

SOME ACARINA FROM AUSTRALIA AND NEW GUINEA PARAPHAGIC
UPON MILLIPEDES AND COCKROACHES AND ON BEETLES OF THE
FAMILY PASSALIDAE.

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SUMMARY

The genotype of the genus *Brachytremella* Trägårdh 1946 from New Guinea, *B. spinosa*, is redescribed from freshly discovered specimens, and two new species belonging to this genus of the Diarthrophallidae are described from Passalid beetles from Australia. Two other species of the family requiring two new genera, *Lombardiniella* and *Brachytremelloides*, are also described from Australia from similar hosts. This is the first record of the family of Diarthrophallidae from Australia.

Pt. 4.—The family Diarthrophallidae
(Mesostigmata-Monogynaspida).

The family Diarthrophallidae and genus *Diarthrophallus* were erected by Trägårdh 1946 for *Uroseius quercus* Pearse *et al.*, 1936. It comprises some small and little known, rather flattish and poorly sclerotised mites found under the elytra of Passalid beetles.

Trägårdh recognised three genera *Diarthrophallus* g. nov., *Brachytremella* g. nov. and *Passalobia* Lombardini 1926 as belonging to the family. None of these have hitherto been found in Australia. The genotype of *Brachytremella*, *B. spinosa* Träg., 1946 has only been known from a single female described from New Guinea.

This species has now been rediscovered in New Guinea and is here re-described from both sexes and the nymph. Two other species of *Brachytremella*, *B. trægårdhi* sp. nov., and *B. bornemisszai* sp. nov. are described from Australia, while two new genera are erected for two other species of the family, *Lombardiniella lombardini* g. et sp. nov. and *Brachytremelloides striata* g. et sp. nov., both from Australia.

Concurrently with this publication a further study of the Diarthrophallidae as a whole will be presented in which all known genera and species will be considered, with special reference to the genus and species of *Passalobia* described by Lombardini.

Genus BRACHYTREMELLA Trägårdh, 1946.

Trägårdh, I., 1946. Diarthrophallina, a new group of Mesostigmata, found on Passalid beetles. Ent. Medd., 24 (6), p. 384.

This genus was diagnosed as follows:

"Body flat, oval, with six pairs of long plumose bristles of the same type as in *Diarthrophallus*. Tritosternum with praesternal hairs. Legs and gnathosoma of the same type as in *Diarthrophallus*. Epigynial shield not separated from the ventral shield by a suture.

Type *B. spinosa* nov. spec."

* South Australian Museum.

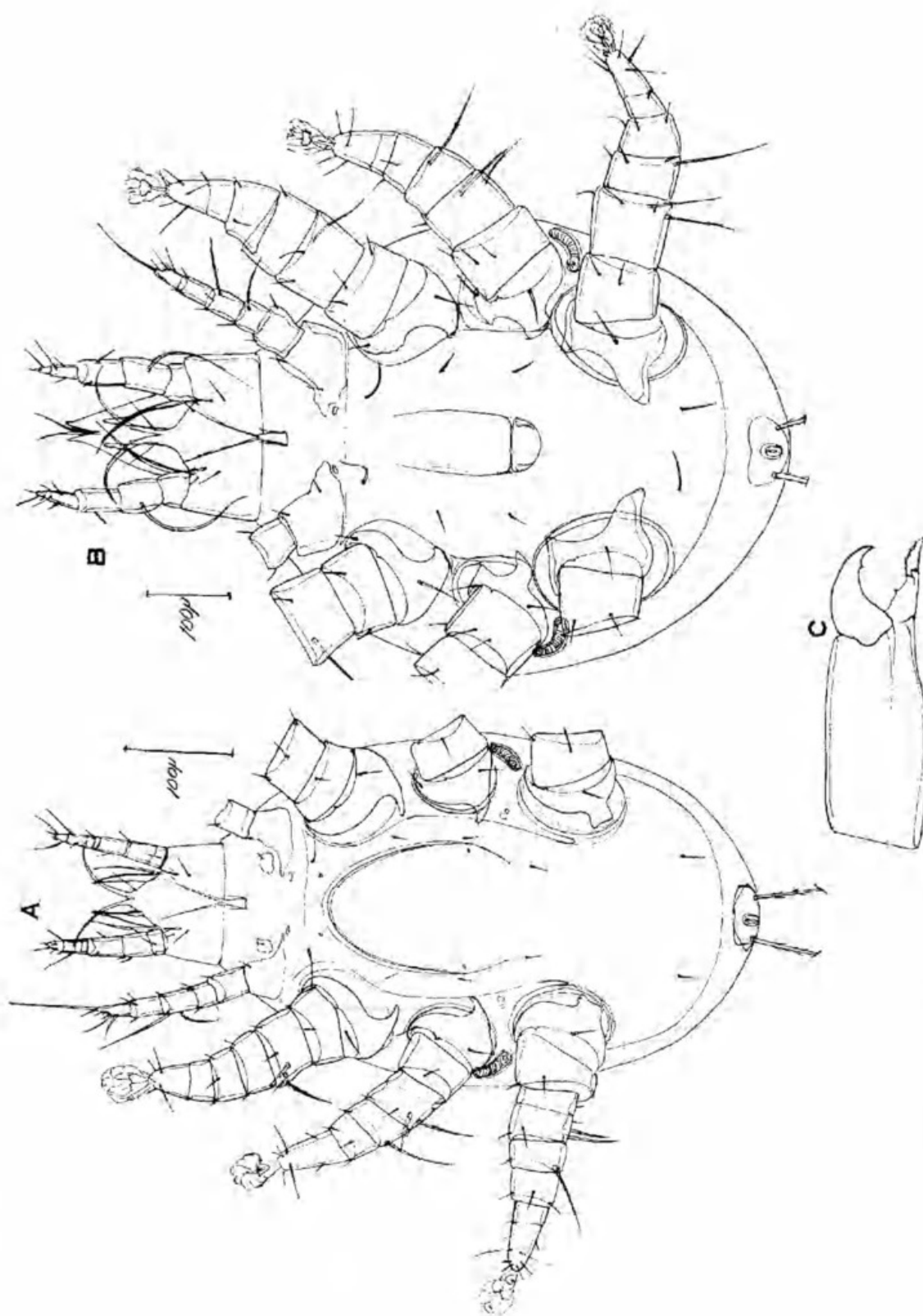


Fig. 1.—*Brachytrenella spinosa* Träg. A, female in ventral view; B, male in ventral view; C, mandible of female.

Brachytremella spinosa Träg. 1946.

Text Fig. 1, A-C, 2, A-II.

Trägårdh, L., 1946. Diarthrophallina, a new group of Mesostigmata, found on Passalid beetles. Ent. Medd., 24 (6), p. 384.

This species was described by Trägårdh from a single female found on a specimen of *Protomocerus* sp. (Passalidae) from New Guinea, from the collection of the Zoological Museum of Copenhagen and was made the type of a new genus *Brachytremella*.

Inquiries of my friend, Dr. S. L. Tuxen, of the Copenhagen Museum, have, unfortunately, failed to trace the specimen, nor has it been found amongst the Trägårdh material in the Stockholm Museum. It must, therefore, be presumed to be lost.

The genus was separated from *Diarthrophallus* Trägårdh 1946 by Trägårdh, on the fact that posteriorly the genital opening was not marked off by a semi-circular suture, and the genital shield was coalesced with the ventral shield. Although some workers in correspondence have been inclined to disregard this difference, I am convinced, after having examined specimens of *D. quercus* as well as several species of *Brachytremella* and allied genera, including Lombardini's species of *Passulobia*, that the separation from *Diarthrophallus* is valid.

