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ANNALS  
OF THE  
SOUTH AFRICAN MUSEUM  
VOLUME XXV.

1. *Contributions to a Knowledge of the Fauna of South-West Africa.*—By R. F. LAWRENCE, B.A.

V. ARACHNIDA.

(With Plates I–IV.)

THE following paper deals with the results obtained by the Museum's expedition to Ovamboland in 1923. The region covered by collectors on this occasion was mainly Ovamboland and a small part of Northern Damaraland; the expedition started from Tsumeb, and, skirting the Etosha Pan, cut north-westward through Ovamboland to the Kunene River; here several points were visited and most of the material obtained. It is hoped next year to publish the results of an expedition to the Kaokoveld in 1925, and as the results of successive years follow, it is hoped that a more or less comprehensive survey of the fauna of South-West Africa will be obtained.

The Arachnid fauna of the northern parts of South-West Africa and Ovamboland in particular has been hardly touched by previous authors, although forms from the more southerly portions have been dealt with by various authors; it is hardly strange, then, that about three-quarters of the Araneae are new. With regard to the better-known and more widely distributed group of Scorpiones, the case is different.

At this point, and with many important links of evidence missing, it would be premature to draw conclusions of any value with regard to distribution; it can, however, be said that the fauna of Ovamboland seems more or less isolated from that of the regions to the south,

which, again, have affinities with the north-western parts of the Cape Province; forms found near the Kunene River especially seem to possess more in common with Rhodesia, and East Africa as far as Somaliland, than with any other regions excepting perhaps Angola, of which hardly anything is known.

The following table shows the proportion of new to known species recorded in this paper:—

Species.	N. sp.	N. var.	Known sp.
Araneae . . . 95	70	1	24
Solfugae . . . 4	2	..	2
Scorpiones . . . 8	..	1	7

In this paper it may be found that overlapping has taken place and that species have been described which are already known. This in certain cases is unavoidable owing to the absence of a complete literature in South Africa and to the obscurity and lack of figuring which characterises descriptions of some of the known species. The author has therefore decided rather to err on the side of redescribing and figuring a certain number of known forms, trusting to authors in possession of a fuller literature to put right synonymies where necessary; with this in view, figures have been given as often as possible and descriptions of immature specimens avoided. The figures have been drawn free-hand and not to any fixed scale.

#### FAMILY AVICULARIIDAE.

Gen. CERATOGYRUS, Pocock.

*Ceratogyrus bechuanicus*, Purcell.

A large number of both sexes taken from Sandup to Ongandjera agreeing with the description and measurements of Purcell. The shape of the horn varies a little in different specimens and is most pronounced in the males.

Gen. IDIOPS, Perty.

*Idiops mafae*, n. sp.

1 ♀ (B 5882). Mafa.

*Colour*.—Cephalothorax and legs reddish yellow, tarsus of palps, metatarsus, and tarsus I with some brown stripes, metatarsus and tarsus II lightly infuscated; sternum and coxae olive-yellow, abdomen

olive, labium and chelicerae reddish brown; hair on parts of the legs and coxae black or blackish brown.

*Carapace*.—Length slightly exceeding tibia + metatarsus IV, equal to patella, tibia + slightly less than  $\frac{1}{2}$  metatarsus I.

*Eyes*.—Ocular area wider than long, its width  $\frac{1}{5}$  less the length of metatarsus I. Anterior median eyes very little more than a diameter apart, anterior laterals larger than the medians and less than a diameter apart; seen from above the laterals are situated on the anterior sides of tubercles which are roughly creased and converge posteriorly where they are very close together. The visual axis in a horizontal plane directed at an angle of about  $30^\circ$  from the median line; posterior median eyes  $1\frac{1}{2}$ –2, as far apart as their distance from the laterals; the laterals as far from the anterior edge of the carapace as from one another, posterior row procurved but not strongly so. Eyes otherwise as in *Gorgyrella namaquensis*, Purcell, Trans. S.A. Phil. Soc., vol. xi, p. 350. The band of purplish pigment in front of the anterior lateral eyes with a recurved posterior margin and more clearly defined than in *G. namaquensis*.

*Chelicera*.—Dentition consisting of 4 outer and 6 inner teeth, the outer ones being generally the larger.

*Labium* evidently longer than broad and armed with 5 stout teeth near the anterior margin.

*Coxae* of the pedipalps spined throughout except on their posterior edges, those of the legs characterised by a complete absence of spinules and clothed with fine blackish hairs especially on those of the third leg.

*Pedipalps*.—As in *G. namaquensis*.

*Legs*.—Tibia I subequal to metatarsus + tarsus I, metatarsus IV equal to distance between anterior median eyes and fovea; metatarsus III with a band of about 6 spinules along both anterior and posterior edges, 3 pairs of setiform spines below, the apical pair much the largest; tibia III with a pair of similar but broader bands of 16–18 anterior, 17–19 posterior spines; patella III with an anterior row of about 16 spines, 5–6 of these bordering its anterior distal edge, 3–4 similar spines on its posterior distal edge; metatarsus IV with an irregular band of 8 infero-anterior spinules; patella IV with a band of about 47 spinules occupying its whole length anteriorly; tibia IV below with 2 apical followed by an outer row of 3 long setiform spines, the apical pair the stoutest, a row of very much weaker setae on the inner side; 4 small basal spines anteriorly. Legs otherwise as in *G. namaquensis*.

*Sigilla*.—Two pairs of small submarginal sigilla opposite coxae I and

II, the posterior larger than the anterior pair; posterior pair about their own width from, the anterior pair nearer to, the margin of sternum.

*Measurements.*—Length of cephalothorax, 8.5 mm.; breadth 7.1 mm. Total length, 20.5 mm.

#### FAMILY ERESIDAE.

Gen. STEGODYPHUS, Simon.

*Stegodyphus gregarius*, Cambr.

Many immature and a few mature females were taken, but no males. (B 5918.) Sandup. (B 6141.) Kunene River.

*Stegodyphus deserticola*, Purcell.

13 ♀♀ (B 5908) were taken from one nest at Sandup.

*Stegodyphus canus*, Purcell.

2 ♀♀ (B 6145). Kunene River.

These two specimens agree with Purcell's description and in the shape of the vulva. They have, however, more reddish hair on the face; the markings of the legs, especially those of the fourth, are more sharply distinct. In the one specimen the coxae and sternum are much darker in colour than in the type specimen.

*Stegodyphus dumicola*, Pocock.

5 ♀♀, 1 ♂ (B 6305). Onoolonga.

4 ♀♀ (B 5901). Ongandjera.

*Vulva.*—As in fig. 1.

*Measurements.*—Length of carapace, 4.6 mm. Total length, 9.8 mm. The form of the vulva differs slightly in some specimens, due probably to contraction of the skin of the abdomen. The four females from Ongandjera are larger and have slight differences in the shape of the vulva, but are otherwise conformable to this species.

♂.—The palp agrees with Pocock's figure in A.M.N.H. (7), vol. ii, pl. viii.

*Measurements.*—Length of carapace, 2.9 mm. Total length, 7 mm.

*Stegodyphus filimaculatus*, n. sp.

1 ♂ (B 6144). Kunene River.

This single specimen is remarkable in differing very strongly in coloration from any other of the females of *Stegodyphus*.

*Colour.*—Carapace with snow-white hairs on and a little way behind the ocular area, on the broad stripes along the lateral margins of the carapace as far as the insertion of the pedipalps anteriorly and not quite meeting posteriorly. The rest of the carapace clothed with deep velvet-black hairs; the face with a triangular patch of black hairs, except for a few white ones between the median eyes and a border of white hairs along the clypeal margin; mandibles entirely covered with velvet-black hairs.

*Abdomen* above with a clearly demarcated median leaf-shaped marking along its entire length clothed with snow-white hairs. The marking composed of 4 divisions connected by narrow constrictions. The first division longer than wide, the remaining 3 divisions wider than long, their width successively decreasing in the third and fourth; the first just excluding the first pair of sigilla, the second and third each just including a pair of sigilla within their posterior borders; remainder of dorsal surface of abdomen with deep black hairs, a few longer black setose hairs among them; ventral surface with white hairs except on the spinners, a roundish patch above the cribellum, and the area on and between the spiracles, which are all black. Sternum clothed with white hairs, coxae of legs with white hairs and some small patches of black ones. Femur I wholly infuscated with black hairs except for a basal ring of white hairs and a few scattered ones at its apex; patella covered with white hairs; tibia infuscated except at base and apex (a less strongly infuscated median band), covered entirely with stout blackish hairs except for a few white ones at apex; metatarsus with fewer but longer brownish spiniform hairs, some white ones proximally, especially below; tarsus thickly covered with brownish spiniform hairs.

*Carapace* equal to tibia +  $\frac{1}{2}$  -  $\frac{2}{3}$  metatarsus I.

*Legs* I, IV, II, III; the anterior pair much the longest and stoutest; metatarsus I with a pair of stout apical spines below.

*Pedipalp.*—Palpal organ as in fig. 56. Seen from the inner side.

*Measurements.*—Length of carapace, 3.7 mm. Total length, 7.3 mm.

This species is near to the male of *S. gregarius*, which, according to Cambridge, P.Z.S., 1889, p. 42, differs markedly in colour from the female. This specimen does not agree entirely with the male described by Cambridge, and until both sexes can be taken together I have described it as a new species.

Gen. DRESSERUS, Simon.

*Dresserus murinus*, n. sp.

1 ♀ juvenile (B 5892). Mafa.

*Colour*.—Carapace and legs uniform light brown covered with dark hairs; mandibles reddish covered with stout black hairs, especially apically; abdomen olivaceous, clothed with greenish black hairs; coxae and mouth-parts yellowish brown, sternum a little darker.

*Carapace*.—Cephalic portion but little raised above the fovea; from the posterior lateral eyes to the anterior margin of the clypeus a gentle declivous slope.

*Eyes*.—Area enclosed by the four laterals slightly wider behind than in front, its posterior width a little less than 3 times its length. Posterior medians about  $1\frac{1}{2}$ –2 their diameter apart and about twice as large as the anterior medians; the latter a diameter apart with their centres below a line touching the anterior margins of the posterior medians and less than their own radius from the latter; anterior laterals a little larger than the anterior medians and distant from the posterior medians a little less than 3 times the diameter of the latter; the edge of the clypeus in front of anterior median eyes produced into a cone-shaped rostrum.

*Chelicera* with a large blunt granular tooth at the inner apex of the inferior margin.

*Legs* IV, I, II, III; the fourth pair much stouter than the others, with the patella and tibia together longer than those of the first pair. All tibiae with their inferior distal edges fringed with a ring of long setiform hairs; metatarsi inferiorly at their apices with I, 0, II, 3, III, 4–6, IV, 4 spines.

*Calamistrum* consisting of a line of strong black curved spiniform hairs on the distal  $\frac{5}{6}$  of the posterior surface of metatarsus IV.

*Measurements*.—Length of carapace, 3.2 mm.; length of abdomen, 4.4 mm. Total length, 7.3 mm.

#### FAMILY SICARIIDAE.

Gen. LOXOSCELES, Lowe.

*Loxosceles simillima*, n. sp.

2 ♀♀ (B 5925). Andoni.

1 ♀ (B 6281). Namakunde.

This species agrees very closely with Strand's description of *L.*



*bergeri*, Wiesbaden Jahrb. Ver. Natk., vol. lix, p. 26. The colouring is in general the same, and the main distinction consists in the relative disposition of the eyes.

*Carapace*.—As in *L. bergeri*, the thoracic portion differing from the cephalic portion in being distinctly granular, while the latter is reticulate. The cephalic portion with rows of stout spines from the bases of the eyes to the fovea; one row from between the bases of the medians and a row from each of the bases of the lateral eyes converging slightly towards the middle. These rows consisting of 5–6 long stout spines, their interspaces filled up with double rows of very much smaller spines.

*Eyes*.—The medians contiguous, their inner edges straight, giving them a slightly triquetrous shape; medians distant from anterior laterals about their own radius; posterior laterals distant from anterior laterals by a little less. A line joining the anterior margins of the anterior laterals passing just in front of the centres of the medians; otherwise as in *L. bergeri*.

*Sternum* with an irregular olivaceous patch in the centre. Abdomen below uniform yellow, except for the opercula which are white. Claws of legs as in *L. bergeri*, the onychia provided with long plumose hairs, some of which extend beyond the claw.

*Measurements*.—Length of carapace, 3.4 mm.; breadth, 3.2 mm.; length of abdomen, 4.9 mm.; femur I, 5.9 mm.; patella+tibia I, 6.9 mm.; metatarsus+tarsus I, 7.5 mm.

Gen. SCYTODES, Latr.

*Scytodes tertia*, n. sp.

4 ♀♀, 2 ♂♂ (B 6250). Ongandjera.

*Colour*.—Cephalothorax yellow with markings as in fig. 72, seen from above.

*Clypeus* seen from in front with the narrow median stripe passing through the median eyes and joining a transverse slightly procurved band just before the clypeal edge; mandibles with irregular black markings antero-laterally occupying about  $\frac{3}{4}$  their length. Maxillae bordered on the distal  $\frac{2}{3}$  of their external edges by a black stripe, labium with a basal band sometimes broadly  $\Lambda$ -shaped and a lighter spot on each side near the apex; sternum yellowish white, with roughly wedge-shaped markings at its edges at the base of each coxa, except the first where it is a little above it; coxae of legs with incomplete apical bands; trochanters with a round spot near their bases.

*Legs* (seen from below).—All femora with a black subapical band; I and II with irregular basal bands, III with incomplete basal band, IV with a basal spot; IV only with distinct median band; I and II strongly marked, III lightly marked, IV spotted between the bands. All patellae with a black apical band; all tibiae with basal and apical bands, III and IV with median bands in addition; I and II instead with a narrow longitudinal stripe above occupying less than  $\frac{1}{2}$  in I, about  $\frac{1}{3}$  in II of the median portion. All metatarsi with apical bands and narrow longitudinal stripes above, stronger in I and II than in III and IV.

*Abdomen* dirty white, without pattern, but indistinctly blackish purple above in the centre shading off towards the sides and rear. Below there may be some scattered black granules or not.

*Vulva*.—As in fig. 2.

*Measurements*.—Length of carapace, 2.6 mm. Total length, 4.6 mm.

*Scytodes quarta*, n. sp.

1 ♂ (B 6198). Kunene River.

*Colour*.—This species is closely related to *S. tertia* and the markings of the carapace are in general similar. The markings are lighter, the central stripe is a little broader but hardly discernible just behind the eyes, becoming more distinct posteriorly. The lacunae formed by the markings are throughout much larger, especially the pair situated in the middle of the carapace bordering the central stripe. Markings of the sternum less definite than in the preceding species, those on the mouth-parts absent; coxae and trochanters inferiorly with apical spots.

*Legs* (seen from below).—Femora of all legs lacking definite basal spots or bands, markings below the apical band fewer, anterior and posterior femora being about equally marked; metatarsi I and II only, with narrow longitudinal stripes above.

*Palpal Organ*.—Flagellum is proportionately longer than in *S. tertia*. The narrowed distal portion of flagellum is longer in proportion to the whole than in the above species (fig. 57).

*Measurements*.—Length of carapace, 2 mm. Total length, 3.8 mm.

*Scytodes quinqua*, n. sp.

1 ♀ subadult (B 6302). Tsumeb.

*Colour*.—Carapace as in fig. 73, resembling *S. bergeri*, Strand, Wiesbaden Jahrb. Ver. Natk., vol. lxxviii, p. 88, in the scheme of the

markings and in lacking a central stripe along the back. There is a short central stripe just behind the eyes which is continued in front of the eyes to the edge of the clypeus. Mandibles marked as in *S. tertia*, maxillae having a faint marking on their internal edges opposite the apex of the labium; coxae and trochanters without markings, except the first coxa which has an indistinct apical stripe; margins of the sternum with a pair of crescentic markings a little above the first coxae, with their convex surfaces facing anteriorly; markings otherwise absent. Legs seen from below; femora of I and II with an indistinct basal, a median, and an apical band, III and IV with irregular spots and blotches throughout; all patellae with bands on their distal halves distinct in I and II, indistinct in III and IV; all tibiae with basal, median, and apical bands, longitudinal stripes above absent. Abdomen dirty white to grey, without pattern, having only a few black granules above, in the centre, at the back, and sides.

*Measurements.*—Length of carapace, 2 mm. Total length, 3.8 mm.

#### FAMILY PRODIDOMIDAE.

Gen. PRODIDOMUS, Hentz.

*Prodidomus reticulatus*, n. sp.

2 ♀♀ (B 6246). Namakunde.

*Colour.*—Carapace dark red, with dark reticulate infuscations more especially towards the lateral margins. Abdomen above purplish with a transverse dirty-white band just above the spinners, slightly exceeding the width of the superior spinners; the latter with a basal yellow patch laterally. Abdomen below dirty grey in the centre, light reddish-purple at the sides and towards the spinners; anterior legs reddish brown, posterior ones deep orange; first leg with trochanter and patella dark reddish-purple, femur dark red, tibia, metatarsus, and tarsus, with successively lighter shades of red.

*Eyes.*—Posterior medians their long diameter apart; anterior medians about  $\frac{3}{4}$  their own diameter apart and subcontiguous to the anterior laterals; median quadrangle wider behind than in front and longer than broad; a line joining the anterior borders of the anterior laterals would pass a little in front of the centres of the anterior medians; ocular area wider than long.

*Legs* comparatively hairless; trochanter IV longer than its coxa, shorter than coxa I and about equal to trochanter I; tibiae and metatarsi of III and IV with a pair of inferior apical spines.

*Vulva*.—As in fig. 3.

*Measurement*.—Total length, 7 mm.

*Prodidomus hirsutus*, n. sp.

1 ♂ (B 6266). Ongandjera.

*Colour*.—Carapace light red, granular, with a few fine white hairs. Some faint irregular markings and a faint central stripe from behind the posterior median eyes to the posterior margin. Abdomen light purple with an indistinct white patch above the spinners. Legs and sternum light reddish brown; sternum with infuscated margin and some irregular fuscous markings in the centre, coarsely pitted and clothed in the centre with a few fine white hairs, with some stronger fuscous ones on its margins.

*Eyes*.—As in *P. reticulatus*, except that the posterior medians are a little closer together; sternum proportionately broader than in the latter.

*Legs* hairy, with short light hairs on the proximal segments and longer darker ones on the distal ones; spined as in *P. reticulatus*.

*Pedipalp*.—Palpal organ as in fig. 58.

*Measurement*.—Total length, 4 mm.

FAMILY DRASSIDAE.

Gen. PLATYOIDES, Cambr.

*Platyoides unidentatus*, n. sp.

1 juvenile ♀ (B 6622). Ongandjera.

*Colour*.—Carapace yellow with darkened rim, dark infuscations behind the eyes; abdomen greyish green above, dirty white below; sternum, coxae, and legs yellow, sternum with dark narrow border.

*Eyes*.—Anterior row equally spaced by a little less than the diameter of a median eye, laterals a little larger than the medians; posterior row wider than the anterior and straight to lightly recurved; the medians are not visible and are represented by two oblong fuscous patches which diverge anteriorly.

*Carapace* a little longer than broad, length subequal to tibia +  $\frac{1}{2}$  patella II; breadth equal to tibia + about  $\frac{2}{3}$  patella I.

*Chelicera* with 1 tooth on the superior margin.

*Legs* not spined; claw of fourth leg with 4 small teeth near the base, apex of tarsus IV with some long plumose hairs as in fig. 55.

*Measurements.*—Length of carapace, 2 mm.; breadth, 1.8 mm. Total length, 4.9 mm.

Gen. UPOGNAMPA, Tucker.

*Upognampa ctenipalpis*, n. sp.

1 ♀ (B 6261). Ongandjera.

*Colour.*—Carapace brown, the margins bordered with black, cephalic area bordered near the edge of carapace by a dark stripe not reaching the fovea, the latter short, dark; legs olive-brown; abdomen above deep olive, with a pair of parallel longitudinal fuscous stripes anteriorly followed by a pair of transverse bars, and behind these an indistinct procurved fuscous marking above the spinners; below uniform deep olive; sternum and mouth-parts brown, thickly clothed with black hairs.

*Eyes.*—Median eyes in both rows smaller than their laterals and nearer to them than to each other; anterior medians a little more than a radius apart and subcontiguous to the laterals; posterior row wider than the anterior row, straight to slightly procurved, medians about a diameter apart; laterals smaller than anterior laterals; median quadrangle as long as wide, slightly wider behind than in front; clypeus a little more than the diameter of an anterior lateral eye.

*Legs* I and II without spines, clothed with stiff, short black hairs; femora III and IV above with a long spiniform, sub-basal hair, remaining segments except the tarsi with very large stout spines, tibiae and metatarsi also spined below.

*Pedipalps.*—Tarsus of palp with a sub-basal circle of very large, blunt, tooth-like spines, which are as long or longer than the tibia; seen from above the row of 5 spines near the base is arranged transversely like a comb, while distally to these there are numerous similar spines.

*Vulva.*—As in fig. 5.

*Measurements.*—Length of carapace, 2.3 mm. Total length, 5.8 mm.

Gen. ASEMESTHES, Simon.

*Asemesthes lineatus*, Purcell.

1 ♀ (B 6635). Namutoni.

*Colour.*—Carapace, sternum, and legs yellow, margin of carapace darkened, fovea dark and narrow, a faint infuscated stripe anteriorly

to it not reaching the eyes; the lateral cephalic margins bordered by wavy lines of dark hairs, which broaden and diverge slightly posteriorly. Abdomen yellowish grey above, with a pair of light brown spots on the anterior half, a leaf-like median marking of the same colour bordered laterally with some white spots on the posterior half, a row of light brown spots along the sides of the abdomen; below uniform yellowish grey.

*Carapace*.—Length equal to  $\frac{2}{3}$  patella + tibia IV, equal to metatarsus IV.

*Eyes*.—Anterior row from in front straight to slightly procurved, from above recurved; medians a little less than a diameter apart and subcontiguous to the laterals, than which they are  $1\frac{1}{2}$ –2 smaller; posterior row strongly recurved, medians much smaller than the laterals and nearer to them than to each other; median quadrangle longer than wide, and wider in front than behind; the laterals on each side about the diameter of an anterior lateral apart; ocular area distinctly wider than long; clypeus 2–3 times the diameter of an anterior lateral eye.

*Legs* irregularly spined, the posterior with more numerous and longer spines than the anterior ones; apex of metatarsus IV with a verticillus of 6 spines consisting of 1 superior pair, 1 lateral pair, and a smaller inferior pair.

*Spinners*.—Inferior spinners with 3 apical fusules.

*Vulva*.—As in fig. 6.

*Measurements*.—Length of carapace, 2.1 mm. Total length, 6.2 mm.

*Asemesthes kunenensis*, n. sp.

1 ♀ (B 6172). Kunene River.

*Colour*.—Carapace brown with darkened margin, a pair of infuscated patches behind the fovea; fovea dark and distinct, with some indistinct radiate lines not reaching the margin of carapace; femora of legs dark mahogany brown with some lighter patches anteriorly, remaining segments brown, the patellae a little lighter; abdomen cinereous, with an indistinct blackish median marking above; inferior spinners dark mahogany brown; sternum brown, with a marginal border of dark hairs.

*Carapace*.—Length equal to tibia + a little more than  $\frac{1}{2}$  metatarsus I, subequal to metatarsus IV.

*Eyes*.—Anterior row recurved and wider than posterior row, anterior laterals  $1\frac{1}{2}$ –2 the size of the medians, which are about their own radius

apart and subcontiguous to the laterals; posterior row strongly recurved, the medians about their diameter apart and a little less from the laterals; median quadrangle considerably longer than wide, and wider in front than behind; ocular area a little wider than long; clypeus 2-3 times the diameter of an anterior lateral eye and provided with a procurved row of long spines.

*Legs* irregularly spined, all tarsi below with a double row of small spines, strongest in III, weakest in II, femur IV below with a row of 6-7 long setiform hairs on its proximal  $\frac{2}{3}$ .

*Spinners*.—Inferior spinners with 3 apical fusules.

*Vulva*.—As in fig. 7.

*Measurements*.—Length of carapace, 2.8 mm. Total length, 8.3 mm.

*Asemesthes sinister*, n. sp.

1 ♀ (B 6131). Ongandjera.

*Carapace*.—Yellowish brown, ocular area except the neighbourhood of the posterior median eyes infuscated, margin infuscated, giving off some narrow dark lines towards but not reaching the fovea, cephalic portion margined by distinct lines which diverge posteriorly forming irregular sinuous bands not reaching the posterior margin, two straight fuscous lines diverging posteriorly from the fovea to posterior border of carapace, carapace clothed with feather-like hairs anteriorly; legs light brown, apex of femur and whole of tibia in III and IV a little darker than the rest, more so in IV than III; abdomen much rubbed, clothed with strong spiniform hairs.

*Carapace*.—Length equal to metatarsus IV, equal to metatarsus +  $\frac{1}{2}$  tarsus III.

*Eyes*.—Anterior row from in front lightly procurved, from above both rows recurved, the posterior a little more strongly than the anterior one, anterior medians about  $\frac{2}{3}$  their diameter apart, subcontiguous to the laterals and a little smaller than them; posterior medians considerably smaller than their laterals, oblong, a little less than their short diameter apart and about the same distant from the laterals; posterior laterals smaller than anterior laterals and slightly nearer to them than are the posterior medians to the anterior medians; median quadrangle longer than wide, a little wider in front than behind; clypeus equal to 3 times the diameter of an anterior lateral eye.

*Legs*.—Apex of metatarsus IV with 2 inferior and 2 longer lateral spines, whole of tarsus I inferiorly with short club-shaped hairs, tarsus

II on its distal  $\frac{3}{4}$ , III and IV with spiniform hairs only, IV with 3 long club-shaped hairs extending between the claws.

*Vulva*.—As in fig. 8.

*Measurements*.—Length of carapace, 2.9 mm. Total length, 8.6 mm.

Gen. SETAPHIS, Simon.

*Setaphis quadrativulva*, n. sp.

6 ♀♀ (B 6213). Oncka.

*Colour*.—Carapace reddish brown with a broad irregular infuscated margin, sparsely clothed with white hairs, more numerous near the margins; legs deeply infuscated, except anterior tarsi and metatarsi, patella and distal segments of III, and tarsus IV. Abdomen above fuscous, darker at its anterior apex, a pair of white spots anteriorly, a second transverse white pair in the middle diverging posteriorly and joining a pair of roughly parallel elongated spots on the ventral surface; sternum reddish brown.

