body-length 1.88, length of scutum 1.48, length of carapace 0.80.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.40	0.19	0.69	0.34	0.51	0.54	0.51	3.18
Leg 2	0.57	0.23	1.02	0.40	0.80	0.97	0.91	4.90
Leg 3	0.51	0.23	0.69	0.30	0.57	0.69	0.48	3.47
Leg 4	0.57	0.25	0.90	0.46	0.74	1.08	0.51	4.51
Pedi-palp	0.28	0.29	0.69	0.40	0.51	...	0.46	2.63

Colour (in alcohol): Carapace yellowish brown with dark reticulations. The rest of scutum and the free tergites dark-brown. Chelicerae and pedipalpi reddish-brown with dark reticulations. Legs dark-brown with distal part of femora, patellae and tibiae yellowish. Ventral surface of coxae yellowish-brown with dark reticulations. Sternites dark-brown. Surface of body and the appendages matt, except chelicerae, pedipalpi and coxae I, which are polished.

Scutum (fig. 283) has a transverse row of three small tubercles on each side above the anterior margin. The eyemound is conical and in front rises almost vertically from the anterior margin. The apex is pointed but unarmed. With the exception of the groove between tergal Areas IV and V, which extends laterally, the scutal groove and tergal grooves are restricted to the median region. Tergal Areas I-IV each furnished with a median pair of small tubercles. Area V and the free tergites each with a transverse row of small tubercles, one tubercle in each row being median.

Chelicerae stout. The first segment measures 0.40 mm. in length and bulges dorsally in the distal half. It has a small median tubercle at the apex. The second segment measures 0.68 mm. long and has a median row of three small tubercles on the dorsal surface.

Pedipalpi (fig. 284) longer than body. Trochanter with a small tooth above and a larger spine below. On the dorsal surface the femur has a median row of five teeth, the fifth tooth being smaller than the others and situated at the apex. A single large tooth is present near the middle of the prodorsal margin and two teeth in the distal half of the prolateral surface. The retrolateral surface is unarmed. The ventral surface has a large median proximal tooth and a retroventral row of four, the first being the largest. The patella is armed with two prolateral spines. The tibia has four teeth on each side, the second and third tooth in each row being larger than the first and fourth. The tarsus has four prolateral and three retrolateral teeth. The claw is long, being about half the length of the segment.

Coxa I is furnished with a promarginal row of three tubercles, the distal one being bifid. Coxa II has a small tooth behind the apex and a wide

