

Descriptions of New South African Arachnida.

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With Plate XLVII and 4 Text-figures.

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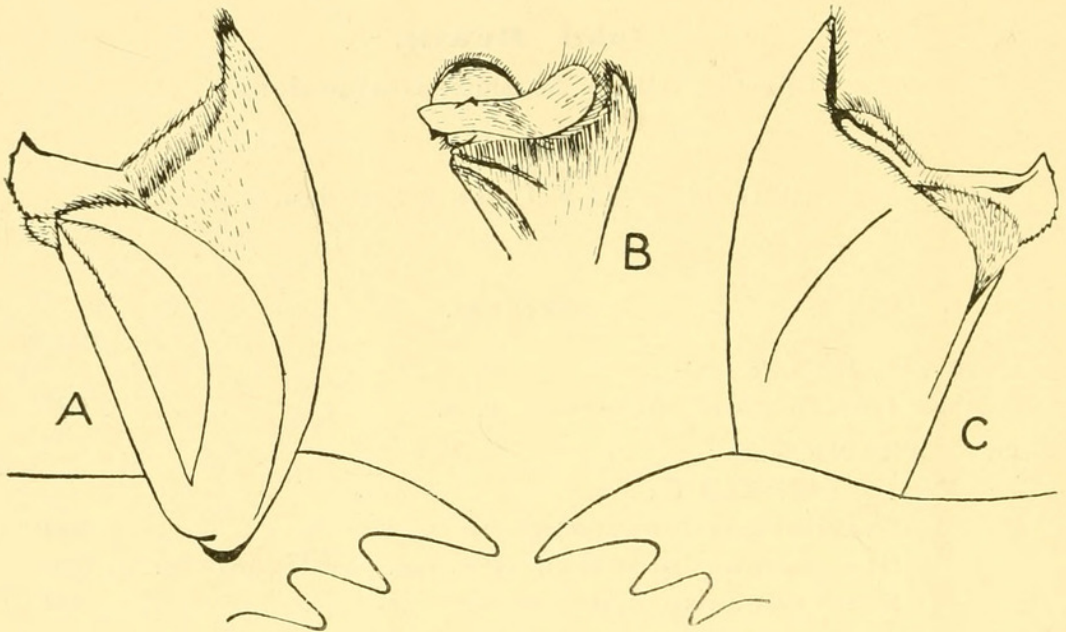
ORDER SOLIFUGÆ.

Hemiblossia idioceras sp. nov. Text-fig. 1, A-C.

THE type of this species is a single adult male example from Kimberley collected by Bro. J. H. Power (November, 1915). The species closely resembles *H. o'neili Purcell* in coloration, but has a more complicated flagellum. The fourth tarsus is unsegmented, and carries on each side six

spines, whereas, according to Dr. Purcell's figure (Ann. S. Af. Mus. ii, p. 218), there are only five spines in *o'neili*. I may remark, however, that the spine-armature in specimens from Alicedale which appear to be referable to *o'neili* does not agree with the above-mentioned figure, but resembles that of *idioceras*, which has three spines, instead of two, on the distal portion of the tarsus.

TEXT-FIG. 1.



Hemiblossia idioceras, sp. n.

- A. Flagellum of adult male seen from mesial side. $\times 44$. B. Distal end of flagellum in face view, also portion of mesial surface. $\times 32$. C. Flagellum from outer side. $\times 44$.

The description of *o'neili* contains no allusion to the presence of some characteristic thickened bristles on the sternites, a secondary sexual character of adult males; such bristles certainly occur in our Alicedale specimens, and are present in the form now described.

Flagellum.—The main portion of the flagellum is a thin flat lamina rotatable at the base; on its mesial side, upper and lower out-growths of the lamina approximate to form an elongated flattish pouch which occupies almost the whole length of the flagellum, and has a long and fairly wide slit-

like opening along the middle, the edges of which remain separate distally but fuse proximally (text-fig. 1). The distal margin of the lamina is flattened out, and presents a foliaceous concave extension on its outer side inferiorly—the side adjacent to the chelicera—the sides of this extension gradually converging proximally into a slight keel which runs for a short distance along the outer surface of the lamina ventrally. The dorsal margin of the flagellum is slightly curved, and has an acutely pointed termination: the ventral margin is almost straight. The distal margins are for the most part fringed with hairs. The stridulatory area of the chelicera presents seven longitudinal ridges.

Sternites.—Modified hairs are present on the third post-genital sternite as numerous long stout rods, finely pointed at the apex; there are roughly about twenty on each side, arranged irregularly and rather sparsely. In the neighbourhood of these hairs is a bright yellow exudate. Numerous hairs of this kind, but more slender, are also found on the first post-genital sternite.

Measurements.—Total length 9 mm., length of flagellum about 1.2 mm.

ORDER ARANEÆ.

Fam. CTENIZIDÆ.

Stasimopus longipalpis *sp. nov.* Pl. XLVII, fig. 5.

This species is founded on three adult male examples from Kimberley, collected by Bro. J. H. Power.

Colour.—Carapace dark brown or pale brown; legs also brown, the two anterior pairs and the palp being somewhat darker than the hinder two pairs, except on the distal portions of those appendages, which are pale.

Carapace.—As long as the tibia of the palp, longer than tibia I. The three keels do not reach back so far as the fovea. The surface more or less lightly sculptured or roughened throughout, being nowhere quite smooth. Anterior

margin of anterior row of eyes in a straight line; anterior medians slightly nearer to the laterals than to each other.

Pedipalps.—Pressed forwards, the tip reaches a point about one-quarter to one-third of the distance along the tarsus of the first leg, or only to the end of metatarsus I; patella considerably longer than that of the first leg and a little longer than tibia I.

Legs.—All the tarsi scopulate below, but no trace of a scopula on the metatarsi. Tarsus I without spines or with only a single one on the posterior side, or with one on the posterior side and two on the anterior side; II without spines or with a single one on the anterior side or on both sides; III with 0–1 spine anteriorly and 0–2 posteriorly; IV with 5–11 spines anteriorly but 0 posteriorly. Metatarsus I without strong spines along the mesial area inferiorly or with only 1. Tibia I very slightly shorter than metatarsus I, with about 5–10 spines on the lower surfaces besides those at the apex inferiorly; tibia III with 1, 2 or 3 spines near the distal edge superiorly on the anterior side, and 3 or 4 on the posterior side superiorly. Patella I without spines below, III with a discontinuous strip of about 5 or 6 short, weak spines on the anterior side, but no distal patch of spinules above; IV with an anterior patch of spinules extending about three-fifths of the length of the anterior side. Paired tarsal claws of fourth leg with a basal comb of 2 or 3 teeth, or even only 1 may be well developed.

