

New Harvest Spiders from Natal and Zululand.

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With 11 Text-figures.

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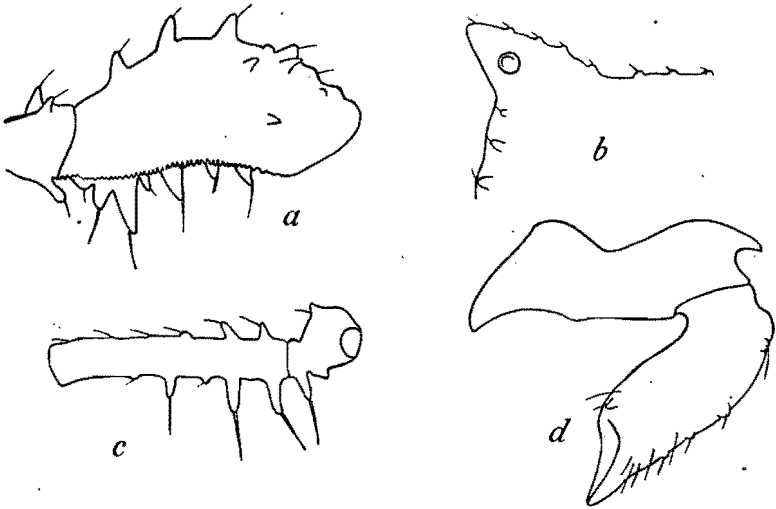
THE following paper contains descriptions of one new genus and eleven new species of Opiliones from Natal and Zululand. The genera *Ceratomontia*, *Græmontia* and *Roewerania* are recorded from Natal for the first time. In 1932 the author gave a list of seventeen species for this region ("The Harvest-spiders (Opiliones) of Natal", 'Ann. Natal Museum', vol. vii, Pt. 2, p. 211), of which eight were new. The large number of new forms, which were all collected by Mr. W. G. Rump of the Museum Staff and myself, reveal the fact that the Opilionid fauna of Natal is still very imperfectly known.

Suborder LANIATORES.

Fam. TRIÆNONYCHIDÆ *Sörensen*.Subfam. TRIÆNONYCHINÆ *Pocock*.Gen. *Ceratomontia* *Roewer*.*Ceratomontia rumpiana* *n. sp.* Text-fig. 1, *a-d*.

Colour.—Dorsal surface of body yellow with a few black markings, appendages yellow:

TEXT-FIG. 1.



Ceratomontia natalensis *n. sp.* *a.* Femur of palp from inner side.
b. Ocular tubercle. *c.* Femur of leg I. *d.* Chelicera.

Dorsal Surface.—Anterior margin of carapace with three granules on each side of the ocular tubercle, the innermost one on each side situated near the ocular tubercle and about half the size of the remaining ones; ocular tubercle (as in fig. 1, *b*) seen from the side; area posterior to the ocular tubercle with 2 short longitudinal rows of about 3 granules; dorsal scute with well-marked transverse grooves; areas I-V each with a transverse row of small to moderate seta-tipped granules, and a

second posterior row of very small, hardly visible granules; free tergites I and II with 1, III with 2 rows of fairly large, distinct, seta-tipped granules.

Ventral Surface.—Coxæ smooth and shiny, with scattered setæ; sternites each with a row of seta-tipped granules, these hardly visible in the middle, but distinct and duplicated at the sides.

Pedipalp.—Femur and trochanter (as in fig. 1, *a*) seen from the inner side; basal tooth on ventral surface of femur indistinctly trilobed, the strip of granulation along the ventral surface of the segment consisting of large coarse granules; patella on the ventral surface with a moderate tooth at its outer apex; tibia ventrally with about 9 teeth along its outer side, the distal ones larger, 2 fairly large distal teeth on the inner side; tarsus on the outer side ventrally with a large triangular basal tooth followed dorsally by 4 teeth, 2 small ones alternating with 2 larger ones; inner side of tarsus with 4 sharp teeth.

Chelicera (as in fig. 1, *d*) seen from the side.

Legs.—Femur I seen from the side as in fig. 1, *c*; tarsal segments 2 : 3 : 3 : 3.

Dimensions.—Length of body 2 mm., pedipalp 2.5 mm.

Types, 2 specimens (probably females), under stones, Umkomanzi River, near Bulwer, Natal.

Gen. *Cryptobunus* *Lawrence*.

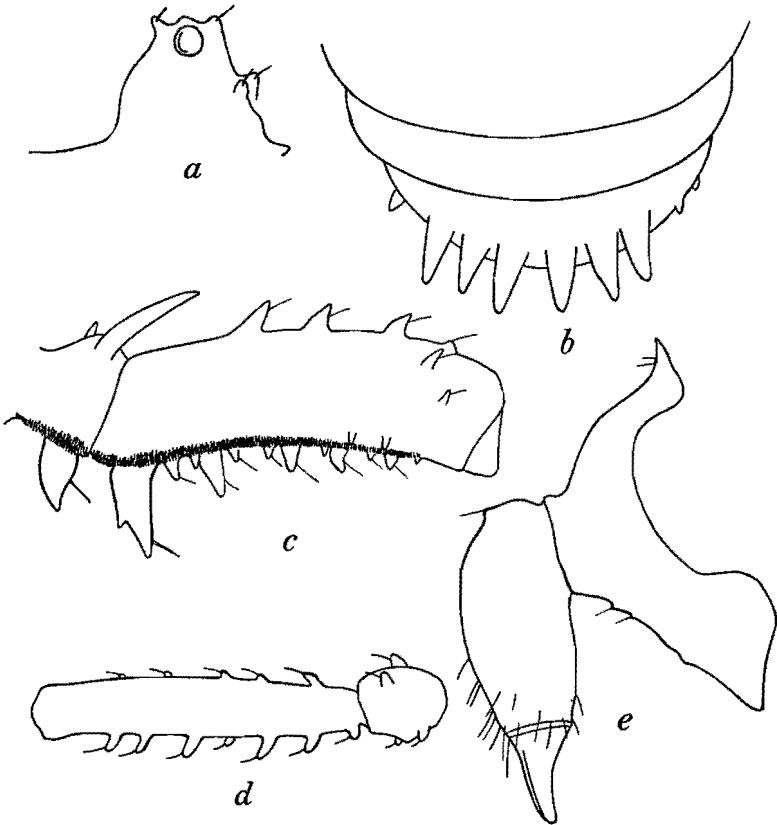
Cryptobunus maritimus *n. sp.* Text-fig. 2, *a-e*.

MALE.—Colour.—Dorsal surface olive-green, ornamented with black symmetrical markings; ventral surface with the sternites brown, coxæ yellow; legs variegated with black reticulate markings, chelicerae yellow with some blackish-green reticulate markings, pedipalps yellow.

Dorsal Surface.—Anterior margin of carapace with 5 large conical granules, the middle one in front of the ocular tubercle; ocular tubercle (fig. 2, *a*) with 4 granules at its apex, 1 posterior, 1 anterior, and 1 at each side above the eye; dorsal scute without transverse grooves, smooth or with a few obsolete

granules; free tergites I and II smooth or with a row of hardly perceptible obsolete granules; free tergite III with an unusual row of 4-6 large teeth (fig. 2, *b*) projecting horizontally backwards,

TEXT-FIG. 2.