In 1954 I was able to collect Passalids in New Guinea and from them obtained a male, a female and two nymphs of what seem undoubtedly to be Trägårdh's *B. spinosa*. As his description was inadequate and he only gave a sketch figure of the intercoxal part of the ventral surface, the species is now redescribed from the female, and descriptions and figures of the male and tritonymph are given.

Redescription of female. A lightly chitinised flattish species. Idiosoma 526 μ long, 351 μ wide. Shape broadly oval.

Dorsum.—Fig. 2A; dorsal shield entire, but not completely covering dorsum, surrounded by a narrow strip of cuticle, it is 470 μ long by 336 μ wide, as stated by Trägårdh it bears a pair of distinct pores on a level with the middle of coxae III and a number of very minute setae (?pores), it is furnished with 5 pairs of long shortly ciliated and apically knobbed setae of which three pairs are lateral on the shield, the other two pairs are posterior and on the cuticle, the setae from anterior backwards are approximately 312 μ , 312 μ , 340 μ , 360 μ and 264 μ long.

Venter.—As figured, Fig. 1A; tritosternum (Fig. 2E) with a fairly elongate base flanked by a pair of setae and with paired filamentous laciniae; sternal, metasternal and ventral shields coalesced and extending broadly behind coxae IV and reaching to within a short distance, 30 μ , of the anal shield, from the middle of coxae IV it fuses with the endopodal shields to surround the posterior border of acetabula IV, the whole shield is 403 μ long and 144 μ wide across the almost straight anterior margin, anterior to the middle of coxae II the shield narrows to 125 μ and then expands to 182 μ between coxae II and III, between coxae III and IV it begins to contract to 125 μ between coxae IV and posterior of coxae IV it is 250 μ wide and then becomes evenly rounded, the shield is furnished with 5 pairs of setae of which the anterior pair are close to the anterior margin and much longer than the others, the fifth pair are of intermediate length and lie close to the posterior margin; the genital orifice is large and tongue-shaped and lies in the middle of the sternal shield between coxae II and III, it encloses the similarly shaped genital shield which is 168 μ long by 135 μ , the genital shield is completely fused posteriorly with the ventral

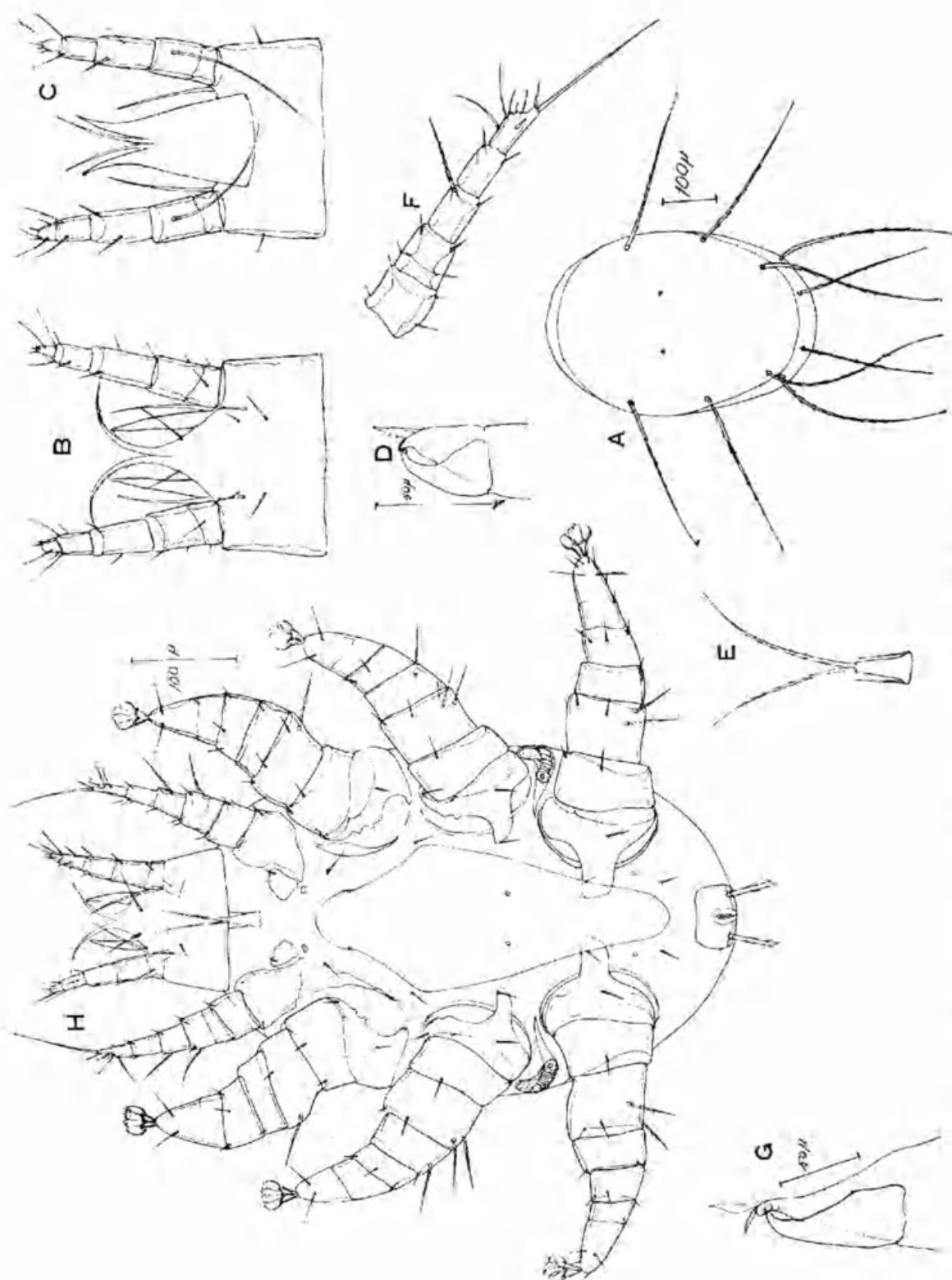


Fig. 2.—*Brachytremella spinosa* Träg. A, dorsum of female; B, gnathosoma from below; C, gnathosoma and tectum from above; D, chelicerae of female; E, tritosternum of female; F, leg I of female; G, chelicerae of male; H, ventral view of tritonymph.

shield but appears to be flexible on lateral pivots of the more sclerotised margin of the orifice at 125μ from the front; the anal shield is roughly rectangular with the anterior margin straight and slightly excavate medially, and approximately 60μ wide, it carries a pair of long ciliated capitate setae 384μ long; stigma between coxae III and IV with an anteriorly curved peritreme 43μ long.

Gnathosoma.—Hypostome as figured (Fig. 2B), with three pairs of setae of which the maxillary pair are fairly long, as are also the anterior pair which are situated on the margins of the base of the long ciliated outwardly curved styli; the labial cornicles are about 4 times as long as broad at the base, slender salivary styli are present, dorsally the gnathosoma (Fig. 2C) is covered by a distinct conical apically quadrifurcate tectum as figured, with slightly outwardly curved apical arms between which arises a pair of longer and more slender ciliated laciniae; palpi 5-segmented as shown, dorsally the femur carries a very long slender shortly ciliated seta; chelicerae as figured (Fig. 1C), movable digit with small tooth at about one-fourth from apex, fixed digit with two small subapical teeth, a small tooth midway and apically with hyaline excrescence.