Measurements.—Largest specimen: total length 11·0 mm., length of carapace 5·65 mm., breadth of same 4·9 mm., length of tibia of palp 5·8 mm., of patella of palp 5·4 mm., of metatarsus I 5·1 mm., of tibia I 4·8 mm.; of patella I 3 mm.; of metatarsus IV 5·4 mm.

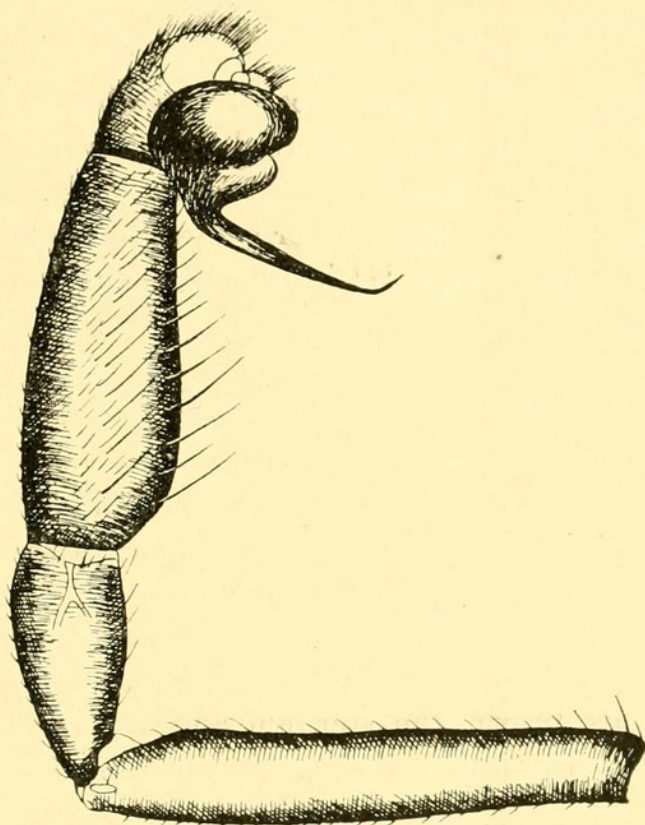
Stasimopus insculptus Poc. var. *peddiensis* var. n.

Pl. XLVII, figs. 6 and 7, and text-fig. 2.

The types of this form are four adult male examples collected at Peddie by Mr. B. Marais during March, 1916.

They are approximately equal in size, and share the same coloration, being entirely black above except the metatarsi and tarsi of the legs, which are reddish. They are slightly smaller than the type of *insculptus*, the carapace of which is 4.5 mm. long (not 6 mm. as stated by Pocock¹ in the original

TEXT-FIG. 2.



Stasimopus insculptus var. *peddiensis* var. nov.

Palp of adult male. $\times 16$.

description); in the Peddie specimens the carapace is about 4 mm. long. They differ from *insculptus* as follows:

Metatarsus I without spines below or at the sides, apart from those at the apex, or only a single spinule on each side in the distal half, or even three spinules on the posterior side; tibia I without spines inferiorly (*insculptus* has several strong spines inferiorly); tarsus I with 0-3 spines on the anterior side, and 0-4 on the posterior side.

¹ Ann. Mag. Nat. Hist., 7, vii, p. 285.

The tibia of the palp seems short and comparatively stout, being swollen towards the base, and not quite twice as long as the patella. The spine of the palpal organ is elongated, so much so that if it were straightened out in a line with the axis of the bulb the whole organ would be quite as long as the tibia of the palp.

Total length 10 mm., length of tibia of palp 2.35 mm., of first leg 15.3 mm., of fourth leg 16.8 mm.

The female of this form closely resembles that of *S. insculptus* Poc., and was referred to in my key ('Albany Museum Records,' iii, p. 84) as connecting together *artifex* and *insculptus*. It has neither spines nor spiniform setæ at the apex of metatarsus III inferiorly, though stiffish setæ may be present.

Stasimopus spinipes *sp. nov.* Pl. XLVII, figs 3 and 4.

The types of this species are two adult males collected at East London during the earlier part of June, 1916, by Dr. Geo. Rattray, who presented them along with numerous female examples to the Albany Museum.

Colour.—Black throughout, except the two distal segments of each leg which are red, the tibia, tarsus, and bulb of the palp which are brown, the sternum and ventral surfaces of coxæ III and IV which are castaneous, the lung-opercula and genital sternite which are yellow, and the spinners which are pale.

Carapace.—Without hairs on the head region, except several in front of the antero-median eyes. The usual three keels are present, the mesial one being continued backwards to the fovea. The surface is roughened throughout, except in the head-groove laterally and between the three keels dorsally. The eyes of the anterior row are comparatively large and close together, much more so than in *schönlandi*: the distance between an antero-lateral and antero-median is considerably less than the long diameter of the former, and distinctly less than the diameter of the latter. The carapace

is a little longer than metatarsus IV or than the tibia and tarsus of the palp.

Pedipalp.—Pressed forwards the palp extends as far as the proximal fourth of metatarsus I. The patella is a trifle shorter than patella I.

Legs.—All the tarsi are scopulate below, but no trace of a scopula on the metatarsi. Tarsus I with short strong spines on each side, 7–16 anteriorly and 8–21 posteriorly; II also with rather numerous spines on each side; IV with about 10–15 rather weak spines posteriorly but more numerous and stronger ones anteriorly. Metatarsus I with numerous strong spines in several rows on each side, and one or two may, or may not, occur along the mesial surface inferiorly, the mesial area on the whole being devoid of spines. Tibia I distinctly shorter than metatarsus I, thickly spined below; tibia III without a group of spinules at the apex dorsally, or such spinules when present are small and weak. The patch of minute spines on the anterior surface of patella IV extends about two-thirds of the length of the segment.

Measurements.—Total length 21·0 mm., length of carapace 7·5 mm., of patella I 3·5 mm., of tibia I 4·7 mm., of patella of palp 3·0 mm.

The palpal measurements of these specimens may point to a relationship with the Grahamstown species *S. schönlandi* Poc., the ocular characters of which are, however, pronouncedly different from those of *spinipes*, whilst apparently the spinulation of the lower surface of metatarsus I will distinguish the two forms. Probably the species is closely related to *S. insculptus* Poc. and to *S. qumbu mihi*, though the palps of the latter species are relatively shorter than in East London specimens.

