

ON SEVERAL SOLIFUGES, SCORPIONS, AND
A TRAPDOOR SPIDER
FROM
SOUTH WEST AFRICA

By
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ORDER SOLPUGIDA.

Zeriassa cuneicornis prelleri subsp. nov.

Type: An adult male example from Omatjenne, near Otjiwarongo, South West Africa, presented to the Albany Museum by Mr. S. Preller.

This genus has been recorded by Dr. Lawrence from Kowares, South West Africa, on a single female specimen which differs somewhat from females of the 2 known South African species *cuneicornis* (Annals S. African Museum I, p. 414, fig. 20 and 20a), and *purcelli* (Annals of Transvaal Museum IV, p. 163, fig. 25). The male now described has considerable resemblance to *Z. cuneicornis* Prell. from South Rhodesia, differing therefrom in possessing only one small intermediate tooth between the two large teeth of the upper jaw; instead of the anterior tooth of the two small ones in *cuneicornis* there is a slight gap in the type of *prelleri*. The form of the flagellum is essentially similar to that of *cuneicornis*, but the upper and posterior edges of the basal enlargement do not form a sharp angle; the angle in fact is well rounded though acutely so. Terminal fang of upper jaw weak, but a trifle longer than represented in Dr. Purcell's fig. 20a, its upper surface not flattened nor perceptibly dilated internally, but there is a faint vestige of a tooth on the inner side a little in front of the anterior bend of the flagellum. Lower jaw with a few weak feather-bristles. Stridulatory ridges of upper jaw well developed, the upper four more elongate than is usual in Solpuga.

Palp slender, with numerous short rather weak spines below the tibia, about 4 or 5 below the tarsus, and a number of still weaker ones towards the distal end of the patella, but none on the femur; on the patella these weak spines mostly become truncated bristles. This spiny armature is apparently not so well developed as in *cuneicornis*. A scopula only in the basal half of the tibia. Upper surface of chelicera with a number of long stout subspiniiform bristles. Ocular tubercle without a conspicuous armature of bristles: the anterior pair is longest, but they are not stout: the next in size is a pair situated about the middle of the ocular tubercle but these are weak and not long. Head-plate also with a few setiform bristles. Ventral surface of coxa III armed with numerous slender truncate bristles, a few finer ones on II but none on IV.

The colour is like that of a *Daesia*: in general pale-brown with some infuscation over the palps, the distal half of femur IV and less noticeably so on femora III, also the hinder patellae. These infuscations are slightly purple tinged. Total length 18: length of mandible 4.8 mm.

It may be noted that the coxae of the palps are rather widely separated, more so than in any *Solpuga*: on this character, and on the bristly armature of coxa III, it seems well separated generically: this latter character occurs also in *Lipophaga michaelsoni*.

Mr. Preller has sent two further males of the same form: one of these has the missing tooth of the upper jaw represented by a minute denticle: the other has a minute denticle on the right mandible, a small tooth on the left, which however is distinctly smaller than the one immediately following (IV). The anterosuperior edge of the flagellum (described as quite straight in *cuneicornis*) is not quite straight and the posterior angle is rounded off, in the smaller specimen not at all angularly, but in the larger one with some angularity.

The palp is devoid of stout spines below: there are weak ones as described in the type, but none on the femur and only a few at the distal end of the patella.

Two females from the same source agree with the *Kowares* specimens mentioned by Dr. Lawrence in that the palp is slender and quite devoid of spines or bristles: there are, however, a number of very long setae.

***Lipophaga michaelsoni* Krpln.**

This species, described from Luderitzbucht, is represented in our collection by a male and female from Swakopmund sent by Mr. R. D. Bradfield.

In both sexes the integuments are bristly: the abdominal tergites have no fine hairs, but have setae which though slender are stiffish and outstanding in the female, and very bristly in the male. Headplate with slender bristles in female, rather strong ones in the male. Abdominal sternites hairy, but coxa III in both sexes with truncate bristles ventrally and to a less extent the preceding coxae; these bristles longer, more numerous and rather stronger in the male: genital sternites of male with stiff setae.

First leg with a pair of very minute claws in both sexes. Chelicera with about 10 stridulatory ridges in the female, the upper five being only of moderate length but fairly strong: in the male 12 ridges, moderate above to short below. A complete suture separating off lateral portions of head-plate from the larger mesial portion. Tarsi of legs without subungual appendages. The fourth tarsus is elongate and shows no signs of division: but distally near the base of the claws, the remains of another segment are clearly visible, being best developed dorsally, as also is the case on tarsus III and less clearly on II: in no case does this rudimentary segment carry hairs and it is always pale like the intersegmental membranes except distally, immediately adjoining the bases of the claws.