Cryptobunus maritimus n. sp. ♂. *a.* Ocular tubercle. *b.* Free tergite III from above. *c.* Femur of palp from inner side. *d.* Femur of leg I. *e.* Chelicera from outer side.

these teeth conical and far more massive than any teeth or granules found elsewhere; sometimes in addition 1 or 2 much smaller conical teeth on each side of the row.

Ventral Surface.—Coxæ smooth, coxa I with a single large, blade-like, triangular tooth at its distal anterior margin; sternites smooth, finely shagreened; anal operculum with a row of about 6 large granules in its distal half.

Pedipalp.—Trochanter and femur as in fig. 2, *c*, seen from the inner side; trochanter on its inner dorsal surface with a very long anteriorly directed tooth, projecting far forward over the femur; femur with its ventral surface armed with a strip of the spicules, which take the place of granules in this genus; patella smooth; tibia and tarsus long and slender, with small rounded or tooth-like granules along their sides inferiorly, these very much smaller than the teeth on the ventral surface of the femur.

Chelicera.—Segment I dorsally with a very large process at its distal apex (fig. 2, *e*, seen from the outer side) directed upwards and a little inwards; segment II on its inner surface with a row of minute ridges.

Legs.—Femur I with granules arranged as in fig. 2, *d*, those of the remaining legs smooth. Calcaneus only a little less than twice as long as astragalus in metatarsi I and II; tarsal segments 3 : 5 : 4 : 4.

Dimensions.—Length of body 3·7 mm., pedipalp 4·8 mm.

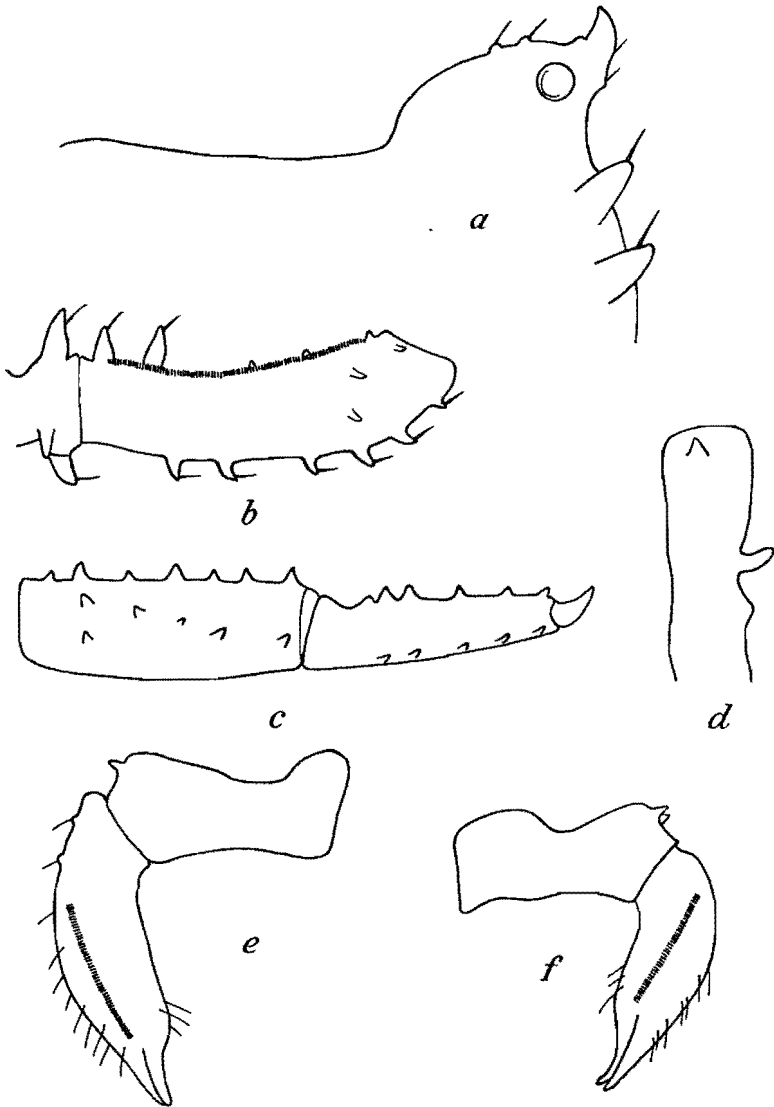
Types, 2 ♂♂, Compensation Beach, North Coast, Natal.

Other specimens, 1 ♂, 3 ♀♀ (?) from the same locality. The teeth on free tergite III, the process on the basal segment of the chelicera, and the large tooth on the dorsal surface of the trochanter of the palp are evidently sexual characters, as in three of the six specimens collected at this locality these structures are much reduced. I take these three specimens to be either immature males or mature females. The type-specimen of the genus from Pietermaritzburg described by me as *Cryptobunus setifemur* in 'Ann. S. Afr. Mus.', vol. xxix, Pt. 2, p. 396, is undoubtedly a female.

Cryptobunus silvicolus *n. sp.* Text-fig. 3, *a-f*.

MALE.—Colour.—Dorsal surface yellow-brown with variegated black markings; ventral surface with coxæ yellow, sternites yellow-brown; palps and chelicerae yellow with fine

TEXT-FIG. 3.



Cryptobunus silvicolus n. sp. ♂. a. Ocular tubercle. b. Femur of palp from inner side. c. Tibia, tarsus of palp from inner side. d. Segment I of chelicera from above. e. Chelicera from inner side. ♀. f. Chelicera from inner side.

reticulate black markings; legs brown with reticulate black markings.

Dorsal Surface.—Anterior margin of carapace with 2 large conical granules on each side of the ocular tubercle; ocular tubercle as in fig. 3, *a*, seen from the side; dorsal scute with a smooth matt background but not shiny, without transverse grooves, the areas represented by 5 rows of obsolete granules, the first and fourth consisting of only 2 granules, the second, third, and fifth, of about 6 each; the region between the first pair of granules and the ocular tubercle distinctly raised in the middle; free tergites I–III with a single transverse row of 5–7 distinct conical granules much larger than those of the dorsal scute, the granules of I smaller than those of II and III, the granules of III more widely separated than those of II; no large projecting tooth-like granules on tergite III like those of *C. maritimus*.

Ventral Surface.—Coxæ smooth and shiny, I with a large, blunt, incompletely divided tubercle on its anterior distal margin, a much smaller, sharp, conical tooth proximal to and well separated from it; coxa II on its distal posterior margin with a row of 5 large club-shaped granules decreasing successively in size proximally; sternites entirely smooth.

Pedipalp.—Trochanter and femur as in fig. 3, *b*, seen from the inner side; trochanter with two dorsal teeth, the outer one considerably smaller than the inner one; femur with 3 small teeth on its inner distal surface; patella unarmed; tibia and tarsus seen from the inner side as in fig. 3, *c*; ventral surface of tibia between the two lateral rows of granules with very fine, hardly discernible granulation.

Chelicera.—Segment I seen from above with a large tooth in the middle of its outer surface (fig. 3, *d*); segments I and II seen from the inner side as in fig. 3, *e*, II with a row of minute ridges.

Legs.—Femur I unarmed, a few granules along its inferior margin as in the remaining femora; calcaneus two-thirds the length of astragalus in metatarsus I, a half in metatarsus II; tarsal segments 3 : 5–7 : 4 : 4.

Dimensions.—Length of body 3.6 mm., pedipalp 5.2 mm.