The characters of the female are sharply separated from those of *schönlandi*, and agree very closely with those of the section including *insculptus* Poc., *kolbei* Purc., *ken-tanicus* Purc., *umtaticus* Purc. and *qumbu mihi* (see: Records Albany Mus., iii, p. 84). There is no trace of

spines or spiniform setæ at the apex of metatarsus III inferiorly. At the apex of the tibia of the palp superiorly is a group of spinules. In the larger specimen and several others, patella III has a number of short stout red spinules at the apex superiorly, similar to those on the tibia, but in somewhat smaller examples, though apparently adult, such spinules are quite absent or weak.

The antero-lateral eyes are very large, their long diameter being considerably greater than the distance between antero-median and antero-lateral; the posterior lateral eyes are much smaller than the anterior laterals. The patch of spinules at the apex of tibia I dorsally is rather longer than that at the base of the metatarsus. The carapace and appendages are usually dark castaneous, and the abdomen infuscated above; sometimes the two distal segments of each leg are paler than the more proximal segments, and more or less tinged with red. Length of carapace 11.0 mm., breadth of carapace 9.3 mm., breadth of ocular area 3.0 mm.

The large series of female specimens collected by Dr. Rattray at East London seems to be referable to a single species. They are considerably smaller than specimens from Debe Nek, and from the neighbourhood of King Williamstown, which presumably belong to *insculptus* Poc. Perhaps they are co-specific with one or both of the two forms described by Dr. Purcell from the Kentani district, viz. *S. kolbei* and *S. kentanicus*. The question cannot be finally solved until adult males of these species are available.

The adult females from East London are smaller than those found at Peddie, but very similar in structural characters; examples of approximately equal size can be distinguished by the characters of the posterior row of eyes, which are all larger in *peddiensis* than in *spinipes*, the disparity in size between the anterior and posterior laterals being greater in *spinipes*.

In distinguishing the species of *Stasimopus* on the characters of adult males the most convenient character is

that based on the varying length of the palp and of its segments. It should be noted, however, that large and small males of the same species present some appreciable difference in this respect; in small males the palpal segments tend to become rather more elongated than in large ones of the same species. I give tentatively the following key:

PRELIMINARY KEY TO THE SPECIES OF THE GENUS
STASIMOPUS,

BASED ON STRUCTURAL CHARACTERS OF THE ADULT MALES.

- I. 1. Pressed forwards the palp reaches a point about $\frac{4}{5}$ or $\frac{5}{5}$ of the distance along tibia I, the patella distinctly shorter than patella I: metatarsus I not scopulate, with strong spines on either side but not along the median area inferiorly: tarsus I with 2 or 3 spines on the anterior side and 7-8 on the posterior side, IV with a strip of spines along the anterior side except in the basal $\frac{1}{3}$ or $\frac{2}{7}$: tibia III with a few spinules at the apex above: the three keels of the carapace are depressed, the lateral ones flattened out and transversely ridged, the ridges becoming lost in the reticulation of the sides of the cephalic area.
(King Williamstown.) *S. insculptus* Poc.
 - a. Similar to the typical *insculptus* but differing as follows: Metatarsus I without spines or spinules below or at the sides, or only with one or several spinules at the sides. (Peddie.)
S. insculptus var. *peddiensis* var. nov.
 - b. Similar to *insculptus* but differing as follows: Metatarsus I with strong spines below both over the median area and at the sides and bearing a few scopular hairs near the apex: tibia III with a dense patch of short spinules at the apex above: tarsus I with 10-12 spines on both anterior and posterior sides, IV with many spines on the anterior side and about 13 on the posterior side. (Qumbu.)
S. qumbu Hwtt.
2. Pressed forwards the palp not quite reaching the apex of tibia I, the patella short, half as long as tibia I:

metatarsus I scopulate below in the distal fifth or sixth, the under side thickly spined on each side, and also with 1-3 spines along the median line: tarsus I with 1-2 spines on the posterior side but none on the anterior side, III with 4-6 anterior and 7-9 posterior spines, IV with 2-3 on the posterior side and 14-15 on the anterior side: carapace with 3 low keels, the lateral ones abbreviated behind, the median one continued to the fovea. (Bushman's Drift, near Ashton.)

S. brevipalpis Purcell.

3. Pressed forwards the palp reaches a point about $\frac{3}{4}$ of the distance along tibia I, the patella subequal to patella I in length: metatarsi I and II scopulate at the apex below, I without strong spines along the midline inferiorly: tarsus I without spines anteriorly but with 1 posteriorly, IV with 10 spines anteriorly and 2 posteriorly, III with only 1 spine on each side: carapace with the 3 keels obsolete, only the median one being distinguishable posteriorly. (Worcester.)

S. erythrognathus Purcell.

- II. 1. Pressed forwards the palp reaches a point about $\frac{1}{5}$ of the distance along metatarsus I, the patella very slightly shorter than patella I: metatarsus I not scopulate inferiorly, with strong spines below both over the median area and at the sides: tarsus I with 3-7 spines anteriorly but 7-8 posteriorly, IV with many spines anteriorly and 8-12 posteriorly: the 3 keels of the carapace are flattened, especially the median one. (Grahamstown.)

S. schönlandi Poc.

- a. Similar to *schönlandi* but differing as follows:

Metatarsus I without strong spines on the median area inferiorly, or only 1 or 2: distance between anterolateral and antero-median eyes less than the diameter of the latter (much greater in *schönlandi*): median keel of carapace distinct from the ocular area to the fovea: distal segments of palp brown (red in *schönlandi*.) (East London.)

S. spinipes sp. nov.

- b. Similar to *schönlandi* but differing thus: A weak but distinct scopula at apex of metatarsi I and II and no spines along the median area of this segment: tarsus I with 1 spine anteriorly and 2 posteriorly: the

3 carapace keels fairly sharp and carrying long hairs which also occur on the ocular area. (Bedford; the type females however came from Pearston and Jansenville.)

S. astutus Poc.

a. Similar to *astutus* but differing thus:

Palp when stretched forwards barely reaching or only slightly surpassing the apex of tibia I: metatarsi I and II with only a few scopular hairs apically below: anterior row of eyes rather more distinctly procurved than in *astutus*. (Alicedale; the type female from Perseverance, near Port Elizabeth; the same species was found by me (23/6/1916) at Grahamstown on the drive above the Grey reservoir.)

