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REPORT  
TO THE GOVERNMENT OF CEYLON  
ON THE  
PEARL OYSTER FISHERIES  
OF THE  
GULF OF MANAAR,

WNA  
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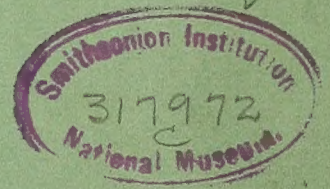
BY

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SUPPLEMENTARY REPORT VII.



WILSON  
COLLECTION

ON THE COPEPODA

BY

ISAAC C. THOMPSON, F.L.S., AND ANDREW SCOTT, A.L.S.

[WITH PLATES I. TO XX.]







# REPORT

ON THE

## COPEPODA

COLLECTED BY

PROFESSOR HERDMAN, AT CEYLON, IN 1902.

BY

ISAAC C. THOMPSON, F.L.S., AND ANDREW SCOTT, A.L.S.

[WITH PLATES I. TO XX.]

THE COPEPODA contained in the collections brought home by Professor HERDMAN may be conveniently divided into four sections, viz. :—(1) those obtained during the voyages out and home; (2) those collected by the tow-net around the Island of Ceylon; (3) those obtained by examination of washings from dredged material (Ascidians, Sponges, Corals, Pearl Oysters, &c.); and (4) the parasitic species found attached to fishes. The collection was contained in 122 bottles, each bottle representing a gathering from one of the stations shown in the appended list. The free-swimming species naturally form by far the largest part of the collection, although they do not contain most of the novelties. Some of the gatherings were preserved in formol, and others in alcohol. Out of the total number, those marked 1 to 41 were collected on the voyages to Ceylon and home, and most of the others during Professor HERDMAN'S three months' work round Ceylon, while some have been sent since by Mr. HORNELL as the result of his further work. Professor HERDMAN'S method of collecting material from a fast steamer has already been described in the 'Transactions of the Liverpool Biological Society.' The water containing the material enters the ship some feet below the surface and is pumped into the tank from which baths, &c., are supplied. On this occasion he was fortunate enough to have the entire use of one of the bath-rooms, a tow-net being fixed to the tap so that sea-water was running through it day and night. By this means it is practicable to collect material from the whole of the route traversed, and mostly in good condition.

This collection of Copepoda has proved to be exceedingly rich and varied, containing



as it does no less than 283 species, of which 76 are new to science, while at least ten new genera are required. The list of new forms is as follows:—

- |  |  |
|--|--|
| <i>Ridgewayia typica</i> , n. gen. & sp.             | <i>Peltidium ovale</i> , n. sp.                    |
| <i>Centropages tenuiremis</i> , n. sp.               | <i>P. angulatum</i> , n. sp.                       |
| <i>C. dorsispinatus</i> , n. sp.                     | <i>P. speciosum</i> , n. sp.                       |
| <i>Pontella danae</i> , var. <i>ceylonica</i> , nov. | <i>P. serratum</i> , n. sp.                        |
| <i>Labidocera pectinata</i> , n. sp.                 | <i>P. perplexum</i> , n. sp.                       |
| <i>L. kroyeri</i> , var. <i>stylifera</i> , nov.     | <i>Porcellidium brevicaudatum</i> , n. sp.         |
| „ var. <i>gallensis</i> , nov.                       | <i>P. acuticaudatum</i> , n. sp.                   |
| <i>Pontellopsis herdmani</i> , n. sp.                | <i>P. ravanae</i> , n. sp.                         |
| <i>Sunaristes inopinata</i> , n. sp.                 | <i>Pseudanthessius maximus</i> , n. sp.            |
| <i>S. longipes</i> , n. sp.                          | <i>P. chelififer</i> , n. sp.                      |
| <i>S. curticaudata</i> , n. sp.                      | <i>P. concinnus</i> , n. sp.                       |
| <i>Tegastes imthurni</i> , n. sp.                    | <i>Lichomolgus gracilis</i> , n. sp.               |
| <i>T. donnani</i> , n. sp.                           | <i>L. ieveri</i> , n. sp.                          |
| <i>T. twynami</i> , n. sp.                           | <i>L. lankensis</i> , n. sp.                       |
| <i>T. chalmersi</i> , n. sp.                         | <i>L. buddhensis</i> , n. sp.                      |
| <i>Stenhelia brevicornis</i> , n. sp.                | <i>L. simplex</i> , n. sp.                         |
| <i>S. gracilicaudata</i> , n. sp.                    | <i>L. elegans</i> , n. sp.                         |
| <i>S. longicornis</i> , n. sp.                       | <i>L. robustus</i> , n. sp.                        |
| <i>S. perpleca</i> , n. sp.                          | <i>L. gigas</i> , n. sp.                           |
| <i>S. dentipes</i> , n. sp.                          | <i>L. dentipes</i> , n. sp.                        |
| <i>S. minuta</i> , n. sp.                            | <i>Paralichomolgus curticaudatus</i> n. gen. & sp. |
| <i>S. knoxi</i> , n. sp.                             | <i>P. longicaudatus</i> , n. sp.                   |
| <i>Parastenhelia hornelli</i> , n. gen. & sp.        | <i>Hermannella robusta</i> , n. sp.                |
| <i>P. similis</i> , n. sp.                           | <i>H. serendibica</i> , n. sp.                     |
| <i>Ameira minor</i> , n. sp.                         | <i>Hersiliodes leggii</i> , n. sp.                 |
| <i>A. tenuipes</i> , n. sp.                          | <i>H. tamilensis</i> , n. sp.                      |
| <i>Ceylonia aculeata</i> , n. gen. & sp.             | <i>H. dubia</i> , n. sp.                           |
| <i>Laophonte hirsuta</i> , n. sp.                    | <i>Asterocheres manaarensis</i> , n. sp.           |
| <i>Laophontella typica</i> , n. gen. & sp.           | <i>A. major</i> , n. sp.                           |
| <i>Tetragoniceps dubia</i> , n. sp.                  | <i>A. minor</i> , n. sp.                           |
| <i>T. minor</i> , n. sp.                             | <i>Asteropontius typicus</i> , n. gen. & sp.       |
| <i>Dactylophusius dentata</i> , n. sp.               | <i>A. attenuatus</i> , n. sp.                      |
| <i>D. havelocki</i> , n. sp.                         | <i>Collocheres giesbrechti</i> , n. sp.            |
| <i>D. hirsuta</i> , n. sp.                           | <i>Lepeopsyllus typicus</i> , n. gen. & sp.        |
| <i>D. ceylonica</i> , n. sp.                         | <i>L. ovalis</i> , n. sp.                          |
| <i>D. hamiltoni</i> , n. sp.                         | <i>Doropontius denticornis</i> , n. gen. & sp.     |
| <i>D. robusta</i> , n. sp.                           | <i>Cletopontius serratus</i> , n. gen. & sp.       |
| <i>D. laticaudata</i> , n. sp.                       | <i>Stephopontius typicus</i> , n. gen. & sp.       |
| <i>D. amula</i> , n. sp.                             | <i>Chondracanthus cynoglottidis</i> , n. sp.       |
| <i>D. platysoma</i> , n. sp.                         |  |

The large majority of these new species were found in the gatherings from the pearl banks in the Gulf of Manaar, where Professor HERDMAN and Mr. HORNELL were working for some weeks. The dissection and drawing of so many new forms has involved a vast amount of close labour and diligent research, and Mr. THOMPSON must



ERRATUM.

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For *Dactylophusia* read *Dactylopusia* throughout Report on Copepoda.







here be allowed to state that this portion of the work, and indeed the chief part of the laborious examination of the material, was undertaken and has been skilfully carried out by Mr. ANDREW SCOTT, whose previous experience of this group of animals makes his co-operation invaluable.

The species, known and new, from the collection represent the families as follows:—

Calanidæ . . . . .	44 species.	Oncaeidæ . . . . .	8 species.
Centropagidæ . . . . .	29 „	Corycaeidæ . . . . .	29 „
Pseudocyclopidæ . . . . .	1 „	Lichomolgidæ . . . . .	13 „
Candaciidæ . . . . .	10 „	Asterocheridæ . . . . .	18 „
Pontellidæ . . . . .	31 „	Ergasilidæ . . . . .	2 „
Cyclopidæ . . . . .	8 „	Caligidæ . . . . .	4 „
Ascidicolidæ . . . . .	3 „	Chondracanthidæ . . . . .	2 „
Harpacticidæ . . . . .	78 „	Lernæopodidæ . . . . .	3 „

#### LIST OF COLLECTING STATIONS.

##### I. Voyage Out (Stations 1 to 24).

1. English Channel to Gibraltar . . . . .	(36 species)	Dec. 28–31, 1901.
2. Gibraltar to Marseilles . . . . .	(25 „ )	Jan. 2, 1902.
3. Marseilles to Messina . . . . .	(38 „ )	„ 5
4. Messina to Port Said . . . . .	(38 „ )	„ 8
5. Port Said to Suez . . . . .	(31 „ )	„ 9
6. Gulf of Suez . . . . .	(28 „ )	„ 10
7. South end of Gulf of Suez to 300 miles south . . . . .	(44 „ )	„ 11
8. Red Sea . . . . .	(43 „ )	„ 12
9. South end of Red Sea (coarse net) . . . . .	(37 „ )	„ 13
10. „ „ (fine net) . . . . .	(45 „ )	„ 13
11. Perim to 200 miles into Indian Ocean (fine net) . . . . .	(43 „ )	„ 14
12. „ „ „ (coarse net) . . . . .	(33 „ )	„ 14
13. Indian Ocean, south of Socotra (fine net) . . . . .	(53 „ )	„ 15
14. „ „ „ „ (coarse net) . . . . .	(53 „ )	„ 15
15. „ „ going east (fine net) . . . . .	(59 „ )	„ 16
16. „ „ „ (coarse net) . . . . .	(47 „ )	„ 16
17. „ „ „ (fine net) . . . . .	(41 „ )	„ 17
18. „ „ „ (coarse net) . . . . .	(39 „ )	„ 17
19. „ „ „ (mostly fine net) . . . . .	(36 „ )	„ 18
20. „ „ „ (coarse net) . . . . .	(35 „ )	„ 18
21. „ „ off Minikoi (coarse net) . . . . .	(56 „ )	„ 19
22. „ „ „ (fine net) . . . . .	(56 „ )	„ 19
23. „ „ Maldives to G. of Manaar (coarse net) . . . . .	(40 „ )	„ 20
24. „ „ „ „ „ (fine net) . . . . .	(42 „ )	„ 20



## II. Voyage Back (Stations 25 to 41).

25.	Colombo to Minikoi (return voyage) . . . . .	(17 species)	April 8-9, 1902.
26.	Minikoi onwards to west . . . . .	(41 " )	" 9-10
27.	Indian Ocean, further west . . . . .	(41 " )	" 10-11
28.	" " " . . . . .	(36 " )	" 11-12
29.	" " " . . . . .	(40 " )	" 12-13
30.	" " " . . . . .	(33 " )	" 13-14
31.	South of Aden to Red Sea . . . . .	(27 " )	" 14-15
32.	Red Sea . . . . .	(33 " )	" 15-16
33.	" . . . . .	(22 " )	" 16-17
34.	" . . . . .	(26 " )	" 17-18
35.	Gulf of Suez and Suez Canal . . . . .	(21 " )	" 18-19
36.	Suez Canal (12 hours) . . . . .	(12 " )	" 19
37.	Port Said, Mediterranean onwards . . . . .	(23 " )	" 20-21
38.	South of Crete (air 63° F., sea 63.5° F.) . . . . .	(20 " )	" 21-22
39.	Crete to Messina . . . . .	(16 " )	" 22-23
40.	Messina to Sardinia . . . . .	( 6 " )	" 23-24
41.	Strait of Bonifacio to Marseilles . . . . .	( 9 " )	" 24

## III. Round Ceylon.

42.	Four hauls off Negombo (Station I.)* . . . . .	(11 species)	Jan. 31, 1902.
43.	Off Chilaw (Station III.) . . . . .	(25 " )	Feb. 1
44.	Chilaw Paar (Station V.) . . . . .	(18 " )	" 2
45.	Off Kalpentyn Island—night and early morning (11 " )	" )	" 2-3
46.	Muttuvaratu Paar, 11.30 A.M. . . . .	(18 " )	" 3
47.	Cheval and Periya paars . . . . .	(29 " )	" 4
48.	Pamban Pass, 8 A.M. . . . .	(18 " )	" 5
49.	Palk Bay (Station XVIII.) . . . . .	( 6 " )	" 6
50.	Back Bay, Trincomalee (Station XX.) . . . . .	( 8 " )	" 7
51.	" &c., Trincomalee . . . . .	( 9 " )	" 8
52.	Surface, 5 miles east of Arugam Bay . . . . .	(26 " )	" 12
53.	Galle, after dark, 9 P.M. . . . .	(11 " )	" 14
54.	" " 8 P.M. . . . .	( 9 " )	" 15
55.	" surface outside bay, daylight . . . . .	(36 " )	" 17
56.	Off Pantura, south of Colombo . . . . .	(26 " )	" 19
57.	North of Karativo, Kodramallai Point . . . . .	(22 " )	" 25
58.	2 $\frac{3}{4}$ miles S.S.W. of Chilavaturi, bottom 15 fathoms (14 " )	" )	" 26
59.	To south of Cheval Paar . . . . .	(41 " )	" 26
60.	Modragam Paar . . . . .	(19 " )	March 1

\* Stations with roman numerals, in brackets, are the dredging stations (see "Narrative," p. 17).



61.	Off south bar, Manaar, surface.	(10 species)	March	3, 1902.
62.	Off Manaar Island . . . . .	(12 " )	"	3
63.	Cheval Paar . . . . .	(35 " )	"	4
64.	" " . . . . .	(21 " )	"	4
65.	North of East Cheval Paar (Station LII.) . . . . .	(28 " )	"	5
66.	10 miles N. of Cheval, bottom net, 7 fms. (Sta. LIII.)	(22 " )	"	6
67.	South of Adam's Bridge, 12 fathoms. . . . .	(15 " )	"	7
68.	" " " surface . . . . .	(23 " )	"	7
69.	" " " " . . . . .	(22 " )	"	8
70.	Dutch Modragam Paar, surface . . . . .	(17 " )	"	10
71.	Karativo Paar, 6 to 10 fathoms . . . . .	(23 " )	"	10
72.	DONNAN'S Muttuvaratu Paar, 8 fathoms . . . . .	(28 " )	"	11
73.	West of Periya Paar, deep net . . . . .	(15 " )	"	13
74.	Vankali Paar, 9 fathoms (phosphorescent) . . . . .	(15 " )	"	13
75.	South-east of Modragam . . . . .	(10 " )	"	17
76.	Off Mutwal Island . . . . .	(12 " )	"	19
77.	Chilaw Paar (Station LXIX.) . . . . .	(12 " )	"	20
78.	DONNAN'S Muttuvaratu Paar . . . . .	(35 " )	"	29
79.	Mudalaikuli Paar . . . . .	(21 " )	"	30
80.	Talaivillu Paar, all day . . . . .	(22 " )	April	1
81.	Navakaddu Paar . . . . .	(11 " )	"	2
82.	Galle . . . . .	( 5 " )	June	5
83.	" Bay . . . . .	( 4 " )	"	14
84.	" Harbour . . . . .	( 7 " )	July	3
85.	" 9 A.M. . . . .	( 3 " )	"	7
86.	" Harbour . . . . .	( 8 " )	"	12
87.	" " . . . . .	(16 " )	"	15
88.	" " 8 A.M. . . . .	( 3 " )	"	20
89.	" " 9 A.M. . . . .	( 2 " )	"	31
90.	" . . . . .	( 6 " )	August	1
91.	" 5 P.M. . . . .	( 1 " )	"	8
92.	Pearl banks, washed from Medusæ . . . . .	(11 " )	(no date)	
93.	Galle, 3 P.M. . . . .	( 4 " )	August	12
94.	South-east Cheval Paar, at anchor . . . . .	(15 " )	Nov.	11
95.	East Cheval Paar, centre . . . . .	( 2 " )	"	6
96.	" " . . . . .	( 9 " )	"	7
97.	" " . . . . .	( 3 " )	"	8
98.	Periya Paar Kerrai, daylight . . . . .	(10 " )	"	9
99.	" " night . . . . .	( 9 " )	"	9
100.	West Cheval . . . . .	(12 " )	"	10
101.	" " . . . . .	( 8 " )	"	11



102.	Periya Paar, night . . . . .	( 9 species)	Nov.	13, 1902.
103.	South-west Cheval . . . . .	( 2 " )	"	14
104.	Kondatchi Paar . . . . .	( 5 " )	"	17
105.	Muttuvaratu Paar . . . . .	( 4 " )	"	19
106.	" pearl oyster washings . . . . .	(46 " )	"	19
107.	Cheval Paar . . . . .	( 8 " )	Feb. & Mar.,	1902.
108.	Pearl banks, washings from dredged débris. . . . .	( 6 " )	"	"
109.	Washings from young pearl oysters . . . . .	( 3 " )	"	"
110.	" " deep water dredgings, Pt. de Galle ( 3 " )	( 3 " )	"	"
111.	General washings of dredged Invertebrates . . . . .	(41 " )	"	"
112.	Washings from dredgings, G. of Manaar sponges. (13 " )	(13 " )	"	"
113.	Tow-net off Marichchukaddi . . . . .	(11 " )	Feb.	1, 1903.
114.	Modragam Paar, surface . . . . .	(15 " )	"	2
115.	Karativo, shoal buoy . . . . .	(14 " )	"	2
116.	South-east Cheval Paar, surface . . . . .	(12 " )	"	4-5
117.	East Cheval, surface . . . . .	( 8 " )	"	7
118.	Cheval Paar . . . . .	(14 " )	"	9
119.	" " . . . . . (only young <i>Calanus vulgaris</i> )		March	10
120.	" " . . . . . " " " " " "		"	20
121.	East Cheval Paar . . . . .	( 5 species)	April	18
122.	Washings from Cheval Paar pearl oysters . . . . .	( 1 " )	"	"

## DISTRIBUTION OF SPECIES.

*The Numbers refer to the Stations in the preceding List.*

*Calanus helgolandicus*, 1, 2, 3, 37, 38, 41.