Patella of palp of male with about 6 spiniform setae, the most distal one a spine, along the anterior side below : tibia and tarsus without spines but with numerous scattered stiff setae, femur with a row of 4 spiniform bristles on the inner side inferiorly, and several superiorly in the distal half on the anterior side. Tibia IV with about 5 long slender spiniform setae inferiorly in the male : III also with a row of 3 rather weak spines dorsally, and in the intervals 2 longer spiniform setae. The female is similarly spined as regards the legs. Patella III with a short rather weak spine at the apex dorsally in both sexes. Tibia of palp in female with rather numerous short weak spines inferiorly, patella also with a few, and tarsus with several small ones. Maxillary lobe of coxa of palp long and prominent : this is probably a good generic character. The dentition of the chelicerae is represented in the accompanying text figures. It is evident that the species belongs to the same genus as that described by me from Campbell (Annals Transvaal Museum VII, p. 66, 1919), but the stridulatory ridges are different and likewise the dentition.

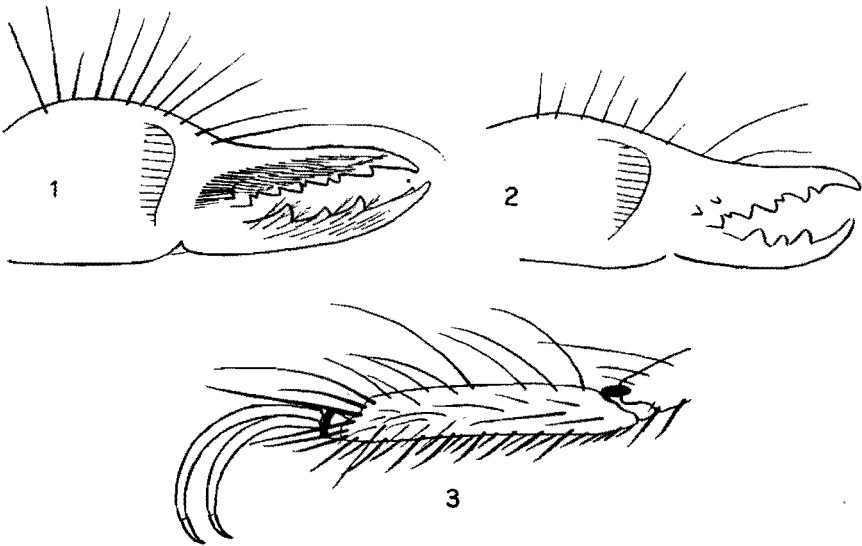


Fig. 1. *Lipophaga michaelsoni* Krpln. Chelicera of adult male.
 Fig. 2. *L. michaelsoni* Krpln. Chelicera of adult female.
 Fig. 3. *L. michaelsoni* Krpln. Terminal portion of fourth leg of female.

Feather bristles are numerous but weakly developed on the jaws of the male : they occur on the lower as well as upper jaw. The stiff simple bristles adjacent to them are also rather slender. In the lower jaw there is a sharp ridge on both sides of the terminal fang : the intermediate tooth is almost midway between the other two. In Kraepelin's figure, the intermediate tooth is represented much nearer to the distal one : so, it may be that the Swakopmund form is distinct from *michaelsoni* as is also possibly indicated by the spinulation of the palp. I think, however, the difference is not of specific importance.

It may be noted that, apart from the difference in the dentition, the sexes are separable as follows:—Female with stridulatory ridges on chelicerae rather longer and stronger, feather bristles more numerous and better developed, but bristles on upper surface of chelicerae weaker than in the male. Total length, male 21, female 29.5.

It may be noted that neither in this species nor in females from the Campbell district are there any silky hairs. Even the soft skin on the sides of the abdomen lacks such hairs, though long slender outstanding setae occur in patches ventrally and dorsally with extensive bare inter-spaces: these arise from conspicuous hair-pits.

I now think that the relationships of this genus are with *Blossia*. It agrees therewith in the structure of the head-plate, in the long maxillary process of the palp and in the nature of the hairs. The relationship with *Ceroma* seems more remote: that genus differs in the structure of the headplate—the lateral portion not completely separated off by suture—in the much more prominent ocular tubercle, in the silky hairs of the integuments, in the long subungual appendages, in the form of the malleoli, and in the shorter maxillary process.

