UNTIL recently the Opilionid fauna of the Transvaal was very imperfectly known, consisting of seven species belonging to two families and two genera. The list as given below now consists of twenty-seven species divided among five families. All three suborders and all the families of Opiliones, occurring in southern Africa, are represented in it.

Although the increase in the number of new forms is considerable, viz. two genera and seventeen species, areas such as the western Transvaal and low veld regions such as the Kruger Park have hardly yet been explored.

Previously no species of Triaenonychidae, the dominant family of the Cape Province and Natal, had been recorded from the Transvaal; the discovery of ten species of this family and two of the Sironidae, underlines the relationship with the southern faunas, especially that of Natal–Zululand, since, although none of the species are common to both regions, five of the seven genera are shared between them; all these genera are almost exclusively montane and one is peculiar to the mountainous regions of the eastern Transvaal.

Most of the recent additions to the fauna have been taken in montane forests at fairly considerable altitudes (4000–8000 ft.). They are all based on material collected at the following localities by Mr N. Leleup in August–September 1960, and by Dr and Mrs R. F. Lawrence, in February–March 1960.

Soutpansberg District: Louis Trichardt, Entabeni.
Pietersburg District: Woodbush and Magoebaskloof near Tzaneen; Malta Forest near Ofcolaca.
Pilgrim’s Rest District: Mariepskop and Graskop.
Barberton District: forest near Pigg’s peak.
The Kruger National Park.

In addition a new genus and two new species of Phalangodidae have been described from the Transvaal (S. Afr. Anim. Life, 8, 1961) by Dr H. Kauri of Lund, Sweden, while also recording a Natal species of Triaenonychidae, Monomontia rugosa, from this province.

LIST OF THE SPECIES
Suborder CYPHOPHTHALMI
Family SIRONIDAE
Purcellia transvaalica sp.nov.
P. peregrinator sp.nov.
Suborder LANIATORES

Family PHALANGIDIDAE

Metabiantes zuluanus Lawrence
M. varius Kauri
M. barbertonensis sp.nov.
M. teres sp.nov.
M. perustus sp.nov.
Cryptobiantes protector Kauri

Family ASSAMIIDAE

Randilella transvaalensis gen.nov. et sp.
Lawrenciola rhodesiana (Lawrence)

Family TRIAENONYCHIDAE

Adaeulum humifer sp.nov.
Larifugella valida sp.nov.
Heteradaeum exiguum gen. et sp.nov.
Graemontia bicornigera sp.nov.
Austronuncia leleupi sp.nov.
Monomontia cristiceps sp.nov.
M. versicolor sp.nov.
M. transvaalica sp.nov.
M. aquilonaris sp.nov.
M. rugosa Lawrence
Austromontia formosa sp.nov.

Suborder PALPATORES

Family PHALANGIDAE

Rhampsinitus nubicolus sp.nov.
R. transvaalicus Lawrence
R. flavidus Lawrence
R. ephippiatus Roewer
R. unicolor Lawrence
R. granarius Roewer

Family SIRONIDAE

Genus Purcellia Hans. et Sor.

Purcellia transvaalica sp.nov.
(Fig. 1a-f)

Holotypes 1♂, 1♀; paratypes 1♂, 2♀♀, Hanglip Forest, Louis Trichardt, N. Transvaal, collected N. Leleup, August 1960.

♂ Colour of dorsum deep red, almost black in most specimens, legs and chelicerae distinctly lighter dusky red or reddish brown; odoriferous tubercles yellow brown, much lighter than rest of dorsum, pedipalps yellow; ventral surface similar to dorsum, anal region a little lighter.

Dorsal surface with a close-set uniform covering of small round granules, the posterior segments with some fine fur-like white hairs becoming more numerous on the last segments; odoriferous tubercles placed well inside the lateral
margins of carapace, fairly low, almost round (Fig. 1a). Seen from above (Fig. 1c), and below (Fig. 1d), the abdomen very slightly indented in the middle of its posterior apex.

**Fig. 1.** *Purcellia transvaalica* sp.nov. ♂: a, dorsal surface; b, ventral apex of abdomen, enlarged; c, apex of abdomen from above in profile; d, tarsus IV of ♀; e, the same of the ♂; f, chelicera. *Purcellia peregrinator* sp.nov. ♂: g, tarsus IV.

**Ventral surface** with granulation similar to dorsal surface, only sternite IX smooth and shiny; anal region resembling that of *P. illustrans* but sternite IX much broader at the sides, oval and somewhat convex; tergite IX also quite differently shaped, much wider, a narrowly crescentic band curving round sternite IX at the sides, not deep and subquadrat as in *illustrans*.

**Chelicera** as in Fig. 1f, resembling that of *illustrans* but longer and more slender.
LEGS. Tarsus IV as in Fig. 1e, the distal segment longer than the process-bearing one which is however much deeper; seen from above the basal segment is wider than metatarsus, much wider than the distal segment; tibia IV incrassate dorso-ventrally, much deeper than in the ♀.

DIMENSIONS. Length (without chelicera) 2.9 mm., width 1.7 mm.
♀. Agreeing with the ♂ in colour, size, proportions and granulation; seen from above, apex of abdomen flattened and truncate; seen from below apex flattened to slightly indented; genital opening as in *illustrans*. Tibia IV not incrassate, tarsus a little less than twice as long as metatarsus (Fig. 1d).

DIMENSIONS. Length (without chelicera) 2.9 mm., width 1.9 mm.

The species resembles *illustrans* most closely in size, general structure of the anal region, and in the odoriferous tubercles not projecting laterally as far as the margins of the carapace on each side. It differs in the body being a little longer in proportion to width, thus a little more slender, and markedly in the shape of the sclerites of the anal region. In having the posterior apex of abdomen slightly bifid in the ♀ it agrees with various species, especially *monticola* Lawr. from Champagne Castle, Natal (1939, p. 229), but in reality even in some specimens of *illustrans* the abdomen of the male is slightly bifid seen from below and Hansen & Sorensen’s illustration (1904, fig. li, Pl. IV) of the male type shows the rudiments of such bilobation. In the proportions of the two tarsal segments of leg IV (♂) it also agrees with *monticola*, though not in the shape of the process on the basal segment.

Dr J. A. Rosas Costa (1950) has rightly pointed out the important differences in the male corona analis of *illustrans* on the one hand and the four species from the eastern half of southern Africa on the other; in the former tergite IX is entire, but divided in the latter (as in species of *Rakaia* and *Neopurcellia* in New Zealand, Forster, 1948); there is a resulting displacement of the anal opening backwards to a position at the extreme posterior apex of the abdomen; in *transvaalica*, while tergite IX is entire, the position of the anal opening is intermediate to *illustrans* and the four eastern forms.

I agree with Dr Rosas Costa in regarding the position of the odoriferous tubercles as of secondary importance and neither this character nor the lobate divisions of the abdomen can be properly considered as having generic weight. Further investigations will probably bring to light a series of forms intermediate to the western species *P. illustrans* and the new genus which Rosas Costa has proposed for the eastern group; I think it would be wise to await these discoveries before breaking up the genus *Purcellia*; in the meanwhile it may be noted that *transvaalica* should be allocated to the genus *Purcellia* rather than *Parapurcellia* on the structure of the corona analis; in body size *transvaalica* and *illustrans* are markedly larger than any of the other species.

**Purcellia peregrinato**r sp.nov.

(Fig. 1g)

**Holotype** 1 ♂, Mariepskop Forest, Pilgrims’ Rest District, at 1400 m., collected N. Leleup, August 1960.

This species differs from *P. transvaalica* in the following details:

**Colouring** lighter, reddish brown, legs yellow brown; odoriferous tubercles projecting distinctly beyond the lateral margins of the carapace, less rounded. Body distinctly more slender, longer in proportion to width. Anal opening similar to that of *P. transvaalica*, tergite IX not divided but encircling the anal operculum posteriorly and at the sides.

Leg IV with tarsus IV as in Fig. 1g, differing markedly from that of *trans-
vaalica, the posterior segment longer than the distal one, not deep, the process short, blunt, fairly wide and straight.

**DIMENSIONS.** Length 2.7 mm., width 1.3 mm.

The species resembles silvicola from Zululand in the shape of tarsus IV but the body is much more slender.

