ACARI FROM OPERATION DRAKE IN NEW GUINEA
3. PARAMEGISTIDAE [1]

BY R. DOMROW *

PARAMEGISTIDAE
OPHIOMEGISTUS
REPTILES
AUSTRALIA
NEW GUINEA

ABSTRACT : Both sexes of *Ophiomegistus joppae, O. blumi* and *O. iriani* spp. nov. are figured and described from scincid lizards in New Guinea (unidentified, *Sphenomorphus derooyae* (de Jong) and *Emoia pallidiceps* de Vis, respectively). The previously unknown male of *O. australicus* (Womersley) is described from an Australian skink (*Egernia frerei* Günther). A new snake host (*Micropechis ikaheka* (Lesson), Elapidae) is listed from New Guinea for the widespread *O. luzonensis* Banks.

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RÉSUMÉ : Nous décrivons et figurons les deux sexes des espèces nouvelles *Ophiomegistus joppae, O. blumi* et *O. iriani*, récoltées sur des lézards scincidés de Nouvelle-Guinée (respectivement, une espèce non identifiée, *Sphenomorphus derooyae* (de Jong) et *Emoia pallidiceps* de Vis). Nous faisons connaître le mâle de *O. australicus* (Womersley) trouvé sur un scinque australien (*Egernia frerei* Günther). Nous ajoutons à la liste des hôtes de l'espèce largement répandue *O. luzonensis* Banks un serpent de Nouvelle-Guinée (*Micropechis ikaheka* (Lesson), Elapidae).

The characteristically flattened, transverse bodies of paramegistid mites are a legacy of their life under the scales of lizards and snakes. Interestingly, no immatures are known. The most recent key to the species of *Ophiomegistus* Banks is GOFF's (1980 *a*), to which must be added the striking *O. maximus* GOFF, 1980 *b* from Malaya proper. Three new species from New Guinea skinks are described below, and new records given for *O. australicus* (Womersley) and the widespread *O. luzonensis* Banks.

Genus *Ophiomegistus* Banks

Ophiomegistus : BANKS, 1914 : 58 (type-species : *O. luzonensis* Banks).

Ophiomegistus joppae sp. nov. (Figs 1-11)

■ *Material* : Three series totalling holotype ♀, allotype ♂, 15 paratype ♀♀ and 11 paratype ♂♂, all from under scales on sides of necks of three small, but unidentified skinks of one species (Lacertilia : Scincidae), Buso, Morobe Province, Papua New Guinea, IX.1979, R. DOMROW, with B. BOLOTI or F. MINGEN. Holotype and allotype in British Museum (Natural History), London (BMNH) ; paratypes in Bernice P. Bishop Museum, Honolulu (BPBM), and Queensland Institute of Medical Research, Brisbane (QIMR).

■ *Female* : Epistome the usual triangle. Hypostome (Fig. 4) with at least two elongate pro-

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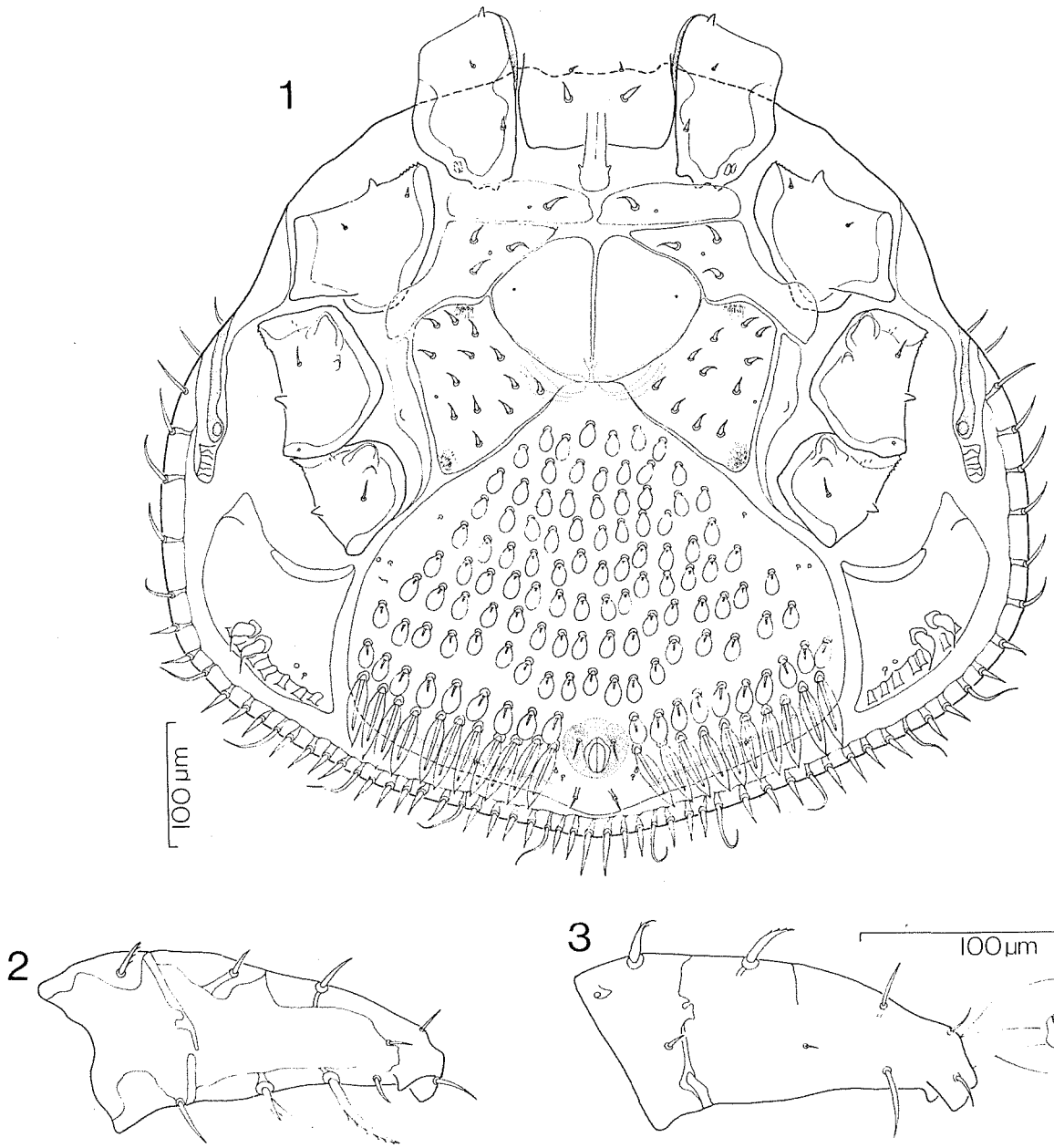
1. The previous part of this series was Athias-Binche (1983).