FEMALE.—Resembling the ♂ in all respects except the following: Pedipalps much shorter and smaller, femur laterally compressed, the teeth on the ventral surface smaller and the largest of these not differing so markedly from the smallest in size. Segment I of the chelicera without a large tooth in the middle of the outer surface, its dorsal distal apex with 2 teeth a little larger than the single one of the ♂ (fig. 3, *f*). Tarsal segments 3 : 5 : 4 : 4.

Dimensions.—Length of body 3 mm., pedipalp 3.2 mm.

Types, 2 ♂♂, 5 ♀♀, Karkloof, near Howick, Natal.

Cryptobunus durbanicus *n. sp.* Text-fig. 4, *a-d*.

MALE.—Colour.—Dorsal surface yellow-brown with symmetrical blackish markings; ventral surface yellow with some blackish symmetrical markings; palps yellow, chelicerae yellow with some blackish markings; legs yellow-brown with black reticulate markings.

Dorsal Surface.—Anterior margin of carapace with 7 large conical granules, the central one in front of the ocular tubercle; ocular tubercle seen from the side as in fig. 4, *a*; dorsal scute shagreened, smooth except for 4 pairs of small, rounded, but fairly distinct granules; posterior margin of dorsal scute with a row of 5–7 similar but slightly larger granules in the middle; free tergites I–III each with a transverse row of 6–9 granules in the middle, becoming successively a little larger in each segment.

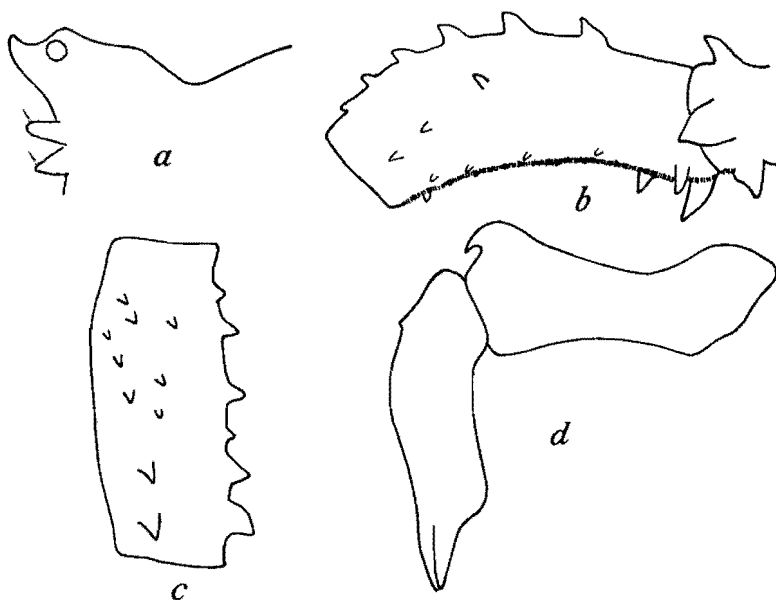
Ventral Surface.—Coxae shiny and smooth, anterior distal margin of coxa I with 2 minute pointed teeth; sternites shagreened but without granules.

Pedipalp.—Trochanter and femur seen from inner side as in fig. 4, *b*; trochanter with a moderate tooth above and below, the ventral tooth very broad at its base, its anterior slope with a strong sigmoid curve, a third large swollen tooth projecting inwards and forwards from its inner side; tibia not long and slender, deeper than the femur (fig. 4, *c*), the largest teeth of its ventral surface (at the distal outer apex) very little smaller than

the largest teeth of the femur ; tarsus with some large triangular teeth at the sides of its ventral surface.

Chelicera as in fig. 4, *d*, seen from the outer side, unarmed except for a small sharp curved tooth at the dorsal apex of segment I ; segment II on its inner surface with a straight row of about 38 minute ridges.

TEXT-FIG. 4.



Cryptobunus durbanicus *n. sp.* ♂. *a.* Ocular tubercle. *b.* Femur of palp from inner side. *c.* Tibia of palp from inner side. *d.* Chelicera from outer side.

Legs.—Femur I with a few granules, similar to those of the remaining legs ; calcaneus of metatarsus I about $1\frac{1}{2}$ times, of metatarsus II a little less than twice as long as the astragalus ; calcaneus only a little shorter than astragalus in metatarsus III ; tarsal segments 3 : 5 : 4 : 4.

Dimensions.—Length of body 3 mm., pedipalp 4.4 mm.

FEMALE.—Differing from the ♂ in the following respects : Pedipalp shorter than in the ♂. Trochanter with a large ventral

tooth as long as the basal ventral tooth of the femur but much broader at its base, dorsal surface with a much smaller tooth; femur shorter and deeper than in the ♂, its dorsal surface with 5 distinct moderate teeth, the four distal ones subequal, the fifth smaller; ventral surface of femur on the outer side with a fairly large basal tooth and 4 other more distal smaller ones, these, however, larger than the corresponding ones in the ♂; tibia not deeper than the femur, armed as in the ♂; patella and tarsus as in the ♂. Chelicera with 2 small teeth at the distal dorsal apex of segment I. Calcaneus $1\frac{1}{4}$ times as long as astragalus in metatarsus I, $1\frac{1}{2}$ times as long in metatarsus II, two-thirds as long in III.

Dimensions.—Length of body 3.2 mm., pedipalp 3 mm.

Type, 1 ♂, The Bluff, Durban. Additional material, 2 ♂♂, 1 ♀ from the same locality.

Cryptobunus unidentatus n. sp. Text-fig. 5, a-e.

MALE.—Colour.—Dorsal surface and legs yellow-brown, with symmetrical blackish markings; ventral surface with sternites yellow-brown, coxæ yellow; pedipalps and chelicerae yellow, legs yellow-brown.

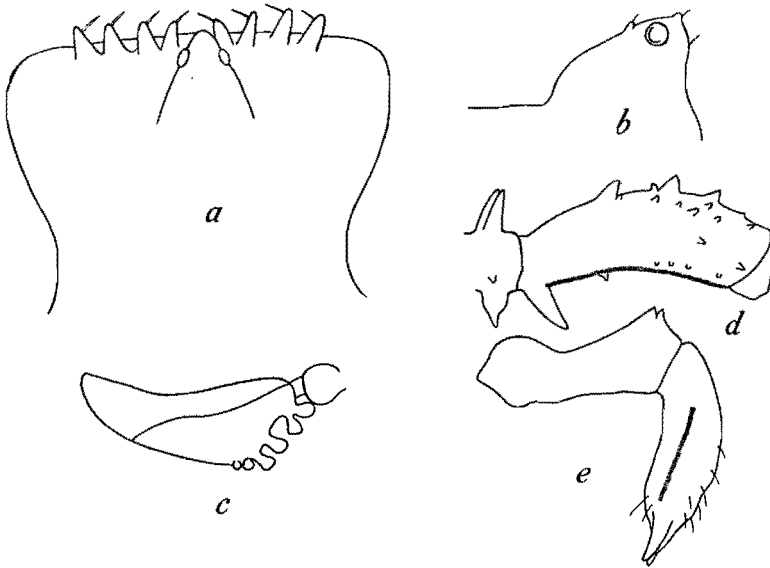
Dorsal Surface.—Anterior margin of carapace as in fig. 5, a; ocular tubercle as in fig. 5, b, seen from the side (conical granules of the anterior margin of carapace not shown); general background of dorsal surface smooth, matt, areas I-IV represented by transverse rows of minute granules, I with 4, II 4-6, III 6, IV 4; area V with a row of 7-9 similar granules; free tergites I-III each with a single row of about 6 similar granules.