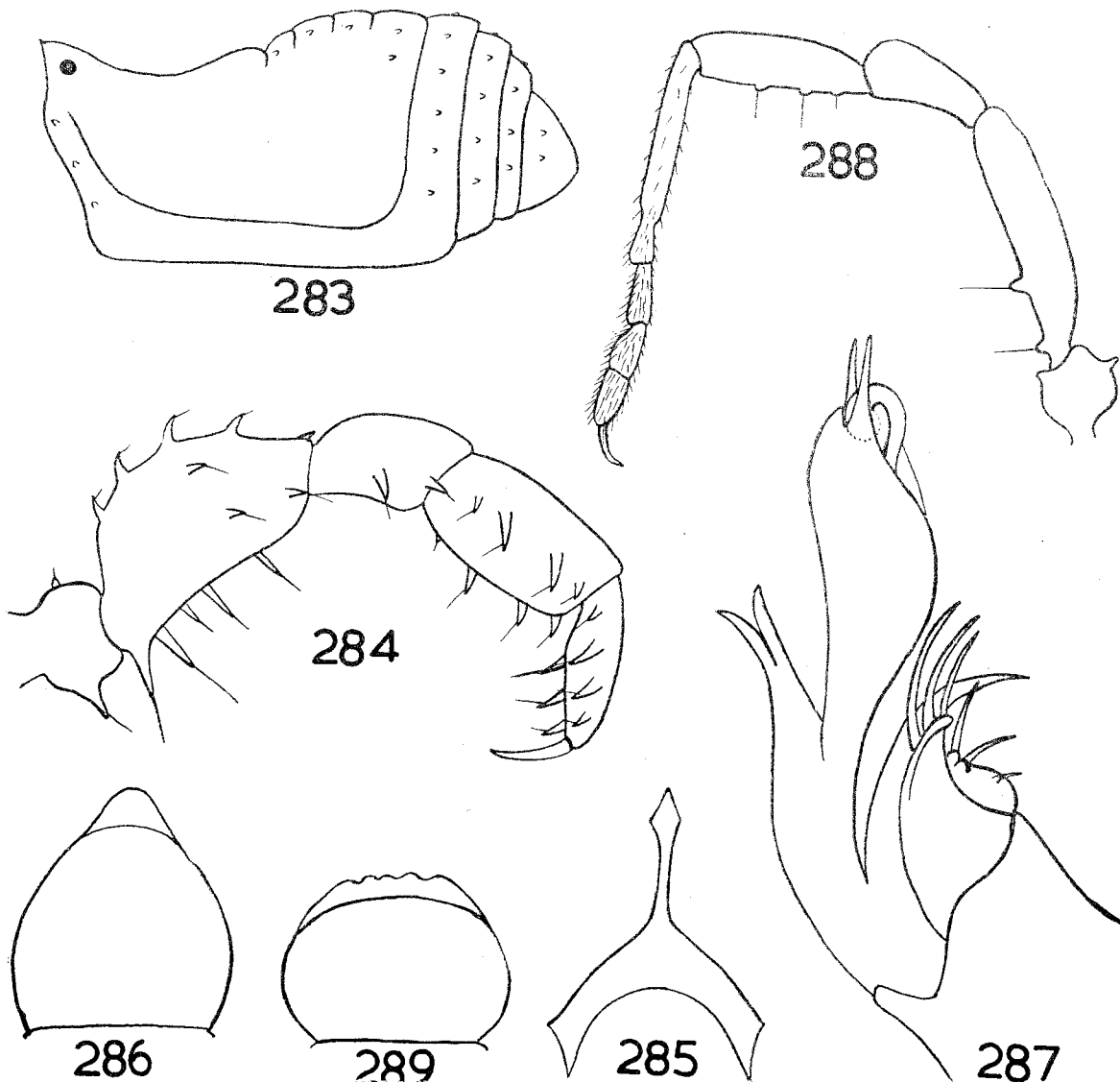
tubercle above. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV is devoid of tubercles in front but has a marginal row of granules behind.

The sternum is wide and crescentic posteriorly (fig. 285). The genital operculum is smooth and somewhat pointed in front (fig. 286). It measures 0.31 mm. long and 0.29 mm. wide. The penis has the form shown in fig. 287. The ventral plate is provided with three pairs of inferior setae and three pairs of long lateral setae. The plate appears to

be narrow and uncleft. The termination of the male duct is partly enclosed by a large hood-like structure which ends distally in two points. Above the hood-like structure is a shorter bifid dorsal process. On each side of the base of the gians there is a short curved lateral process.

The respiratory spiracles are concealed under the posterior margin of the fourth coxae.

The legs are devoid of spines. Trochanters I and II each have a small conical tubercle above. Leg I (fig. 288) has two ventral tubercles on the



Chrestobunus fuscus sp. n.

FIG. 283.—Lateral view of seutum and free tergites of male.

FIG. 284.—Prolateral view of pedipalpus of male.

FIG. 285.—Sternum of male.

FIG. 286.—Genital operculum of male.

FIG. 287.—Lateral view of distal part of penis.

FIG. 288.—Leg I of male.

FIG. 289.—Genital operculum of female.

proximal half of the femur and three on the tibia. All the calcanei are short, straight and conical; that of leg I is about one-fifth the length of the metatarsus. Tarsal segmentation: 3, 6, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 1.94, length of scutum 1.59, length of carapace 0.91.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.40	0.23	0.63	0.34	0.51	0.57	0.40	3.08
Leg 2	0.63	0.27	0.91	0.40	0.74	0.91	0.86	4.72
Leg 3	0.57	0.23	0.63	0.31	0.54	0.69	0.40	3.37
Leg 4	0.68	0.29	0.86	0.46	0.74	1.08	0.51	4.62
Pedi-palp	0.23	0.28	0.69	0.40	0.46	.....	0.40	2.46

The female closely resembles the male in size, form and colour. The femur of leg I, however, is more tuberculate in the female than in the male. The genital operculum has a slightly crenulate anterior margin (fig. 289) and measures 0.23 mm. long and 0.29 mm. wide. The form of the operculum affords the most reliable means of distinguishing the sexes.