**Suborder LANIATORES**

**Family Assamiidae**

**Subfamily Trionyxellinae**

Randilella gen.nov.

(Fig. 2a–e)

Ocular tubercle moderately prominent, with a pair of enlarged granules between the eyes; area I divided by a distinct median groove; areas I–III with a pair of slightly enlarged, round, widely separated granules, IV without; free tergites with a single row of fairly large equal-sized granules, no enlarged spines or teeth; coxa IV without an enlarged tooth or spine; openings of stigmata large, conspicuous. Distal dorsal enlargement of chelicerae coarsely granular; pedipalp femur without a tooth at inner apex, ventrally with a row of only 4–5 pointed teeth; tarsi III and IV with a large pseudonychium; tarsal segments 5:8–9:6:7, distitarsus of leg I with 2, of II with 3 segments.

**Type.** Randilella transvaalensis sp.nov.

This genus, which superficially closely resembles Randilea Roewer, 1935, cannot strictly be placed in any of Roewer’s seventeen subfamilies (1935, p. 8a, Table); it fully agrees with the Trionyxellinae except in the character of the exposed stigmata; it also agrees with the Hypoxestinae (Randilea) in this character and most others except the important one of having a pseudonychium on tarsi III and IV.

Rather than create yet another subfamily for this one genus I propose leaving it for the meanwhile in the Trionyxellinae on the assumption that the pseudonychial character is much more important than any of the others. Southern Africa has representatives in its northern parts of the Trionyxellinae (Namutonia, 1931), Assamiinae (Umtaliella, 1934) and Erecinae (Cryptopygoplus, 1931).

Randilella transvaalensis sp.nov.

**Types.** One holotype and 9 paratype ♀♂, 1 holotype and 9 paratype ♀♀ (NM. 7629), Magoebaskloof, Transvaal, ± 4000 ft. alt., collected R. F. Lawrence, February, 1960.

♂. **Colour.** Background yellow-brown with black symmetrical markings, in general blackish brown, all trochanters and apices of coxae bright yellow, contrasting with the rest of the legs which are light to dark brown; chelicerae and pedipalps yellow, variegated with weak blackish reticulation.

**Dorsal surface.** Anterior margin of carapace without enlarged granules, the inner of the two lateral tubercles, pointed, conical, twice as long as the outer or more, median tubercle small, subequal to outer lateral tubercle; ocular tubercle with a pair of enlarged granules between the eyes, only slightly pointed, similar and equal in size to the enlarged pairs on areas I–III, in addition a few much smaller granules; entire dorsal surface regularly covered with fairly large distinct granules, but those laterally to and behind the ocular tubercle sparser; area I distinctly bisected by a smooth suture, areas I–III with a pair of enlarged, round, widely separated granules, IV without but those in the middle larger than elsewhere; area I with granules about 5 rows deep, II, III and IV with 4, 3, and 2
rows respectively; scute bordered laterally by an outer regular row of enlarged, round, light coloured granules, medial to this 1–2 irregular rows of smaller granules. Free tergites with a single row of enlarged granules, those of III rather irregular, duplicated in parts, subtriangular.

Fig. 2. Randilella transvaalensis gen. et sp. nov. ♂: a, genital operculum; b, the same of ♀; c, chelicera, lateral view; d, apex of tarsus IV; e, penis. Larifugella valida sp. nov. ♂: f, penis. Larifugella zuluana Lawrence. ♂: g, penis.

Ventral surface. All coxae with close, regular, contiguous granulation, no enlarged granules, stigmatal openings very large and prominent; genital operculum as in Fig. 2a. Sternites with a single row of granules, smaller than those of free tergites, along their posterior margins, those of the first sternite duplicated
(except in the middle), fourth sternite with two distinct rows, the remainder with a few lateral granules anterior to the posterior row. Penis as in Fig. 2e.

**Pedipalps.** Trochanter ventrally with 2 conical pointed teeth, the outer small, inner large; femur dorsally with 6 small distinct granules, smooth laterally, ventral surface in proximal half or two-thirds with a row of 4 conical pointed teeth, the second largest, then the fourth, first and third considerably smaller, subequal; patella without, tibia ventrally with 1 or 2 enlarged conical granules on each side near distal apex.

**Chelicerae.** Distal dorsal swelling of segment I with coarse granulation above, the rest smooth; segment II, including the digits, quite smooth, without enlarged granules or sharp teeth (Fig. 2c).

**Legs.** All segments closely and regularly granular without enlarged conical teeth or other secondary sex characters. The apical process of tarsus IV thicker and slightly longer than the claws (Fig. 2d). Tarsal segments 5:8:9:6:7 (occasionally 6 or 8). The number of tarsal segments varying between 8 and 10, but usually 9. The apical segment of tarsus I slightly enlarged (cf. Roewer’s figure 20a, 1935) but similar in this respect to that of the female.

**Dimensions.** Length of body 5·5 mm., pedipalp 2·6 mm.

♀. Not differing from the ♂ in colour or granulation, body proportionately a little longer, slightly narrower anteriorly. Pedipalps and chelicerae smaller and shorter, pedipalp femur with a row of 5 teeth on inferior margin, the second and fifth large, subequal, third and fourth much smaller and subequal. Ventral surface as in ♂, the genital operculum proportionately wider, Fig. 2b.

**Dimensions.** Length of body 6·4 mm., pedipalp 2·4 mm.

**Other material.** 3I 99 (NM. 7635), Malta Forest, Selati Estates near Leyds- dorp, Transvaal; 1 ♀ (NM. 7608), Entabeni Forest, 30 miles east of Louis Trichardt, Transvaal, collected R. F. Lawrence, February 1960; 39 ♀, Hanglip Forest, Louis Trichardt, collected N. Leleup, August 1960. The specimen from Entabeni has area I of dorsal scute much less distinctly divided, 4 enlarged round granules on area IV, the pair of enlarged granules of ocular tubercle smaller, the genital operculum more distinctly triangular, but in all other details agrees with the type ♂.

Subfamily Erecinae

**Genus Lawrenciola Roewer**

**Lawrenciola rhodesiana (Lawr.)**

2 ♀♀, Hapi Dam, Pafuri, Kruger National Park, Transvaal, collected R. F. Lawrence, October 1962.

Family Phalangodidae

Subfamily Biantinae

**Key to the South African genera of Biantinae**

1. Tarsus II with 4 segments. Cryptobiantes Kauri
   — Tarsus II with 5 or more segments. 2
   2. Tarsus II with 5 segments.
      — Tarsus II with 7–9 segments. Metabiantes Roewer (= Spinibiantes Roewer)
      Biantessus Roewer

The two genera *Spinibiantes* and *Metabiantes* have been regarded as being synonymous by me (1931, 1933, 1959) and also by Kauri (1961); though described in the same paper by Roewer (1915, pp. 27, 28), *Metabiantes* of the two genera has a narrow page priority and should be substituted for *Spinibiantes*.
which is regarded as a synonym. This course was adopted by myself in 1931, 1933 and 1951, though mistakenly not in 1959, and by Kauri in his recent monograph of 1961 where Roewer's type species of *Spinibiantes, Hinzuanius leighi* Pocock, is included in the genus *Metabiantes*.

Kauri regards *M. vertebralis* Lawrence as belonging to the genus *Biantessus* and the genus *Biantanius*, created by Roewer for its reception, as unnecessary; until further investigation of the detailed structure of the sex organs can be carried out this would be the best provisional course to take.

**Genus Metabiantes Roewer**

**Metabiantes teres** sp. nov.

(Fig. 3a, b, e, k)

**HOLOTYPES** 1 ♂, 1 ♀, paratypes 23 ♂♀ (NM. 7617), Mariepskop ± 6000 ft. alt., collected R. F. Lawrence, March 1960; 6 ♂♀ (NM. 7621) from the same locality at 8000 ft., and 9 ♂♀ from Graskop (NM. 7627), collected R. F. Lawrence, March 1960.