Ventral Surface.—Coxæ smooth and shiny, anterior distal margin of coxa I with a large blunt tubercle, a very much smaller toothlike granule in the middle of the segment, coxa II with a row of 5 club-shaped granules along its distal posterior margin, the most distal of these bifid (fig. 5, c); sternites smooth or with a transverse row of extremely minute seta-tipped granules.

Pedipalp.—Trochanter and femur as in fig. 5, d, seen from the inner side, trochanter with 2 large, equal-sized teeth on its dorsal surface; patella with a strip of minute granules below

on the outer side ; tibia with an irregular double row of granules along its inner side, a fairly regular row of about 7 smaller granules along its outer side, a strip of fine granulation in the middle of its ventral surface ; tarsus ventrally with a saw-like

TEXT-FIG. 5.



Cryptobunus unidentatus n. sp. ♂. a. Anterior margin of carapace. b. Ocular tubercle. c. Coxa II from below. d. Femur of palp from inner side. e. Chelicera from inner side.

row of small teeth along its outer side, the inner side with 4 much larger, well separated, triangular teeth, tipped with very stout setæ.

Chelicera.—Segment I with a tooth on the outer surface in the middle similar to that of *C. silvicolus*, in addition a much smaller tubercle anterior to it, its upper distal edge with 2 distinct teeth (fig. 5, e) ; segment II with the usual row of ridges on its inner surface.

Legs.—Granulation of femur I not more pronounced than that of remaining femora ; calcaneus of metatarsi I and II only

a little less than $1\frac{1}{2}$ times as long as astragalus, of metatarsus III two-thirds the length of astragalus, of metatarsus IV much shorter than astragalus; tarsal segments 3 : 5 : 4 : 4.

Dimensions.—Length of body 4 mm., pedipalp 5.1 mm.

FEMALE.—Colour as in ♂.

Dorsal Surface.—The 8 conical granules of the anterior margin of the carapace smaller than in the ♂, the two central ones sometimes considerably smaller; granules of areas I–IV increasing in size posteriorly, those of area V quite distinct; granules of free tergites I–III much larger than those of the dorsal scute, a little longer than broad.

Pedipalp.—Trochanter with only 1 tooth dorsally, this only half as long as the large basal tooth of the ventral surface of the femur; femur with 6 fairly large, equal-sized teeth on its dorsal surface, ventral surface on the outer side with 5 teeth besides the large basal tooth, which is much larger than the remaining teeth, a row of 3–4 fairly large teeth on the inner side of the distal half; teeth along the sides of tibia larger than those of the ♂. Otherwise as in the ♂.

Chelicera.—Segment I with a large tubercle in the middle of the outer surface, directed more downwards than outwards; 1 tooth at its distal upper apex.

Legs.—Calcaneus of metatarsi I and II two-thirds, of III one-third the length of astragalus; tarsal segments 3 : 5 : 4 : 4.

Dimensions.—Length of body 3.4 mm., pedipalp 3.6 mm.

Types, 1 ♂, 4 ♀♀, from indigenous forest, Umkomanzi River, near Bulwer, Natal.

KEY TO THE SPECIES OF CRYPTOBUNUS, MALES.

1. Calcaneus shorter than astragalus in metatarsi I and II *silvicolus*.
- Calcaneus much longer than astragalus in these segments 2.
2. Segment I of chelicera dorsally with a very large upright process *maritimus*
- Segment I of chelicera without such a process 3.
3. Trochanter of palp with 1 tooth on dorsal surface, a large swollen tooth on its inner surface *durbanicus*.
- Trochanter of palp with 2 large equal-sized teeth on dorsal surface, without a large tooth on its inner surface *unidentatus*.

C. setifemur Lawrence, which is known from a single ♀, is not included in this key.

Gen. *Monomontia* Lawrence.

Monomontia rugosa n. sp. Text-fig. 6, *a-e*.

MALE.—Colour.—Dorsal surface in general blackish-brown, carapace yellow-brown with blackish symmetrical markings; ventral surface with coxæ yellow, sternites blackish-brown, lighter in the middle of the body; pedipalps and chelicerae yellow with a few black reticulate markings, legs blackish-brown.

Dorsal Surface.—Anterior margin of carapace with 7–8 strong conical granules on each side of the ocular tubercle; ocular tubercle as in fig. 6, *a*, seen from the side; whole of dorsal scute irregularly covered with small granules filling up the spaces between the larger ones; areas I–V with a rather irregular transverse row of conical granules in the middle of each area, their margins defined by transverse rows of much smaller granules; area V without a posterior row of minute granules, the transverse row of large granules well separated from the posterior border of the dorsal scute; free tergite I with 8–10, II with about 8, III with 6–7 large conical granules in the middle, otherwise without granules.

Ventral surface.—Coxæ smooth and shiny with a few low granules near their distal apices; coxa I with 2 large conical, well-separated granules (the distal one the larger) on its anterior distal margin; some much smaller granules proximally to these; sternites each with a transverse irregular row of moderate round granules.

Pedipalp.—Femur and trochanter as in fig. 6, *b*, seen from the inner side; femur with a row of 6 teeth on its outer ventral surface varying considerably in height, a parallel row on the inner side consisting of 7–8 low rounded shiny granules varying very little in height; between these rows of granules the usual strip of fine granulation on the ventral surface of femur is almost absent; patella and tibia as in fig. 6, *c*, seen from below; tarsus with a row of 3–4 sharp teeth on each side ventrally, some smaller teeth mesially to them.

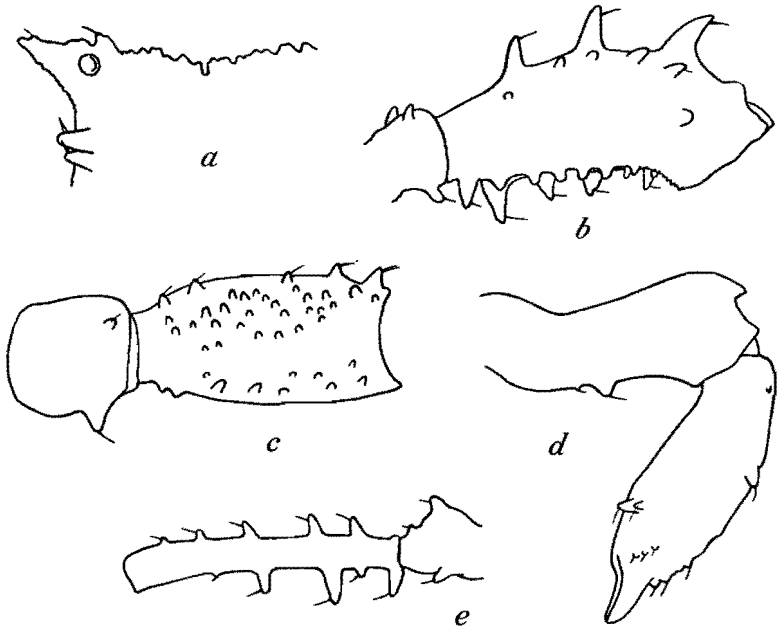
Chelicera as in fig. 6, *d*, seen from the inner side.