" *gracilis*, 4, 21, 22, 38.

" *minor*, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 24, 31, 34, 38, 39, 41, 43, 46, 47, 48, 49, 69, 78, 81, 92.

" *pauper*, 3, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 42, 43, 47, 49, 51, 52, 54, 55, 56, 60, 62, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 79, 80, 94, 96, 98, 99, 102, 113.

" *darwinii*, 5, 9, 10, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 54, 68, 74, 80, 103.

" *vulgaris*, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 42, 44, 45, 46, 47, 49, 50, 52, 53, 55, 56, 57, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 92, 94, 100, 101, 102, 104, 116, 117, 118, 119, 120.



- Calanus robustior*, 21.
- Eucalanus attenuatus*, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 59, 64, 71.
- „ *pileatus*, 8, 9, 24, 55.
- „ *crassus*, 9, 56, 57, 100, 117.
- „ *subcrassus*, 9, 10, 12, 21, 32, 47, 50, 55, 57, 63, 66, 69, 72, 93, 95, 97, 98, 99, 100, 101, 102, 104, 105, 107, 115, 116, 118
- „ *subtenuis*, 47, 55, 62, 63, 65, 74, 76, 78, 79.
- „ *monachus*, 46, 79.
- Rhincalanus cornutus*, 13, 14, 15, 16, 17, 18, 19, 56, 57, 78.
- „ *nasutus*, 14, 15, 17, 18, 20, 21, 56, 64.
- Mecynocera clausi*, 7, 8, 13, 14, 15, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 37, 42, 43, 56, 65, 71, 72, 76.
- Paracalanus parvus*, 1, 2, 3, 4, 6, 7, 8, 10, 11, 13, 14, 15, 16, 17, 18, 21, 22, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 42, 43, 45, 47, 50, 51, 52, 53, 55, 56, 58, 59, 60, 64, 65, 66, 68, 69, 70, 71, 72, 76, 78, 79, 80, 81, 94, 95, 96, 107, 113, 114, 115, 116, 117, 118, 121.
- „ *crassirostris*, 42, 43, 47, 50, 51, 55, 63, 65, 68, 69, 70, 78, 79, 80, 94, 113.
- Metacalanus aurivillii*, 26, 27, 28, 29, 43, 47, 48, 55, 58, 59, 60, 64, 65, 66, 69, 70, 71, 72, 92, 96, 107, 113, 114, 115, 116, 118, 121.
- Acrocalanus gibber*, 6, 22, 59, 64.
- „ *longicornis*, 7, 8, 9, 10, 11, 13, 15, 16, 18, 24, 28, 32, 34, 42, 43, 55, 56, 59, 60, 63, 65, 66, 67, 68, 73, 78, 79, 94, 96, 107, 114, 115, 117.
- „ *gracilis*, 7, 10, 11, 19, 20, 21, 22, 27, 64.
- „ *monachus*, 27, 29.
- Calocalanus pavo*, 1, 2, 3, 4, 7, 8, 11, 13, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 32, 33, 37, 52, 55, 69, 72, 74, 75, 78.
- „ *plumulosus*, 4, 5, 7, 10, 11, 15, 18, 22, 24, 56, 71, 78.
- Clausocalanus furcatus*, 1, 3, 4, 6, 7, 8, 10, 11, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 37, 38, 39, 40, 41, 42, 43, 52, 55, 56, 62, 68, 70, 71, 72, 73, 74, 75, 77, 78.
- „ *arcuicornis*, 1, 2, 3, 4, 6, 8, 9, 15, 26, 27, 28, 29, 30, 31, 37, 38, 39, 40, 41, 68.
- Pseudocalanus elongatus*, 1, 2, 3, 4, 6.
- Ætideus armatus*, 3, 4, 6.
- Undeuchæta minor*, 1, 16, 21.
- Euchirella rostrata*, 21, 23.
- „ *messinensis*, 26.



- Euchæta marina*, 1, 2, 3, 4, 7, 8, 9, 10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 50, 55, 56, 57, 71, 74, 78, 94, 99.
- „ *spinosa*, 2, 3, 30.
- „ *acuta*, 3, 4.
- „ *concinna*, 9, 10, 34, 100, 102, 104, 105.
- „ *barbata*, 28, 29.
- Scolecithrix danæ*, 12, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 74, 77.
- „ *bradyi*, 3, 14, 15, 21, 22, 23.
- „ *chelipes*, 34.
- „ *auropecten*, 8.
- „ *tenuipes*, 8.
- Ridgewayia typica*, n. gen. & sp., 106.
- Phænna spinifera*, 1, 9, 20.
- Centropages chierchiæ*, 1, 2, 21, 22, 64.
- „ *typicus*, 2, 3, 37.
- „ *violaceus*, 3, 7, 13, 16, 18, 37, 38, 40, 41, 52, 59.
- „ *furcatus*, 6, 9, 10, 11, 13, 14, 15, 16, 24, 26, 27, 31, 32, 34, 35, 46, 48, 55, 56, 59, 63, 64, 65, 66, 68, 69, 74, 78, 115.
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- } Fish Parasites.

## COPEPODA.

### FAMILY: CALANIDÆ.

#### **Calanus helgolandicus** (CLAUS).

One of the commonest northern species. Taken at 6 stations in this collection, but not further south than the Mediterranean.

#### **Calanus gracilis**, DANA.

Less common than the preceding species, occurring at 4 stations, but similar in distribution.

#### **Calanus minor** (CLAUS).

Common throughout the route traversed, from the Mediterranean to the Indian Ocean, occurring at 33 stations.

#### **Calanus pauper**, GIESBR.

Taken at 58 stations; distribution similar to that of the last species.

#### **Calanus darwini** (LUBBOCK).

Less plentiful than the two preceding species, occurring at 27 stations, from the Red Sea southwards through the Indian Ocean.

**Calanus vulgaris** (DANA).

The most generally distributed of any species throughout the route traversed, occurring at 70 stations, from the Red Sea southwards.

**Calanus robustior**, GIESBR.

Only once taken, at Station 21, off Minikoi, in the Indian Ocean; previously known from the Atlantic and Pacific Oceans.

**Eucalanus attenuatus** (DANA).

Occurred plentifully at 18 stations, from the Red Sea southwards through the Indian Ocean to Ceylon.

**Eucalanus pileatus**, GIESBR.

Taken at 4 stations only, twice in the Red Sea and twice in the Indian Ocean, which adds to its hitherto known distribution in the Atlantic and Pacific.

**Eucalanus crassus**, GIESBR.

Occurred once in the Red Sea and at 4 stations round Ceylon; previously reported from the Indian Ocean.

**Eucalanus subcrassus**, GIESBR.

Occurred at 27 stations; twice in the Red Sea, and throughout the Indian Ocean.

**Eucalanus subtenuis**, GIESBR.

A few specimens were found from 9 stations, all in the sea round Ceylon.

**Eucalanus monachus**, GIESBR.

A rare species hitherto known only from the Mediterranean. Specimens were found, off Ceylon, at 2 stations, thus extending its known range to the Indian Ocean.

**Rhincalanus cornutus** (DANA).

Reported from 10 stations, all in the Indian Ocean. Previously known from the Mediterranean, the Atlantic, and the Pacific.

**Rhincalanus nasutus**, GIESBR.

Similar in distribution to the last species. Occurred at 8 stations in the collection.

**Mecynocera clausi**, I. C. THOMPSON.

Found at 27 stations, extending from the Red Sea throughout the Indian Ocean, the latter being an addition to its hitherto known distribution.



**Paracalanus parvus** (CLAUS).

One of the most widely distributed species throughout the regions traversed. Occurred at 65 stations, extending from the British coasts to the Ceylon pearl banks.

**Paracalanus crassirostris**, F. DAHL.

Found at 16 stations, all in the sea round Ceylon; not previously known from the Indian Ocean.

**Metacalanus aurivillii**, CLEVE—Plate II., figs. 18 to 20.

Occurred at 27 stations, all in the sea round Ceylon; previously known only from the Malay Archipelago. We show the female abdomen and the male and female fifth natatory legs of this species, as they are not represented in sufficient detail by CLEVE.

**Acrocalanus gibber**, GIESBR.

Found sparingly at 4 stations, from the Gulf of Suez and Indian Ocean.

**Acrocalanus longicornis**, GIESBR.

A much commoner species than the preceding, occurred at 33 stations, extending from the Red Sea throughout the Indian Ocean and around Ceylon.

**Acrocalanus gracilis**, GIESBR.

Occurred at 9 stations; general distribution similar to that of the two preceding species.

**Acrocalanus monachus**, GIESBR.

A few specimens of this rarer form were found at 2 stations between Minikoi and Sokotra. Previously known from the Pacific and Indian Oceans.

**Calocalanus pavo** (DANA).

This beautiful species, easily recognised by its elegant plumose furcal setæ, although rarely found perfect, has a wide range throughout the Atlantic, Pacific and Indian Oceans, and occurred at 33 stations, extending from Gibraltar through the Mediterranean, Red Sea, Indian Ocean, and around Ceylon.

**Calocalanus plumulosus** (CLAUS).

Similar in distribution to the last species, but less common. It occurred at 12 stations.

**Clausocalanus furcatus** (BRADY).

Well distributed throughout the entire traverse, occurring at 47 stations.

**Clausocalanus arcuicornis** (DANA).

Rarer than the preceding species, but similarly distributed. It occurred at 20 stations.

**Pseudocalanus elongatus** (BOECK).

One of the commonest British species; occurred at 6 stations, extending as far south as the Gulf of Suez.

**Ætideus armatus**, BRADY.

A species widely distributed throughout the Atlantic, Pacific and Indian Oceans, but only taken at 3 stations in this collection, from the Mediterranean to the Gulf of Suez.

**Undeuchæta minor**, GIESBR.

Occurred off Gibraltar, and at 2 stations in the Indian Ocean; the latter are additions to its hitherto known range.

**Euchirella rostrata** (CLAUS).

Occurred twice in the Indian Ocean.

**Euchirella messinensis** (CLAUS).

Only once taken, off Minikoi, west of Ceylon, thus considerably extending its southern range; the Mediterranean and the Gulf of Gascony being the only previous records.

**Euchæta marina** (PRESTAND.).

A common ocean species; occurred at 36 stations, extending throughout the entire traverse.

**Euchæta spinosa**, GIESBR.

Found very sparingly off Gibraltar and in the Mediterranean, and again off Ceylon; not previously reported from the Indian Ocean.

**Euchæta acuta**, GIESBR.

Taken at 2 Mediterranean stations, between Messina and Port Said.

**Euchæta concinna**, DANA.

Occurred at 3 stations in the Red Sea and at 4 stations round Ceylon.

**Euchæta barbata**, BRADY.

Occurred at 2 stations in the Indian Ocean near Ceylon. Known previously only from the Atlantic.



**Scolecithrix danae** (LUBBOCK).

Taken at 18 stations in the Indian Ocean and round Ceylon.

**Scolecithrix bradyi**, GIESBR.

Occurred once in the Mediterranean, and at 6 stations in the Indian Ocean, the latter being an addition to its known range.

**Scolecithrix chelipes**, GIESBR.

Taken only at one station, in the Red Sea, its only known habitat.

**Scolecithrix auropecten**, GIESBR.

A rare species—was found in the Red Sea, an addition to its known range in the Mediterranean and Atlantic.

**Scolecithrix tenuipes**, T. SCOTT.

Like the preceding species, this was found in the Red Sea, its only previously known habitat being the Gulf of Guinea.

**Ridgewayia**, n. gen.

Body cyclopoid in form, 6 cephalothoracic segments well defined. Abdomen 4-jointed, anterior antennæ 25-jointed. Posterior antennæ 2-branched, the outer branch consisting of 2 joints, the inner branch of many joints and longer than the outer. Mouth organs very similar to those of *Calanus* and *Temora*.

Outer and inner branches of 1st to 4th natatory legs all 3-jointed. Outer branch of 5th pair 3-jointed; inner branch 2-jointed.

The male of the one species occupying this genus being unknown, it is not easy to fix with certainty the exact systematic position. In the anterior and posterior antennæ, as well as in the mouth organs of the female, it closely resembles the *Calaninæ*. In the segmentation of the first 4 pairs of natatory legs it agrees with *Calanus*, but not in the 5th pair. On the whole we think that the position of the genus should be amongst the *Calanidæ*. At the suggestion of Professor HERDMAN we have named this genus in honour of Sir WEST RIDGEWAY, who was Governor of Ceylon when the pearl oyster investigation was carried on.

**Ridgewayia typica**, n. sp.—Plate I, figs. 1 to 13.

Length, female 0·85 millim.; male unknown.

Cephalothorax 6-jointed, the cephalic segment equal in length to the four following combined. The 5th thoracic segment has a strong hook pointing downwards on its ventral surface. Rostrum short, broad and pointed. Abdomen 4-jointed, the genital segment very wide and equal in length to the following two united; it bears a similar hook to that of the last thoracic segment on its right side posteriorly. Furcal rami about twice as long as broad, each bearing 4 long terminal setæ.

Anterior antennæ 25-jointed, nearly equalling in length the cephalothorax. The proportional lengths of the joints are as follows:—

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25.  
 15. 20. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 8. 8. 8. 9. 8. 8. 8. 7. 7. 11. 17. 21. 20.

Posterior antennæ 2-branched, the outer branch consisting of 2 joints, the inner of 8, the 2 basal and the apical joints being each about double the length of the intermediate ones. Mandible broad with 9 or 10 small teeth, palp 2-branched, one branch having 2, the other 4 joints. Maxilla well developed, inner branch composed of 2 large setiferous digits. First and second maxillipeds similar to those of the Calanidæ.

Natatory legs 1 to 4 with outer and inner branches all 3-jointed, the lateral and terminal spines destitute of serrations and hairs. The inner branch of 5th pair is 2-jointed; the outer branch 3-jointed, bearing lanceolate spines with serrated edges: the 3rd joint is attached to the centre of the 2nd joint.

Two specimens, both females, were found in the Muttuvaratu pearl-oyster washings.

This, the only known representative of the genus *Ridgewayia*, is easily recognised by the inner branch of the posterior antennæ, by the hooks on the last thoracic and genital segments, and by the 5th pair of natatory legs.

**Phænna spinifera, CLAUS.**

Occurred at 3 stations, near Gibraltar, in the Red Sea, and in the Indian Ocean.

FAMILY: CENTROPAGIDÆ.

**Centropages chierchiæ, GIESBR.**

Occurred at 5 stations, near Gibraltar, in the Indian Ocean, and about the Cheval Paar and other pearl banks, Ceylon. Not previously reported from the Indian Ocean.

**Centropages typicus, KRÖYER.**

A well-known northern species, common around the British coasts. Occurred at 3 stations in the Mediterranean.

**Centropages violaceus, CLAUS.**

Found at 11 stations, extending from the Mediterranean to the Red Sea, and throughout the Indian Ocean.

**Centropages furcatus (DANA).**

One of the commoner species of this genus. Occurred at 29 stations, from the Red Sea throughout the Indian Ocean.

**Centropages elongatus, GIESBR.**

Found at 8 stations, from the Gulf of Suez throughout the Indian Ocean.



**Centropages gracilis (DANA).**

Occurred at 14 stations, the range being much the same as that of the preceding species.

**Centropages kroyeri, GIESBR.**

Found twice in the northern Indian Ocean, in the vicinity of Socotra. The western Mediterranean appears to be its only previously known habitat.

**Centropages calaninus (DANA).**

Occurred at 11 stations in the Indian Ocean.

**Centropages orsini, GIESBR.**

This, like the preceding species, occurs at 11 stations, all in the Indian Ocean.

**Centropages tenuiremis, n. sp.**—Plate I, figs. 14 to 18.

Length, female 2·0 millims. ; male 1·8 millims.

Body somewhat angular, widest anteriorly, slightly tapering to last segment of thorax, which is terminated by long outwardly extended lateral acute projections. Anterior antennæ of female 24-jointed, the proportional lengths being as follows :—

|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. | 24. |
| 3. | 4. | 2. | 2. | 3. | 3. | 2. | 3. | 3. | 4.  | 4.  | 5.  | 6.  | 7.  | 8.  | 8.  | 8.  | 8.  | 7.  | 5.  | 5.  | 5.  | 5.  | 5.  |

Male right antenna 24-jointed; joints 13 to 17 are considerably thickened; a geniculation occurs between the 18th and 19th joints.

Abdomen of female 4-jointed, of male 5-jointed, the last one very small.

Furcal ramus sub-linear, the length about three times the width. Terminal caudal setæ in the female have the basal portion thickened.

The basal joint of the right 5th natatory leg in the female is acutely produced on the inner side and bears three rows of minute teeth. The 5th legs in the male are in general similar to those of *C. typicus*, as are the other appendages not alluded to.

Large numbers of specimens, both male and female, were found at 21 stations round Ceylon.

The acute lateral terminal thoracic spines, the 5th natatory legs in the female, and the abdomen and furcal rami are the distinguishing features of this species.

**Centropages dorsispinatus, n. sp.**—Plate I, figs. 19 to 25.

Length, female 1·37 millims. ; male 1·24 millims.

Cephalothorax ovate, the posterior segment having a rounded acute terminal projection. Rostrum short, broad and triangular. A remarkable curved beak-like hook adorns the median dorsal line of the posterior edge of the cephalic segment. Anterior antennæ of the female 24-jointed, the proportional lengths being as follows :—

|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. | 24. |
| 3. | 5. | 1. | 1. | 1. | 1. | 1. | 1. | 2. | 2.  | 3.  | 3.  | 5.  | 5.  | 5.  | 6.  | 6.  | 6.  | 6.  | 5.  | 4.  | 3.  | 3.  | 4.  |

The 2nd, 5th, 10th and 11th joints bear spinous projections. Male right anterior antennæ 23-jointed, with a geniculation between the 18th and 19th joints.

