SCIENTIFIC RESULTS OF THE VERNAY-LANG KALAHARI EXPEDITION, MARCH TO SEPTEMBER, 1930

CRUSTACEA

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With Plates XXVI, XXVII, 3 Text-figures and 1 Chart

THE Vernay-Lang Expedition to the Kalahari has brought back a very interesting collection of Crustacea, mostly Entomostraca, from a region hitherto quite unexplored so far as these animals are concerned. I have to thank Mr H. Lang for the privilege of examining this collection.

The systematic collecting of this group over the entire route of the expedition is due mainly to Mr V. FitzSimons. His field notes on the colour of the living Crustaceans will be welcomed. The excellent preparation of the abundant material makes this collection doubly valuable.

Only two collectors have previously brought back Crustacea from the central region of South Africa. Dr Leonhard Schultze went through the southern Kalahari from Mafeking to Luhututu (Lehututu); and Mr J. H. Power of Kimberley has collected in the Lobatsi district. Dr Schultze's collections were reported on by Daday and van Douwe, and Mr Power's by myself. From the neighbouring region of South-West Africa Entomostraca were collected by Dr Schultze and Dr W. Michaelsen; and from Ovamboland and the Kaokoveld by the South African Museum Expeditions. There are records from the Transvaal and Southern Rhodesia, though not many. The Entomostracan fauna of the northern Kalahari was quite unknown, and consequently the Vernay-Lang Expedition has accomplished very useful work.

It was not to be expected that the Entomostracan fauna of the area traversed would prove very different from that of the neighbouring areas, and the collection contains nothing startling. The extension of the known distribution of many species, however, is important. There is one new species in the genus *Leptestheriella*.

LIST OF SPECIES FOUND AT EACH LOCALITY

Metsimaklaba River	*Potamonautes warreni*
Kanke Pan	*Branchipodopsis kalaharensis*
	Apus cancriformis
	Eulimnadia africana
Gomodimo Pan	*Streptocephalus cafer*
Kaotwe Pan	*Caenestheriella australis*
	Herpetocypris ovularis
	Cyprilla producta

Kali Pan	*Branchipodopsis tridens*
Gori Pan	*Apus numidicus*
Damara Pan	*Branchipodopsis tridens*
Sunnyside	*Branchipodopsis kalaharensis*
	,, *wolfi*
	Apus numidicus
Gemsbok Pan	*Branchipodopsis wolfi*
	Apus numidicus
Thamalakane River at Maun	*Potamonautes dubius* var. *jallae*
Tsotsoroga	*Streptocephalus macrourus*
	Cyclestheria hislopi
	Caenestheriella australis
	Eocyzicus gigas
	Leptestheriella setosa
	Paradiaptomus barnardi
	Pseudocypris circularis
	Stenocypris fascigera
	Herpetocypris ovularis
Chobe River at Kasane and Kabulabula	*Potamonautes dubius* var. *jallae*
	Caridina nilotica
	Cyclestheria hislopi
N'kate	*Caenestheriella australis*
	Simosa capensis
	Paradiaptomus barnardi
	Pseudocypris circularis
	,, *gibbera*
	Megalocypris brevis
Makarikari	*Potamonautes dubius* var. *jallae*

DECAPODA—BRACHYURA

Fam. **POTAMONIDAE**

Gen. **Potamonautes** McLeay

The difficulties of identifying specimens of river crabs are not lessened by the influx of more abundant material. A few specimens showing extreme development of certain characters stand out and have been given specific names; but when a considerable collection is examined transitions are discovered and it becomes doubtful whether some of these names can be maintained.