Legs.—All 6-segmented, I (Fig. 2F) the shortest and tapering, without ambulacra on tarsi but tarsi apically bifid with a long apical seta, with one long shortly ciliated seta on femur and genu, length 192μ , II-IV longer and very much stouter, II 307μ long, femur with one long and one rather shorter ciliated seta, III 312μ long with two long ciliated setae on femur and one on genu, IV with two medium length ciliated setae on femur and genu with one much longer; tarsi II-IV with large pad-like ambulacra without claws; coxae of leg I well defined, fragmented, with the seta on the larger fragment.

Male Allotype.—Somewhat larger and more chitinised than the female. Idiosoma 608μ long, 560μ wide. Shape broadly oval.

Dorsum.—Dorsal shield entire as in female, 561μ long by 491μ wide, furnished with 5 pairs of long ciliated capitate setae arranged as in female, anterior pair of setae 432μ long, second pair 490μ , next 432μ , next 528μ and posterior 480μ .

Venter (Fig. 1B).—Tritosternum as in female; sternal, metasternal and ventral shields coalesced together with the endopodal shields of coxae II-IV, the whole shield is 456μ long, its anterior margin almost straight and 230μ wide, the sides contract between coxae II to a width of 187μ and then widen between coxae III to 283μ , after which they contract to 133μ between coxae IV and posterior of acetabula IV reach a width of 288μ , the posterior margin is evenly rounded and reaches to 43μ from the anterior of the anal shield, the shield is furnished with 4 pairs of setae of which the anterior and the posterior are the longest, the genitalia lie in an elongate oval cavity containing the posteriorly directed genital shield (bi-articulated penis of Trägårdh), it is 134μ long and 82μ wide with a posterior head about 40μ long; the anal shield is as figured, 90μ wide and carries a pair of long ciliated capitate setae 384μ . Peritreme 77μ long and strongly curved forward, with the stigma between coxae III and IV.

Gnathosoma with palpi, chelicerae as in female but somewhat larger.

Legs.—Generally and proportionally as in the female.

Tritonymph (Fig. 2H).—Of the same general facies as in the female. Length of idiosoma 468μ , width 339μ .

Dorsum.—Dorsal shield as in female, 436μ long by 307μ wide, furnished with three pairs of long ciliated capitate setae situated laterally, two other pairs of such setae posteriorly of the shield, the anterior pair of setae are 360μ long, the second pair 432μ , the next 480μ , next 480μ and posterior 432μ .

Venter.—With the ventral shield as figured, 336μ long and 139μ wide, anteriorly it is in a line with the anterior margin of coxae II and evenly rounded, it gradually expands to between coxae II and III at the maximum width and then gradually tapers to the posterior margin of coxae IV where it is again rounded, only the fourth pair of setae are actually on the shield, there is a pair of pores in a line with coxae III; endopodal shields II, III and IV, especially II, well developed; anal shield as in the female, 67μ wide; peritreme 53μ long.

Gnathosoma with palpi and chelicerae as in female.

Legs.—As in female, I 206μ long, II 312μ , III 336μ , IV 365μ .

Remarks.—Despite the brief description given by Trägårdh of the genotype, *B. spinosus*, the female and nymph described above can without question be referred to his species. The male, however, is considerably larger but otherwise agrees in the number and arrangement of the dorsal setae and also in the ventral shield, as well as other morphological characters. Except for the size difference it agrees generically with the female.

***Brachytremella trägårdhi* sp. nov.**

Text Figs. 3A-F, 4A-F.

Types.—Holotype female, two tritonymphs and one deutonymph in the collection of the South Australian Museum.

Localities.—The holotype female and one tritonymph from *Mastochilus* sp. Mt. Lamington, Queensland, Dec. 1948 (coll. H.W.), and one tritonymph and the deutonymph from a Passalid, 8 miles east of Wondecla, Queensland, 30/10/43 (coll. R. V. Southcott).

Description.—*Female*. (Fig. 3A-E). A flattish lightly sclerotised species. Length of idiosoma 560μ , width 374μ . Shape oval.

Dorsum (Fig. 3B).—Dorsal shield entire, 490μ long by 340μ wide, not completely covering dorsum, separated marginally by a fairly wide band of cuticle; furnished with six pairs of long slender setae which are shortly ciliated and end in a small but distinct knob, all except the second pair from the anterior are to 270μ long, the second pair are only about half this length, 144μ , the anterior four pairs of setae are on the margin of the dorsal shield, the posterior two pairs on the posterior margin of the body, on the shield are a number of pores (Fig. 3B).

Venter.—As in Fig. 3A; tritosternum as shown, with conical base flanked by a pair of setae, and with paired laciniae; sternal, metasternal and ventral shields coalesced and extending past coxae IV, the combined shield is 394μ long, the anterior margin is almost straight, between coxae II the shield narrows to 115μ and then widens to 192μ between coxae III, contracts slightly between coxae IV and then expands behind coxae IV to 206μ , the posterior margin is rather flattened, the shield carries 5 pairs of setae of which the first pair are fairly long, the others shorter; the genital opening is large and tongue-shaped in which the genital shield fits, it is 178μ long by 134μ at the widest part, posteriorly the genital shield is coalesced with the ventral shield, the front portion of the shield, however, is probably capable of being lifted up in a line between the second and third sternal setae where a strong chitination of the anterior margin of the orifice ends; the anal shield is transversely diamond shaped, and furnished with only two long 312μ setae similar to the dorsal setae, the shield is 72μ wide; the endopodal shields are well chitinated on coxae III and IV and not fused with the sternal; the stigma lies between coxae III and IV and has only a short peritreme of 28μ length; metapodal shields absent.