*Carapace* equal in length to tibia + about  $\frac{5}{8}$  metatarsus IV, and to patella + tibia +  $\frac{2}{3}$  metatarsus II.

*Eyes*.—Anterior row slightly procurved, medians black, situated on a small tubercle, a little less than their diameter apart and subcontiguous to the laterals which are white and considerably larger than the medians; posterior row slightly procurved, medians white, oblong, about their long diameter apart and a short diameter or slightly less from the laterals, than which they are smaller; median quadrangle a little longer than wide, and wider behind than in front; clypeus a little less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior margin with 4 teeth, inferior margin with 1 apical granule.

*Legs*.—Anterior legs not spined; tibia III with 3 inferior and 2 lateral pairs, metatarsus III with 1 inferior and 2 lateral pairs of spines, tarsus IV with long claws, their proximal  $\frac{2}{3}$  with 5 teeth.

*Vulva*.—As in fig. 11. In some specimens the quadrate opening is more rounded, and the two darkened spheres at its base diverge anteriorly.

*Measurements*.—Length of carapace, 2.3 mm. Total length, 6.1 mm.

*Setaphis omuramba*, n. sp.

2 ♀♀ (B 6254). Ongandjera.

*Colour*.—Carapace reddish with a narrower infuscated border than in *S. quadrativulva*, all legs light yellow, except femur, patella, tibia I,



and femora and patellae II and IV which have some dark infuscations; abdomen as in *S. quadrativulva* but a little darker, the white patches being coalesced in the one specimen.

*Eyes.*—Anterior medians a diameter apart, contiguous with the laterals which are much larger; posterior medians oblong, a little less than a long diameter apart, a little less than a short diameter from the laterals, than which they are smaller; median quadrangle as wide as long, and wider behind than in front; posterior laterals less than their own diameter from the anterior laterals; clypeus less than the diameter of an anterior lateral eye.

*Chelicera.*—Superior margin with 4 teeth, apical one much smaller than the others which are about equal; \* inferior border with an apical granule.

*Legs.*—Anterior legs spineless, tarsi with club-shaped scopular hairs; distal  $\frac{3}{5}$  of metatarsus I and distal  $\frac{1}{3}$  of metatarsus II with similar hairs. Posterior legs spined, tarsi with sparse bristles.

*Spinners.*—Inferior spinners with 3 apical fusules.

*Vulva.*—As in fig. 12.

*Measurements.*—Length of carapace, 2.4 mm. Total length, 6.2 mm.

Gen. TRICHOHYSE, Tucker.

*Trichothyse subtropica*, n. sp.

2 ♀♀ (B 6143). Kunene River.

This species is very near *T. hortensis*, Tucker, Ann. S. Afr. Mus., vol. xix, pt. 2, p. 332, fig. 53.

*Colour.*—Carapace brown, some fuscous hairs on the sides and posteriorly, legs light brown, tarsi and metatarsi darker; abdomen fuscous, covered with fine white ramose and black spiniform hairs; sternum and mouth-parts brown, coxae light brown.

*Carapace* equal in length to patella + tibia + about  $\frac{1}{2}$  metatarsus I, and to tarsus + metatarsus + about  $\frac{2}{5}$  tibia IV.

*Eyes.*—Anterior medians about  $\frac{1}{3}$  their diameter apart and almost touching the laterals; posterior medians about equal to posterior laterals, about 1-1 $\frac{1}{2}$  times their diameter apart, a little less from the laterals; clypeus equal to the long diameter of an anterior lateral eye.

*Chelicera.*—As in generic description.

\* *Note.*—In this paper when the margins of the chelicera are armed with 2 or more teeth, the one nearest the fang is called, for purposes of discrimination, the *apical* tooth, while that furthest from the fang is the *basal* tooth.

*Legs.*—Femora with 3 rows of spines above as follows :—I, 1, 3, 0 ; II, 2, 3, 0 ; III, 2, 3, 2 ; IV, 1, 3, 1. Tibia I below with 1 inner apical, metatarsus with 2 basal spines. Tibia II below with 1 inner apical, 1-0 inner median, metatarsus with 2 basal spines. Legs scopulated as in *T. hortensis*.

*Vulva.*—As in fig. 15.

*Measurements.*—Length of carapace, 4.4 mm. Total length, 12 mm.

Gen. ECHEMUS, Simon.

*Echemus erutus*, Tucker.

1 ♀ (B 6180). Oncka.

Gen. ZELOTES, Giste.

*Zelotes demonica*, n. sp.

1 ♀ (B 6197). Ongandjera.

7 ♀♀ (B 5886). Mafa.

*Colour.*—Carapace, mandibles, sternum deep mahogany brown to black, legs dark olivaceous, abdomen dark slate-grey above, lighter below, opercula light brown.

*Carapace.*—Length equal to tibia, metatarsus + about  $\frac{2}{5}$  tarsus I, and to tibia +  $\frac{2}{3}$ — $\frac{3}{4}$  metatarsus IV, breadth equal to tibia + about  $\frac{2}{3}$  metatarsus I, and to metatarsus +  $\frac{1}{2}$ — $\frac{3}{5}$  tarsus IV.

*Eyes* (from above).—Anterior row straight to slightly procurved ; posterior row straight to very slightly recurved ; anterior medians about  $1\frac{1}{2}$  diameters apart, smaller than their laterals and nearer to them than to each other ; posterior medians oblique, converging anteriorly, smaller than their laterals and slightly nearer to them than to each other ; median quadrangle a very little broader than long ; posterior laterals smaller than the anterior laterals and nearer to them than are the posterior medians to the anterior medians.

*Clypeus* equal to or slightly more than the diameter of an anterior lateral eye.

*Chelicera* very long, their inner margins oblique, superior border with 3 large blunt teeth well below the apex and separated from each other, the distal one the largest, the proximal the smallest ; lower margin with a blunt tooth-like tubercle opposite the largest tooth.

*Maxillae* long and broad, deeply incised above the middle ;

labium almost rectangular, reaching the inner apices of the maxillae ; depressed at the sides, forming a cone-shaped elevation in the middle ; sternum not produced.

*Legs.*—Posterior legs only with large stout irregular spines, I and II with club-shaped scopular hairs mixed with spiniform hairs on their tarsi and distal  $\frac{1}{3}$  of metatarsi, III and IV without scopular hairs, but thicker spiniform hairs ; metatarsus IV with a fine brush of black hairs fringing its distal inferior border.

*Spinners.*—Inferior spinners with 5–6 apical fusules.

*Vulva.*—As in fig. 9.

*Measurements.*—Length of carapace, 3.9 mm. ; breadth, 3 mm. Total length, 8.9 mm.

*Zelotes ovambensis*, n. sp.

1 ♀ (B 6634). Ongandjera.

*Colour.*—Carapace and sternum black to blackish brown ; tarsus I and II brown, posterior surface of femur I light brown below, legs otherwise blackish brown ; abdomen cinereous above with some black patches, darker below, the whole clothed with fine black hairs.

*Carapace* equal to metatarsus +  $\frac{2}{3}$  tarsus IV, and to patella + tibia I.

*Eyes.*—Seen from in front, both rows distinctly and equally procurved, and about equal in width ; from above anterior row recurved ; medians of both rows not much smaller than their laterals and nearer to them than to each other, especially those of the posterior row ; anterior medians situated on a small tubercle and diverging anteriorly, about 1–1 $\frac{1}{2}$  times their diameter apart. Median quadrangle longer than wide, and parallel or a little wider behind than in front. Clypeus equal to or slightly less than the diameter of an anterior lateral eye.

*Chelicera.*—Superior margin with 4 teeth, inferior margin muticous.

*Legs.*—Posterior legs irregularly spined.

*Spinners.*—Inferior spinners with 4 apical fusules.

*Vulva.*—As in fig. 4.

*Measurements.*—Length of carapace, 2.5 mm. Total length, 6.2 mm.

Gen. DIAPHRACTUS, Purcell.

*Diaphractus muticus*, n. sp.

1 ♀ (B 6264). Ongandjera.

*Colour.*—Carapace light reddish brown, darker anteriorly, covered with yellow racemose hairs, mandibles darker reddish brown, legs

yellow, extremities of anterior legs light reddish brown, sternum with a marginal border of stout filamentous hairs, some racemose hairs in the centre; abdomen fuscous, darker above than below.

*Carapace* subequal to tibia + metatarsus IV, equal to patella + tibia + a little more than  $\frac{1}{2}$  metatarsus I.

*Chelicera*.—As in *D. leipoldti*.

*Eyes*.—From above anterior row recurved, posterior row slightly procurved; anterior medians  $\frac{1}{2}$ — $\frac{3}{4}$  their diameter apart, about  $1\frac{1}{2}$  times the size of the laterals; posterior medians a little larger than posterior laterals, a little more than their greatest diameter apart and twice their diameter from the laterals; median quadrangle a little longer than wide and wider in front than behind, laterals on each side the diameter of an anterior lateral apart; clypeus equal to the short diameter of an anterior lateral eye.

*Legs*.—Metatarsus I scopulate, tibia I with a few scopular hairs on its inner inferior apex, both muticous; metatarsus II below with 1 basal inner spine, tibia II below with an apical pair of spines.

*Vulva*.—As in fig. 13.

*Measurements*.—Length of carapace, 3.4 mm.; abdomen, 4.2 mm.

This species closely resembles *D. assimilis*, Tullgren, but differs in the disposition of the eyes and in having the second tibia spined.

#### Gen. XEROPHAEUS, Purcell.

##### *Xerophaeus aridus*, Purcell.

1 ♀ (B 6291). Namutoni.

*Colour*.—Carapace and legs yellow; sternum light brown with a darkened border, yellowish hairs in the centre and dark fuscous ones along the margins; abdomen dirty white to grey with some stout black hairs.

*Carapace* equal in length to a little more than tibia + patella II, subequal to tibia + metatarsus I.

*Eyes* large, especially the anterior medians; anterior row procurved, the medians a little more than their radius apart, and much nearer to their laterals, than which they are about  $1\frac{1}{2}$  times larger; posterior row more strongly procurved than the anterior row, medians oblong, subangular, diverging anteriorly and close together at their bases; they are considerably larger than the laterals and less than a long diameter from them; laterals on each side the diameter of a posterior lateral apart; clypeus equal to the long diameter of an anterior lateral eye.

*Chelicera*.—Inner margins oblique, superior border with 3 medium-sized teeth, the middle one the largest; inferior border with a denticle opposite the middle tooth.

*Maxillae* fairly short and stout, broader apically than basally, their outer margins with a regular curve; labium not much longer than broad, not reaching the inner apices of the maxillae.

*Legs*.—All tarsi and metatarsi scopulate except metatarsus IV; tibiae I and II below with 1 inner median and an apical pair of spines, metatarsi I and II with a basal pair of spines.

*Vulva*.—As in fig. 14.

*Measurements*.—Length of carapace, 4.1 mm.; breadth, 2.9 mm. Total length, 11.1 mm.

Gen. THEUMA, Simon.

*Theuma longipes*, n. sp.

1 ♂ (B 6170). Kunene River.

*Colour*.—Carapace dark brown edged with black; fovea distinct, anteriorly to it a faint darkened line reaching the eyes; femora and patellae of legs olive-brown, remaining segments and sternum brown, abdomen dark olivaceous above, lighter below.

*Carapace*.—Length subequal to metatarsus I.

*Eyes*.—From above both rows slightly recurved, anterior medians about a radius apart and less from the laterals which are a little larger; posterior medians the largest of the eyes, oblong, pearly white, diverging anteriorly, less than a short radius apart at their bases and about a long diameter from their laterals; posterior laterals smaller than the anterior laterals and further from them than are the posterior medians from anterior medians; median quadrangle slightly longer than wide, and wider behind than in front; clypeus equal to the diameter of an anterior lateral eye.

*Chelicera* provided near the base of the fang with two long, plumose hairs curved inwardly in a semi-circle; the longer of the two stout, covered with fine filaments and much longer than the fang, the other is similar but considerably shorter. Superior margin with 4 medium-sized teeth, inferior border with 3 small indistinct granules.

*Legs*.—Anterior ones very long, the first leg (including coxa) about 5 times the length of carapace, metatarsus I below with a double row of small spines, a large submedian and subapical spine, metatarsus II similar but with smaller spines.

*Pedipalp.*—Tibia  $1\frac{1}{2}$ –2 the length of patella; tarsus and bulb as in fig. 59.

*Measurements.*—Length of carapace 2.7 mm.; first leg, 13.3 mm. Total length, including spinners, 6.4 mm.

*Theuma ovambica*, n. sp.

1 ♀ (B 6639). Kunene River.

*Colour.*—Carapace yellow with a patch of greyish hairs between the fovea and the posterior margin, legs and sternum yellow, abdomen above light yellow, clothed with flattened grey-green hairs, dirty white below.

*Carapace* equal in length to patella +  $\frac{3}{4}$  tibia IV, equal to tibia + about  $\frac{2}{3}$  metatarsus I.

*Eyes.*—Anterior row from above slightly recurved, medians  $\frac{1}{2}$ – $\frac{3}{4}$  their diameter apart, laterals about  $1\frac{1}{2}$  times the size of the medians; posterior row from above slightly recurved, the medians slightly oblong, about a short diameter apart, subequal to their laterals and about  $1\frac{1}{2}$  times their long diameter from them; posterior laterals smaller than anterior laterals and further from them than are the posterior medians from the anterior medians; median quadrangle as long as wide, and wider behind than in front; clypeus equal to the long diameter of an anterior lateral eye.

*Chelicera.*—Superior margin with 4 teeth, the basal one the smallest; inferior margin with 3 small teeth.

*Legs* IV, I, III, II; tibia I below with 4 inner and 3 outer spines, metatarsus I with 1 basal pair, its distal  $\frac{2}{3}$  with club-shaped scopular hairs, tarsus thickly scopulate; tibia II as in I with 3 lateral pairs of spines in addition, metatarsus II with a lateral pair of spines in addition to inferior pair and sparsely covered with club-shaped hairs, tarsus scopulate. Legs III and IV with more numerous and stronger spines, metatarsi with none, tarsi with a few scopular hairs.

*Vulva* undeveloped.

*Measurements.*—Length of carapace, 3.4 mm.; fourth leg, 10.8 mm. Total length, 7.8 mm.

*Theuma andonea*, n. sp.

1 ♀ juvenile (B 5929). Andoni.

*Colour.*—Carapace, legs, and sternum yellow, abdomen cinereous above, a little lighter below.

*Carapace*.—Length equal to metatarsus +  $\frac{1}{2}$ — $\frac{2}{3}$  tarsus IV, and to a little more than patella + tibia II.

*Eyes*.—Anterior row slightly recurved; medians about a radius apart and much less from their laterals; posterior row recurved, medians round, white, a little more than a radius apart and about a diameter from the posterior laterals; the latter further from the anterior laterals than are the posterior medians from the anterior medians; median quadrangle as long as wide, and wider behind than in front; clypeus equal to or a little less than diameter of an anterior lateral eye.

*Chelicera*.—Superior margin with 5 distinct teeth, inferior margin with 4.

*Legs*.—Tibiae I and II with 3 pairs of spines below, II with a lateral pair in addition, metatarsi with 1 basal pair, both metatarsi with scopular hairs more dense on I than II, tarsi scopulate; no scopular hairs on metatarsus IV, those on the tarsus sparse except at the apex. Third leg missing.

*Measurements*.—Length of carapace, 2.6 mm. Total length, 6.8 mm.

*Theuma recta*, n. sp.

1 ♀ (B 6640). Namutoni.

*Colour*.—Carapace light yellow with some blackish pubescence between the fovea and posterior margin, sternum and legs light yellow, abdomen above dirty yellow covered with greenish-grey pubescence and some darker patches anteriorly.

*Carapace* slightly exceeding patella + tibia II, equal to metatarsus + about  $\frac{3}{5}$  tarsus IV.

*Eyes*.—From above anterior row straight, medians about a radius apart and distinctly smaller than their laterals; posterior row straight, medians round, their diameter apart and distant  $1\frac{1}{2}$  times their diameter from the laterals which they exceed; laterals about the diameter of an anterior lateral eye from the latter and much further from them than are the posterior medians from the anterior medians; median quadrangle considerably wider than long, and wider behind than in front; clypeus a little more than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4 moderate teeth, the basal one much smaller than the remainder which are equal in size. Inferior border with 4 small equally spaced teeth.

*Legs*.—Tibia I with 3 inferior pairs of spines and 1 basal anterior

spine ; metatarsus I with 2 inferior basal pairs ; tibia II with 3 inferior pairs, 1 inferior apical spine and 3 anterior spines, metatarsus II similar to I ; tarsi with a double row of club-shaped scopular hairs in I and II, replaced by some sparse bristles in III and IV.

*Measurements.*—Length of carapace, 3.3 mm. Total length, 7.4 mm.

#### FAMILY PALPIMANIDAE.

Gen. DIAPHOROCELLUS, Simon.

*Diaphorocellus biplagiata*, Simon.

1 subadult ♂ (B 5910). Sandup.

This specimen agrees with Simon's description, except that the shape of the posterior median eyes is roughly quadrangular rather than triquetrous.

*Diaphorocellus albooculatus*, n. sp.

3 subadult ♂♂ (B 6641). Kunene River.

*Colour.*—Carapace, sternum, and mouth-parts bright red, fovea darkened ; first pair of legs bright orange, coxae and bases of femora reddish below, remaining legs yellow ; abdomen blackish purple above, a small whitish spot above the spinners, a large elongate ill-defined patch anteriorly, dirty white below.

*Eyes.*—Anterior row from above recurved, medians large, white, a radius or a little less apart, a little further from the laterals ; posterior row procurved, medians pearly white, pear-shaped, subcontiguous, less than  $1\frac{1}{2}$  long diameters from the laterals ; laterals on each side contiguous, the posterior ones considerably smaller than the anterior ones.

*Legs.*—Tibia I a little shorter than patella I, metatarsus I shorter than tarsus I but broader ; club-shaped scopular hairs on distal  $\frac{5}{8}$  of femur I thinning off towards the base, on whole of metatarsus I and proximal half of tarsus I ; metatarsus II with a thick brush of black hairs on its distal  $\frac{1}{2}$ , similar but sparser hairs on whole of tarsus II ; metatarsus III with brush on its distal  $\frac{2}{3}$ , tarsus III similar to tarsus II.

*Epigastric scutum.*—As in fig. 54. This differs markedly from that of *D. biplagiata*, Simon.

*Measurements.*—Length of carapace, 3.3 mm. Total length, 8 mm.



Gen. PALPIMANUS, Dufour.

*Palpimanus aureus*, n. sp.

1 subadult ♂ (B 6304). Mafa.

*Colour*.—Carapace, sternum, and mouth-parts red, anterior pair of legs orange, remaining legs yellow; abdomen dull golden, thickly covered with fine black hairs.

*Eyes*.—Anterior row strongly procurved, medians large, golden, a radius or a little more apart, a little less from the laterals; posterior row from above slightly recurved, medians oblong, white, resembling those of *Diaphorocellus*, less than a short diameter apart and  $1\frac{1}{2}$ –2 long diameters from the laterals; median quadrangle much longer than wide, and wider in front than behind; clypeus more than the diameter of an anterior lateral eye.

*Legs*.—Tibia I seen from below longer, from above shorter, than patella I and provided with club-shaped scopular hairs thinning off towards the base; metatarsus and median  $\frac{1}{3}$  of tarsus I with club-shaped scopular hairs; metatarsi of remaining legs with an apical brush of black hairs below.

*Epigastric scutum*.—As in fig. 53.

*Measurements*.—Length of carapace, 2.5 mm. Total length, 6.3 mm.

*Palpimanus spiculosus*, n. sp.

1 juvenile ♀ (B 6293). Namutoni.

*Colour*.—Carapace light red with large scattered granules, those near the margin appearing as sharp spicules, interspaces thickly covered with smaller granules; middle of carapace anteriorly clothed with white hairs, a deeply infuscated patch surrounding the anterior median eyes; posterior lateral eyes with a small infuscated patch on their inner sides; abdomen flesh-coloured with long black hairs, except for a small anterior patch and a larger one above the spinners, which are clothed with stout white hairs.

*Eyes*.—Anterior row procurved, medians black, a little more than half their radius apart, a very little more from the laterals; posterior row recurved, the medians white, triquetrous, more than a diameter apart and  $1\frac{1}{2}$  diameters from the laterals; median quadrangle a little longer than wide, a little wider in front than behind; clypeus more than the diameter of an anterior lateral eye.

*Legs*.—As in *P. aureus*.

*Measurements*.—Length of carapace, 1.4 mm. Total length, 3.6 mm.

## FAMILY ZODARIIDAE.

Gen. CAPHAERIS, Simon.

*Caphaeris oncka*, n. sp.

4 ♀♀, 2 ♂♂ (B 5903). Oncka.

1 ♂ (B 6296). Uwuthija.

♀ *Colour*.—Carapace deep red, coriaceous, thinly covered especially in the median line with fine white hairs, amongst which are some stouter fuscous ones; femora dark mahogany brown with some white hairs, remaining segments reddish brown, clothed with black hairs, some white hairs intermixed with the black ones, especially superiorly on patellae and apices of tibiae; sternum reddish, darkened at the margins and in the centre. Abdomen above thickly covered with black hairs with some scattered yellow and white ones, anterior apex with a horseshoe-shaped marking of yellowish hairs, behind it two rows of brown spots converging slightly posteriorly and enclosing in their posterior  $\frac{1}{2}$  a leaf-shaped marking of 4 divisions, the last the smallest; below two rows of brownish spots on each side converging slightly posteriorly.

*Carapace*.—Length equal to tibia + about  $\frac{2}{3}$  metatarsus IV, and to tibia + metatarsus I; breadth slightly exceeding metatarsus IV.

*Eyes*.—Anterior laterals not quite touching, anterior medians a little less than their own radius apart; posterior medians more than their radius apart, about  $1\frac{1}{2}$  times the diameter of a posterior lateral from the latter; the centres of an anterior median, a posterior median, and a posterior lateral on the same side form slightly more than a right angle.

*Legs*.—Posterior legs stouter and more strongly spined than anterior ones; all metatarsi with apical scopulae of stiff black hairs, strongest in III, weakest in I; tarsus IV below with an apical pair and double row of 4 spines, in addition 5 anterior and 3 posterior spines.

*Vulva*.—As in fig. 16.

*Measurements*.—Length of carapace, 5.7 mm. Total length, 13 mm.

♂ *Colour*.—Carapace coarsely granular, fovea distinct, legs as in ♀, abdomen above sooty black, a median lanceolate stripe of stout yellow hairs tapering from anterior apex to just above spinners.

*Eyes*.—As in ♀, except that the posterior laterals are a little closer to the posterior medians.

*Palp*.—As in fig. 60.

*Measurements.*—Length of carapace, 5.4 mm. Total length, 10.6 mm.

*Caphaeris kunenensis*, n. sp.

2 ♀♀ (B 6167). Kunene River.

*Colour.*—Carapace black, coriaceous, with some scattered yellowish hairs; femora of legs black, remaining segments dark brown, pubescence as in *C. oncka* but thinner; abdomen black, finely striated, thinly covered with mixed black and yellow hairs, markings as in *C. oncka*, but the double row of brown spots above almost indiscernible.

*Carapace* equal in length to metatarsus+tarsus IV, subequal to patella+tibia+metatarsus II.

*Eyes.*—As in *C. oncka*.

*Legs* much more slender than in *C. oncka*, especially the anterior ones, anterior tarsi relatively longer than in the latter.

*Vulva.*—As in fig. 17.

*Measurements.*—Length of carapace, 5 mm. Total length, 12.4 mm.

This species differs from the preceding one in the pubescence of the abdomen and legs, in the slenderness of the legs, and in the shape and size of the vulva. Hitherto four species of this genus have been described: *C. crassimana*, *C. haematilis*, and *C. decorata*, all by E. Simon, and *C. transvaalicus* by Hewitt; the last-named species, however, from the Waterberg district, Transvaal, is probably synonymous with *C. decorata* from the adjacent district of the Zoutpansberg, judging from Simon's description of the latter species in Rev. Suisse de Zool., vol. xii, p. 66.

Gen. DIORES, Simon.

*Diores triangulifer*, Simon.

4 ♀♀ (B 6244), (B 6273). Namakunde.

1 ♀ (B 5880). Namutoni.

*Colour.*—Carapace light reddish brown, yellow at the edges, ocular area, excluding the posterior median eyes, black; legs reddish, sternum and coxae yellow. Abdomen dark slate-grey above with a median dorsal marking on its posterior  $\frac{3}{5}$ , composed of 4–5 small wedge-shaped whitish spots ending in a large cream-coloured patch above the spinners; colulus black; under surface and lower sides of abdomen dirty white, distinctly demarcated from the upper surface.

*Eyes.*—Anterior medians comparatively large, a radius or a little less apart; posterior medians about 2 their own diameter apart and  $1\frac{1}{2}$  times their diameter from posterior laterals; the two laterals on

the same side less than the diameter of a posterior lateral apart, the anterior eye distinctly the larger.

*Labium* slightly longer than broad, reaching  $\frac{2}{3}$ – $\frac{3}{4}$  the length of the maxillae, infuscated laterally at its base.

*Legs*.—Patellae with short stout spines above as follows:—I, 0; II, anterior row of 3–5, posterior row of 0–1; III similarly 4–7 and 3; IV, 4–5 and 4–5. Tibiae I and II each with a pair of basal, median and apical longer spines below.

*Vulva*.—As in fig. 10.

The female from Namutoni differs slightly from the rest in having the median dorsal stripe composed of small transverse bars instead of wedge-shaped markings.

*Measurement*.—Total length, 5–6 mm.

#### FAMILY AMMOXENIDAE.

Gen. AMMOXENUS, Simon.

*Ammoxenus fallopius*, n. sp.

6 ♀♀ (B 6280). Nomtele.

2 ♀♀ (B 6230). Ongandjera.

2 ♂♂ (B 5919). Sandup.

♀ *Colour*.—Carapace olivaceous, except ocular area which is black, a broad median stripe of snow-white hairs from behind the eyes not quite reaching the posterior margin; a few similar hairs on ocular area, especially between the anterior lateral eyes; abdomen deep velvety black above, a median lanceolate stripe of snow-white hairs bordered with some fiery-red ones tapering from anterior apex towards a white diamond-shaped patch above the spinners; sides and ventral surface white; coxae clothed with white hairs above; legs brown, distal segments olivaceous, dorsal surfaces with mixed black and white hairs.