♂. Colour. Dorsal scute entirely blackish brown (spines yellow), carapace yellow with large symmetrical black markings; free tergites blackish in posterior, yellow in anterior halves and for the most part at the sides, with a yellow median band from area V to last free tergite; coxae yellow irregularly infuscated apically, sternites brown laterally in the middle of the body, last sternite and anal operculum entirely brown; pedipalp femur yellow with two broad dark bands, remaining segments blackish; segment I of chelicera darkened at the sides, II with a narrow black stripe in middle of anterior surface; legs blackish, with one (tibia) or two (femur) yellow bands.

Dorsal surface. Dorsum with fine granulation, that of carapace finer than the areas, enlarged spines of areas III and IV sharp triangular, a little shorter than in *leighi*; area V and free tergites with a transverse row of enlarged triangular pointed granules considerably smaller than those of III and IV but the 3 middle ones of each row larger than the others; dorsal scute bordered laterally by a single row of slightly enlarged round granules, an irregular row of much smaller granules medially to this.

Ventral surface. Coxae and sternites with minute weak granules; genital operculum as in Fig. 3b; penis as in Fig. 3e.

Chelicera with a row of 5 round shiny granules on the outer side of segment I, segment II smooth.

Pedipalp coxa with 2 large tuberculiform granules dorsally, 2 on outer side (in *leighi* 1 dorsal, 1 lateral).

Legs. Leg II without modifications, tibia and metatarsus smooth, tibia fairly stout, widening a little distally; metatarsus not quite as slender as in ♀, very slightly wider at base than apex; tarsal segments normal, 3:5:4:4, basal segment of tarsus I longer than the two others combined.

Dimensions. Length of body 3·3 mm., leg II 11·6 mm., pedipalps 4·9 mm.

♀. Not differing from the ♂ except in the shape of genital operculum (Fig. 3a), and the more slender metatarsus of leg II.

Dimensions. Length of body 4·2 mm., leg II 12·2 mm.

The species differs from *M. leighi* in the shape and spination of the penis, in the absence of secondary sexual characters on leg II and in colouring.
**Metabianotes perustus** sp.nov.

(Figs. 3c, d, f–j, l; 4e)

**Holotypes** 1 ♂, 1 ♀, paratypes 25 ♂♂ (NM. 7618), Mariepskop, ± 6000 ft. alt., collected R. F. Lawrence, March 1960.

♂. Colour in general predominantly blackish brown with some yellow markings; carapace yellow except anteriorly and at the sides, dorsal scute and free tergites with a median yellow stripe, the latter with a yellow spot at the sides; coxae yellow, strongly reticulated black, sternites blackish with indistinct yellowish median stripe; chelicerae and pedipalps yellow, variegated black, pedipalp

Fig. 3. *Metabianotes teres* sp.nov. *a*, Genital operculum of ♀, and b, of ♂; e, penis; k, apical spine of ovipositor. *Metabianotes perustus* sp.nov. *c*, Genital operculum of ♀, and d, of ♂; f, penis; g, chelicera of ♂, lateral view, h, from above, and l, anterior view of segment II; i, chelicera of ♀; j, apical spine of ovipositor.
femur yellow, black at base and apex, remaining segments black; legs blackish, tibiae with an ill-defined yellow band in middle.

**Dorsal surface** seen from the side with abdomen much raised above the level of carapace, strongly curved, oval, arched almost flat; areas III and IV with a narrowly separated pair of low, bluntly triangular or conical enlarged granules; free tergites with a row of enlarged granules and one of minute granules, the former comparatively small, blunt-tipped or rounded apically, the middle 1–3 usually larger than the rest; granules of areas I–IV numerous, fine, close-set, 4–5 rows deep; lateral margin of scute with one row of slightly larger granules.

**Ventral surface.** Coxae with sparse irregular minute granules, sternites with 2 rows of small granules; genital operculum as in Fig. 3d; penis as in Fig. 3f, resembling that of teres generally but differing in shape and details of spination.

**Chelicera** as in Fig. 3g, seen from inner side, dorsal surface of segment I with granules at base as in Fig. 3h, segment II with numerous fairly prominent round granules on anterior surface (Fig. 3i).

**Pedipalp** normal, coxae dorsally with 1, laterally with 2 near apex, ventrally with 1 minute granule.

**Legs** normal, II without secondary sexual modifications except that tibia is somewhat incrassate seen from the side (more so in than in ), compared with metatarsus which is slender and quite smooth; tarsal segments 3:5:4:4.

**Dimensions.** Length of body 3.3 mm., leg II 7 mm., pedipalps 3.3 mm.

9. Agreeing in all respects with the except in the tibia of leg II (see above), the shape of the genital operculum (Fig. 3e), and the much smaller chelicera which are armed with smaller and few granules, Fig. 3j.

**Dimensions:** Length of body 3 mm., leg II 6.8 mm., pedipalps 3.3 mm.

The species differs from M. teres, which is found in the same localities, in the much darker colour, shorter legs (leg II only 2 not 3½ times body length), the strong granulation of segment II of chelicera, the absence of large tooth-like spines on areas III and IV, and the shape and spination of the penis. The female differs in the 10 spines at the apex of the ovipositor being considerably longer but more slender (cf. Fig. 3j, k (M. teres)).

**Additional material.** 9 (NM. 7632) from lower altitudes (± 3000 ft.) at Mariepskop; 15 (NM. 7656) with the same data as the types.

**Metabiantes barbertonensis** sp. nov.

(Fig. 4a–d, f)

**Holotypes** I , I , paratypes 3 (NM. 7641), Barberton, Transvaal, collected R. F. Lawrence, March 1960.

**Colour.** Dorsal surface uniform orange-yellow with some very faint dark transverse stripes bordering the divisions of the areas; ventral surface orange, sternites darkened at the sides, most of the last one darkened especially at the sides; chelicerae and pedipalps yellow, the last two segments of the latter lightly infuscated; legs with trochanters and bases of the femora yellow, remainder light olive green with blackish reticulations.

**Dorsal surface.** Abdomen not much raised above carapace, dorsal scute and carapace with close small granules, an irregular area anterior to each eye almost smooth; areas III and IV with a pair of large triangular spines, III a little longer than IV, area V and free tergites with a row of enlarged pointed triangular granules, in front of these a row of minute granules; dorsal scute bordered laterally by a single regular row of granules.

**Ventral surface.** Coxae I and IV in distal half with small moderately dense granulation, II with a regular row of small granules along its anterior and posterior margins; sternites with a regular posterior row of round granules, an
anterior less regular row of minute ones; genital operculum as in Fig. 4c; penis as in Fig. 4a, differing from the previous two species in having the apex armed with 3 small spines on each side, distal to these on the under side 3 very small but thick triangular spicules; the lobes of the glans penis (Fig. 4f), armed with projecting teeth, not flattened scales as in perustus (Fig. 4e) and teres.

CHELICERA. Segment I dorsally with a row of 4–5 small granules on outer side, II quite smooth.

PEDIPALP. Coxa dorsally with 2 large granules sub-basally, 2 or 3 smaller latero-ventral ones, near apex; tarsus normal not inflated.

Fig. 4. *Metabiantes barbertonensis* sp. nov. ♂: a, penis; b, apex of the same enlarged; c, genital operculum; d, the same of the ♀; f, lobe of glans penis, enlarged, and e, the same of *Metabiantes perustus* sp. nov.

LEGS normal, long and fairly slender, neither tibia nor metatarsus II with granules or teeth.

DIMENSIONS. Length of body 4.25 mm., leg II 13.3 mm., pedipalps 4.6 mm.

♀. A little smaller in size, the chelicerae distinctly smaller; genital operculum as in Fig. 4d; the apical segment of pedipalps a little less deep, metatarsus II comparatively more slender, otherwise like ♂ in all respects.

DIMENSIONS. Length of body 4 mm., leg II 13 mm.

The species can be easily distinguished by its uniformly bright orange colour and its large size.

**Metabiantes varius** (Kauri)


1 ♀, Leydenburg at 6000 ft. alt., May 1951.
Genus Cryptobiantes Kauri

Cryptobiantes protector Kauri


2 ♀♀, Kruger National Park, between Tschokwane and Letaba, E. Transvaal, May, 1951; 1 ♀, Tsende Plains, Kruger National Park; 1 ♂, 2 ♀♀, Skukuza Kopjes, Kruger National Park, October 1962, collected R. F. Lawrence.