In the case of the Vernay-Lang collection there is little difficulty in identifying the few specimens. I have, however, taken the opportunity of examining the collections of the South African Museum, Transvaal Museum and Kimberley Museum, and offer the following observations on the specific distinctions and distribution of the South African forms:

Potamonautes perlatus (M. Edw.) is a very common species in the Cape Province, ranging from the Cape Peninsula northwards to Clanwilliam, and eastwards along the coastal belt, with extensions inland to Beaufort West in the Karroo (S.A. Mus. and Transv. Mus.); St Marks and Shawbury (Kimberley Mus.) in the Transkei; and Vrede (Kimberley Mus.) in the Orange Free State; eastwards and north-eastwards it has been recorded from Natal

(Krauss) and Pretoria (Balss, 1922). Further records are Matshaneng (Bechuanaland) and Berseba and Windhoek (S.W.A.); the latter locality is regarded by Balss (1922) as due possibly to human importation. Records from Angola and equatorial Africa are in my opinion open to doubt. I have also seen specimens from Griquatown and Postmasburg (coll. J. H. Power, Kimberley Mus.) in Griqualand West, and from Linokana (Western Transvaal, coll. J. H. Power), thus to some extent linking up with the Matshaneng, Berseba and Pretoria records.

The typical *perlatus* of the Cape is found in all suitable localities in the rivers and vleis at low levels and in small mountain streams at high altitudes. In the former it often grows to a large size (100 mm. across the carapace), but in the smaller streams breeding females only 25 mm. in width may be found. The granulation of the frontal and antero-lateral margins, and the post-frontal crest, is variable, as noted by McLeay and Krauss. It is nearly always more distinct in the ♀ than in the ♂. The frontal and epibranchial areas are smooth, *i.e.* very finely and regularly granular, especially in large ♂♂. Sometimes, chiefly in ♀♀, there are indications on the epibranchial area of a few enlarged granules or series of granules arranged in short oblique, somewhat wavy, lines.

As *perlatus* is traced eastwards and northwards this epibranchial scabrosity becomes more and more pronounced, especially in ♀♀, and *pari passu* the frontal area becomes distinctly granular (♂) or strongly granular (♀). These coarsely granular specimens represent the species *sidneyi* Rathbun.

In view, however, of the gradual and complete transition in the material before me, from the smooth Cape form to the rough Natal form, I am unable to accept this character as being of specific value. Nor can I agree that the characters pointed out by Rathbun (1905) and Lenz (1912) are any more reliable. There seems to be one species, which is typically smooth in the south-western portion, and typically rough in the north-easterly portion of its distribution.

The *sidneyi* form is recorded from Natal, Lake Sibayi (Lenz, 1912), and Bulawayo (Balss, 1922). I have seen specimens (excluding several from the Eastern Province and Natal) from Komatipoort (S.A. Mus.); and the Linokana, Griquatown and Postmasburg specimens referred to above are also of the *sidneyi* form. The Transvaal Museum has examples from Victoria West, Oliviershoek near van Reenen's Pass, Wakkerstroom, Woodbush, Mariepskop, Malelane, Selati, Zoutpansberg, Waterpoort, and Lake Fundusi. Some small specimens from Vumbu Mountains near Umtali (G. Arnold, Rhodesia Mus.) are probably to be assigned to this form.

The strongly curved finger of the larger chela appears occasionally in fully grown (not necessarily the largest) ♂♂, both of the smooth *perlatus* form and the rough *sidneyi* forms. I have not found it in any ♀♀. A similar variant, or perhaps one should say normal development, occurs in *depressus*, *warreni* and *dubius* var. *jallae*.

Potamonautes warreni Calman 1918. This species is at once distinguished, in its typical form, from *perlatus* by the dentate antero-lateral margin. It was originally described from Potchefstroom, and I have seen other specimens from Lake Chrissie, Barberton, Glen (all S.A. Mus.), Heilbron, Kroonstad, Barkly West, Riverton, Vryburg, Kuruman (all Kimberley Mus.), and from Leber River, near Gibeon, S.W.A. (S.A. Mus.). The Transvaal Museum has specimens from Leydsdorp, Pretoria, Makapan, Rustenburg, and Lake Chrissie. To these records should probably be added Lenz' record (*Ber. Senckenb. Ges.* 1894) of "*niloticus*" from Van Wyks Vlei (Carnarvon Div.).