*Eyes*.—Anterior row strongly procurved, medians less than a diameter apart and about half as far from the laterals, than which they are smaller; posterior row lightly procurved, medians oblong, slightly oblique, more than a long diameter apart, and less than a short diameter from the laterals, than which they are much smaller; median quadrangle parallel or a little wider in front, longer than wide.

*Chelicera* from above, tapering towards the apices which are truncate and provided with 2 stout teeth, the inner one the larger.

*Sternum* with mixed white and fuscous hairs, the former plumose at their bases, the latter stout basally, finely tapering.

*Legs* spined, all tarsi below with a double row of spiniform hairs.

*Vulva*.—As in fig. 18.

*Measurements*.—Length of carapace, 2.6 mm. Total length, 5.5 mm.

♂ *Colour*.—Carapace dark brown clothed with mixed fiery-red and black hairs, the latter predominating towards the margin; median band white; abdomen above with fiery-red hairs, a short median white patch in the middle, a second white patch above the spinners.

*Eyes*.—As in ♀, except that the posterior medians are larger.

*Sternum*.—As in ♀, but the white hairs less numerous.

*Palp* undeveloped, the tarsus spined above.

*Measurements*.—Length of carapace, 2 mm. Total length, 4 mm.

In one ♀ specimen the black hairs on the dorsal surface of abdomen are largely replaced by fiery-red ones in the neighbourhood of the median lanceolate stripe.

#### FAMILY ARGIOPIDAE.

Gen. TETRAGNATHA, Latr.

*Tetragnatha praedator*, Tullgr.

4 ♂♂, 2 ♀♀ (B 6162), from the Kunene River.

*Tetragnatha nitens*, Aud.

4 ♀♀ (B 5875). Namutoni.

5 ♂♂, 1 ♀ (B 5876). Namutoni.

♂ *Colour*.—Cephalothorax with fovea consisting of two deep oval pits lying in a depression with an anteriorly recurved margin, cephalic portion defined by lines of silvery-white hairs, ocular area with similar hairs, denser on the median ocular area; abdomen cinereous, thickly covered with dirty-white hairs; legs reddish brown, mandibles lighter.

*Chelicera*.—As in fig. 77, about as long as or but little longer than cephalothorax.

*Eyes*.—Anterior row distinctly recurved, medians considerably larger than laterals, less than their own diameter apart and much further from the laterals; posterior row a little narrower than anterior row, less recurved, the medians larger than the laterals and further from them than from each other; median quadrangle about as long as posteriorly wide, a little wider behind than in front; clypeus more than the diameter of an anterior median eye.

*Legs* I, II, IV, III; I much longer and stouter than the rest; II distinctly longer than IV. Femur I a little longer than length of body (abdomen+cephalothorax) with 6 large interior spines, and below them a sub-basal row of 3 small spines.

*Pedipalp*.—As in fig. 61. Left palp viewed laterally. Tarsus a little longer than tibia, the latter about  $\frac{1}{4}$  longer than patella.

*Measurements*.—Length of carapace, 4.5 mm.; abdomen, 8.3 mm. Total length, 12.7 mm.

♀ *Colour*.—Cephalothorax with infuscated border, margins of cephalic area infuscated, the margins uniting at the fovea and continued to posterior border as a broad median infuscated band; abdomen above with four longitudinal infuscated stripes, the outer broader than the inner ones; below with a blackish median band, the sides lighter; femora with an apical infuscated band, patellae with apical ring, tibiae with an indistinct median and distinct apical broad infuscated band, metatarsi with basal, submedian, and apical bands, tarsi with distal halves infuscated.

*Chelicera*.—Inferior margin with a large apical tooth, its axis parallel with the longitudinal axis of mandible, a much smaller one below it, then a space followed by 10–11 teeth, their interspaces and size growing successively less; superior margin with 2 moderate apical teeth, the second larger than the first, then a considerable space followed by 9–10 teeth larger than those of the inferior margin, their interspaces and size successively decreasing, the last one granular.

*Eyes*.—As in ♂.

*Legs* I, II, IV, III; I longer and stouter than the rest; femur I with 5 large interior spines, below them a sub-basal row of 5–6 small spines.

*Measurements*.—Length of carapace, 3.4 mm.; abdomen, 8.6 mm. Total length, 11 mm.

As I have been unable to see any literature dealing with Audouin's species, I have had to base my diagnosis on a specimen in the Museum's collection identified by Dr. Purcell. I have redescribed the species in the event of it being new or the diagnosis being incorrect.

*Tetragnatha andonea*, n. sp.

3 ♂♂, 3 ♀♀ (B 5926). Andoni.

This species comes under Simon's group E, *Hist. Nat. des Araign*, vol. i, p. 724.

♂ *Colour*.—Cephalothorax yellow, eyes surrounded with black,

median quadrangle clothed with white hairs, fovea large, rounded, with strongly recurved anterior border and distinct radiations; cephalic area distinctly defined; abdomen above reticulate, fulvous, a narrow median luteous band in anterior half with some small transverse and posteriorly oblique radiations from it, below darker fulvous, not reticulate.

*Chelicera.*—As in fig. 76.

*Eyes* (from above).—Anterior row slightly recurved, much wider than posterior row, medians about their diameter apart and much further from the laterals, which are 3 times smaller than them; posterior row more recurved than anterior row, medians smaller than anterior medians, twice their own diameter apart and about the same distance from the laterals; median quadrangle about as long as posteriorly wide, wider behind than in front; clypeus about equal to diameter of an anterior median eye.

*Legs* I, II, IV, III.

*Pedipalp.*—As in fig. 62. Patella subequal to tibia, patella+tibia about equal to or slightly less than tarsus, tarsus+tibia+patella longer than femur.

*Measurements.*—Length of carapace, 3.1 mm.; abdomen, 5.6 mm. Total length, 7.7 mm.

♀ *Colour.*—Cephalothorax yellow, fovea consisting of two crescentic pits, cephalic portion defined by lines of silvery-white hairs, ocular area with similar hairs denser on the median ocular area, a median line of similar hairs from fovea to between posterior median eyes; thoracic portion with faint foveal radiations and thin lines of silvery-white hairs; abdomen above reticulate, fulvous, with narrow, ill-defined median luteous stripe, posteriorly oblique radiations more distinct.

*Eyes.*—As in ♂, clypeus more than diameter of anterior median eye.

*Chelicera* much shorter than in ♂, fangs normal, inferior margin with a moderate apical tooth near base of fang, then a space followed by a large tooth (about twice the size of apical one), then 4 teeth at short regular intervals growing successively smaller, the last considerably smaller than the penultimate one; superior margin with a small apical tooth (smaller and further from the base of the fang than that of the inferior margin), then a considerable space (larger than that of the inferior margin) followed by 5 teeth (the first much larger than the apical tooth) growing successively smaller, the last 2 considerably smaller than the preceding one.

Legs I, II, IV, III; II very little longer than IV, with femur, patella + tibia, and metatarsus + tarsus about equal in length. Femur with 3 interior spines in distal  $\frac{1}{2}$ .

*Measurements*.—Length of carapace, 2.8 mm.; abdomen, 7.6 mm. Total length, 9.8 mm.

Gen. NEPHILA, Leach.

*Nephila senegalensis*, subsp. *annulata*, Thorell.

1 ♀ (B 6134). Kunene River.

Gen. ARANEUS, Clerck.

*Araneus morelii*, Vinson.

2 ♂♂, 1 ♀ (B 5924). Andoni.

1 ♂, 1 ♀ (B 5878). Namutoni.

4 ♀♀ (B 5923). Andoni.

2 ♀♀, 1 ♂ (B 5931). Andoni.

*Araneus eresifrons*, Pocock.

5 ♀♀ (B 5934). Kunene River.

These specimens agree closely with Pocock's description and drawing of the vulva, P.Z.S., 1898, pl. xli, figs. 3a, 3b. The anterior row of eyes is, however, not procurved, but straight, or very slightly recurved. They also resemble *A. cereola*, Simon, of which a drawing is not given, and *A. cereolella*, Strand. The colour of the dorsal surface of the abdomen is in nature a vivid light green, which in spirit soon becomes an ivory white.

#### FAMILY THERIDIIDAE.

Gen. LACTRODECTUS, Thorell.

*Lactrodectus incertus*, n. sp.

1 ♀ (B 6236). Ongandjera.

2 ♀♀ (B 5883). Namutoni.

*Colour*.—Cephalothorax brown with some narrow darker foveal radiations and stripes, abdomen marked as in fig. 78, the lighter stripes red, the rest light brown, below light brown with a lighter quadrilateral marking between the vulva and spinners.



*Eyes*.—Anterior row from above recurved, from in front slightly procurved, medians slightly smaller than the laterals, their diameter or a very little more apart and distinctly further from the laterals; posterior row recurved, medians less than their diameter apart and further from the laterals, than which they are a little larger; laterals on each side further than the diameter of an anterior lateral eye from each other; posterior medians larger than anterior medians; median quadrangle wider behind than in front, its length more than its posterior width; clypeus about the length of the median quadrangle. Length of carapace equal to metatarsus + tarsus III, a little less than  $\frac{3}{4}$  metatarsus I.

*Legs* I, IV, II, III; metatarsus I equal to metatarsus + about  $\frac{1}{3}$  tarsus IV.

*Vulva*.—As in fig. 19.

*Measurements*.—Length of carapace 3.8 mm.; length of abdomen about 6.3 mm.

This species resembles *L. hystrix*, Simon, in having the abdomen clothed with small spines (fig. 79), but differs in the disposition of the eyes; owing to the absence of literature in South Africa, I have been unable to see descriptions of several species; I have therefore provisionally described this species as new.

#### FAMILY THOMISIDAE.

Gen. STIPHROPUS, Gerst.

*Stiphropus scutatus*, n. sp.

1 ♂ (B 6312). Namakunde.

1 ♂ (B 6157). Kunene River.

*Colour*.—Carapace (except the bases of the anterior lateral eyes which are fiery red) and mandibles black, coarsely granular, sternum reddish brown; abdomen covered dorsally with a cuirass of minute rounded tubercles, a pair of indistinctly demarcated rounded depressions just behind the middle line; ventral surface corrugated.

*Eyes*.—Anterior row recurved, medians about 2 their diameter apart; laterals much larger than the medians and a little less than 3 median diameters from the latter; posterior row more strongly recurved than the anterior row, medians smaller than the anterior medians, considerably smaller than the laterals and nearer to each other than to them; median quadrangle about  $\frac{1}{3}$  wider than long, wider behind than in front; clypeus equal to a little more than the

diameter of an anterior median, less than the diameter of an anterior lateral eye.

*Legs* short and stout; tarsus and metatarsus of II together longer than those of I; metatarsus I not much shorter than tarsus I; tibia I equal to metatarsus + about  $\frac{2}{5}$  tarsus I; tibia III subequal to metatarsus + tarsus III.

*Palp.*—As in fig. 63, seen from an infero-exterior direction.

*Measurements.*—Length of carapace, 2 mm. Total length, 4.2 mm.

Gen. PARAMYSTARIA, Lessert.

*Paramystaria lata*, n. sp.

4 ♀♀ (B 6199). Kunene River.

*Colour.*—Carapace red to blackish brown, a light triangular patch between the anterior median eyes, mandibles infuscated apically, sternum red to blackish brown, coxae and legs light orange, femora reddish, tibiae and distal segments with an infuscated dorsal stripe, except on third tarsus, patellae with or without a similar stripe or with a basal infuscated band; abdomen marked dorsally either as in *P. variabilis*, Lessert, Rev. Suisse de Zool., 1919, vol. xxvii, Nos. 5 and 6, pl. ii, fig. 42, or with a narrow dark median stripe with a broad irregular dark patch at each side, which is longitudinally produced infero-laterally; on the anterior half an oval red spot followed by a trapezium (broader behind than in front) of 4 smaller round spots, the posterior larger than the anterior pair; abdomen cream below.

*Eyes.*—Anterior row a little more strongly recurved than the posterior row (a line touching the superior borders of the medians passes just below the laterals); medians 3 times their diameter apart and  $1\frac{1}{3}$  times as far from the laterals as from each other; posterior medians distinctly smaller than anterior medians, 7 times their own diameter apart and about  $\frac{2}{3}$  that distance from the laterals; median quadrangle considerably wider than long; laterals on each side distant from each other  $1\frac{1}{2}$  times the diameter of an anterior lateral eye; clypeus equal to 3 times the diameter of an anterior median eye.

*Chelicera.*—As in generic description (*loc. cit.*, p. 102).

*Legs.*—Femur I with 2 anterior apical spines; II and III with 1 superior median spine each. Tibia I with 1 median superior and 2 inferior apical spines.

*Abdomen* rounded, broader than long.

*Vulva.*—As in fig. 20.

*Measurements.*—Length of carapace, 1.6 mm. ; length of abdomen, 2.8 mm. ; breadth, 3.1 mm. Total length, 4.3 mm.

This species closely resembles *P. variabilis*, Lessert, in the flask-shaped form of the vulva and in the colouring ; it differs from it in the disposition of the eyes.

Gen. MONOESSES, Thorell.

*Monoesses quadrituberculatus*, n. sp.

1 ♂, 1 ♀ (B 6203). Oncka.

1 ♂ (B 6255). Ongandjera.

1 ♀ (B 5898). Mafa.

♀ *Colour.*—Carapace yellow, except tubercles of eyes and edge of clypeus which are white, and some irregular brown lateral markings not reaching the margin, except anteriorly at the lateral angles of the clypeus ; mandibles yellow, tipped with white, their inner margins provided with spiniform hairs ; legs yellow ; abdomen above mottled white, a double row of spines on its anterior half, remainder with numerous spines ; ventral surface with a narrow grey median band from epigastric area to spinners, a lateral band of distinct grey spots on each side.

*Carapace.*—Length subequal to metatarsus I, and also to tibia II.

*Eyes.*—Anterior row straight, equally spaced by about 4 median diameters ; posterior row very slightly recurved, medians smaller than laterals and nearer to them than to each other ; median quadrangle considerably wider behind than long, its length equal to its anterior width.

*Legs.*—Anterior metatarsi with 5.5 inferior and 1.1 median lateral spines ; anterior tibiae with 5.5(6) inferior and 3.3 lateral spines ; claw of tarsus I with 14 small teeth.

*Abdomen.*—Anterior dorsal margin with 3 curved, inwardly directed spines on each side ; below anteriorly to the spinners, except the ventral median band, longitudinally striated, posteriorly to the spinners transversely creased and tapering ; distance from spinners to posterior apex about equal to distance from anterior apex to spinners (excluding spinners themselves).

*Vulva.*—As in fig. 21.

*Measurements.*—Length of carapace, 2.7 mm. Total length, 10.4 mm.

♂ *Colour.*—Brown lateral markings in the ♀ replaced by blackish ones posteriorly ; abdomen dorsally with a blackish patch on each

side of the anterior margin, followed more posteriorly by another smaller pair; spines far less numerous than in the ♀, abdomen not tapering posteriorly to the spinners, but ending abruptly in a blunt projection above the spinners on which are situated 4 small tubercles each surmounted with a spine.

*Pedipalp.*—As in fig. 64.

*Measurements.*—Length of carapace, 2 mm. Total length, 5.2 mm.

Gen. *TMARUS*, Simon.

*Tmarus crucifer*, n. sp.

1 immature ♀ (B 6151). Kunene River.

*Colour.*—Carapace fuscous, mottled, two oblique ill-defined white lateral stripes extending from the level of the fovea to a transverse white stripe behind the posterior median eyes; a white median stripe from the fovea passing through the transverse stripe ending behind the anterior median eyes; on each side a dark fuscous stripe passing obliquely between the posterior median and lateral eyes intersecting between the anterior median eyes, forming an angle of about  $100^\circ$ , and continued as a less distinct stripe to just before the edge of the clypeus. Two spines on each side of the fovea directed inwardly; two long paired spines in the middle of each lateral stripe, the larger of which is prone and directed forwards; a similar spine at the junction of the transverse and median stripes; two short spines behind the anterior median eyes; clypeus with 4 inwardly directed spines along the margin, a 5th in the median line a little below the middle of the clypeus directed backwards between the anterior median eyes.

*Abdomen* above mottled white with a pair of sinuous grey stripes converging posteriorly, a double row of paired spines on each side down its entire length; some blackish streaks at the sides, ventral surface dirty white with a broad median fuscous band in its entire length.

*Eyes.*—Anterior row slightly recurved, medians a little closer to each other than to the laterals; posterior row recurved, medians a little closer to each other than to the laterals, and larger than the anterior medians, laterals smaller than the anterior laterals; median quadrangle wider than long and considerably wider behind than in front; clypeus equal to about twice the diameter of an anterior lateral eye.

*Legs.*—All femora spotted, the anterior much more than the posterior ones.

*Measurements.*—Length of carapace, 1.5 mm. Total length, 4.7 mm.

This species can be recognised by the distinct cross formed by the intersection of the two fuscous stripes on the carapace.

Gen. *PHERECYDES*, Cambr.

*Pherecydes zebra*, n. sp.

1 ♀ (B 5899). Ongandjera.

*Colour.*—Carapace chocolate-brown, a narrow white marginal band posteriorly, a median horseshoe-shaped yellow marking posteriorly, the arms extending to the posterior eye tubercles and enclosing a yellowish area marked with symmetrical brown spots; a white patch between the median eyes and on the front of the clypeus; posterior and anterior median eyes on each side situated on an ill-defined outwardly curved ( ) brown stripe; lateral tubercles grey. The whole thickly covered with small spines, some fewer larger spines; 4 large spines on the transverse portion of horseshoe marking.

*Sternum* black, coxae white, legs deep brown banded with white below or mottled grey above; tarsus of palp white. Abdomen above mottled grey, a lighter median dumbbell-shaped area ending in a point above the spinners; sides black, ventral surface with a broad black median band, a narrower white stripe on each side.

*Carapace* raised abruptly and almost vertically posteriorly, then almost horizontal as far as the anterior lateral eyes.

*Eyes.*—Anterior row a little more recurved than posterior row, median eyes a very little larger than posterior medians. Posterior tubercle facing postero-laterally much larger than anterior tubercle facing antero-laterally; posterior laterals smaller than anterior lateral eyes; median quadrangle considerably wider than long, a little wider behind than in front. Clypeus concave, sloping, a little less than the distance between the anterior median eyes.

*Legs.*—Tibia I with 3 inferior, metatarsus with 5 anterior, 1 inferior, spines; tibia II with 1–2 inferior, metatarsus with 3 anterior, 1 inferior, spines. Abdomen bluntly polygonal, a little longer than wide, a small sharp tubercle above the spinners.

*Vulva.*—As in fig. 22.

*Measurements.*—Length of carapace, 2.5 mm. Total length, 6.1 mm.

Gen. THOMISUS, Walck.

*Thomisus caffer*, Simon.

1 ♀ (B 6139). Kunene River.

The colouring and form of the vulva agree with Lessert's description and figure, Rev. Suisse de Zool., 1923, vol. 30, p. 171, fig. 16. The height of the clypeus is a little more than the distance between the anterior median eyes.

Gen. RUNCINIA, Simon.

*Runcinia cataracta*, n. sp.

2 ♀♀ (B 6149). Kunene River.

*Colour*.—Carapace yellow, except a narrow white margin, two lateral light brown bands not bordering the margins, and a narrow white stripe reaching from the posterior eyes to a posterior transverse strongly recurved white stripe; legs yellow, anterior ones with a narrow dorsal white stripe from coxa to end of tibia; abdomen above white, with an indistinct fuscous median band and lateral fuscous bands; a pair of short black longitudinal bars about the middle, 2 pairs of transverse slightly curved black bars a little in front of the spinners, the posterior a little longer than the anterior pair; ventral surface uniform white.

*Eyes*.—Anterior row recurved, medians about 3 times their diameter apart, equally or a little more distant from the laterals; posterior row less recurved than the anterior row, the medians a little further from each other than from the laterals and smaller than the anterior medians; posterior medians about  $1\frac{1}{2}$  diameters from the carinate dorsal margin of carapace; the blunt tubercle between the lateral eyes provided with 3 spines. Anterior margin of clypeus with a curved row of 7 spines, a stouter spine at the lateral angles of the clypeus.

*Legs*.—Anterior tibiae with 3·3 or 4·4, metatarsi with 5·5 or 6·6 inferior spines. Femur I anteriorly with 3 weak widely separated spines in its proximal half.

*Vulva*.—As in fig. 23.

*Measurements*.—Length of carapace, 2·1 mm. Total length, 6·4 mm.

Gen. XYSTICUS, C. Koch.

*Xysticus sagittifer*, n. sp.

1 ♀ (B 6274). Namakunde.

*Colour*.—Carapace marbled brown and yellow, with a narrow brown margin except posteriorly; a dark brown spot behind the posterior lateral eyes; cephalic portion defined by two dark brown lines converging posteriorly and enclosing in its posterior apex a whitish arrow-head marking, the barbs directed obliquely antero-laterally; the shaft of the arrow formed by two median dark brown lines diverging between the posterior median eyes, parallel posteriorly, reaching to about  $\frac{2}{3}$  of the arrow-head marking; clypeus yellow, mandibles yellowish brown with a lateral brown basal stripe. Anterior legs above brown, tarsi and metatarsi yellowish brown; below femora and patellae yellowish with some brown spots, remaining segments as on dorsal surface, except tibiae which are mottled with a yellowish proximal stripe diminishing distally; posterior legs white, apices of femora above, patellae above, tibiae laterally, with brown markings. Abdomen without markings, except some mixed white and blackish spots antero-laterally on the dorsum, and similar ones ventrally below the epigastric fold. The blackish spots on dorsal surface each provided with a spine in its centre which is a little longer and stouter than the surrounding spines which cover the whole dorsal area.

*Eyes*.—Median quadrangle considerably wider than long, a little narrower in front than behind. Clypeus about  $2\frac{1}{2}$  times the diameter of an anterior lateral eye.

*Legs*.—Anterior metatarsi with 4·4 inferior, 1·1 superior and apical, 2·2 or 3·3 lateral spines; anterior tibiae with 4·4 inferior spines.

*Vulva*.—As in fig. 24. The shape is indistinct and below the area figured is very ill-defined, but seems to be transversely corrugated.

*Measurements*.—Length of carapace, 3·4 mm. Total length, 7·4 mm.

Gen. PHILODROMUS, Walck.

*Philodromus otjimbumbe*, n. sp.

1 ♀ (B 6359). Otjimbumbe, Kunene River.

*Colour*.—Carapace light yellow, with foveal radiations and margin white, legs and sternum light yellow; abdomen white, with a light grey median stripe above and below not reaching the spinners.

*Eyes.*—Anterior medians more than twice as far apart as is a median from a lateral eye; median quadrangle about  $\frac{1}{3}$  wider than long, and wider behind than in front; distance between posterior and anterior medians a little less than the distance between posterior and anterior laterals; clypeus less than the length of median quadrangle.

*Chelicera.*—Superior border with 1 apical tooth, and a curved fringe of spiniform hairs.

*Legs* II, I, III, IV; femur I with 2 superior and 1 anterior, femur II with 2 superior spines. Tibia I with 3 inferior pairs (the apical pair small) and 2 lateral pairs of spines; tibia II with 2 inferior pairs and 1 apical lateral pair; metatarsus I with 2 large and 2 small inferior pairs and 2 lateral pairs; metatarsus II with 4 inferior spines and 3 lateral pairs, the apical pair small. Tarsus I with 3, tarsus II with 2 small inferior pairs of spines.

*Vulva.*—As in fig. 25.

*Measurements.*—Length of carapace, 1.5 mm. Total length, 4.8 mm.

Gen. HIRRIUS, Simon.

*Hirrius bidentatus*, n. sp.

2 ♀♀, 4 ♂♂ (B 6182), 2 ♂♂ (B 6102). Kunene River.

♀ *Colour.*—Carapace dark brown, a broad median roughly parallel yellow stripe about equal in width to the distance between the posterior lateral eyes; two light brown or reddish stripes passing through the posterior median eyes, diminishing and converging posteriorly, merging anteriorly with the clypeus, which is a lighter brown than the rest of the carapace; sternum brown, coxae yellow, their apical thirds dark brown; legs below dark brown, except the bases of the femora which are yellow; legs above yellowish with brown infuscations on the distal and proximal portions of the femora, patellae with a brown basal stripe diminishing distally, tibiae with two brown spots more distinct on posterior than on anterior legs, tarsi and metatarsi brown; abdomen above dark brown, a black diamond-shaped marking anteriorly, with or without some chevron markings posteriorly, sides blackish brown, ventral surface mottled brown.

*Eyes.*—Anterior medians a very little smaller than anterior laterals and more than twice as far from each other as from them; a posterior median about the same distance from its lateral as from an anterior median on the same side; median quadrangle about as long as wide,



and wider behind than in front; clypeus about  $1\frac{1}{2}$  times the length of median quadrangle.

*Chelicera.*—Superior margin oblique provided a little below the apex with a stout, conical, almost vertical tooth, followed by a much weaker tooth just below it.

*Legs* II, IV, III, I.

*Vulva.*—As in fig. 26.

*Measurements.*—Legs: I, 10.6 mm.; II, 13.5 mm.; III, 10.8 mm.; IV, 11.5 mm. Length of carapace, 3.5 mm. Total length, 7.7 mm.

♂ *Colour.*—Median band on carapace, dorsal surface of abdomen except the anterior diamond-shaped marking, clothed with dirty-white and some reddish hairs; otherwise deep black giving the whole body a much darker appearance than in the ♀; some white hairs dorsally on the metatarsi, legs otherwise black.

*Legs* much longer than in the ♀; IV, II, III, I. Femora strongly spined.

*Pedipalp.*—As in fig. 65.

*Measurements.*—Legs: I, 11.9 mm.; II, 13.2 mm.; III, 12.1 mm.; IV, 13.7 mm. Length of carapace, 3.35 mm. Total length, 6.1 mm.

*Hirrius arenaceus*, n. sp.

2 ♀♀, 1 ♂ (B 5914). Sandup.

♀ *Colour.*—Carapace brown, a broad median band and narrow wavy marginal band yellow; two fairly broad brown stripes from behind, the posterior median eyes converging posteriorly and not reaching the fovea; a whitish transverse band separating the anterior and posterior rows of eyes, edge of clypeus with a roughly triangular whitish marking, sternum and coxae yellow, labium infuscated at its base, abdomen above covered with stout white squamous hairs plumose at their bases (see fig. 67A, Simon, *Hist. Nat. des Araign.*, vol. i, p. 42), amongst these some smaller patches of brown ones; a number of large white-tipped spines, each spine situated in a patch of brown or yellowish hairs; abdomen when dry has a cinereous appearance, in spirit there appears two rows of fuscous oblique markings in the posterior  $\frac{1}{2}$  which enclose between them a dirty-white leaf-shaped marking; sides dotted with small brown patches, below white. Legs variegated.