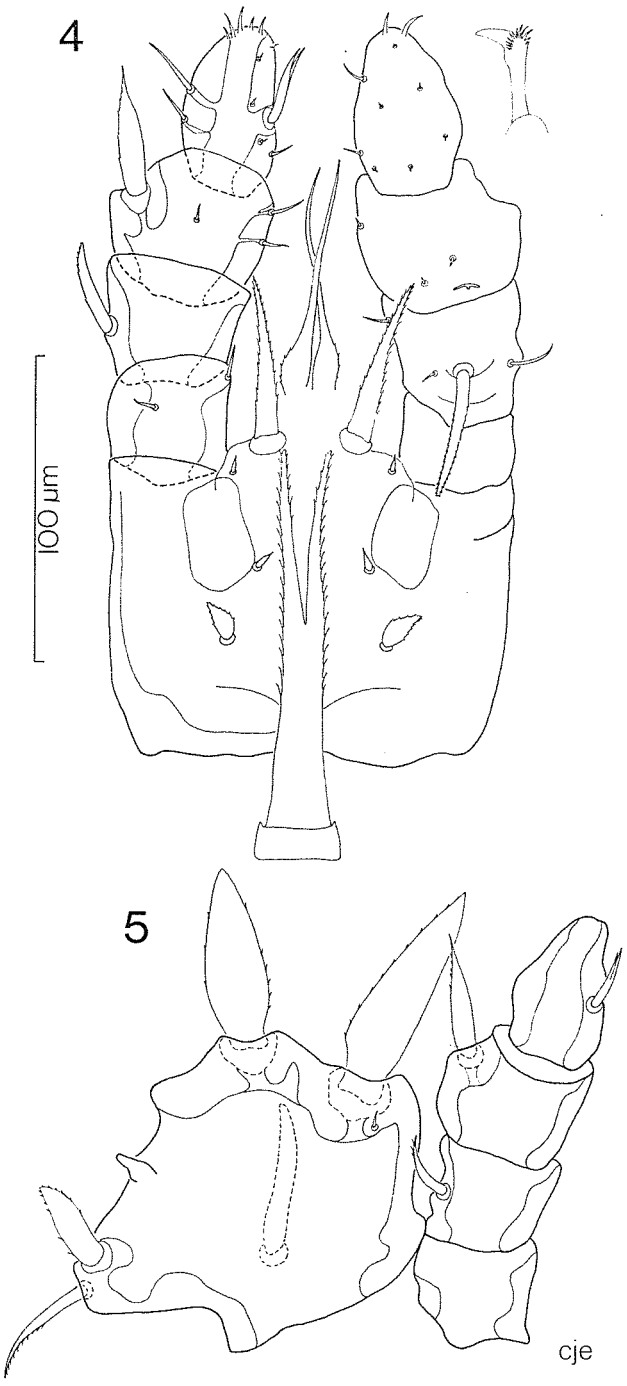
FIGS 1-3 : *Ophiomegistus joppae.*
1. — Idiosoma ♀, ventral ; 2-3. — Tarsus II ♂, anterior and posterior.

cesses ; cornicles much as in *O. keithi* Domrow, 1978 ; setae h_1 enlarged, h_{2-3} small, sharply tapered. Basis capituli a third again as wide as long ; setae *c* foliate. Palpi with setae *pl* and one *d* on femora, and *pl* on genua enlarged. Chelicerae typical of genus (see *O. keithi*).

Idiosoma 650-680 μm long, 715-770 μm wide. Dorsal shield with usual circlet of alternating spinose and filiform setae (latter often broken off short) ; minute setae and pores about as numerous as in *O. keithi* ; surface with translucent spots discally which gradually expand into small crescents towards rim, especially posterolaterally.