Family Triaenonychidae

Subfamily Adaeinae

**Key to the Transvaal genera of Adaeinae**

1. Body small, dorsal surface without granular patterns or enlarged granules, pedipalp tarsus slender, elongate, longer than patella + tibia; distitarsus of leg II with 4 segments.

   Heteradaeum gen. nov.

   — Body large, dorsal surface with a granular pattern and enlarged granules; pedipalp tarsus thick-set, much shorter than patella + tibia; distitarsus of leg II with 3 segments.

2. Dorsum with long cylindrical granules; tarsus II with 8–14 segments.

   Adaeulum Roewer

   — Dorsum with enlarged triangular granules; tarsus II with 14–20 segments.

   Larifugella Lawrence

Genus Adaeulum Roewer

*Adaeulum humifer* sp. nov.

(Fig. 5a, b, d–f)

Types. 1 holotype and 3 paratype ♂♂, 1 holotype and 6 paratype ♀♀ (NM. 7613), Mariepskop, alt. ± 6000 ft., collected R. F. Lawrence, March 1960.

♂. Colour in general earthy brown, ventral surfaces of pedipalps, chelicerae and tarsi of legs, yellow.

**Dorsal surface.** Carapace without enlarged papilliform granules on its anterior margin or at antero-lateral angle; ocellar tubercle lower and distinctly more rounded than in *warreni* (Fig. 5a). Scute divided into the usual quadrate areas by strips of granules but without the paired papillae of the dorsal scute and free tergites which in *warreni* are distinct and elongate but in *humifer* are represented by small round tubercles composed of a group of granules, both on the scute and free tergites, the latter with a single transverse row of about 10.

**Ventral surface.** With regular fine granulation, only coxa I anteriorly with a row of 5–6 slightly enlarged granules; genital operculum as in Fig. 5b (of *A. warreni*, 5c); apex of penis as in Fig. 5e.

**Chelicerae** as in Fig. 5d, segment I with 2 or 3 rounded granules at its dorsal apex a little larger than the rest, no elongate teeth or papillae; segment II with a row of 3 large sharp teeth along its inner margin, the anterior surface further roughened by numerous small granules.

**Pedipalp.** Femur as in Fig. 5f, seen from inner side; outer margin of ventral surface with 4 widely separated conical teeth (3 in *warreni*), inner margin with conical teeth as in Fig. 5f, the second from the apex much longer than the others; patella and tibia unarmed.

**Legs** closely covered with minute granules; tarsal segments 4:11:4:4.

**Dimensions.** Length of body 4.9 mm, pedipalps 4 mm.

♀. The female not differing from the male except in the smaller chelicerae
and pedipalps, the enlarged teeth on the ventral surface of the latter replaced by enlarged granules, patella and tibia with a few enlarged granules on each side ventrally; inner margin of anterior surface of segment I of chelicerae with 3 small triangular teeth, these however very distinct. Tarsal segments 4:9–10:4:4.

**Dimensions.** Length of body 4.8 mm., of pedipalps 3 mm.

The species is obviously most closely related to *A. warreni* (1933) from Natal and Zululand. It differs in lacking enlarged cylindrical granules on the areas of dorsal scute and at the dorsal apex of segment I of chelicerae, in the number and arrangement of large teeth on ventral surface of pedipalp femur, the structure of the penis and other details; for comparison a figure of the penis of a ♀ of *A. warreni* from Town Bush, Pietermaritzburg is given (Fig. 5g).

**Other material.** 1 ♂, 1 ♀ (NM. 7599), Louis Trichardt; 1 ♀, 1 ♀, Magoebaskloof, ± 5000 ft. alt. (NM. 7633); 1 ♀ (NM. 7624), Mariepskop ± 8000 ft. alt., all collected R. F. Lawrence, March 1960; 9 ♀ (NM. 6109), Mariepskop ± 6000 ft. alt., collected B. R. Stuckenbery, October 1956.
Genus Larifugella Lawrence

*Larifugella valida* sp. nov.

(Figs. 2f; 6a-f)

**Types.** 1 holotype and 6 paratype ♂♀, 1 holotype ♀ (NM. 7620), Mariepskop, +8000 ft. alt., collected R. F. Lawrence, March 1960.

♂. Colour dark brown, the minute granules black.

**Dorsal surface.** Anterior margin of carapace bordered by a strip of minute granules, none of them enlarged and papilliform as in *zuluana*; ocular tubercle slender, pointed, more strongly so than in *zuluana* (Fig. 6a); dorsal scute divided into smooth subquadrate areas by transverse rows of small granules (Fig. 6e),

Fig. 6. *Larifugella valida* sp. nov. ♂: a, ocular tubercle; b and c, pedipalp femur, ventral and medial views; d, pedipalp tarsus, medial view; e, right half of dorsal scute; f, chelicera, medial view.

the paired tubercles represented by small round clusters of minute granules with usually an enlarged granule in the middle; free tergites I and II with a row of 8 and 6 round, well separated granules respectively, these connected by a row of minute granules, the anterior margins of these segments bordered by a regular row of minute round granules.
Ventral surface. Coxae regularly and closely covered with small granules, only an anterior row of 5-6 on coxa I enlarged; sternites with a row of round seta-tipped granules in the middle, anterior to this 2 rows of minute granules; genital operculum longer than wide, penis as in Fig. 2f.

Chelicerae as in Fig. 6f seen from inner side, dorsal apex of segment I with 3 enlarged tooth-like granules, the middle the longest, its dorsal surface with coarse granules; segment II with 2 very large, sharp, triangular teeth along its inner margin.

Pedipalp femur with ventral and inner surfaces as in Fig. 6b, c; ventral surface with 11 long conical teeth, 5 or 6 smaller ones on its inner surface, the tooth at its distal outer apex very large, sloping distinctly forwards; patella with enlarged conical granule at outer apex, inner side without, tibia with a smaller enlarged granule on each side at ventral apex; tarsus with 3 large tubercles on each side, the two basal ones of inner side very large, rounded, swollen, the basal one mamiliform (Fig. 6d), the corresponding 3 tubercles of outer side somewhat more trianguliform but also inflated.

Legs. Femur I dorsally with 3 long tooth-shaped granules in dorsal two-thirds, the middle largest, a row of 6 much smaller enlarged granules ventrally; femur II with 10 equidistant enlarged granules below; tarsal segments 4:18:4:14; tarsal segments of leg II varying from 15 to 20 but usually 18, fairly often 17.

Dimensions. Length of body 7-4 mm., pedipalp 7-6 mm.

♂. Similar to ♀ but smaller, pedipalps very much shorter with only a few enlarged granules; chelicera with 2-3 slightly enlarged granules at distal dorsal apex of segment I, segment II almost smooth anteriorly, 1 or 2 enlarged round granules on inner margin. Dorsal surface with granulation similar to that of ♀ except that the enlarged granules of free tergites are considerably larger and bluntly triangular; genital operculum wider than long. Pedipalp tibia with 3 long seta-tipped conical granules on each side ventrally, patella similarly with 2 inner, 1 outer, tarsus with 3 sharp teeth on each side tipped with long setae. Legs with the dorsal and ventral enlarged granules of anterior femora much reduced in size; tarsal segments 4:12-13:4:14.

Dimensions. Length of body 5-8 mm., pedipalps 3-3 mm.

Other material. 11 ♂♂, 16 ♀♀ (NM. 7672), Mariereskop at ±6000 ft. alt., 9 ♂♂, 5 ♀♀ (NM. 7625), Graskop, Transvaal, collected R. F. Lawrence, March 1960. 7 ♂♂, Mariereskop Forest at 4500 ft. alt., collected by N. Leteup, August 1960.

Remarks. The specimens from lower altitudes of the Mariereskop Mountains are much smaller than the types from the summit, the largest ♂ being only 6-1, pedipalps 3 mm. The number of tarsal segments in leg II of the ♂ ranges from 13 to 17 (usually 14 or 15), those of the ♂ from 15 to 20 (usually 17). Two not quite mature ♂♂ from Barberton (NM. 7645) collected at ±5000 ft. appear to be intermediate to zuluana and valida. The number of segments for the distital segments of leg II of zuluana is 5 as stated in the description of the type ♂ (1937, p. 150) but only on one side; this seems to be an abnormality as the paratypes and other specimens from the same locality have 3. The Transvaal species is obviously closely related to zuluana but differs from it in many respects including the detailed structure of the penis; a figure of the latter in zuluana (from paratype ♂, Nkandhla Forest, Zululand) is given for comparison (Fig. 2g).