As in *perlatus*, the epibranchial area shows indications of scabrosity (never as strong as in *sidneyi*) more frequently and more clearly in the ♀ than in the ♂. There is considerable variation in the antero-lateral teeth, and some of the more extreme variations are here figured (cf. the variation in *P. langi* Rathb.). The Kroonstad and Glen specimens (8–10 large teeth) approximate most nearly to the holotype, and there is an almost exact counterpart of the latter from Potchefstroom in the Transvaal Museum. The largest ♂ from Gibeon is here figured; smaller specimens resemble the Barberton specimens.

Annectent to the Barberton and Lake Chrissie specimens are some in the South African Museum from the junction of the Crocodile and Marico Rivers (Transvaal) and from Salisbury and Chishawasha (Southern Rhodesia). These are characterised by the fine and regularly decreasing serration of the antero-lateral margin. Owing to the transition from typical *warreni*, it is difficult to regard these specimens as otherwise than simplified forms of this species. Thus within its area of distribution as yet known, the typical strongly dentate form occurs in the south and west, while the feebly dentate form occurs in the north and east.

The feebly dentate form of *warreni* and the *sidneyi* form of *perlatus* would seem to be very closely allied and difficult to separate, but in the material before me I have had no difficulty in separating those specimens with a straight postfrontal crest without a real tooth at the epibranchial corner (*sidneyi*) from those in which the postfrontal crest slopes slightly backwards at the antero-lateral corner and ends in a distinct, sharp, though often small, tooth (*warreni*).

Curvature of the finger in the larger chela of the ♂ occurs in one specimen from Glen, one from Gibeon, and one from Kroonstad.

When (1929*a*) I expressed the opinion that Balss' record (1922) of *dubius* from Seeheim, S.W.A., might really refer to another species, I meant *warreni*. The one ♂ from Gibeon indicates how a further reduction of the teeth would result in a form closely resembling *dubius*.

Potamonautes inflatus (M. Edw.) is distinguished both from the feebly dentate form of *warreni* and from *sidneyi* by the strongly inflated carapace, causing the epibranchial corner to appear as if bent downwards, and the inflated chelae, especially in the ♂. The Transvaal Museum has specimens from Belfast, Haenertsburg, and Mariepskop.

Potamonautes depressus (Krauss) is a very distinct form characterised by the very strongly curved finger of the larger chela in the ♂, and by the slender legs in both sexes. The merus of the last leg, for example, is 3–3⅓ times as long as broad; a proportion which is found in no other South African species, and serves to separate easily the ♀♀ of *depressus* from *sidneyi* or the feebly dentate form of *warreni*. It has been recorded from Natal: near Pietermaritzburg (Krauss), Beenen (*sic* = Weenen: Lenz, 1912); and the Transvaal Museum has specimens from the Tugela Gorge, below Mont-aux-Sources.

To complete the distribution of river crabs in South Africa as far as known, it may be mentioned that *dubius* is recorded from the Kunene River, *bayonianus* from the Okawango (Balss, 1922), and the South African Museum possesses *obesus* from Salisbury, Rhodesia.

Potamonautes warreni Calman

Calman, 1918, p. 234, fig.

LOCALITY. Nos. 10 and 34, Metsimaklaba River, 12 miles west of Gaberones, 8. iii. 30, 1 ♀ and 1 juv.

REMARKS. Both specimens agree with the form from the junction of the Crocodile and Marico Rivers, and the Rhodesian specimens, mentioned above.