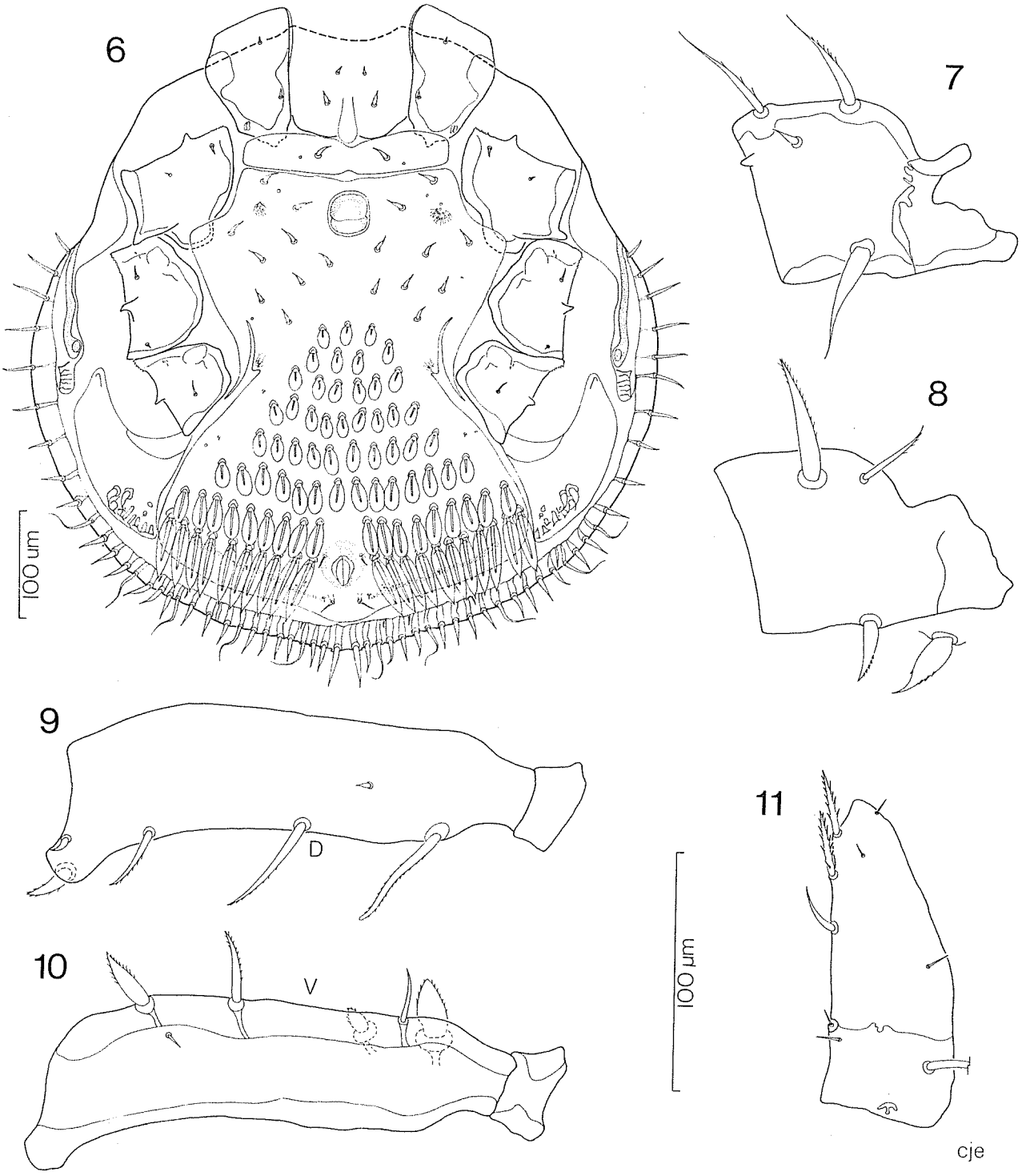
Tritosternal laciniae without secondary subapical branch seen in *O. samuelsoni* Goff, 1979. Jugular shields discrete (Fig. 1), with one sharply tapered seta and one pore each. Sternal shields with sinuous margins, with three sharply tapered setae and one pore each. Sternogynial shields semicircular, with one pore each. Latigynial shields trapezoidal, with average of 11 (range 8-14, counts of 13-14 usually due to occasional doublet, *i.e.* two setae with separate, but touching alveoli) sharply tapered setae, one pore and two clusters of canaliculi each. Mesogynial shield so broadly fused into ventrianal shield that no excavations are left to receive latigynial shields, *cf. O. radovskyi* Goff, 1979 ; combined shield with 40 (33-49) elliptical setae in five-six irregular rows anteriorly, 13 (11-16), 16 (15-20), 18 (17-20) and 18 (16-20) elliptical setae in four discrete rows, 20 (18-22) hastate setae in one discrete row, four pairs of perianal setae (of which two pairs are minute, as are two anterolateral pairs), some small pores and a narrowly transverse ornamentation beneath the hastate setae. Endopodal shields discrete. Metapodal shields roundly triangular, with two strong, apically filiform setae, one minute seta and some complex pores each. Peritremes reaching forward to vertical cornua ; peritrematal shields with complex pores along dorsal margin at usual four levels (*cf.* Fig. 26) : at stigmata, between coxae II-III, between coxae I-II and at tips.

Coxa I without anterodistal spurlet seen in *O. armouri* Goff, 1979. Legs with same setation as in *O. luzonensis* (see DOMROW, 1978), except that



FIGS 4-5 : *Ophiomegistus joppae*.

4. — Capitulum and tritosternum ♀, ventral, with true left palp dorsal, tibiotarsus diagrammatic and cornicle inset ; 5. — Palp and trochanter I ♂, ventral, with only major palpal setae shown.



FIGS 6-11 : *Ophiomegistus joppae.*

6. — Idiosoma ♂, ventral ; 7-8. — Femur III ♂, anterior and posterior, with seta *pl* of femur IV ♂ inset ; 9-10. — Femur I ♀, posterodorsal and anteroventral ; 11. — Tarsus IV ♂, posterior.

genu IV has *pl* added (2-3/1.2/1-1). Setae *al* and pv_1 on trochanter I and, to a lesser extent, pv_2 on trochanter I, and two *v* on femur I blade-like ; pv_1 on trochanter II, two *v* on femur II and *pl* on femur IV foliate, with filiform tip. Femur I shown in Figs 9-10.

■ *Male* : As in female, except as follows. Chelicerae typical of genus.

Idiosoma (Fig. 6) 580-615 μm long, 595-660 μm wide.