*Eyes.*—Anterior medians about  $1\frac{1}{2}$  times their diameter apart and less than their diameter from the laterals which they equal in size; a line touching the superior borders of the medians would not touch

the laterals; posterior row very slightly recurved, the medians considerably smaller than the laterals and a little nearer to them than to each other; median quadrangle longer than broad, but not a third longer, and broader behind than in front.

*Chelicera* with 2 teeth on the superior margin a short distance from each other.

*Legs* IV, II, III, I. Anterior tibiae with 3 inferior pairs of spines, the apical pair smaller than the others, and 1 lateral pair; anterior metatarsi with 2 inferior pairs of spines.

*Vulva*.—As in figs. 27 and 28.

*Measurements*.—Legs: I, 10.7 mm.; II, 11.3 mm.; III, 11 mm.; IV, 11.6 mm. Carapace, 2.9 mm. Total length, 6.9 mm.

♂ *Colour*.—Carapace brown with irregular yellow margin, two yellow stripes from between the median and lateral eyes of the posterior row converging posteriorly and joining the marginal band. Abdomen above cinereous, a black diamond-shaped marking occupying its anterior half bordered by some white hairs; below dirty white. Legs variegated, femora below with a narrow white stripe diminishing distally.

*Legs* IV, II, III, I; very long and strongly spined.

*Pedipalp*.—As in fig. 66.

*Measurements*.—Legs: I, 14.2 mm.; II, 16 mm.; III, 15.4 mm.; IV, 16.8 mm. Total length, 4.6 mm.

This species shows a fair amount of variation, some specimens being more deeply coloured than others; the brown stripes behind the posterior median eyes may be fused to form a broad almost parallel band; in other specimens the abdomen is almost without markings; the vulva shows several degrees of variation from a form shown in fig. 27 to that seen in fig. 28. The male organ is on the other hand very constant.

#### Gen. TIBELLUS, Simon.

##### *Tibellus vossioni*, Simon, var. ?.

1 ♂ (B 6151). Kunene River.

This specimen agrees in the form of the palp with the figure given by Lessert, *Rev. Suisse de Zool.*, 1919, vol. xxvii, p. 164, for *Tibellus vossioni* var. *minor*. The tibia is, however, a little longer than that figured for his variety. I have therefore placed this specimen as belonging to the above species, though Simon's description and figure have unfortunately not been seen.

FAMILY CLUBIONIDAE.

Gen. SELENOPS, Latr.

*Selenops radiatus*, Latr.

- 1 ♀ (B 6221). Ongandjera.  
1 ♀ (B 6184). Kunene River.  
1 ♀ (B 6271). Namakunde.  
1 ♀ (B 6187). Oncka.

Gen. OLIOS, Walck.

*Olios furcatus*, n. sp.

- 1 juvenile (B 5789). Namutoni.  
1 ♀ (B 6625). Kunene River.  
1 ♀ (B 6262). Namutoni.  
2 ♀♀ (B 5909). Sandup.

♀ *Colour*.—Carapace and legs yellowish brown, mandibles reddish brown, abdomen above testaceous with short stripes and spots of brown hair at the sides, a narrow median brown stripe from colulus to anterior apex bifid just anteriorly to the middle; below uniform testaceous.

*Chelicera*.—Superior margin with 2 teeth, the apical larger than the basal; inferior margin with 3 teeth, the basal 1 bituberculate, much smaller than the other 2, which are subequal.

*Eyes*.—Anterior row recurved, medians considerably larger than the laterals, a little less than their own diameter apart and much nearer to the laterals; posterior row straight to very slightly procurved, the medians much smaller than anterior medians and about as far from the laterals as from each other; posterior laterals subequal to anterior laterals; median quadrangle as long as wide and as wide in front as behind (or a very little wider behind).

Length of carapace equal to metatarsus I, and to tibia +  $\frac{2}{5}$  patella IV; width (greatest width between legs II and III) subequal to tibia I measured above.

*Legs*.—All tibiae with 2 inferior pairs of long spines, all metatarsi with 2 inferior pairs of spines in basal  $\frac{1}{2}$ , tibia IV with 2 lateral pairs of spines in addition, metatarsus IV with 3 lateral pairs of spines in addition.

*Vulva*.—As in fig. 29.

*Measurements.*—Length of carapace, 6.2 mm.; breadth, 5.1 mm. Total length, 18 mm.

♂ *Colour.*—Carapace reddish brown, abdomen tawny with some dark brown hairs; legs brown proximally, distally coloured as in carapace.

*Chelicera.*—As in ♀.

*Eyes.*—As in ♀; clypeus about equal to diameter of an anterior median eye.

Length of carapace equal to tibia II measured above, and to tibia + about  $\frac{1}{6}$  metatarsus IV.

*Legs* II, IV, I, III; all tibiae and metatarsi with 2 pairs of inferior spines; tibia I with 2 posterior lateral spines; III with 2 or 1 anterior, 2, 1, or 0 posterior lateral spines; IV with 2 lateral pairs of spines; metatarsus III with 1 pair, IV with 3 pairs of lateral spines.

*Pedipalp.*—As in fig. 68.

*Measurements.*—Length of carapace, 9.3 mm. Total length, 21 mm.

This species approaches *S. croceiceps*, Pocock, in the shape of the vulva, in spination, and in coloration, but differs from it in the disposition of the eyes and proportions.

*Olios tuckeri*, n. sp.

1 ♂ (B 7124). Kunene River.

*Colour.*—Carapace, sternum, and legs below yellow, abdomen below uniformly yellow, abdomen above and legs above with brownish hairs.

*Eyes.*—Anterior row slightly recurved, the medians  $1\frac{1}{2}$  times the size of the laterals, less than their own diameter apart and subcontiguous to the laterals; posterior row slightly procurved, the medians a little further from each other than from the laterals, which they equal in size; median quadrangle as long as wide and as wide in front as behind; clypeus less than the diameter of an anterior median eye.

Length of carapace about equal to tibia III.

*Chelicera.*—Inferior margin with 2 large well-separated teeth followed shortly by 2 much smaller ones; superior margin with 2 teeth, the basal one the smaller.

*Legs* very long, II, IV, I, III; spination as follows: all femora above with 3, 2, 3 spines, all patellae with a lateral pair; all tibiae with 2 inferior, 2 lateral pairs, and 1 superior subapical spine; tibia I with a basal superior spine in addition; all metatarsi with 2 inferior pairs, I and II with 2, III and IV with 3 lateral pairs.

*Pedipalp*.—As in fig. 67.

*Measurements*.—Length of carapace, 4.2 mm.; breadth, 3.8 mm. Total length, 10 mm.

Gen. MICROMMATA, Latr.

*Micrommata ovambica*, n. sp.

1 ♀ (B 6752). Mafa.

*Colour*.—Carapace yellow, a brown stripe along but not bordering the sides and not meeting posteriorly, a black spot opposite each coxa of the legs and palp; ocular area darkened; a broad median brown stripe from the posterior median eyes but not reaching the posterior border; abdomen above with a very clearly defined median lanceolate reddish-brown stripe from anterior apex tapering towards the colulus, indistinct brown markings at the sides; below yellow with a narrow brown median stripe just below the vulva, not reaching the spinners; legs brown, reddish brown distally, sternum with an indistinct spot at the sides opposite legs I, II, and III.

*Chelicera*.—Inferior margin with 2 large teeth followed by a much smaller basal tooth.

*Eyes*.—Anterior row recurved, laterals about twice the size of the medians, which are about  $\frac{3}{4}$  their own diameter apart and less than their radius from the laterals; posterior row procurved, wider than the anterior row, medians equal to the laterals and a little nearer to them than to each other; median quadrangle longer than wide and much wider behind than in front.

Length of carapace equal to tibia + about  $\frac{2}{5}$  patella IV, a little less than metatarsus + tarsus III.

*Legs*.—I missing; tibiae II, III, IV with 3 inferior and 2 lateral pairs of spines, metatarsi II, III, IV with 2 inferior pairs; III with 1, IV with 3 lateral pairs in addition.

*Vulva*.—As in fig. 30.

*Measurements*.—Length of carapace, 5.7 mm. Total length, 17.2 mm.

Gen. CHIRACANTHIUM, C. Koch.

*Chiracanthium inornatum*, n. sp.

1 ♀, 3 ♂♂ (B 6116). Ongandjera.

1 ♂, 1 ♀ (B 6156). Kunene River.

♀ *Colour*.—Carapace yellow, ocular area darkened, mandibles

blackish brown, abdomen uniform light yellow without markings, legs a little darker.

*Eyes.*—Anterior row straight to slightly recurved, the medians larger than the laterals, a little more than their own diameter apart and further from the laterals than from each other; posterior row procurved, medians larger than the laterals, about twice their own diameter apart and a little further from the laterals, which are smaller than the anterior laterals; median quadrangle wider than long, and wider behind than in front; clypeus about equal to radius, of an anterior median eye.

Length of carapace subequal to metatarsus I, about equal to tibia I, subequal to patella + tibia IV.

*Legs.*—Femora with 2 anterior apical spines, except IV which has 0, III sometimes with 3; tibia I with 2 medians inferior, III with 2 apical lateral, remainder with 0 spines; all metatarsi with an inferior basal pair of spines, IV with an inferior submedian spine in addition, III and IV with basal and median lateral pairs in addition and an apical verticillus of 5 spines.

*Vulva.*—As in figs. 31 and 32, the two horseshoe-shaped sections of the vulva are slightly separated, lightly concave, and rimmed at the edges.

*Measurements.*—Length of carapace, 3.7 mm. Total length, 11 mm.

The shape of the vulva is somewhat variable, two forms being distinguishable.

♂ *Eyes and Colouring.*—As in ♀. Length of carapace equal to a little more than  $\frac{1}{2}$  ( $\frac{5}{9}$ ) metatarsus I, and a little more than patella + tibia III.

*Legs.*—I considerably longer than the rest; femora I, II, IV with 2 anterior spines, those of II much stouter than the rest; III with two irregular rows of 6–10 spines, tibia I with 15–18 irregular spines inferiorly; metatarsus IV with a row of 15 spines inferiorly, 2 lateral pairs in addition and a verticillus of 5 spines.

*Pedipalp.*—As in fig. 69.

*Measurements.*—Length of carapace, 3.6 mm. Total length, 8.5 mm.

*Chiracanthium castum*, n. sp.

1 ♂ (B 6279). Namakunde.

*Colour.*—Carapace yellow, abdomen uniform fulvous, legs yellow, darker at their extremities.

*Chelicera.*—With 4 small teeth, the apical 2 smaller than the basal 2.

*Eyes.*—Seen from in front, anterior row straight, equally spaced by about the diameter of a median eye; posterior row procurved, the medians about  $1\frac{1}{2}$  times their diameter apart, a little more from the laterals; median quadrangle slightly wider than long and slightly wider behind than in front; clypeus  $\frac{1}{2}$  the diameter of an anterior median eye.

Length of carapace equal to metatarsus III and to about  $\frac{3}{4}$  metatarsus II.

*Legs.*—Femora I, II, IV with 2 anterior apical spines, femur III with 15–16 in two irregular rows, metatarsus IV with a single inferior row of 20 unequal spines, 2 pairs of lateral spines and an apical verticillus of 5 long spines.

*Pedipalp.*—As in fig. 70.

*Measurements.*—Length of carapace, 4.1 mm. Total length, 8 mm.

#### FAMILY PISAURIDAE.

Gen. EUPHROSTHENOPS, Pocock.

*Euphrosthénops australis*, Simon.

1 ♀ subadult (B 6120). Ongandjera.

Gen. TETRAGONOPHTHALMA, Karsch.

*Tetragonophthalma symmetrica*, n. sp.

1 ♀ (B 6228). Ongandjera.

*Colour.*—Cephalothorax yellow, some blackish spots along the margin, a large, broad, blackish-brown marking not reaching the posterior margin and including the posterior row of eyes anteriorly; a dark line from the anterior lateral eyes to angle of clypeus, a narrow median yellow line extending to between the posterior median eyes anteriorly and bisecting the large median blackish-brown marking into two symmetrical portions. Legs yellowish brown, olive-brown below. Abdomen yellow above with markings as in fig. 74 and some indistinct brownish markings laterally towards the posterior apex; sternum with a blackish marginal spot opposite each coxa.

*Eyes.*—Anterior medians their own diameter or a little less apart and about  $1\frac{1}{2}$  diameters from the anterior laterals, than which they are larger; posterior medians about  $1\frac{1}{2}$  times their own diameter apart and further from the laterals; anterior medians twice or a little

less their diameter from posterior medians, than which they are a little smaller; median quadrangle a little longer than its posterior width, wider behind than in front by the diameter or a very little less of a posterior median eye; clypeus about  $1\frac{1}{2}$  times diameter of an anterior lateral eye.

*Legs.*—Tibia I subequal to tibia II and a little more than  $\frac{1}{2}$  patella III.

*Vulva.*—As in fig. 33, somewhat indistinct, some indistinct black markings (between the margin of the epigastrum and inferior rim of the vulva) which are not shown.

*Measurements.*—Length of carapace about 2.7 mm. Total length, 8.7 mm.

Gen. THALASSIUS, Simon.

*Thalassius cataractus*, n. sp.

1 ♀ (B 6135). Kunene River.

*Colour.*—Carapace chocolate-brown, clothed with mixed white and yellow hairs, some red ones in the median line; a clearly demarcated marginal band of yellow hairs not meeting posteriorly and ending abruptly anteriorly on a line running from below the anterior lateral eye to the lateral angle of the clypeus; abdomen above chocolate-brown, two indistinct wavy lines of red hairs converging but not meeting towards posterior apex of abdomen; a lateral band of yellow hairs on each side of the abdomen similar to those of cephalothorax, not meeting anteriorly or posteriorly; four yellow spots just within each lateral band situated at equal intervals, the posterior one the largest; abdomen below tawny.

*Chelicera.*—Superior margin with 2 teeth, 1 large and 1 small, inferior margin with 3 large teeth.

*Eyes.*—Anterior medians larger than anterior laterals and nearer to them than to each other, posterior medians a little smaller than posterior laterals and nearer to each other than to them; median quadrangle longer than wide, and equally wide behind as in front; clypeus  $1-1\frac{1}{2}$  times length of median quadrangle.

Length of carapace greater than tibia I and equal to metatarsus + a little less  $\frac{1}{2}$  tarsus I; width about equal to metatarsus III.

*Legs* IV, I, II, III; all tibiae with 4, all metatarsi with 3 pairs of inferior spines.

*Vulva.*—As in fig. 34.

*Measurements.*—Length of carapace, 7.3 mm.; breadth, 6.6 mm. Total length, 16 mm.



This species resembles *T. margaritatus*, Pocock in colouring, but differs from it in proportions.

FAMILY LYCOSIDAE.

Gen. HIPPIASA, Simon.

*Hippasa australis*, n. sp.

3 ♀♀, 2 subadult ♂♂ (B 6626). Kunene River.

This species is very near to *H. decemnotata*, Simon, Ann. Mus. Civ. Genov., ser. 3, vol. iv, p. 390, recorded from Portuguese Guinea; it agrees with Simon's description in all except a few details. Without seeing the type I have preferred not to identify it as *H. decemnotata*, the distance between the habitats of the two species making it more likely that *H. australis* would be a southern and slightly different representative of Simon's tropical species. If identical, the species can be united.

*Colour*.—In this species the line of white hairs above the anterior row of eyes (as described in the case of *H. decemnotata*) is absent; abdomen below cinereous, not uniform but with a pair of narrow fuscous median stripes below the vulva which converge posteriorly, not reaching the spinners, basal joint of superior spinners with an apical annulation of white hairs.

*Eyes*.—Anterior row straight to slightly procurved, medians larger than the laterals, less than their radius apart and nearer to the laterals; medians about their own diameter from posterior medians, which are their own diameter or a little less apart; dorsal quadrangle wider behind than in front by about twice the diameter of a posterior lateral eye, its length about equal to its anterior width.

Length of carapace a very little more than  $\frac{3}{4}$  metatarsus IV, equal to metatarsus + about  $\frac{2}{3}$  tarsus I.

*Legs*.—Yellow-brown with fuscous bands successively darker posteriorly, tarsi uniform.

*Vulva*.—As in fig. 35, covered with long white hairs directed posteriorly.

*Measurements*.—Length of carapace, 4.7 mm. Total length, 12.2 mm.

Gen. OCYALE, Aud.

*Ocyale maculata*, Koch.

1 ♀ (B 6629). Ongandjera.

This specimen being an undeveloped female, it is impossible to

say with certainty to which species it belongs ; as it agrees in other respects with the above species, I have placed it provisionally under this heading.

Gen. LYCOSA, Latr.

*Lycosa kalaharensis*, Simon.

3 subadult ♀♀ (B 6163). Kunene River.

2 ♀♀ (B 5911). Sandup.

1 ♀ (B 6196). Kunene River.

This species agrees closely with Simon's description as regards colour, the spination of the legs, and in having the apical tooth of the inferior margin of the chelicerae smaller than the two others. The vulva is smaller than, though formed on the same plan as that of *L. mafensis* (fig. 37), with the hood terminating the septum anteriorly, less curved in the centre, almost straight.

*Lycosa o'neilli*, Purcell.

3 ♀♀ (B 6289). Namutoni.

2 ♀♀ (B 5887). Mafa.

I can see no difference between Purcell's species and the S.W. African specimens in the form of the vulva. The line formed by the lower margins of the anterior eyes is slightly recurved, and the posterior is a little wider than the anterior row, but in one of Purcell's specimens this is also the case.

*Lycosa mafensis*, n. sp.

1 ♀ (B 5882). Mafa.

*Colour*.—Carapace dirty white at the margins, two broad lateral bands of light brown hair, lighter towards the sides, enclosing between them a roughly lanceolate band of yellowish hairs anteriorly as broad as the distance between the posterior lateral eyes, narrowing but not tapering posteriorly, separated from the posterior margin of the carapace by a patch of blackish brown hair ; abdomen above mottled light brown and white, some transverse sinuous dark brown bands in the posterior  $\frac{1}{2}$ , sides dirty white, below and infero-laterally deep black from sternum to spinners including the latter, black portion sharply demarcated from the white lateral bands, coxae a little lighter than sternum, mouth-parts a little lighter than coxae ; mandibles with their basal  $\frac{1}{2}$  clothed with mixed yellow and dirty-white hairs ; legs reddish brown covered with short white

and some fewer long brown hairs; tibia IV with an inferior apical and basal blackish brown band; III with a less strongly marked apical band.

*Chelicera* with 3 large equal-sized teeth on inferior margin.

*Eyes*.—Anterior row decidedly narrower than second row (posterior medians), anterior medians about  $\frac{1}{3}$  larger than anterior laterals, about their own radius apart and less from the laterals; posterior medians a little more than their radius apart and as far from the anterior medians as these are from each other; dorsal quadrangle considerably wider than long, its anterior width a little more than its length; clypeus equal to a little less than twice the diameter of an anterior lateral eye.

Length of carapace a little less than tibia + metatarsus I, equal to metatarsus + about  $\frac{1}{3}$  tarsus IV.

*Legs*.—Patella I and II with an anterior spine; III and IV with a posterior spine in addition; legs otherwise spined as in *L. lindneri*, Simon, Ann. Mus. Civ. Genov., ser. 3, vol. iv, p. 391.

*Vulva*.—As in fig. 36; it is similar to *L. entebbensis*, Lessert, but differs from it in having the anterior row of eyes not wider than the second row but narrower. It is certainly very close to *L. lindneri*, Simon, but differs chiefly in its smaller size and the shape of the vulva. Simon describes the vulvular septum as being “antice abrupte acuminato.” It is also near *L. raffrayi*, Simon.

*Measurements*.—Length of carapace, 7.4 mm. Total length, 14.5 mm.

*Lycosa parvivulva*, n. sp.

3 ♀♀ (B 6121). Ongandjera.

*Colour*.—Carapace blackish brown, a broad interrupted dirty-yellow marginal band disappearing just in front of the level of the first leg; a broad similarly coloured median band tapering abruptly posteriorly and including the dorsal ocular area anteriorly; sternum and coxae lightly fuscous, legs irregularly banded, except tarsi and metatarsi which are a uniform light brown; abdomen macerated below, a dark fuscous median lanceolate marking from anterior apex to just before the spinners, a narrow indistinct stripe on each side.

*Chelicera* with apical tooth of inferior margin the smallest, middle one the largest.

*Eyes*.—Anterior row a little narrower than second row, slightly procurved, medians about a third larger than laterals and a little nearer to them than to each other; medians about  $\frac{1}{2}$  their own

diameter from posterior medians, which are a little more than their own radius apart; dorsal quadrangle wider behind than in front by a little more than diameter of a posterior lateral eye.

Length of carapace equal to metatarsus + about  $\frac{2}{3}$  tarsus IV.

*Legs* IV, I, II, III; stout and comparatively short; spination as in *L. kalaharensis*, Simon, Schultze's Forschungsreise, Bd. iv, p. 212.

*Vulva*.—As in fig. 37, minute but clearly defined and situated in the middle line of the ventral fuscous stripe.

*Measurements*.—Length of carapace, 6.6 mm.; length of abdomen about 8.2 mm.

This species is obviously near *L. kalaharensis*, from which it differs in the shape and proportionately small size of the vulva.

Gen. PARDOSA, C. Koch.

*Pardosa potamophila*, n. sp.

4 ♀♀, 2 ♂♂ (B 6136). Kunene River.

♀ *Colour*.—Carapace blackish brown, ocular area blackish, a whitish wavy submarginal band with indistinct radiations towards the fovea; a similarly coloured double median line tapering posteriorly and widening abruptly at the junction of the cephalic and thoracic portions, forming two horseshoe-shaped arms extending to just within and to the level of the posterior lateral eyes; abdomen above blackish brown with some light brown patches and some white ones at the anterior apex; a pair of indistinct white lines formed of irregular white spots roughly parallel anteriorly, but converging slightly posteriorly; below dirty white mixed with light brown hairs towards the spinners and sides; sternum infuscated as in fig. 75; femora with irregular sinuous, tibiae and metatarsi with regular olivaceous bands.

*Chelicera*.—Inferior margin with 3 strong teeth increasing in size towards the apical one, superior margin with 2, 1 large and 1 small tooth.

*Eyes*.—Anterior row slightly procurved and distinctly narrower than second row, medians less than their diameter apart and nearer to the laterals than to each other, anterior laterals about twice as far from edge of clypeus as from the posterior medians; posterior medians their own diameter apart and separated from the anterior medians by the diameter of the latter; eyes of second and third row equal in size, the quadrangle formed by them much wider than long, its

posterior width a little more than width of clypeus, its length about equal to its anterior width.

Length of carapace about equal to tibia II.

*Legs* IV, III, I, II; all patellae with a superior apical and basal spine and a lateral spine at each side, except I where the anterior lateral spine is missing; all tibiae with 3 pairs of inferior spines (the apical pair much the smallest), 2 pairs of lateral, 2 superior spines; all metatarsi with 3 pairs of inferior spines (the apical pair much the smallest), 2 lateral pairs and 1 inferior apical spine.

*Vulva*.—As in fig. 38.

*Measurements*.—Length of carapace, 4 mm. Total length, 8.7 mm.

♂ *Colour*.—As in ♀, except that the legs are lighter in colour and less distinctly annulated; sternum nearly wholly black, coxae infuscated, abdomen below blackish, some white hairs at the sides.

*Eyes*.—As in ♀.

Length of carapace about equal to tibia III.

*Legs* IV, I, II, III; spination as in ♀.

*Pedipalp*.—As in fig. 71, the extreme apex of tarsus furnished with 2 small equal-sized spines.

*Measurements*.—Length of carapace, 3.4 mm. Total length, 7 mm.

This species was found on the banks of the Kunene River lurking under shelving stones in shallow water, when disturbed running rapidly on the surface of the water.

*Pardosa oncka*, n. sp.

1 ♀ (B 6208). Oncka.

*Colour*.—Carapace black without marginal or submarginal bands, an ill-defined broad oval median band not reaching the posterior margin and extending to the level of the posterior lateral eyes in front, composed of ashy-grey hairs posteriorly, mixed with some brown and yellow ones anteriorly; abdomen somewhat rubbed, black above and at the sides with two lines of light spots appearing to enclose a lanceolate space, below dirty white sharply demarcated from the sides; sternum and coxae dark brown clothed with white hairs; legs above blackish brown with annulations of white or yellow hairs, except tarsus and metatarsus IV, metatarsus III faintly annulate.

*Chelicera*.—Inferior margin with 3 teeth, the basal one very small and contiguous with the middle one, which is smaller than the apical one and well separated from it.

*Eyes*.—Anterior row straight to slightly procurved, the medians about twice the size of the laterals, their own diameter apart and less than a radius from the laterals; posterior medians about  $1\frac{1}{2}$  times their diameter apart, a little larger than the posterior laterals; dorsal quadrangle not much wider than long, its length a little more than its anterior width, posterior width distinctly less than width of clypeus; distance between edge of clypeus and an anterior lateral eye more than twice the distance between the latter and a posterior median eye.

*Carapace* very convex, sloping abruptly at the sides and rear, its length equal to tibia + about  $\frac{1}{2}$  patella IV, and to tibia + about  $\frac{3}{5}$  metatarsus I.

*Legs* IV, I, II, III.

*Vulva*.—As in fig. 39. The fossa of the epigynum is filled with a darkened membranous substance of no definite form, only the distinct chitinous outlines of the vulva appear in the figure.

*Measurements*.—Length of carapace, 3.8 mm.; length of abdomen, 6 mm.

*Pardosa lycosinella*, n. sp.

5 ♀♀ (B 6627). Oncka.

2 ♀♀ (B 5895). Mafa.

*Colour*.—Cephalothorax brown, a moderate blackish-brown dentate marginal band, a broad dentate yellow-brown submarginal band (broader than in *P. lycosina*), a well-defined median lanceolate marking, a little darker than the submarginal band, broadest at the fovea, tapering posteriorly and anteriorly to the level of the posterior lateral eyes where it dilates slightly forming a small circular spot; abdomen blackish above with paired brownish oblique markings which in the posterior  $\frac{1}{2}$  are confluent, forming  $\blacktriangle$ -shaped markings or transverse bars, below light yellow; sternum light yellow, 3 small marginal intercoxal dots on each side; legs olive-brown, indistinctly banded.