I have previously followed Dr. Purcell in referring *Lipophaga* to the sub-family Karschiinae, but apparently the only South African genera that can be thus referred are *Ceroma* and *Toreus*. The Daesiinae in which *Lipophaga* now falls may have to be divided into two groups, the one including *Daesia* having silky hairs, short maxillary process, and lateral portion of headplate incompletely separated: the other including *Blossia* and *Lipophaga* having stiff hairs, long maxillary process and lateral portion of head-plate completely separated off.

Blossia falcifera Kpln.

This species will probably prove to be only a form of the ill-known species *setifera* Poc. (Ann. Mag. Nat. Hist. VII, 5, p. 302) from Mashonaland. There is evidently a group of very closely related forms ranging from Salisbury and Ovamboland southwards to Natal and Kimberley. In the series available to me, there is considerable variation in the relative length of the terminal fang and in the slenderness of the flagellum. We have a specimen that agrees well with *falcifera* as figured by Kraepelin, from Khan River, presented by R. D. Bradfield. It has many long setae clothing the head-plate, and the chelicerae also are well armed with long rather stiff setae. Examined under a high power, the 3 distal feather-bristles near the base of the flagellum arise very close together but in the same series with the main group of feather-bristles—not widely separated therefrom: on the outer surface, there is immediately below the base of the flagellum a single stout seta with prickled surface distally: it is the distal member of a series of simple bristles that fringe the jaw.

The specimen from Quibis, Great Namaqualand, previously figured by me (Annals Transvaal Museum VII, p. 58, fig. 10a) is short-fanged, and seems to represent a distinct subspecies for which I now propose the name *quibensis* subsp. nov. Type in the Transvaal Museum: the membranous fringe on the lower margin of the flagellum is deep, which

is also the case in the type of *falcifera* apparently. Upper surface of chelicera with some fairly long bristles, in addition to the two with prickly surfaces.

Specimens from Douglas, and Kimberley are long-fanged and are referred to the sub-species *dolichognathus*: the type of *falcifera* according to Kraepelin's figure is also long-fanged, but rather less so than in *dolichognathus*. The Quibis and Douglas specimens seem well distinct from each other, but true *falcifera* as figured by Kraepelin is intermediate, and further material may not support their separation as sub-species. In *dolichognathus* from Douglas and Kimberley, the flagellum is a trifle longer than in the type of *falcifera* apparently, and the fringe is scarcely so deep although it extends well into the distal fourth and almost to the actual tip.

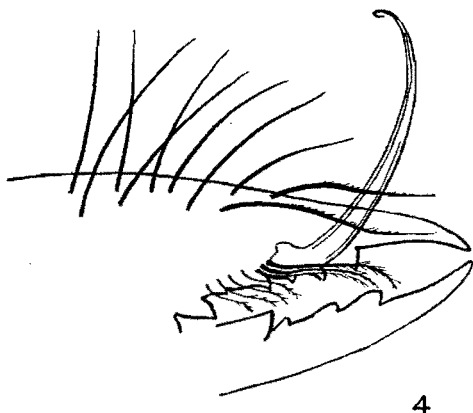
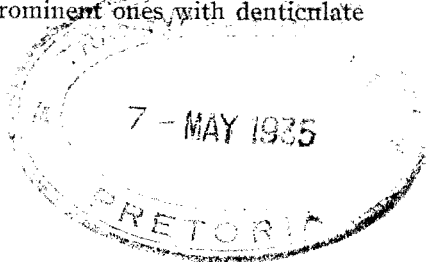


Fig. 4. *Blossia falcifera omatjensis* subsp. nov. Inner surface of chelicera of adult male.

A male recently received from Omatjenne near Otjiwarongo (S. Preller) very closely resembles *dolichognathus* in dentition: the ventral fringe of the flagellum is however still narrower, and the flagellum relatively longer and more slender. It apparently represents an undescribed subspecies now named *omatjensis* (Text fig. 4). Dorsally, the chelicera bears a number of fairly long bristles as well as the 2 long stout denticulate ones. The distal trio of enlarged feather-bristles are only slightly separated from the main series. Length of terminal fang of upper jaw distinctly greater than the distance between the apices of the next four teeth. Apex of flagellum well hooked.