Legs.—Femur I armed as in fig. 6, *e*; tarsal segments 3 : 3 : 4 : 4.

Dimensions.—Length of body 2.6 mm., pedipalp 3.6 mm.

FEMALE.—Resembling the ♂ in all respects except the following: Ocular tubercle much shorter than in ♂, the granules of

TEXT-FIG. 6.



Monomontia rugosa n. sp. ♂. *a*. Ocular tubercle. *b*. Femur of palp from inner side. *c*. Patella-tibia of palp from below. *d*. Chelicera from inner side. *e*. Femur of leg I.

the anterior margin of the carapace less pronounced. Granulation of the dorsum of body and armature of pedipalps and chelicerae very little different from that of the ♂.

Dimensions.—Length of body 2.6 mm., pedipalp 2.8 mm.

Types, 43 ♂♂ and ♀♀, Hluhluwe Game Reserve, Zululand, under stones in more or less open country.

Gen. *Græmontia* Lawrence.*Græmontia natalensis* n. sp. Text-fig. 7, a-g.

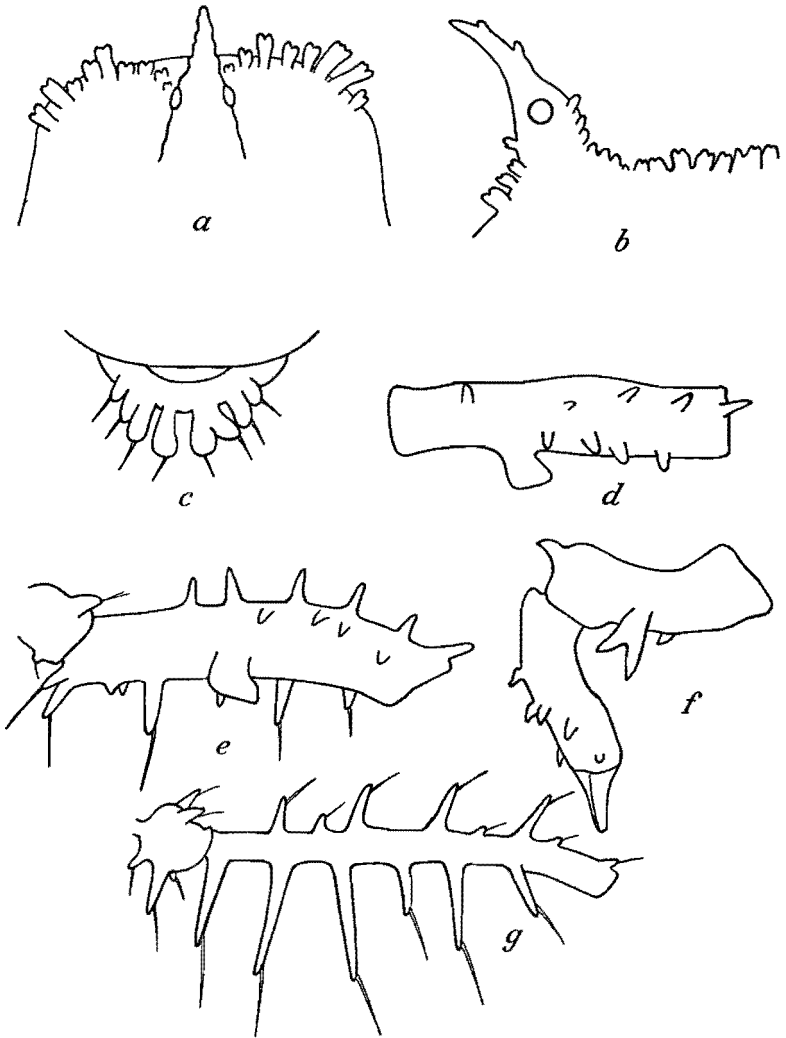
MALE.—Colour.—Dorsal surface blackish-brown, the dorsal scute a little lighter, with blackish symmetrical markings; ventral surface, especially the coxæ, lighter; pedipalps and chelicerae yellow; legs blackish-brown.

Dorsal Surface.—Anterior margin of carapace (fig. 7, a) with 8–10 large club-shaped granules of varying size, at least three of them considerably larger than the remainder; ocular tubercle as in fig. 7, b, seen from the side; dorsal scute with rows of granules arranged symmetrically on the area posterior to the ocular tubercle exactly as in *G. bifidens* ('Ann. S. Afr. Mus.', vol. xxix, Pt. 2, p. 414, fig. 37, c); areas I–IV each with a transverse irregular row of granules, 2–4 of the middle ones enlarged, the granules of this row irregularly duplicated in the middle in area IV; area V with an anterior row of small round granules and a posterior row of 6–8 large conical granules; free tergites I–III with 2 rows of granules as in area V, but the difference in the size of the granules of the two rows more marked, the conical granules long, well-spaced, slightly swollen at their tips, and 5–6 in number, III with the anterior row of small round granules duplicated.

Ventral Surface.—Coxæ coarsely granular, coxa I with a tubercle shaped like an axe-head on its anterior distal margin; sternites with a transverse row of minute granules; anal operculum with a horizontal row of backwardly projecting granules, these very large, club-shaped, and visible as a comb-like structure from above, consisting of 4 granules on each side, decreasing progressively in size and separated by a gap in the middle (fig. 7, c, seen from below).

Pedipalp.—Trochanter and femur as in fig. 7, e, seen from the inner side, femur with a large blunt tubercle in the middle of the inner side (fig. 7, e, and seen from above, fig. 7, d); remaining segments of palp with large conical spines similar to those of *G. bifidens* (fig. 37e, loc. cit.).

TEXT-FIG. 7.



Grammontia natalensis n. sp. ♂. a. Anterior margin of carapace. b. Ocular tubercle. c. Anal operculum from below. d. Femur of palp from above. e. The same from inner side. f. Chelicera from inner side. g. Femur of leg I.

Chelicera as in fig. 7, *f*, seen from the inner side, segment I with a very large bifid tooth directed downwards and slightly inwards, segment II with a number of strong sharp teeth irregularly arranged on its anterior surface.

Legs.—Femur I armed as in fig. 7, *g*, remaining femora unarmed; tarsal segments 3 : 6 : 4 : 4.

Dimensions.—Length of body 3 mm., pedipalp 4 mm.

FEMALE.—Differing from the ♂ in the following respects: General colouring a little darker. Anterior margin of carapace with a row of smaller, more regularly arranged granules, these not varying much in size; granules of areas I–IV more numerous and less regular. Coxa I without a large tubercle on its anterior distal margin, but with a row of 3 conical granules, the most distal one bifid at its apex. Anal operculum without very large conical granules, but with one or two rows of enlarged granules. Pedipalp femur lacking a large tubercle on its inner surface. Segment I of chelicerae without a large bifid tooth, segment II smooth with only a few low shiny granules on its anterior surface. Femur of leg I armed as in the ♂. Tarsal segments 3 : 6 : 4 : 4.

Dimensions.—Length of body 2.6 mm., pedipalp 2.5 mm.

The secondary sexual characters in this species seem to be (*a*) the secondary armature of the pedipalp, (*b*) the secondary armature of the basal segment of the chelicerae, (*c*) the spination of the anal operculum. The spines on the femur of leg I, like those of other Triænonychinid genera, do not constitute a sexual character, there being no difference between the sexes in this respect.

Types, 1 ♂, 1 ♀, from indigenous forest, Umgeni Poort, Nottingham Road, Natal.