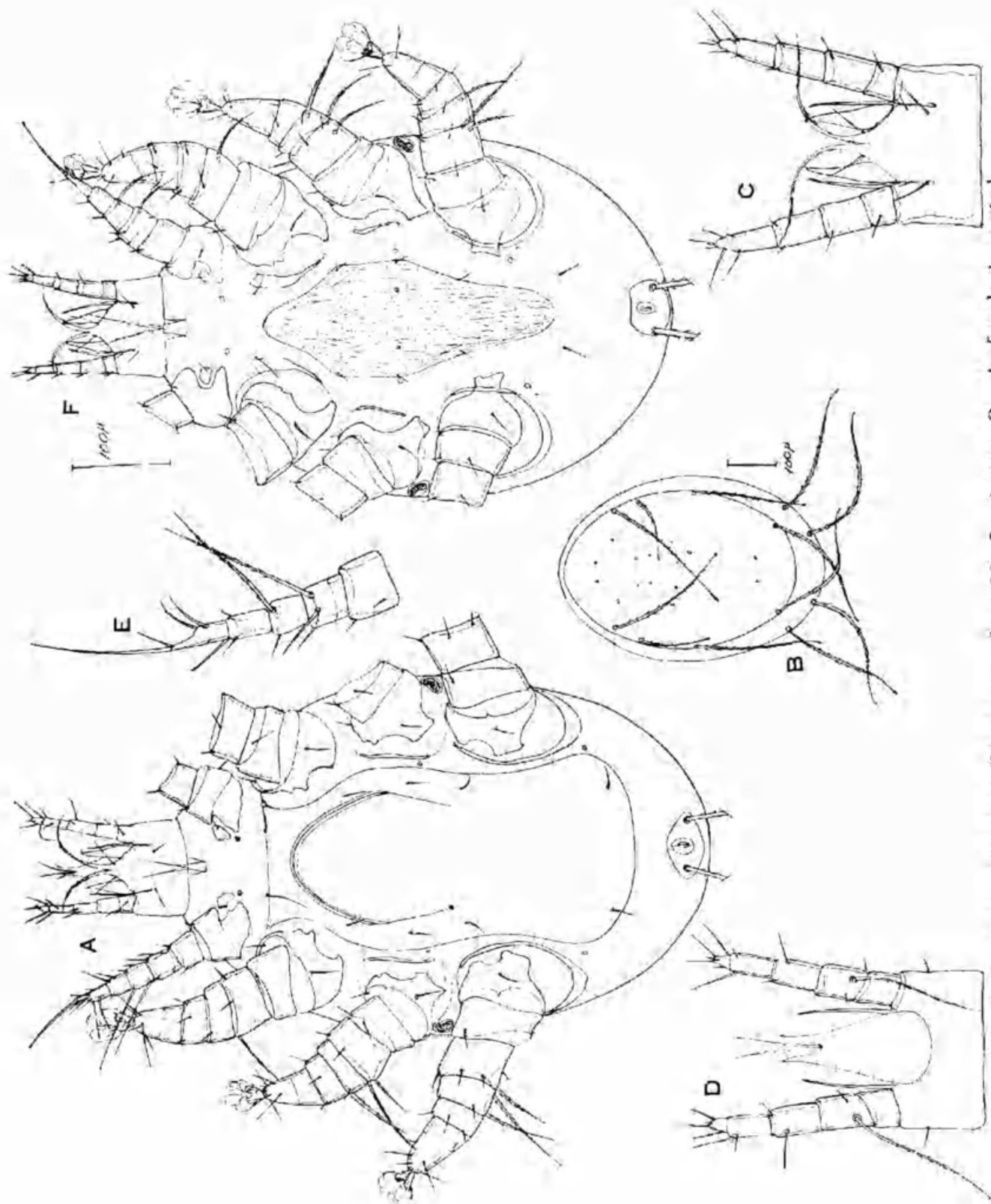


Fig. 3.—*Brachytremella trögårdi* sp. nov., from Mt. Lamington, Q. A, female in ventral view; B, dorsum of female; C, gnathosoma and tectum from above; D, leg I; E, leg I; F, tritonymph in ventral view.

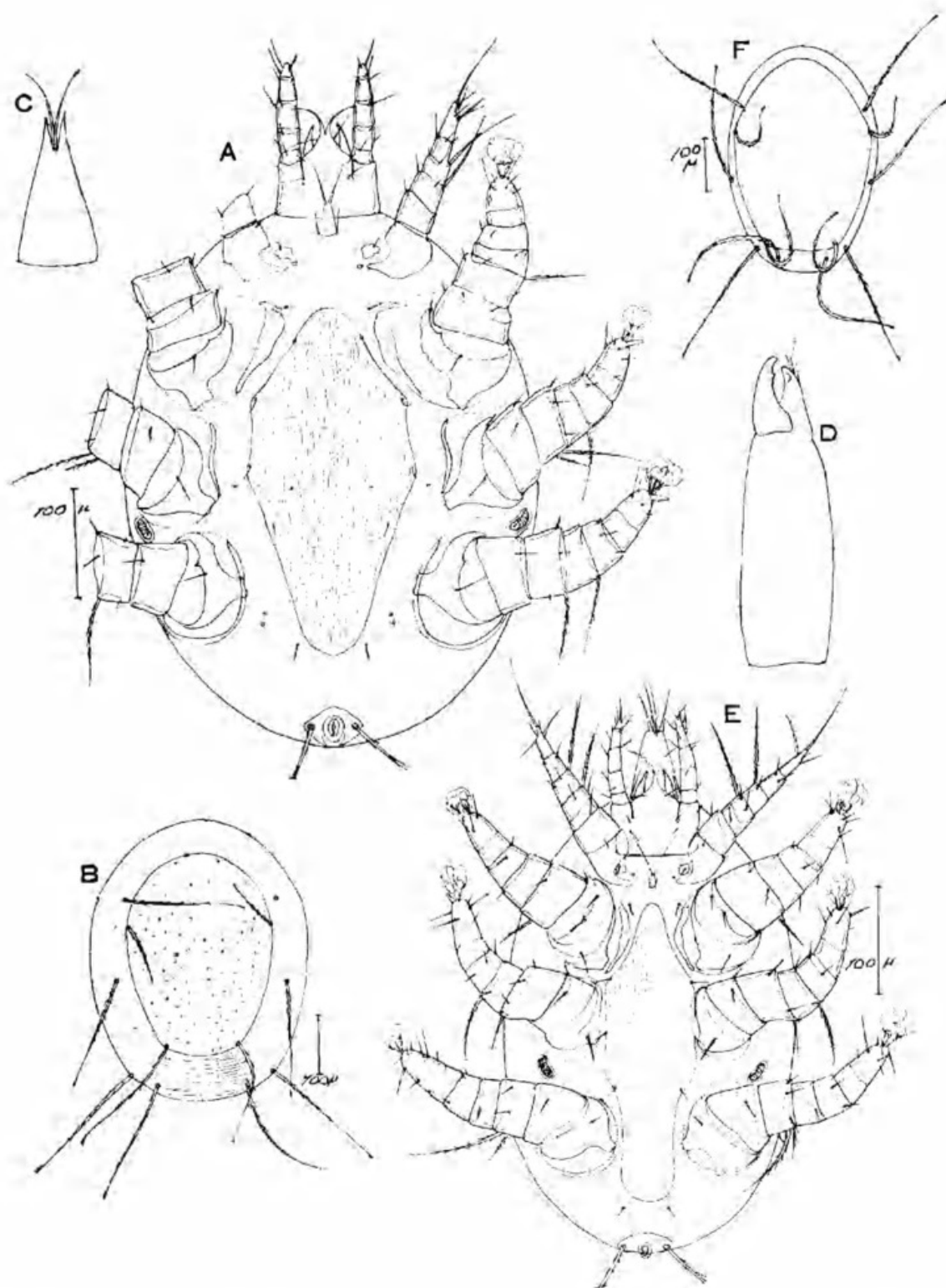


Fig. 4.—*Brachytremella trögårdhi* sp. nov., from Wondecla, Q. A, tritonymph in ventral view; B, tritonymph dorsum; C, tectum of tritonymph; D, mandibles of tritonymph; E, deutonymph in ventral; F, deutonymph dorsum.

Gnathosoma.—As in Fig. 3C and D; hypostome with only three pairs of setae of which the maxillary pair are fairly long, and the anterior pair are also long and situated marginally on the base of the long ciliated paired styli; the labial cornicles are fairly long, about 3 times as long as wide at base, slender salivary styli reach almost to the tip of the cornicles, dorsally the gnathosoma is covered by a distinct conical apically quadrifurcate tectum which ends in a pair of slightly outwardly curved arms from between which arises a pair of longer and more slender filaments; the palpi are 5-segmented as figured, dorsally the femur carries a very long ciliated tapering seta; the mandibles carry a pair of small chelate chelicerae, the movable digit having a minute tooth subapically, and the fixed digit with subapical excrescence.

Legs.—All short, I (Fig. 3F) the shortest and rather tapering, to 216μ long, femur and genu with one long ciliated seta each, tarsus bifid apically and with a long apical seta; legs II-IV stouter, tarsi without claws but with large ambulacral pad, femur of II with one long ciliated seta, femur of III with two and genu with one long seta, femur and genu of IV similar to III; the coxae of leg I are demarcated and fragmented as shown with the posterior seta situated on the larger of the separated portions.

Male.—Unknown.

Tritonymph (Fig. 3F).—Of the same form and texture as the female; length of idiosoma 526μ , width 397μ .