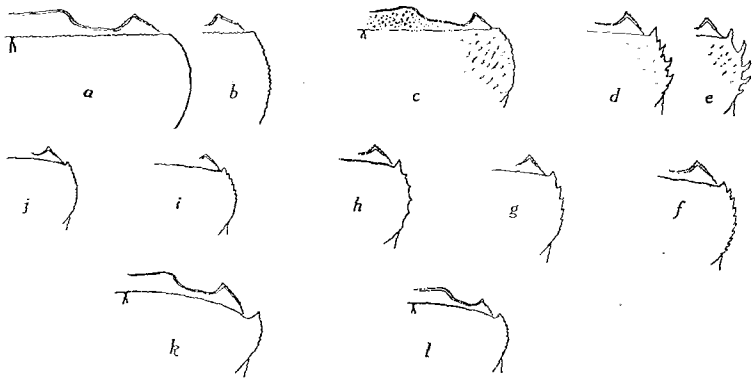
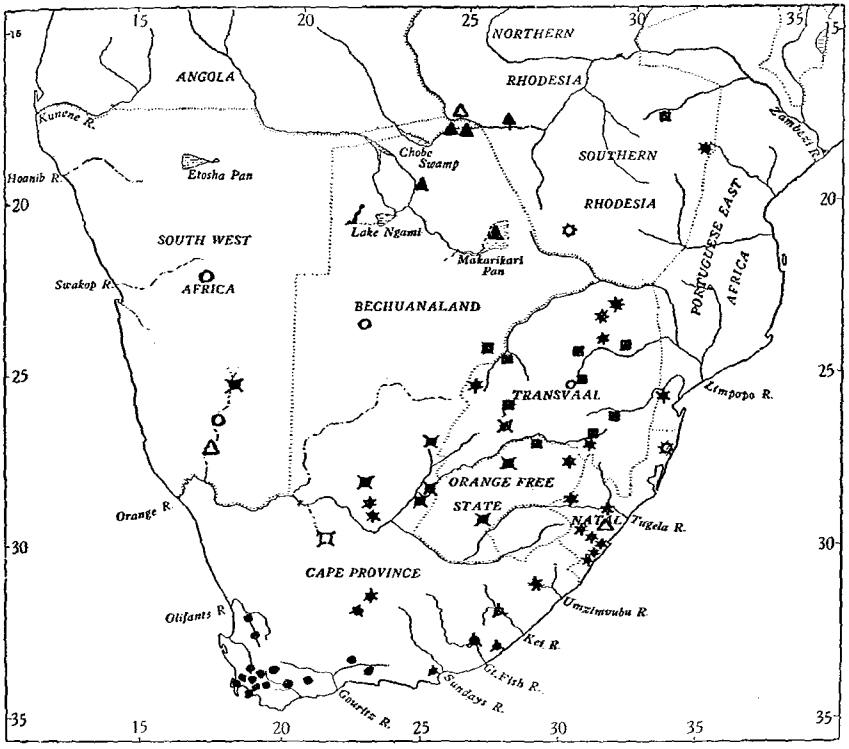


Fig. 1. Antero-lateral corner of carapace of *Potamonautes* species. *a*, *b*, ♂ and ♀ of *perlatus* from the Cape. *c*, ♀ of *sidneyi* from Natal. *d*, *e*, ♂ and ♀ of *warreni* from Barkly West. *f*, ♂ of *warreni* from Riverton. *g*, ♂ of *warreni* from Heilbron. *h*, ♂ of *warreni* from Gibeon. *i*, ♂ of *warreni* from Barberton. *j*, ♂ of *warreni* from Salisbury. *k*, ♂ of *dubius* var. *jallae* from the Chobe River. *l*, small or young ♂ of *dubius* var. *jallae* from the Makarikari Pan.



Distribution of *Potamonautes perlatus-sidneyi*, *warreni* and *dubius* var. *jallae*:

● ✷ *perlatus* and *sidneyi* respectively;

■ ▪ *warreni*, strongly dentate and feebly dentate forms respectively;

▲ *dubius* var. *jallae*.

Filled in symbols indicate localities of specimens seen by the present author, outline symbols indicate records from other authors.

Potamonautes dubius (Brito Cap.) var. **jallae** Nobili

Fig. 1 *k*, *l*

Rathbun, 1905, p. 179, pl. 15, fig. 6. Balss, 1922, p. 72.