Jugular shields fused, with two setae and pores. Remaining median shields fused ; sternogenital portion with 8 (6-10) setae, two (rarely three) pores and two patches of canaliculi on each side ; ventrianal portion with 14 (9-18) elliptical setae in three-four irregular rows anteriorly, 8 (6-9), 10 (8-11), 14 (13-16) and 17 (15-19) elliptical setae in four discrete rows, and 19 (16-21) hastate setae. Endopodal shields partially free.

Trochanter I shown in Fig. 5, femur III in Figs 7-8. Tarsi II (Figs 2-3) with two, and III with one low ventrodistal spur that displaces ambulacrum dorsodistally ; IV (Fig. 11) without basally expanded seta pl_2 seen in *O. blumi* sp. nov. below.

■ *Notes* : *O. joppae* keys out readly to couplet 12 in GOFF's key (1980 *a*), but is readily separable from the two species therein : from *O. kaii* Goff, 1979 by the proportions of the capitular setae, the two pairs of sternogenital canaliculi, the small elliptical ventrianal setae that fail to reach the insertions of the next in series, and the less sharply angled metapodal shields ; and from *O. alainae* Goff, 1980 *a* by the same four points, as well as in the ventrianal shield : terminal row of setae very distinctly hastate, and shield deeply excavate anterolaterally to receive latigynial shields.

Ophiomegistus blumi sp. nov. (Figs 12-13)

■ *Material* : Holotype ♀, allotype ♂ and two paratype ♀♀ from *Sphenomorphus derooyae* (de Jong) (Scincidae), Munggona, Eipomek Valley, Irian Jaya, v.1976, P. BLUM. Holotype and allotype in Queensland Museum, Brisbane (QM) ; paratypes in BMNH and BPBM.

■ *Female* : As in *O. joppae*, except as follows. Setae h_2 minute, barely half as large as non-foliate *c*.

Idiosoma (Fig. 12) 530-540 μm long, 585 μm wide.

Latigynial shields with 16 (14-18) setae, one or two pores and one cluster of canaliculi each. Mesogynial-ventrianal shield with 12 (9-14) elliptical setae in about two irregular rows anteriorly, 11 (10-11), 15 (15-16), 19 (19-20) and 20 (18-22) elliptical setae in four discrete rows, and 14 hastate setae. Endopodal shields only free at posterior extremity.

Coxa I with anterodistal spurlet seen in *O. armouri*. Stronger leg setae less distinguished, more resembling those of *O. iriani* below ; arrangement as in *O. luzonensis*.

■ *Male* : As in female, except as follows. Chelicerae typical of genus.

Idiosoma (Fig. 13) 485 μm long, 505 μm wide.

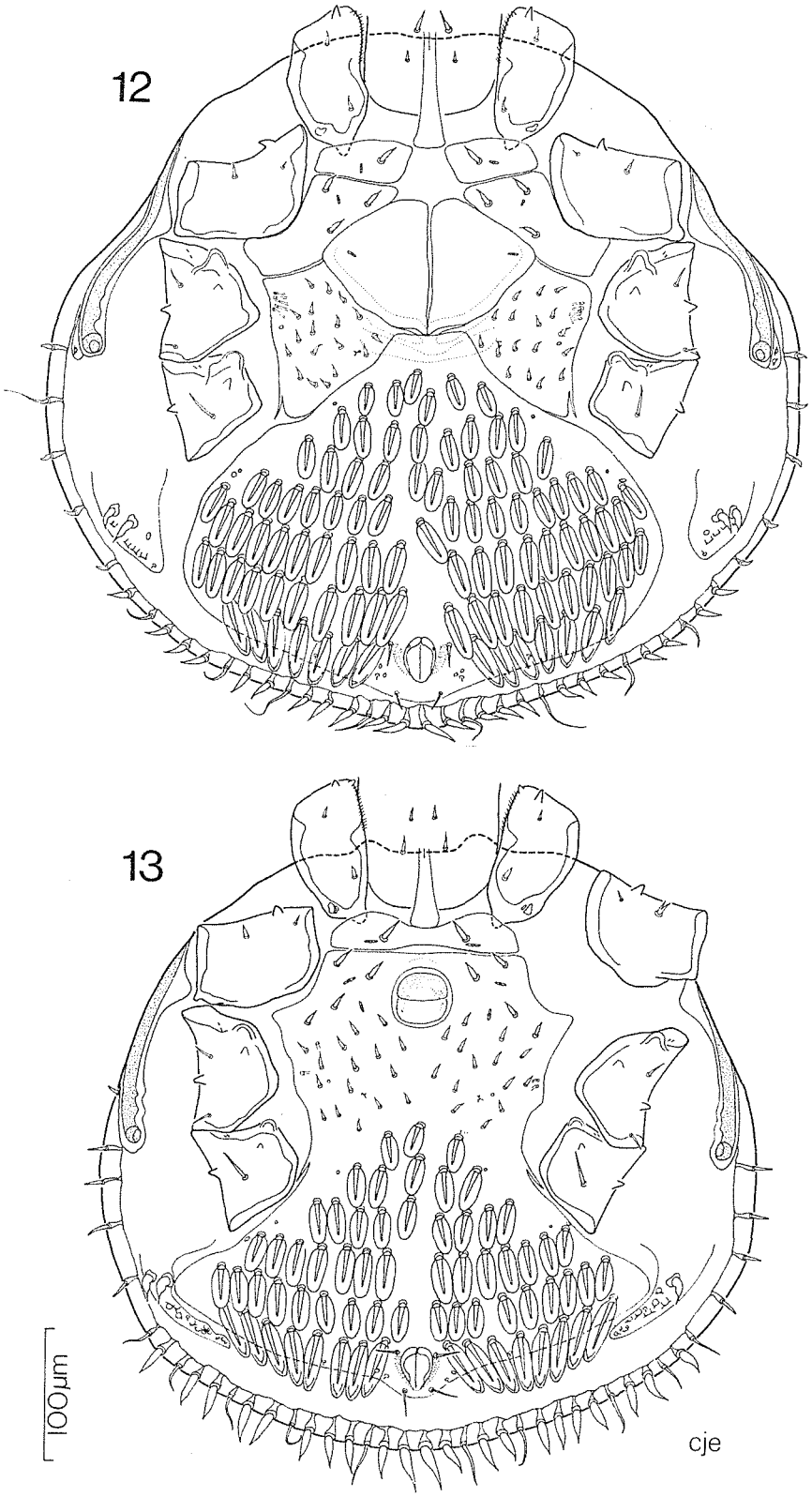
Sternogenital portion with 20/18 setae of decreasing size posteriorly, some pores and two small groups of canaliculi ; ventrianal portion of exaggerated width, fitting into excavations of metapodal shields ; with 3 elliptical setae in irregular row anteriorly, 5, 9, 14 and 18 elliptical setae in four discrete rows, and 16 hastate setae.