Dorsum (Fig. 4B).—Shield entire, 408μ long by 336μ wide, with six pairs of long setae as in the female, of which the second anterior pair is only 120μ long, the others to 240μ , the shield is supplied with many fine pores, but only takes in the second and fourth pairs of dorsal setae, the first and third pairs being on the surrounding cuticle as are the posterior two pairs.

Venter (Figs. 3F, 4A).—With only a single ventral shield as figured, with longitudinal striate markings, this shield is 317μ long by 125μ wide between coxae III, it is round and narrow apically, and tapers to a rounded end on a level with the posterior edge of acetabula IV, the first sternal setae are fairly long and off the shield, setae II, III and IV are on the shield marginally, but setae V are off, endopodal shields of coxae II-IV free and well sclerotised, those of II elongate, wide anteriorly, tapering to a point and curved posteriorly; the anal shield is diamond-shaped, 62μ long, with one pair of long ciliated apically knobbed setae to 312μ long; the peritreme and stigma are as in the female.

Gnathosoma (Fig. 4C, D).—As in the female.

Legs.—As in the female, I 192μ long, II and III 264μ , IV 288μ .

Deutonymph (Fig. 4E, F).—Length of idiosoma 432μ , width 269μ .

Dorsum.—Shield as in female and tritonymph but 360μ long by 254μ ; dorsal setae as in tritonymph with setae II 105μ long, rest 225μ long.

Venter.—As figured, ventral shield as in tritonymph 288μ long by 77μ wide but more slender and extending rather further back from coxae IV; endopodal shields of coxae II distinct. Peritreme small, 19μ long.

Gnathosoma as in female and tritonymph.

Legs.—As in other stages, I 175μ long, II 206μ , III and IV 220μ .

Remarks.—This species differs from all other known species in the second pair of dorsal setae being only about half the length of the rest. In *D. quercus*, which also has only six pairs of long dorsal setae, they are all of about equal length in both adult and tritonymphal stages, and all longer than the anal setae, whereas in *B. trögårdhi* the anal setae are longer than the dorsal setae.

***Brachytremella bornemisszai* sp. nov.**

Text Fig. 5A-C.

Types.—Two tritonymphs, one holotype and one paratype, in the South Australian Museum collection.

Localities and Hosts.—The holotype from the Passalid *Aulucocyclus edentulus* McL. from Wilson's Downfall, New South Wales, 8/10/56 (coll. G. F. Bornemissza), the paratype from the same host, Hinchinbrook Is., N. Queensland, 8/9/56 (coll. G.F.B.).

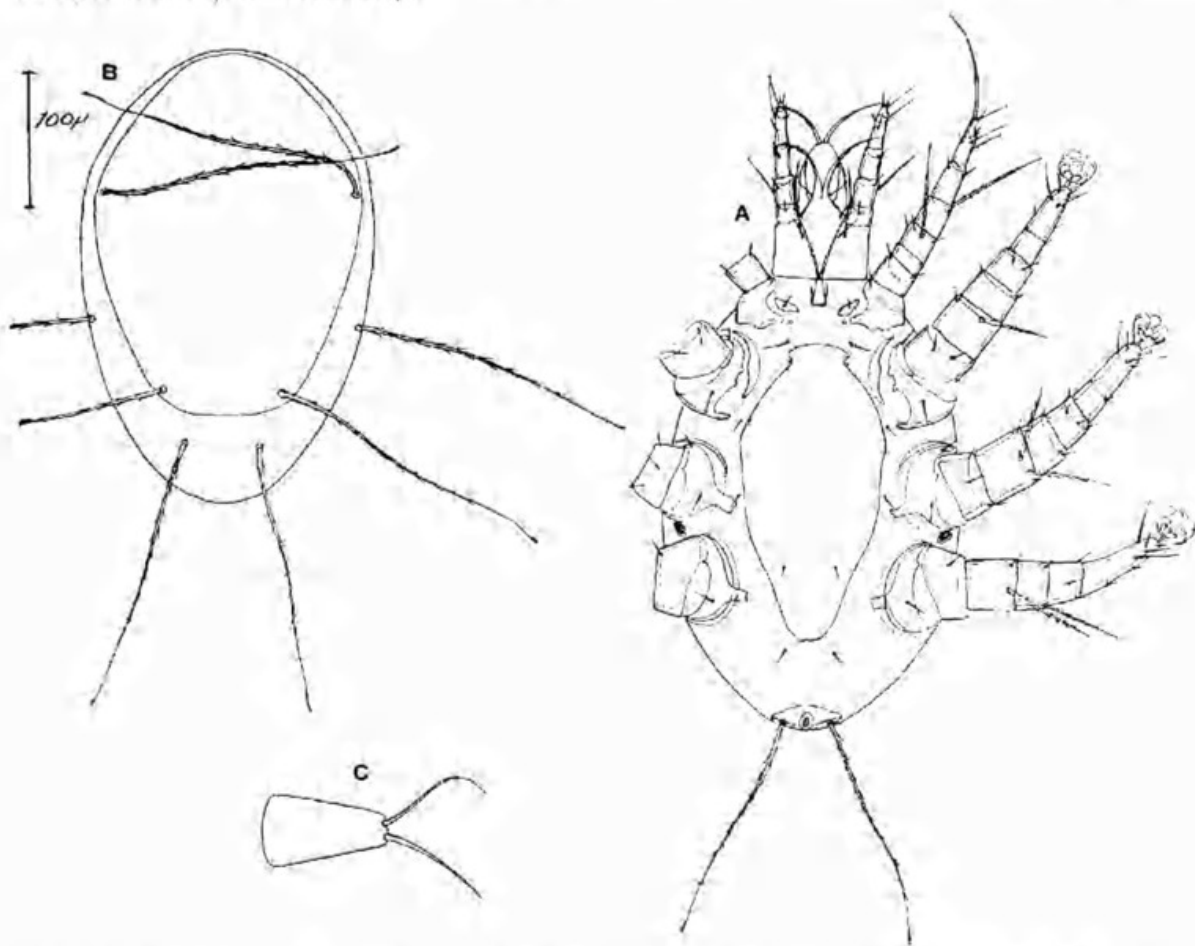


Fig. 5.—*Brachytremella bornemisszai* sp. nov. Nymph—A, ventral view; B, dorsum; C, tectum.

Description.—*Tritonymph*. A flattish, lightly chitinated, oval species, Idiosoma 334μ long, 225μ wide.

Dorsum (Fig. 5B).—Shield entire, not completely covering body as figured, furnished with only two pairs of long slender ciliated capitate setae, one pair of which are marginal on the shoulders, the other on the posterior margin, there are also two other pairs of such setae off the shield, one pair on the body edge and midway between the two pairs on the shield, the other pair are on the cuticle posterior of the dorsal shield, these setae are to 240μ long.