LOCALITIES. Nos. 923, 1105, 1106, Thamalakane River at Maun, 3 ♂♂. No. 1383, Chobe River at Kabulabula, under stones in shallow backwaters, 19. vii. 30, 8 ♂♂. No. 1452, Chobe River at Kasane, under stones in shallows just below rapids, 1 ♂. No. 1463, Chobe River at Kasane, 28. vii. 30, 1 ♂. No. 1543, Makarikari Pan, from small pan of fresh water within the depression, 22. viii. 30, 5 ♂♂.

DISTRIBUTION. Kazungula, Zambesi River (Nobili); Howick, Natal (Balss).

REMARKS. The typical form was described from the Kunene River. The form *jallae* is distinguished by having the antero-lateral margin finely, instead of strongly, denticulate (Rathbun).

The 5 small specimens (largest 21 mm. across carapace) from Makarikari are interesting as showing a great reduction of the epibranchial tooth. They thus approximate very closely to some small specimens (largest 24 mm. across carapace) from Lake Chrissie, but are distinguished by the slight though distinct concavity in the postfrontal crest immediately internal to the epibranchial tooth. It would be unwise to speculate on whether the volume of water or its chemical composition or some other ecological factor is responsible for this reduction in the epibranchial tooth.

Of the two records of outlying localities, the Seeheim record of typical *dubius* has been referred to above; the other record (var. *jallae*) is Howick in Natal (Balss, 1922) and is even more remarkable than the former. Is it possible that this is really an outlier of *warreni* rather than of *dubius* var. *jallae*, with reduced antero-lateral teeth as in the Barberton and Lake Chrissie specimens? Only further and more abundant material can decide the question.

Other examples of this species are in the South African Museum from Victoria Falls (W. L. Sclater, 1904) and Mansa River (Lake Bangweolo district) (Dr Colyer, 1919). A ♂ of the former shows a strongly curved finger in the larger chela.

DECAPODA—MACRURA

Fam. **ATYIDAE**

Gen. **Caridina** M. Edw.

Caridina nilotica (Roux).

Stebbing, 1910 (*Ann. S. Afr. Mus.* VI, p. 394). Barnard, 1929*a*, p. 63.

LOCALITIES. No. 1310, Chobe River at Kabulabula, netted among reeds and water weed in shallows, 12. vii. 30. No. 1416, Chobe River at Kasane, 26. vii. 30.

REMARKS. This species is widely distributed in Africa, and in South Africa occurs in Pondoland, Natal, Zululand, Orange Free State, Transvaal, Rhodesia, Portuguese East Africa, and Angola (specimens in S.A. Mus.); the most south-westerly and southerly localities being Kimberley, and Lusikisiki in Pondoland.

ENTOMOSTRACA

BRANCHIOPODA (PHYLLOPODA)

Fam. **BRANCHIPODIDAE**

Gen. **Branchipodopsis** Sars

Barnard, 1929, p. 192 (key to species).

Branchipodopsis kalaharensis Daday.

Barnard, 1929, p. 194, fig. 5 *j*.

LOCALITIES. No. 94, Kanke Pan, 90 miles west of Molepolole, 19. iii. 30, numerous specimens. No. 460 *a*, Sunnyside, 22. iv. 30, 15 ♂♂.

REMARKS. This species was collected on Dr Schultze's Kalahari Expedition (exact locality not given) and has not been recorded since its description by Daday. The colour in life of the specimens from Kanke Pan was noted: transparent, with abdomen sky blue and end of tail bright red, the digestive canal dark brown or blackish. The Sunnyside specimens occurred along with *wolfi* but were not nearly so numerous.

Branchipodopsis tridens Daday.

Barnard, 1929, p. 197, fig. 5 *d*.

LOCALITIES. No. 420, Kali Pan, 15 miles west of Kaotwe, 13. iv. 30, 14 specimens. No. 443, Gori Pan near Damara Pan, 20. iv. 30, numerous specimens.

REMARKS. Collected first by Dr Schultze in the Kalahari (no exact locality), this species has proved to be widely distributed in the north-west Cape Province, South-West Africa, and the Kaokoveld.

Branchipodopsis wolfi Daday.