The specimen from Weenen, Natal, figured in the Annals of the Durban Museum (Vol. III, p. 10) as *dolichognathus* is probably worthy of subspecific distinction and may be designated *natalensis* subsp. nov. The terminal fang is long, two distal teeth large and long: flagellum long and slender, well hooked at the tip, narrowly fringed below, more narrowly than in *dolichognathus*: dorsal surface of chelicera with fairly numerous bristles but none of them long nor stout, except several anteriorly, amongst which are two very prominent ones with denticulate surfaces.



This differs from the long-jawed form now called *omatjensis* in the weaker development of bristles on the upper surface of the chelicerae; and in the wide separation of the distal trio of feather-bristles from the main series. The two distal teeth of the upper jaw are rather more prominent in the type than in other forms examined.

B. falcifera transvaalica Lawr. (Ann. S. Afr. Mus., XXIX, p. 175) from Johannesburg, is apparently near to *dolichognathus*: it differs from *natalensis* as follows—flagellum not so slender, and Dr. Lawrence reports that the three anterior feather-bristles are not quite so distinctly separated nor so far advanced from the row behind them.

Lastly, *B. filicornis* Hwtt. from Alt Wasserfall (Annals Transvaal Museum IV, p. 158) is evidently very near to the slender forms of *falcifera*. I think it is fairly regarded as distinct on account of the peculiar dentition accompanying the complete absence of a ventral membranous fringe on the flagellum. Nevertheless, the Omatjenne form of *falcifera* is somewhat intermediate between *quibensis* and *filicornis* in respect to the flagellum.

Daesiella gen. nov.

Related to *Daesia* but differing therefrom in the imperfect segmentation of the tarsus and in the numerous teeth of the upper jaw, the latter character distinguishing it from all other solifuges of Southern Africa.

Genotype: *Daesiella pluridens* sp. nov.

In the segmentation of the tarsus and in various respects it considerably resembles Dr. Purcell's *Melanoblossia* (Annals South African Museum III, p. 6, 1903) from Willowmore, and Namaqualand, C.P., and may be closely related thereto: but there are great differences in the mandibles and, further, all species referred to *Melanoblossia* have fleshy hairs on the second abdominal sternite which are not present in *Daesiella* (i.e. assuming the type specimen to be adult male).

Prof. Kraepelin's genus *Pseudoblossia* (Denkschr. Med. Nat. Ges. Jena XIII, 1908, p. 280) is also a probable ally, judging from the original description: but if that genus actually is a synonym of Purcell's *Lipophaga*, as afterwards stated by Kraepelin, close relationship with *Daesiella* seems improbable.

***Daesiella pluridens* sp. nov.**

Type, a single example from Arandis, S.W.A., collected by Mr. R. D. Bradfield who presented it to the Albany Museum. The sex is a little doubtful, the genital sclerites being indistinct, but I believe it to be a subadult male.

Headplate broad and somewhat depressed, about one and a half times as broad as long, a shallow mesial groove behind the eye tubercle, anterior margin lightly rounded, eye-tubercle well raised and a little projecting, a curved line of 6 or 7 setae cleft at the apex on the mesial side of each eye: head plate with scattered setae cleft at the apex, but no spines nor stout bristles.

Rostrum elongated: the setal plate not much inclined to the horizontal.

Maxillary lobe of coxa of palp short and scarcely noticeable.

Chelicera elongated. Basal part moderately stout, carrying long and short setae on the outer side and a few long ones above, these being cleft apically: no spines or strong bristles: the distal tooth-bearing part is long and slender, tapering gradually and directed outwards a little. It carries long simple setae, the most conspicuous of which are one dorsally situated and another on the side externally about at the middle of the length of the jaw. On the mesial surface there is a well-developed stridulatory area with 5 long ridges: upper mandible with a more or less saw-like series of 18 teeth, none of which are large and not varying very much in size. There is a long outer row of 13 teeth and at the base an inner row of about 5, these two rows being however practically in a continuous series. Terminal fang well developed. A long series of feather bristles extending the length of the dental series: these bristles are in a single row basally, about 3 rows in the middle of the series, and 2 rows distally. The most distal feather bristle is a little larger than the rest, and the smallest are at the base of the series. An oblique row of six stout simple bristles. No differentiated flagellum. Lower jaw long and weak. A long slender