Venter (Fig. 5A).—Ventral shield as figured, 216μ long by 106μ wide, widest in a line between coxae II and III, the anterior margin is only lightly convex and 48μ wide, the sides almost immediately narrow to 38μ then expand to the maximum width between coxae II and III and then converge to the

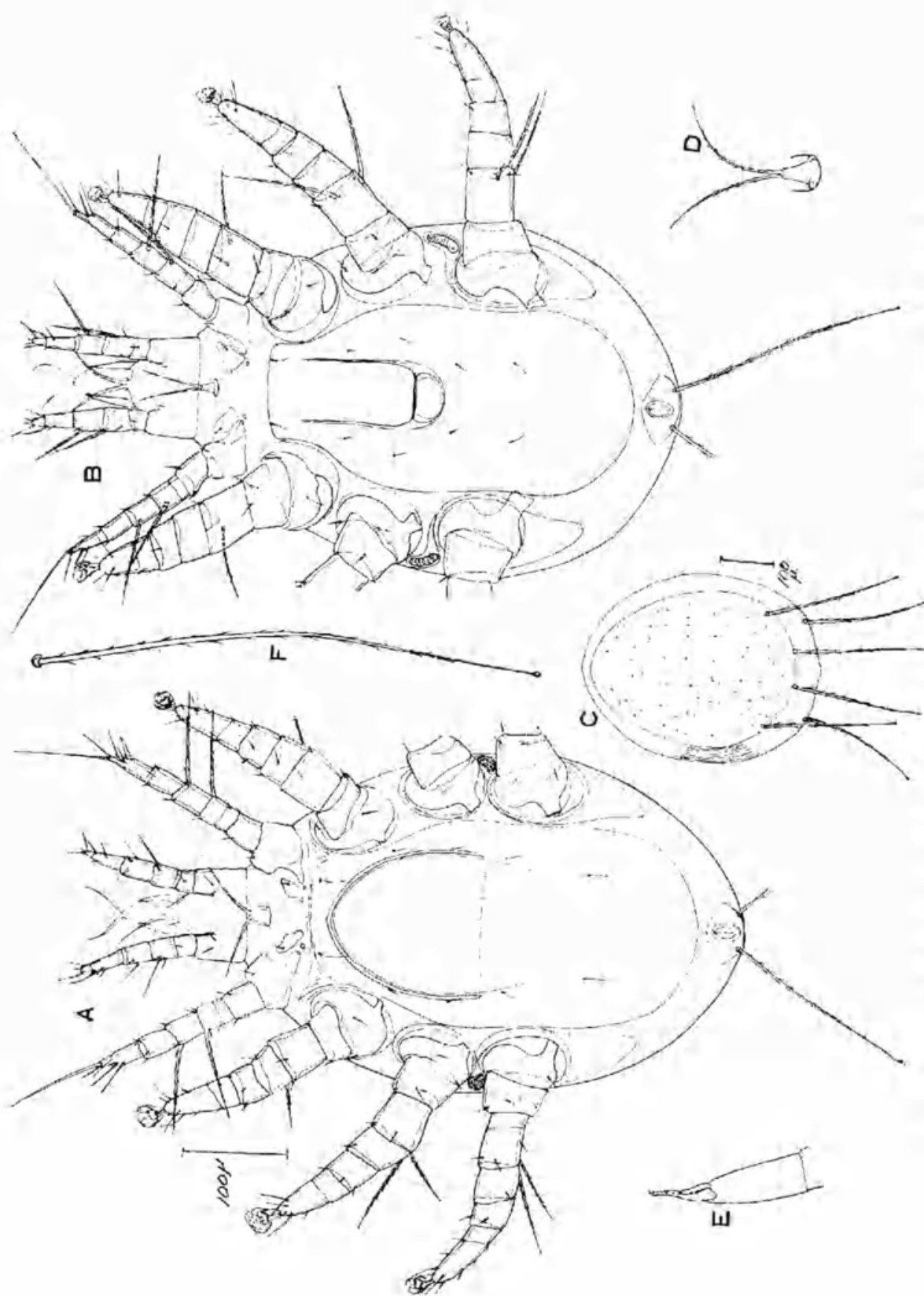


Fig. 6.—*Lombardiniella lombardinii* g. et sp. nov. A, female in ventral view; B, male in ventral view; C, dorsum of female; D, female tritosternum; E, mandible of female; F, dorsal seta.

rounded end slightly beyond posterior margin of acetabula IV, only the fourth pair of setae are actually on the shield and these are well inside the margin, of the other four pairs of setae, I are longer than the others; the endopodal shields of coxae II-IV are well developed especially those of II which are more curved and moon-shaped than in other species; the anal shield is transversely diamond-

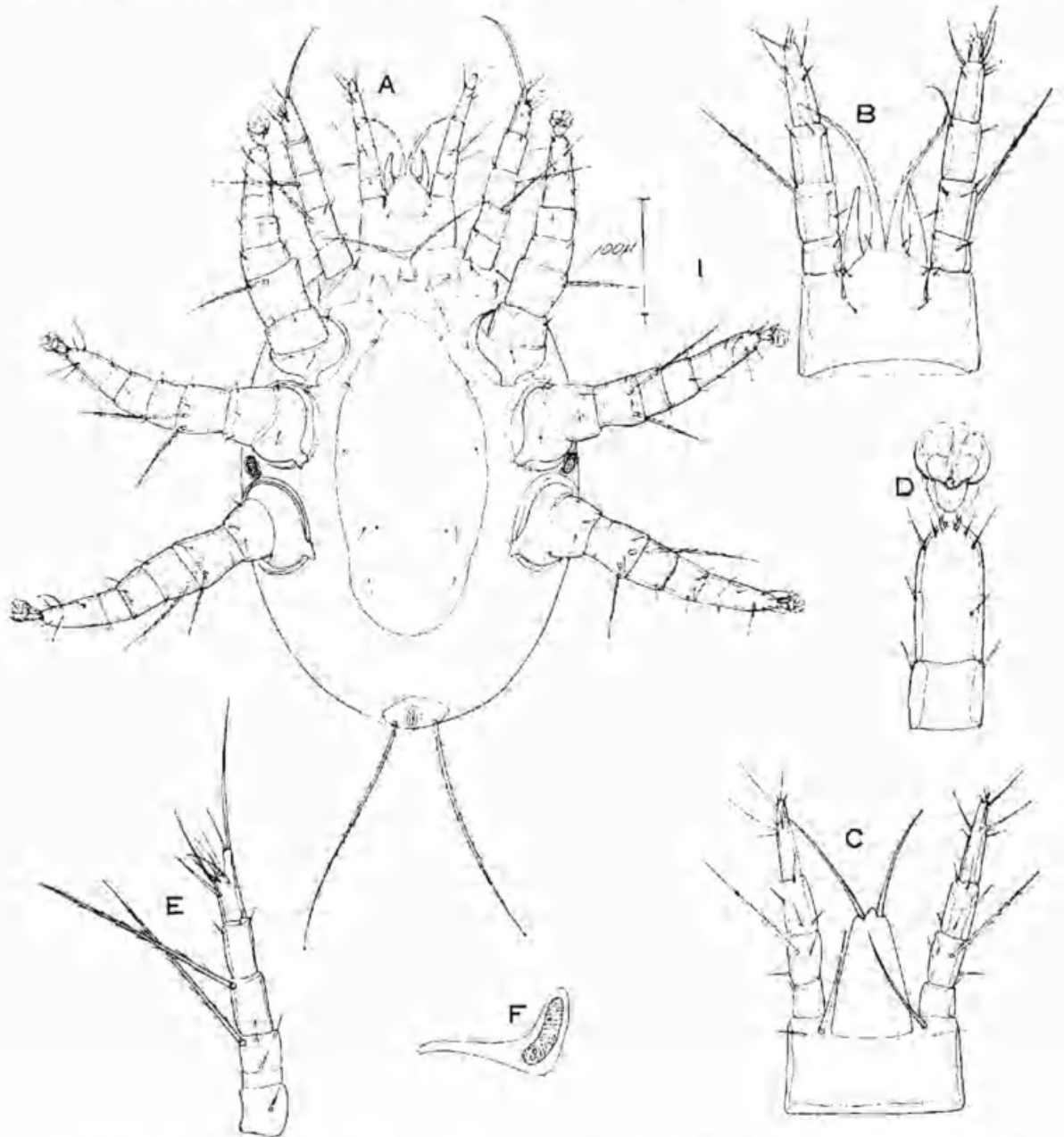


Fig. 7.—*Lombardiniella lombardini* g. et sp. nov. A, nymph in ventral view; B, gnathosoma of female from below; C, gnathosoma and tectum of female from above; D, tarsus of leg II from below; E, leg I; F, stigma and peritreme.

shaped, 48μ wide with one pair of long ciliated capitate setae to 180μ ; the stigma lies between coxae III and IV with hardly a distinct peritreme.