Genus Heteradaeum gen.nov.

Sternum triangular, fairly narrow, as in Adaenae; segmentation of legs I and II as in Metadaeum (in the sense of Roewer); tarsus II with more than 6 segments, distitalis with 4 segments. Differing from all other Adaeinae in the long
slender pedipalp tarsus which is cylindrical, not flattened, and longer than patella and tibia combined. Chelicerae with very long and slender digits, exceeding the basal portion of second segment, the cutting edge of both with a row of equal-sized saw-like teeth, the movable digit with 24, immovable with 14. Body and appendages with simple round granules of uniform size, no enlarged teeth or granules, size small, tarsal segments 3:10:12:4:4.

The genus resembles Micradaeum Lawrence (1931) from the Western Cape in the elongate pedipalp tarsus and the simplicity of its granulation but differs in the segmentation of leg II and the chelicerae.

**Heteradaeum exiguum** sp. nov.

(Fig. 7a-g)

**Holotype** 1♂(?), paratype 1♀, Hanglip Forest, Louis Trichardt, collected August 1956 by N. Leleup.

**Colour.** Dorsal surface entirely blackish brown, ventral surface a little lighter; all appendages blackish brown except ventral surface and whole of tarsus of pedipalp, tarsi of posterior legs; chelicera with dorsal surface of basal segment blackish brown, the remainder yellowish.

**Dorsal Surface.** Uniformly covered with small round granules, none elongate; dorsal scute with three or more oval smooth areas, median and two lateral ones, scute otherwise not divided into quadrate areas by transverse rows of granules; a smaller smooth area on each side of ocular tubercle, a third behind it; ocular tubercle (Fig. 7a), small, low, somewhat pointed, projecting a little beyond the anterior margin of carapace; free tergites with granules except for a smooth strip along their posterior margins.

**Ventral Surface.** Coxae with regular rows of small granules along their margins, almost smooth in the middle or with a few scattered granules; openings of stigmata not visible; genital operculum much wider than long, not bordered anteriorly by a row of elongate granules; sternite I with 2 very irregular rows of granules, the remainder covered with granules except along their posterior margins.

**Pedipalp** as in Fig. 7b, seen from outer side, with a row of enlarged oval granules along its outer edge, inner and ventral surface quite smooth; patella and tibia unarmed but granular, tibia especially very short; tarsus quite smooth, at its base much narrower than apex of tibia, both seen from above (Fig. 7c), and from the side (Fig. 7b), long, slender, of almost equal width throughout.

**Chelicera** slender (Fig. 7c), seen from outer side, digits unusually elongate (Fig. 7d), about equal in length to rest of segment II, each armed with a regular row of serratiform equal-sized teeth, 14 on immovable, 24 on movable digit; segments I and II otherwise unarmed but segment I covered with small round granules dorsally.

**Legs** unarmed, in one specimen (male?) (Fig. 7f), the three tarsal segments of leg I distinctly swollen; distitarsus of leg II with 4 segments (Fig. 7g); tarsal segments 3:10:12:4:4, the claw of the posterior legs normal, the lateral prongs smaller than the median.

**Dimensions.** Length of body 3.0 mm., pedipalps 2.3 mm.

The species probably has its nearest relationship with Micradaeum rugosum (Cape Peninsula) and Adaenum (Adaeum) expense (Port Elizabeth). In all known Adaenae the digits of the chelicerae have few teeth, these usually of very unequal size, some of them large, the digits themselves being shorter or much shorter than the rest of segment II. The pedipalp tarsus in all Adaenae is short, subequal to or shorter than tibia, flattened and as wide as the tibia at its base; it is also always armed with granules and teeth, usually some large ones.
Kauri has, I think correctly, regarded *Metadactum capense* Roewer as belonging to the genus *Adaenum* (1962, p. 118) from which it only differs in the number of segments in the distitarsus of leg II, a character insufficient by itself to establish a separate genus.

Fig. 7. *Heteradactum exiguum* gen. et sp. nov. ♂: a, ocular tubercle; b, pedipalp, lateral view; c, tarsus and apex of tibia, dorsal view; d, digits of chelicera, anterior view; e, chelicera, lateral view; f, tarsus 1; g, tarsus of leg II.

**Subfamily Triaenonychinae**

**Key to the Transvaal genera of Triaenonychinae**

1. Inferior surface of pedipalp femur with a strip of fine granulation in the middle, flanked on outer side by a row of stout triangular teeth tipped with short setae; remaining segments armed with smaller teeth. 2

- Inferior surface of pedipalp femur without a strip of fine granulation in the middle, all segments of pedipalp and femur of leg I with elongate conical spines tipped with long and powerful setae. 3
2. Tarsus II with 3 segments.
   - Tarsus II with 4 segments.
3. Tarsus I with 3 segments, stigmata hidden.
   - Tarsus I with 4 segments, stigmata visible.

**Genus Austrelia** Lawrence

The genus agrees in the tarsal formula with *Yulella* Lawrence from Natal but differs from it in the following respects: the stigmata are exposed and visible, the femur, tibia and patella of leg I are much deeper and thicker, especially as compared with the metatarsus, than in *Yulella*. The claw of tarsus IV and to a lesser extent that of III, differs markedly from that of *Yulella* in having the median (main) branch extremely deep and thick, while that of *Yulella* is longer and slender (cf. Fig. 8c). In the ♀ *Yulella* further differs in having an extremely long tooth on the anterior distal margin of coxa 1, which is quite absent in the ♀ of *Austrelia*.

**Austrelia leleupi** sp. nov.

(Fig. 8a-e)

**Holotype** 1 ♀, paratypes 6 ♂♂, Hanglip Forest, Louis Trichardt, August 1960, collected N. Leleup.

**Colour.** Dorsal surface with a black pattern marking as in Fig. 8b, the background colour yellow brown; legs olive green variegated with black reticulation; pedipalp and chelicerae similar, the background yellow brown; coxae yellow brown, finely vermiculated black, sternites with alternating transverse black and yellow stripes broken in the middle by a lighter longitudinal stripe.

**Dorsal surface.** Ocular tubercle as in Fig. 8a, seen from the side, low and flattened, surmounted by a small granule; carapace smooth, a small granule on each side between ocular tubercle and antero-lateral angle of carapace, smooth behind ocular tubercle; background of dorsal scute matt, the four areas each represented by an abbreviated row (not reaching the sides) of minute round granules; free tergites with 2 rows of minute indistinct granules.

**Ventral surface.** Coxa I with 2 rows of slightly enlarged granules, none dentiform; II-IV with transverse row each in the middle; IV with a regular row of small granules along its posterior margin, the small round openings of the stigmata visible below these rows near its distal end; genital operculum rounded anteriorly, matt, with hardly any granules; sternites with a single row of minute, very indistinct granules.

**Pedipalp** as in Fig. 8c seen from inner side, in general resembling that of *Yulella natalensis* but the conical spines of the tibia and tarsus longer.

**Chelicera** small, normal, almost unarmed, a small conical tooth at distal dorsal apex of segment I.

**Legs.** Femur I armed ventrally as in Fig. 8d, tibia rather incassate and flattened from side to side, much deeper than in *Yulella* and strongly armed ventrally. Tarsal segments of all legs long and slender; claw of tarsi III and IV with the main branch much incassate and strongly curved (Fig. 8e), quite different from its much more slender form in *Y. natalensis* (Fig. 8f). Tarsal segments 4:7–8:4:4.

**Dimensions.** Length of body 2:3 mm., pedipalp 2:7 mm.

The species differs from the genotype *A. spinipalpis* Lawrence from Knysna, in the more slender and also shorter pedipalp and legs, and the distinctly larger granules of femur, patella and tibia of leg I. The body is also smaller and more slender than in *spinipalpis*. 
Genus **Austromontia** Lawrence

**Austromontia formosa** sp.nov.

(Fig. 9a–e)

**Holotypes** 1 ♂, 1 ♀, paratypes 2 ♂, 7 ♀, Hanglip Forest, Louis Trichardt, Transvaal, collected N. Leleup, August 1960.