*Chelicera*.—Basal tooth of inferior margin the smallest (in one specimen apical tooth much the smallest), middle and basal teeth subcontiguous.

*Eyes*.—Anterior eyes straight, medians about twice the size of the laterals, less than their own diameter apart and nearer to the laterals than to each other; posterior medians more than a diameter apart, about  $1\frac{1}{2}$  times the size of posterior laterals, dorsal quadrangle much wider than long, length about equal to anterior width; distance

between edge of clypeus and an anterior lateral eye more than twice the distance between the latter and a posterior median eye.

*Legs* IV, I, II, III; metatarsus distinctly longer than patella+tibia IV, superior claw of tarsus IV with 4-5 teeth.

*Vulva*.—As in fig. 40.

*Measurement*.—Total length, 5.6-5.8 mm.

This species is near *P. lycosina*, Purcell, but differs principally in its much smaller size. The labium is much broader than long; there appear to be fairly wide differences regarding this character among the species of *Pardosa*. Of the specimens I have examined in the collection of the S.A. Museum, *P. clavipalpis*, *leipoldti*, *lycosina*, *crassipalpis* have the labium much broader than long, in *foveolata* and *potamophila* the labium is distinctly broader than long, in *schreineri* and *umtalica*, a little broader than long, while in *manubriata* and *oncka* it is a little longer than broad.

Gen. EVIPPA, Simon.

*Evippa relicta*, n. sp.

1 ♀ (B 6128). Ongandjera.

1 ♀ (B 6215). Oncka.

3 ♀♀ (B 5920). Sandup.

*Colour*.—Carapace blackish brown, a wide dentate yellowish-brown marginal band disappearing anteriorly to the first leg, a dark brown median thoracic band constricted behind the fovea and then widening; abdomen above covered with mixed yellow-white and brown hairs, two yellow patches at anterior apex followed on each side by a row of about four smaller spots; sides with some stripes and patches of cinereous hairs, below uniformly cinereous.

*Chelicera*.—Inferior margin with 2 stout equal-sized teeth.

*Eyes*.—Anterior row slightly procurved, medians larger than the laterals, a little more than their own diameter apart and separated from the laterals by a little less than the diameter of these; anterior medians about  $1\frac{1}{2}$  times their diameter from posterior medians, which are about  $1\frac{1}{2}$  times their own diameter apart; dorsal quadrangle wider behind than in front, its length a little more than its anterior width; clypeus with a stout spine in the median line just below the inferior margin of the anterior median eyes, a row of four stout spines below this each corresponding to an eye of the anterior row.

*Legs* below clothed with flattened white lanceolate hairs; tibia I with 5 pairs of long stout spines, the apical pair shorter than the rest;

tarsus IV covered with longitudinal rows of stout brown spines ; superior claw with 6 teeth ; legs II and III missing.

*Vulva*.—As in fig. 41.

*Measurements*.—Length of carapace, 3·8 mm. Total length, 8·3 mm.

The specimens from Oncka and Sandup differ slightly from that from Ongandjera in the form of the vulva, but in other respects they are identical.

Gen. PROEVIPPA, Purcell.

*Proevippa ovambica*, n. sp.

1 ♂ (B 6363). Ongandjera.

*Colour*.—Carapace covered with flattened lanceolate hairs, the cephalic portion with a long, broad, nearly parallel median band of dirty-white hairs as broad as and including the dorsal ocular area ; some stout spines between the anterior median eyes ; thoracic portion with a widened almost circular area of mixed white and yellow hairs, the yellow ones increasing posteriorly, marginal band broad, clothed with mixed white and yellow hairs with some patches of pure white hairs, some submarginal lines and dots, a patch of pure white hairs at the postero-lateral angles of the cephalothorax, a small patch of fiery hairs at the base of the posterior lateral eyes, some scattered ones between the posterior median eyes ; sternum and legs below clothed with white hairs, except in femur, patella, and tibia I (patella with a few white hairs at the sides) which are clothed with black hairs ; abdomen missing.

*Chelicera*.—Inferior margin with 2 short, stout, equal-sized teeth, superior margin with 3, the middle one the largest.

*Eyes*.—Anterior row procurved, the medians larger than the laterals, about  $1\frac{1}{2}$  times their own diameter apart and less than their diameter from the laterals ; posterior medians more than twice their own diameter apart ; dorsal quadrangle wider behind than in front, its length more than its anterior width, posterior laterals smaller than posterior medians ; distance between edge of clypeus and an anterior lateral eye a little more than distance between the latter and a posterior median eye.

*Legs*.—As in *P. lightfooti*, Purcell, the first pair stouter than the others, tibia clothed in its entire length with a comb-like even fringe of black hairs, above and below, the fringe below about twice the height of that above ; patella below with a short fringe in the distal  $\frac{1}{2}$ , above normal.



*Pedipalp*.—As in fig. 82 from an extero-lateral direction.

*Measurement*.—Length of carapace about 2.7 mm.

FAMILY OXYOPIDAE.

Gen. PEUCETIA, Thorell.

*Peucetia kunenensis*, n. sp.

3 ♀♀, 1 ♂ (B 6233). Kunene River.

♀ *Colour*.—Carapace dirty yellow-green, cephalic portion lightly infuscated, thoracic portion with short foveal radiations not reaching either fovea or margin of cephalothorax, ocular area blackish, clothed with yellow-white hairs; clypeus with a brown stripe at each lateral angle not continued on to the mandible, front of clypeus with a brown stripe from the exterior side of each anterior median eye to just before the edge of clypeus and continuing along the anterior surfaces of the mandibles to  $\frac{2}{3}$  of their length; abdomen light green above with a pair of slightly converging white lines enclosing between them a series of 5–6 distinct arrow-head markings, abdomen below with a similar pair of white lines behind the epigastric area without enclosed markings; legs yellow, covered with long spines rising from a basal blackened area.

*Eyes*.—Quadrangle formed by anterior eyes  $2\frac{1}{2}$  times as wide posteriorly as anteriorly, posterior row distinctly procurved, medians larger than the laterals, less than their own diameter apart and nearer to each other than to them; quadrangle formed by posterior medians and anterior laterals not quite as long as its anterior width; clypeus distinctly more than length of ocular area.

Length of carapace equal to tibia IV, equal to about  $\frac{3}{4}$  tibia I.

*Vulva*.—As in fig. 42.

*Measurements*.—Length of carapace, 6 mm. Total length, 15 mm.

♂ *Colour*.—As in ♀; the markings on the cephalothorax clearer and olive-green in colour, abdomen a brighter green.

Length of carapace equal to tibia III, equal to  $\frac{3}{5}$  tibia I.

*Pedipalp*.—As in fig. 80, *a* and *b*; tibia with a long, stout exterior and interior spine; interior spine a little above exterior spine. Apophysis of bulb, fig. 80, *b*, seen laterally from outer side.

*Measurements*.—Length of carapace, 4.7 mm. Total length, 11 mm.

This species resembles *P. fasciiventris* in the shape of the vulva, but differs in the eyes and the form of the male palp. It is also near *P. pulchra*, Cambridge, from St. Helena, but differs from it in coloration.

*Peucetia crucifer*, n. sp.

3 ♀♀ (B 6115). Ongandjera.

1 ♀ (B 6137). Kunene River.

2 ♂♂, 3 ♀♀ (B 5933). Kunene River.

*Colour*.—Carapace yellowish green with some indistinct fuscous markings, ocular area olive-brown, the eyes surrounded with black; an indistinct stripe on each side of the fovea, 4 spots forming a wide quadrilateral behind the ocular area; mandibles and clypeus without stripes, a group of dots clothed with small weak spines at the lateral angles of the clypeus above the clypeal spot; abdomen coloured as in the preceding species, the two white dorsal lines broader enclosing anteriorly a median dentate lanceolate stripe, darker green than the rest of the abdomen, a transverse bar joining two green spots, one on each side of it, forming a cross marking; below two white lines from the epigastrium at first converging, then roughly parallel to the spinners; legs, especially the two anterior pairs, with 2 inferior rows of short fuscous longitudinal bars whose basal extremities are furnished with a spine or spiniform hair; sternum coloured as in abdomen.

*Eyes*.—Quadrangle formed by anterior row more than twice ( $2-2\frac{1}{2}$  times) as wide posteriorly as anteriorly; anterior median eyes more than their diameter apart and a diameter distant from an anterior lateral eye; anterior laterals a little more than  $1\frac{1}{2}$  times their diameter apart; quadrangle formed by posterior medians and anterior laterals, with its length about equal to its anterior width; clypeus equal to length of ocular area.

*Vulva*.—As in fig. 43.

*Measurements*.—Length of carapace, 5.5 mm. Total length, 14.3 mm.

♂ *Colour*.—As in ♀; anterior legs with bars absent or weak.

Length of carapace equal to tarsus + a little less than  $\frac{1}{2}$  metatarsus III.

*Pedipalp*.—As in fig. 81; tibia with exterior spine, interior spine absent.

*Measurements*.—Length of carapace, 3.7 mm. Total length, 9.3 mm.

## Gen. OXYOPES, Latr.

*Oxyopes castanea*, n. sp.

1 ♂ (B 6756). Mafa.

2 ♂♂ (B 6213). Namakunde.

*Colour*.—Carapace chestnut-brown, a wide yellow-brown marginal

band with some dark spots anteriorly near the lateral angles of clypeus, two light brown median longitudinal bands from the posterior portion of marginal band curved slightly outwards ( ) not reaching the eyes ; ocular area black, eyes surrounded with some fiery-red squamous hairs ; cephalothorax covered with squamous lanceolate hairs ; abdomen dark olive-brown above, some cream-coloured squamous hairs at anterior apex ; below light olive-brown, a line of white squamous hairs down each side, epigastric area chitinous ; legs yellowish brown, femora below with a tinge of red ; sternum yellowish brown, sparsely covered with yellow squamous hairs and a few yellow spiniform hairs.

*Eyes.*—Anterior medians about  $1\frac{1}{2}$  times their own diameter apart, anterior laterals about their own diameter apart, and as near to each other as to the posterior laterals or a little nearer to them than to each other ; quadrangle formed by anterior lateral and posterior median eyes parallel and longer than wide ; length of latter  $1\frac{1}{2}$  times length of the clypeus.

*Pedipalp.*—As in fig. 84 ; patella about  $\frac{1}{3}$  longer than broad, considerably longer than tibia.

*Measurement.*—Total length, 4.7 mm.

*Oxyopes auriculata*, n. sp.

2 ♂♂ (B 5980). Mafa.

2 ♂♂ (B 6207). Oncka.

*Colour.*—Carapace yellow, a wide hairless marginal border ; internally to this an irregular band of black lanceolate hairs not meeting posteriorly and reaching the ocular area anteriorly, a double median line of red squamous hairs merging behind the fovea, area between the black and red bands covered with white lanceolate hairs ; dorsal ocular area with mixed white and red hairs, anterior ocular area with predominantly white hairs ; mandibles with an anterior basal spot ; abdomen above with some black longitudinal stripes laterally, enclosing a yellowish parallel area in which is situated (at the anterior apex of abdomen) a lanceolate marking covered with red squamous hairs, abdomen below with a parallel blackish median band about as wide as length of coxa III extending from epigastric area to spinners ; sternum with a black marginal dot in line with the upper border of each coxa.

*Chelicera.*—Superior and inferior margins each provided with a stout triangular equal-sized tooth, inferior margin with a row of 4 inwardly curved hairs at the base of the fang.

*Eyes*.—Anterior medians about  $1\frac{1}{2}$  times their diameter apart, anterior laterals a little more than their own diameter apart; quadrangle formed by anterior lateral and posterior median eyes, a very little wider behind than in front and not much longer than its posterior width; its length  $1-1\frac{1}{2}$  times that of clypeus.

*Pedipalp*.—Tarsus, as in fig. 85a, seen from behind and above; femur with 2 short stout apical spines above, patella with 2, tibia with 3 long stout spines above, below with ear-shaped process (fig. 85b).

*Measurement*.—Total length, 6.4 mm.

One specimen lacks the red colouring of the abdomen and there are no spots on the sternum, the palp is more developed and darker in colour.

#### FAMILY ATTIDAE.

##### UNIDENTATI.

Gen. CYLLOBELUS, Simon.

*Cyllobelus chionogaster*, Simon.

2 ♀♀, 1 ♂ (B 6632). Kunene River.

1 ♀ (B 6303). Mafa.

Gen. HELIOPHANUS, C. Koch.

*Heliophanus decoloratus*, n. sp.

3 ♂♂ (B 6174). Kunene River.

*Colour*.—Carapace coriaceous, cephalic portion fairly densely covered with erect, blackish, spiniform hairs, thoracic portion with far fewer similar hairs, sides more densely and finely coriaceous with a few lanceolate flattened reddish-brown hairs, clypeus with some white squamous hairs; abdomen above black, some indistinct brown markings at anterior apex, covered with iridescent scales, below with some yellowish spiniform hairs; legs blackish brown, tibia and distal joints of I reddish, tarsus and metatarsus III yellow-brown, lighter than corresponding joints of remaining legs.

*Chelicera*.—Superior margin with 1 large and 1 small tooth, inferior margin with 1 large tooth.

*Eyes*.—Superior borders of anterior eyes forming a straight to recurved line, median eyes subcontiguous, laterals a little further from medians; posterior median eyes a little nearer to the anterior laterals than to the posterior laterals; quadrangle formed by anterior

laterals and posterior laterals a little wider behind than in front, posterior width not much less than width of carapace; clypeus less than diameter of an anterior lateral eye.

*Legs.*—Tibia I with 1 basal and 2 subapical pairs of spines, metatarsus with a submedian and apical pair, all the outer spines much weaker and smaller than inner ones.

*Pedipalp* (seen from outer side).—As in fig. 83; femur with curved process resembling that of *H. orchestra*, Simon, Ann. Soc. Ent. Fr., vol. lxx, p. 54. It differs in the bifurcate process of the tibia, one prong of which is much broader than the other. It also differs in the uniformity of its colouring, having no markings as is the case in *H. orchestra*.

*Measurements.*—Length of carapace, 3.1 mm. Total length, 6.2 mm.

Gen. FESTUCULA, Simon.

*Festucula australis*, n. sp.

1 ♀ (B 6112). Kunene River.

*Colour.*—Cephalothorax narrowly emarginate with black, blackish brown, a light brown median band posteriorly disappearing towards the middle, submarginal band of white hairs, ocular area and behind it clothed with white, remainder with yellowish-brown hairs; abdomen much rubbed, evidently clothed with golden blackish brown and silvery-white hairs above, below with silvery-white hairs; sternum black with long white hairs; legs light brown, proximal portions of femur I lighter, remaining legs yellow.

*Carapace.*—Thoracic slightly wider than cephalic portion; slightly indented posteriorly.

*Eyes.*—Superior margins of anterior row forming a slightly procurved, their centres a recurved, line; medians much larger than laterals, occupying almost the whole anterior face of cephalothorax, posterior medians small and slightly nearer to the posterior laterals than to the anterior laterals, these subequal; ocular quadrangle slightly wider behind than in front, the posterior width nearly equal to the width of cephalothorax.

*Legs.*—I stouter and longer than remaining ones, femur I compressed, clavate, tibia I interiorly with 3 stout subapical spines, the middle one nearer to the proximal than to the distal one, no exterior spines; metatarsus I much shorter than tibia, a little longer than tarsus I, with two pairs of inferior spines in distal  $\frac{1}{2}$ .

*Vulva.*—As in fig. 44; an inverted T-shaped median septum

enclosing a rounded fossa on each side, the latter appearing indistinctly dark in spirit; anteriorly covered with white posteriorly directed hairs.

*Measurements.*—Length of carapace, 2.4 mm.; abdomen, 4.7 mm.

Gen. MENEMERUS, Simon.

*Menemerus lesserti*, n. sp.

1 ♀ (B 6758). Kunene River.

*Colour.*—Carapace with light brown and blackish-brown hairs, marginal band of pure white hairs at the sides but not posteriorly, tapering anteriorly, edge of clypeus with some long white inferiorly directed hairs, anterior eyes ringed with white or red hairs, a spot of white hairs just anterior to fovea and just behind the level of posterior lateral eyes, a short median stripe of white hairs behind the fovea, broadening posteriorly but not reaching posterior margin; abdomen above with a yellowish median dentate band clothed with white, golden, and a few blackish hairs, laterally dark sinuous bands clothed with blackish, golden, and a few white hairs, below yellow with silvery hairs.

*Chelicera.*—Superior margin with large apical and small basal tooth, inferior margin with 1 moderate sharp tooth; labium considerably longer than wide, parallel, maxillae long, their tips dilated.

*Eyes.*—Anterior row slightly recurved, medians not touching, a little further from the laterals; posterior medians nearer to the posterior than to the anterior laterals; ocular quadrangle much wider than long, and slightly wider behind than in front, posterior width less than width of cephalothorax.

*Legs.*—Femur I compressed, clavate; tibia I with 2 extero, 3 intero-inferior spines; a fourth lateral spine between middle and apical intero-inferior spines; metatarsus I with 2 longer inferior pairs of spines.

*Vulva.*—As in fig. 45; a rounded quadrilateral with its anterior width less than posterior width, the interior of the quadrilateral is without regular form and has not been drawn.

*Measurement.*—Total length, 6.5 mm.

Gen. LANGONA, Simon.

*Langona bisecta*, n. sp.

1 ♀ (B 6194). Kunene River.

*Colour.*—Carapace with a large median wedge-shaped area covered with mixed light brown and white hairs, about as wide as ocular

area anteriorly, tapering sharply posteriorly, its posterior apex white; on each side a dark brown lateral band, broad posteriorly, narrowing abruptly behind posterior lateral eye, including it and posterior median eye, and continuing to behind anterior lateral eye; a broad submarginal band of white hairs, some red ones between the anterior eyes, ocular area behind anterior eyes with red and black bristles disappearing posteriorly; abdomen above dark brown, bisected throughout its entire length by a well-defined, parallel, longitudinal white stripe, tapering just before reaching the spinners, sides and ventral portion light yellow, a few brown dots at the sides.

*Eyes.*—Superior borders of anterior eyes recurved, medians subcontiguous, separated from laterals by less than the radius of these; ocular area anteriorly as wide as, or a little wider than, posterior width; posterior medians nearer to posterior laterals than to anterior laterals; clypeus about equal to the radius of an anterior median eye.

*Legs.*—Anterior pairs short and stout, banded brown and white, posterior pairs longer and more slender, the femora only banded, tibia I with 3, metatarsus I with 2 pairs of inferior spines.

*Vulva.*—As in fig. 46.

*Measurement.*—Total length, 7.1 mm.

*Langona ukualuthensis*, n. sp.

2 ♀♀ (B 6305). Ukualuthi.

*Colour.*—Carapace deep brown, much rubbed, a transverse row of reddish bristles behind the anterior eyes; abdomen deep brown, much rubbed, with some reddish-brown hairs, wrinkled posteriorly, below fulvous covered with dirty-white hairs; sternum black, covered with long dirty-white hairs.

*Eyes.*—As in *L. bisecta*; clypeus more than the radius of an anterior median eye.

*Legs.*—Tibia I with 3, metatarsus I with 2 pairs of inferior spines; tibia I longer than metatarsus I, which is a little shorter than tarsus I; tarsus + metatarsus IV longer than patella + tibia IV.

*Vulva.*—As in fig. 47.

*Measurement.*—Total length, 7 mm.

Gen. NEAETHEA, Simon.

*Neaethea quadrimaculatas*, n. sp.

1 ♀ (B 6150). Kunene River.

*Colour.*—Carapace coarsely and densely coriaceous, with a few

blackish spiniform hairs and some lanceolate golden ones; fovea a small rounded depression on a level with the posterior lateral eyes, clypeus with white spiniform hairs anteriorly, its edge bordered with long white spiniform hairs directed inferiorly and covering the proximal  $\frac{1}{3}$  of the mandibles; anterior eyes ringed with fiery hairs; abdomen rubbed, above with mixed white and brown cylindrical hairs, anterior apex with a fringe of white hairs, 4 round white dots forming a quadrilateral which is longer than wide, anteriorly to this 3 pit-like depressions forming a triangle, the apex directed anteriorly, below with yellow-brown hairs.

*Chelicera.*—Inferior margin with a blunt triangular tooth, superior margin with a large apical and small basal one; maxillae bluntly polygonal.

*Eyes.*—Anterior row recurved, medians subcontiguous, a little further from the laterals; posterior medians considerably nearer to the anterior than to the posterior laterals, a small rounded prominence between and anteriorly to the anterior laterals and posterior medians; ocular quadrangle much wider than long, considerably wider behind than in front, posterior width very nearly equal to greatest width of carapace, which is just behind the posterior lateral eyes.

*Legs.*—Tibia I with 3 inferior pairs of spines, the middle pair slightly nearer to the apical than to the basal pair; metatarsus I with 1 sub-basal and 1 apical pair of stout spines, all patellae muticous; metatarsus IV with an inferior apical pair of moderate-sized spines, otherwise muticous.

*Vulva.*—As in fig. 48.

*Measurement.*—Total length, 6 mm.

Gen. MOGRUS, Simon.

*Mogrus macrocephalus*, n. sp.

1 ♀ (B 6297). Ukualuthi.

*Colour.*—Carapace blackish brown, shiny, some white hairs on the thoracic portion; abdomen above blackish brown with some brown spots, the hairs rubbed; below white, an oval median blackish brown band not reaching the spinners; sternum black, coxae, trochanters, and proximal  $\frac{2}{3}$  of femora reddish brown, remainder blackish brown.

*Carapace* very high, only a little longer than broad, sloping abruptly posteriorly, ocular area declivous anteriorly; fovea a small reniform pit, its anterior border recurved, a little in front of the posterior lateral eyes.



*Chelicera.*—Tooth of inferior margin large, triangular, with very broad base, tooth of superior margin smaller, bluntly bituberculate.

*Eyes.*—Superior borders of anterior eyes slightly recurved, medians not touching and about the diameter of a lateral eye from the latter; posterior median eyes as far from the posterior laterals as from the anterior laterals or a little nearer to the latter; posterior laterals a little smaller than anterior laterals, ocular quadrangle not much wider behind than in front, posterior width a little less than greatest width of cephalothorax; clypeus equal to or a little less than radius of an anterior lateral eye.

*Legs.*—Tibia I with 3, metatarsus I with 2 pairs of inferior spines; patella + tibia IV longer than tarsus + metatarsus IV.

*Vulva.*—As in fig. 49.

*Measurement.*—Total length, 8.5 mm.

Gen. THYENE, Simon.

*Thyene damarensis*, n. sp.

1 ♀ (B 6759). Oncka.

5 ♀♀ (B 6195). Kunene River.

1 ♀ (B 6100). Kunene River.

*Colour.*—Carapace brownish yellow, ocular area brown with strongly recurved posterior border, thoracic portion of cephalothorax covered with white hairs, some strong brown markings from posterior border and sides converging and diminishing towards the fovea; ocular area covered with mixed yellow and white hairs; a transverse bar of white hairs just behind the anterior eyes, a tuft of 3–4 black spiniform hairs bent in the middle, exterior to and just behind the posterior median eyes; 3 transverse bars of white hairs on the clypeus, the first at the middle level of the anterior median eyes by which it is interrupted, the second just below them, the third along the edge of the clypeus; long spiniform hairs on clypeus, dorsal ocular area, and behind ocular area; abdomen above with broad, brown, lateral bands cut by 3 posteriorly oblique white lines (the first 2 incomplete) enclosing a fuscous lanceolate patch with an interrupted dark median stripe, some indefinite brown spots at the sides; below dirty yellow, a dark interrupted median stripe, a similar stripe at each side from epigastric area to just before the base of the spinners; sternum with narrow black lateral borders disappearing posteriorly.

*Eyes.*—Superior borders of anterior eyes forming a straight line, medians separated from the laterals by about the radius of the latter and nearer to each other, posterior medians very small, about equidistant from the anterior and posterior laterals; quadrangle formed by anterior and posterior laterals, wider than long and very slightly wider behind than in front.

*Legs.*—Tibia I with 3 pairs of inferior spines equally spaced, 2 interior lateral spines, the distal one nearer to the median than to the apical inferior pair, the proximal one on a level with the basal inferior pair; metatarsus I with 2 pairs of stout inferior spines, tarsus I with 0, patellae I and II with a weak lateral interior spine, III and IV with exterior and interior lateral spines.

*Vulva.*—As in fig. 50.

*Measurements.*—Length of carapace, 3.6 mm. Total length, 10.4 mm.

*Thyene bilineata*, n. sp.

3 ♀♀ (B 6146). Kunene River.

2 ♀♀ (B 5938). Kunene River.

1 ♀ (B 6176). Kunene River.

3 ♀♀ (B 6114). Ongandjera.

1 ♀ (B 6760). Oncka.

*Colour.*—Carapace yellow, ocular area not darker than rest of carapace, a dark band of hair from behind each posterior lateral eye converging posteriorly and dilating suddenly near posterior border of carapace; ocular area with some white hairs, each anterior median eye surrounded by a compact ring of white hairs, long white spiniform hairs on clypeus and around anterior median eyes, a tuft of black bristles exterior to and just in front of posterior median eyes; sternum with a black sinuous border; abdomen above with a pair of dark longitudinal bands enclosing a white lanceolate area finely tapering towards but not reaching the spinners, laterally to each dark band a parallel white band; the two dark bands clothed with dark brown or reddish cylindrical hairs, the white bands with flattened silvery-white hairs; sides with dark spots or broken lines running postero-inferiorly; below a dark median stripe with a stronger lateral stripe at each side, all three not reaching epigastric margin or spinners.

*Eyes.*—Anterior medians subcontiguous and separated from the laterals by more than the radius of the latter, superior border of anterior eyes forming a recurved line; posterior medians very small

and nearer to the anterior than to the posterior laterals; quadrangle formed by anterior and posterior lateral eyes, wider behind than in front.

*Legs.*—Tibia I with an outer row of 3 weak spines, an inner row of 4 strong spines, third spine of inner row (from the base) not in line with the rest, equidistant from 4 and 2, or nearer 4.

*Vulva.*—As in fig. 51; the epigyne is usually wider posteriorly than anteriorly, but may take the form of a rectangle.

*Measurements.*—Length of carapace, 3.6 mm. Total length, 10.5 mm.

*Thyene bilineata* var. *striatipes*, n. var.

1 ♀ (B 6146). Kunene River.

