

Fig. 1. *Apocheiridium minutissimum* n. sp., ♀, right pedipalp.

**Megachernes grandis** (Beier)

5 ♂♂, 12 ♀♀, 8 deutonymphs, Malaya, Subang, from *Rattus rajah*, 2. XI. 1962, Ser. No. M-01803 and M-01804, Band No. B. 60,047 and B. 60,035, McClure.

Hitherto only the ♀ of this species was known from Sumatra and Java. The ♂♂ now before me are but a little smaller than the ♀♀ and have the same shape of the vestitural bristles of the pedipalpes as the ♀♀; these bristles are, therefore, not long and not dense. The sexual dimorphism is not marked. The galea of the ♂ is slender as in the ♀ and has less number of branches. The bump of the hind coxa is a little smaller than in the ♀.

## THREE NEW SPECIES OF COLLEMBOLA SYMPHYPLEONA FROM THE SUBANTARCTIC

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**Abstract:** Three new species of Collembola Symphypleona are described from the sub-Antarctic islands of Macquarie and Kerguelen. The material comes partly from the 1928-29 BANZARE Expedition and partly from the more recent collections by the B. P. Bishop Museum Expedition.

The material described herein comes from collections made by members of the British Australian New Zealand Antarctic Research Expedition on Macquarie and Kerguelen Islands during 1929-1930 and by the B. P. Bishop Museum party on Macquarie Island during 1960.

The BANZARE material was sent to me by Dr. E. T. Giles of the South Australian Museum to whom it had been passed by Sir Douglas Mawson leader of the expedition. Some of this expedition's material was worked on by the late Herbert Womersley of the South Australian Museum (1935, Reps. of BANZ Ant. Res. Exped., Ser. B, Vol. 4). The material sent to me represents the balance of the collections which had not been seen by Womersley. I should like to express my thanks to Dr. Giles and the late Sir Douglas Mawson for the opportunity to work on the BANZARE material and to Dr. J. L. Gressitt of the Bishop Museum likewise for the Bishop Museum material sent to me.

Suborder SYMPHYPLEONA

Tribe *KATIANNINI*

***Sminthurinus kerguelensis*** Salmon, n. sp. Figs. 1-7.

*Color* (in alcohol): bluish violet, deeper on antennae but paler on legs and furcula; ocellar fields black.

*Clothing*: sparse of simple setae, longer and more numerous on posterior of dorsum.

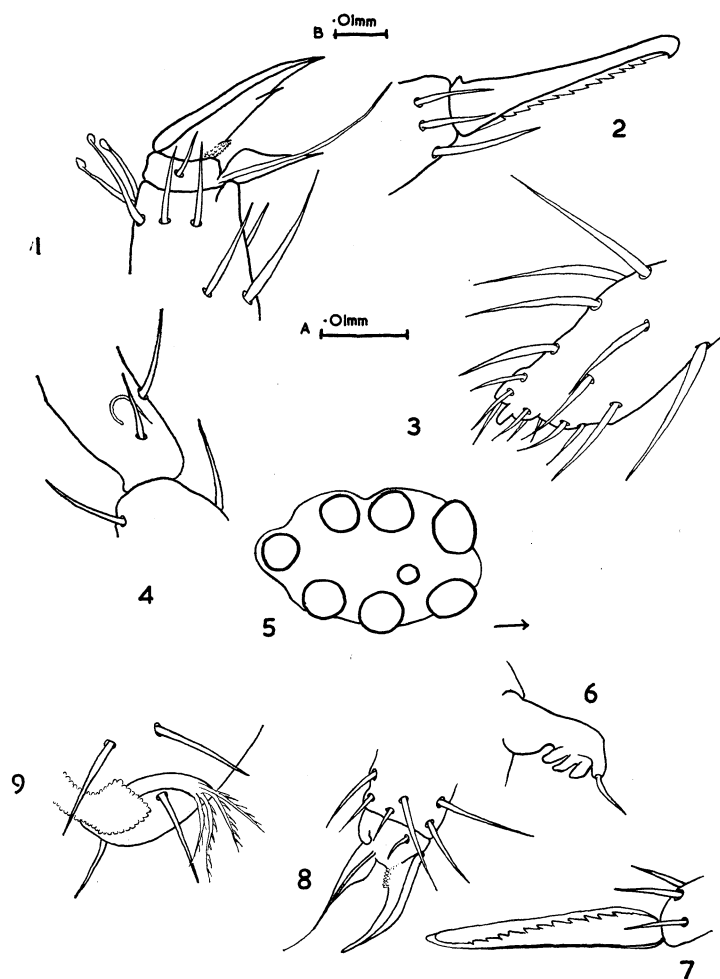
*Body*: length up to 0.3 mm. Traces of thoracic segmentation present on dorsum of large part of body. Antennae a little longer than head, the 4 segments related as 4 : 9 : 18 : 54. Ant IV not subdivided but with irregular whorls of long simple setae; Apex ant IV with finger-like process (fig. 3) and numerous short sensory setae; Ant III with simple wart-like organ; ocelli 8 to each side as shown in fig. 5. Corpus of tenaculum with a finger-like process bearing a simple seta, rami each with 3 barbs (fig. 6). Male with a pair of large branched ciliated clasping setae each arising from a stout papillate projection on either side of the genital segment (fig. 9). *Legs*: Claw of ♂ with a strong inner granulated basal portion ending in a small blunt tooth and a large inner tooth a little below 1/2 way down; no outer teeth; a simple moderately long basal seta to each side of claw base. Unguiculus, long and whip-like, over reaching apex of claw and bearing a broad curved inner lamella and a very narrow tapering outer lamella. Three very short clavate tenent hairs, about 1/2 as long as claw to each foot (fig. 1). Female with foot similar but lacking both large internal tooth and clavate tenent hairs, the latter being replaced by 3 setae the upper of which is noticeably outstanding (fig. 8). *Furcula*: Dens about 2× as long as mucro; mucro in ♂ (fig. 2) with apex upturned; in ♀ (fig. 7) the apex is straight and tapering, the inner lamella in both cases serrated, the outer lamella plain. Dens with 4 stout but short apical setae and 2 long basal setae on posterior face, the anterior face without setae.

