

**On Freshwater Entomostraca from Various  
Parts of South Africa.**

By

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With Plates XXXIII—XXXVIII.

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THE present paper is the result of an examination of a considerable amount of material collected from different places in South Africa by Dr. E. Warren, Director of the Natal Museum, and by Mr. James Gibson, of Durban, Natal.

On a visit to the Victoria Falls, Rhodesia, in May, 1908, Dr. Warren took the opportunity of making a few gatherings from the still pools in the immediate neighbourhood of the Falls. The pools were situated on the north bank, about fifteen yards from the edge of the Zambezi River and a quarter of a mile above the Falls.

At the end of January, 1908, Dr. Warren took numerous nettings from cattle pools, vleis and pans in the neighbourhood of Mont-aux-Sources, Drakensberg Mountains. These were taken at various altitudes on the side of the Orange Free State near to Witzies Hoek. A pan not far from Harrismith was also examined.

It was desired to ascertain whether the Entomostracan fauna of the high altitudes of S.E. Africa resembled the flora in exhibiting a special relationship with the fauna of Australasia, but there appears to be no marked connection.

In January, 1912, several gatherings were made at Port St. John, Pondoland, in a vlei close to the local prison.

My friend, Mr. James Gibson, has sent to me new species



of *Streptocephalus* and *Diaptomus* from a pan near Mahlabatini, Zululand.

The specimens were mostly preserved in 5 per cent. formalin, but some of the gatherings had been fixed in hot corrosive sublimate solution and then placed in alcohol.

The species will be dealt with in systematic order.

## OSTRACODA.

### Genus *CYPRIS* Müller.

#### *Cypris inermis* Brady.

*Cypris inermis* Brady, Proc. Zool. Soc. London, 1904, pp. 121-128.

Found in small pool of clear water formed from the drippings of a spring a quarter of a mile below the rock with Bushman Paintings, near "Rydal Mount," Witzies Hoek, Orange Free State (E. Warren).

### Genus *CYPRIA* Zenker.

#### *Cypria castanea* Brady.

*Cypria castanea* Brady, Proc. Zool. Soc. Lond., 1904, p. 125, Pl. VII, figs. 40-42, Pl. VIII, fig. 43.

Found in drinking-water pool close to "Rydal Mount," Witzies Hoek, O.F.S. (E. Warren).

Large shallow pond overgrown with much aquatic vegetation close to the prison, Port St. John, Pondoland (E. Warren).

### Genus *STENOCYPRIS* G. O. Sars.

#### *Stenocypris aldabræ* G. W. Müller.

*Stenocypris aldabræ* Müller, Die Ostracoden, Voeltzkow Reissergebnisse, p. 288, Pl. I, figs. 1-18; Brady, Annals of the Natal Museum, vol. i, p. 178, pl. xxxi, figs. 1-6, 1907.

Found in large pond by prison, Port St. John, Pondoland (E. Warren).



Genus *HYALOCYPRIS* *gen. nov.*

Shell oblong, compressed, slender and translucent. Antennæ as in *Cypris*. Mandible-palp bears a small 6-setose branchial plate; mouth, labrum and œsophageal opening without serratures or teeth; first maxillar palp complex, profusely setiferous, and bearing also a large bulb-shaped tapering appendage which terminates in a long seta (Pl. XXXIII, fig. 4); the feet of the second pair have a very long terminal claw, and at the distal end of the basal joint a large spherical vesicle which bears a small lateral denticle.

The marked peculiarities of the mouth-organs, together with the characteristic vesiculiform appendages of the second pair of feet, seem to separate the following species very distinctly from those of any hitherto described genus.

*Hyalocypris africana* *sp. nov.* Pl. XXXIII, figs. 1-6.

Shell, seen laterally, oblong-ovate (fig. 1), somewhat narrower in front than behind; greatest height situated in the middle and equal to about half the length, anterior extremity evenly rounded, posterior wider and more flattened, dorsal margin forming a gently arcuate curve, ventral almost straight; seen from above (fig. 2) the outline is compressed, oblong, almost lozenge-shaped, widest in the middle, the width equal to one-third of the length, tapering to the extremities, the posterior rather obtuse, anterior more pointed; shell very thin and delicate, hyaline, surface smooth, very finely hairy towards the margins. Length 1.1 mm. The antennules and antennæ are normal in structure, the fascicle of swimming setæ extending well beyond the apices of the antennal claws; mandibles stout, mandibular palp short and stout, the last joint very small; branchial plate small, bearing six setæ; first and second pairs of maxillæ as usual except that the first pair (fig. 4) bear a larger pyriform marginal plate which ends in a rigid seta; mouth aperture and œsophagus very feebly developed; labrum devoid of serratures, but produced at each side into a stout bifid process (fig. 3); first pair of feet (fig. 5) bearing an extremely



long and slender apical claw, and on the basal joint a large spherical vesicle, which seems to be lined internally with muscular fibre; caudal rami stout (fig. 6), bearing at the apex two strong ungues and one short seta; seta of the dorsal margin situated not far from the terminal claws.