Barnard, 1929, p. 197, fig. 5 *g*, *h*, *i*.

LOCALITIES. No. 460, Sunnyside, 22. iv. 30, numerous specimens. No. 476, near Gemsbok, 26. iv. 30, numerous specimens.

REMARKS. Like the preceding species originally found in the Kalahari by Schultze, and since recorded from the north-west Cape Province, South-West Africa, Ovamboland, Kaokoveld, Basutoland, and British East Africa.

Fam. **STREPTOCEPHALIDAE**

Barnard, 1929, p. 204 (key to species).

Streptocephalus cafer (Loven).

Barnard, 1929, p. 212, fig. 13.

LOCALITY. No. 220, Gomodimo Pan, 2. iv. 30, 42 specimens, nearly all from the deeper parts (3 feet) of the pan.

Streptocephalus macrourus Daday (Fig. 2).

Barnard, 1929, p. 220, fig. 18.

LOCALITIES. No. 1217, north of Tsotsoroga, 20. vi. 30, numerous specimens. Nos. 1256 and 1257, north of Tsotsoroga, 2. vii. 30, numerous specimens.

REMARKS. Recorded from Kimberley, Bloemfontein, Transvaal, and very common in Ovamboland.

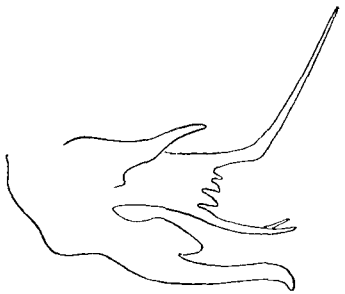


Fig. 2. *Streptocephalus macrourus* Daday. Variation of second antenna of ♂.

In No. 1217 there is an aberrant specimen which is here figured. It has three somewhat pointed lobes between the two prongs of the thumb of second antenna, and the posterior prong is apically bifid.

Fam. **APODIDAE**

Gen. **Apus** Schfr.

Apus numidicus Grube.

Barnard, 1929, p. 236, figs. 23*b*, 25*b*.

LOCALITIES. No. 442, Gori Pan near Damara Pan, 20. iv. 30, 45 specimens. No. 461, Sunnyside, 22. iv. 30, 147 specimens. No. 475, east of Gemsbok Pan, 26. iv. 30, 64 specimens. No. 564, 3 miles north-east of Gemsbok Pan, 3. v. 30, 29 specimens. Nos. 592, 593, 4 miles from Gemsbok Pan, 4. v. 30, 52 specimens.

REMARKS. The occurrence of this widely distributed species in Bechuanaland was to be expected. No. 442 consists of small half-grown specimens from a recently filled pan; Nos. 592, 593 are large specimens, many ovigerous, from a pan drying up. No. 461 from a small dam on limestone formation contains the smallest ovigerous ♀♀ I have seen: 7 mm. in median length of carapace.

Apus cancriformis Schfr.

Barnard, 1929, p. 241, fig. 25*d*.

LOCALITY. No. 93, Kanke Pan, 90 miles west of Molepolole, 19. iii. 30, 45 specimens.

REMARKS. This species has been recorded in South Africa only from Ovamboland, where it was commoner and more widely spread than either *numidicus* or *sudanicus*.

Fam. **CYCLESTHERIIDAE**

Gen. **Cyclestheria** Sars

Cyclestheria hislopi (Baird).

Barnard, 1929, p. 249, fig. 28.

LOCALITIES. No. 1223*a*, 1 mile north-east of Tsotsoroga Pan, 22. vi. 30, 1 specimen and 2 shells. No. 1317, Chobe River at Kabulabula, shallow backwaters, 14. vii. 30, 6 specimens.

Fam. **LIMNADIIDAE**

Gen. **Eulimnadia** Pack. Dad.

Eulimnadia africana (Brauer).

Barnard, 1929, p. 252, fig. 29.
LOCALITY. No. 95, Kanke Pan, 19. iii. 30, 19 specimens.

Fam. **CYZICIDAE**

Gen. **Caenestheriella** Daday

Caenestheriella australis (Loven).