S. patersonæ Hwtt.

III. 1. Pressed forwards the palp reaches a point about $\frac{1}{3}$ of the distance along metatarsus I or a trifle further, the patella very slightly longer than patella I: metatarsus I with a few scopular hairs at the apex inferiorly and without spines along the median area inferiorly: patella III with a single spine anteriorly in the middle and in addition with some weak, short, subspiniiform setæ, also with several spines on the distal edge, but dorsally there is no distal patch of spinules: tarsus III with 6 or 7 spines on its anterior side situated in the distal half, I with 1-2 anteriorly and 2-3 posteriorly: claws of tarsus IV with a basal comb of about 7 teeth, the more distal ones being short but not sharply separated from the rest of the series: lateral keels of carapace depressed, only distinct along their inner edges and obsolete in the hinder half: anterior margin of anterior row of eyes in a straight line. (Vredefort Rd.)

S. nigellus Poc.

2. Pressed forwards the palp reaches a point $\frac{3}{5}$ of the distance along metatarsus I: the patella considerably longer than patella I but a little shorter than tibia I: metatarsus I not scopulate and without strong spines on the mesial area below: patella III with a strip of 6-9 weak spines anteriorly: tarsus III with 1 anterior spine and 1-3 posterior spines, IV with 7 anterior and 1 posterior spines. (Bloemfontein.)

S. minor Hwtt.

IV. 1. Patella of palp slightly longer than patella I, appreciably shorter than tibia I, the tibia and tarsus together considerably shorter than the carapace: tarsus IV with numerous spines on both sides and III also with numerous spines in a continuous band on both sides: metatarsus I not scopulate, inferiorly with strong spines both over the median area and at the sides: the 3 keels of the carapace prominent throughout and reaching back almost as far as the fovea. (Vredefort Rd.?) *S. gigas* Hewitt

2. Pressed forwards the palp reaches a point $\frac{3}{5}$ of the distance along metatarsus I, patella longer than patella I but much shorter than tibia I, the tibia and tarsus together slightly shorter than the carapace: metatarsus I not scopulate, inferiorly without spines along the median area: tarsus III with about 14 spines on each side, IV numerous spined on both sides: the 3 keels of the carapace well developed anteriorly but absent posteriorly, none of them approaching the fovea. (Steynsburg.)

S. steynsburgensis Hewitt

V. 1. Pressed forwards the palp reaches almost to the tip of the first leg, the patella being about $1\frac{1}{2}$ times as long as patella I and only very slightly shorter than tibia I: tarsus I with 4-5 spines anteriorly and 6-7 posteriorly: metatarsus I not scopulate and without spines along the median line inferiorly or only an odd one proximally. (Pretoria.)

S. robertsi Hewitt.

2. Pressed forwards the palp reaches to the end of metatarsus I or slightly beyond, the patella being a little longer than tibia I and $1\frac{1}{5}$ times as long as patella I: tarsus I with 0-2 spines anteriorly and 0-1 spine posteriorly: metatarsus I not scopulate and without spines along the median area inferiorly or with only one. (Kimberley.) *S. longipalpis* Hewitt.

VI. 1. Differing from all the above-mentioned species in that tarsus IV is not scopulate: pressed forwards the palp reaches to the tip of the first leg, the patella being distinctly longer than tibia I, the tibia being longer than metatarsus IV, which again is subequal to the carapace in length. (Graaff Reinet.)

S. palpiger Poc.

- a. Very near to *palpiger* but apparently differing as follows: Pressed forwards the palp extends beyond the apex of metatarsus I, the patella at least equal to tibia I in length, the tibia as long as metatarsus IV and very distinctly longer than the carapace.
(Hanover.) *S. schreineri Purcell.*

Fam. DIPLURIDÆ.

Lepthercus rattrayi sp. nov. Pl. XLVII, figs. 1 and 2, and text-fig. 3, A-E.

The type of this species is an adult male example collected at East London by Dr. Geo. Rattray and Master G. Rattray during May, 1916. The females present no conspicuous structural characters which would serve to separate them generically from *Hermacha Sim.*, except perhaps in the weaker scopulæ of the tarsi, but the adult male differs considerably from that of any known species of *Hermacha* in the modification of the first leg. The male agrees more closely with that of *L. dregei Purcell* (Trans. S. Af. Phil. Soc., xi, p. 379, 1902) from the Zuurberg, but differs therefrom in the armature of the maxillæ, in the dentition of the chelicerae, and in the modification of the first metatarsus; the female of *dregei* is unknown.

Colour.—The general colour is dull brown, the surfaces of the carapace, abdomen, and appendages being thickly covered with long silky appressed pale brown hairs; on the abdomen and appendages these are accompanied by stiffer black hairs more sparsely disposed. The silky hairs on the carapace, chelicerae, and coxae of the legs and palps are paler than those on the femora of the legs, which are almost olivaceous, but the silky hairs of the patellæ and more distal segments of the legs are almost as pale as those on the carapace. The posterior spinners are conspicuously banded, the tips of the terminal segments, and the articular membranes between the various segments, being almost white.

Carapace.—The lateral margins converge in front so that the anterior margin is narrow. The radial depressions are obscured by the clothing of hair. The fovea is transverse. Stiffish black hairs fringe the margins in the posterior half, a few occur just in front of the ocular area, and several weaker ones near the fovea. The carapace is as long as the metatarsus and half the tarsus of the fourth leg.

Ocular area.—Anterior row of eyes decidedly procurved when seen from above, the antero-laterals being one-half longer than the medians and distant from the anterior margin of the carapace about the length of a median. Posterior row of eyes slightly recurved, the laterals being distinctly smaller and shorter than the anterior laterals, whilst the medians, which are oval, are a trifle longer than the anterior medians.

Labium.—Mucous, but maxillæ armed with numerous (about fifty) minute cusps at the base in a small patch.

Chelicerae.—With nine teeth in the inner row; the outer row is obsolete.