This interesting species occurred at an elevation of 5000 feet at Witzies Hoek, Orange Free State. About half-a-dozen specimens were all that could be detected in the gathering.

Genus CYCLOCYPRIS *Brady & Norman.*

*Cyclocypris castanea* *sp. nov.* Pl. XXXIII, figs. 7-10.

Shell seen laterally subcircular; greatest height in the middle (figs. 7, 8) equal to about four-fifths of the length; extremities broadly rounded, dorsal margin boldly arched, ventral almost straight in the middle; seen from above (fig. 9) the shell is broadly ovate, not twice as long as broad, the lateral margins strongly convex; anterior extremity produced in the middle, which is broadly mucronate; posterior not produced, subrotund. Valves of the two sides unequal; that of the right side deeply incurved ventrally forming a broad flange throughout its entire course (fig. 7); margins of the left valve (fig. 8) scarcely at all incurved except for a short space in the middle of the dorsal and ventral margins; shell beset sparingly with short hairs; colour brown. Length 0.57 mm.

Caudal rami extremely slender (fig. 10), having two long apical setae; seta of the dorsal margin situated almost close to the terminal setae.

Not more than three or four examples of this species were obtained in the neighbourhood of the Victoria Falls, Rhodesia.

The species might possibly be assigned to the genus *Eurycypris*, *G. W. Müller*; but I think that the characters assigned to *Eurycypris* are scarcely sufficient to form a valid generic separation.



## COPEPODA.

Genus *CYCLOPS* Müller.*Cyclops gibsoni* Brady.*Cyclops gibsoni* Brady, Proc. Zool. Soc. Lond., 1904, p. 123,  
Pl. VI, figs. 1-10.

Found in small pool near Bushman Paintings, "Rydal Mount," Witzi's Hoek, O.F.S. (E. Warren). Drinking-water pool close to "Rydal Mount" (E. Warren).

Genus *ATTHEYELLA* Brady.*Attheyella warreni* sp. nov. Pl. XXXVI, figs. 1-9.

Female.—Body slender; abdomen (in spirit specimens) strongly flexed upon the thorax (fig. 1), head well rounded in front; last abdominal segment produced dorsally into a short, sharp spine; caudal laminae scarcely longer than broad, distinct one from the other, the interval distinctly cleft and destitute of spines or serratures, bearing two terminal setae, one of them long, the other short; posterior angles of the abdominal segments bearing one or more spine-like setae (fig. 9). Anterior antennae (fig. 2) very slender, eight-jointed, sparingly setiferous, posterior bearing a very small one-jointed secondary branch. First and second pairs of maxillae (figs. 3, 4) of the usual form, the hand of the second pair ovate-oblong, simple. First pair of swimming feet (fig. 5) shorter than the following pairs, having both branches three-jointed, the outer branch shorter than the inner; the outer branches of the second, third (fig. 6) and fourth (fig. 7) pairs three-jointed and much longer than the inner branches, which are obscurely two-jointed, the basal joints very minute; fifth pair foliaceous (fig. 8), the basal joint wide, bearing four stout terminal setae and one much longer seta on its outer angle, apical joint small, subovate, and bearing three terminal setae. Length 0.6 mm.

This species was taken in fresh water in the neighbourhood of the Victoria Falls. Only about half-a-dozen specimens were seen, all of them females.



Genus *DIAPTOMUS* *Westwood*.

*Diaptomus pictus* *sp. nov.* Pl. XXXIV, figs. 1-6.