Localities: The type specimens were collected on Mount Wellington, Tasmania, 24th November, 1951. The species also is found in the Arve Forest at Geeveston. It occurs in moss and leaf mould.

Variations: The species is common and ninety-five specimens have been examined. Males vary in length from 1.57-2.15 and females from 1.57-2.20 mm. The tarsal segmentation, 3, 6, 4, 4, is reasonably stable. Only seven out of the ninety-five specimens departed from the normal condition, and these were asymmetrical specimens which exhibited a variation in the number of segments in tarsus II, as is shown in Table 23.

Table 23

Number of specimens	Sex	Number of segments in tarsus I	Number of segments in tarsus II
41	♂	3	6
1	♂	3	4L 6R
1	♂	3	6L 5R
47	♀	3	6
1	♀	3	4L 6R
2	♀	3	5L 6R
1	♀	3	6L 7R
1	♀	3	7L 6R

Genus THELBUNUS gen. n.

Scutum and free tergites unarmed. Eyemound low, conical, unarmed and set back from the anterior margin. A transverse row of small rounded tubercles is present on tergal Areas II-V and on each free tergite. Sternum short and widely crescentic posteriorly. Respiratory spiracles not concealed. Legs unarmed. Each calcaneus conical, straight and much shorter than the astragalus. Number of segments in tarsi I-IV in the male 4, 9-11, 4, 4, and in the female 3, 9-10, 4, 4. The distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV

are three-pronged, the middle prong being larger than the lateral prongs.

Genotype: *Thelbunus mirabilis* sp. n.

Type Locality: Weldborough, Tasmania.

THELBUNUS MIRABILIS sp. n.

(Figures 290-296)

Holotype Male

Measurements in millimeters: Body-length 3.77, length of scutum 2.84, length of carapace 1.45.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.97	0.51	1.39	0.64	1.04	1.33	0.93	6.81
Leg 2	1.31	0.54	1.91	0.75	1.57	1.97	1.91	9.96
Leg 3	1.03	0.46	1.39	0.64	1.16	1.57	1.04	7.29
Leg 4	1.37	0.57	1.80	0.81	1.57	2.38	1.22	9.72
Pedi-palp	0.57	0.57	1.28	0.99	1.16	.....	0.99	5.56

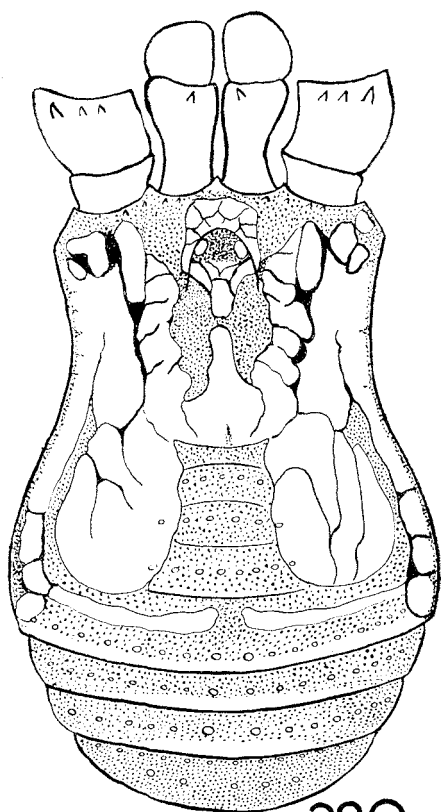
Colour (in alcohol): Dorsal surface of body with a reddish-brown saddle-shaped area on the scutum and dark-brown markings as shown in fig. 290. Eyemound black at the apex and with dark reticulations in front and behind. Chelicerae and pedipalpi reddish-brown with black reticulations. Legs reddish-brown with dark-brown bands on femora, tibiae and metatarsi. Coxae yellowish with dark reticulations. A pair of large oval yellowish areas on sternites II and III. Free sternites brownish.