*Colour.*—Carapace yellowish brown, bands of dense blackish hairs behind the posterior lateral eyes converging but not meeting and not reaching the posterior edge of cephalothorax, a tuft of black bristles on a level with the posterior median eyes; abdomen and sternum as in previous species, the brown bands of the abdomen with wavy light brown hairs.

*Eyes.*—Anterior medians subcontiguous and separated from the laterals by less than their radius; posterior medians nearer to anterior laterals than to posterior laterals.

*Legs.*—Tibia I with an inner row of 4 spines, 3 a little nearer 2 than 4 and not in a straight line with them; 1, 2, and 4 about equidistant; outer row of 3 spines much weaker, not equidistant, 2 nearer to 3 than to 1; patellae and tibiae above with a longitudinal median and 2 lateral bands of long black hairs; metatarsi and tarsi with 2 median and 2 lateral bands, the bands less distinct in metatarsi and tarsi.

*Vulva* is not fully developed, but appears to be very similar to that of *T. bilineata*, except that the quadrilateral opening is more anteriorly placed.

*Measurement.*—Total length, 8.8 mm.

This specimen differs markedly from *T. bilineata* in having distinct, regular bands of hairs on the legs, in the latter the hairs on the legs are irregularly arranged.

Gen. HYLLUS, C. Koch.

*Hyllus treleaveni*, Peckham.

1 ♀, 1 ♂ (B 6142). Kunene River.

## FISSIDENTATI.

Gen. ENCYMACHUS, Simon.

*Encymachus hesperus*, n. sp.

1 ♀ (B 6190). Oncka.

*Colour*.—Carapace dark blackish brown, median posterior portion lighter, some white and golden hairs on the ocular area; clypeus in front with long white inferiorly directed hairs, some golden ones at the sides, some long brown spines on a line passing between the anterior median eyes; abdomen above with a broad median band of mixed white and golden hairs, broad lateral bands of greenish brown with a few white and golden hairs, below with mixed white and golden brown hairs; legs with long spiniform and some short squamous white hairs.

*Carapace* with cephalic portion level, behind the eyes slightly then abruptly declivous; fovea short, distinct, situated in a shallow anteriorly recurved depression, some indistinct oblique radiations posteriorly to it.

*Chelicera*.—Inferior margin with a large bituberculate tooth, the apical tubercle the smaller; superior margin with 2 teeth, the apical one the larger; maxillae roughly polygonal; labium about as long as broad.

*Eyes*.—Anterior row forming a recurved line, medians subcontiguous, a little further from the laterals; posterior medians about equidistant from the anterior and posterior laterals; ocular quadrangle parallel, about as wide as long, posterior laterals subequal to anterior laterals.

*Legs*.—Tibia I with 3 equally spaced inferior pairs of spines.

*Vulva*.—As in fig. 52.

*Measurement*.—Total length, 7 mm.

## ORDER SOLIFUGAE.

## FAMILY SOLPUGIDAE.

Gen. SOLPUGA.

*Solpuga sericea*, Pocock.

1 ♀ (B 4996). Tsumeb.

This specimen agrees with the above species in having a narrow yellow band on each side of the darkened median band of the abdomen. That this species occurs in South-West Africa is fairly certain; three

males from Haris taken by R. Tucker and one male sent by W. L. Miller from Windhuk undoubtedly belong to this species. A male specimen taken at Shiliowane, Leydsdorp, and recorded as belonging to this species by Purcell, belongs to *S. celeripes*, Hirst, which is quite distinct from *S. sericea* in the form of the flagellum; the toothless terminal portion of the dorsal jaw in Purcell's specimen is shorter and more curved, the first of the two intermediate teeth is more markedly small than the second, and the third (main) tooth is moderate. The narrow yellow lateral stripe is difficult to see as the abdomen is somewhat shrunken.

*Solpuga bechuanica*, Hewitt.

3 ♂♂ (B 4987). Etosha Pan.

3 ♂♂, 1 ♀ (B 4986). Etosha Pan.

1 ♂ (B 6388). Andoni.

The shape of the flagellum agrees exactly with Hewitt's drawing, Ann. Transv. Mus., vol. iv, p. 161, text-fig. 23.

♀ without infuscations on headplate or mandibles, dorsal surface of abdomen with two lines of black hairs converging and coalescing in the posterior segments, forming a narrow V-shaped marking; tarsus and distal  $\frac{1}{3}$  of metatarsus of palp infuscated, less below than above; leg IV coloured as in ♂, densely clothed with long yellow silky hairs. Dentition as in fig. 88, only one fairly large intermediate tooth as in *S. marshalli*.

*Measurements*.—Width of headplate, 6.2 mm.; tibia of palp, 6.1 mm.; tarsus+metatarsus of palp, 7 mm.; tibia of leg IV, 6.7 mm.; metatarsus IV, 6.6 mm.; length of trunk about 26 mm.

Gen. DAESIA, Karsch.

*Daesia ovambica*, n. sp.



3 ♂♂ (B 4990). Kunene River.

3 ♂♂, 1 ♀ (B 4991). Kunene River.

1 ♂, 1 ♀ (B 4992). Kunene River.

2 ♂♂ (B 6412). Kunene River.

♂ *Colour*.—Headplate marbled brownish purple except a median oval portion, a small rounded portion laterally to each eye, and the posterior margin which are all lighter, anterior margin with a narrow well-defined purple border; ocular tubercle dark, partly bisected posteriorly by a faint yellow line; mandibles with a medial and lateral longitudinal marbled stripe; abdomen above with a central marking

consisting of a purplish median and two lateral portions in each tergite, the centre of the median portion darker than the rest, the lateral portions coalescing with the median one along the anterior and posterior margins in each segment forming -shaped anterior and -shaped posterior margins, especially noticeable in the anterior tergites; the whole central marking clothed mainly at the sides with long silky yellow hairs; sides and ventral portion greyish yellow, sharply demarcated from the central dorsal marking; palp with femur yellow, its distal  $\frac{1}{2}$  infuscated, tibia yellow-brown, metatarsus and tarsus a little darker; legs with apex of femur and distal segments of I, apex of femur and proximal part of tibiae II and III, femur and tibia IV infuscated, the rest yellow; malleoli uniformly yellowish white.

*Palp.*—Femur with an inner row of 3–4 long setae, tibia with an outer and an inner row of 3 setae, metatarsus with a double row of 5 spines, the 3 distal pairs short and stout, the 2 proximal ones slenderer and setiform.

*Dentition.*—As in fig. 87; flagellum with the inferior margin of the upper portion of the disc passing directly through the rotatory centre, rotated anteriorly the tip of flagellum just reaches the fangtip of the dorsal jaw.

*Legs.*—Metatarsus II with 2 anterior and 5 posterior spines, including an apical pair; metatarsus III with 3 dorsal, 2 anterior, 3 posterior spines, including an apical pair.

*Measurements.*—Metatarsus + tarsus of palp, 8.3 mm.; tibia, 7.7 mm. Total length (coxa to tarsus), 24.7 mm.; width of headplate, 5.2 mm.; length, 4.6 mm.; length of trunk, 21.5 mm.

♀ *Colour.*—As in ♂, but much less distinct; in one of the specimens the stripes on the mandibles and central dorsal marking of abdomen barely visible.

*Palp.*—Femur with an inner row of 4 long setae, tibia with a double row of 3 setae, metatarsus with an inner row of 5 spines, the apical one short and stout, the rest setiform, an outer row of 5, the 2 proximal ones setiform, the rest short and stout.

*Dentition.*—As in fig. 86; the third dorsal tooth replaced in one specimen by two smaller teeth.

*Measurements.*—Metatarsus + tarsus of palp, 6.5 mm.; tibia, 5.7 mm. Total length, 18.3 mm.; width of headplate, 6.1 mm.; length, 5.4 mm.; length of trunk, 26.4 mm.

This species resembles *D. kolbei* in the dentition and spination of the palp, and differs chiefly in its coloration and considerably larger size.

Gen. HEMIBLOSSIA, Kraep.

*Hemiblossia etosha*, n. sp.

2 ♀♀ (B 4994). Nomtele.

*Colour*.—Headplate, mandibles deep uniform blackish purple, abdomen blackish purple except for a median dorsal and ventral greyish-white portion, the dorsal one less than  $\frac{1}{2}$  as broad as the darkened lateral marking, the ventral portion broader than the dorsal, both sharply demarcated from the darkened marking; palps uniformly coloured as headplate, the coxae a very little lighter; legs I yellow, the coxae light purple, II yellow throughout, III and IV with femora entirely purple, a little lighter below, especially apically, remaining segments yellow, except dorsal surfaces of tarsi which are faintly purplish in I, in II, III, and IV successively a little darker; malleoli narrowly dark edged.

*Dentition*.—As in fig. 90; mandibles with feather bristles interiorly, long brown setae above; metatarsus of palp with long brown setae and shorter spines springing from light-coloured spots, tibia with longer setae, especially below; darkened sides of abdomen with longish oval, distinctly raised callosities, darker than the surrounding skin, but with a lighter spot in the centre from which rise blackish-brown setae of moderate length, their tips bifurcate; callosities denser in posterior than in anterior segments.

*Legs*.—Tarsus IV as in fig. 89, about  $2\frac{1}{2}$  times as long as high; there is no visible division of the joint as in *H. o'neili*; 5 lateral spines, the 4 distal ones approximately equidistant, the proximal one a little further from the rest. Claws infuscated purple.

*Measurements*.—Length of headplate+mandibles, 3.3 mm.; width of headplate, 1.9 mm.; total length, 11.4 mm. Total length of larger specimen, 14.4 mm.

This species can be distinguished from the four described species by its peculiar colouring and the dentition.

ORDER SCORPIONES.

FAMILY BUTHIDAE.

Gen. BUTHUS, Leach.

*Buthus conspersus*, Thorell, *aeratus*, var. n.

1 juv. ♀ (B 6041). Kunene River.

1 ♂, 2 ♀♀ (B 5424). Kunene River.

2 ♂♂ juvs. (B 5425). Kunene River.

2 ♀♀ (B 5421). Kunene River.

*Colour*.—Juvenile: trunk olivaceous, legs and tail yellow, tinged with reddish brown; cephalothorax with greenish-black markings on the anterior margin, the anterior  $\frac{3}{4}$  of the lateral margins, the median ocular tubercle and the area surrounding it, the anterior lateral keels, the posterior median and lateral keels (continuations of the abdominal median and lateral keels); abdomen above with 5 distinct rows of greenish-black markings, comprising the median and lateral keels and a submarginal lateral marking in each tergite, the latter further from the lateral keels than these are from the median; in the smaller juvenile all 5 markings are very distinct, in the larger ones much less so, especially the submarginal ones; in the 7th tergite the median keel broadly, the lateral ones narrowly infuscated. Tail with segments successively more strongly infuscated, especially below, segment V and vesicle reddish brown, all keels darkened (superior keels of I, II, and III only at their posterior apices), segment I with a narrow distinct black line bisecting the concave upper surface, II and III with similar but faint lines; vesicle with smooth areas reddish brown, granulated areas darker; pedipalps infuscated, with brown spots on the superior, posterior, and anterior surfaces of their joints (humerus with 4–5 spots superiorly at its base), hand and brachium with reticulate infuscation and stripes, legs except tarsi with reticulate infuscation.

Adult: uniform bronze green, the legs, pedipalps, and upper surfaces of caudal segments more brownish, vesicle with a reddish-brown stripe on each lateral surface.

*Armature* of cephalothorax and abdomen similar to *B. conspersus* and *B. arenaceus*, lateral abdominal keels of first two tergites weak, represented in I by 2, in II by 4 granules; sternites not granulated or shagreened, except anterior and lateral surfaces of I, lateral surfaces and a  $\cap$ -shaped median area in IV, and the whole of V, which are granular; II and III with a transverse row of 4 distinct widely separated punctures representing the anterior terminations of the 4 keels in IV and V; I with punctures in the median line forming a rough  $\Lambda$ . Keels of sternite V very distinct, especially median keels; these not reaching the anterior border of sternite, lateral keels short, reaching neither posterior nor anterior border of sternite. Sternite IV with distinct lateral granular keels and indistinct median keels consisting of 6–7 small, well-separated granules, III, II, and I with no trace of median keels, III and II with indistinct smooth lateral keels





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and *B. arenaceus*; it agrees with the former in colour, measurements (excepting caudal segments), and in having the sternites smooth, with the latter in having the same number of pectinal teeth; it differs from both in the greater proportional width of the anterior caudal segments. Since *B. conspersus* is recognised as a distinct species, I believe the above-described form and *B. arenaceus* to be varieties of that species.

Gen. PARABUTHUS, Pocock.

*Parabuthus brevimanus*, Thorell.

1 ♀, 1 ♂ (B 5426). Kunene River.

*Pectinal Teeth*.—29–30 in the ♂, 24–25 in the ♀; the latter with the posterior basal lamella of the scape lobate.

*Measurements*.—Trunk, 13.3 mm.; total length, 37.3 mm. Trunk, 11.1 mm.; total length, 32.3 mm.

Gen. UROPLECTES, Peters.

*Uroplectes planimanus*, Karsch.

1 ♂ (B 6038).	Kunene River.	Pectinal teeth,	28–28.
1 ♂ (B 6043).	Namakunde.	„ „	24–26.
2 ♂ (B 5423).	Kunene River.	„ „	26–27, 28–29.
1 ♂ (B 6045).	Namutoni.	„ „	26–29.
2 ♂ (B 6035).	Sandup.	„ „	26–26, 26–27.

*Uroplectes vittatus*, Thorell.

1 ♂ (B 6040). Oncka. Pectinal teeth, 17–17.

*Measurements*.—Trunk, 13.7 mm.; tail, 24.4 mm.

*Uroplectes otjimbinguensis*, Karsch.

1 ♀ (B 6042). Kunene River.

*Tail*, seen from the side, with about  $\frac{1}{4}$  of segment III,  $\frac{1}{3}$  of IV, and  $\frac{1}{2}$  of V, basally infuscated; vesicle with a small dentiform tubercle below aculeus.

*Pectinal teeth*, 15–15.

*Measurements*.—Trunk, 18.2 mm.; tail, 21.5 mm.

*Uroplectes carinatus*, Pocock, var. ?.

1 juv. (B 6044).	Otjimbumbe.	Pectinal teeth, 23-24.
1 juv. (B 6036).	Sandup.	„ „ 27-28.
1 juv. (B 5431).	Kunene River.	„ „ 29-29.
3 juvs. (B 6039).	Kunene River.	„ „ 20-20, 26-26, 25-27.

FAMILY SCORPIONIDAE.

SUBFAMILY SCORPIONINAE.

Gen. OPISTHOPHTHALMUS, C. Koch.

*Opisthophthalmus carinatus*, Peters.

1 ♂ (B 5422).	Mafa.	Pectinal teeth, 25-26.
1 ♀, 1 ♂ juvs. (B 6037).	Sandup.	„ „ ♀ 17-18, ♂ 26-26.
1 ♂ juv. (B 6051).	Tsumeb.	„ „ 24-25.
<i>Measurements</i> of adult ♂, trunk, 31.6 mm.; tail, 46.3 mm.		

SUBFAMILY ISCHNURINAE.

Gen. HADOGENES, Kraep.

*Hadogenes* sp. ?.

1 ♀ (B 5420).	Kunene River.	Pectinal teeth, 18-?
1 ♀, 1 ♂ juvs. (B 5428).	Kunene River.	„ „ 17-19, 20-22.

This will probably, on examination of more material, be found to be a new species, the tail being considerably shorter than in any other species. Two of the specimens being juveniles and the adult damaged, I have left them undescribed pending the acquisition of further material from the northern districts of South-West Africa.

## EXPLANATION OF PLATES.

## PLATE I.

FIG.

1. *Stegodyphus dumicola*, Poc.
2. *Scytodes tertia*.
3. *Prodidomus reticulatus*.
4. *Zelotes ovambensis*.
5. *Upognampa ctenipalpis*.
6. *Asemesthes lineatus*, Purcell.
7. „ *kunenensis*.
8. „ *sinister*.
9. *Zelotes demonica*.
10. *Diores triangulifer*, Simon.
11. *Setaphis quadrativulva*.
12. „ *omuramba*.
13. *Diaphractus muticus*.
14. *Xerophaeus aridus*, Purcell.

FIG.

15. *Trichothyse subtropica*.
16. *Caphaeris oncka*.
17. „ *kunenensis*.
18. *Ammoxenus fallopius*.
19. *Latrodectus incertus*.
20. *Paramystaria lata*.
21. *Monoeses quadrituberculatus*.
22. *Pherecydes zebra*.
23. *Runcinia cataracta*.
24. *Xysticus sagittifer*.
25. *Philodromus otjimbembe*.
26. *Hirrius bidentatus*.
27. „ *arenaceus*.
28. „ „

## PLATE II.

29. *Eusparassus furcatus*.
30. *Micrommata ovambica*.
31. *Chiracanthium inornatum*.
32. „ „
33. *Tetragonophthalma symmetrica*.
34. *Thalassius cataracta*.
35. *Hippasa australis*.
36. *Lycosa mafensis*.
37. „ *parvivulva*.
38. *Pardosa potamophila*.
39. „ *oncka*.
40. „ *lycosinella*.
41. *Evippa relict*a.
42. *Peucetia kunenensis*.

43. *Peucetia crucifer*.
44. *Festucula australis*.
45. *Menemerus lesserti*.
46. *Langona bisecta*.
47. „ *ukualuthensis*.
48. *Naethea quadrimaculata*.
49. *Mogrus macrocephalus*.
50. *Thyene damarensis*.
51. „ *bilineata*.
52. *Encymachus hesperus*.
53. *Palpimanus aureus*.
54. *Diaphorocellus albooculatus*.
55. *Platyoides unidentatus*.

## PLATE III.

56. *Stegodyphus filimaculatus*.
57. *Scytodes quarta*.
58. *Prodidomus hirsutus*.
59. *Theuma longipes*.
60. *Caphaeris oncka*.
61. *Tetragnatha nitens*, Aud.
62. „ *andonea*.
63. *Stiphropus scutatus*.
64. *Monoeses quadrituberculatus*.
65. *Hirrius bidentatus*.

66. *Hirrius arenaceus*.
67. *Olios tuckeri*.
68. „ *furcatus*.
69. *Chiracanthium inornatum*.
70. „ *castum*.
71. *Pardosa potamophila*.
72. *Scytodes tertia*.
73. „ *quinqua*.
74. *Tetragonophthalma symmetrica*.
75. *Pardosa potamophila*.

PLATE IV.

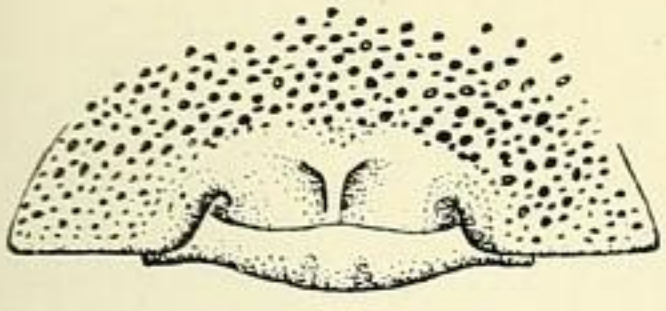
FIG.

76. *Tetragnatha andonea*.  
77. „ *nitens*, Aud.  
78. *Latrodectus incertus*.  
79. „ „  
80. *Peucetia kunenensis*.  
81. „ *crucifer*.  
82. *Proevippa ovambica*.  
83. *Heliophanus decoloratus*.

FIG.

84. *Oxyopes castanea*.  
85. „ *auriculata*.  
86. *Daesia ovambica*.  
87. „ „  
88. *Solpuga bechuanica*, Hewitt.  
89. *Hemiblossia etosha*.  
90. „ „