♂. **Colour.** Carapace yellow brown with symmetrical black reticulation, rest of dorsum uniform dark brown with black vertebral cuneiform marking, ocular spine dark brown; ventral surface dark brown, coxae orange to yellow brown with rather faint blackish reticulation; pedipalp and chelicerae predominantly orange with black reticulation, legs blackish brown, trochanters yellow with black markings.

**Dorsum.** Anterior margin of carapace with 2 small conical tubercles near the ocular tubercle; carapace behind and at sides of ocular tubercle almost smooth.
or with a few minute scattered granules; ocular tubercle with large elongate spine (Fig. 9a); areas of dorsal scute with 2 rows of small granules each, those of posterior row regular, close-set, smaller than the anterior row; anterior rows with 12-15 equal-sized granules occupying middle third of dorsum, those of posterior rows reaching almost to the lateral groove of scute especially in areas III and IV; posterior margin of scute and free tergites with a single row of the larger granules, otherwise quite smooth.

Fig. 9. *Austronotia formosa* sp. nov. a, ocular tubercle; b, pedipalp trochanter and femur, medial view; c, chelicera, medial view; d, pedipalp tibia, medial view; e, tarsus-metatarsus of leg I.

**Ventral surface.** Coxae quite smooth and shiny, I with 2 large subequal tooth-like granules on anterior distal margin, II with 3 similar ones at posterior distal apex, IV with a row of 4 on its anterior distal margin. Sterites with a single regular row of small round granules, indistinct in the middle.

**Pedipalp.** Femur as in Fig. 9b seen from inner side, a very large bifid tooth near its base, this and the other teeth of ventral surface covered with small granules; patella unarmed, tibia as in Fig. 9d from inner side, a row of 7 small equal-sized granules on its outer edge, inner edge with 2 large subequal teeth; tarsus with a large basal tubercle an outer edge, inner edge with a row of 4 small teeth, a larger alternating with a smaller.

**Chelicera as in Fig. 9c seen from inner side.**

**Legs.** I and II with calcaneus of metatarsus distinctly longer than astragalus (Fig. 9e); femur I with 6 short blunt tubercles occupying almost the whole ventral surface; second tarsal segment of leg I slightly incrassate, subequal to basal segment; basal tarsal segment of leg II equal to the 3 distal ones; tarsal segments 3:4:4:4.
DIMENSIONS. Length of body 4 mm., pedipalps 5 mm.
♀ differing from the ♂ as follows: spine of ocular tubercle much shorter; basal tooth of pedipalp femur though bifid, much smaller, patella with a blunt inner tooth, tibia with a row of 4 large teeth on outer edge, the 7 teeth of inner edge also much larger; chelicerae similarly armed but the teeth smaller.

DIMENSIONS. Length of body 3.3 mm., pedipalps 3 mm.

This large robust species differs from the three known from the Western Cape in the long calcaneus of legs I and II and the much larger bifid tooth of pedipalp femur.

Genus Graemontia Lawrence

Graemontia hicorrigera sp.nov.

(Fig. 10 a-f)

HOLOTYPES 1 ♂, 1 ♀ (NM. 7622), Mariepskop, Transvaal, ± 8000 ft. alt., collected R. F. Lawrence, March 1960.

♂. Colour yellow brown with blackish markings dorsally; coxae yellow brown; sternites black in anterior, yellow brown in posterior half; chelicerae and pedipalps predominantly yellow, legs blackish, patellae and apices of segments yellow.

DORSAL SURFACE. Anterior margin of carapace with 4-5 elongate granules on each side (Fig. 10a), remainder of dorsum with granules typical of the genus, the middle ones of areas I-IV elongate, considerably longer than wide, free tergites each with a transverse row of elongate granules slightly swollen at their apices.

VENTRAL SURFACE. Coxae with a few irregular granules, I with a regular row of 3 elongate papilliform granules anteriorly, the inner longest, the outer shortest, II with an anterior row of 5-6 round or conical granules, much shorter than those of I; sternites with an anterior row of distinct round granules, posterior to this a strip of fine matt granulation; genital operculum as in Fig. 10b, much wider than long, subquadrate; penis as in Fig. 10f.

CHELICERAE as in Fig. 10d seen from outer side, segment I distally with a long curved horn (seen from above as in Fig. 10e), which is bluntly bilobate at its apex, its outer surface with a large triangular tooth; segment II with 2 triangular teeth on inner margin of anterior surface.

PEDIPALP femur as in Fig. 10a seen from inner side; dorsal tooth of trochanter very large and thick; patella without teeth on either side below, tibia with 2 elongate teeth on each side, some much smaller ones between them, the inner apical tooth (Fig. 10g), much more powerful than the others; tarsus with 2 elongate teeth on each side, the apical ones quite small, the inner basal tooth much thicker than the others.

LEGS. Femur I armed as in Fig. 10f, trochanter with 1 long and 1 moderate papilliform granule ventrally, none dorsally, tibia with 1 basal, 1 middle elongate granule ventrally, much shorter than those of the femur, none dorsally; femora II-IV with a row of small round granules ventrally; tarsal segments 3:6-8:4:4.

DIMENSIONS. Length of body 3 mm., pedipalps 3.3 mm.

♀. Colour and granulation as in the ♂; genital operculum more oval and proportionately wider than in the ♂ (Fig. 10e); pedipalps shorter than in ♂, the teeth of the femur and trochanter smaller, inner side of patella with 2 long teeth; chelicerae with segment I not modified as in ♂, 2 elongate tooth-like granules at distal dorsal apex, anterior surface of segment II with 2 or 3 triangular granules. Leg I armed as in ♂, tibia with only 1 ventral moderate tooth. Tarsal segments 3:6-8:4:4.

DIMENSIONS. Length of body 2.9 mm., pedipalps 3 mm.
FURTHER MATERIAL. 1 ♂ (NM. 7616), Mariepskop at 6000 ft. alt.; 1 ♂ (NM. 7602), Louis Trichardt, at 4500 ft. alt.; collected R. F. Lawrence, February–March 1960.

Fig. 10. Graemontia bicornigera sp. nov. 5: a, anterior margin of carapace; b, genital operculum; c, the same of the ♂; d, chelicera, lateral view; e, segment I of chelicera, dorsal view; f, femur I; g, pedipalp tibia, ventral view; h, pedipalp femur, medial view; i, penis.

Key to the South African species of Graemontia

1. Anterior margin of carapace with 4–5 long papilliform granules on each side; femur I with the dorsal elongate papillae almost as long as those of ventral surface. *bicornigera* (E. Transvaal)

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Anterior margin of carapace with a row of round or slightly elongate bifid granules; dorsal elongate papillae of femur I much shorter than the ventral ones.

2
2. Bifid granules of anterior half of carapace irregularly distributed.  
   **erecta** (Western Cape)

   - Bifid granules of anterior half of carapace in regular rows, forming a  
     symmetrical pattern.

3. Some elongate, apically bifid granules at the antero-lateral angles of  
   carapace; segment I of chelicera with a large bifid tooth on inner  
   surface (♂ only).  
   **natalensis** (Natal)

   - Anterior margin of carapace with a row of short, round, equal-sized  
     granules, segment I of chelicera without a bifid tooth on inner surface.

4. Segment II of chelicera with a large triangular tooth at outer apex.  
   ♀ of **decorata** (van Reenen, Natal)

   - Segment II of chelicera without such a tooth.

5. Dorsal scute with a background of very fine granules.  
   **dentichelis** (Eastern Cape)

   - Dorsal scute with a smooth background.  
   **bifidens** (Eastern Cape)

**Graemontia natalensis** (1937, p. 147) has been recorded from two further  
localities in Natal, Bulwer and Otter Bluff, near Pietermaritzburg; **G. dentichelis**  
from the Pirie Forest, near Kingwillamstown, Cape.