Abdomen of female 4-jointed; of male 5-jointed, the last joint very small. Furcal rami slightly curved inwards, about twice as long as the width. Fifth natatory legs attenuated; the second joint of right leg in female has a long plain projecting spine on inner side. The chela of the male right natatory leg is clothed with short hair on the outer side.

The other appendages are similar to those of *C. typicus*. A number of specimens, male and female, were taken in Palk Straits, Ceylon.

The species is easily distinguished by the median dorsal cephalic hook, and by the 5th pair of natatory legs and the abdomen and furcal rami.

**Isias clavipes**, BOECK.

This British species was only taken once, in the first gathering. It ranges to the Mediterranean and Atlantic Ocean.

**Pseudodiaptomus salinus**, GIESBR.—Plate II., figs. 21 to 23.

Occurred at 3 stations in the Gulf of Suez and at 3 stations in the Indian Ocean, its only previous record being from the Red Sea.

GIESBRECHT's specimen was a female, the male remaining unknown until now; we have the satisfaction to record it from the same stations at which the females were found. The male measures 1.25 millims., and its characters are shown by figs. 22 and 23, on Plate II. The female also measures 1.25 millims., and its fifth pair of legs are shown at fig. 21, Plate II.

**Pseudodiaptomus serricaudatus** (T. SCOTT).

Occurred at 20 stations throughout the Indian Ocean and about Ceylon.

✓ **Pseudodiaptomus aurivillii**, CLEVE—Plate II., figs. 24 to 26.

Found at 8 stations in the Indian Ocean. Fortunately the specimens include the male hitherto unknown. The female measures 1.2 millims. and the male .93 millim. The characteristic appendages of both sexes are shown by figs. 24 to 26, on Plate II.

**Temoropia mayumbænsis**, T. SCOTT.

Two records for this rare species were added in the Gulf of Suez. The Gulf of Guinea is its only previously known habitat.

**Temora longicornis** (MÜLLER).

This common British species was found at 2 stations, from the English Channel to the Mediterranean.

**Temora discaudata**, GIESBR.

One of the most widely distributed species throughout the regions traversed.



Occurred at 60 stations, from the Mediterranean southwards, throughout the Indian Ocean, and round Ceylon.

***Temora stylifera* (DANA).**

Occurred at 16 stations, from the Red Sea southwards, through the Indian Ocean, and about Ceylon.

***Temora turbinata* (DANA).**

Occurred first in the Gulf of Manaar, and at 4 other stations about the Ceylon Pearl Banks. Has been previously reported from the Pacific, New Zealand, and the Gulf of Guinea, but not from the Indian Ocean.

***Metridia lucens*, BOECK.**

Fairly common, from the English Channel, through the Mediterranean, and as far as the Gulf of Suez, but not further south.

Both the latter localities are an extension of its known range of distribution.

***Pleuromamma gracilis*, CLAUS.**

Occurred at 24 stations, from the English Channel onwards to the Indian Ocean, and in the open sea around Ceylon.

***Pleuromamma xiphias*, GIESBR.**

This was taken in the first gathering only, probably near Gibraltar.

Its previously known range includes the Atlantic, Pacific and Indian Oceans.

***Pleuromamma abdominalis* (LUBBOCK).**

Found at 28 stations, from the Mediterranean to the Indian Ocean, as far as Ceylon.

***Lucicutia flavicornis* (CLAUS).**

Occurred at 21 stations, extending from the English Channel to the Indian Ocean, as far as Ceylon.

***Heterorhabdus spinifrons* (CLAUS).**

Found once in the Mediterranean and again at 4 stations in the Indian Ocean and twice off Minikoi, near Ceylon.

***Heterorhabdus papilliger* (CLAUS).**

***Heterorhabdus abyssalis* (GIESBR.).**

***Heterorhabdus clausi* (GIESBR.).**

The above three species were each taken once only. The two former between Perim and 200 miles into the Indian Ocean—the latter near Minikoi. Each record is an addition to the known distribution of the species.

✓  
FAMILY: PSEUDOCYCLOPIDÆ.

**Pseudocyclops obtusatus**, BRADY and ROBERTSON.

A few specimens only were obtained in the northern Indian Ocean and about the pearl banks and Cheval Paar, Ceylon.

The British coast appears to be the only previously recorded habitat.

FAMILY: CANDACIIDÆ.

**Candacia armata** (BOECK).

Taken only in the first gathering, between the English Channel and Gibraltar. It is probable that the tropical records of this species, long known as *C. pectinata*. BRADY, refer to other Candacias, as more than one species is included in the figures of *C. pectinata* in the Report on the "Challenger" Copepoda, but none of them are identical with BOECK'S *C. armata*.

**Candacia simplex** (GIESBR.).

Occurred at 19 stations, from the Mediterranean onwards through the Indian Ocean and at several of the Ceylon stations. Not before recorded from the Indian Ocean.

**Candacia bispinosa** (CLAUS).

Found on three occasions in the Mediterranean and the Red Sea. Previously reported from the Indian Ocean.

**Candacia bradyi**, A. SCOTT.

Occurred at 8 stations, extending from the Gulf of Suez into the Indian Ocean.

Mr. SCOTT'S previous record was from Aden. It is probable that some of the previous records of *C. pectinata* from tropical seas are really this species.

**Candacia truncata** (DANA).

Occurred at 18 stations, from the Gulf of Suez onwards through the Indian Ocean to Ceylon.

**Candacia catula** (GIESBR.).

Occurred at 17 stations, the range being similar to that of the preceding species.

**Candacia longimana** (CLAUS).

Obtained at 3 stations only, from the south of the Red Sea and from Perim into the Indian Ocean.

**Candacia æthiopica** (DANA).

Range of this species is similar to that of *C. catula*; obtained at 17 stations.



**Candacia curta** (DANA).

Of similar range to the last species, but less plentiful; was found at 6 stations.

**Candacia pachydactyla** (DANA).

Obtained at 11 stations in the Indian Ocean and round Ceylon.

## FAMILY : PONTELLIDÆ.

**Calanopia elliptica** (DANA).

Taken between Port Said and Suez and then fairly continuously through the Indian Ocean and round Ceylon. Occurred at 37 stations.

**Calanopia minor**, A. SCOTT.

Of similar range to *C. elliptica*—occurred 25 times.

**Calanopia aurivillii**, CLEVE.

Obtained at 4 stations in the vicinity of Galle and at 4 on the pearl banks. CLEVE'S specimens were from the Malay Archipelago.

**Labidocera acuta** (DANA).

Common from Port Said throughout the Indian Ocean and round Ceylon—occurred at 39 stations.

**Labidocera minuta**, GIESBR.

Occurred first at the southern end of the Gulf of Suez and then at 20 stations throughout the Indian Ocean and round Ceylon.

**Labidocera detruncata** (DANA).

Occurred at 7 stations in the Indian Ocean, and also found at Back Bay, Trincomalee.

**Labidocera pavo**, GIESBR.

Obtained at 14 Ceylon stations. Known previously only from the Red Sea.

**Labidocera kroyeri** (BRADY).

Similar in distribution to last species; obtained at 11 Ceylon stations.

**Labidocera kroyeri** (BRADY), var. **gallensis**, nov.—Plate II., figs. 6, 7.

Male differs from *L. kroyeri* in several particulars. The posterior thoracic segment in this variety is rounded at base, and has a trifid projection on the left side instead of a bifid one as in *L. kroyeri*. The 1st abdominal segment has a long narrow spine on its right basal corner. The end of basal portion of the claspers in the 5th natatory legs is very short and the chela more spinous than that of *L. kroyeri*. In other respects there is a close similarity between the species and this variety.

Taken in surface tow-nettings from Galle Harbour and elsewhere, Ceylon.

**Labidocera kroyeri** (BRADY), var. *stylifera*, nov.—Plate II., figs. 8, 9.

Male differs from *L. kroyeri* like the variety *gallensis* in the last thoracic segment and in the 5th natatory legs. The basal portion of the latter is produced into a long rod-like projection. Several specimens were taken at different stations round Ceylon.

**Labidocera pectinata**, n. sp.—Plate II., figs. 10 to 14.

Length, female, 2·1 millims. Male unknown.

Cephalothorax 5-jointed, robust in centre, slightly tapering towards each end, the terminal segment having strong lateral spinous projections. Rostrum short, bifid at apex. Anterior antennæ 23-jointed, in length about equal to the cephalothorax.

The relative lengths of the joints are as follows:—

|    |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. | 2.  | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. |
| 6. | 16. | 2. | 2. | 2. | 4. | 4. | 6. | 5. | 5.  | 8.  | 10. | 10. | 12. | 16. | 14. | 16. | 16. | 10. | 10. | 10. | 9.  | 9.  |

Posterior antennæ and mouth organs and 1st to 4th pairs of natatory legs as in the other members of this genus. Abdomen 3-jointed, about one-third as long as the cephalothorax; the right basal extremity of the genital segment is produced into two curved spines; the middle joint bears a knobbed protuberance. The furcal rami are slightly asymmetrical, the right one being nearly half as large again as the left; the inner side of each is lined with fine hairs; each furca terminating in five short setæ. Fifth natatory legs, each composed of two 1-jointed branches, asymmetrical, the inner branches being differently denticulated; both branches of the left leg are larger than those of the right. The characters of the abdomen and 5th natatory legs are unlike those of any other species known to us.

Four specimens, all females, were taken in Palk Straits, Ceylon.

**Pontella fera**, DANA.

Found at 3 stations, viz., twice off Minikoi, Indian Ocean, and at Vankali Paar, Ceylon.

**Pontella securifer**, BRADY.

Taken off Minikoi, Indian Ocean, and at 10 stations round Ceylon.

**Pontella princeps**, DANA.

Was found once only, at Chilaw Paar, Ceylon.

**Pontella tenuiremis**, GIESBB.

Was found once only, in Palk Strait, Ceylon. GIESBRECHT'S specimen was from the Pacific Ocean.

**Pontella danæ**, var. *ceylonica*, nov.—Plate II., figs. 1 to 5.

Length, female 3·4 millims.

Cephalothorax of nearly the same width throughout, in this respect differing from



*P. danæ*, which tapers gradually from the second to the posterior thoracic segment. Rostrum nearly straight, length about double the width, and has bifid apex. Fifth natatory legs asymmetrical, the left having outer and inner branches larger than the right branches; the outer one has a large and small spine on the outer side.

First joint of abdomen somewhat globular, whereas that of *P. danæ* is more quadrate. A number of specimens, all females, were found at 5 stations around Ceylon. The 5th natatory legs and the shape of the abdomen serve to distinguish the variety from *P. danæ*, GIESBRECHT.

***Pontellina plumata*, DANA.**

Occurred at 17 stations, south of Gulf of Suez, in the Indian Ocean, and round Ceylon.

***Pontellopsis armata* (GIESBR.).**

Occurred first between the Maldives and the Gulf of Manaar, and then at 9 Ceylon stations. Previously known from the Pacific and Indian Oceans.

***Pontellopsis krameri* (GIESBR.).**

Occurred at 4 Red Sea stations. GIESBRECHT's specimens were also from the Red Sea. The species has been recorded from Fortescue Strait by A. SCOTT.

***Pontellopsis regalis*, DANA.**

The only specimen of this species was taken in the Mediterranean, near Messina.

***Pontellopsis strenua* (DANA).**

Found only at Cheval and Periya paars, Ceylon.

***Pontellopsis perspicax* (DANA).**

Like the last species, this was only taken on the Cheval and Periya paars.

***Pontellopsis herdmani*, n. sp.—Plate II., figs. 15 to 17.**

Length, female 1.9 millims.; male unknown.

Cephalothorax about twice as long as its breadth, having 5 segments, the posterior segment terminating on each side with a triangular acuminate spine. Rostrum long, narrow, and bifid. Anterior antennæ 16-jointed, the relative lengths of the joints

being as follows: 

|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. |
| 6. | 7. | 5. | 8. | 3. | 5. | 3. | 5. | 5. | 6.  | 9.  | 6.  | 6.  | 7.  | 6.  | 6.  |

Posterior antennæ, mouth organs and 1 to 4 pairs of natatory legs as in the other species of *Pontellopsis*. Abdomen about half the length of the cephalothorax, composed of 2 joints, the first being about double the size of the second and having 2 thorn-like projections on the right side. Furcal rami twice as long as broad, with fine hairs on the inner surface and each terminating in 5 short non-plumose setæ.

Fifth pair of natatory legs each 2-branched; each branch composed of one bifid joint, the outer branches each having 3 small spines on outer edge. A few females were found in Galle Harbour and also off Karativo Island in the Gulf of Manaar.

The abdomen and 5th natatory legs distinguish this from any other described form. We have peculiar pleasure in naming it after Professor HERDMAN.

***Acartia clausi*, GIESBR.**

A common British species. Occurred at the first 4 stations as far as the Gulf of Suez, and once off Ceylon at the south end of the Cheval Paar.

***Acartia longiremis*, LILLJ.**

Taken at 9 stations, from the English Channel to the Mediterranean off Messina.

***Acartia dubia*, T. SCOTT.**

Found in the Suez Canal and in the Red Sea.

***Acartia erythræa*, GIESBR.**

Well distributed throughout the traverse, occurring at 53 stations, from the Gulf of Suez, throughout the Indian Ocean, and around Ceylon.

***Acartia centrura*, GIESBR.**

Occurred in Gulf of Suez and the Red Sea, and at 6 stations round Ceylon. Previously reported from the Red Sea and Atlantic Ocean.

***Acartia negligens*, DANA.**

Obtained at 38 stations, from Gulf of Suez onwards through the Indian Ocean, and common around Ceylon.

***Tortanus gracilis* (BRADY).**

One record only from about the Gulf of Suez. BRADY records the species from the Philippine Islands.

***Tortanus forcipatus* (GIESBR.).**

Occurred at 3 Ceylon stations only, viz., off Kalpentyn Island, Cheval and Periya paars, and off Pantura, south of Colombo. GIESBRECHT'S specimens were from Amoy, China.

FAMILY : CYCLOPIDÆ.

***Thorellia brunnea*, BOECK.**

Found in washings from sponges, Gulf of Manaar.



**Oithona plumifera**, BAIRD.

A common species, recorded from 40 stations almost continuously throughout the seas traversed.

**Oithona similis**, CLAUS.

Commencing at the Gulf of Suez, this species occurred at 38 stations; similar in distribution to *O. plumifera*.

**Oithona minuta**, T. SCOTT.

This species, first recorded from the Gulf of Guinea, appears to be abundant throughout the Indian Ocean and round Ceylon, occurring at 35 stations.

**Oithona rigida**, GIESBR.

Occurred in the Red Sea, about Minikoi, and at 18 stations around Ceylon.

**Oithona spinifrons**, BOECK.

This common British species, closely allied to *O. similis*, occurred in the earlier gatherings, and in the Red Sea and Northern Indian Ocean, to Ceylon.

**Oithona nana**, GIESBR.

Occurred at 3 stations on the Pearl banks, Ceylon.

**Oithona setigera**, DANA.

Taken on 4 occasions in the Mediterranean and once in the Suez Canal.

## FAMILY: ASCIDICOLIDÆ.

**Doropygus normani**, BRADY.

A few specimens were taken from the branchial sac of a species of *Cynthia* found at the Aripu reef, Gulf of Manaar.

**Doropygus pulex**, THORELL.

Found attached to the branchial sac of a species of *Molgula*, from the Cheval and Periya paars, Ceylon.

**Botryllophilus ruber**, HESSE.

Found in washings from sponges, Gulf of Manaar.

## FAMILY: HARPACTICIDÆ.

**Sunaristes paguri**, HESSE.

A few specimens were found in the general washings from Ceylon Invertebrates.

**Sunaristes inopinata**, n. sp.—Plate III., figs. 1 to 8.

Length, male 1·3 millims. ; female 1·5 millims.

Body resembling *S. paguri*, but all the segments broader in proportion to length. Anterior antennæ of female 6-jointed, densely covered on the upper side with plumose setæ and bearing two long club-like appendages, possibly olfactory.

The relative lengths of the joints are as follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{11. \ 7. \ 7. \ 5. \ 4. \ 15.}$

Anterior antennæ of male short and broad, terminating in a curved hook.

Posterior antennæ and mouth organs as in *S. paguri*. Both branches of 1st to 4th pairs of natatory legs 3-jointed, most of the joints having small bundles of fine hairs on the surface or at the sides. Fifth pair as in *S. paguri*.

Abdomen about the same length as the cephalothorax, composed of joints of which the genital segment is the larger one. Furcal rami twice as long as the breadth, tapering to the apex, and each having a stout spine on inner margin. Several specimens were found in the general washings from Ceylon Invertebrates.

**Sunaristes longipes**, n. sp.—Plate III., figs. 9 to 11.

Length, female 1·5 millims. ; male unknown.

Similar in build to the last species but more robust. Anterior antennæ 6-jointed and similar to *S. inopinata*, except in proportional lengths of joints, which are as

follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{15. \ 7. \ 3. \ 5. \ 3. \ 19.}$

Abdomen short and robust, about equal in length to the first 3 thoracic segments. First 2 joints are coalescent, the 4th and especially the 5th very small. Furcal rami long and tapering, the length 3 times that of the breadth ; each has a spine on both sides. Mouth organs as in *Longipedia*, *Canuella* and *Sunaristes*. Other organs as in last species, with the exception of 4th pair of natatory legs, which (fig. 10) are very narrow, the inner branch being nearly double the length of the outer one.

The length of the furcal rami and the elongated 4th pair of natatory legs serve to distinguish this species from others of the genus. One specimen only, a female, was found in the general washings from Ceylon Invertebrates.

**Sunaristes curticaudata**, n. sp.—Plate III., figs. 12 to 17.

Length, female, 1·6 millims. Male unknown.

First segment of cephalothorax equal in length to that of the four following segments combined, and much broader. Abdomen 4-jointed, about three-fourths of the length of the cephalothorax. Anterior antennæ 4-jointed, all adorned with plumose setæ, the second joint having also two spines. The proportionate lengths

are as follows :  $\frac{1. \ 2. \ 3. \ 4.}{12. \ 16. \ 5. \ 7.}$

Mouth organs as in *Longipedia*, *Canuella* and *Sunaristes*.