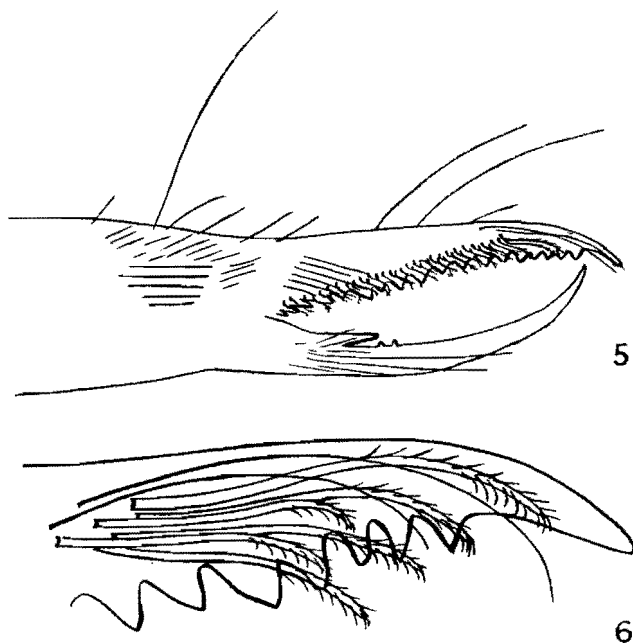


Fig. 5. *Daesiella pluridens* sp. nov. Inner surface of chelicera of male. The feather bristles are in a single row at the base, in a double row distally.
 Fig. 6. *D. pluridens* sp. nov. Distal end of chelicera of male.

toothless terminal fang. A long horizontally directed basal tooth, more or less finger-like: then follow 2 small teeth, whence a faint inner ridge extends up to the apex. There are no feather bristles, the inner surface having long slender simple setae, the longest being the most distal of the setal group.

First leg without apical claws. All the tarsi have one distinct segment, the fourth tarsus being long and slender, about 12 times as long as broad, about $1\frac{1}{2}$ times as long as the claw, and showing in the distal half very imperfect subdivision into 3 (or possibly 4) joints, the terminal one being very short: there are 5 pairs of sub-spiniform setae ventro-laterally the longest being the middle pair situate at the apex of the incipient basal joint. Stiff setae also occur on the two preceding segments. The third tarsus also has a short apical joint imperfectly differentiated, and has subspiniform setae below like IV. Tibia III with 3 slender subspiniform dorsal setae.

Pulvillus short. The more slender setae that clothe the surfaces are nearly all notched.

Pedipalp without spines or spiniform setae below.

Sternites without modified fleshy hairs. Both tergites and sternites are clothed with slender setae forked at the apex.

Total length, 7 mm.; length of chelicera, 2.5; length of tarsus IV without claw, 1.2.

ORDER: SCORPIONIDA.

Opisthophthalmus undulatus ugabensis subsp. nov.

The types are one adult male and an adult female from Ugab, South West Africa, collected by Mr. R. D. Bradfield and presented by him to the Albany Museum.

The male of this form is near to *cavimanus* Lawrence (Annals South African Museum, XXV, p. 274, 1928) from Sesfontein—which I think should be regarded as a subspecies of *undulatus* Kraepelin from Kubub—differing therefrom as follows: central areas of sternites with very finely roughened surfaces which under magnification prove to be very finely wrinkled but irregularly in zigzag fashion and discontinuously instead of being mostly in parallel transverse lines as in *cavimanus*: caudal segment IV is not faintly wrinkled below, and the infero-median keels are distinctly represented by rows of isolated granules, whilst on the same segment distinct granular infero-lateral keels occur: movable finger apparently not quite so long: pectinal teeth 26·27.

Carapace in both sexes extensively granulated, more coarsely so in male: there is a smooth and shining area practically devoid of granules on each side about midway between lateral and median eyes, an area more extensively developed in female: a glabrous area also postero-mesially over the depression, only a small area in the male but larger in the female: superciliary ridges of median eyes without granules: a Y-shaped fork in front, but somewhat ill defined: anterior margin nearly straight in male, closely and rather coarsely granulated, incised and free of granules in the middle: female with more rounded anterior margins, well incised mesially and nowhere coarsely granulated: interocular area in front flattened in male and to some extent also in female.

Chelicerae male with 2-3 well-developed stridulatory lamellae, female devoid thereof. A juvenile specimen, apparently male, has no lamellae. Another very young one is also without lamellae.

Tergites entirely matt in the male, VII well granulated at the sides, rather coarsely so posteriorly: in the female very finely matt throughout, VII with some granulation at the sides.