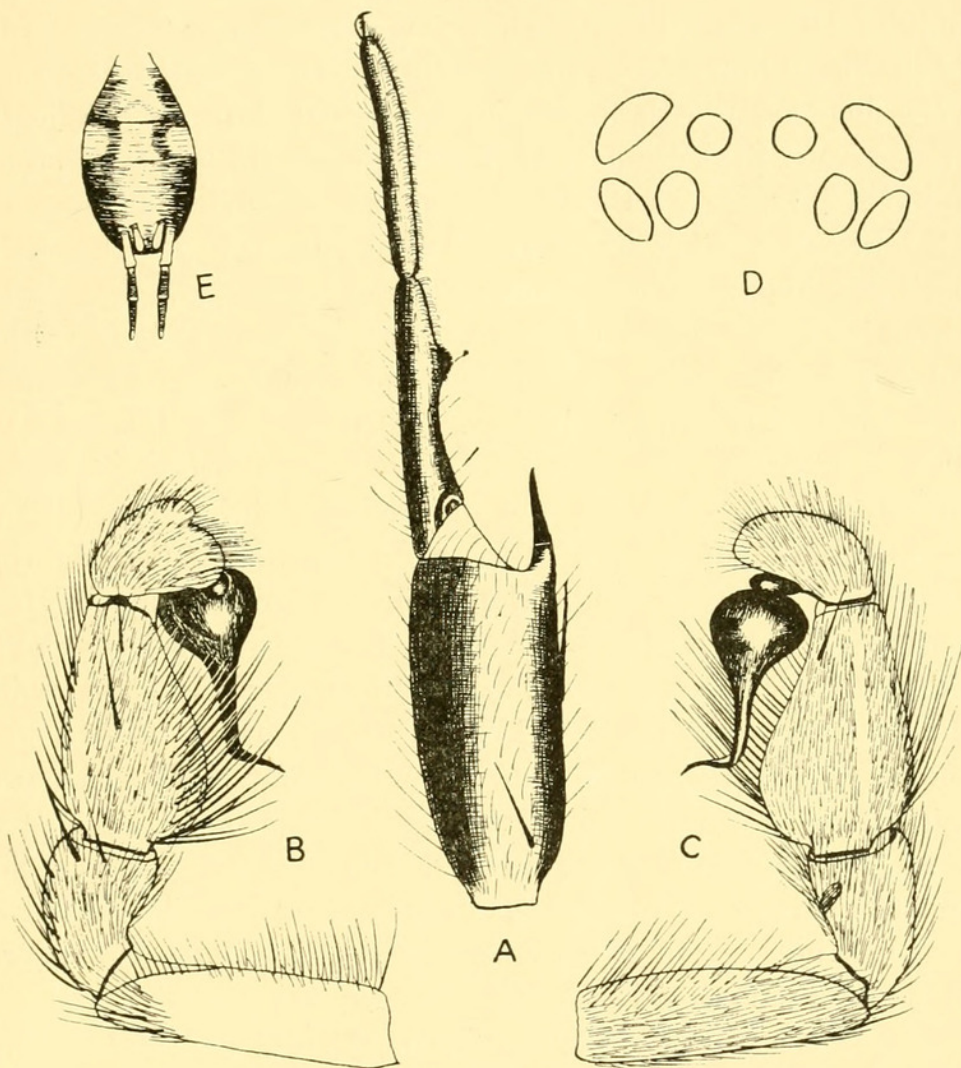
Pedipalps.—Superiorly the femur carries a number of curved bristles but no distinct spines; there is a weak spine at the apex of the patella superiorly on the inner side; there is a setiform spine on the inner surface of the tibia, and a number of long stout setæ superiorly and inferiorly. The tarsus is without spines or bristles. The spine of the bulbal organ is fairly long and stout, being longer than the bulb; it is strongly twisted.

Posterior spinners.—Long and slender, decidedly longer than the sternum and labium together, being approximately two-thirds as long as the abdomen. In side view the three segments are about equal in length, the slender apical segment being only a little longer than the penultimate segment.

Legs.—Tarsus I is long and slender, longer than II. All the tarsi are scopulate, the scopula of IV, and to a less extent of III, being divided by a mesial strip of setæ; in III the setæ and scopular hairs are not so easily distinguished, the setæ being finer than in IV. The scopular hairs at the

distal end of each tarsus are elongated into a terminal tuft; a small median tarsal claw is present, this being fairly conspicuous on tarsus IV. Metatarsus I is slightly bowed,

TEXT-FIG. 3.



Lepthercus rattrayi, *sp. n.*

- A. Distal segments of the right leg of the first pair, seen from the outer side: adult male. $\times 13$. B. Palp of adult male viewed from the inner side. $\times 19$. C. Palp of adult male viewed from the outer side. $\times 19$. D. Eyes of adult female in dorsal view. $\times 37$. E. Lower surface of abdomen of adult female. $\times 2\frac{3}{4}$.

and on its ventral surface presents a conspicuous rounded protuberance at a point nearly two-thirds of the length of the

segment from its base ; this is covered with numerous black spinules. There is a pair of spines at the apex inferiorly, one on the inner surface about halfway along the segment, and one on the lower surface externally just proximal to the protuberance. A distinct scopula is only present in the distal half of the segment, though scattered scopular hairs occur in the basal half also. Tibia I stouter than the patella, and very much stouter than the metatarsus ; at the apex inferiorly is a strong projecting spur, bearing a slightly curved stout spine at its end ; on the lower and lateral surfaces there are also about 6 long but rather weak spines. In the pale articular membrane between the tibia and metatarsus inferiorly there is a well-defined indurated brown area at the base of the latter ; this also occurs as an isolated element on the second leg, and is more or less distinctly represented on III and IV. Patella I with a weak spine near the apex on the inner side. Metatarsus II with 2 spines at the apex inferiorly, also 5 on the lower surface and 2 or 3 on the inner surface ; the scopula is fairly well developed in the distal half of the segment. Tibia II has 3 spines at the apex inferiorly and 3 on the lower surface, also 2 on the inner surface. The tibiae and metatarsi of III and IV bear long, strong spines, the metatarsi being devoid of scopular hairs. The femora superiorly bear long spiniform bristles.

Sternum.—The margins are fringed with bristles ; the general surface carries brown silky hairs and black stiff hairs.

Abdomen.—On the dorsal surface anteriorly there are some long curved bristles.

Measurements.—Total length (including spinners and chelicerae) 14·5 mm., length of carapace 4·75 mm., breadth of carapace 3·5 mm., length of metatarsus of fourth leg 3·65 mm., length of posterior spinners 3·65 mm.

The female greatly resembles the male in general characters. The chelicerae have 10 teeth in the inner row, and the outer row is represented by a series of minute denticles, the end of the outer series being opposite to the eighth tooth

from the distal end of the main row. All the tarsi are scopulate, the scopula of II being divided by a thin median strip of setæ, and III and IV by a broader strip. Metatarsus I with 2 spines at the apex inferiorly, and 3 on the lower surface, II with 2 at the apex and 4 on the lower surface. The anterior spinners are a trifle more than two diameters apart. The terminal segment of the superior spinners is subequal to the basal segment and barely one and a quarter times the length of the middle segment. Labium without apical teeth. Surfaces of body and appendages clothed with pale brown hairs, the abdomen showing no pattern or markings superiorly.

The carapace is broader anteriorly than in the male.

Measurements.—Total length 17.75 mm., length of carapace 5.4 mm., breadth of carapace 3.8 mm., length of posterior spinners 4 mm., length of tibia of first leg 2.5 mm.