Gnathosoma as figured and as described for *B. spinosa*; tectum (Fig. 5C), however, apparently with only two apical filamentous branches as figured.

Legs as in other species, I 173μ long, with fragmented coxae, II, III and IV 240μ long and stouter than I.

Remarks.—This species differs from *B. spinosa* Träg. and *B. trågårdhi* sp. n. in the number and arrangement of the long dorsal setae. In the absence of the female, however, it is only tentatively referred here to the genus *Brachytremella*.

Gen. LOMBARDINIELLA nov.

Allied to *Brachytremella* but with the metapodal shields separated from the sterno-ventral shield and extending posteriorly of coxae IV as a triangle; tectum an elongate cone with one pair of long apical lacinae.

Type *Lombardiniella lombardinii* sp. nov.

Lombardiniella lombardinii sp. nov.

Figs. 6A-F, 7A-E.

Types.—Holotype female, allotype male, 8 paratype females, one paratype male and 6 paratype nymphs in the South Australian Museum.

Locutities.—The paratype male from under the elytra of a Passalid beetle *Aulacocyclus edentulus* McL. from a rotting eucalypt log, Hampton, Queensland, 3rd Oct., 1956 (coll. G. F. Bornemissza), all the others from the same host and habitat from Wilson's Downfall, New South Wales, 8th Oct., 1956 (coll. G.F.B.).

Description.—*Female* (Fig. 6A). A lightly sclerotised oval species. Length of idiosoma to 490μ (average of 8 specimens 481μ); width to 360μ (average 342μ).

Dorsum (Fig. 6C).—Dorsal shield entire, not completely covering dorsum but surrounded by a fairly wide strip of striated cuticle, dorsally with only 3 pairs of long, ciliated and apically knobbed setae to 210μ long (Fig. 6F), of these setae two pairs are situated on the posterior margin of the shield, the other pair is on the cuticle and on the posterior margin of the dorsum.

Venter (Fig. 6A).—Tritosternum (Fig. 6D) with not very long conical base, flanked on each side by a short seta, and apically with a pair of shortly ciliated lacinae; sternal, metasternal, and ventral shields coalesced to form a single shield reaching posteriorly almost to anterior margin of anal shield, antero-medially the shield surrounds with an oval chitinous rim the large tongue-shaped genital shield, close to the rim it carries three pairs of small setae, the sternal II and III and the metasternal setae; anterior of the genital shield is a pair of longer setae, sternal setae I, and posterior on the shield beyond coxae IV is another longer pair of setae probably the genital pair in other groups, the whole shield is wide and the margins confluent with the inner edges of the coxae as figured, the length of the whole shield is 370μ by 206μ wide with a slight constriction between coxae IV to 197μ ; the genital shield 211μ long by 149μ wide, is without setae and is not hinged to the ventral shield although there is a faint sub-cuticular transverse line between the third and fourth pair of sternal setae which may indicate a weakness allowing the genital shield to lift up and open from the anterior; the anal shield is small, transversely lozenge-shaped and is furnished with only two setae which are similar to and as long as the dorsal setae; large metapodal shields extend backwards from coxae IV as fairly large triangles, anteriorly as wide as the coxae and tapering to a rounded blunt apex at about halfway from the coxae to the apex of the ventral shield; peritremal shields small with the stigma (Fig. 7F) between coxae III and IV and the peritreme short, 29μ and curved.

Gnathosoma as figured (Fig. 7B), with apparently four pairs of short hypostomal setae, hypostome with a pair of long curved, shortly ciliated styli; cornicles moderately long; in the dorsal view (Fig. 7C) the maxillary part has two pairs

of setae near the base of the palpi of which the inner pair are long, the outer short, between the bases of the palpi is an elongate cone-shaped bifurcate tectum carrying apically a pair of equally long laciniae, the base of the tectum is demarcated by a transverse line; palpi as figured 5-segmented, the femur dorsally has a strong straight ciliated seta and there also are some fairly long setae on the tibia and tarsus; the chelicerae (Fig. 6E) are small, apparently edentate, and the movable finger has a subapical excrescence.

Legs.—All relatively short, I (Fig. 7E) thinner than II-IV and antennaeform, with the tarsus apically bifid with some long tactile setae, femur and genu dorsally with a long straight outstanding ciliated seta, coxae with two small setae and fragmented, legs II-IV moderately thick all tarsi with pad-like ambulacrum (Fig. 7D) but no claws, femur of II with one long seta, of III and IV with two such setae; length of I 206μ , II 269μ , III 298μ , IV 298μ , all legs directed forwards.

Male (Fig. 6B).—With the facies of the female, length of idiosoma 475μ and 440μ , width 350μ and 312μ (allotype and paratype respectively).

Dorsum as in the female, shield 408μ by 302μ , setae 220μ .

Venter (Fig. 6B).—Generally as in the female but the genital organ consists of a two-segmented shield as figured lying in a longitudinal groove in the sterno-ventral shield; the shield is 134μ long by 58μ wide; the stigma and peritreme are similar to the female, but the peritremal shield is peculiar in that posteriorly it runs inwards between coxae III and IV (see Fig. 7F) and is more distinct; the sterno-ventral shield is 345μ long by 182μ wide (173μ between coxae IV).

Nymph (Fig. 7A).—General facies as in female. Length of idiosoma to 432μ (aver. of 6 specimens 407μ), width to 293μ (aver. 275μ).

Dorsum.—Similar to that of female, dorsal shield 336μ by 240μ .

Venter.—With a single elongate sternal shield, 260μ long by 130μ wide as figured, extending posteriorly to half-way between coxae IV and the anterior margin of anal shield, the first sternal setae are lateral and anterior of the apex of the shield, setae II are also off the shield, but closely adjacent to the margin, setae III-V are distinctly on the shield, while just off the shield and between setae I and II is a pair of pores and there is another pair of pores between setae IV situated near to the setae. Anal shield as in female. Peritreme 19μ long.

Gnathosoma as in female.

Legs as in female, I 192μ long, II 240μ , III 260μ , IV 260μ .

Genus BRACHYTREMELLOIDES nov.

Body form elongate. Dorsum without long setae. Genital shield in female coalesced posteriorly with ventral which expands immediately behind coxae IV, then tapers posteriorly to a short straight posterior margin confluent with the anterior margin of the anal shield. In male genital shield relatively short. Legs II similar to III and IV in both sexes. Tectum bifurcate. Coxae I coalesced to form a single transverse shield.

Type B, *striata* sp. nov.

Brachytremelloides striata g. et sp. nov.

Text fig. 8A-H.

Types.—Holotype female, allotype male, 10 female and 8 male paratypes in the South Australian Museum.

Localities.—Holotype female, allotype male, 4 paratype females and 1 paratype male from a Passalid, *Aulacocyclus edentulus* McL. from a eucalypt log at Wilson's Downfall, near Tenterfield, New South Wales, 8/10/56 (coll. G.F.B.). Other specimens: 4 females and 2 males from Hinchinbrook Is., Nth. Queens-

land, 9/9/56 (G.F.B.); 4 males and 1 female from a Passalid, 8 miles east of Wondecla, Queensland, 20/10/45 (R. V. Southcott); one female from *A. edentulus* McL. from Bell, Blue Mountains, New South Wales, 27/11/56 (G.F.B.); and one male from *A. edentulus* McL., Hampton, Queensland, 2/10/56 (G.F.B.).