*Localities*: Kerguelen I., under damp rocks on islands in Royal Sound, 18/21. XI. 1929 (BANZARE), Macquarie I., N. end among *Pleurophyllum* debris, 10. XII. 1960, J. L. Gressitt.

*Types*: ♂ holotype and ♀ allotype in South Australian Mus., ♂ paratypes in Dominion Mus., Wellington; Bishop Mus., Honolulu; and my collection.

***Katianna banzarei*** Salmon, n. sp. Figs. 10-15.

*Color* (in alcohol): pale brown to fawn with pale violet shading on the sides of the



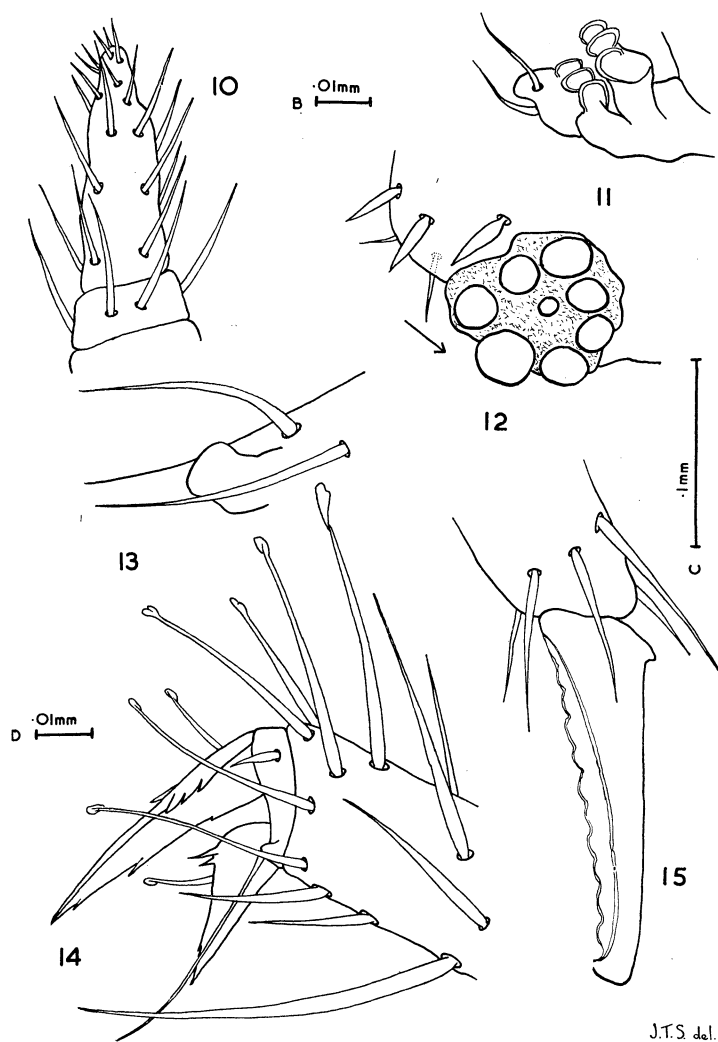
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Figs. 1-9. *Sminthurinus kerguelensis* n. sp. 1, hind foot of ♂; 2, mucro and apex of dens of ♂; 3, apex of Ant IV; 4, sensory Organ of Ant III; 5, ocelli; 6, tenaculum; 7, mucro and apex of dens of ♀; 8, middle foot of ♀; 9, clasping seta of ♂. Scale A. figs. 1, 3, 6; Scale B. figs. 2, 4-5, 7-9.