Other organs similar to those of *S. paguri*, with the exception of the inner branch of the 4th natatory legs, which in this species is 2-jointed (fig. 16). Caudal segments short, their length not much exceeding the width; the anterior inner corner of each is marked off by a dividing line. One specimen only was found in the general washings of Ceylon Invertebrates.

The form of the furcal rami is sufficiently diagnostic to distinguish this from other species of the genus. The fact that this species has the inner branch of the fourth pair of legs only 2-jointed may, sometime, necessitate its removal to a new genus.

**Longipedia coronata**, CLAUS.

Occurred at 2 stations in the Mediterranean and once in the Suez Canal. Usually a littoral species. Found also in washings from Sponges, Gulf of Manaar.

**Longipedia minor**, T. SCOTT.

A few specimens of this form were obtained in the tow-net off Marichchukaddy.

**Canuella perplexa**, T. and A. SCOTT.

One specimen was taken between Port Said and Suez.

**Ectinosoma atlanticum** (BRADY and ROBERTSON).

The most abundant species throughout the collection. Occurred at 66 stations, from the Mediterranean throughout the Red Sea and Indian Ocean and all around Ceylon.

**Ectinosoma roseum**, DANA.

Hardly less common than *E. atlanticum*. Fifty-nine stations, similarly distributed.

**Ectinosoma normani**, T. and A. SCOTT.

**Ectinosoma propinquum**, T. and A. SCOTT.

Both species found in washings from young pearl oysters and in the general washings from Ceylon Invertebrates.

**Setella gracilis**, DANA.

Occurred at 44 stations fairly continuously, from the Mediterranean to Ceylon.

**Miracia efferata**, DANA.

Was obtained in the Indian Ocean, twice off Minikoi, and between the Maldives and the Gulf of Manaar.

**Miracia minor**, T. SCOTT.

Was taken off Gibraltar, and was also found at 2 stations in the northern Indian Ocean. SCOTT's specimens were taken in the Gulf of Guinea.

***Euterpina acutifrons* (DANA).**

Well distributed throughout the traverse, occurring at 48 stations, from the Mediterranean to Ceylon.

***Tachidius littoralis*, POPPE.**

One specimen was taken in the Gulf of Suez.

***Clytemnestra scutellata*, DANA.**

Occurred at 10 Indian Ocean stations, and 3 round Ceylon, viz., off Pantura to the south of Colombo, at Cheval Paar and west of Periya Paar, Gulf of Manaar.

***Clytemnestra rostrata* (BRADY).**

Found at 8 stations, from the Mediterranean, Gulf of Suez, Red Sea, and the Indian Ocean, and once at Ceylon, near the Muttuvaratu Paar.

***Tegastes sphærica* (CLAUS).**

One specimen of this littoral species was taken between Port Said and Suez.

***Tegastes nigrans* (T. and A. SCOTT).**

A number of specimens were found in washings from Muttuvaratu pearl oysters.

***Tegastes imthurni*, n. sp.—Plate IV., figs. 1 to 9.**

Length, female 0·6 millim. to 0·45 millim. ; male unknown.

Cephalothorax composed of 6 segments ; the first broadly falciform, and extending ventrally to double the width of the other segments.

Abdomen 4-jointed, the first extending ventrally into a long projection, truncated at end. A large rounded hook from the centre of the 1st segment projects over the posterior ends of the other segments.

Anterior antennæ 6-jointed, the relative lengths being :  $\frac{1. \quad 2. \quad 3. \quad 4. \quad 5. \quad 6.}{25. \quad 18. \quad 9. \quad 4. \quad 4. \quad 4.}$

Posterior antennæ and mouth organs, with the exception of the 2nd maxillipeds, as in *T. sphærica*. In this species the inner concave edge of the chelate hand, instead of being pectinated, has a small funnel-shaped expansion, the upper circular edge being clothed with fine hairs. The inner projecting corner of the hand has, on the upper edge, about 10 short spines arranged in a pectinate manner.

The 1st pair of natatory legs are similar to *T. sphærica*. The 2nd, 3rd, and 4th pairs differ considerably from that species, however, and also from the generic description in BRADY'S Monograph of British Copepoda. In the 2nd and 3rd pairs of *T. imthurni*, and also in *T. donnani*, and in *T. twynami*, the inner branches are composed of 3 joints, while the outer branches have only 2 joints. The 4th pair has the outer branch 3-jointed, and has only 2 joints in the inner branch. The basal joint of the inner branch of this pair is a wide foliaceous expansion with thickened



edges. The 5th pair in this and the following 3 species are also different from the type of the genus, and instead of being 2-jointed, are composed of 1 joint only, which, however, is obviously built up of 2 coalesced joints. Fig. 2 represents a smaller form, not differing in details of structure, except in the absence of hook from abdomen.

Several specimens were found in the washings from the Muttuvaratu pearl oysters.

At Professor HERDMAN'S suggestion we dedicate this new species to Mr. E. F. IM THURN, the Lieutenant-Governor of Ceylon at the time of the investigations.

**Tegastes donnani**, n. sp.—Plate IV., figs. 10 to 12.

Length, female, 0·37 millim. ; male unknown.

In appearance and structure this species very nearly resembles *T. imthurni*, the 7-jointed anterior antennæ and the 5th natatory legs being the only important points of difference.

Proportionate lengths of antennary joints :  $\frac{1. \quad 2. \quad 3. \quad 4. \quad 5. \quad 6. \quad 7.}{26. \quad 26. \quad 12. \quad 22. \quad 4. \quad 8. \quad 7.}$

Four specimens, all females, were found in the Muttuvaratu pearl oyster washings. We name this species after Captain J. DONNAN, C.M.G., formerly Inspector of the Ceylon Pearl Fisheries.

**Tegastes twynami**, n. sp.—Plate IV., figs. 13 to 16.

Length, female 0·54 millim. ; male unknown.

This species also resembles *T. imthurni* in detail, with the exception of the anterior antennæ, the hand of the 2nd maxillipeds, and the 5th natatory legs. The anterior antennæ are only 6-jointed, the proportionate lengths of the joints being as follows :  $\frac{1. \quad 2. \quad 3. \quad 4. \quad 5. \quad 6.}{13. \quad 13. \quad 10. \quad 8. \quad 5. \quad 5.}$

The inner concave edge of the hand in 2nd maxilliped is strongly pectinated and has a round funnel-shaped protuberance with ciliated edge similar to that of *T. imthurni* ; the terminal falcate claw is very stout. Fifth pair of natatory legs like those of *T. donnani*, but larger. Two specimens, both females, were found in the washings from the Muttuvaratu pearl oysters.

The cuticle in the foregoing species is covered with minute circular dots, these are also found on the basal joint of the fourth pair of legs, on the fifth pair and in a lesser degree on the chela of the posterior maxillipeds.

We name this species in honour of Sir WILLIAM TWYNAM, who has long been connected with the Ceylon Pearl Fisheries.

**Tegastes chalmersi**, n. sp.—Plate IV., figs. 17 to 22.

Length, female, 0·3 millim. ; male unknown.

A much smaller form than any of the three preceding. Cephalothorax 5-jointed ; length and breadth of 1st joint about equal.

Abdomen 3-jointed, the 1st joint being produced as in the other species of the genus, but different from them in having 4 large denticulations on its outer surface.

Anterior antennæ 7-jointed, the proportionate lengths of the joints being as follows:  $\frac{1. 2. 3. 4. 5. 6. 7.}{14. 10. 6. 4. 4. 4. 5.}$

The 2nd maxillipeds differ considerably from those of any of the preceding species. The middle joint is long and narrow, arcuate on one side and flat on the other, with short setæ on one-half of the flat side. The terminal spine is shaped like a scythe and about  $\frac{3}{4}$  the length of the middle joint. Natatory legs as in *T. imthurni*, excepting 4th and 5th pairs. In the 4th pair the outer and inner branches are both 3-jointed, and the basal joint of the inner branch is not foliaceous. The 5th legs are less angular than those of the other species, the surface being covered with rows of convolute markings.

Two specimens, both females, were found in the Muttuvaratu pearl oyster washings. The anterior antennæ, the 2nd maxillipeds, and the 4th natatory legs readily distinguish this species from the others of the genus.

This species is named after Dr. A. J. CHALMERS, formerly a Liverpool Student of Science, now Registrar and Professor in the Medical College, Colombo.

*Stenhelia brevicornis*, n. sp.—Plate V., figs. 1 to 9.

Length, female, 0.9 millim.; male unknown.

Cephalothorax narrow, 5-jointed. Anterior antennæ short, 8-jointed, the relative lengths of the joints being as follows:  $\frac{1. 2. 3. 4. 5. 6. 7. 8.}{18. 12. 10. 8. 3. 4. 6. 12.}$  Most of the joints are shorter than the breadth and bear numerous setæ. The 4th joint is produced on upper side, terminating in a long filament.

Posterior antennæ, mouth organs, and 1st to 4th pairs of natatory legs as in *S. ima*. The basal joint of 5th pair is large and triangular, bearing 6 marginal and apical setæ, two of them plumose; second joint long and narrow, tapering towards apex and bearing six setæ, the apical one much longer than the marginal ones. Abdomen 5-jointed; the posterior margin of the 1st joint has a dorsal hook, the margins of the other joints being fringed with fine hairs. Furcal rami about 3 times as long as broad.

Two specimens only, both females, were found in the Muttuvaratu pearl oyster washings. The short, broad-jointed anterior antennæ, the outer joint of the 5th natatory legs, and the long furcal rami are the chief distinguishing features of this species.

*Stenhelia gracilicaudata*, n. sp.—Plate V., figs. 10 to 15.

Length, female, 0.67 millim.; male unknown.

Cephalothorax 5-jointed, very robust. Anterior antennæ 8-jointed, the propor-



tional lengths of the joints being as follows:  $\frac{1. 2. 3. 4. 5. 6. 7. 8.}{14. 20. 10. 11. 4. 5. 3. 10.}$  They are well clothed with setæ on the upper side. The 4th joint is produced and terminates in a long narrow filament.

Posterior antennæ and mouth organs as in *S. brevicornis*. Natatory legs in general similar to those of *S. brevicornis*, but the 1st pair differs therefrom in the respective lengths of its joints; the 5th pair is less triangular, the second joint being ovate. Abdomen 5-jointed, about the same length as the cephalothorax, but only half the width, and non-setiferous on posterior edges. Furcal rami about 4 times as long as broad.

One specimen only, a female, was found in the Muttuvaratu pearl oyster washings.

The chief distinguishing features are the anterior antennæ, the 1st and 5th natatory legs, and the long narrow furcal rami.

*Stenhelia longicornis*, n. sp.—Plate V., figs. 16 to 22.

Length, female, 0·8 millim.; male, 0·6 millim.

Cephalothorax similar to that of *S. brevicornis*. Anterior antennæ 8-jointed, long and narrow, the proportional lengths being:  $\frac{1. 2. 3. 4. 5. 6. 7. 8.}{15. 24. 12. 11. 3. 4. 5. 7.}$  The 4th joint terminates in a long narrow filament; the setæ of the various joints as in *S. gracilicaudata*.

Posterior antennæ and mouth organs and 2nd to 4th pairs of natatory legs as in *S. brevicornis*. The 1st pair of legs agrees in form with *S. gracilicaudata*, as also does the 5th pair in the female, with the exception of the spines of the inner joint, which in this species are shorter, more numerous, and mostly plumose. The outer joint has a pellucid circle near the outer edge. Fig. 21 shows the inner branch of the 2nd pair in the male, and fig. 22 the 5th leg of the male, which is much smaller than that of the female.

Abdomen short and broad, the 4th joint having a short tooth on lower edge. The furcal rami are very small, about half as long as broad. A few specimens of each sex were found in the Muttuvaratu pearl oyster washings. The long narrow anterior antennæ, the 5th natatory legs, and the small furcal rami are the distinguishing characters of this species.

*Stenhelia perplexa*, n. sp.—Plate VI., figs. 1 to 7.

Length, female, 0·6 millim.; male unknown.

Cephalothorax much resembles *S. brevicornis*. Anterior antennæ 8-jointed, the proportional lengths of joints being as follows:  $\frac{1. 2. 3. 4. 5. 6. 7. 8.}{15. 17. 12. 10. 3. 4. 4. 8.}$

Posterior antennæ and mouth organs, with the exception of 2nd maxillipeds (fig. 3), as in *S. brevicornis*. Natatory legs all more or less similar to those of *S. longicornis*.

Abdomen broad, the joints mostly quadrate, posterior margins devoid of setæ. Furcal rami short and broad, produced downwards on inner edges; terminal setæ as in *S. longicornis*.

Several females were found in the washings from Muttuvaratu pearl oysters.

This species in many of its characters resembles other members of the genus, without agreeing with any one in all respects. The jointing of the anterior antennæ and the long 2nd maxillipeds are its chief distinguishing features.

***Stenhelia dentipes*, n. sp.**—Plate VI., figs. 8 to 14.

Length, female, 0.56 millim.; male unknown.

Cephalothorax somewhat angular anteriorly, with long narrow pointed rostrum.

The antennæ in the only specimen found were missing, with the exception of the four basal joints on one side. Mouth organs as in *S. brevicornis*, with the exception of 2nd maxillipeds, the middle joint of which is broadly ovate, and the claw curved and slender.

The inner branch of the 1st pair of natatory legs is double the length of the outer branch; 2nd to 4th pairs as in *S. brevicornis*. Inner branch of 5th pair elongated, terminating in a short dagger-like spine; second joint long and gradually narrowing, ending in a small elegant foot-shaped protuberance having 2 apical and 5 lateral setæ. In this respect it somewhat resembles *S. blanchardi*, T. and A. SCOTT. Abdomen similar to *S. perplexa*; furcal rami twice as long as the width.

Found with the other members of the genus here described in the Muttuvaratu pearl-oyster washings. It can be readily distinguished by its 5th pair of natatory legs.

***Stenhelia knoxi*, n. sp.**—Plate X., figs. 15 to 18.

Length, female 0.67 millim.; male unknown.

Cephalothorax and abdomen each with 5 segments. Anterior antennæ very stout 6-jointed, the proportional lengths being as follows:

|     |    |    |     |    |     |
|-----|----|----|-----|----|-----|
| 1.  | 2. | 3. | 4.  | 5. | 6.  |
| 12. | 6. | 3. | 14. | 8. | 17. |

Both branches of 1st to 4th pairs of natatory legs 3-jointed; outer branch of 1st pair has long, strong, lateral and terminal spines; 2nd joint of 5th pair ovate.

Three specimens, all females, were found in the Muttuvaratu pearl oyster washings.

We name this species after ROBERT KNOX, who escaped from the King of Kandy to the coast, at the pearl banks, in 1679.

Although the anterior antennæ are only 6-jointed instead of 8, in all other respects the characters agree with those of *Stenhelia*, so we have thought it best to include this species in that genus.

***Stenhelia minuta*, n. sp.**—Plate VI., figs. 21 to 24.

Length, female, 0.5 millim.; male unknown.

This minute species bears a close resemblance to *S. brevicornis*, both in general



form and in its mouth organs, posterior antennæ, and 2nd, 3rd, and 4th pairs of natatory legs. Anterior antennæ 8-jointed, the proportional length of the joints

being as follows: 

|     |     |    |     |    |    |    |    |
|-----|-----|----|-----|----|----|----|----|
| 1.  | 2.  | 3. | 4.  | 5. | 6. | 7. | 8. |
| 10. | 12. | 6. | 10. | 2. | 3. | 4. | 6. |

In its 1st pair of natatory legs it resembles *S. longicornis*, the 5th pair being similar to those of *S. gracilicaudata*.

One specimen only, a female, was found in the Muttuvaratu pearl oyster washings.

Its minute size, the jointing of the anterior antennæ, and the 1st and 5th natatory legs constituted its chief features.

#### **Parastenhelia**, n. gen.

Anterior antennæ 9-jointed. Inner branch of posterior antennæ 3-jointed.

Mandible palp with 2 branches each 1-jointed. Second maxilliped like a grasping hand. First pair of natatory legs has outer branch 3-jointed, inner branch 2-jointed. Inner branches of 2nd, 3rd, and 4th pairs all 3-jointed. Fifth pair foliaceous and 2-jointed. Abdomen in both sexes 5-jointed.

The characters which distinguish this genus from *Stenhelia* are the 9-jointed antennæ and the 2-jointed inner branch in 1st pair of natatory legs.

**Parastenhelia hornelli**, n. sp.—Plate VII., figs. 1 to 10.

Length, female 1 millim.; male 0.77 millim.

In general appearance, and in the jointing of cephalothorax and abdomen, this species much resembles the members of the genus *Stenhelia*.

Anterior antennæ of female 9-jointed, the proportional lengths of the joints being as follows: 

|     |     |     |     |    |     |    |    |     |
|-----|-----|-----|-----|----|-----|----|----|-----|
| 1.  | 2.  | 3.  | 4.  | 5. | 6.  | 7. | 8. | 9.  |
| 21. | 20. | 15. | 12. | 8. | 11. | 4. | 3. | 12. |

The upper surface is plentifully clothed with long setæ. Inner branch of posterior antennæ 3-jointed, the 2 apical joints bearing several plumose spines.

Basal joint of mandible large, with lateral warty protuberance, and 3 rounded teeth at apex. Palp is of pyriform shape, having 3 plumose spines at apex, and laterally has 2 branches, each composed of 1 joint bearing several setæ. Second maxilliped is a grasping hand with ovate middle joint, terminating in a stout claw.

Inner branch of 1st pair of natatory legs 2-jointed, the 1st joint being  $1\frac{1}{2}$  times the length of the entire 3-jointed outer branch; terminal joint very small.

Inner branches of 2nd, 3rd, and 4th pairs all 3-jointed in both sexes. Fifth pair foliaceous; basal joint triangular and bearing plumose spines. Second joint in female very long, wide at base and tapering towards apex, the edges having fine hairs, and the apex 6 spines, mostly plumose. Outer branch of male 5th pair half the size of the female and distinctly divided into 3 joints bearing spines, mostly plumose.