Seta *v* on femur III strong and capitate, pl_2 on tarsus IV basally expanded. Tarsi II-III with low ventrodistal spurs as in *O. joppae*.

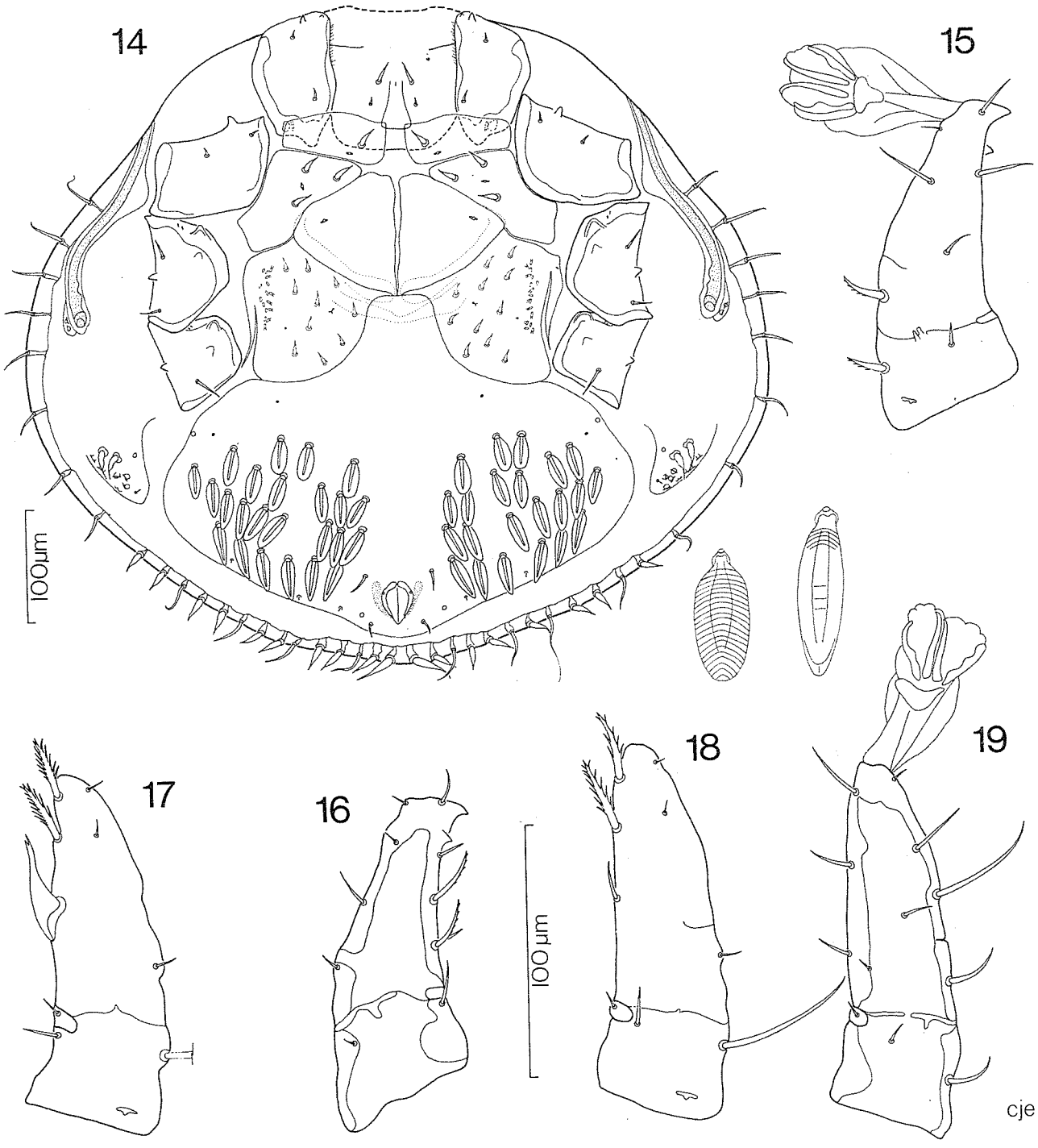
■ *Notes* : See those on *O. iriani* below.

Ophiomegistus iriani sp. nov. (Figs 14-25)

■ *Material* : Two series totalling holotype ♀, allotype ♂, one paratype ♀ and one paratype ♂, both from *Emoia pallidiceps* de Vis (Scincidae), Munggona, Eipomek Valley, Irian Jaya, v.1976, P. BLUM. Holotype and allotype in QM ; paratypes in BPBM.



FIGS 12-13 : *Ophiomegistus blumi*. Idiosoma ♀ and ♂, ventral, tips of many filiform marginal setae broken off.



FIGS 14-19 : *Ophiomegistus iriani*.