Female.—Body rather robust. Seen dorsally, the anterior division is about three times as long as broad, nearly equal in width throughout, rounded in front, the last segment produced into two very conspicuous lateral flaps which are doubly acuminate at the distal angle. Urosome biarticulate, the anterior (genital) segment dilated basally, distal segment longer; caudal rami short, not much longer than broad, terminal setæ stout and strongly plumose. Anterior antennæ short, extending scarcely beyond the posterior extremity of the cephalothorax. Basal joint of last pair of legs simple, without any angular prominence; inner branch simple, uniarticulate, claviform, slightly shorter than the first joint of the outer branch, bearing two short apical spines; terminal joint of the outer branch stoutly dilated at the base, distally produced into a long, slightly pectinated spine and bearing two stout marginal spines.

Length 2.10 mm.

Male.—Body rather shorter and more slender than that of the female; cephalothorax rounded off behind, without prominent angles; urosome slender, five-jointed, its second joint produced ventrally into an acute papilliform process. Right anterior antenna very tumid in the middle, its outer margin in front of the swollen portion bearing four strong curved spines; the three terminal joints slender and of nearly equal length, destitute of spines or marginal processes. Fifth pair of feet very unequal in size; outer branch of the right foot much elongated and bearing a long, slender, terminal claw; inner branch small, simple, biarticulate; foot of the left side short and stout, its basal joint with a minute papilliform prolongation; distal joint bifurcate at the apex, forming two unequal curved claws. Lateral spines of the swimming feet finely spinulose in both sexes.

Length of the male 1.90 mm.



Colour generally pale, but the anterior antennæ and caudal stylets of the male deeply coloured with carmine or rosy purple. In the living condition this coloration is much more extensive, and is more or less evident in both sexes.

The species was taken by Mr. J. Gibson in a pan on the summit of the Inkenjeni Mountain near the Mahlabatini Magistracy, Zululand.

*Diaptomus fuscatus*, *sp. nov.* Pl. XXXIV, figs. 7-10;  
Pl. XXXV, fig. 1.

Female.—Body robust; seen dorsally, the anterior portion is more than twice as long as broad, broadly rounded in front; the posterior segment truncated, produced laterally into two sharply acuminate angles; urosome three-jointed, genital segment somewhat dilated, last segment and caudal rami very short and nearly equal in length, terminal setæ very feebly plumose. Anterior antennæ extending when reflexed beyond the posterior extremity of the cephalothorax. Basal joint of the fifth pair of legs simply quadrate; inner branch simple, uniarticulate, digitiform, bearing a single terminal seta and one or two minute hairs; distal joint of the outer branch stout, awl-shaped, sharply pointed; the distal half of its inner margin finely pectinated, a single stout seta attached near the middle of its outer surface.

Length 1.95 mm. Colour deep brown.

Male.—Anterior antenna bearing a very strong awl-shaped spine immediately in front of the tumid part of the limb, and two very small spines on the preceding joints; the antepenultimate joint exserted at its distal end into a long, slightly curved, projected extremity, as long as the penultimate joint. Last pair of feet (fig. 9) extremely asymmetrical; basal joint of the right foot bearing a minute papilliform process at the end of its inner edge; terminal joint shorter, subquadrate, with a long and slender, flexuous claw and a shorter spine at its outer angle; the foot of the left side is about as long as the first joint of the right foot, simple, club-shaped, tapered to the distal end, which is slightly flexed and



constricted. The lateral spines of the outer branches of the swimming feet are perfectly smooth, without spinules or denticles.

The only available specimens of the male of this species were imperfectly preserved. It approaches rather closely to some of those described by Professor Sars from the Tanganyika expedition, notably to *D. simplex* and *D. cunningtoni*.

The specimens here referred to were taken by Dr. Warren at Equeefa, Natal.

*Diaptomus masculus*, *sp. n.* Pl. XXXV, figs. 2-6.

Female.—Body moderately stout. Seen dorsally, the anterior division is of nearly equal width throughout; the head somewhat narrowed and evenly rounded off; posterior segment truncated, its lateral angles not much produced; urosome four-jointed, the second joint much the longest; caudal laminae scarcely longer than broad, about equal in length to each of the two preceding joints; terminal setae slender, not basally dilated, very feebly plumose; anterior antennae reaching when reflexed to the middle of the urosome. Basal joint of the last pair of legs simple; inner branch claviform, simple, uniarticulate, with two short apical hairs; first joint of the outer branch rather exceeding the inner branch in length; second joint produced distally into a slender spine which is marginally pectinated beyond the middle; to its basal portion is attached a small spine with a papilliform base, which may perhaps be considered as a rudimentary third joint. The lateral spines of the swimming feet are minutely spinulose.