Gen. *Roewerania* *Lawrence*.

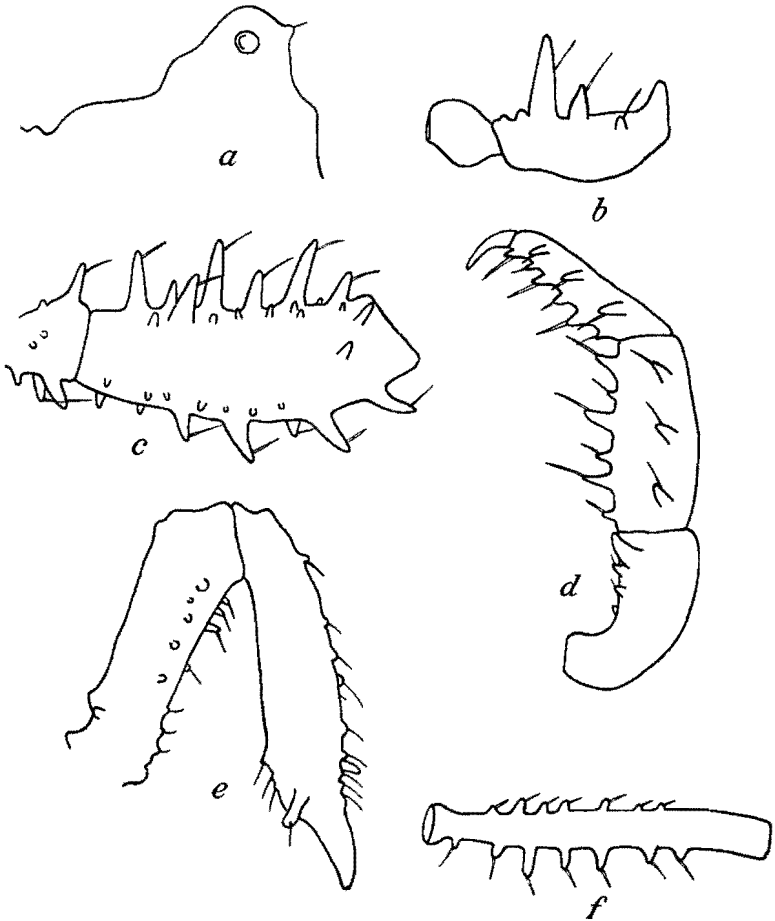
Roewerania natalensis *n. sp.* Text-fig. 8, *a-f*.

MALE.—Colour.—Body and appendages brownish-yellow with a few blackish markings.

Dorsal Surface.—Background of dorsal surface covered with fine matt granulation; anterior margin of carapace with

4 small granules forming a rather irregular row ; ocular tubercle as in fig. 8, *a*, seen from the side ; dorsal scute without transverse grooves, areas I-IV and free tergites with rows consisting of a few obsolete granules in the middle.

TEXT-FIG. 8.



Roewerania natalensis n. sp. ♂. *a*. Ocular tubercle. *b*. Coxa I from below. *c*. Femur of palp from inner side. *d*. Patella-tarsus of palp from inner side. *e*. Chelicera from inner side. *f*. Femur of leg I.

Ventral Surface.—Coxæ and sternites completely covered with fine matt granulation ; coxa I on its anterior distal margin with a long, pointed, tooth-like tubercle (fig. 8, *b*, seen from below); this tubercle about two-thirds the length of coxa I, directed forwards and easily visible from the dorsal aspect ; proximal to but well separated from it a much smaller tooth, less than half the length of the larger one, still more proximally a small tooth-like granule placed further from the medium-sized tooth than the latter is from the large distal tooth.

Pedipalp.—Trochanter differing from that of *R. lignicola* ('Ann. S. Afr. Mus.', vol. xxx, Pt. 4, p. 573, figs. 14, *b*, *c*) in being quite normal and no longer than in other genera of *Triænonychinæ* ; femur and trochanter armed as in fig. 8, *c*, seen from the inner side ; remaining segments of palp as in fig. 8, *d*, seen from the inner side.

Chelicera.—As in fig. 8, *e*, seen from the inner side, both segments very long ; an outstanding process on the inner side of segment II near the base of the claw ; anterior surface of segment II with a sharp tooth near its distal apex.

Legs.—Femur I with a row of enlarged blunt or conical granules on its under-surface (fig. 8, *f*), these distinctly larger than the granules of the remaining femora ; tarsal segments 3 : 7-8 : 4 : 4.

Dimensions.—Length of body 2·2 mm., pedipalp 2·3 mm.

Type, 1 ♂, from indigenous forest, Umkomanzi River, near Bulwer, Natal. Additional material, 3 ♀♀ or immature ♂♂ from the same locality.

I presume that the largest specimen of the four in the Museum collection is a ♂ on account of the armature of the anterior margin of coxa I and that of segment II of the chelicerae, both of which appear to be sexual characters. The three specimens in which the sex is doubtful are much smaller than the one on which the description is based.

Lispomontia n. gen.

Dorsal scute smooth, without transverse grooves dividing it into areas ; coxa I with a single large conical tooth on its

anterior margin; stigmata-bearing sternite with the stigmata not exposed.

Pedipalp short, the segments short and deep, femur with a strip of fine granulation on its ventral surface. Chelicerae normal except for segment II, which has a row of minute raised chitinous ridges on its inner surface. Femur I of legs unarmed, calcaneus of metatarsi I and II much shorter than the astragalus; median prong of claws of legs III and IV longer and stouter than the lateral prongs; tarsal segments I: 2, II: 2, III: 3, IV: 3. This genus resembles *Ceratomontia* and *Biacumontia* in having 2 segments on tarsus I and 3 segments on each of tarsi III and IV, but differs from both in having only 2 segments on tarsus II. It further resembles *Biacumontia* in having a row of fine ridges on the inner surface of segment II of the chelicera.

Lispomontia coxidens n. sp. Text-fig. 9, *a-d*.

Colour.—Dorsal surface of body light brown to yellow with black symmetrical markings; ventral surface with the coxæ yellow, sternites orange; palps and chelicerae yellow; legs yellow with black reticulate markings.

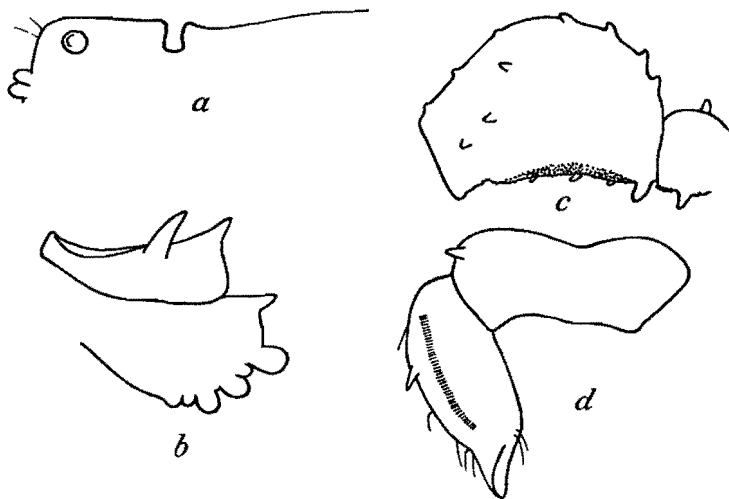
Dorsal Surface.—Anterior margin of carapace with a row of 16–20 small round club-shaped granules; ocular tubercle low, without a process or spine (fig. 9, *a*, seen from the side); dorsal scute smooth, without granules except posteriorly in the middle where there are indications of 2 or more pairs of obsolete granules; free tergites smooth or with a few minute obsolete granules.