14. — Idiosoma ♀, ventral, tips of many filiform marginal setae broken off, with elliptical and hastate setae inset ; 15-16. — Tarsus II ♂, posterior and anterior ; 17. — Tarsus IV ♂, posterior ; 18-19. — Tarsus IV ♀, posterior and anterior.

■ *Female* : As in *O. joppae*, except as follows. Setae *h* and *c* as in *O. blumi*, but h_3 stronger than *c*.

Idiosoma (Fig. 14) 595-605 μm long, 660 μm wide.

Sternal shields with 4 setae on one side of one specimen. Latigynial shields with 10/11 and 21/25 setae, some pores and elongate strip of canaliculi each. Mesogynial-ventrianal shield excavated anterolaterally to accept latigynial shields ; with 6, 12 and 16 elliptical setae in three discrete rows, and 12 hastate setae in one specimen ; and with 14 (irregularly arranged), 18 and 18 elliptical setae, and 13 hastate setae in the other. Endopodal shields largely free.

Legs as in *O. blumi*. Femur I shown in Figs 23-24 ; tarsus IV in Figs 18-19.

■ *Male* : As in female, except as follows. Capitulum shown in Fig. 25.

Idiosoma (Fig. 20) 550 μm long, 570 μm wide.

Sternogenital portion with 18/17 and 17/19 subequal setae (strip of canaliculi divided into two groups on one side of one specimen). Ventrianal portion shaped as in *O. blumi* ; with 5/4, 12/14 and 14/17 elliptical setae in three discrete rows, and 15/13 hastate setae.

Legs as in *O. blumi*, but spurlet on coxa I probably absent. Femur III shown in Figs 21-22 ; tarsi II in Figs 15-16, IV in Fig. 17.

■ *Notes* : Both *O. blumi* and *O. iriani* run out through the second half of couplet 5 in GOFF's key (1980 *a*), but fit neither half of couplet 7. The two new species are distinct from both species in couplet 8 (*O. samuelsoni* and *O. radovkyi*, both with multiple setae on female sternal shields).

If one passes to couplet 9 (and ignores such minor points as the coxal I spurlet), *O. blumi* is nearer *O. kaii*, but is distinct, in the female, at least in the fused endopodal shields.

Likewise, *O. iriani* will run *via* couplet 7 to near *O. alainae*, but is distinct, in the female, at least in the more elongate strips of latigynial canaliculi and the less sharply excavated mesogynial-ventrianal shield.

In the males, the two new species are at once distinguished by the laterally exaggerated ventrianal shields (metapodal shields as in female in *O. kaii*, intermediate in *O. alainae*), and the basally expanded setae pl_2 on tarsi IV.

Ophiomegistus australicus (Womersley) (Figs 26-30)

Neomegistus australicus : WOMERSLEY, 1958 : 119.

Ophiomegistus australicus : DOMROW, 1978 : 123.

■ *Material* : One ♂ from *Egernia frerei* Günther (Scincidae), Mount Windsor, nr Mossman, Queensland, I.1981, I. D. FANNING ; one ♀ and one ♂, *E. frerei*, Tamborine Mountain, Queensland, 13.VIII.1917, H. A. LONGMAN (mites removed 1.XII.1981, R. DOMROW and C. J. ELLWOOD). In QIMR and QM.

■ *Female* : Capitulum with setae *h* and *c* elongate, as figured by WOMERSLEY (1958). Chelicerae typical of genus.

Idiosoma 970 μm long, 1 100 μm wide.

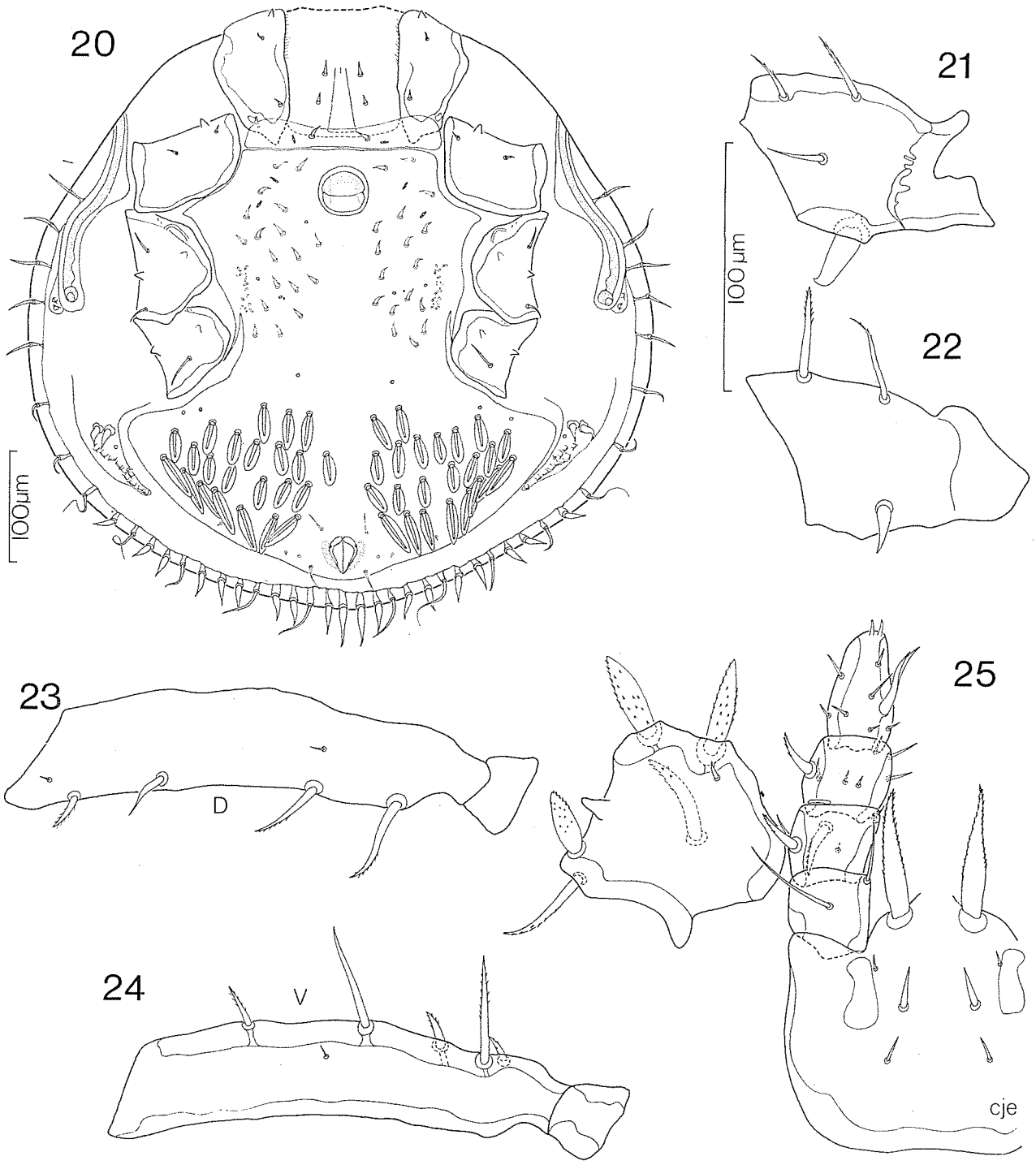
Venter similar to that figured by DOMROW (1978). Jugular shields with 2 setae each. Sternal shields with 5 setae each. Latigynial shields with 16 setae each. Mesogynial-ventrianal shield with 79 simple setae and 62 elliptical setae, plus 8 simple anal setae. Endopodal shields indicated within outline of latigynials. Metapodal shields with 3 simple setae each.