Several males and females were found in the washings from young pearl oysters, also in the general washings of dredged material, in deep water off Point de Galle,

and in the Muttuvaratu pearl oyster washings. We have pleasure in dedicating this new form to our friend Mr. JAMES HORNELL, who worked with Professor HERDMAN in Ceylon.

The 9-jointed anterior antennæ and the 2-jointed inner branch of 1st pair natatory legs clearly separate this species from the genus *Stenohelia*, with which it in most other points agrees. These characters, together with the 3-jointed inner branch of 2nd pair of natatory legs in the male, as well as the remarkable 5th pair in both sexes, served to distinguish this species from any other genus known to us.

**Parastenhelia similis**, n. sp.—Plate X., figs. 8 to 14.

Length, female 1 millim. ; male unknown.

Has a general resemblance to *P. hornelli*, but differs therefrom in the length of joints of anterior antennæ, in the 2nd maxillipeds, and in the 2nd branch of 5th natatory legs. Anterior antennæ 9-jointed, the proportional lengths of the

joints being as follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7. \ 8. \ 9.}{10. \ 9. \ 8. \ 7. \ 5. \ 5. \ 4 \ 2. \ 5.}$

Hand of 2nd maxillipeds gracefully curved ; the apical claw long and stout. Inner joint of 5th pair of natatory legs long and wide ; laterally lined with fine hairs ; the terminal spines plumose. Furcal rami about twice as broad as long. Two specimens, both females, were found in the Muttuvaratu pearl oyster washings.

**Ameira minor**, n. sp.—Plate V., figs. 23 to 29.

Length, female 0.46 millim. ; male unknown.

Cephalothorax narrow, 5-jointed. Anterior antennæ 8-jointed, the proportional

lengths of the joints being as follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7. \ 8.}{5. \ 20 \ 12. \ 8. \ 4. \ 5. \ 3. \ 5.}$

The 4th joint terminates with a long narrow filament. Posterior antennæ similar to those of *A. longipes*. Mouth organs as in *A. longiremis*.

Natatory legs, 1st to 4th pairs, somewhat similar to those of *A. longipes*. The 5th pair much resemble those of *A. tenuicornis*.

Abdomen 5-jointed, the posterior edges of all the joints lined with minute hairs. Furcal rami subquadrate, each terminating in 2 thick and 3 thin setæ.

A considerable number of females only were found in the Muttuvaratu pearl-oyster washings. This is a very small species bearing a strong resemblance to the genus *Stenohelia*, but distinctly differing from members of that genus in having the inner branch of the posterior antennæ 1-jointed.

**Ameira tenuipes**, n. sp.—Plate VI., figs. 15 to 20.

Length, female 0.53 millim. ; male unknown.

Cephalothorax 5-jointed. Rostrum short and wedge-shaped. Anterior antennæ profusely setose, 8-jointed, the proportional lengths of the joints being as follows :



$\frac{1. 2. 3. 4. 5. 6. 7. 8.}{20. 21. 12. 8. 6. 6. 3. 5.}$  The 4th joint terminates with a long filament. The inner branch of posterior antennæ is 2-jointed, the 2nd joint being very small.

Mouth organs and 2nd, 3rd, and 4th pairs of natatory legs as in *A. minor*. First joint of inner branch of 1st pair of legs as long as entire 3-jointed outer branch; 3rd inner joint long and narrow.

Basal joint of 5th pair of legs triangular, bearing 2 short plumose setæ and 3 plain ones. Outer joint long and narrow, 4 times as long as broad; fringed on both sides with fine hairs, and having 4 terminal setæ and 1 lateral.

One specimen only, a female, was found in the Muttuvaratu pearl oyster washings. Although the inner branch of the posterior antennæ is 2-jointed, we have thought it best to include this species in the genus *Ameira*, with which it agrees in all other particulars. The 1st and 5th natatory legs readily distinguish it from other species.

#### *Ceylonia*, n. gen.

Cephalothorax and abdomen each 5-jointed. Anterior antennæ 7-jointed. Inner branch of posterior antennæ 1-jointed. Mandible palp with one small branch. Second maxilliped non-prehensile. Inner branches of 1st to 4th pairs of natatory legs all 2-jointed; outer branches 3-jointed; 5th pair foliaceous.

The genus *Ceylonia* is nearly related to *Mesochra*, and might have been incorporated therewith but for the structural difference in the 1st pair of natatory legs and in the maxillipeds.

*Ceylonia aculeata*, n. sp.—Plate VII., figs. 11 to 23.

Length, female 1.2 millim; male 1 millim.

Body robust throughout; cephalothorax and abdomen each 5-jointed, the first two abdominal joints imperfectly divided. Rostrum short and blunt.

Anterior antennæ short and stout, thickly setiferous, 7-jointed, a long thick filament protruding from the apex of 4th joint. The proportional lengths of the joints are as follows:

$\frac{1. 2. 3. 4. 5. 6. 7.}{16. 12. 16. 9. 3. 6. 11.}$

Outer branch of posterior antennæ 2-jointed, the outer edge and apex of 2nd joint lined with 6 stout spines; inner branch composed of one joint with 2 apical spines.

Biting part of mandible consists of 3 large teeth; palp with small branch, spinous at apex. First maxilliped has terminal claw and two 1-jointed branches with apical plumose setæ. Second maxilliped wedge-shaped, non-prehensile, but with small curved rudimentary claw.

Inner branches of 1st to 4th natatory legs 2-jointed; outer branches 3-jointed. Inner branches of 1st pair only  $\frac{2}{3}$  the length of outer branch, both bearing strong spines; a remarkable rod-like projection with hirsute termination extends from the centre of 1st joint of inner branch. The middle joint of outer branch of male

3rd pair of legs bears a long stout aculeate spine. Fifth pair of legs foliaceous; outer joint in female roundly ovate, both clothed with long spinous setæ. In the male 5th pair the joints are coalescent and terminate in dagger-shaped spines and plumose setæ. Furcal rami about  $1\frac{1}{2}$  times as long as broad, each bearing a long thick terminal spine and short setæ.

Several females and 2 males were obtained from young pearl oyster washings, and from deep water off Point de Galle. The anterior and posterior antennæ, the mouth organs and the 1st and 5th pairs of natatory legs are clear distinguishing characters of this species.

***Laophonte serrata*, CLAUS.**

***Laophonte inornata*, A. SCOTT.**

Both of the above were taken at Cheval Paar, and were also found in general washings of Invertebrates from the pearl oyster beds.

***Laophonte hirsuta*, n. sp.—Plate VIII., figs. 1 to 8.**

Length, female 0.5 millim.; male unknown.

Lateral edges of cephalothorax and abdomen fringed with minute hairs, giving the animal a hirsute appearance. First cephalic segment quadrately shield-shaped, produced postero-laterally, and equalling in size the rest of the cephalothorax and abdomen.

Anterior antennæ 6-jointed, the proportional lengths of the joints being as follows:  $\frac{1. \quad 2. \quad 3. \quad 4. \quad 5. \quad 6.}{13. \quad 14. \quad 14. \quad 4. \quad 3. \quad 10.}$  The upper side is clothed throughout with short setæ, the protuberance of the 4th joint leading to a long narrow filament.

Posterior antennæ and mouth organs, with the exception of mandible, as in *L. horrida*. Mandible elongated and narrow, the palp being long and slender. Inner branch of 1st pair natatory legs remarkably robust, terminating in a very small joint and a short stout curved claw. Outer branch 2-jointed, the 2 joints not half the length of the 1st inner joint. The outer branch in 2nd, 3rd and 4th pairs is 3-jointed, the inner 2-jointed. The 5th pair have small basal joints and a long narrow second joint armed with plumose setæ. Furcal rami small, subquadrate.

Eleven specimens, all females, were obtained from the Muttuvaratu pearl oyster washings and the general washings of dredged Invertebrates.

The 1st and 5th natatory legs are sufficiently diagnostic of this species.

***Laophontella*, n. gen.**

Body somewhat pyriform, the cephalic segment nearly half the animal's entire length. Anterior antennæ 5-jointed. Posterior antennæ and mouth organs appear to be as in *Laophontodes*. The 1st, 2nd, and 3rd pairs of natatory legs have both inner



and outer branches 2-jointed, 4th pair with outer branch 3-jointed, and inner branch with 1 joint only; 5th pair 2-jointed, foliaceous.

*Laophontella* differs from both *Laophonte* and *Pseudolaophonte* in the absence of claws in the 1st natatory leg; from *Laophontodes* in the inner branch of 4th pair being only 1-jointed.

With only one specimen, however (a female), to judge from, the generic characters may in the future require some revision.

***Laophontella typica*, n. sp.**—Plate VIII., figs. 9 to 16.

Length, female, 0.5 millim.; male unknown.

Cephalic segment long and tumid; produced posteriorly into long acute spines.

Lateral edges of abdomen more or less notched. Anterior antennæ nearly half as broad as long, 5-jointed, profusely setiferous, the proportional lengths of the joints being as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5.}{16. \ 8. \ 5. \ 3. \ 4.}$  The 1st joint has two claw-like spines, and the 3rd joint another, of larger size.

Mouth organs similar to those of *Laophontodes*. Branches of 1st pair of natatory legs of equal length; outer branch 3-jointed, as are the outer branches of 2nd, 3rd, and 4th pairs; inner branch 2-jointed, the 1st joint being double the length of the 2nd, both branches terminating in long setæ. Inner branch of 2nd and 3rd legs 2-jointed, and of the 4th 1-jointed, all armed with strong spines. Basal joint of 5th pair small and spinous; outer joint small, bearing 7 spines. One specimen only, a female, was found in the Muttuvaratu pearl oyster washings. The stout rugged anterior antennæ, the notched abdominal segments, and the inner branches of the swimming feet clearly distinguish this species from other genera.

***Cletodes linearis* (CLAUS).**

Taken in the Suez Canal, and also in various washings of Invertebrates from the Gulf of Manaar.

***Tetragoniceps dubia*, n. sp.**—Plate VIII., figs. 17 to 22.

Length, female, 0.9 millim.; male unknown.

Cephalothorax 5-jointed, the cephalic segment equalling in length the following three combined, and considerably stouter. Rostrum short and blunt. Anterior antennæ 8-jointed, the 1st joint non-setose, but projecting posteriorly into a beak-shaped protuberance. The other joints very setose, the 4th bearing a long narrow filament. The proportional lengths of the joints are  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7. \ 8.}{37. \ 14. \ 9. \ 6. \ 4. \ 5. \ 5. \ 9.}$

Posterior antennæ and mouth organs generally like those of *T. malleolata*. Inner branches of 1st to 4th pairs of natatory legs 2-jointed, the outer branches 3-jointed. Fifth legs 1-jointed, with partial segmentation, and having 10 setæ. A pyramidal spine projects from the surface. Furcal rami about twice as long as broad.

One specimen only, and that possibly an immature one, was found in the Muttuvaratu pearl oyster washings. It is nearly related to *T. malleolata*, with which we were at first disposed to place it. The 5th feet are, however, very different from, and the furca much shorter than in that species, so that it seems necessary to separate the present form.

**Tetragoniceps minor**, n. sp.—Plate VIII., figs. 23 to 28.

Length, female, 0·5 millim. ; male unknown.

Closely related to *T. bradyi*; differing, however, from that species in the jointing of the anterior antennæ, and in the long narrow furcal rami. Anterior antennæ 8-jointed, the proportional lengths being as follows: 

|     |     |    |    |    |    |    |    |
|-----|-----|----|----|----|----|----|----|
| 1.  | 2.  | 3. | 4. | 5. | 6. | 7. | 8. |
| 40. | 14. | 8. | 7. | 4. | 3. | 6. | 8. |

 A long beak-like hook projects from the 2nd joint, by which it differs from *T. consimilis*.

The posterior antennæ, the mouth organs, and the 5 pairs of natatory legs are much the same as those of *T. bradyi*.

One specimen only was found in Muttuvaratu pearl oyster washings. The beaked 2nd joint of the anterior antennæ sufficiently distinguishes it from others of the genus.

**Dactylophusia tisboides** (CLAUS).

This littoral species was taken between Port Said and Suez.

**Dactylophusia latipes** (T. SCOTT).

Taken sparingly on the Ceylon pearl banks. Only previous record is Gulf of Guinea.

**Dactylophusia dentata**, n. sp.—Plate IX., figs. 1 to 10.

Length, female 1·2 millim. ; male 0·83 millim.

Cephalothorax robust; cephalic segment about as long as the rest of the thoracic segments combined. Third and fourth segments have remarkably sharp dorsal teeth; abdomen narrow, little more than one-third the length of the cephalothorax; lateral margins of genital segment produced into a large blunt tooth. Anterior antennæ 8-jointed, the proportional lengths being as follows: 

|     |     |    |    |    |    |    |    |
|-----|-----|----|----|----|----|----|----|
| 1.  | 2.  | 3. | 4. | 5. | 6. | 7. | 8. |
| 10. | 11. | 8. | 9. | 3. | 4. | 3. | 4. |

The prolonged apex of joint 4 bears a long broad filament. Inner branch of posterior antennæ 2-jointed. Mandible palp 2-branched, the primary branch having long terminal setæ. Second maxilliped has an angular hand and terminal claw of about the same length. Both branches of 1st pair of natatory legs 3-jointed; the basal inner joint half as long again as the entire outer branch; the other joints very small.

In the male the 2nd joint of inner branch of 2nd pair is produced into a long pointed dagger-like spine, broad at base. Fifth pair of female 2-jointed, foliaceous,

the inner joint ovate; those of the male similar but smaller. Furcal rami sub-quadrate, about twice as long as broad, a thick chitinous band lining the inner edges.

Ten males and 5 females were found in the Muttuvaratu pearl oyster washings. The dentated thoracic and 1st abdominal segments, the 2nd maxillipeds, the male 2nd natatory legs, and the furcal rami clearly distinguish this species.

**Dactylophus** *havelocki*, n. sp.—Plate IX., figs. 11 to 18.

Length, female 1 millim.; male unknown.

Anterior antennæ short, 8-jointed, the joints short, length and breadth of each nearly equal. Fourth joint bears a long narrow filament, and the proportional

lengths of the joints are:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7. \ 8.}{9. \ 8. \ 5. \ 6. \ 3. \ 4. \ 2. \ 6.}$

Mandible palp 2-branched, secondary branch small, distinctly 2-jointed. Hand of 2nd maxilliped rounded on one side, flat on the other; claw slender. Natatory legs similar to *D. dentata*; the inner branch of the 5th pair however is nearly quadrate instead of ovate. Furcal rami nearly twice as broad as long; basal portion of apical spines thick and jointed.

A few specimens, all females, were found in the Muttuvaratu pearl oyster washings. The short anterior antennæ and furca, coupled with the shape of the mandible palp, and the inner joint of the 5th natatory legs, characterize this species.

**Dactylophus** *hirsuta*, n. sp.—Plate IX., figs. 19 to 24.

Length, female 1.2 millim.; male unknown.

All the segments of the abdomen covered with rows of fine short hairs. Anterior antennæ 9-jointed, the 4th joint bearing a long filament.

The proportional lengths of the joints are as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7. \ 8. \ 9.}{14. \ 14. \ 7. \ 10. \ 3. \ 5. \ 4. \ 3. \ 9.}$

Basal joint of 2nd maxilliped has a row of small hairs near apex, and three terminal plumose setæ; hand small; the claw 2-jointed, long and narrow.

Inner branch of 1st pair of natatory legs as in *D. dentata*, but with shorter terminal spines; 5th pair not unlike those of *D. dentata*, but the length and armature of the setæ are distinctly different, and each joint has a pellucid patch on its surface. Furcal rami very short and hirsute.

Three specimens, all females, were found in the Muttuvaratu pearl oyster washings. The 9-jointed anterior antennæ, the hirsute abdomen, 2nd maxillipeds and furca, and the 5th pair of natatory legs serve to distinguish this species.

**Dactylophus** *ceylonica*, n. sp.—Plate IX., figs. 25 to 32.

Length, female 1.3 millim.; male 0.96.

Posterior dorsal edges of thoracic and abdominal segments have each a row of fine



hairs. Anterior antennæ 8-jointed, the proportional lengths of the joints being as follows :  $\frac{1. 2. 3. 4. 5. 6. 7. 8.}{11. 11. 5. 8. 3. 5. 2. 6.}$  The 4th joint bears a long thin filament.

First pair of natatory legs of female same as in *D. hirsuta*; the inner branch in male has a remarkably long stout spine equalling in length the 1st joint, projecting from the 2nd basal joint. The 2-jointed inner branch of 2nd pair in male has 3 thick more or less curved spines at apex of 2nd joint. Outer joint of 5th pair in female about equal in size to the 1st joint. In the male both joints are exceedingly small.

Eighteen females and 13 males were found in the Muttuvaratu pearl oyster washings. The chief distinguishing characters of this species are the inner joints of 1st and 2nd male natatory legs, and the 5th pair in the female.

**Dactylophusia hamiltoni**, n. sp.—Plate X., figs. 1 to 7.

Length, female 1.1 millim.; male unknown.

Cephalothorax and abdomen each with 5 segments.

Anterior antennæ 8-jointed, the proportional lengths of the joints being as follows :  $\frac{1. 2. 3. 4. 5. 6. 7. 8.}{12. 12. 10. 11. 3. 6. 4. 7.}$

A long filament springs from the prolongation of the 4th joint. Outer branch of posterior antennæ 3-jointed, a 2-jointed inner branch springing from the basal joint. Second maxillipeds large; the apical claw strong, blunt at end. Inner joint of 5th pair of natatory legs subquadrate, about twice as long as broad. Abdomen long and slender; furcal rami quadrate, about twice as long as broad.

One specimen only, a female, was found in the Muttuvaratu pearl oyster washings.

The form of the 2nd maxillipeds, and 5th pair of natatory legs, and the abdomen, are characteristic of this species, which we name after Colonel HAMILTON, a former inspector of the pearl banks.

**Dactylophusia robusta**, n. sp.—Plate X., figs. 19 to 24.

Length, female 0.64 millim.; male unknown.