body; a dark violet spot posteriorly on dorsum, a violet spot on top of head; ocelli on dark blue-black fields; antennae with pale violet shading.

**Clothing:** heavy, of long simple setae; top of head, between ocellar fields, bearing 3 stout simple spines down each side. Three trichobothria to each side of large abdomen, 2 close together, the 3rd removed and somewhat ventral in position. A single trichoboth to each side of genital segment, all lacking hairs in the specimens before me.

**Body:** Length up to 0.58 mm. Antennae only slightly longer than head, the segments



Figs. 10-15. *Katianna banzareti* n. sp. 10, apex of Ant IV; 11, tenaculum; 12, ocelli and spines on top of head; 13, sensory peg of Ant III; 14, hind foot; 15, mucro and apex of dens. Scale B. figs. 10, 11, 13; Scale C. fig. 12; Scale D. figs. 14-15.

related as 6 : 17 : 17 : 42. Ant III with peg-like sense organ and at least 2 long, stout, dark colored setae. Ant IV subdivided with 16-17 subdivisions, the basal and terminal subdivisions the longest and with a whorl of moderately long simple setae on each subsegment; Apex Ant IV with numerous short, delicate sensory setae. Ocellar fields with 7 large peripheral ocelli and a smaller internal one. Corpus of tenaculum projecting, thumb-like with 2 strong setae, 1 to each side; rami each with 3 barbs. *Legs*: Claw (fig. 14) with 3 internal teeth, being a very small tooth at 1/3 down, a larger one at 2/3 and a slightly smaller subapical tooth; 3 outer lateral teeth on lateral ridge about 2/5 down outer

edge on each side; a short basal seta to each side of claw; unguiculus long and over-reaching apex of claw with very broad inner lamella bearing 2 strong teeth near widest part, outer lamella narrow and longer than inner lamella; foot with 8 clavate tenent hairs subequal to claw in length and arising as shown in fig. 14. Tibiotarsus above unguiculus with many long, stout, simple setae; legs well clothed with moderately long, simple setae. *Furcula*: Dens about 2× as long as mucro; mucro boat-shaped with upturned apex and thickened edges to the lamellae; the inner lamella plain or with 1 or 2 nicks, outer lamella irregularly crenulated. Dens sparsely clothed with only moderately long, simple setae.

*Locality*: Macquarie I., Station 81, swampy land near Buckles Bay, 3.XII.1930 (BANZARE).

*Type*: South Australian Museum; paratype, my collection.

**Metakatianna gressitti** Salmon, n. sp.      Figs. 16–22.

*Color* (in alcohol): pale ochreous with violet shading on sides of trunk and as a band across posterior margin of large abdomen, all appendages pale ochreous. Ocelli on violet colored fields.

*Clothing*: Moderately well clothed with short, simple setae; stouter and more numerous on top of head. A very short slender seta arising from a very small trichoboth on each side of genital segment.