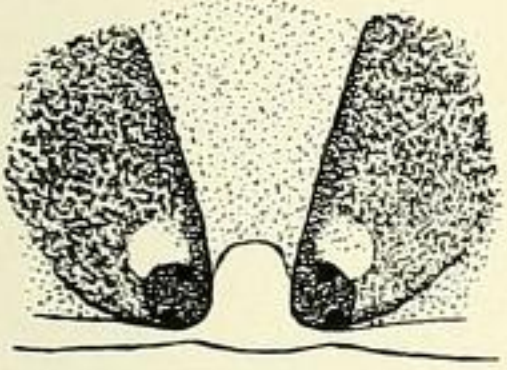




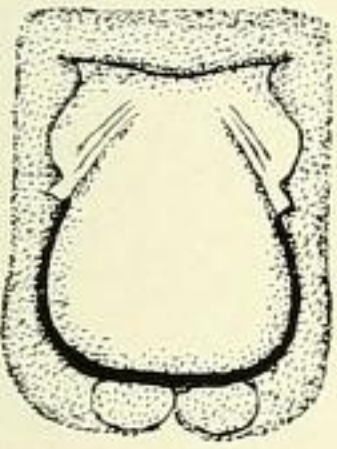
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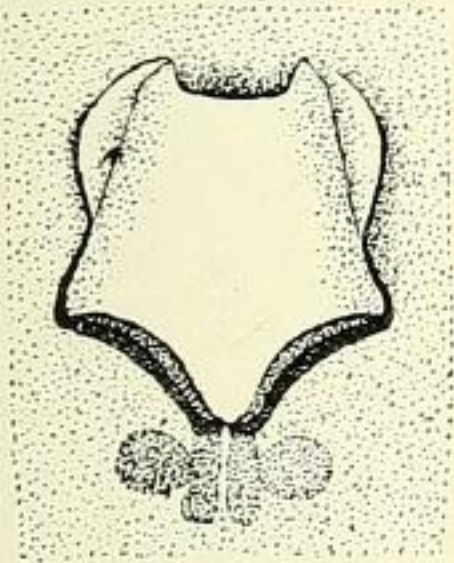
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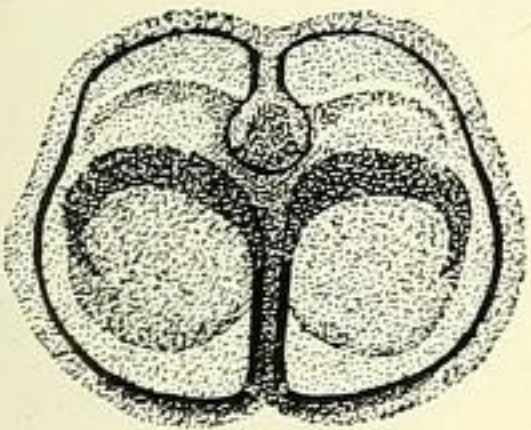
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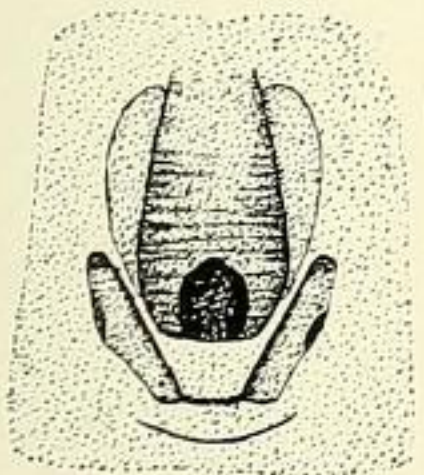
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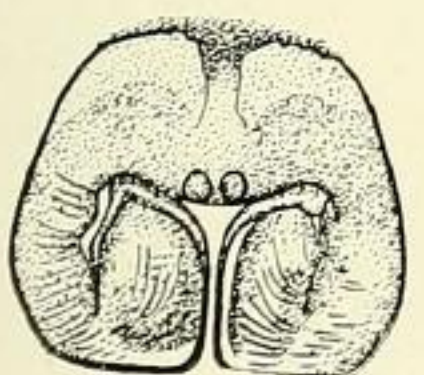
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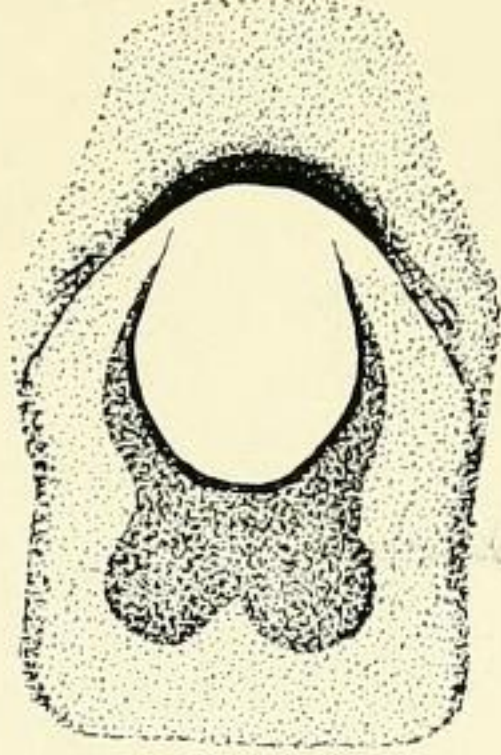
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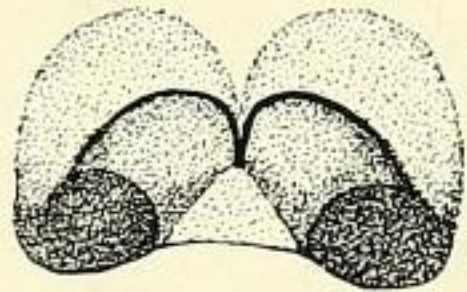
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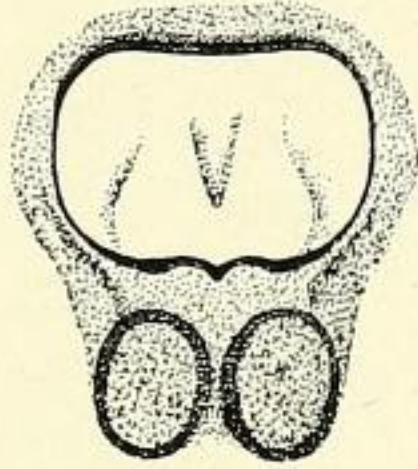
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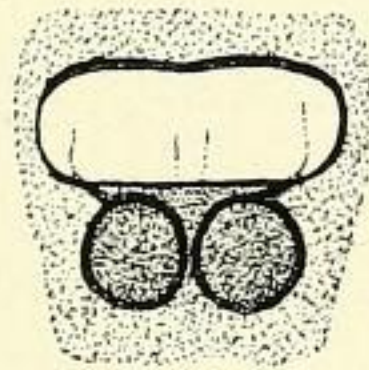
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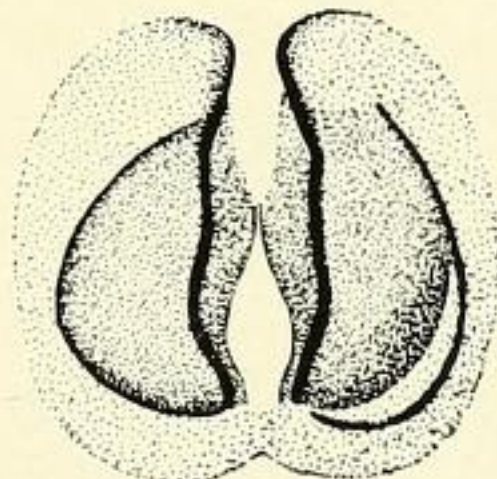
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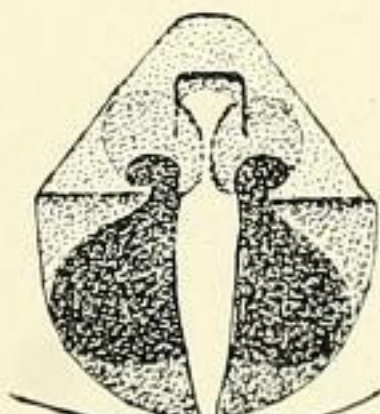
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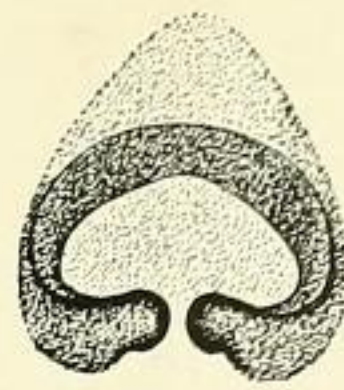
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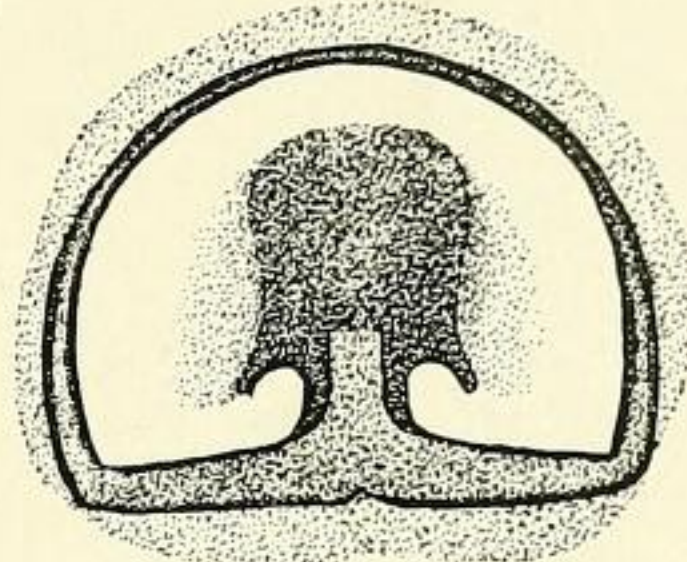
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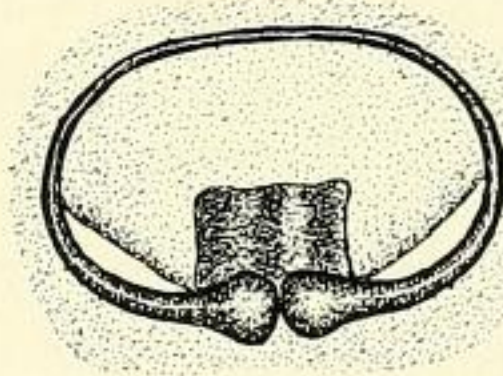
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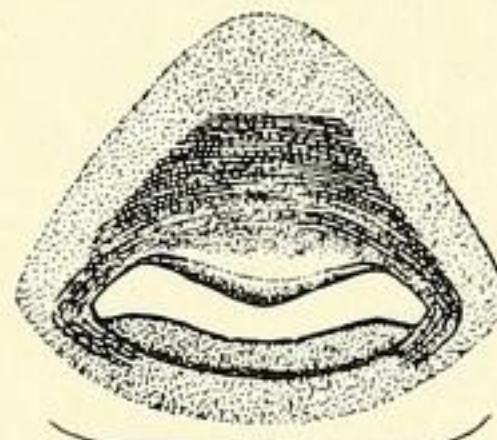
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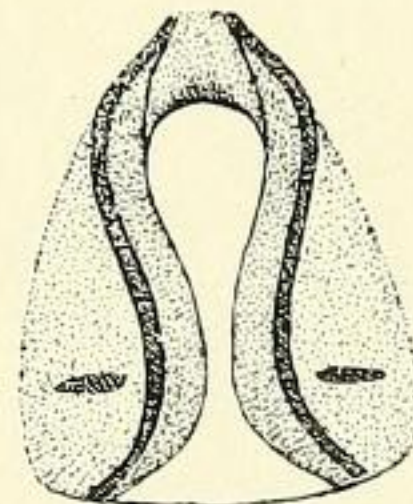
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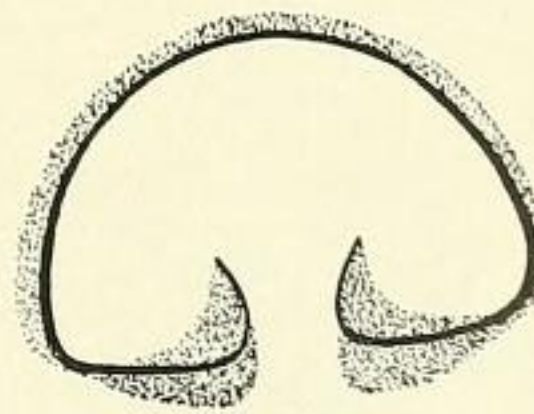
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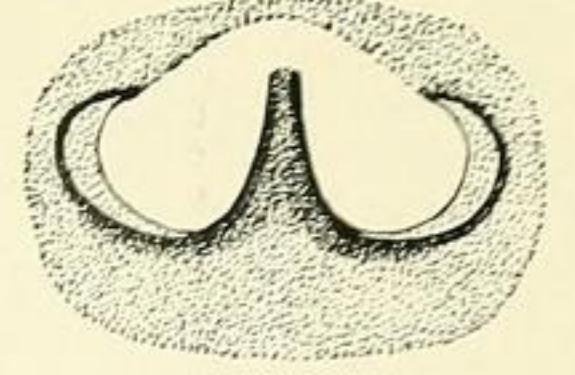
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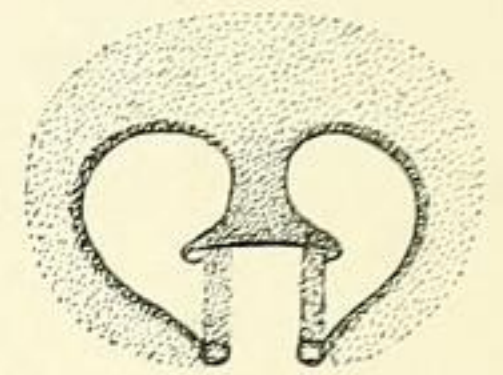
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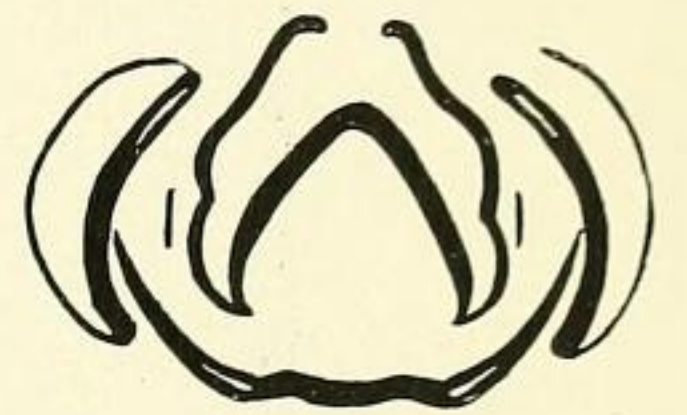
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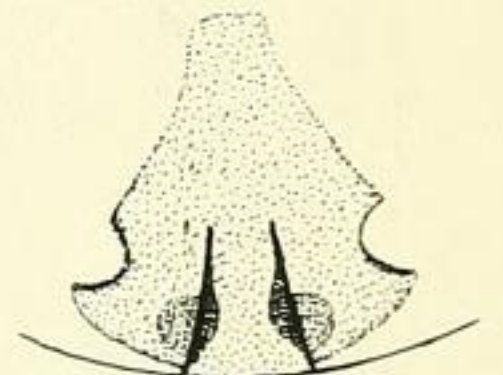
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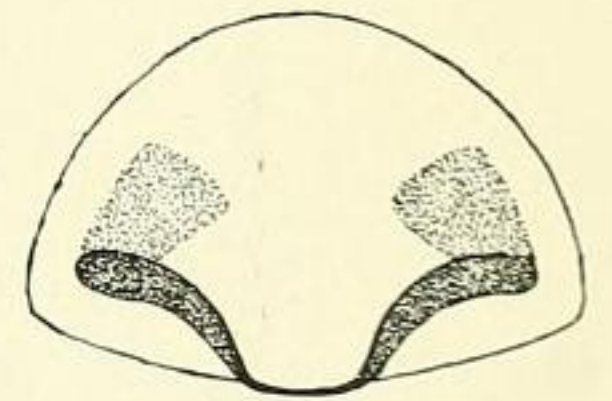
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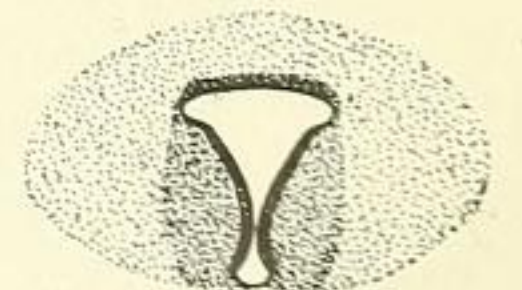
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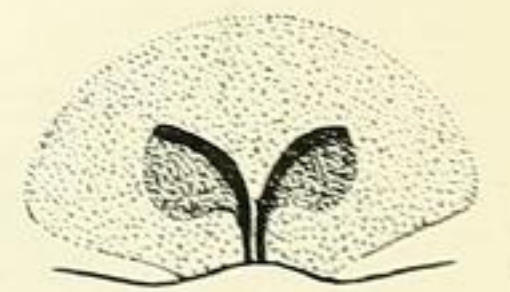
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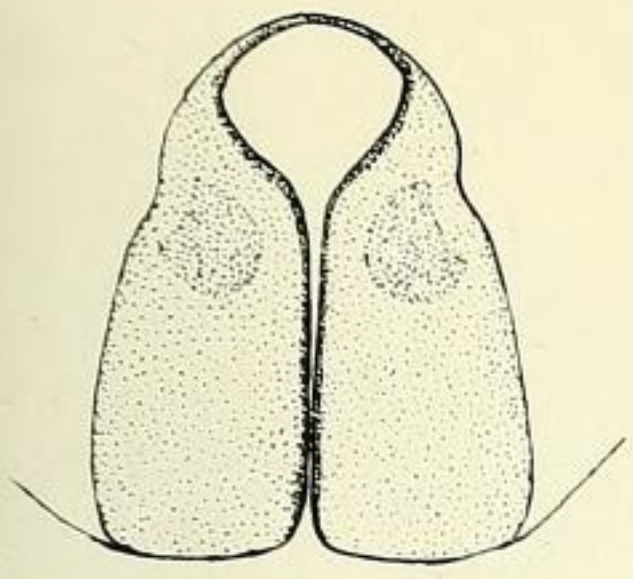
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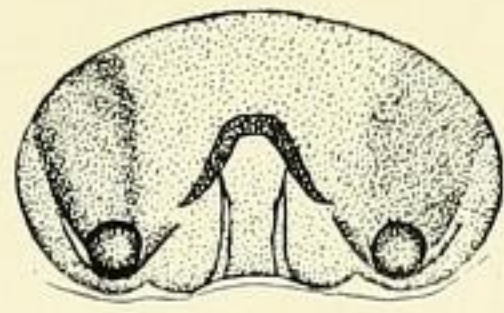
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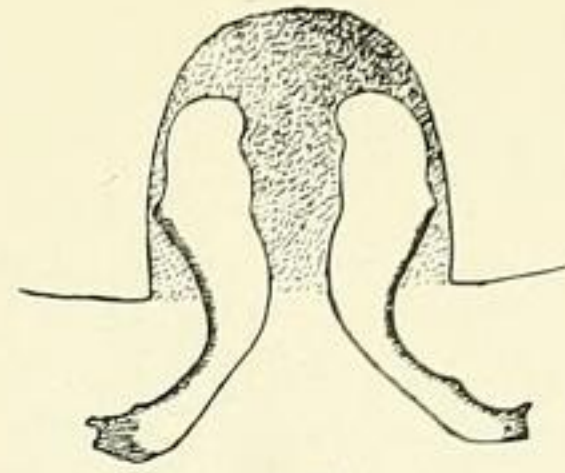




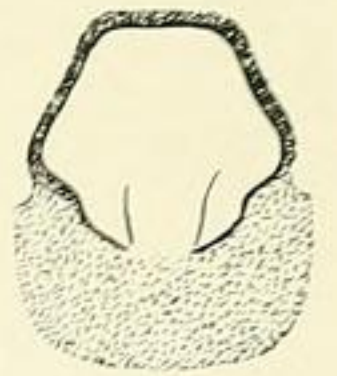
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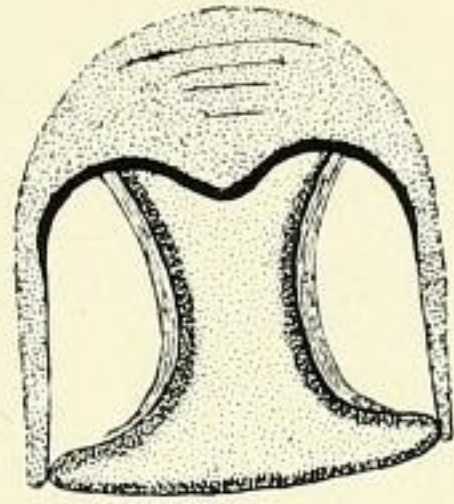
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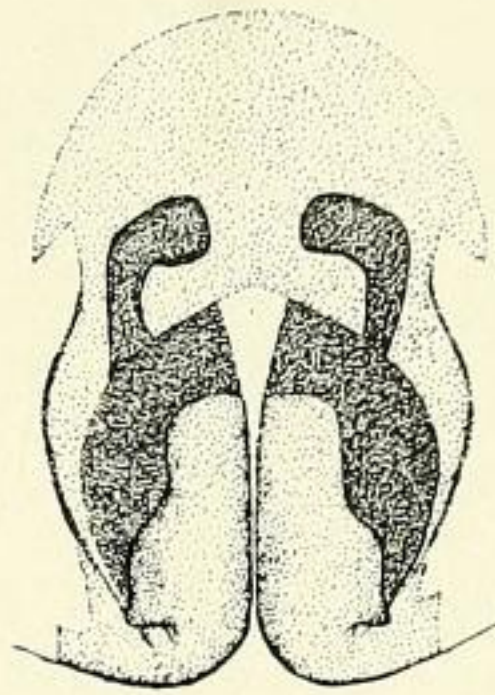
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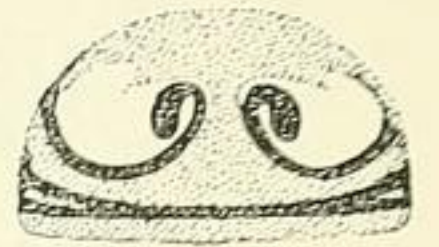
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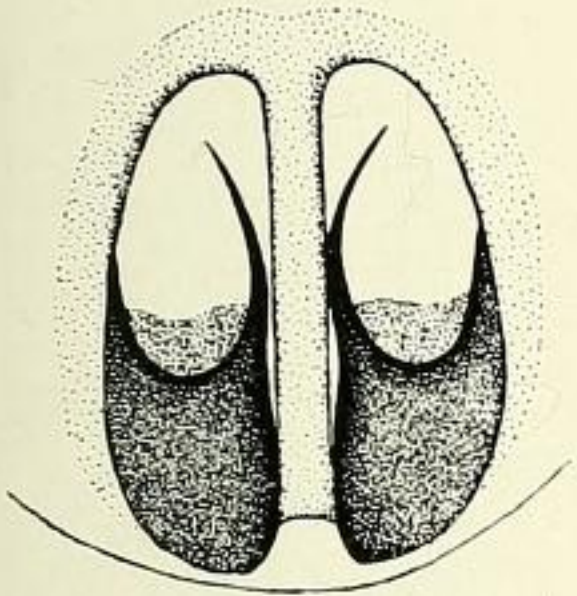
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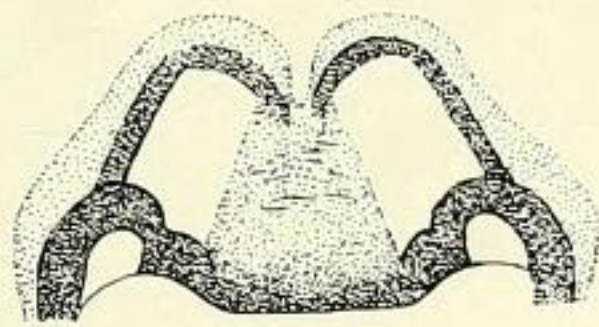
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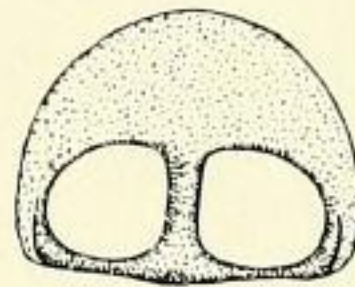
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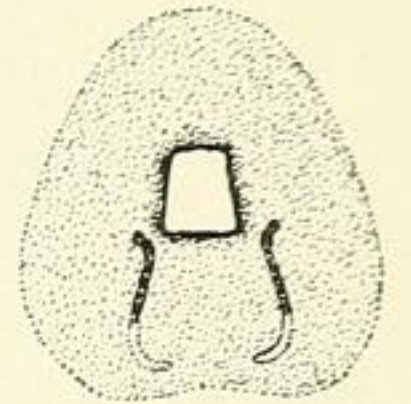
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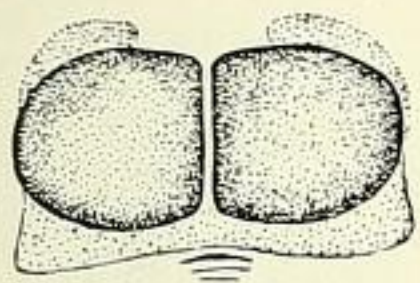
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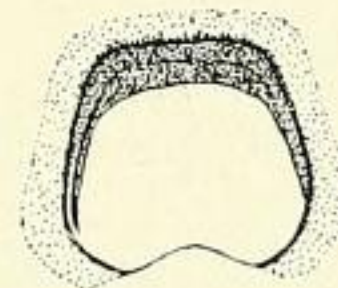
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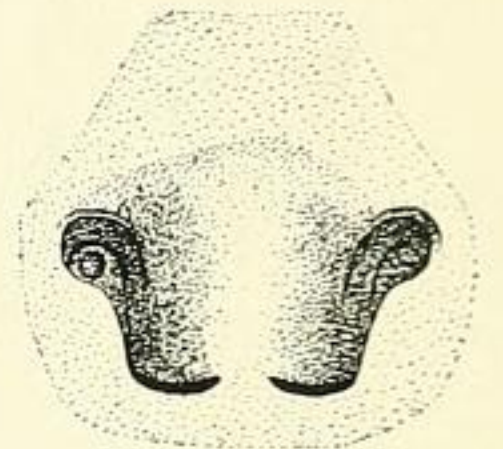
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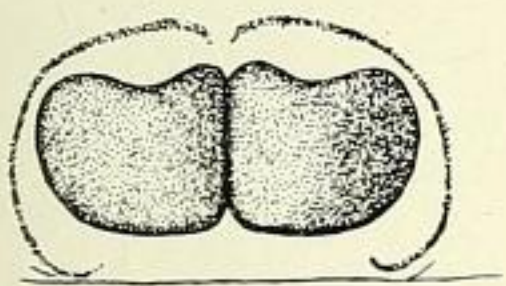
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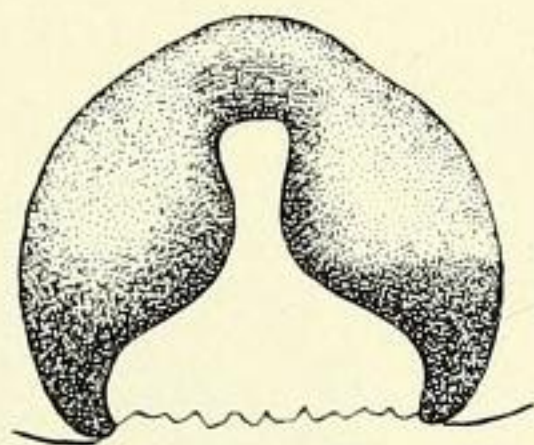
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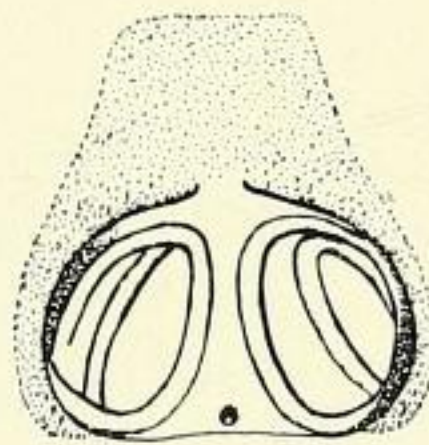
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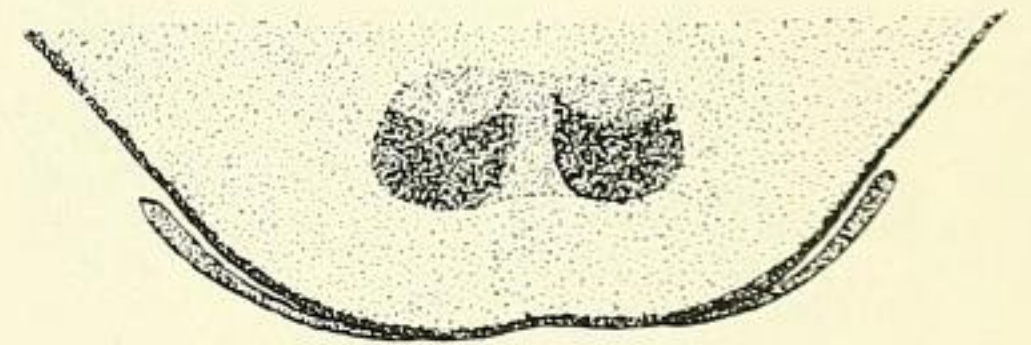
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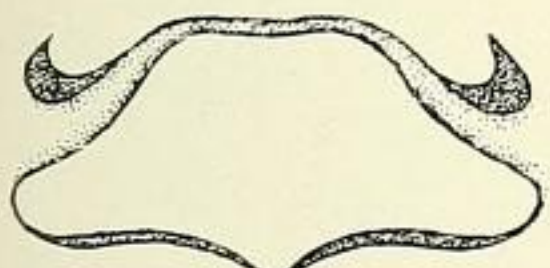
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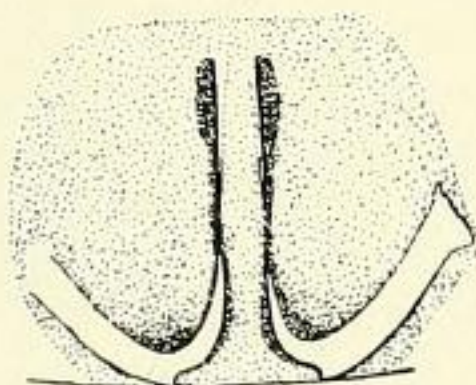
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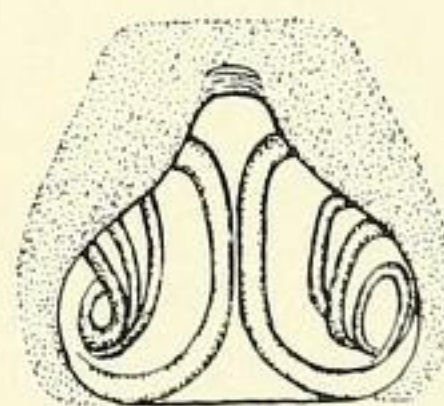
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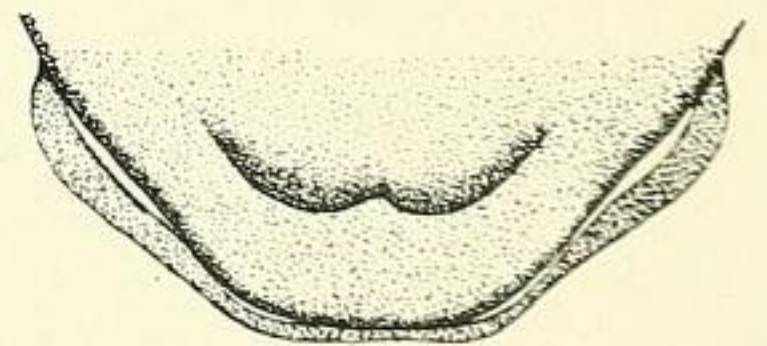
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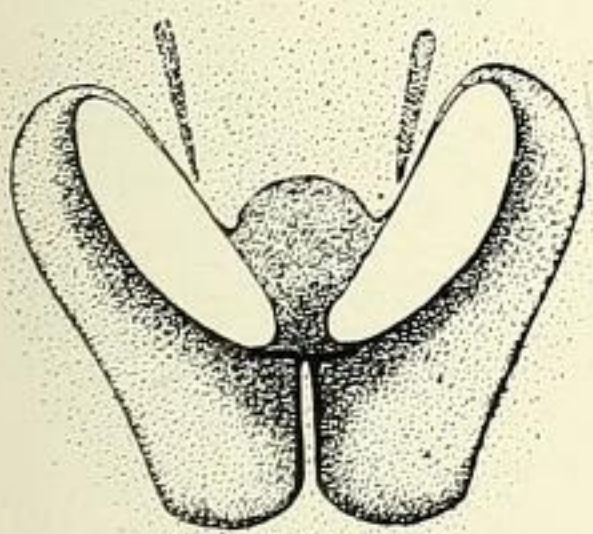
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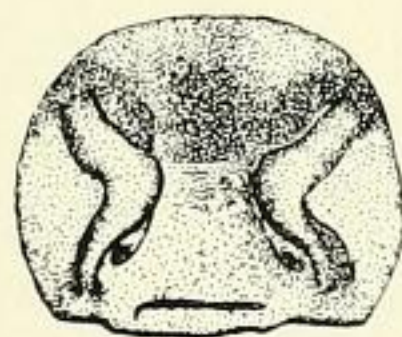
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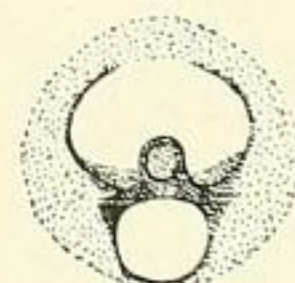
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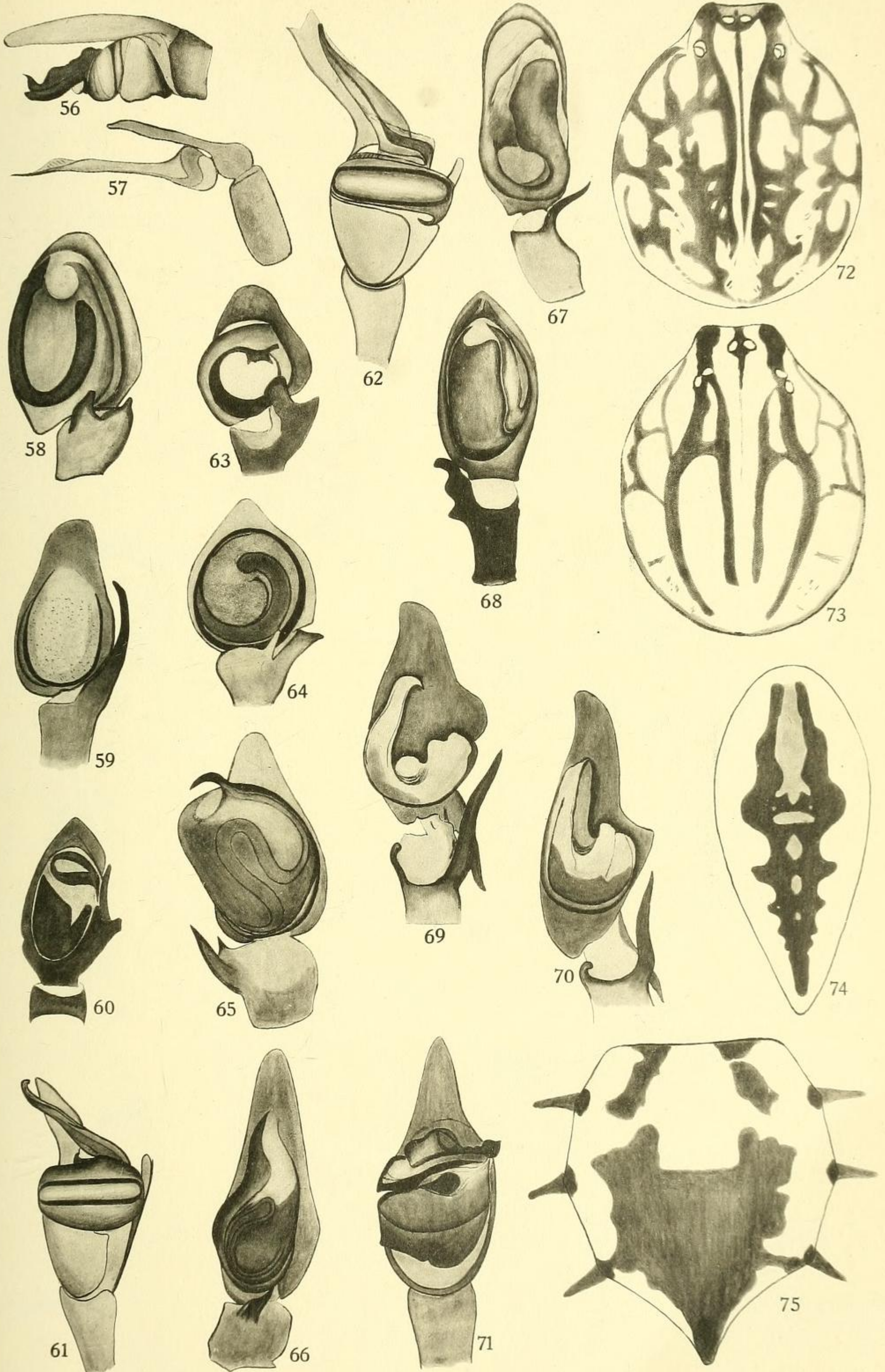