This genus probably approaches *Brachythele* *Auss.* and *Hapalothele* *Lenz.* It does not seem to agree with any of the Diplurine genera recorded from Australia by H. R. Hogg or by W. J. Rainbow, nor with the South American genera dealt with by the late F. O. Pickard-Cambridge. Most of the genera belonging to this section, the *Brachytheleæ* of Mr. H. R. Hogg, are very imperfectly known, and no author has had sufficient material at his disposal for correlating the genera of different zoological regions.

The genus *Hermacha* is also represented at East London. The females are larger than those of the species above described. Young specimens of *Hermacha* can be distinguished from females of *L. rattrayi* by the presence of one or two cusps on the labium, the weaker spinulation of the first and second metatarsi, and the greater elongation of the terminal segment of the posterior spinners relative to the middle segment. Another related species, *Hermachola grahami mihi*, which occurs at Grahamstown, has the terminal segment of the posterior spinners considerably

longer than the middle segment, and is at once distinguished from *L. rattrayi* by the relative paucity of fine hairs on its surfaces, the dark dorsal pattern of the abdomen being conspicuously displayed through the weak covering of hair; the characters of the adult male are very different in the two species.

Fam. CLUBIONIDÆ.

Amaurobioides africanus *sp. nov.* Pl. XLVII, fig. 8,
and text-fig. 4, A-D.

The species described under this name is based on a series of adult male and female specimens collected recently at East London by Dr. Geo. Rattray and his son, Master G. Rattray. Specimens were first discovered on the seaward face of the rocks near Bats Cave; their retreats, made of tough silk, lodged in the pits and crevices of the rock surface, were situated near to or just below the average high-water mark, where they were liable to complete submergence at spring tides. Other examples were found on rocks between tide marks along the banks of the Buffalo River, and a few at Cove Rock. After visiting their habitats on various occasions, Dr. Rattray is satisfied that many of these retreats are not necessarily submerged at each invasion of the tide, but are often merely drenched by the spray of the waves. On the other hand, he found numerous small retreats occupied by immature specimens amongst the wet seaweed exposed at low water, and these retreats must certainly be submerged every high tide.

The species closely resembles the other two recorded members of the genus, viz. *A. maritima* *O. P. Cambr.* (Proc. Zool. Soc., 1883, p. 356, pl. xxxvi, fig. 3), the types of which were sent to Mr. Pickard-Cambridge labelled "marine spiders," having been found on rocks in the sea at Allday Bay, Otago, N.Z., and *A. piscator* *Hogg* ('Sub-antarctic Islands of New Zealand,' Wellington, 1909, article

ix, p. 162, pl. vii, fig. 4) from the Campbell Islands, where this species also was found on rocks.

Some months ago I submitted immature examples from East London to Mr. H. R. Hogg, who very kindly compared them with the types of *piscator*, afterwards reporting that he was unable to find any essential difference in structure between the South African and New Zealand specimens. Apparently, therefore, the only satisfactory basis of distinction between *africanus* and *piscator* is that which may possibly be offered by the external sexual characters. The males of the New Zealand species have not been described in either case, and the epigynal character of the adult female of *A. piscator*, as figured by Mr. Hogg, appears to be quite distinct from that of *africanus*, the characters of which are constant in the series of six or seven adult specimens now at my disposal.

Colour.—Carapace brown, becoming black-brown on the ocular area. Chelicerae black-brown throughout, except in the terminal half of the fang, which is reddish. Lip and maxillae reddish-brown. Legs and sternum pale brown. Upper surface of abdomen yellow, with a median dark tree pattern constituted by a series of six dark transverse chevrons, the three anterior ones being connected together by a median stripe which extends considerably in advance of the most anterior chevron. The anterior chevron is much broader than any of the succeeding ones, and the second is broader than the third, though not quite so long. Towards the posterior end of the abdomen, the colour is dark throughout except for faint indications of yellow stripes. The lateral surfaces of the abdomen are dark with three yellow, backwardly directed, oblique stripes. These stripes superiorly pass into the yellow of the dorsal surface, but inferiorly the two posterior ones taper finely and end blindly near the posterior end of the abdomen, whilst the anterior one is quite short and broad, not extending far towards the ventral surface. The ventral surface of the abdomen is pale, the dark coloration of the sides gradually merging therewith.

This pattern on the dorsal and lateral surfaces of the

abdomen is very similar to, but not quite identical with, that of the New Zealand species. In those species, according to Mr. Hogg's recent notes on *piscator* and judging from the original figure of *A. maritima*, the dorsal surface presents a yellow pattern on a dark background rather than dark on yellow as in *africanus*.

Carapace.—The ocular characters are not quite as described in *piscator*. In the hind row, the distance between each pair is distinctly greater than the diameter of the posterior lateral. The area of the anterior laterals is quite twice as great as that of the posterior medians, and is a little larger than that of the posterior laterals. The distance between anterior and posterior laterals is about two-thirds the diameter of the latter. (In both the New Zealand species the lateral eyes seem to be rather more widely separated from each other.) At the sides and in front, the ocular area projects above the general surface of the carapace; posteriorly, however, along its whole width, the ocular area passes quite insensibly into the general surface of the carapace. Apart from the general clothing of short grey hairs, there are a few scattered long black hairs on the carapace; these latter are most numerous in the ocular region. Viewed under a high power of the microscope, the grey hairs are seen to be finely ciliate. A long stiff hair projects upwards from between the antero-median eyes.

Labium.—This is not nearly so much constricted at the base as represented in the figure of *piscator*. (Mr. Hogg informs me that the constriction indicated in the figure of that species is only a surface depression.)

Sternum.—The anterior margin is narrow and slightly curved. It is broadest opposite to the coxæ of the second pair of legs.

Chelicerae.—The lateral and upper surfaces of the basal joint are rather coarsely sculptured, except towards the apex, where they are smooth; there is a very prominent basal spot with smooth surface. The fang is stout and not very long; there is on the outer side a slight transverse constriction

situated about one-third of the length of the fang from its base; there are two cutting edges, both very finely serrated, and separated from each other by a groove; they take origin at points in a line with the constriction of the outer surface. In the more ventral dental series the largest tooth is that at the base, the other two being also fairly large; the dorsal dental series has quite a small basal tooth, the middle tooth being a trifle larger than that at the apex.