Ventral Surface.—Coxa I (fig. 9, *b*) smooth, its anterior distal apex ending in a strong spine; a very large sharp tooth on its anterior margin a little distal to the middle; coxa II with double row of about 9 strong teeth in its proximal three-fourths, these considerably smaller than the single large tooth of coxa I; coxa III with 3–5 tooth-like granules in the middle considerably smaller than the teeth of coxa II, otherwise smooth; coxa IV unarmed, finely shagreened; genital operculum smooth

and shiny; openings of the stigmata bridged over by large granules; sternites smooth.

Pedipalp.—The whole segment short and stout; femur very deep and thickset (fig. 9, *c*), armed with minute teeth; tibia with

TEXT-FIG. 9.



Lispomontia coxidens *n. sp.* *a.* Ocular tubercle. *b.* Coxæ I and II from below. *c.* Femur of palp from inner side. *d.* Chelicera from inner side.

3-4 stout teeth on each side inferiorly; tarsus similarly with 3-4 triangular teeth a little larger than those of the tibia.

Chelicera seen from the inner side as in fig. 9, *d*, resembling those of the genera *Cryptobunus* and *Biacumontia* in possessing a row of 28-30 minute short ridges on the outer surface of segment II.

Legs.—Femur I unarmed, similar to those of the remaining legs; tarsal segments 2 : 2 : 3 : 3.

Dimensions.—Length of body 2.4 mm., pedipalp 2.5 mm.

Types, 7 specimens (sex ?), Umgeni Poort, Nottingham Road, Natal.

Subfam. ADÆINÆ *Pocock*.Gen. *Larifugella* *Lawrence*.*Larifugella zuluana* *n. sp.* Text-fig. 10, *a-f*.

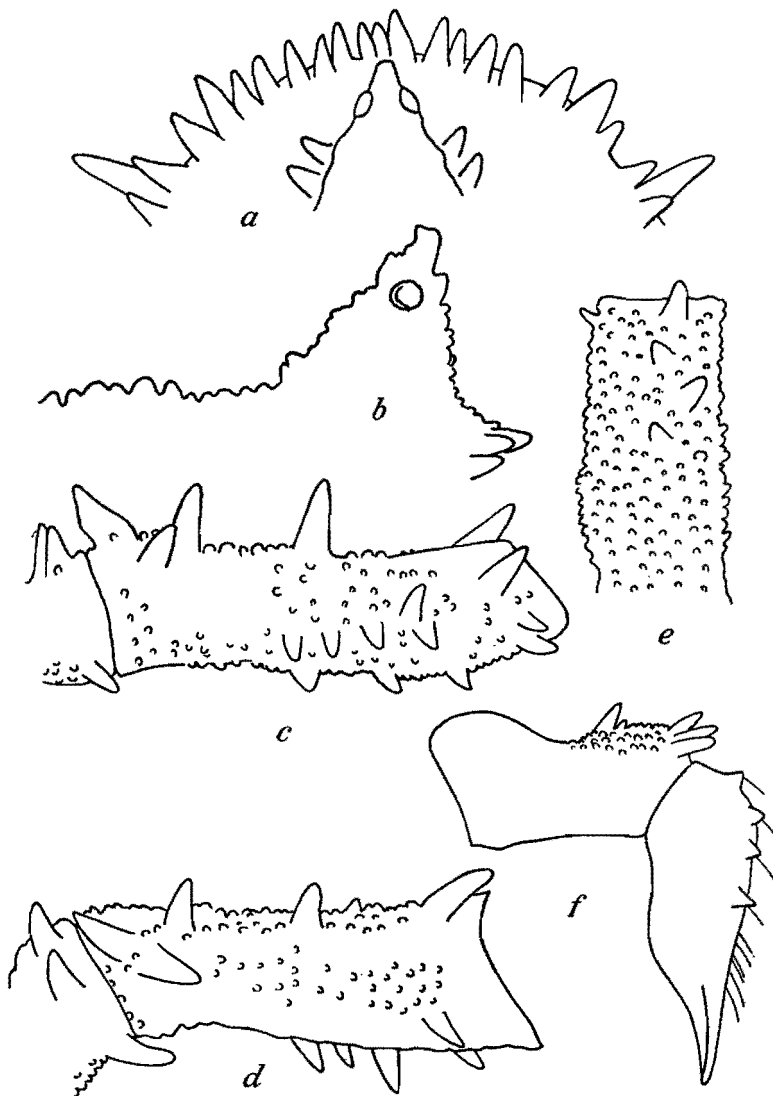
MALE.—Colour.—The whole animal uniformly earth-brown except smooth areas of the dorsal scute, which are lighter.

Dorsal Surface.—Anterior margin of carapace with 20-22 large conical teeth, one of these at each antero-lateral angle of the carapace outstanding, almost twice as large as the remaining teeth (fig. 10, *a*); ocular tubercle as in fig. 10, *b*, seen from the side; dorsal scute differing from other species of *Larifugella* in being divided on each side into 5 more or less quadrate areas by symmetrically arranged transverse rows of granules; areas I-IV with a pair of tubercles in the middle, these composed of a cluster of minute granules surrounding a large conical tooth; area V with a transverse row of 5-7 large conical granules: posterior to these a strip of rather irregularly disposed minute granules immediately bordering on the posterior edge of the dorsal scute; free tergites with a row of 6-8 large conical granules in the middle, their anterior and posterior margins bordered by a row of minute granules, the anterior row regular, the posterior one irregular and often duplicated.

Ventral Surface.—Coxæ densely and evenly covered with small round granules, some of those on coxæ I and II enlarged into conical granules; stigmata-bearing sternite with a row of 4 round granules, distinctly larger than those on the coxæ, below the genital operculum on each side; openings of the stigmata clearly exposed, not bridged over by granules; sternite I with a transverse strip of close-set granules in its anterior half; remaining sternites with narrower strips of more scattered granules.

Pedipalp.—Trochanter and femur armed as in fig. 10, *c*, seen from the inner side, fig. 10, *d*, seen from below; whole of pedipalp covered evenly though not densely with small round granules, except the tarsus, in which the entire ventral surface and distal half of the superior surface are smooth and shiny;

TEXT-FIG. 10.



Larifugella zuluana n. sp. ♂. a. Anterior margin of carapace. b. Ocular tubercle. c. Femur of palp from inner side. d. The same from below. e. Tibia of palp from inner side. f. Chelicera from inner side.

femur with fewer granules on its ventral surface than elsewhere ; tibia not swollen at its base inferiorly (fig. 10, *e*, seen from inner side), with a row of enlarged granules at the sides (4 on the inner, 3 on the outer) ; tarsus with 3 triangular teeth on each side.

Chelicera as in fig. 10, *f*, seen from the inner side, the 2-3 teeth at the distal upper apex of segment I not very large.

Legs.—Femur I with a few conical granules above, otherwise unarmed ; tarsal segments 4 : 22 : 4 : 4 ; terminal section of tarsus II with 5 segments ; tarsus in the smaller of the 2 ♂♂ with 17-18 segments.