A small but moderately robust species with a very tumid cephalothoracic segment. Anterior antennæ 8-jointed. Joints long and narrow, with the exception of the 5th, which is very small; the proportional lengths are :  $\frac{1. 2. 3. 4. 5. 6. 7. 8.}{14. 24. 12. 20. 4. 10. 7. 12.}$

Posterior antennæ, mandible, and maxilla similar to those of *D. gracilicaudata*; 2nd maxillipeds have the palm straight and the lower side rounded. Outer branches of the 1st natatory legs much shorter than the inner branches. The middle joint of the outer branches longer than either the basal or apical joints; 2nd, 3rd, and 4th legs resemble those of *D. tisburyi*. The 5th pair have a large primary joint and a moderately long and narrow secondary joint. The primary joint is furnished with 5 setæ, and the secondary with 6 setæ. Abdomen 4-jointed, about half as long as

the combined lengths of the cephalic and thoracic portions. Furcal rami small, longer than broad.

A few specimens were found in the washings from the Muttuvaratu pearl oysters.

*D. robusta* differs from other species in the structure of the anterior antennæ, and the 1st and 5th natatory legs.

***Dactylophusia laticaudata*, n. sp.**—Plate XI., figs. 1 to 8.

Length, female 0·6 millim. ; male unknown.

A small flat species of a yellow colour, resembling in general appearance *D. flava*. When only recently preserved, the 1st, 2nd, and 3rd thoracic segments present a band of deep brown madder colour; this band eventually disappears in spirit-specimens, and only the general colour remains. Anterior antennæ 6-jointed, short

and robust; the proportional lengths are :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{13. \ 12. \ 9. \ 8. \ 5. \ 4.}$

Secondary branch of posterior antennæ 2-jointed; basal joint very short; 2nd joint long. Mandible as in *D. tisboides*; palp with 2 nearly equal branches. The lower branch is furnished with 2 strong spines situated in the middle of the external margin. Maxilla and 1st maxilliped resembling those of *D. tisboides*. Second maxilliped long and narrow, both surfaces slightly rounded; terminal claw very strong. Outer branch of 1st natatory legs 3-jointed, very short; inner branch has a long and very wide 1st joint and one small terminal joint; 2nd, 3rd, and 4th legs resembling in general those of the genus; the terminal spines have ring-like markings. The 5th legs have the primary joint large and foliaceous, much longer than broad, with 5 short, stout terminal spines; secondary joint small with 2 strong spines on the outer margin, 2 terminal ringed spines and 1 small spine on the inner distal margin. Abdomen 4-jointed, very wide. Furcal rami small and tumid.

Several specimens of this curious species were found in the Muttuvaratu pearl oyster washings.

***Dactylophusia æmula*, n. sp.**—Plate XI., figs. 9 to 12.

Length, female 0·4 millim. ; male unknown.

In general appearance very like *D. laticaudata*, but smaller and less robust. The colouring is the same as in that species.

Anterior antennæ narrow, 7-jointed. The proportional lengths of the joints are

as follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{13. \ 12. \ 10. \ 11. \ 4. \ 3. \ 6.}$

Posterior antennæ, mandible and palp, maxilla and maxilliped as in *D. laticaudata*. The 1st to 4th natatory legs resemble those of *D. laticaudata*, except that the basal joint of the inner branch of the 1st is less tumid. The 5th legs in this species also have the primary joint large and foliaceous, but proportionally broader than long, and

the terminal spines are shorter and less tumid; secondary joint small. Marginal spines, with the exception of the inner sub-terminal one which is very strong, short and slender. Abdomen less tumid than in *D. laticaudata*.

Several specimens, all females, from the same locality as the foregoing species, from which it is distinguished by the structure and proportional lengths of the joints of the anterior antennæ, and by the 1st and 5th legs. The two foregoing species differ in the structure of their appendages, especially in the 1st legs, which have the inner branch only 2-jointed, from the general type of *Dactylophusia*, and may some time require a separate genus.

***Dactylophusia platysoma*, n. sp.**—Plate XI., figs. 13 to 18.

Length, female 0·62 millim.; male unknown.

In general appearance more like a *Porcellidium* than a *Dactylophusia*, and it is only when the appendages are examined that it becomes clear that it is not a *Porcellidium*; neither can it be said to be a typical *Dactylophusia*, though provisionally referred to that genus. Anterior antenna moderately long and slender,

9-jointed; the proportional lengths are :  $\frac{1.}{13.} \frac{2.}{18.} \frac{3.}{10.} \frac{4.}{9.} \frac{5.}{4.} \frac{6.}{5.} \frac{7.}{2.} \frac{8.}{2.} \frac{9.}{4.}$

Posterior antennæ, mandible and palp, maxilla and 1st maxillipeds nearly as in *D. tisboides*; 2nd maxillipeds elongate, with a strong terminal claw. First natatory legs resembling those of *D. tisboides*; 2nd, 3rd and 4th though generally like those of *Dactylophusia*, are more slender than the corresponding legs of any member of the genus known to us. The 5th feet have the primary joint large and foliaceous. The extremity of the joint is fringed with fine hairs, amongst which are 3 prominent setæ; secondary joint not distinctly separated from the primary one, with rounded margins and furnished with 6 apical setæ. Abdomen very flat, 4-jointed, furcal rami short.

Six females were found in the washings from the Muttuvaratu pearl oysters.

***Thalestris mysis*, CLAUS.**

Found in the Gulf of Suez and again at Cheval Paar, Ceylon.

***Pseudothalestris imbricata*, BRADY**—Plate XI., figs. 19 to 24.

This species was described from a single specimen (a male) in the Report on the "Challenger" Copepoda by Professor BRADY. No further specimens seem to have been discovered until now. In the present collection a single female was found in washings from the Muttuvaratu pearl oysters, which from its general resemblance in structural detail we have concluded is the female of *P. imbricata*.

Length, female 0·65 millim.

In general agreement with the recently described species of this genus, it is more like a small *Westwoodia* than a *Thalestris*. The outer branches of the 1st natatory



legs are very small and distinctly 2-jointed. Anterior antennæ 6-jointed; proportional lengths as follows:  $\frac{1. 2. 2. 4. 5. 6.}{9. 12. 21. 4. 7. 7.}$

Posterior antennæ, mandible, maxilla and maxillipeds similar to those figured by BRADY. Natatory legs 1 to 4 also similar. The 5th legs have a large primary joint and a small secondary joint each furnished with a number of hairs.

Furcal rami extremely short, much broader than long.

**Harpacticus chelifer** (MÜLLER).

A common littoral British species. It occurred only once, in a tow-net gathering from Marichchukaddi, Ceylon.

**Peltidium ovale**, n. sp.—Plate XIII., figs. 1 to 6.

Length, female 1·6 millim.; male unknown.

Body ovate, cephalothorax and abdomen not clearly separated. Anterior antennæ short, 6-jointed, the proportional lengths of joints being as follows:  $\frac{1. 2. 3. 4. 5. 6.}{13. 16. 10. 6. 2. 6.}$

Most of the joints are densely setiferous, the 3rd and 4th also bearing a long filament.

Posterior antennæ and mouth organs as in *P. purpureum*. Outer branch of 1st pair of natatory legs 2-jointed, with marginal hairs on both sides; inner branch 3-jointed, half as long again as the outer, the middle joint about twice the length of the 1st, and the 3rd joint very small, having at the apex two narrow curved claws. In the 2nd, 3rd, and 4th pair, both branches are 3-jointed, the outer branch armed on outer side with lateral aculeate plumose spines; the inner side and inner branch both bearing plumose setæ. The 5th pair of legs 2-jointed, the basal joint very small and produced on each side; the outer joint long and stout, with terminal aculeate spines.

Three females only were found in the Muttuvaratu pearl oyster washings and in the general washings of Invertebrates. This and the 4 following species all clearly agree with PHILIPPI's original description of the genus except as to the anterior antennæ, which he gives as 9-jointed, whereas our 5 new species are 6- and 7-jointed. Seeing that PHILIPPI knew of only one species, *P. purpureum*, we think the generic character should be altered to read—6- to 9-jointed, to admit these new forms.

The rounded forehead and the 5th pair of natatory legs sufficiently distinguish this species from the others.

**Peltidium angulatum**, n. sp.—Plate XIII., figs. 7 to 11.

Length, 1·2 millim.; male unknown.

Body angular, with large anterior protuberance or rostrum. Anterior antennæ 7-jointed, the proportional lengths being as follows:  $\frac{1. 2. 3. 4. 5. 6. 7.}{16. 14. 9. 6. 2. 2. 5.}$

First pair of natatory legs shorter and stouter than those of *P. ovale*; the basal joint of outer branch bears 2 small elongated processes in place of spines. Basal joint of 5th pair produced on one side into a long linear projection with apical spine; outer joint elongated, narrowing towards apex, armed with strong plain and plumose spines. Two specimens, both females, were found in the Muttuvaratu pearl oyster washings. It differs from *P. ovale* in the anterior antennæ, the 5th pair of legs, and particularly in the arrangement of the chitinous bands or reticulations of the carapace.

***Peltidium speciosum*, n. sp.**—Plate XIII., figs. 12 to 17.

Length, female 1.1 millim.; male unknown.

Body resembles *P. angulatum* in shape, but is differently reticulated, the chitinous bands being thicker. Anterior antennæ stout, 7-jointed, the filaments and setæ as in the two previous species; the proportional sizes are:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{22. \ 22. \ 14. \ 6. \ 3. \ 3. \ 6.}$

First pair of natatory legs very robust. In other respects they and the other pairs agree with *P. angulatum*. Fig. 17 represents a smaller form with thinner bands.

A number of specimens, all females, were found in the Muttuvaratu pearl oyster washings. The jointing of the anterior antennæ, and the robustness of the 1st pair of natatory legs, serve to distinguish this species.

***Peltidium serratum*, n. sp.**—Plate XIII., figs. 18 to 22.

Length, female 1.6 millim.; male unknown.

Body robust, rostrum broad, with 4 indentations on anterior surface; margins of all the cephalothoracic segments serrated. Anterior antennæ 6-jointed, the proportional lengths of the joints being as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{20. \ 20. \ 14. \ 4. \ 4. \ 7.}$

Outer branch of 1st pair of natatory legs robust. Fifth pair foliaceous, 1-jointed, with a long spear-shaped plumose apical spine and several lateral spines, some of them plumose; anteriorly drawn out into a curved protuberance with terminal spine representing a rudimentary basal joint.

Three specimens, all females, were found in the bottom tow-net at Chilavaturai, Ceylon. The character of the reticulation on the carapace and the remarkable 5th natatory legs clearly distinguish this species from others.

***Peltidium perplexum*, n. sp.**—Plate XIII., figs. 23 to 27.

Length, female 1.1 millim.; male unknown.

Body and character of reticulation resemble *P. speciosum*. Anterior antennæ 7-jointed, the proportional lengths of joints being as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{23. \ 16. \ 9. \ 6. \ 4. \ 3. \ 7.}$

Natatory legs similar to those of *P. angulatum*.

Two specimens, both females, were found in the Muttuvaratu pearl oyster washings. This differs from other species chiefly in the proportional lengths of joints of

anterior antennæ. CLEVE has formed a genus *Reticulina* for the species *R. aurivillii*, which is certainly a *Peltidium*, but it is not sufficiently well figured to enable us to compare it with any of the foregoing species.

**Ilyopsyllus affinis**, T. SCOTT.

Appeared once between Port Said and Suez, and again in the Gulf of Manaar, also at Kodramallai, north of Karativo, and  $2\frac{3}{4}$  miles south-south-west of Chilavaturai.

**Porcellidium fimbriatum**, CLAUS—Plate XII., figs. 1 to 10.

Length, female 0·7 millim.

Anterior antennæ 6-jointed; proportional lengths of joints:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{12. \ 13. \ 10. \ 6. \ 5. \ 2.}$

A few specimens, all females, of this species, which appear to be identical with CLAUS' *P. fimbriatum*, were found in the washings from the Muttuvaratu pearl oysters. The chief points that distinguish this species from the others are the 5th feet, the abdomen, and the furcal rami.

**Porcellidium brevicaudatum**, n. sp.—Plate XII., figs. 11 to 14.

Length, female 0·67 millim.

Anterior antennæ 6-jointed, as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{13. \ 17. \ 12. \ 8. \ 4. \ 2.}$

This species is easily distinguished from the others by its smooth carapace and ciliated margins, the large 5th feet, the short abdomen, and the furcal rami.

Six specimens, all females, were obtained from the Muttuvaratu pearl oyster washings and from the general washings of Ceylon Invertebrates.

**Porcellidium acuticaudatum**, n. sp.—Plate XII., figs. 15 to 18.

Length, female 0·6 millim.

Anterior antennæ 6-jointed; proportional lengths as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{11. \ 11. \ 8. \ 6. \ 4. \ 3.}$

The chief features of this species are its moderately large 5th feet with rounded apex, the small abdomen produced laterally on each side, and the acutely pointed apex of the furcal rami.

Three females of this distinct species were found in the washings from the Muttuvaratu pearl oysters.

**Porcellidium ravanæ**, n. sp.—Plate XII., figs. 19 to 22.

Length, female 0·6 millim.

Anterior antennæ 6-jointed; proportional lengths as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{10. \ 18. \ 13. \ 8. \ 5. \ 3.}$

The distinguishing characters of this *Porcellidium* are the moderately wide 5th feet, which taper off to an acute point, the small abdomen, the posterior angles of which are not so much prolonged as in *P. acuticaudatum*, and the obliquely rounded



external margin of the furcal rami. Three females of this species were found in the washings from the Muttuvaratu pearl oysters.

***Idya furcata* (BAIRD).**

A common British littoral species. Occurred at 7 stations from the English Channel through the Mediterranean and Gulf of Suez to the Red Sea.

***Idya longicornis*, T. SCOTT.**

Found in the general washings from Ceylon Invertebrates. Previously known only from British waters.

***Pseudanthessius gracilis*, CLAUS—Plate XIV., figs. 19 to 23.**

One specimen was found in the general washings of the Ceylon Invertebrata obtained about the pearl banks. We give some additional figures of this species.

***Pseudanthessius maximus*, n. sp.—Plate XIV., figs. 1 to 11.**

Length, female 3·5 millims.; male 2·7 millims.

Cephalothorax 6-jointed, the lateral spaces between the joints giving it a coarsely pinnatifid appearance. Abdomen of female 4-jointed, male 5-jointed, the 1st segment in the male being much longer and wider than any of the others.

Anterior antennæ 7-jointed, each joint bearing several short spinous setæ, and the proportional lengths being as follows:  $\frac{1. \quad 2. \quad 3. \quad 4. \quad 5. \quad 6. \quad 7.}{15. \quad 32. \quad 7. \quad 9. \quad 9. \quad 7. \quad 6.}$

Posterior antennæ 4-jointed, the 3rd joint much the smallest; the 4th bears a stout blunt hooked spine. Mandible is produced apically into a long recurved spine with toothed edges, also a smaller toothed spine, and toothed edge. The palp is short, armed with three apical spines and a lateral one. First maxilliped has a stout basal joint, with an outer joint extended into 2 curved hairy spines. Second maxilliped of female has an oval middle joint terminating in a short claw; that of the male is a strong grasping hand, the terminal claw long and stout.

First pair of natatory legs has both branches 3-jointed, the outer one armed with serrated lanceolate spines; both branches have numerous plumose setæ. Fourth pair 2-branched; the outer one 3-jointed, armed with short ovate serrated spines, the inner branch consists of 1 long joint gradually widening to the apex; the lateral posterior edges are produced into spines, between which are 2 terminal plumose setæ. The 5th pair consist each of a long curved joint with 3 terminal plumose spines. Furcal rami about 3 times as long as broad, slightly tapering to apex.

Several males and females were taken by surface tow-net in Galle harbour.

This species is easily distinguished by its large size, by the mandible and posterior antennæ, and by the 4th and 5th pair of natatory legs.

**Pseudanthessius chelifer**, n. sp.—Plate XIV., figs. 12 to 18.

Length, female 1 millim. ; male unknown.

Cephalothorax 6-jointed, ovate. Abdomen 4-jointed, the 1st joint swollen and rounded anteriorly, narrowing to base. Anterior antennæ 7-jointed, the proportional

lengths of the joints being as follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{16. \ 24. \ 8. \ 21. \ 16. \ 12. \ 12.}$

Posterior antennæ 3-jointed, the apical joint having 3 long terminal spines and a long broad curved terminal claw dentated on upper side. Mandible small, anteriorly extended into a serrated spine ; palp large, having 3 terminal spines. The 1st maxilliped narrow, ending in a denticulate spine and a smaller lateral spine. The 2nd maxilliped consists of a long narrow curved joint having 2 small lateral spines and 3 terminal spines. Inner branch of 4th pair of natatory legs consists of one small narrow joint with terminal spine. Furcal rami about 3 times as long as broad.

Several specimens, all females, were found about the pearl banks. A very distinct species, readily recognized by its posterior antennæ, the 2nd maxilliped and the 4th pair of natatory legs.

**Pseudanthessius concinnus**, n.sp.—Plate XIV., figs. 24 to 30.

Length, female 0·85 millim. ; male unknown.

Cephalothorax ovate, similar to *P. gracilis*, but considerably smaller. Abdomen 5-jointed. Anterior antennæ 7-jointed, the proportional lengths of the joints being as

follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{10. \ 24. \ 8. \ 16. \ 16. \ 12. \ 7.}$

Posterior antennæ nearly as in *P. gracilis*. Mandibles consist of a curved joint, tumid in centre, with narrow, blunt termination. First maxilliped 1-jointed, long, narrow towards apex, with strong lateral and terminal spines. Second maxilliped 2-jointed, the first joint rather longer than broad ; terminal joint very small with 2 strong apical spines. Both branches of 1st pair of natatory legs 3-jointed ; inner branch of 4th pair 1-jointed with truncate base terminating in large serrated lanceolate spine and one plain spine ; outer branch 3-jointed, having serrated lanceolate spines. Furcal rami long and narrow.

One specimen only, a female, was found in the general washings from Ceylon Invertebrata.