Scutum is unarmed but has a row of four small denticles on each side above the anterior margin. Eyemound low, conical and unarmed. It is set back from the front margin a distance about equal to its diameter and rises steeply in front sloping gently downwards behind. The first four tergal grooves are shallow and confined to the median region. The fifth groove is more strongly marked and extends laterally. Tergal Areas II-V and each free tergite furnished with a transverse row of small rounded tubercles.

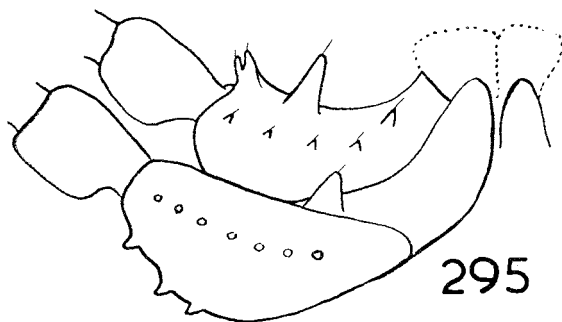
Chelicerae (fig. 291) strong. The first segment is 0.91 mm. long and is furnished with a small tooth on the dorsal side near the apex. The second segment is 1.37 mm. long. It has a rounded tubercle in the middle of the dorsal surface and distal to the tubercle a large tooth. On the posterior (or ventral) surface of the segment there is also a large curved tooth.

Pedipalpi (fig. 292) large and strong. The trochanter is armed with a row of three small spinous tubercles above, a much larger spine below and a large prolateral spine, which projects forwards. On the dorsal surface the femur is armed with a median row of four small teeth. On the prolateral side in the distal half there is a very large curved spine and a small tooth. On the ventral surface there is a large median proximal tooth and a retroventral row of three teeth, the first being the largest. The patella has on the prolateral side a conical tooth at the apex and a blunt tubercle near the middle. The retrolateral surface is unarmed. The tibia has three teeth on each side. The tarsus has three teeth on each side, the first tooth on the retrolateral side being large and bifid. Claw is long and curved.

Coxa I (fig. 293) has a large bulge near the middle of the promargin and a bifid tooth at the apex.



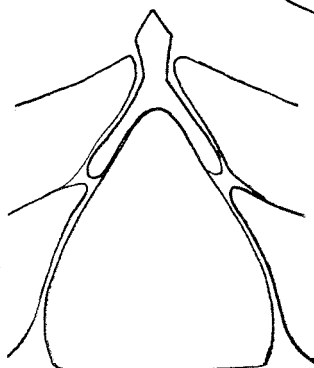
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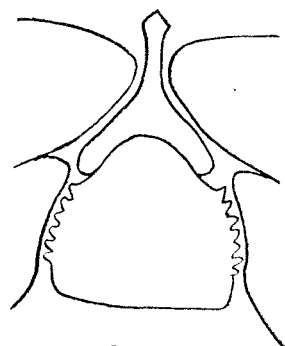
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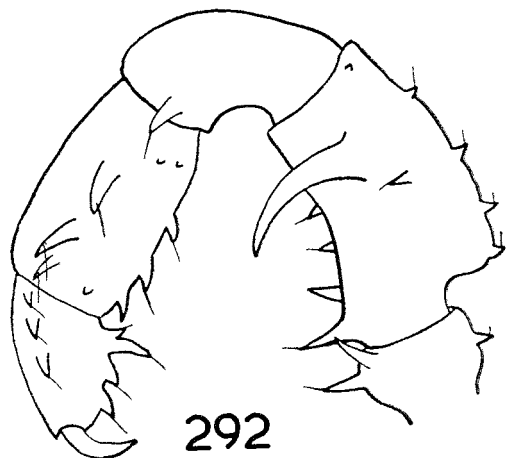
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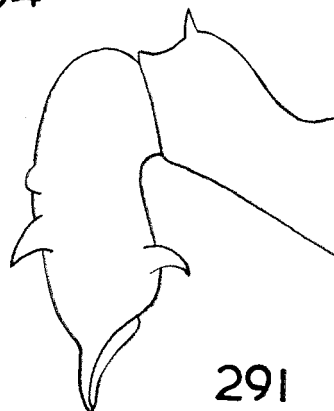
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Thelbunus mirabilis gen. et sp. n.