Barnard, 1929, p. 257, fig. 30.
LOCALITIES. No. 373, Kaotwe Pan, 10. iv. 30, several specimens. No. 563, 3 miles north-east of Gemsbok, 3. v. 30, several young specimens. No. 1204, 1 mile north of Tsotsoroga Pan, 19. vi. 30, several specimens. No. 1208, 2 miles north-east of Tsotsoroga Pan, 19. vi. 30, several dead shells. No. 1212, 1 mile north of Tsotsoroga Pan, 20. vi. 30, several specimens. No. 1220, 1 mile north-east of Tsotsoroga Pan, 21. vi. 30, several specimens. Nos. 1254, 1255, 1 mile north of Tsotsoroga Pan, 2. vii. 30, several specimens. No. 1513, N'kate Pan, 9. viii. 30, several specimens. No. 1524, N'kate Pan, 17. viii. 30, several specimens.
REMARKS. One of the commonest and most widely spread South African Phyllopods.

Gen. **Eocyzicus** Daday

Eocyzicus gigas Brnrd.

Barnard, 1929, p. 262, fig. 31 *d–g*.
LOCALITY. No. 1224, 1 mile north-east of Tsotsoroga Pan, 3. vii. 30, several specimens.
REMARKS. This fine species has hitherto been known only from Ovamboland.

Fam. **LEPTESTHERIIDAE**

Gen. **Leptestheriella** Daday

Barnard, 1929, p. 268.

Leptestheriella setosa n.sp. (Fig. 3).

LOCALITY. No. 1212*a*, 1 mile north of Tsotsoroga Pan, 20. vi. 30, 4 ♀♀.
DESCRIPTION. ♀ shell resembling that of *calcarata* in shape and sculpturing. Rostrum intermediate between that of *calcarata* and *inermis*, occipital angle shortly produced. Twenty-two pairs of legs. Margin of exopods with short and regular lobe-like processes. Segments with dorsal armature of spines and setae. Telson without ventral tooth; upper margin with regularly spaced short spinules, and distally 6–7 longer spine-setae more closely set. 7 × 4 mm. Shell pale corneous.
REMARKS. This species combines some of the characters of *calcarata* and *inermis*, but will prove, I think, to be a valid species. It is certainly distinct from *calcarata* in the absence of the telsonic tooth. The elongate setae on upper

margin of telson, and the feebly developed processes on margins of exopods show an approximation to *Leptestheria*.

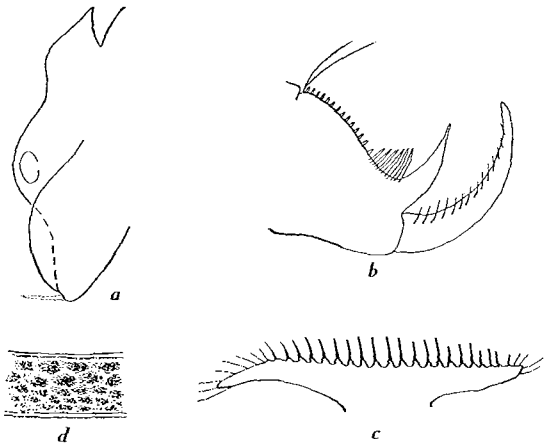


Fig. 3. *Leptestheriella setosa* n.sp. *a*, head of ♀, rostral spine defective. *b*, telson. *c*, exopod of third leg. *d*, sculpture of shell.

In all four specimens the rostral spine is absent, but there is a slight indentation where it should be inserted.

CLADOCERA

Fam. **DAPHNIIDAE**

Gen. **Simosa** Norm.

Simosa capensis (Sars).

Sars, 1916, p. 313, pl. 32, fig. 2.

LOCALITY. No. 1510, N'kate, from well in limestone, 8. viii. 30, several specimens, transparent, egg-sac emerald green.

REMARKS. Recorded hitherto from Knysna (Cape) and Richmond (Natal). I have seen specimens from a locality at the junction of the Crocodile and Marico Rivers (Transvaal) and Vryburg (Bechuanaland).