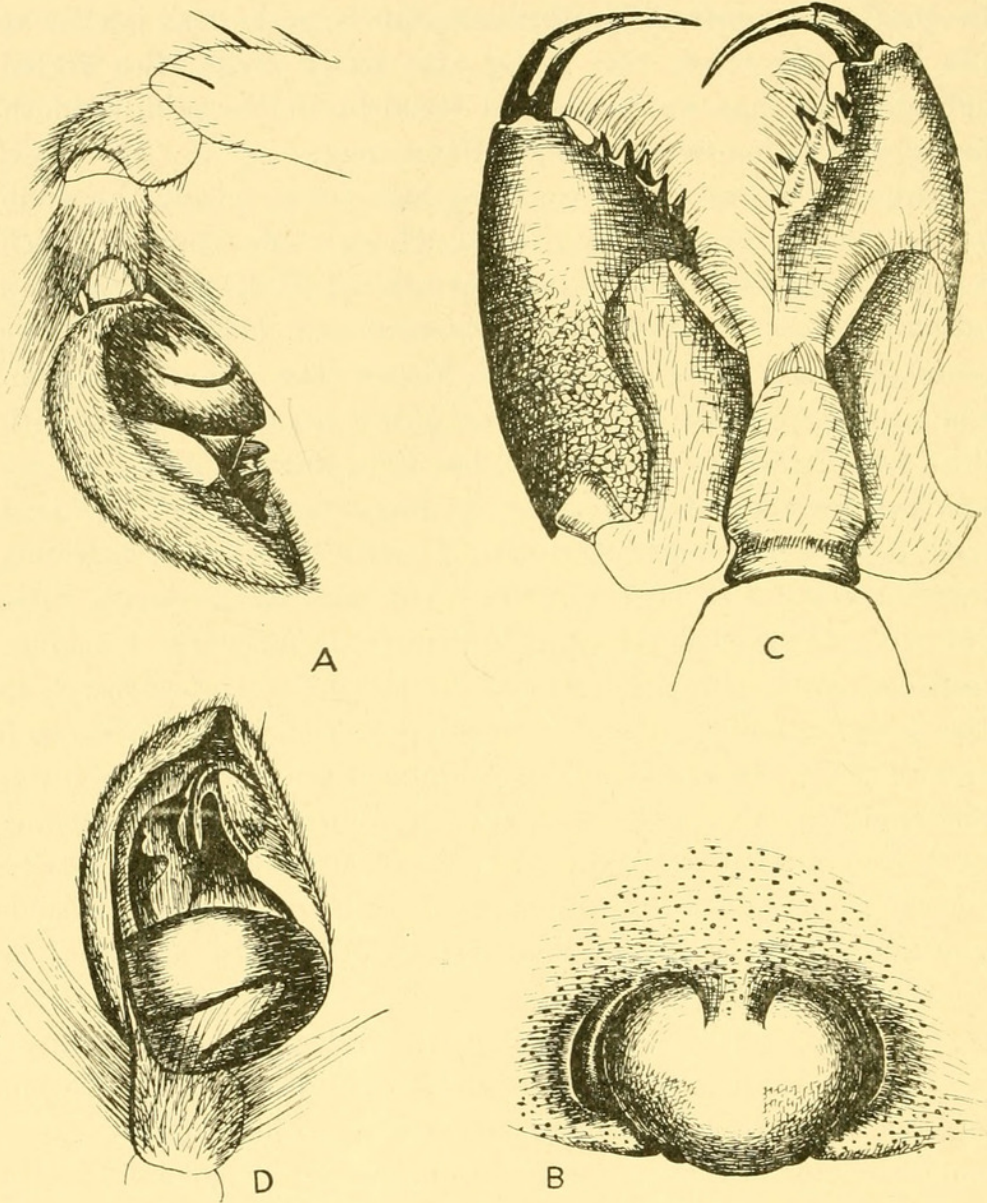
Legs.—The proportions of the legs are precisely the same as in *piscator*, according to Mr. Hogg. Metatarsus I with a pair of spines inferiorly near the base; II likewise, and in addition with 1 on the anterior surface; III with a pair near the base inferiorly, about 5 near the apex, also 1 on the anterior surface and 1 on the posterior surface; IV with 3 or 4 near the apex, 1 on the posterior surface and 1 on the ventral surface near the base on its anterior side. Tibia I with 3 pairs of spines inferiorly; II with 2 spines at the apex inferiorly and 2 along the lower surface on the posterior side; III with 2 spines at the apex inferiorly, 1 on the lower surface and 1 on each side; IV with 2 at the apex inferiorly, 2 on the lower surface, and 1 on the posterior side. On each femur there are 4 or 3 setiform spines superiorly; the lower surfaces of the femora are devoid of spines. The first, second, and fourth legs are subequal, the first being a mere trifle longer than the second, which again only very slightly exceeds the fourth; the third leg is shortest. The tarsal claws of the fourth leg carry eight teeth.

Spinnerets.—The inferior pair are decidedly the stoutest, and the superior pair most slender. The middle pair are just a little shorter than the other pairs. The apical joint is quite small in both inferior and superior spinners, especially in the latter. The position of the colulus is marked by a tuft of hairs, but there is no distinct prominence.

Epigyne.—The genital plate is fairly large and conspicuous. There is a median rounded area, the surface of which is strongly convex: this is bounded on either side by a deep furrow which opens freely anteriorly, but ends blindly

posteriorly before reaching the genital fold, although a superficial groove extends backwards therefrom to the neighbour-

TEXT-FIG. 4.



Amaurobioides africanus sp. n.

- A. Palp of adult male, with tarsus in side view. $\times 22$. B. Epigyne of adult female (the hairs of the surrounding surfaces are not indicated). $\times 45$. C. Mouth-parts of adult female. $\times 19$. D. Tibia and tarsus of palp of adult male, the tarsus being viewed from below. $\times 22$.

hood of the genital pore. The median rounded area is smooth

and glabrous, but the surrounding surfaces are roughened and strongly hairy.

The adult male closely resembles the female but is a little smaller. The carapace is also slightly different in shape, being more decidedly narrowed anteriorly; the anterior width is considerably less than the greatest width of the carapace. The leg proportions are as follows: First leg a trifle longer than the second, which is very distinctly longer than the fourth, but this again is only slightly longer than the third. The fangs are weaker than those of the female, and the surface constriction on the outer side is obsolete. The palp is short, extending only a trifle beyond the apex of the femur of the first leg. Its segments, as far as the tarsus, are approximately of equal thickness. The femur has three or four spines superiorly. There are two or three long stiff bristles and numerous long hairs near the apex of the tibia; one or two somewhat weaker bristles also occur at the apex of the patella. Projecting from the apex of the tibia, in a line with the axis of the segment, there is a very long, straight, stiff process gradually tapering to a fine point, and in a similar situation on the opposite side of the segment is a short finger-like process rounded at the tip. The patella is without apical processes. The tarsus is a little longer than the patella and tibia together.