The mouth organs, the inner branch of 4th pair of natatory legs and the furcal rami are the distinguishing features of this species.

**Pseudanthessius liber** (BRADY and ROBERTSON).

Found amongst the general washings of Invertebrates from the pearl oyster beds.

**Lichomolgus minor**, A. SCOTT.

Found at 2 stations only, and far apart, viz., between Port Said and Suez, and amongst the washings of young pearl oysters, Ceylon.

**Lichomolgus gracilis**, n. sp.—Plate XV., figs. 1 to 9.

Length, male 0·7 millim.; female 1 millim.

Cephalothorax (female) ovate, 6-jointed, abdomen 3-jointed, the 1st considerably longer and wider than the combined succeeding 2 joints. First joint of male abdomen quadrate; more than 4 times the size of the 2nd joint.

Anterior antennæ (female) 7-jointed, the proportional lengths of the joints being as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{17. \ 25. \ 9. \ 11. \ 12. \ 7. \ 5.}$

Posterior antennæ 3-jointed, the apical joint terminating in a strong curved claw, and having 3 small lateral spines. Mandible has an angular quadrate base, and is pectinated along upper edge; palp short, with 3 spines.

First maxilliped has outer joint triangular, sharp and wedge-shaped, and has a serrated curved lateral spine arising from centre; outer joint of 2nd maxilliped (female) very small, with stout apical spines; in the male it is a grasping hand with long curved claw. Inner branch of 4th pair of natatory legs 2-jointed. Furcal rami divergent, about 4 times as long as broad.

Several males and females were found in the general washings of dredged Invertebrates. The mouth organs, posterior antennæ, and furcal rami sufficiently distinguish this species.

**Lichomolgus ieversi**, n. sp.—Plate XV., figs. 10 to 17.

Length, male 0·96; female 1·06.

Cephalothorax 6-jointed; cephalic segment subquadrate; abdomen 4-jointed, the genital segment smaller than in the other species of the genus. Anterior antennæ 7-jointed, the proportional lengths of the joints as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{16. \ 25. \ 8. \ 17. \ 17. \ 12. \ 5.}$

Posterior antennæ 3-jointed; the middle joint small; apical joint longer than the combined 1st and 2nd; with four terminal curved spines, two of which are moderately stout. Mandibles long and narrow, coming to a fine point, edges hairy. Terminal joint of 1st maxilliped drawn out, forming a fine ciliated stylet; there is also one lateral spine; 2nd maxilliped (female) 3-jointed, with very short terminal spine; 2nd maxilliped of male forms a chelate hand with very long rounded claw. Inner branch of 4th pair of natatory legs 2-jointed, the outer branch equals 3 of the inner and has truncated apex; outer branch has 5 lanceolate spines. Furcal rami very long and nearly parallel.

About 20 females and 4 males were found in the Muttuvaratu pearl oyster washings and in the Invertebrata washings. The mouth organs, antennal joints, and the furca are the chief distinguishing features of this species, which is named in honour of Mr. R. W. IEVERS, Government Agent of the Northern Province of Ceylon, where the pearl banks are situated.



**Lichomolgus buddhensis**, n. sp.—Plate XV., figs. 18 to 24.

Length, female 1 millim. ; male unknown.

Cephalothorax broadly ovate, about 4 times as long as the abdomen, which is 3-jointed; the genital segment being about 4 times the size of the 2 combined succeeding joints; it is much swollen in the middle. Anterior antennæ 7-jointed, the proportional lengths of the joints being as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{17. \ 31. \ 7. \ 15. \ 14. \ 13. \ 10.}$

Mandible and palp short. Maxillipeds and natatory legs similar to *P. ieveri*. Furca quadrate, very small.

Several specimens, all females, were found in the general washings of dredged Invertebrates. The very short abdomen and furca are quite characteristic of this species—named in honour of the celebrated home of Buddhism from which it came.

**Lichomolgus lankensis**, n. sp.—Plate XV., figs. 25, 26.

Length, female 1.0 millim. ; male unknown.

Cephalothorax ovate. Abdomen 3-jointed; genital segment about as long as the combined two succeeding joints and furca. Anterior antennæ 7-jointed, the proportional lengths being as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{22. \ 29. \ 10. \ 14. \ 10. \ 7. \ 5.}$

Posterior antennæ, mouth organs, and natatory legs as in *L. gracilis*.

Three specimens, all females, were found in the general washings of dredged Invertebrates. Its general form, and the comparative shortness of the anterior antennæ and furca, distinguish this species from others of the genus.

**Lichomolgus simplex**, n. sp.—Plate XV., figs. 27 to 34.

Length, female 0.88 millim. ; male 0.8 millim.

Cephalothorax 6-jointed, abdomen (female) 4-jointed, male abdomen 5-jointed, genital segment double in size that of the female; anterior antennæ 6-jointed, the proportional lengths being as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{13. \ 22. \ 8. \ 22. \ 18. \ 18.}$

Posterior antennæ 3-jointed, the middle one very short; terminal joint 3 times the length of the second, with 2 apical spines. Mandible constricted in centre; outer portion somewhat quadrate, with ciliated edges bearing 2 small corner filaments and a plumose spine. Maxillipeds similar to *L. buddhensis*, but stouter. Natatory legs as in *L. gracilis*.

Furcal rami about 3 times as long as broad. A few specimens of each sex were found in the washings from sponges dredged in the Gulf of Manaar. The general shape of the animal and of the abdomen and furca and the jointing of the anterior antennæ serve to distinguish this species.

**Lichomolgus elegans**, n. sp.—Plate XVI., figs. 8 to 13.

Length, female 1.5 millim. ; male unknown.

Cephalothorax 6-jointed. Abdomen 4-jointed, the genital segment being longer than the 3 succeeding joints combined, and having a wedge-shaped notch near the centre on each side. Anterior antennæ 7-jointed, the proportional lengths being as follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{11. \ 32. \ 4. \ 11. \ 9. \ 7. \ 4.}$

Posterior antennæ 3-jointed, the first joint rather longer and nearly double the width of each of the succeeding joints. The third joint bears a strong apical claw. Maxillipeds resemble *L. buddhensis*, but are stouter. Inner branch of 4th pair of natatory legs 2-jointed, the outer joint being about double the length of the inner. Furcal rami very short, about as broad as long.

One specimen only, a female, was found in the general washings from dredged Invertebrates. The notched abdominal genital segment is the most striking characteristic of this species.

**Lichomolgus robustus**, n. sp.—Plate XVI., figs. 14 to 20.

Length, female 1.1 millim. ; male unknown.

Cephalothorax robust, ovate, 6-jointed. Abdomen 4-jointed ; the genital segment about as long as the combined 2 succeeding joints. Anterior antennæ 7-jointed, the proportional lengths being as follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{15. \ 32. \ 5. \ 11. \ 8. \ 8. \ 5.}$

Posterior antennæ similar to *L. simplex*, but more robust. Mandible stylet serrated on outer edge. Maxillipeds and natatory legs like *L. buddhensis*. Furca about half as long again as broad.

One specimen only, a female, was found in the general washings from dredged Invertebrata. In many points there is a great resemblance between this species and *L. buddhensis* ; but in the jointing of the cephalothorax, and more particularly of the abdomen, and in the small size of the 5th natatory legs in this species, the difference is so considerable that we are justified in separating them.

**Lichomolgus gigas**, n. sp.—Plate XVI., figs. 21 to 26.

Length, female 2 millims. ; male 1.4 millims.

Cephalothorax ovate, 6-jointed. Abdomen, female 4-jointed ; male 5-jointed. Anterior antennæ long and slender, 7-jointed ; the proportional lengths being as follows :  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{12. \ 32. \ 4. \ 16. \ 12. \ 9. \ 7.}$

Posterior antennæ, mouth organs, and natatory legs and furca nearly resemble *L. simplex*.

One of each sex were found in the general washings of dredged Invertebrata.

The large size and the jointing of the slender anterior antennæ sufficiently distinguish this species.

**Lichomolgus dentipes**, n. sp.—Plate XVI., figs. 27 to 30.

Length, female 0·86 millim. ; male unknown.

Cephalothorax broadly ovate, the cephalic segment equal in size to the combined 5 following ; the edges of the 3rd and 4th segments are finely serrated. The 5th segment is very small, with sharply-pointed lateral terminations.

Abdomen very short and stout, hardly  $\frac{1}{5}$ th the length of cephalothorax ; genital segment as long as the combined 2 following and double the width ; 4th joint the same as 1st. Furcal rami equal in length and breadth.

Anterior antennæ 7-jointed, the proportional lengths being:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{11. \ 26. \ 3. \ 7. \ 4. \ 3. \ 2.}$

Mouth organs as in *Paralichomolgus*. Inner branch of 4th natatory legs 2-jointed, both joints straight and very narrow. The 5th pair have each a large tooth projecting from inner side anteriorly.

Of this very striking species one specimen only, a female, was found in the general washings of dredged Invertebrata. It is easily recognisable by its serrated thoracic edges and by the 4th and 5th natatory legs—the tooth on the latter gives the specific name.

**Paralichomolgus**, n. gen.

Female ; body composed of 10 segments ; cephalothorax rotund or ovate ; 5-jointed ; genital segment much larger than the others, being the 1st and 2nd segments united.

Anterior antennæ 8-jointed. Posterior antennæ, mouth organs, and natatory legs as in *Lichomolgus*. The difference between this genus and *Lichomolgus* consists in the lateral prolongations of the body segments and in the jointing of the anterior antennæ.

**Paralichomolgus curticaudatus**, n. sp.—Plate XVI., figs. 1 to 7.

Length, female 1·2 millims. ; male unknown.

Cephalothorax ovate, 5-jointed ; the posterior edges of segments 2 to 4 being pointed. Abdomen very short, about  $\frac{1}{5}$ th the length of the cephalothorax ; genital segment wider than its length and having on each side posteriorly a rounded lobe ; the other joints very small. Furcal rami very small, almost half spheres. Anterior antennæ

8-jointed, the proportional lengths being as follows:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7. \ 8.}{12. \ 35. \ 3. \ 8. \ 13. \ 8. \ 4. \ 3.}$

Posterior antennæ 3-jointed ; the 1st and 2nd joints sub-equal ; the 3rd as long as the combined 1st and 2nd ; terminal claw thick, and obtuse at apex. Mandible and palp as in *Lichomolgus buddhensis*. Maxillipeds similar to *Lichomolgus ieversi*, except that the joints of the 2nd are nearly double the width of the latter. Natatory legs also similar to those of latter species ; the 2 joints of inner branch of the 4th pair, however, being equal in length to the 3-jointed outer branch.



Two specimens, both females, were found in the general washings from the dredged Invertebrata. The short abdomen, the wide joints of 2nd maxillipeds, and the jointing of inner branch of 4th pair of natatory legs readily distinguish this species.

**Paralichomolgus longicaudatus**, n. sp.—Plate XX., figs. 6 to 8.

Length, female 1.1 millims. ; male unknown.

Body sub-rotund; 1st to 3rd joints of cephalothorax are pointed posteriorly and with a tooth on each lateral edge of 2nd and 3rd; 4th joint very small. Abdomen about  $\frac{1}{4}$  the length of cephalothorax; genital segment large and tumid; the rest 3 times broader than long. Furcal rami square, very short, with long terminal setæ.

Anterior antennæ 8-jointed, the proportional lengths being:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7. \ 8.}{16. \ 28. \ 2. \ 9. \ 12. \ 8. \ 4. \ 3.}$

Posterior antennæ, mandible, maxillipeds, and first 3 pairs and 5th pair of natatory legs as in *P. curticaudatus*. The 2-jointed inner branch of 4th pair natatory legs springs from middle of long basal joint at right angles; the 3 joints of outer branch being also at right angles to basal joint.

One specimen only, a female, was found in the general washings from dredged Invertebrata. The general appearance and the 4th pair of natatory legs clearly distinguish this species from the last described.

**Hermannella arenicola**, BRADY.

Found in the general washings of dredged Invertebrata from the pearl banks.

**Hermannella robusta**, n. sp.—Plate XVII., figs. 1 to 8.

Length of female 1.1 millims. ; male unknown.

A very robust species with comparatively short abdomen. Anterior antennæ 7-jointed; proportional lengths of joints:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{16. \ 35. \ 5. \ 16. \ 8. \ 6. \ 4.}$

The posterior antenna has a short stout hook-like spine arising from the 3rd joint. Mandible and maxillipeds have a general resemblance to the corresponding organs in *Lichomolgus*. Both branches of 1st to 4th natatory legs are 3-jointed. The 5th legs are rudimentary. Abdomen with 4 segments; genital segment large and tumid, 4th joint longer than the 3rd; furcal rami about twice as long as broad, and slightly longer than the last abdominal segment.

This species is easily recognised by the robust body and short abdomen, which is less than a fourth of the length of the body, and by the short furca. Three females were found in the washings from Ceylon Invertebrates.

**Hermannella serendibica**, n. sp.—Plate XVII., figs. 9 to 11.

Length of female, 1.16 millims. ; male unknown.

In general appearance more attenuated than *H. robusta*. Anterior antennæ 7-jointed; proportional length of joints:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{8. \ 26. \ 6. \ 12. \ 9. \ 6. \ 4.}$

Posterior antennæ, mandible, maxillipeds and natatory legs similar to those of *H. robusta*. The 5th feet are more developed than in the previous species. Abdomen 4-jointed, rather less than half the length of the body. Genital segment large, much wider posteriorly than in front; 2nd, 3rd and 4th joints subequal in length and each about as long as broad. Furcal rami long and narrow, about 5 times longer than broad and equal to the combined lengths of the 3rd and 4th joints of the abdomen. Three females were found in washings from Gulf of Manaar sponges. This *Hermannella* is easily identified by its attenuated form, long abdomen, with the peculiar swelling of the genital segment, and long furca.

**Hersiliodes leggii**, n. sp.—Plate XVII., figs. 12 to 21.

Length of male 1.5 millims.; female unknown.

Anterior antennæ 7-jointed; the proportional lengths are:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{11. \ 14. \ 7. \ 20. \ 13. \ 9. \ 12.}$

Posterior antenna 4-jointed, similar to that of other *Hersiliodes*. Mandible strong, with a well-developed biting part. Maxilla more developed than in *Lichomolgus*, and bearing a number of strong apical setæ. The first maxilliped has the terminal joint strongly toothed and also furnished with a setiferous digit. The second maxilliped well developed, in general appearance resembling that of other species of the genus.

Both branches of 1st to 4th natatory legs are 3-jointed. Fifth legs foliaceous, subquadrangular in shape, rather longer than broad, and furnished with 3 dagger-like spines and 1 seta. Abdomen 5-jointed, fully half as long as the body. Furcal rami short, about as broad as long.

One specimen in washings from Gulf of Manaar sponges. This species, which we name after Captain LEGGE, at present Inspector of the pearl banks, is easily recognised from any other member of the genus by the proportional lengths of the joints of the anterior antennæ and by the quadrangular 5th legs.

**Hersiliodes tamilensis**, n. sp.—Plate XVII., figs. 22 to 25.

Length, female 1.3 millims.; male unknown. In general appearance resembling the previous species. Anterior antennæ 7-jointed; proportional lengths of the

joints:  $\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6. \ 7.}{10. \ 10. \ 5. \ 15. \ 10. \ 7. \ 11.}$

Posterior antennæ, mandible, maxilla, and 1st maxillipeds nearly as in *H. leggii*. Terminal joint of 2nd maxilliped armed with 2 moderately strong spines and 2 small setæ. Natatory legs 1 to 4 somewhat similar to those of *H. leggii*. Fifth legs long and narrow, about 3 times longer than broad, and armed with 3 dagger-like spines and 1 seta.

Abdomen 5-jointed, fully half as long as the body. Genital segment long and broad, widest near the middle; 2nd joint quadrangular in shape, about half as long as the genital segment; 3rd, 4th, and 5th joints shorter than broad, and in combined

length equal to the 2nd joint. Furcal rami short and wide, about as broad as long.

In washings from Muttuvaratu pearl oysters.

The proportional lengths of the joints of the anterior antennæ, and the long and narrow 5th feet, distinguish this species from any of the others.

*Hersiliodes dubia*, n. sp.—Plate III., figs. 18 to 27.

Length, male 1·8 millims. ; female unknown.

Cephalothorax quadrate in form, composed of 5 segments. Anterior antennæ 6-jointed, and all clothed with non-plumose setæ; the proportional lengths are as follows :

$\frac{1. \ 2. \ 3. \ 4. \ 5. \ 6.}{8. \ 6. \ 5. \ 3. \ 4. \ 8.}$

Posterior antennæ 4-jointed, the basal joint equalling in size the 3 following.

Mandible with 2 horizontal plumose projections and 2 plumose setæ. Maxilla with 3 terminal spinous setæ, and 4 on the outer side, 2 of them plumose. First maxilliped 2-jointed, the apical joint terminating in a strong curved claw and a plumose spine on each side. Second maxilliped 2-jointed, the basal one with a rounded papilla; the hand angularly curved on outer side, terminating in a long rounded claw bluntly rounded at apex, and having on under side 3 spine-like setæ.

First 4 pairs of natatory legs 2-branched, each having 3 joints with the edges mostly clothed with fine hairs. Fifth pair each consist of a quadrate joint with 3 strong spines and a few hairs and setæ at base. Abdomen rather shorter than the cephalothorax, 5-jointed, the genital segment very large, nearly square, and having hooked posterior lateral terminations.

Furcal rami linear, about 4 times as long as broad, with a small spine on each outer side and terminating in 3 setæ of unequal lengths.

One specimen only, a male, was taken in the Suez Canal.

This species agrees, in most particulars, with CANU'S *Hersiliodes*. CANU, however, gives 7 joints in the anterior antennæ, although his careful drawing of *H. pelseuerei* shows only 6 joints. It is evident that the species comprising the genus *Hersiliodes* undergo considerable changes in their various ecdyses, and in the absence of an adult female we can only provisionally place our species in this genus.

FAMILY: ONCEIDÆ.

*Oncea venusta*, PHILIPPI.

*Oncea media*, GIESBR.