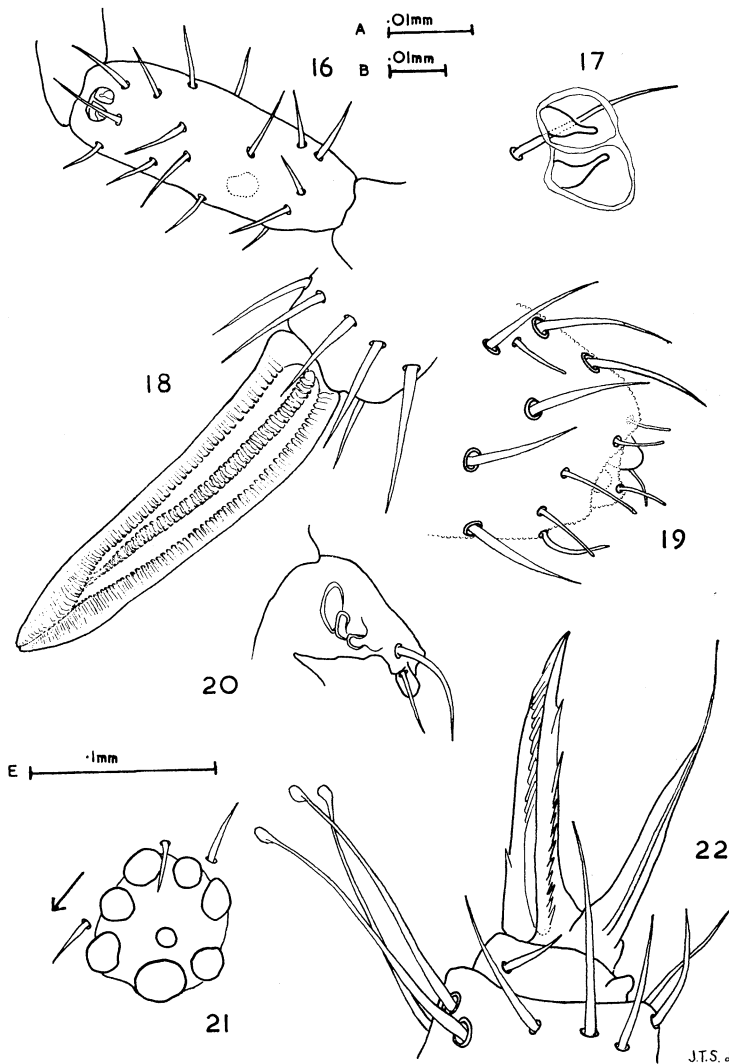
*Body*: Length 0.5 mm. Antennae slightly longer than head the 4 segments related as 7:14:19:52. Ant IV not subdivided but with 17–18 definite whorls of setae. Apex of Ant IV (fig. 19) with 2 sensory knobs, about 8–9 short, slender, sense rods, and numerous short setae. Ant III with a dome-like sensory swelling in basal 1/2 and an apical sense organ consisting of 2 bottle-shaped sense rods side by side but each in its own cuticular pocket surrounded by a thick cuticular fold (figs. 16–17). Ocelli 8 to each side being 7 peripheral, subequal, and 1 small central. Corpus of tenaculum (fig. 20) with a long curved subapical seta, and an apical finger-like process bearing basally a short seta; rami each with 3 barbs. *Legs*: Claw bearing a tunica with a serrated inner edge along basal 1/2 of claw and a fluted outer edge along distal 1/2 of claw (fig. 22); claw itself with 2 strong, inner teeth one 1/2 way down, the other at 3/4 and a single external tooth 1/4 down. A short seta to each side of claw base. Unguiculus long and whip-like reaching to apex of claw with broad tapering inner lamella and narrower tapering outer lamella. Three stout clavate tenent hairs as long as claw to each foot arising as a pair slightly above the 3rd. *Furcula*: Dens almost 3× as long as mucro. Mucro long and tapering with inner central fluted lamella and having each edge bearing a similar wide fluted lamella (fig. 18). Apex of dens with a girdle of 6 stout simple setae, a subapical transverse row of 3 setae across posterior face which also bears several large and several smaller simple setae irregularly arranged between its base and subapical row of 3 setae.

*Locality*: Macquarie I., Base Camp, 2 m, from Berlese funnel material taken from tussock roots and soil, 5.XII.1960, Gressitt. Known only from the type specimen.

*Type*: B. P. Bishop Mus., Honolulu.

Named after Dr. J. L. Gressitt who has been prominent in collecting Collembola over the last few years in Antarctica.

The discovery of these three species of Symphypleonid Collembola in the subantarctic is



Figs. 16-22. *Metakatianna gressitti* n. sp. 16, Ant III showing sense organs; 17, sense organ at apex of Ant III; 18, mucro and apex of dens; 19, apex of Ant IV; 20, tenaculum; 21, ocelli; 22, fore foot. Scale A. figs. 16, 17, 19; Scale B. figs. 18, 20, 22; Scale E. fig. 21.

both fortunate and interesting as globular collembola are not common in these regions. All three species are very small, much smaller than species belonging to these genera usually are in the more temperate regions. The species *Sminthurinus kerguelensis* appears to have a rather extraordinary wide distribution extending from Kerguelen Island to Macquarie Island. I am quite satisfied that the specimens found by Gressitt on Macquarie are identical with those from Kerguelen and it is quite likely that this species could be found elsewhere if it was carefully searched for.