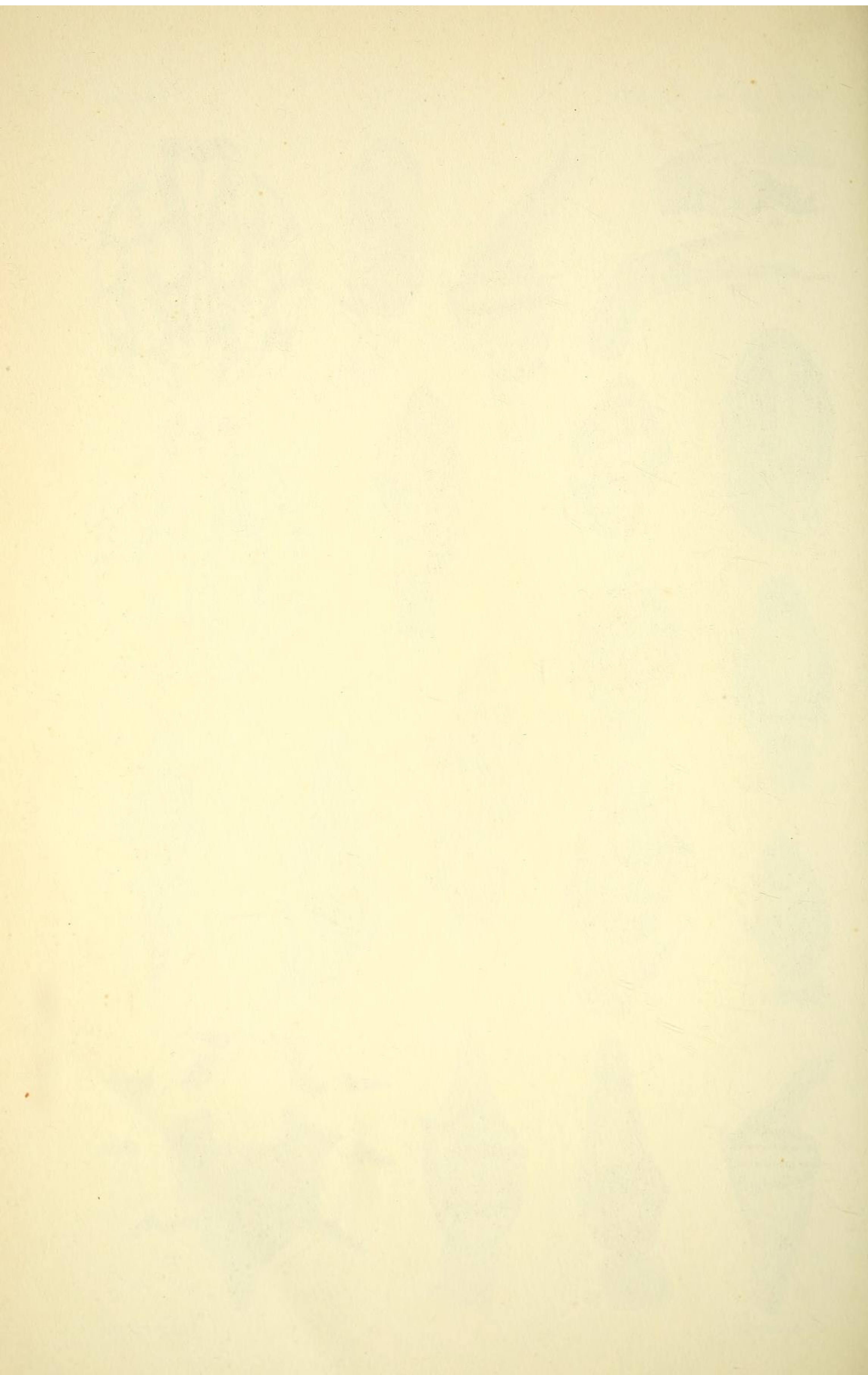
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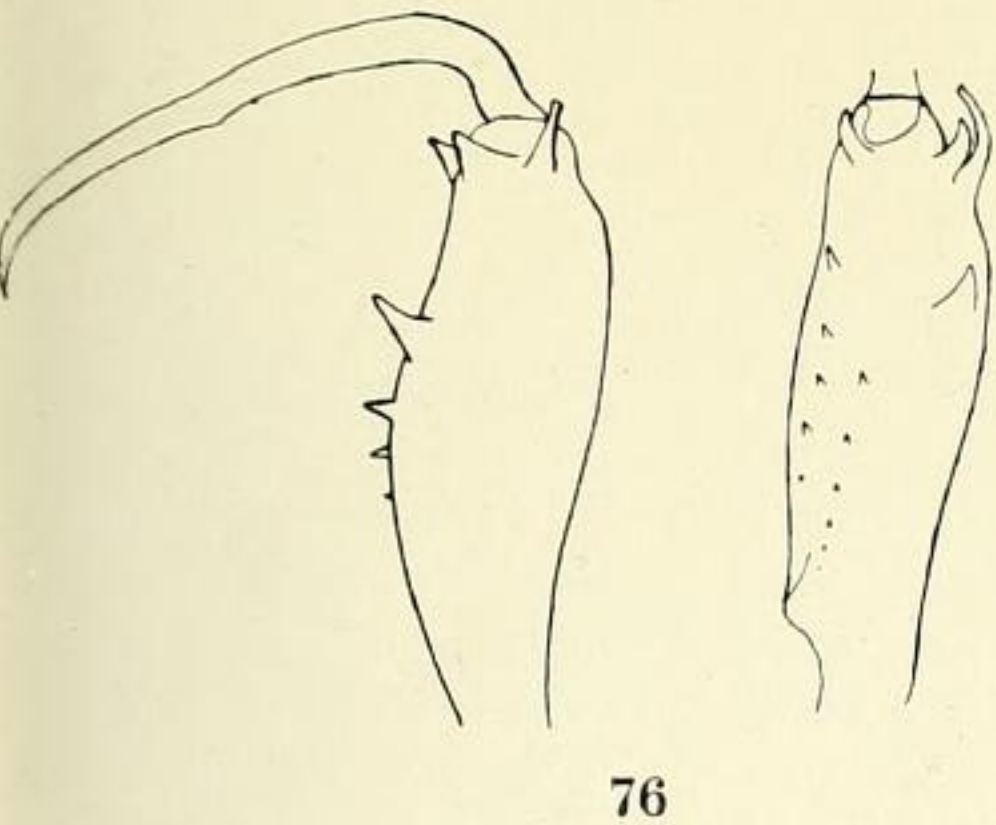


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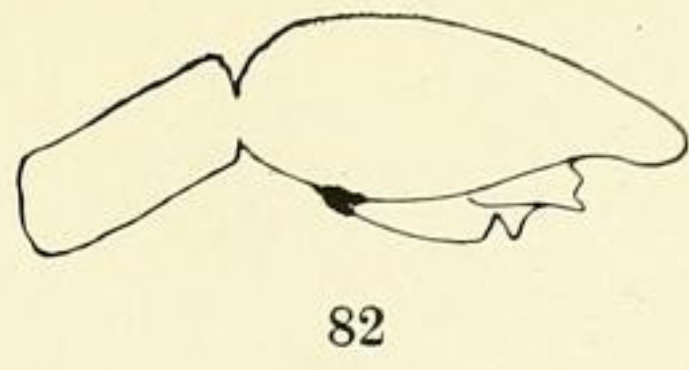




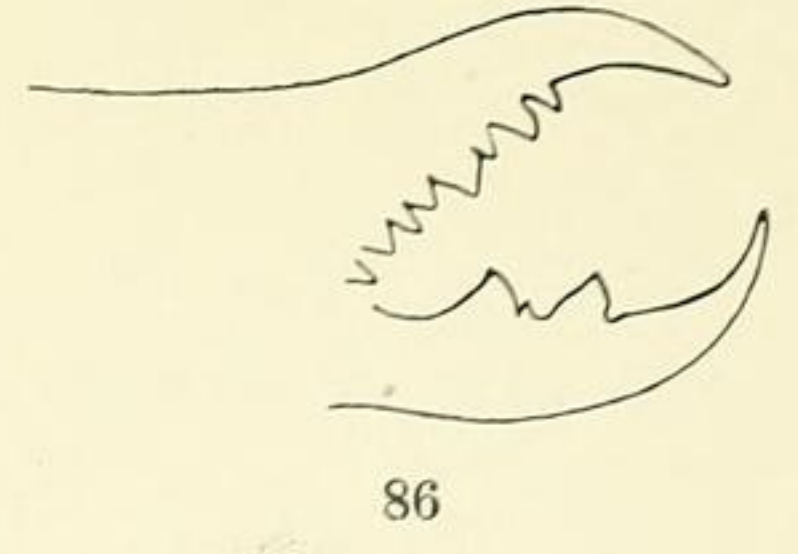




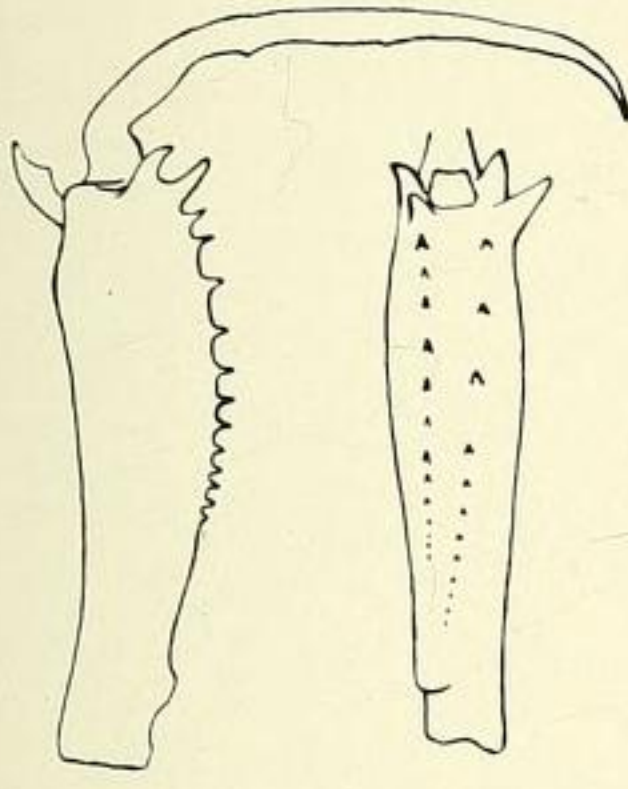
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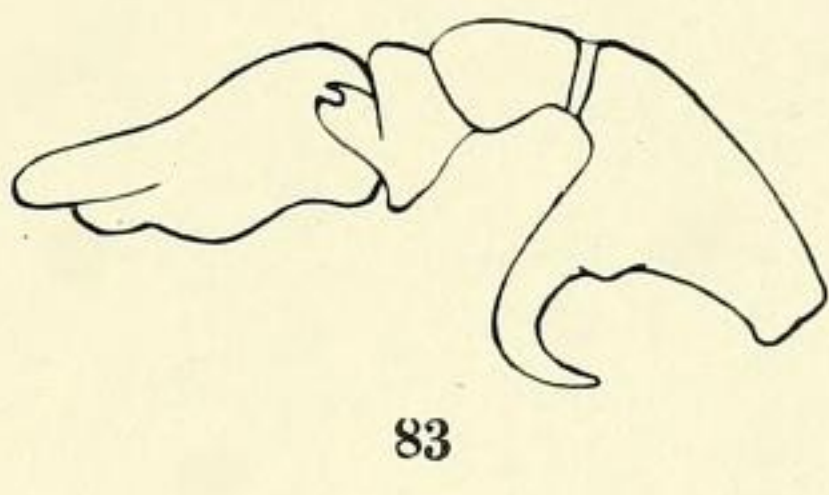
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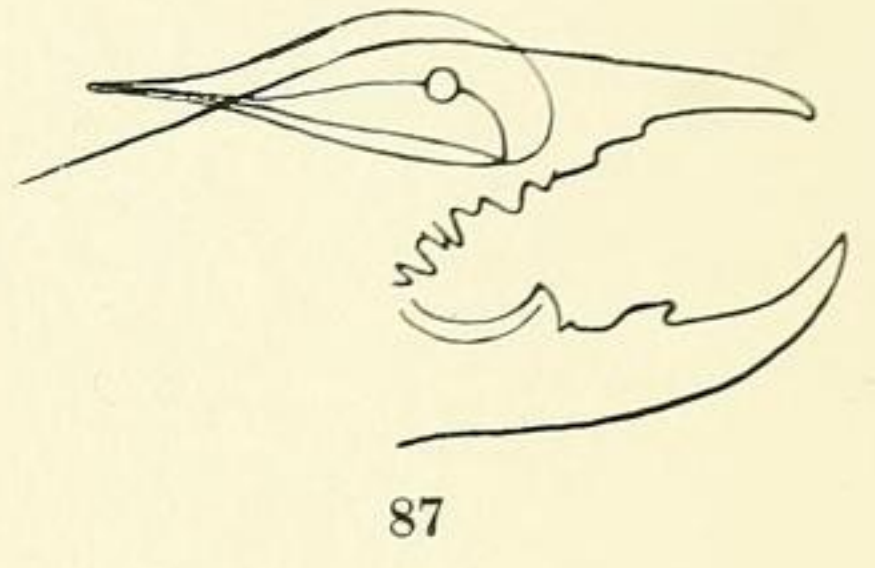
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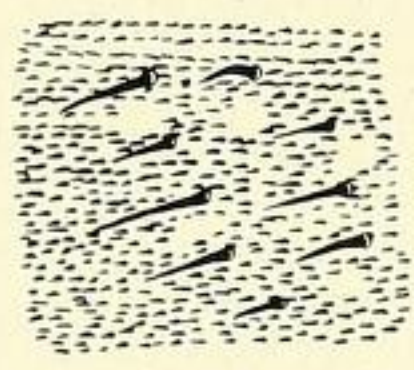
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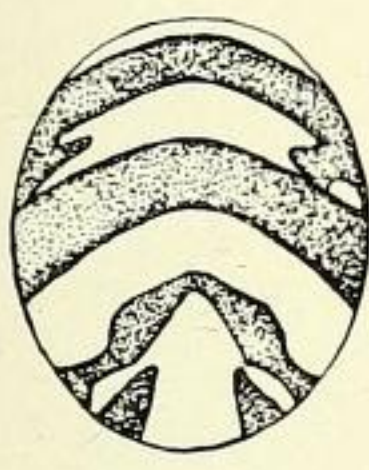
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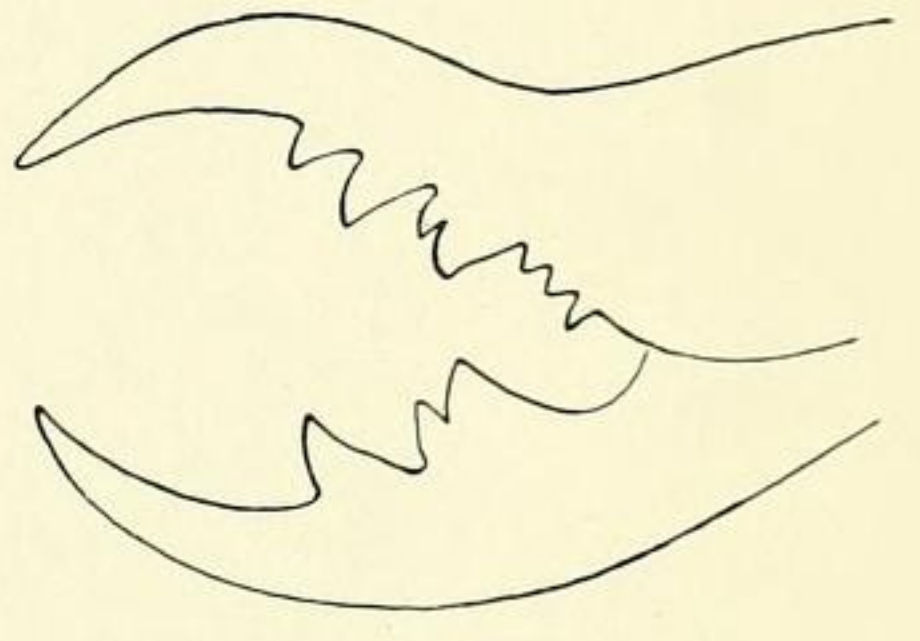
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79



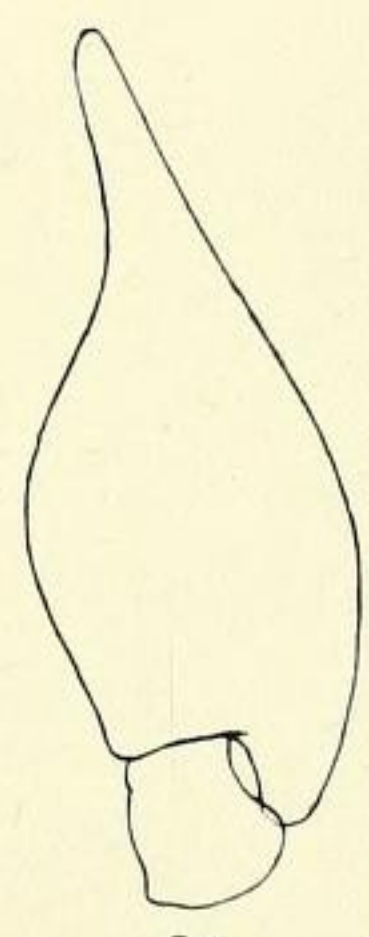
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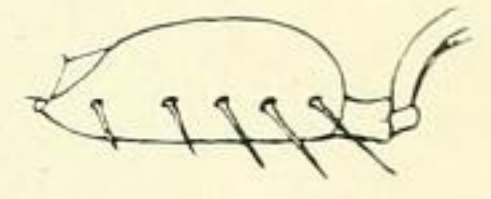
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80



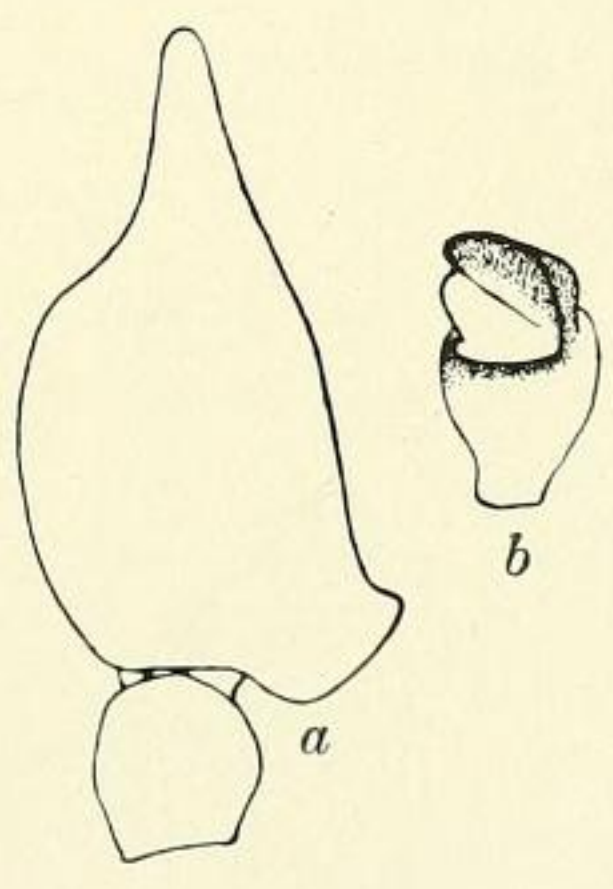
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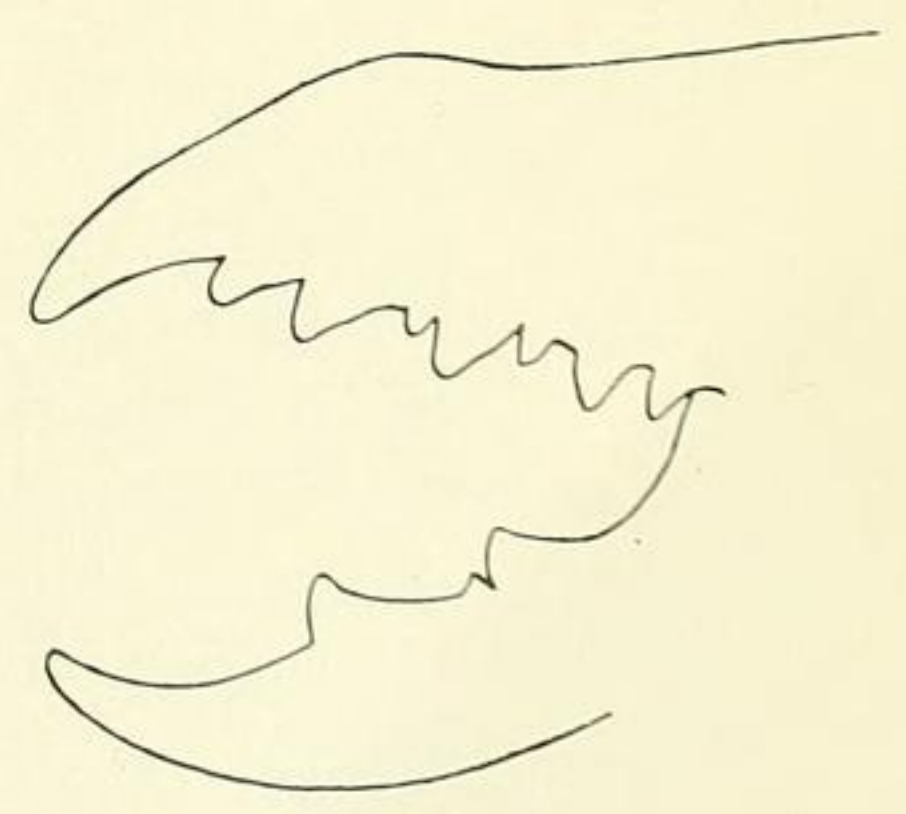
89



81



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