COPEPODA

Fam. **DIAPTOMIDAE**

Gen. **Paradiaptomus** Sars

Gurney, 1929, pp. 572 sqq.

Paradiaptomus barnardi (Sars).

Sars, 1927, p. 92, pl. 6, figs. 6–9.

LOCALITIES. Nos. 1225 and 1260, 1 mile north-east of Tsotsoroga Pan, 23. vi. 30 and 3. vii. 30, ♂♂ and ♀♀, body sky blue, anterior and posterior appendages bright red, abdominal appendages transparent. No. 1508, N'kate Pan, 7. viii. 30, ♂♂ and ♀♀.

REMARKS. This species was common in Ovamboland and has been collected at Lobatsi by Mr J. H. Power.

OSTRACODA

Fam. **CYPRIDAE**

Gen. **Pseudocypris** Daday

Sars, 1924, pp. 112, 177 and 1924*a*, p. 196.

Pseudocypris circularis Sars.

Sars, 1924*a*, p. 197, pl. 22, figs. 8–12.

LOCALITIES. Nos. 1204*a* and 1214, 1 mile north of Tsotsoroga Pan, 19. vi. 30 and 20. vi. 30. No. 1505, N'kate Pan, 7. viii. 30.

REMARKS. The colour when alive was noted as grass green. The surface of the shell is finely and closely pitted, corresponding with the type specimens which I have examined. Sars' words "smooth without any pronounced sculpture" are rather misleading.

The species has only been recorded from Ovamboland. I have also seen specimens bred from mud from Rhodesia (no exact locality).

Pseudocypris gibbera Sars.

Sars, 1924*a*, p. 196, pl. 21, figs. 1–10 and pl. 22, figs. 1–7.

LOCALITY. No. 1510*a*, N'kate Pan, 8. viii. 30, 2 dead shells.

Gen. **Stenocypris** Sars

Sars, 1924, p. 124.

Stenocypris fascigera Sars.

Sars, 1924*a*, p. 202, pl. 24, figs. 14–19.

LOCALITY. No. 1223, 1 mile north-east of Tsotsoroga Pan, 22. vi. 30.

REMARKS. Agreeing with the type specimens from Ovamboland in the character of the caudal furca, but larger, with the posterior corner of the shell more acute than in Sars' figure, and the margin both above and below the point with a few feeble serrations. Length 4 mm.

Gen. **Herpetocypris** Brady & Norm.

Daday, 1913, p. 98. Sars, 1924, p. 133.

Herpetocypris ovularis Sars.

Sars, 1924*a*, p. 201, pl. 24, figs. 6–13.

LOCALITIES. No. 374*a*, Kaotwe Pan, 10. iv. 30, a few specimens mixed in with *Cyprilla producta*. No. 1204*b*, 2 miles north of Tsotsoroga Pan, 19. vi. 30, mostly dead shells.

REMARKS. Recorded hitherto from Ovamboland. A second species (*oblonga*) is recorded from Otjituo in Damaraland, and another (*schultzei*) from between Berseba and Bethany in Great Namaqualand; a further species occurs at the Cape.

Gen. **Megalocypris** Sars

Sars, 1924, p. 134.

Megalocypris brevis Sars.

Sars, 1924*a*, p. 203, pl. 21, figs. 15–22.

LOCALITY. No. 1504, N'kate Pan, shallow pan in limestone formation, 7. viii. 30.

REMARKS. Slightly larger, up to 4 mm., than the original Ovamboland specimens, which were taken at Namutoni, also in limestone springs.

Gen. **Cyprilla** Sars

Sars, 1924, p. 169.

Cyprilla producta Sars.

Sars, 1924, p. 173, pl. 16, figs. 25, 26.

LOCALITY. No. 374, Kaotwe Pan, 10. iv. 30, very numerous.

REMARKS. Recorded hitherto from the Kimberley district. Four other species are recorded from the southern Cape Province.

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