FIG. 290.—Dorsal view of scutum and free tergites of male.

FIG. 291.—Prolateral view of chelicera of male.

FIG. 292.—Prolateral view of pedipalpus of male.

FIG. 293.—Ventral view of right coxa I of male.

FIG. 294.—Sternum and genital operculum of male.

FIG. 295.—Ventral view of right coxae I and II of female.

FIG. 296.—Sternum and genital operculum of female.

Behind the bulge on the promargin is a large compressed tubercle, which rises vertically from the ventral surface of the coxa in the form of a small semicircular flange. Coxa II has a few tubercles behind the apex. Coxa III is furnished with a marginal row of granules in front and behind. Coxa IV has a few tubercles in front of the apex and a row of granules on the posterior margin.

The sternum (fig. 294) is very short and widely crescentic behind. The genital operculum is very large, bluntly pointed in front, strongly convex, and rebordered at the apex. The surface and margin are smooth. It measures 0.87 mm. in length and breadth.

The respiratory spiracles are small and round. They are situated a short distance behind the fourth coxae and are not concealed.

The legs are unarmed but the femora somewhat tuberculate below. All calcanei are short, conical and straight, being much shorter than the astragali. The number of segments in tarsi I-IV is 4, 11, 4, 4. Distitarsi I and II have two and three segments respectively. The claws of tarsi III and IV are three-pronged, the middle prong being larger than the lateral prongs.

Allotype Female

Measurements in millimeters: Body-length 3.94, length of scutum 2.86, length of carapace 1.43.

	Cox.	Troch.	Fem.	Pat.	Tib.	Met.	Tars.	Total
Leg 1	0.69	0.40	1.31	0.63	1.03	1.26	0.91	6.23
Leg 2	1.37	0.51	1.94	0.80	1.60	1.88	2.00	10.10
Leg 3	1.03	0.40	1.43	0.69	1.14	1.54	1.14	7.37
Leg 4	1.37	0.57	1.94	0.91	1.65	2.28	1.26	9.99
Pedi-palp	0.46	0.57	1.31	0.86	1.14	...	1.03	5.37

The dorsal surface of the body is much darker than in the male, the saddle-shaped area on the scutum being dark-brown. The appendages and ventral surface of the body are coloured as in the male.

The chelicerae are smaller than those of the male and lack the large curved tooth on the posterior or ventral surface of the second segment.

The pedipalpi are smaller and less robust than those of the male. The large spine, which is present on the prolateral side of the trochanter in the male, is lacking in the female. The large curved spine in the distal half of the prolateral surface of the femur in the male is much smaller in the female and not so strongly curved.

Coxa I has three promarginal teeth, the middle tooth being large and the apical tooth small and bifid (fig. 295). Coxa II has a large triangular recumbent tooth, which projects forwards over the middle of the posterior margin of coxa I.

The genital operculum is much smaller than that of the male and measures 0.63 mm. long and 0.74 mm. wide. The lateral margins in the posterior two-thirds are coarsely tuberculate. Anteriorly the margin is smooth and rounded (fig. 296).

The legs resemble those of the male but the tarsal segmentation is 3, 9, 4, 4.

Localities: The holotype male was collected under fallen logs in *Notofagus* forest at Weidborough Pass, 25th August, 1953, and the allotype female was found in the neighbouring district of Gould's Country, Tasmania, 26th August, 1953.

Variations: In addition to the type specimens the collection contains one other female and three other males, all from the Weidborough Pass area. The males vary in body-length from 3.48-3.83 mm. and the females from 3.54-3.77 mm. All the males have four segments in tarsus I, but the number of segments in tarsus II varies from 9-11. The females have three segments in tarsus I, and 9-10 in tarsus II.

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