Dimensions.—Length of body 7.3 mm., pedipalp 7 mm.

FEMALE.—Granulation of dorsal surface as in ♂, the ocular tubercle, however, much lower and truncate apically, surmounted with 2-3 large granules. Coxæ even more densely covered with granules than in the ♂. Femur of pedipalp much shorter and armed ventrally with much smaller and less regular teeth than in the ♂ ; patella coarsely granular, with 2 conical granules at its inner ventral apex ; tibia coarsely granular except the ventral surface, which is almost smooth, bearing 3 large conical granules on each side larger than those of the ♂ ; tarsus as in the ♂.

Chelicera.—Segment I with none or only slightly enlarged granules at its upper distal apex ; segment II with 1-2 weak granules on the inner side of its anterior surface.

Legs.—Tarsal segments 4 : 18-19 : 4 : 4 ; of the 11 remaining females the number of segments of tarsus II varies, the lowest number in any specimen being 15, the highest 22 ; the average number in these 11 females is 19. The number of segments of tarsus II may be different in the same individual ; thus in two females the tarsus of leg II had 17 segments on one side of the body and 19 on the other ; the individuals with fewer tarsal segments appear to be less mature specimens than those with a larger number. In the same way the number of segments in the terminal section of tarsus II is very variable ; in the 12 females under consideration two have 3 segments on each side, five have 4, and one has 5 ; of the remainder two have 3

on the one side, 4 on the other, and two have 4 on the one side, 5 on the other; the average is 4. These variations clearly show that neither the exact number of total segments of tarsus II, nor the number of segments in the terminal section of tarsus II, can be regarded as specific characters, much less as generic ones.

Dimensions.—Length of body 7.5 mm., pedipalp 4 mm.

Types, 2 ♂♂, 12 ♀♀, Nkandhla Forest, Zululand.

Additional material, 9 ♂♂, 28 ♀♀ from the same locality; 2 ♂♂, 4 ♀♀, Kosi Bay, Zululand.

KEY TO THE SPECIES OF *LARIFUGELLA*, MALES.

1. Pedipalps greatly exceeding the body in length longipalpis.
- Pedipalps shorter than the body 2.
2. Tibia of pedipalp distinctly swollen inferiorly at its base natalensis.
- Tibia of pedipalp not swollen inferiorly at its base 3.
3. Dorsal scute covered irregularly with small granules afra.
- Dorsal scute with transverse rows of small granules forming smooth quadrate areas on each side zuluana.

Gen. *Adæulum* *Roewer*.

Adæulum robustum *n. sp.* Text-fig. 11, *a-e*.

MALE.—Colour.—Uniformly earth-brown.

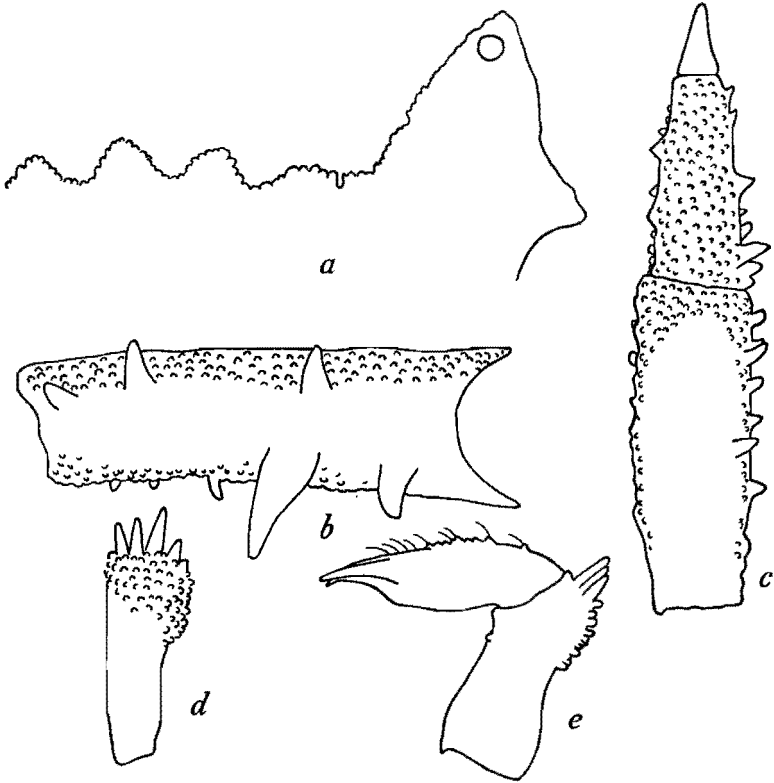
Dorsal Surface.—Anterior margin of carapace with a few small granules; ocular tubercle as in fig. 11, *a*, seen from the side, high and more or less pointed, its anterior surface almost vertical. Areas I–IV each with a pair of low rounded tubercles composed of a cluster of small granules surmounted by a larger granule; posterior margin of area V and free tergites I–III with a transverse row of cylindrical granules with slightly swollen tips springing from a basal cluster of smaller rounded granules; between these some minute irregularly disposed granules.

Ventral Surface.—Coxæ entirely covered with minute granules; genital operculum with a few conical granules;

sternites without granules but their appearance under the microscope rough and leathery.

Pedipalp.—Trochanter with 2 teeth on its ventral surface,

TEXT-FIG. 11.



Adæulum robustum n. sp. ♂. *a.* Ocular tubercle. *b.* Femur of palp from below. *c.* Tibia, tarsus of palp from below. *d.* Segment I of chelicera from above. *e.* Chelicera from inner side.

the inner one larger and incompletely divided; femur as in fig. 11, *b*, seen from below; 2 teeth on the inner side of its ventral surface, the less distal one situated just anterior to the middle of the segment, very large, conical, directed considerably

more inwards than downwards; the second tooth half the length of the larger tooth and placed half-way between it and the apex of the femur, directed slightly more downwards than the larger tooth; outer side of femur ventrally with 3 stout conical teeth, the middle one considerably nearer to the proximal than to the distal one, which is situated at a point just opposite the large conical tooth of the inner margin; these 3 teeth subequal and less than half the length of the large conical tooth; superior surface of femur without enlarged teeth or granules; patella unarmed; tibia and tarsus as in fig. 11, *c*, seen from below; a few tooth-like granules along their inner sides, otherwise practically smooth.

Chelicera as in fig. 11, *e*, seen from the inner side; segment I as in fig. 11, *d*, seen from above; a row of 2-3 conical granules at its distal upper apex (in the complementary segment with 2 large equal-sized granules and 2 small ones).

Legs.—Femur I without an armature of granules; tarsal segments I: 5, II: 13, III: 4, IV: 4. The number of segments for tarsus I is probably abnormal, as in 4 other male specimens from Pietermaritzburg and Karkloof, Nottingham Road, the number is 4.

Dimensions.—Length of body 8.4 mm., pedipalp 11 mm.

Type, 1 ♂ from the Botanic Gardens, Pietermaritzburg. Additional material, 3 ♂♂, Karkloof, Nottingham Road; 1 ♂, Town Bush, Pietermaritzburg.

This species is related to *Adæulum bicolor*, in the structure of the paired clusters of granules on the dorsal scute. The armature of the pedipalp also resembles that of *bicolor*, differing from it in having a second smaller tooth in addition to the large conical tooth on the inner ventral surface; this second tooth between the large conical tooth and the apex of the femur is absent in *bicolor*.