Sternites of male, viewed through a lens, are entirely finely wrinkled over all the mesial areas but irregularly or zigzaggedly so, and on I only very faintly: also at the sides either wrinkled or matt, except on I which is smooth. In female quite smooth throughout.

Tail, of female, short and weak. Segments I-III extremely finely wrinkled below in the male, and quite without inferior or infero-lateral keels: in female smooth with distinct smooth inferior keels on III, and traces thereof on II: IV with granular inferior and infero-lateral keels in both sexes, the former not very pronounced in the male, but well developed, stronger than the infero-lateral in the female: superior crests of II-IV with enlarged terminal teeth, especially in female. Vesicle entirely without granules in the female, and practically so in the male, except for 1 or 2 at the base inferiorly.

Pedipalp. Hand of male slender with flat upper surface which is smooth and devoid of granules except towards the inner margin, finger-keel prominent, continuous distally but tending to break up into granules basally, no accessory keels: of female stouter—but weak compared with that of some species—with lightly curved upper surface which is obsoletely granular towards the immovable finger, finger-keel strong but more or less broken into granules. Movable finger of male slender, 12.25 mm. long, about one and one third times the length of handback, 9 mm. and nearly twice the breadth of hand 6.5 mm. In female these measurements are 11.5, 10.25 and 8.8 respectively.

Legs: Tarsal lobes of III and IV in both sexes with 5 inner and 4 outer spines, below with 6-7 inner and 3-4 outer spines.

Pectinal teeth of female 17.

Measurements: Length of carapace M. 12.7, F. 13.2; distance from anterior border to a median eye M. 6.6, F. 7.6; length of tail M. 40, F. 33.5.

Colour: Male is entirely light yellowish, except tergites and sternites which are light brown. Female with yellow legs and yellow hand: fingers, especially movable one, and rest of palp dark brown like tergites, sternites and tail. Carapace pale with a reddish tinge, becoming in front more yellowish. Chelicerae pale.

It may be noted that the number of pectinal teeth in males of *undulatus* is 16-18, in males of *cavimanus* 23-26: so in this respect, *ugabensis* may not differ from *cavimanus*. Unfortunately the female of *cavimanus* is unknown, and that of *undulatus* practically so.

The subspecies has also been taken recently at Uis, Brandberg area, by Prof. N. J. G. Smith. The male is a little smaller than the type of *ugabensis*, has narrower hands, carapace not quite so coarsely granulate, inferolateral keels of caudal segment IV very weak, and only a few isolated granules representing infero-medial keels, pectinal teeth 27-28, colour rather darker and more olivaceous. A very young dark coloured male has 25 pectinal teeth. Length of movable finger of adult male 12.8, length of hand-back 9.3, breadth of hand 6.2. This Uis form, though resembling *cavimanus*, in hand proportions and in the ill-developed keels of caudal segment IV, is nevertheless in good agreement with *ugabensis* in the sternite character. In the co-type of

cavimanus, one may count roughly about 16-20 parallel wrinkles on the last sternite—the anterior ones of which being more or less irregular and broken. In *ugabensis* the wrinkles are much finer and more numerous.

Opisthophthalmus opinatus bradfieldi Hwtt. *Annals. S. Af. Mus.* XXX, p. 97.

A female specimen with 18.9 pectinal teeth from Marianthal, Okahandja (McGregor Museum).

ORDER ARANEIDA.

Idiops damarensis sp. nov.

Types, an adult male and female from Omatjenne, near Otjiwarongo, presented to the Albany Museum by Mr. S. Preller. The species is very near to *I. palapyi* Tucker from Palapye, Bechuanaland Protectorate (*Annals S. African Museum* XVII, p. 90, text fig. 3a and b: 1917). The female of that species is unknown: the male is larger and more strongly spined than *damarensis* on metatarsi I and II, on the outer side of the palpal tibia and apparently also on the carapace.

Carapace of male, except for a short very weak spine between the anterior median eyes, altogether without spines or spinules, although hair-pit scars finely roughen the surface chiefly in the posterior half and to some extent also on two patches in the ocular area: the length equal to the metatarsus plus three-fourths of the tarsus of first leg, and to the metatarsus plus half the tarsus of IV.