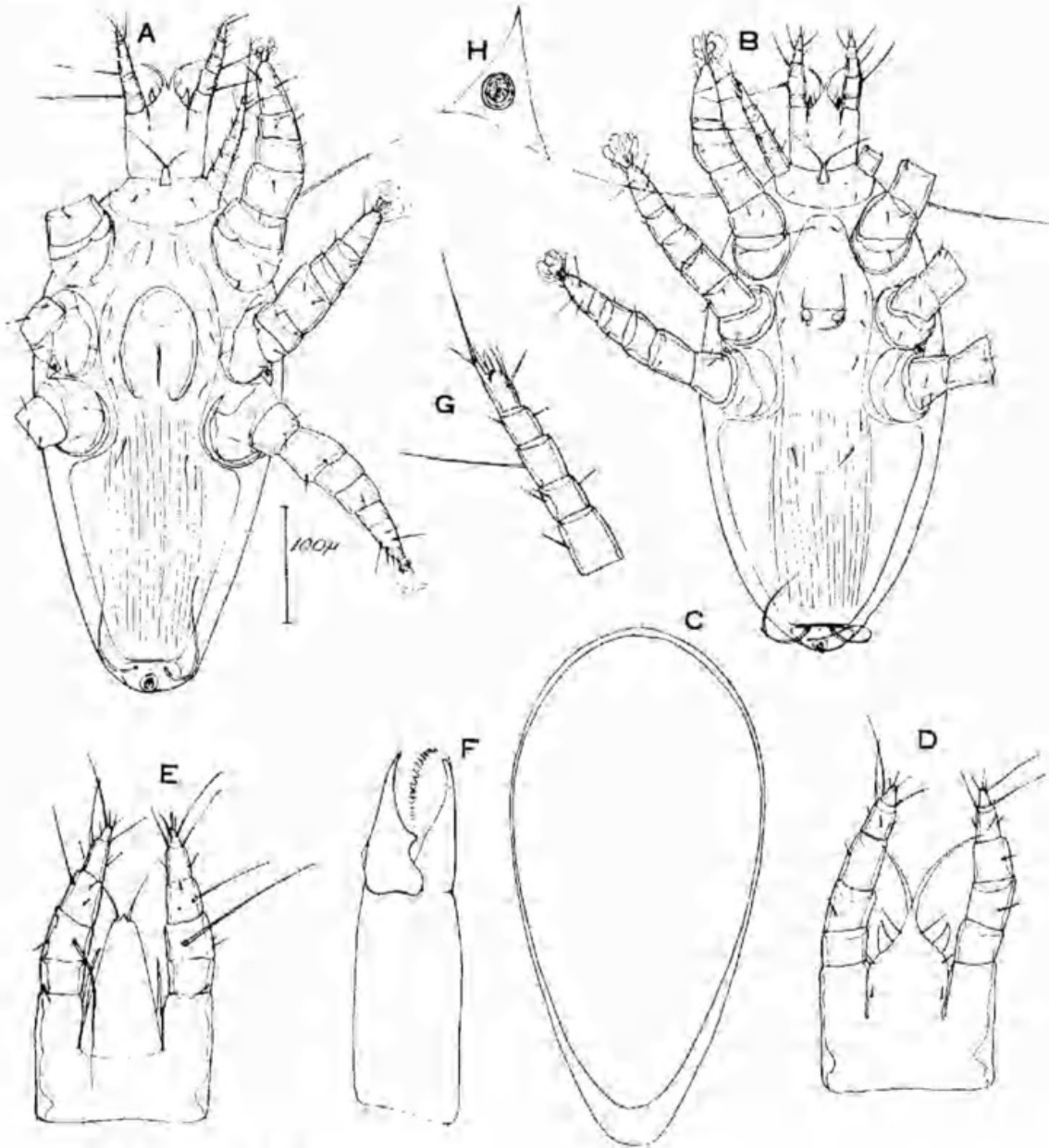


Fig. 8.—*Brachytremeloides striata* g. et sp. nov. A, female in ventral view; B, male in ventral view; C, dorsum; D, gnathosoma and tectum from below; E, gnathosoma and tectum from above; F, mandible; G, leg I; H, stigma.

Description.—*Female* (Fig. 8A, C-H). An elongate oval species. Idiosoma 432μ long, 206μ wide. Fairly well sclerotised.

Dorsum (Fig. 8C).—Shield entire, almost completely covering dorsum except posteriorly as figured, smooth and without any long setae, 413μ long by 201μ wide.

Venter (Fig. 8A).—As figured; sternal, metasternal and ventral shields coalesced, the combined shield rounded anteriorly between coxae II, widening to 100μ between coxae III then contracting between coxae IV to 72μ , then contouring acetabula IV to a width of 144μ after which the sides converge to a width of 53μ in a flattened apex almost touching the anterior margin of the separate anal shield, the intercoxal portion of the shield is provided with 5 pairs of setae of which the anterior and longest pair are between coxae II, the second and third pairs are short and on a level with coxae III, the fourth pair between coxae III and IV, and the fifth on a level with the posterior margin of acetabula IV, the ventral portion of the shield is longitudinally striate medially with about seven lines on each side of the mid-line; anal shield transversely trapezoidal 53μ wide by 24μ deep, and furnished with two long, nude and slender, forwardly curved setae to 120μ , these arise anteriorly of the anal opening; the genital orifice is long, oval and lies between the posterior edge of coxae II and the posterior edge of coxae IV, the genital shield is 86μ long and 62μ wide and contours the inner edge of the orifice, posteriorly it is coalesced with the ventral shield and not clearly hinged, below its surface can be seen a Y-shaped apodemal structure; the stigma lies between coxae III and IV and is on a small triangular peritremal shield but no distinct peritreme is present.

Gnathosoma as figured; hypostome (Fig. 8D) with three pairs of setae of which only the anterior pair on the base of the paired outwardly curved hypostomal styli are long, labial cornicles short; palpi 5-segmented with the long dorsal setae on femur and genu nude; tectum (Fig. 8E) a long cone but apically with only a single pair of short laciniae; chelicerae edentate (Fig. 8F); fixed digit with a thick hyaline apparently fringed excrescence.

Legs.—I short 110μ and tapering (Fig. 8G), tarsus apically bifid, without ambulacrum, coxae ill-defined, not fragmented and coalesced to form a transverse shield 96μ across, II-IV longer and much stouter, II 204μ , III 216μ , IV 220μ , tarsi with pad-like ambulacra but no claws, long dorsal seta present only on femur of I and this seta nude.

Mule.—Of the same shape and general facies as in the female. Length of idiosoma 412μ , width 206μ .

Dorsum.—As in the female. Length of shield 384μ , width 206μ . No long setae.

Venter (Fig. 8B).—The sterno-metasterno-ventral shield as in female, length 345μ by 82μ wide between coxae III, narrowing to 72μ between coxae IV then contouring acetabula to a width of 168μ , afterwards the sides converge to almost touch anterior margin of anal shield with a posterior width of 48μ . Anal shield as in female, width 43μ , depth 28μ , setae simple to 144μ long. Peritreme and stigma as in female.

Gnathosoma with palpi, chelicerae and tectum as in female.

Legs.—As in female, I 113μ long, the coxae ill-defined, not fragmented, coalesced to form a transverse shield 96μ across, II stout and somewhat stouter than III and IV, 230μ long, II and IV stout but less so than II, II 230μ long, IV 240μ .

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