Leg setation as in *O. luzonensis*.

■ *Male* : As in female, except as follows. Capitulum (Fig. 29) with setae h_1 hypertrophied ; $h_{2\text{-}3}$ and *c* not as long.

Idiosoma (Figs 26, 30) 770 μm long, 815 μm wide.

Jugular shields fused, with 2 setae. Sternogenital portion with 6/7 and 7/7 setae. Ventrianal portion with 1/1 and 0/1 simple setae anterolaterally and 129/116 elliptical setae (rather fuller in outline in Mt Windsor specimen), plus 8 simple anal setae. Metapodal shields excavated.



FIGS 20-25 : *Ophiomegistus iriani*.

20. — Idiosoma ♂, ventral ; 21-22. — Femur III ♂, anterior and posterior ; 23-24. — Femur I ♀, posterodorsal and anteroventral ; 25. — Capitulum and trochanter I ♂, ventral.

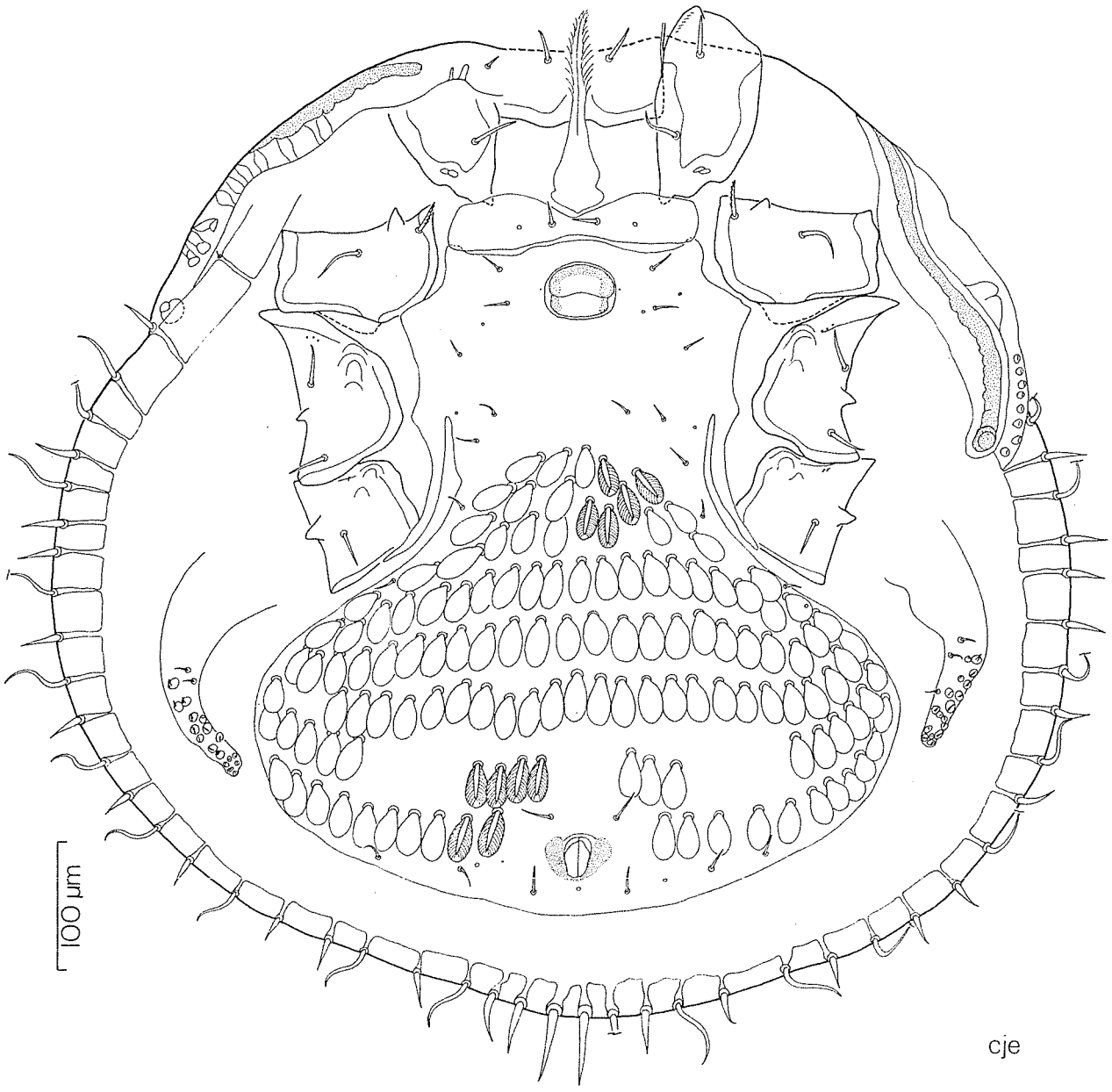
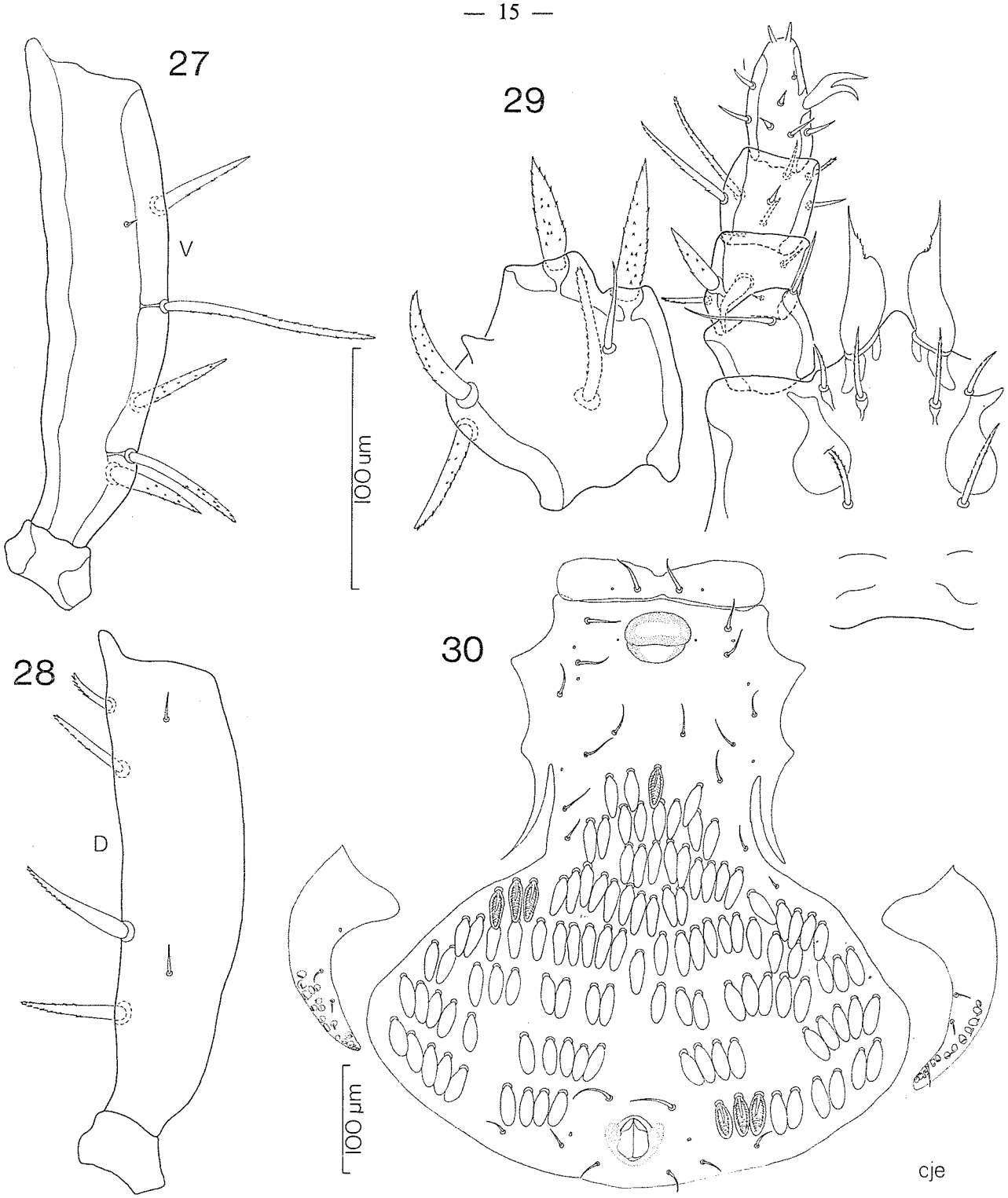


FIG. 26 : *Ophiomegistus australicus*. Idiosoma ♂, ventral, Mt Windsor.



FIGS 27-30 : *Ophiomegistus australicus*.

27-28. — Femur I ♂, anteroventral and posterodorsal, Mt Windsor ; 29. — Capitulum and trochanter I ♂, ventral, Mt Windsor ; 30. — Ventral shields ♂, Tamborine Mtn.

Femur I shown in Figs 27-28. Tarsi II with two distinct ventrodistal spurs, III with one, IV not showing seta pl_2 basally expanded.

Ophiomegistus luzonensis Banks

Ophiomegistus luzonensis : BANKS, 1914 : 58 ; DOMROW, 1978 : 123 ; GOFF, 1980 *a* : 409.

■ *Material* : Seven ♀♀ and eight ♂♂ from *Micropechis ikaheka* (Lesson) (Ophidia : Elapidae), Buso, Morobe Province, Papua New Guinea, IX.1979, R. DOMROW and I. M. REDMOND. In BMNH, BPBM and QIMR.

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