Eyes: Frontals of male almost in contact, of female about half a diameter apart: rectangle formed by anterior row longer than broad, and in male much narrower in front than behind, in female equally broad in front and behind. Antero-medians of male only a trifle larger than the frontals, of female much less than the frontals. Posterior row with anterior margins in a procurved line, the distance between lateral and median being a trifle more than half the distance between the medians female, a trifle less than half that distance male. Length of ocular area a trifle less than one-third of the distance from anterior margin of carapace to centre of fovea.

Sternum: Two pairs of sigilla. In female the first is more conspicuous, oval and separated from the margin by a distance a little greater than its long diameter, the second a larger oval by a distance equal to at least one and a half times its long diameter. In male the second is situated less than a diameter from the margin, and the first submarginal is hardly visible, though of moderate size. Surface of sternum only noticeably hairy at the sides in the male.

Labium and maxillae mucous in male. About 8-10 small spinules on labium apically in female, and many on the maxillae.

Legs: Male with metatarsus I not incrassated anywhere but bent slightly near the base, with 3 spines on the posterior side in the basal half but none anteriorly: II with a row of 3 or 4 spines in the distal half on the anterior side and about 9 posteriorly: tibia I shorter than the metatarsus, at the apex internally with a single straight spiniform spur set on a slight eminence and at the base of the spur, but not

actually in contact with it, a very short but stout spine the only spine on the anterior surface of the segment, although longer spines are numerous ventrally: along the middle of the outer surface no spines. Tibia II with a single short weak spine on the anterior surface in the basal half, and numerous longer and stronger ones ventrally. Patella III with a row of 4 or 5 weak spines dorsally, and with a strip of short weak spines along the anterior surface. Tarsi III and IV with entire scopula ventrally, I and II with only a few scopular hairs on each side near the apex: I has 1 or 2 spines on the anterior side distally and 3 or 4 on the posterior side, on the ventral surface two series of slender spinules which distally are in single closely adjacent rows, proximally divergent and in several rows: II is similar thereto, but the ventral spinules are weaker. A narrow strip of about 15 spinules along anterior side of patella IV, but in female the strip included only about 10 or 11 spinules in basal half of segment. All the coxae with comparatively few hairs and setae, no strips of stiff setae on III: in female a thin inconspicuous strip of stiffish setae on hinder border of coxa III ventrally, but these are not stronger than those covering I and II ventrally, where however the setae are more generally distributed.

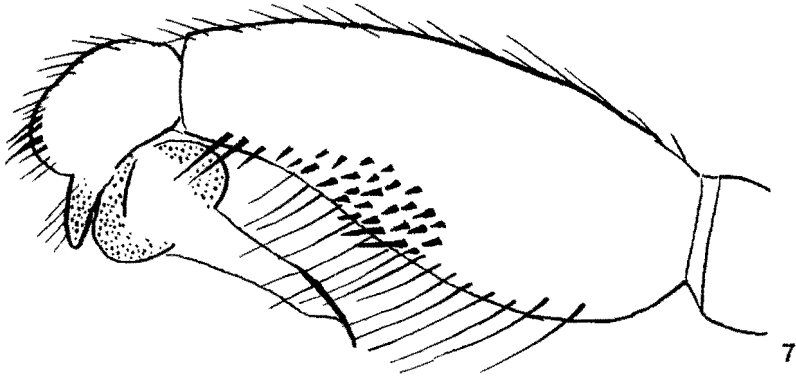


Fig. 7. *Idiops damarensis* sp. nov. Palpal organ of adult male.

Chelicera with 2 rows of teeth in both sexes, outer row in female with 3 larger teeth and 1 or 2 smaller ones, inner row with about 6 of moderate size. Male similar, but without marked differences in size, all being small.

Palp: Male palpal organ resembling that of *palapyi*, but apparently with fewer spines posteriorly at the hollow on the outer side, and the tibia not so swollen: femur with 2 or 3 quite weak spines on the upper surface.

Colour: Male carapace very dark, appendages dark brown as far as and including the patellae, but paler and with more reddish tinge distally. Female carapace straw colour, appendages pale with reddish yellow tinge.

Measurements: Total length: male 13, female 26.5; length of carapace: male 6.3, female 10; breadth carapace: male 5, female 8.3; male first leg 25.5, male fourth leg 25, male metatarsus I 5.