Length about 2.10 mm.; of male 1.4 mm. Colour reddish-brown.

Male.—Body of the adult very slender, about two-thirds as long as that of the female, narrowly rounded in front, somewhat narrowed and subtruncate behind, rounded off laterally; urosome slender, five-jointed; caudal laminae short,



about as broad as long. The anterior antennæ are very markedly constricted, not only at the hinge-joint, but likewise between the penultimate and antepenultimate joints; there is no spinous prolongation of either of these joints, but the terminal joint has a small digitiform process at its apex.

This is remarkable among the African species of Diaptomidæ in respect of the great disparity in size between the two sexes, in the non-reduction of the number of joints in the female urosome, and, lastly, in the rather peculiar form of the distal portion of the male anterior antenna.

The species occurred plentifully in a gathering made by Dr. Warren in a "pond between Witzies Hoek and Harrismith, ten miles from Harrismith, February 10th, 1908."

Genus PARADIPTOMUS *G. O. Sars*.<sup>1</sup>

(= BROTEAS *Lovén*<sup>2</sup> = LOVENULA *Schmeil*<sup>3</sup>).

The generic name *Protodiaptomus* was proposed by Professor Sars in 1895 to receive a South African species described by him (*P. lamellatus*). This species was evidently congeneric with and very closely allied to that previously described by Lovén as *Broteas falcifer*. Lovén's generic term *Broteas* had been already used by C. L. Koch for a genus of Arachnida (1839). The name *Paradiaptomus* given by Sars must therefore be adopted, if the species is to be considered generically distinct. *Lovenula*, as proposed by Schmeil, is of later date. It would seem, however, that Professor Sars has himself doubted the expediency of a separate name, inasmuch as he includes under *Diaptomus* the five species described by him in his report on the 'Copepoda of the Third Tanganyika Expedition.' These seem to be in no respect generically different from *Paradiaptomus*.

<sup>1</sup> Sars, G. O., 'On some South African Entomostraca,' 1895.

<sup>2</sup> Lovén, L., 'Fyra nya arter af Sötvattens-Crustacéer från Södra Afrika,' 1846.

<sup>3</sup> Schmeil, O., 'Das Tierreich, Copepoder, 1 Gymnoplea,' 1898.



*Paradiaptomus falcifer* (*Lovén*). Pl. XXXV, figs. 7-10.

This interesting species originally described and figured by *Lovén* (*loc. cit.*) has been recently found by Dr. Warren, who has kindly sent me specimens which were taken in a "pond between Witzies Hoek and Harrismith." Dr. Warren describes the colouring of these specimens as being—"the body milky white, the antennæ deep purple, the furcæ bright red round the base and purple terminally, the setæ purple." I give drawings of some of the characteristic parts—in all respects similar to those of *Lovén* and to those of more recent authors.

### PHYLLOPODA.

Genus *CERIODAPHNIA* *Dana*.

*Ceriodaphnia natalis* *Brady*.

*Ceriodaphnia natalis* *Brady*, *Annals of the Natal Museum*, vol. i, p. 180, Pl. XXXII, figs. 3-7, 1907.

Found in drinking-water pool close to "Rydal Mount," Witzies Hoek, Orange Free State (E. Warren).

Genus *LEYDIGIA* *Kurz*.

*Leydigia quadridentata* sp. nov. Pl. XXXVI, fig. 10.

This species, of which three individuals only were found, has little to distinguish it from other members of the genus excepting the presence of four minute but very distinct teeth on the posterior margin of the valves. The valves are faintly striated, and the caudal laminæ have the spinous armature which is characteristic of the genus. The length is 0.5 mm.

Obtained near to Victoria Falls (E. Warren).

Genus *CAMPTOCERCUS* *Baird*.

*Camptocercus aloniceps* *Ekman*. Pl. XXXVIII, fig. 1.

*Camptocercus aloniceps* *Ekman*, *Cladoceren aus Patagonien gesammelt von der schwedischen Expedition nach Patagonien*, 1899. *Zool. Jahrb.*, 1900.



Three specimens found in a gathering from near Victoria Falls are indistinguishable from a Patagonian species described by Dr. Ekman, the only apparent difference consisting in the want of marginal cilia in the case of the African specimens. Length of the African specimens 0·85 mm., of the Patagonian specimens 0·75 mm.

Genus *EULIMNADIA* Packard.

*Eulimnadia victoriæ* sp. nov. Pl. XXXVII, figs. 1-7.