Genus **Monomontia** Lawrence

**Monomontia cristiceps** sp. nov.

(Fig. 11a-i)

**Holotypes** 1 ♂, 1 ♀ (NM. 7634). Magoeiskloof, E. Transvaal, ± 5000 ft.  
alt., collected R. F. Lawrence, March 1960.

3. **COLOUR.** Dorsal surface yellow brown with diffuse blackish symmetrical  
   markings; ventral surface yellow brown, legs light olive green, pedipalps and  
   chelicerae yellow.  

   **DORSAL SURFACE.** Anterior margin of carapace with a row of 3 or 4 enlarged  
   subtriangular granules; ocular tubercle (Fig. 11a), with two rows of 4-5 distinct  
   round granules on each side of its dorsal surface; its sides with 1 or 2 round  
   granules; area behind ocular tubercle with 2-3 very short transverse rows of  
   granules on each side, a smooth median space between; areas I-IV with 2 irregular  
   rows of round granules, the median pair slightly enlarged, the spaces between  
   the rows with irregular minute granulation, the transverse row of larger granules  
   on posterior margin of dorsal scute larger than the others and subtriangular;  
   free tergites with a row of about 18 large triangular granules, some minute matt  
   granulation between.

   **VENTRAL SURFACE.** Coxae with a few scattered round granules, otherwise  
   smooth, shiny; posterior and anterior margins of coxa IV and posterior margin of  
   coxa I with a row of large round or conical granules; anterior margin of coxa I  
   with a very large spatulate tubercle (Fig. 11b), just distal to the middle;  
   sternites with an anterior row of round larger granules (but smaller than those  
   of dorsal surface) and a posterior strip of fine matt granulation. Genital operculum  
   as in Fig. 11f, penis as in Fig. 11g.

   **CHELICERAE** as in Fig. 11c seen from the inner side, anterior surface of segment  
   with two longitudinal rows of 4-5 round granules, posterior surface with a large  
   sharp tooth near base of claws on inner side, 2 similar but smaller ones on outer  
   side; distal dorsal apex of segment I with 2-3 short blunt teeth, its ventral surface  
   with a row of 4 teeth.

   **PEDIPALP** femur as in Fig. 11i seen from inner side; only 2 or 3 short round
teeth distal to the 4 large triangular teeth of the ventral row, inner surface with isolated round granules but no strip of fine granulation, the surface finely creased; patella ventrally with 2 small granules on inner, 1 on outer side; tibia with an outer row of 7 subtriangular tooth-like granules ventrally (Fig. 116); inner side with a row of about 12 round granules, much smaller than those of outer side, surface between the rows with dispersed round granules but no granular strip.

Legs sparsely covered with small granules, some on femur I enlarged as in Fig. 11e; tarsal segments 3:3:4:4.

Fig. 11. Monomonia cristiceps sp. nov. ♀: a, acular tubercle; b, coxa 1; c, chelicera, medial view; d, genital operculum of ♀; e, femur 1; f, genital operculum; g, penis; h, pedipalp tibia, lateral view; i, pedipalp femur, medial view.

Dimensions. Total length 3-3 mm., pedipalp 4-5 mm.
♀. Colour, granulation of body, pedipalps, chelicerae and femur of leg I as in ♂, the enlarged granules of the appendages as large or a very little smaller; differing in the shape of the enlarged tubercle on anterior margin of coxa 1.
which is bluntly triangular, not truncate, the greater relative width of genital operculum (Fig. 11 a), and the shorter pedipalps and chelicerae.

**Dimensions.** Length of body 3·2 mm., pedipalps 3·5 mm.

**Other material.** 1 ♂, Mariepskop Forest, 4500 ft. alt., collected by N. Leleup, August 1960.

**Monomontia versicolor** sp. nov.

(Fig. 12a-h)

**Holotypes.** 1 ♂, 1 ♀, paratypes 2 ♂, 1 ♀ (NM. 7615), Mariepskop, ± 6000 ft. alt., collected by R. F. Lawrence, March 1960.

♂. **Colour** yellow brown with black symmetrical markings, most of the dorsal scute and free tergites blackish, a fairly wide black stripe bisecting the dorsal scute, black reticulation at antero-lateral angles of carapace; sternites blackish in middle and at each side; coxae entirely covered with black reticulation; legs blackish but trochanters, patellae and apices of tibiae more or less yellow.

**Dorsal surface.** Anterior margin of carapace with 3 or 4 large conical granules, ocular tubercle as in Fig. 12a seen from the side, lateral and dorsal surfaces and area behind it uniformly covered with small granules; areas I–IV with an anterior row of minute, a posterior row of larger granules (II and III with 6–8, IV with a few more), free sternites with a transverse row of the larger granules only.

**Ventral surface.** Coxae smooth shiny, anterior margin of I with enlarged granules as in Fig. 12b; sternites with a row of small weak round granules; genital operculum as in Fig. 12c, as long as wide; penis as in Fig. 12d.

**Chelicerae.** as in Fig. 12d seen from inner side, segment I at distal dorsal apex without projecting teeth or granules, segment II with 4 conspicuous round or tooth-like granules along its inner margin.

**Pedipalp.** Femur as in Fig. 12e seen from inner side, inner surface with a few round granules near ventral edge, no mat granular strip; patella with a large tuberculiform granule on outer side ventrally, tibia with a ventral row of about 9 round granules on outer side, the first 2 small, mesially to these a few small round granules, inner side with 7–8 similar enlarged granules bordered mesially by an irregularly duplicated row of small black granules, middle part of segment smooth; tarsus with 5 outer tooth-like granules, the second large, 3 equal-sized teeth on inner side.

**Legs** with small granules, femur I as in Fig. 12f; tarsal segments 3·3:4·4, the tarsal segments of I strongly incassate (Fig. 12g), the remaining legs normal.

**Dimensions.** Length of body 3 mm. (length not much exceeding width), pedipalps 4·7 mm.

♀. **Colour** and granulation of dorsum, pedipalps and chelicerae as in ♂, 4 enlarged granules on anterior margin smaller than those of ♂; tarsal segments of leg I not incassate, only a little wider than those of remaining legs; genital operculum considerably wider than long.

**Dimensions.** Length of body 2·7 mm., pedipalps 2·6 mm.

**Other material.** 1 ♀, 1 ♂ (NM. 7601, 7645), Louis Trichardt; 1 ♂ (NM. 7610), Entabeni, Louis Trichardt, collected by R. F. Lawrence, February 1960. 18 ♀, Hanglip Forest, Louis Trichardt, collected by N. Leleup, August 1960; 31 ♂, Woodbush Forest, and 8 ♀, source of Helpmekaar River, Woodbush Forest, collected by N. Leleup, September 1960. The species probably resembles most closely *M. granifrons* from Port Shepstone, Natal (1938, p. 357).
**Monomontia transvaalica** sp. nov.

**Holotype** 1 ♂, 1 ♀, paratypes 6 ♂♂, 2 ♀♀ (NM. 7614), Mariepskop, ± 6000 ft. alt., collected R. F. Lawrence, March 1960.

A species closely resembling in most of its characters *M. montensis* Lawrence from van Reenen, Natal.

♂. Colour as in *montensis* but more reddish brown.

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**Fig. 12. Monomontia versicolor** sp. nov. ♂: a, ocular tubercle; b, coxa I; c, genital aperture; d, chelicera, medial view; e, pedipalp femur, medial view; f, femur of leg I; g, tarsus I; h, penis.

**Dorsal Surface.** Anterior margin of carapace with 2 or 3 large well separated granules; ocular tubercle more or less as in *montensis*, not drawn out to a point anteriorly.

**Ventral Surface.** Coxa I anteriorly with 3 enlarged granules in its distal half, the apical largest, triangular, the middle quite small.
CHELICERA resembling that of *montensis*, segment II with a row of 3-4 round granules on inner side of anterior surface, a triangular pointed tooth distally on inner side near base of claw.

PEDIPALP differing from that of *montensis* in the 5 outer ventral teeth of femur larger, more pointed, very unequal, the two basal ones large, third and fifth small, subequal, the fourth moderate; inner side of ventral surface with 4 round granules, between these and outer row a strip of minute granules; patella with 2 large outer tooth ventrally; tibia ventrally with an outer regular row of 8 or equal-sized granules, an inner irregularly duplicated row of unequal granules, the area between the rows smooth; outer ventral side of tarsus with 5 tooth-like granules the second from base large, the rest small, inner side with 3 teeth.