Measurements.—Total length, female 13 mm., male 9·8 mm.; anterior breadth of carapace, female 2·75 mm., male 2·0 mm.; greatest breadth of carapace, female 3·5 mm., male 2·9 mm.; length of carapace, female 4·5 mm., male 3·75 mm.; length of first leg, female 13·75 mm., male 13·3 mm.; length of third leg, female 11·5 mm., male 10·8 mm.; length of fourth leg, female 13·2 mm., male 11·8 mm.

The discovery of this species on our shores opens up an interesting problem, to which, however, no final solution can be offered at present. It may eventually be found that the genus is widely distributed in the southern hemisphere, when

the distribution may perhaps be adequately explained through the agency of winds, especially if the species inhabiting remote and isolated areas prove to be absolutely identical. Yet, one is tempted to correlate the positive facts now known with those presented by such groups as the Migine spiders, which have been recorded from the following regions: Southern Africa, Madagascar, New Zealand, Australia, Tasmania, and Chili; in the Migidæ, at any rate, it is very improbable that winds are of any importance as factors in the dispersal of species.

ADDENDUM, *December*, 1916.—Since the above account was written, I have received a further note from Mr. Hogg relating to the characters of the adult female. He considers that the features of the epigyne will distinguish *africanus* from *piscator*, but adds that the smallness of the difference is certainly remarkable.

With regard to the mode of distribution of these creatures, their occurrence amongst entangled seaweeds at low water seems to point to the possibility of passive dispersal on floating seaweeds. I am indebted to Mr. W. Tyson, the authority on South African seaweeds, for some important information bearing on this question. Briefly stated, the main facts are as follows: In the south of the Indian Ocean is a strong western equatorial current which meets the east coasts of Madagascar and of the mainland, and is deflected southwards, gradually diminishing in intensity as it approaches Cape Agulhas. There is also a fairly constant antarctic current passing in a south-easterly direction from the Cape to Australia; this divides into two portions, one running along the south coast of Australia, the other turning northwards into the equatorial region and eventually entering the western equatorial current. Certain facts of distribution of seaweeds are most readily explained on the assumption of dispersal through oceanic current agency. Many species at the Cape are recorded only from there and from Australia. And again, many tropical and subtropical marine algæ are

brought to Natal and even to Cape Agulhas by the warm currents which flow southwards from the Indian Ocean.

EXPLANATION OF PLATE XLVII,

Illustrating Mr. John Hewitt's paper, "Descriptions of New South African Arachnida."

FIGS. 1 and 2.—Adult female and male of *Lepthercus rattrayi* *sp. nov.*, both slightly enlarged. (The abdomen of the male shows faint transverse stripes posteriorly, the surface having been denuded of hairs.)

FIGS. 3 and 4.—Adult female and male of *Stasimopus spinipes* *sp. nov.*, natural size.

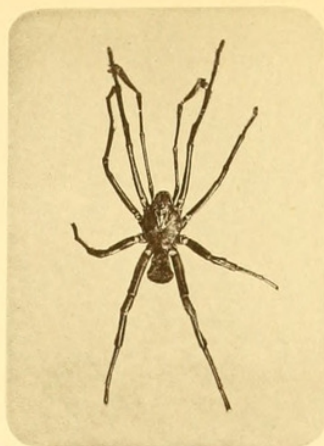
FIG. 5.—Adult male of *Stasimopus longipalpis* *sp. nov.*, natural size.

FIGS. 6 and 7.—Adult female and male of *Stasimopus insculptus* *var. peddiensis* *var. nov.*, natural size.

FIG. 8.—Adult female of *Amaurobioides africanus* *sp. nov.*, enlarged slightly.



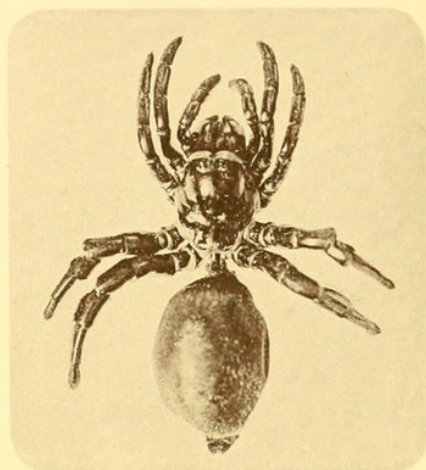
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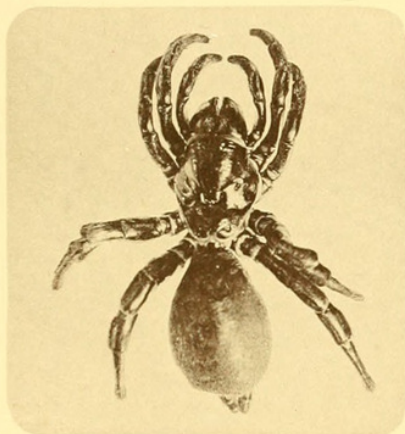
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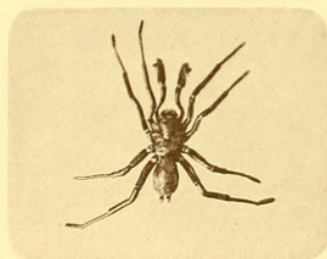
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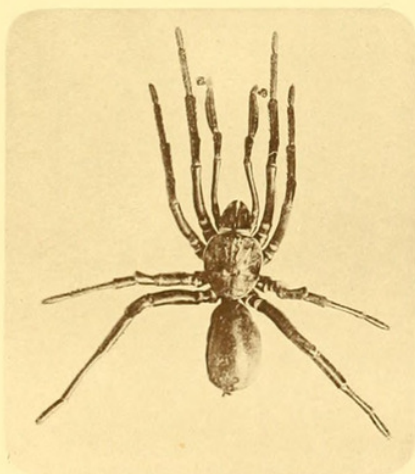
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8

SOUTH AFRICAN SPIDERS.

FIGS. 1 (♀), 2 (♂).—*Lepthercus rattrayi* sp. n. FIGS. 3 (♀), 4 (♂).—*Stasi-mopus spinipes* sp. n. FIG. 5 (♂).—*S. longipalpis* sp. n. FIGS. 6 (♀), 7 (♂).—*S. insculptus* var. *peddiensis* var. n. FIG. 8 (♀).—*Amauro-bioides africanus* sp. n.



Hewitt, John. 1917. "Descriptions of new South African Arachnida." *Annals of the Natal Museum* 3, 687–711.

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