Females.—The shell seen laterally is almost circular, diameter 4·5 mm. (fig. 1), very thin and membranous, colourless and translucent, marked with three or four concentric lines of growth, and, seen with a high microscopic power, very minutely and closely reticulated (fig. 7); seen dorsally the outline is ovate, widest in the middle (fig. 2), twice as long as broad, extremities broadly rounded. The front of the head is broadly rounded and is sharply denticulated, the antennules (fig. 3) long and filiform, jointed in the middle, slightly dilated at the extremities which bear a few fine, sensory (?) hairs; antennæ (fig. 4) strongly developed, biramose, basal portion very stout, indistinctly jointed and bearing several setiferous processes; branches seven-jointed, each joint bearing a strong spine and one or more long setæ; the last joint has also four apical setæ. Mandibles (fig. 5) stout, deeply pigmented, the apices rounded and beset with numerous minute setæ; caudal laminæ (fig. 6) bearing a series of about eight curved denticulated spines of gradually increasing lengths, the two distal pairs extremely long and slender; in front of these spines arises a pair of very long setæ, and in front of these again a series of about six short digitiform processes, each of which is profusely fringed with long setæ.

The genus, as defined by Packard, differs from *Limnadia* chiefly in the shape of the shell (which is in *Eulimnadia* narrower in lateral view), in the smaller number of lines



of growth, and in the greater number of feet, which in *Eulimnadia* number eighteen pairs. In the shape of the shell, however, the present species departs conspicuously from the type, to which in other respects it seems to conform closely.

Several specimens were collected in the neighbourhood of the Victoria Falls—all of them females.

Genus *STREPTOCEPHALUS* *Baird*.

*Streptocephalus propinquus* *sp. nov.* Pl. XXXVIII, figs. 2–6.

Female (fig. 5).—Length to the end of the caudal rami about 8·5 mm., the posterior (tail) division of the body rather longer than the anterior. Head rounded in front and bearing the antennules, antennæ, a pair of deeply coloured eyes and an inconspicuous central ocellus. Behind the head is a cervical region containing the mouth-organs, mandibular hump, and behind these the shell-glands. Following these are eleven segments of the mesosome, each bearing a pair of branchial legs. The genital region consists of two imperfectly separated segments, from which arise the two ovigerous pouches. The tail consists of seven well-defined segments, and ends in two stout caudal prolongations which are plumosely fringed with stout setæ.

The antennules (fig. 6*b*) are simple, very slender and inarticulate; the antennæ (fig. 6*c*) are simple, foliaceous and finely hispid; the ocellus (fig. 6*a*) is small, faintly rubescent; the eyes (fig. 6*d*) are very large, clavate in outline, composed of numerous small lenses, jet-black at their circumference and covered with a transparent, hyaline cornea; the mandibular hump forms a conspicuous bulbous prominence just behind the eye (fig. 6*e*), and behind this, again, is the sphenoidal shell-gland (fig. 6*f*). The first and last pairs of feet are somewhat smaller and of rather different structure from the rest; the marsupial pouch is about as long as two conjoined tail-segments and is slightly bifid at the apex.



Male.—The male (fig. 2) is somewhat smaller than the female, but except in the structure of the antennæ does not present any very marked differences. The antennæ, however, are very strongly geniculated (fig. 3), stout and muscular, and about one-fourth as long as the animal itself, not distinctly jointed; the anterior margin of the median portion produced so as to form a very large and wide three-spined lamina; the apical portion strongly angulated and terminating in a tapering, finger-like extremity. Segments of the tail marked by distinctly prominent ridges at their lines of contact; caudal stylets knotted in appearance, indistinctly divided into numerous short joints and fringed with long, delicate cilia (fig. 4).

Several specimens of both sexes were taken by Mr. Gibson in a pan on the summit of the Inkenjeni Mountain near the Mahlabatini Magistracy, Zululand; but no ovigerous females were seen, and it seems extremely doubtful if any of the specimens, either male or female, were really mature.

The most nearly allied of described species appears to be *Streptocephalus papillatus* G. O. Sars.<sup>1</sup>

## EXPLANATION OF PLATES XXXIII-XXXVIII,

Illustrating Dr. G. S. Brady's paper "On Fresh-water Entomostraca from various parts of South Africa."

### PLATE XXXIII.

*Hyalocypris africana* g. e. sp. n.