LEGS. Femur I armed as in *montensis*; tarsal segments 3:3:4:4; tarsal segments of leg I normal.

DIMENSIONS. Length of body 2-3 mm., of pedipalps 2-8 mm.

♀. Differing from the ♂ only in the shorter pedipalps and chelicerae, the smaller teeth and granules with which these are armed.

DIMENSIONS. Length of body 2-2 mm., pedipalps 2-3 mm.

**Monomontia rugosa** Lawrence

1 ♀, 1 ♂, Hartebeest Poort Dam, 32 miles west of Pretoria, Transvaal, collected G. Rudebeck, July 1954. Recorded and identified by H. Kauri (1961, p. 87).

**Monomontia aquilonaris** sp.nov.

*(Fig. 13b-f)*

**Holotypes** 1 ♀, 1 ♂, paratypes 1 ♀ (NM. 760), Louis Trichardt, collected at 4300 ft. alt., R. F. Lawrence, February 1960.

♀. **Colour** as in *montensis* and *transvaalica*.

**Dorsal Surface.** Anterior margin of carapace with 3 or 4 enlarged granules on each side; ocular tubercle (Fig. 13c), low and flat dorsally, not produced anteriorly, as in *montensis*; granules of dorsal scute rather small and irregular, composed of small and minute dust-like granules mixed, the middle ones of the areas not enlarged; free tergites with a transverse row of round granules only slightly larger than the largest of the dorsal scute.

**Ventral Surface.** Coxa I anteriorly in its distal half with 2 elongate, bluntly conical granules, the apical bifid and subequal to or slightly larger than the basal, posterior distal margin of coxa II and anterior free margin of IV with a row of 4-5 round granules; genital operculum subtriangular, a little wider than long (Fig. 13e). Stermites with a row of round granules and behind this 1 or 2 irregular rows of minute granules.

**Chelicerae** as in Fig. 13b seen from inner side.

**Pedipalp** with femur and trochanter as in Fig. 13d seen from inner side, the granule near apex of inner surface very large; tibia on its outer ventral edge with a fairly regular row of 4 larger triangular granules alternating with 4-6 smaller ones, inner edge with 13 granules of various sizes in an irregular double row, 2 outer ones near apex larger than the rest; patella with a large round granule on inner side ventrally, a much smaller one on outer side.

**Legs.** Femur I with 4 elongate papillae ventrally, the 3 basal ones subequal, the fourth a little shorter, tibia I ventrally with 2 enlarged round granules in its middle third; leg I in general a little thicker than the others but the tarsal segments not incrassate.

**Dimensions.** Length of body 2-2 mm., pedipalps 2-4 mm.
♀. Not differing significantly in size, length of pedipalps or any other character, from the ♂, but the genital operculum (Fig. 13f), larger and comparatively wider.

Other material. 11 ♀♀, Hanglip Forest, Louis Trichardt, collected N. Leleup, August 1960.

Fig. 13. *Rhampsinus nubiculus* sp. nov. ♂: a, chelicera, lateral view. *Monomontia aquilinaris* sp. nov. ♂: b, chelicera, medial view; c, ocular tubercle; d, pedipalp femur, medial view; e, genital operculum; f, the same of ♀.

Key to the Transvaal species of *Monomontia*

1. Anterior margin of carapace with 7–8 enlarged granules on each side.
   - Anterior margin of carapace with 2–4 enlarged granules on each side.
   2. Anterior margin of carapace with small indistinct granules or with a row of 2 or 3 enlarged granules on each side.
   - Anterior margin of carapace with 3, 3’4 or 4’4 enlarged granules.
   3. Ocular tubercle with a long pointed anterior process.
   - Ocular tubercle shorter without a long pointed process.

transvaalica

rugosa

versicolor
4. Body 3.3 mm.; ♀ with a large spade-shaped tubercle on anterior margin of coxa I.

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**Suborder PALPATORES**

**Family PHALANGIDAE**

**Genus RHAMPSINITUS** Simon

**Rhampsinitus nubicolus** sp. nov.

(Fig. 13a)

**Holotypes.** 1 ♂, 1 ♀, paratypes 4 ♂♂, 1 ♀ (NM. 7619), Mariepskop ± 8000 ft. alt., collected R. F. Lawrence, March 1960.

♀. **Colour** of dorsum and legs black, ventral surface dirty white or cream, distal two-fifths of coxae blackish; segment I of chelicera black or blackish brown, segment II yellow brown, darker basally, the claws reddish brown, teeth of claws black; pedipalps black except apical half of tarsus which is dirty white.

**Dorsal surface.** Ocular tubercle with 3 short teeth, no accessory spines or teeth between them, 3-4 short spines between ocular tubercle and antero-lateral angle of carapace where there is a group of 3-4 similar spines; tergites with a single transverse row of rather weak spines, the background with minute matt granulation.

**Ventral surface.** Coxae entirely smooth except for a few minute granules at extreme apex of II-IV, I with a few rows of small granules in anterior half. Pedipalpi smooth except for a few minute spiculiform granules on ventral side of femur.

**Chelicerae.** Segment II unspined except for a few minute dentiform granules at the base of the anterior surface and a few even smaller ones on most of its posterior surface; segment I armed as in Fig. 13a seen from outer side. Segment II seen both from in front and from the side, about 1½ times thicker than segment I in the middle; seen from in front the segment widens gradually from base to apex.

**Legs.** I distinctly thicker than the others, the spines of the two ventral rows stronger than those of the dorsum, all segments except tarsus with spines but those of metatarsus spiculiform; only the femora in legs II-IV spined, the spines weaker than in I; no enlarged teeth at apex of femur I. Tarsal segments I, 43; II, 76; III, 42; IV, 49.

**Dimensions.** Length of body 6.3 mm., pedipalps 20 mm., chelicerae I + II = 5.5 + 7.6 mm. Length of legs: I 43 mm., II 67 mm., III 38 mm., IV 49 mm.

♀. **Colour.** Dorsal surface mottled grey with a broad black median marking, the sides zig-zag and bordered by a narrow white edge, ventral surface as in ♀. Pedipalp with femur except at extreme base, patella, basal half of tibia, basal fourth of tarsus, black, the remainder dirty white; chelicera white to cream, outer surface of segment I brown. Legs grey, mottled with black or brown spots.

**Granulation.** Dorsum and ocular tubercle as in ♀, the spines a little weaker, 5-6 spines on each side between ocular tubercle and anterior margin of carapace; coxa I with a few weak scattered granules, legs with much weaker spines than in ♀, the tibiae and distal segments of all legs smooth, leg I not thicker than the others; tarsal segments 42:66; 39:46. Chelicera entirely smooth, femur of pedipalp with a few minute seta-tipped spicules ventrally, especially near its base.

**Dimensions.** Length of body 7.8 mm., pedipalp 6.8 mm., chelicerae I + II = 3.8 mm. Length of legs: I 31:5 mm., II 61 mm., III 33 mm., IV 46 mm.
OTHER MATERIAL. 1 ♀ (NM. 6170), Mariepskop, collected B. Stockenberg, October 1936.

The species is certainly related to unicolor Lawrence and to flavidus Lurw., to unicolor in the longer legs, to flavidus in the spination of the chelicera.

**Rhampsinitus transvaalicus** Lawrence


1 ♀ (NM. 7597, 7603, 7598), Louis Trichardt, Hanglip Forest at 4500 ft. alt.; 2 ♀♂ (NM. 7605), Louis Trichardt at 3000 ft. alt.; 1 ♀, 1 juv. ♀ (NM. 7607), Entabeni Forest, 30 miles east of Louis Trichardt, collected R. F. Lawrence, February 1960.

**Rhampsinitus flavidus** Lawrence


The ♀ type was described from Makoetsi near Leydsdorp, Transvaal.

**Rhampsinitus granarius** Roewer


The ♀ type was described from Johannesburg.

**Rhampsinitus ephippiatus** Roewer


The ♂ was described from Johannesburg.

**Rhampsinitus unicolor** Lawrence


The ♀ type was described from Shiliowane, near Leydsdorp, Transvaal.

REFERENCES