In view of their wide geographical separation, the resemblance between *damarensis* and *palapyi* seems remarkable: the distinction may prove to be not more than sub-specific. Other known species from Bechuanaland and South Rhodesia are evidently well separated therefrom on palpal characters:—

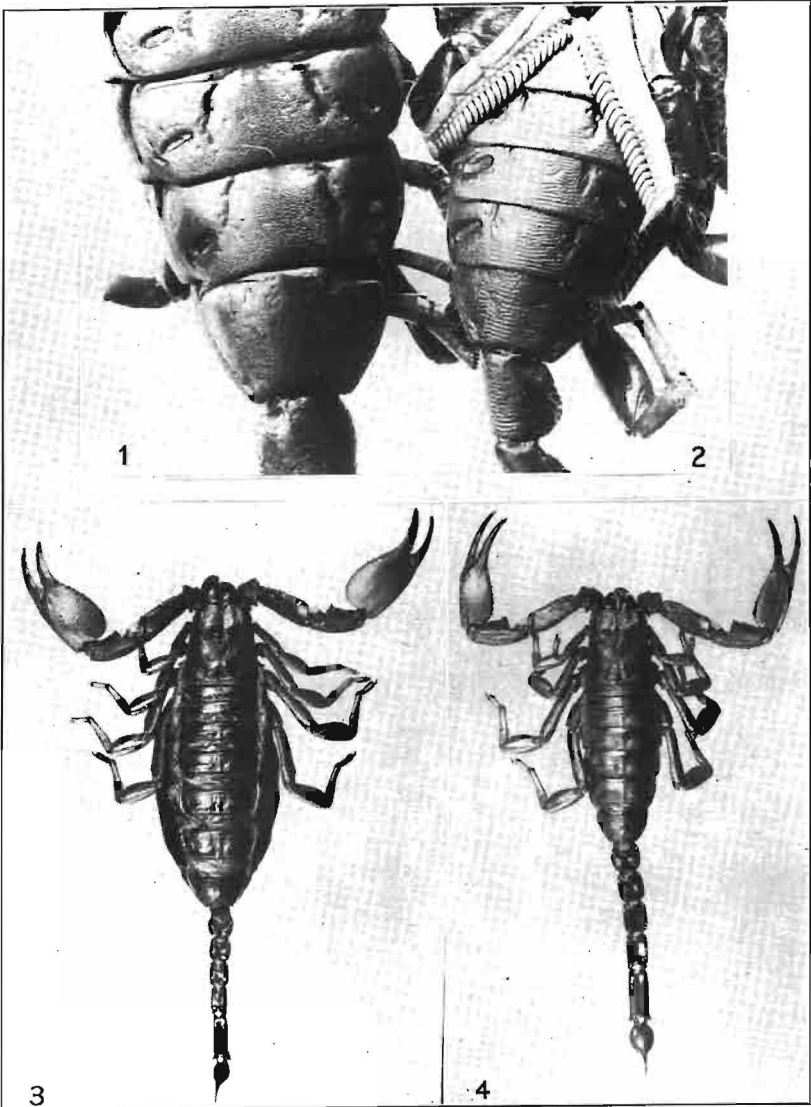
I. pullus Tckr. from the region west of Mafeking and north of Vryburg; *I. pulloides* Hwtt. from Molepolole; *I. arnoldi* Hwtt. from Bulawayo neighbourhood; *I. pulcher* Hwtt. from Tsessebe, Tati, founded on a female considerably larger than the type female of *damarensis* has much resemblance thereto in colour and structure, but in the latter the sigilla are more widely separated from the margin of the sternum, and patella IV is much less numerously spined. Dr. Purcell has also described a species *I. pallidipes* from S. Hereroland, and another *striatipes* from Sekgoma in the Kalahari that may be the same as *damarensis*: but they were based on very immature specimens not specifically identifiable (see L. Schultze, Forschungsreise in west und zentral Südafrika, Denks. med. -nat. gesell. Jena Bd. XIII, 1908).

EXPLANATION OF PLATE.

- Fig. 1. *Opisthophthalmus undulatus ugabensis* subsp. nov. Sternites II-V of adult male, enlarged.
- Fig. 2. *Opisthophthalmus undulatus cavimanus* Lawr. Showing sternites of adult male from Sesfontein.
- Fig. 3. *Opisthophthalmus undulatus ugabensis* subsp. nov. Adult female from Ugab.
- Fig. 4. *O. u. ugabensis* subsp. nov. Adult male from Ugab.

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Opisihophthalmus undulatus cavimanus Lawr. 2.
Opisihophthalmus undulatus ugabensis subsp. nov. 1, 3 and 4.