- FIG. 1.—× 40. Shell seen from right side.
- FIG. 2.—× 40. Shell seen from above.
- FIG. 3.—× 210. Labrum and mouth-aperture.
- FIG. 4.—× 210. Maxilla of first pair.
- FIG. 5.—× 120. Foot of first pair.
- FIG. 6.—× 120. Caudal ramus.

<sup>1</sup> Sars, G. O., "On Two Apparently New Phyllopoda from South Africa," 'Arch. f. Math. og. Naturv.,' Bd. xxvii, Nr. 4, 1905.



*Cyclocypris castanea* sp. n.

FIG. 7.— $\times 84$ . Right valve seen from inside.

FIG. 8.— $\times 84$ . Left valve seen from inside.

FIG. 9.— $\times 84$ . Shell seen from above.

FIG. 10.— $\times 210$ . Caudal ramus.

## PLATE XXXIV.

*Diaptomus pictus* sp. n.

## Female.

FIG. 1.— $\times 40$ . Dorsal view.

FIG. 2.— $\times 40$ . Last thoracic segment and urosome seen laterally.

FIG. 3.— $\times 140$ . Foot of fifth pair.

## Male.

FIG. 4.— $\times 40$ . Urosome and last thoracic segment seen laterally.

FIG. 5.— $\times 84$ . Right anterior antenna.

FIG. 6.— $\times 84$ . Fifth pair of feet.

*Diaptomus fuscatus* sp. n.

## Male.

FIG. 7.— $\times 50$ . Urosome seen laterally.

FIG. 8.— $\times 100$ . Anterior antenna.

FIG. 9.— $\times 84$ . Fifth pair of feet.

## Female.

FIG. 10.— $\times 140$ . Foot of fifth pair.

## PLATE XXXV.

*Diaptomus fuscatus* sp. n.

FIG. 1.— $\times 50$ . Female. Dorsal view.

*Diaptomus masculus* sp. n.

## Female.

FIG. 2.— $\times 53$ . Dorsal view.

FIG. 3.— $\times 140$ . Foot of fifth pair.

## Male.

FIG. 4.— $\times 53$ . Dorsal view.

FIG. 5.— $\times 140$ . Distal joints of right anterior antenna.

FIG. 6.— $\times 140$ . Fifth pair of feet.



*Paradiaptomus falcifer* (Lorén).

Female.

FIG. 7.—× 14. Dorsal view.

FIG. 8.—× 33. Foot of fifth pair.

Male.

FIG. 9.—× 30. Anterior antenna.

FIG. 10.—× 33. Fifth pair of feet.

PLATE XXXVI.

*Attheyella warreni* *sp. n.*

Female.

FIG. 1.—× 140. Seen from left side.

FIG. 2.—× 210. Anterior antenna.

FIG. 3.—× 440. Anterior foot-jaw.

FIG. 4.—× 440. Posterior foot-jaw.

FIG. 5.—× 210. Foot of first pair.

FIG. 6.—× 210. Foot of third pair.

FIG. 7.—× 210. Foot of fourth pair.

FIG. 8.—× 210. Foot of fifth pair.

FIG. 9.—× 210. Posterior segments of abdomen.

*Leydigia quadridentata* *sp. n.*

FIG. 10.—× 100. Female seen from right side.

PLATE XXXVII.

*Eulimnadia victoriæ* *sp. n.*

Female.

FIG. 1.—× 19. Seen from right side.

FIG. 2.—× 19. Shell seen from behind.

FIG. 3.—× 63. Antennules and front of head.

FIG. 4.—× 63. One of the antennæ.

FIG. 5.—× 63. Apical portion of mandible.

FIG. 6.—× 63. Post-abdomen with caudal laminae.

FIG. 7.—× 158. Portion of shell showing minute structure.



## PLATE XXXVIII.

*Camptocercus aloniceps* *Ekman*.

FIG. 1.—× 84. Female seen from right side.

*Streptocephalus propinquus* *sp. n.*

Male.

FIG. 2.—× 16. View from left side.

FIG. 3.—× 40. Left antenna.

FIG. 4.—× 55. Portion of plumose tail-seta

Female.

FIG. 5.—× 16. View from left side

FIG. 6.—× 40. Mouth organs.

*a.* ocellus.

*b.* antennule.

*c.* antenna.

*d.* eye.

*e.* mandibular bulb.

*f.* shell-gland.





Brady, George Stewardson. 1913. "On freshwater Entomostraca from various parts of South Africa." *Annals of the Natal Museum* 2, 459–474.

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