*Oncea minuta*, GIESBR.

*Oncea mediterranea*, CLAUS.

All the above were generally distributed over the entire voyage. *O. media* was found only once about Ceylon, viz., at Mudalaikuli Paar. *O. mediterranea* occurred



twice in Ceylon, viz., at Muttuvaratu Paar and at Talaivillu Paar. *O. venusta* was taken at 10 and *O. minuta* at 5 Ceylon stations.

*Oncea subtilis*, GIESBR.

*Oncea notopus*, GIESBR.

*Oncea conifera*, GIESBR.

Three rarer species. *O. subtilis* occurred at 3 Mediterranean stations; *O. notopus* between Port Said and Suez, and *O. conifera* in the Northern Indian Ocean.

*Lubbockia squillimana*, CLAUS.

Occurred at 4 stations in the Gulf of Suez and Red Sea, and once off Minikoi.

FAMILY: CORYCÆIDÆ.

*Corycæus venustus*, DANA.

Eighteen species of the genus *Corycæus* are included in the collection. *C. venustus* was obtained in fair numbers throughout the entire voyage, occurring at 42 stations.

*Corycæus rostratus*, CLAUS.

Occurred at 5 Mediterranean stations.

*Corycæus danæ*, GIESBR.

Taken at 22 stations, from the Mediterranean onwards.

*Corycæus furcifer*, CLAUS.

Taken at 2 Mediterranean stations, twice in the Indian Ocean, and at 5 Ceylon stations.

*Corycæus flaccus*, GIESBR.

Occurred at 7 Mediterranean stations and once in the Indian Ocean.

*Corycæus elongatus*, CLAUS.

Taken once in the Mediterranean, twice in the Red Sea and once in the northern Indian Ocean.

*Corycæus speciosus*, DANA.

Generally distributed throughout the voyage, and taken at 5 Ceylon stations.

*Corycæus lubbockii*, GIESBR.

Found at 8 stations, in Mediterranean, Indian Ocean and 4 localities round Ceylon.

*Corycæus carinatus*, GIESBR.

Occurred 5 times, viz., Mediterranean, Gulf of Suez and Indian Ocean, off Minikoi and south of Cheval Paar, Ceylon.

**Corycæus ovalis**, CLAUS.

Taken at 11 stations in the Mediterranean, Red Sea and northern Indian Ocean.

**Corycæus obtusus**, DANA.**Corycæus gibbulus**, GIESBR.**Corycæus longistilis**, DANA.

Similar in range of distribution, occurring from Suez to Ceylon at 47, 41 and 16 stations respectively. *C. longistilis* however occurred only once about Ceylon, viz., south of Adam's Bridge, the others being generally represented round the island.

**Corycæus concinnus**, DANA.

First appeared in the Indian Ocean, where it occurred at 13 stations, and at 5 Ceylon localities.

**Corycæus gracilicaudatus**, GIESBR.

Similar in range to *C. concinnus*, but it first appeared in the Red Sea.

**Corycæus robustus**, GIESBR.

Taken once only, in the northern Indian Ocean.

**Corycæus tenuis**, GIESBR.

Occurred at 3 stations, viz., in the northern Indian Ocean, off Negombo, and at the Cheval Paar pearl banks.

**Corycæus longicaudis**, DANA.

One specimen was found at Muttuvaratu Paar, Ceylon.

**Copilia mirabilis**, DANA.

Found in the Mediterranean, Gulf of Suez, Red Sea, at 6 stations in the Indian Ocean, and once at Ceylon, south-east of Cheval Paar.

**Sapphirina ovatolanceolata**, DANA.

Ten species of the genus *Sapphirina* occur in the collection, the majority being represented at only 1 or 2 localities. *S. ovatolanceolata* was the most widely distributed, and occurred at 12 stations, extending from the Mediterranean to the Red Sea and Indian Ocean as far as Minikoi.

**Sapphirina gastrica**, GIESBR.

Occurred twice, viz., in the Red Sea, and again from Perim into the Indian Ocean.

**Sapphirina ovalis**, DANA.

One specimen was taken in the Indian Ocean after leaving Perim, and another south of Adam's Bridge, Ceylon.

**Sapphirina nigromaculata**, CLAUS.

Occurred at 6 Indian Ocean stations, and south of Cheval Paar, Ceylon.

**Sapphirina metallina**, DANA.**Sapphirina salpæ**, CLAUS.**Sapphirina auronitens**, CLAUS.**Sapphirina bicuspidata**, GIESBR.**Sapphirina intestinata**, GIESBR.**Sapphirina sinuicauda**, BRADY.

One or two specimens of each of the above were taken in the Indian Ocean, with the exception of *S. sinuicauda*, which was taken at Vankali Paar, Ceylon.

## FAMILY: ASTEROCHERIDÆ.

**Asterocheres stimulans**, GIESBR.**Asterocheres dentatus**, GIESBR.**Asterocheres minutus**, CLAUS.

Several specimens belonging to each of the above species were obtained in the general washings from Ceylon Invertebrates and also in washings from sponges collected in the Gulf of Manaar.

**Asterocheres manaarensis**, n. sp.—Plate XIX., figs. 11 to 20.

Length, female 0·78 millim. ; male unknown.

Cephalothorax ovate, 6-jointed, the 5th joint very small. Abdomen 3-jointed; genital segment subquadrate, larger than the two following joints together.

Anterior antennæ 20-jointed, the relative lengths of the joints being as follows:—

|     |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |
|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. |
| 12. | 3. | 2. | 2. | 2. | 2. | 2. | 3. | 2. | 5.  | 7.  | 7.  | 7.  | 7.  | 8.  | 9.  | 13. | 4.  | 7.  | 4.  |

The 17th joint has a long filament, the others profusely setose.

Posterior antennæ, maxilla, and maxillipeds similar to *Asteropontius typicus*.

Mandible consists of a long scythe-like spine, without biting teeth, and a 2-jointed palp, the smaller apical joint bearing two terminal plumose setæ.

Both branches of 1st pair of natatory legs 3-jointed; 1st joint of outer branch has a large posterior plumose spine; 3rd and 4th joints of inner branch are toothed on inner side. Inner branch of 4th pair 3-jointed, the apical joint terminating in a large serrated lanceolate spine; the inner side of the joints toothed. The 5th pair each consist of a ciliated oblong joint. Furca short and stout, broader than long. Two specimens, both females, were found in the washings from Gulf of Manaar sponges.

**Asterocheres major**, n. sp.—Plate XVIII., figs. 21 to 28.

Length, female 1·1 millim. ; male 1 millim.



Body nearly circular in outline. Cephalothoracic segment large. Anterior antennæ 20-jointed; proportional lengths of joints:—

|     |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |
|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. |
| 12. | 5. | 4. | 3. | 3. | 3. | 3. | 4. | 4. | 5.  | 4.  | 4.  | 5.  | 7.  | 7.  | 7.  | 10. | 6.  | 4.  | 2.  |

Posterior antennæ, mandible and palp, maxilla, maxilliped, and natatory legs. 1st to 4th, nearly as in other *Asterocheres*. Fifth feet very narrow, about  $3\frac{1}{2}$  times longer than broad, furnished with three apical setæ. Abdomen 3-jointed, about  $\frac{1}{2}$  the length of the body, joints of moderate length, genital segment slightly longer than the 2nd joint, last joint about  $\frac{3}{5}$  the length of the second. Furca very short, about as broad as long, and only  $\frac{1}{4}$  the length of the last abdominal joint. The male is slightly smaller than the female, and has the anterior antenna only 17-jointed. The genital segment of the abdomen is slightly longer than the combined lengths of the next 2 joints.

A number of specimens in washings from material collected off Point de Galle. This species is easily recognised by its circular body and narrow abdomen.

***Asterocheres minor***, n. sp.—Plate XVIII., figs. 29 to 31.

Length, female 0·8 millim.; male 0·7 millim.

In general appearance very like *Asterocheres major*, only much smaller.

Anterior antennæ 20-jointed; proportional lengths of joints:—

|     |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |
|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. |
| 10. | 3. | 3. | 3. | 2. | 2. | 2. | 3. | 4. | 4.  | 3.  | 3.  | 4.  | 4.  | 5.  | 6.  | 8.  | 4.  | 5.  | 2.  |

Other appendages similar to *A. major*.

The distinguishing characters of this species are the difference in the proportional lengths of the joints of the anterior antennæ, the different proportional lengths of the abdominal joints and the furca, the latter being about  $\frac{1}{2}$  the length of the last abdominal joint.

Several specimens in washings from Gulf of Manaar sponges.

#### ***Asteropontius***, n. gen.

Cephalothorax roundly ovate, 5-jointed, the cephalic segment larger than the combined lengths of the 4 following segments. Anterior antennæ 18–19-jointed. Abdomen 3-jointed.

Outer branch of posterior antennæ 4-jointed, a small 1-jointed branch springing from the 1st joint. Maxilla 2-branched. Mandible long and narrow; palp 1-jointed. Maxillipeds and natatory legs, 1st to 5th, as in *Asterocheres*.

***Asteropontius typicus***, n. sp.—Plate XIX., figs. 1 to 10.

Length, female 0·96 millim.; male unknown.

Cephalothorax roundly ovate, about twice the length of abdomen; genital segment

as long as the other 2 abdominal joints combined; tumid in centre. Furca very short.

Anterior antennæ 19-jointed, all clothed with short setose spines; the 17th carries a long narrow filament. The proportional lengths of the joints are as follows:—

|     |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |
|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. |
| 12. | 4. | 3. | 3. | 3. | 3. | 3. | 4. | 3. | 5.  | 7.  | 7.  | 7.  | 7.  | 7.  | 8.  | 9.  | 4.  | 6.  |

Mandible long, narrow, with 5 biting teeth at apex; palp 1-jointed, with long terminal plumose setæ. Maxilla 2-branched, the smaller one half the length and half the width of the larger branch, both bearing long terminal plumose setæ. Maxillipeds and 1st to 5th natatory legs as in *Asterocheres*; basal joint of outer branch of 1st pair has a broad lanceolate spine on apex of outer margin.

Several specimens, all females, were found in the washings from Gulf of Manaar sponges, and in the general washings of Invertebrates. The species bears a general resemblance to *Asterocheres*, but the 19-jointed antennæ and the 1-jointed mandible palp separate it therefrom.

***Asteropontius attenuatus***, n. sp.—Plate XVIII., figs. 11 to 20.

Length, female 0·92 millim.; male unknown.

Body attenuated, very narrow in front. Cephalothoracic segment triangular in outline, nearly twice as long as the combined lengths of the 1st, 2nd, and 3rd thoracic segments. Anterior antennæ 18-jointed, with a large sensory filament on the end of the 17th joint. Proportional lengths of the joints:—

|     |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. |
| 11. | 4. | 2. | 2. | 2. | 2. | 2. | 3. | 7. | 4.  | 7.  | 7.  | 7.  | 8.  | 8.  | 10. | 12. | 10. |

Posterior antennæ, mandible, maxilla, maxillipeds, and 1st to 4th natatory legs nearly as in *Asteropontius typicus*. Fifth feet long and very narrow, about 6 times longer than broad, and furnished with 3 apical setæ. Abdomen 3-jointed. Genital segment longer than the combined length of the next 2 joints. Anterior portion tumid. Furcal rami short, about  $2\frac{1}{2}$  times as long as broad, and equal to the length of the last abdominal joint.

Two specimens were found in washings from Ceylon Invertebrates.

This species is easily distinguished from *A. typicus* by its attenuate form and the long narrow 5th feet.

***Collocheres giesbrechti***, n. sp.—Plate XVIII., figs. 1 to 10.

Length, female 0·67 millim.; male unknown.

Body elongate, sub-ovate; cephalothoracic segment with a rounded forehead and about equal to twice the lengths of the 1st to 3rd thoracic segments combined. Anterior antennæ 20-jointed, with a sensory filament on the end of the 18th joint.

Proportional lengths of the joints:—

|     |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |
|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. |
| 12. | 3. | 3. | 3. | 3. | 3. | 4. | 3. | 4. | 3.  | 4.  | 7.  | 5.  | 7.  | 7.  | 8.  | 8.  | 9.  | 5.  | 9.  |

Posterior antennæ, mandible and palp, maxilla and maxillipeds and natatory legs nearly as in *C. gracilicauda*. Fifth feet 2-jointed, 2nd joint slightly curved, long and narrow, furnished with 2 sub-apical setæ on the outer margin, one sub-apical seta on the inner margin and one apical seta, on each side of which there is a distinct tooth-like projection of the foot. Abdomen narrow, 4-jointed. Genital segment longer than the combined lengths of the 2nd, 3rd and 4th joints. Furcal rami short and narrow, about  $2\frac{1}{2}$  times longer than broad.

Two specimens in the washings from Ceylon Invertebrates.

This species is easily distinguished from the other members of the genus by the lengths of the joints of the anterior antennæ, the shape of the 5th feet and the furca.

We have much pleasure in naming the new *Collocheres* after Dr. GIESBRECHT, whose monograph on the Naples Copepoda belonging to this peculiar family has done much to simplify their study.

***Scottocheres elongatus*** (T. and A. SCOTT).

***Scottocheres longifurca***, GIESBR.

Both found in washings from Ceylon dredged Invertebrates.

***Lepeopsyllus*, n. gen.**

Body oval, thin and scale-like, composed of 4 segments. Abdomen 3-jointed and completely covered by the last thoracic segment. Furca completely covered or only partly covered by the same segment. The margin of the carapace is thickly lined with papilla-like prolongations, of irregular length, which probably impart strength to this region.

Siphon long, reaching to about the end of the last abdominal joint. Anterior antennæ 13-15-jointed. Outer branch of posterior antennæ 4-jointed; inner branch long and blade-like.

Mandible rudimentary, consisting of a long hair attached to a short slender basal joint; palp 2-jointed, the joints long and of about equal length, the outer one covered with minute hairs. Maxilla consists of 2 separate lobes attached to the ends of a long basal joint. Maxillipeds nearly as in the other *Asterocheridæ*.

Both branches of 1st to 3rd pairs of natatory legs 3-jointed; outer branch of 4th pair 3-jointed, the inner consisting of a minute knob with one hair; 5th pair each consist of a long curved hairy appendage. Furca divergent, long and narrow.

***Lepeopsyllus typicus*, n. sp.**—Plate XIX., figs. 21 to 29.

Length, female 1.48 millims.; male unknown.

Anterior antennæ 15-jointed, the proportional lengths of the joints being as follows:

|     |     |     |    |    |    |    |    |    |     |     |     |     |     |     |                                      |
|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|--------------------------------------|
| 1.  | 2.  | 3.  | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | Joint 12 bears a long fine filament. |
| 26. | 13. | 18. | 5. | 4. | 5. | 4. | 4. | 4. | 4.  | 4.  | 4.  | 5.  | 3.  | 4.  |                                      |



The other characters are the same as those of the genus. Furcal rami long and divergent, extending a little beyond the edge of the carapace.

One specimen, a female, was found in the Muttuvaratu pearl oyster washings. This species has a longer and less rounded body than the succeeding one, the only known species for which it could be mistaken. The jointing of the anterior antennæ also serves to distinguish it.

**Lepeopsyllus ovalis**, n. sp.—Plate XIX., figs. 30 to 33.

Length of female 1·4 millims. ; male unknown.

Carapace more rotund than in *L. typicus* but otherwise very similar. Anterior antennæ 13-jointed, the proportional lengths of the joints being as follows :—

|     |     |     |    |    |    |    |    |    |     |     |     |     |
|-----|-----|-----|----|----|----|----|----|----|-----|-----|-----|-----|
| 1.  | 2.  | 3.  | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. |
| 21. | 10. | 17. | 5. | 4. | 7. | 4. | 4. | 7. | 5.  | 2.  | 4.  | 2.  |

The other appendages are practically the same as those of *L. typicus*. Furca are entirely covered by the carapace. Two specimens, both females, were found in the general washings from dredged Invertebrates.

Besides the difference in shape of the carapace, the jointing of the anterior antennæ serves to distinguish this species from *L. typicus*.

#### **Doropontius**, n. gen.

Body nearly circular ; cephalic and thoracic segments produced laterally into strong points. Abdomen of the female 3-jointed, anterior antennæ 17-jointed. Posterior antennæ as in *Asterocheres manaarensis*. Mandible, maxilla, maxillipeds and 1st-4th pairs of natatory legs as in *Asterocheres*. Fifth pair of natatory legs 2-jointed.

**Doropontius denticornis**, n. sp.—Plate XX., figs. 1 to 5.

Length, female 0·9 millim. ; male unknown.

The cephalic segment shield-shaped, forming about  $\frac{3}{4}$  of the entire animal. Second and 3rd thoracic segments have each an obtuse lateral tooth. Abdomen short ; genital segment about twice as broad as long, laterally excavated to form an upper and a lower tooth, the latter rounded posteriorly. The 2nd and 3rd segments together hardly equal in length to the 1st, and about twice as broad as long. Anterior antenna 17-jointed, the proportional lengths of the joints being as follows :—

|     |    |     |    |    |    |    |    |    |     |     |     |     |     |     |     |     |
|-----|----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | 2. | 3.  | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. |
| 19. | 6. | 13. | 5. | 5. | 1. | 5. | 6. | 6. | 7.  | 7.  | 7.  | 8.  | 10. | 3.  | 6.  | 2.  |

The lower margin of the 4th joint is prolonged into a strong pointed tooth, and the 14th joint bears a long filament. Furcal rami quadrate, rather longer than broad.

A few specimens, all females, were found in washings from Gulf of Manaar sponges

and in the general washings of Invertebrates. The pointed cephalic and thoracic segments, the anterior antennæ, and the 3-jointed abdomen are the characters which distinguish this genus and species.

**Cletopontius, n. gen.**

Body broadly ovate, the cephalic segment forming about  $\frac{3}{4}$  of the entire body.

Abdomen 3-jointed. Inner branch of posterior antennæ 2-jointed. Mandible stylet-shaped, palp 1-jointed. Maxilla and maxillipeds as in *Asterocheres*. First, 2nd and 3rd pairs of natatory legs 2-branched, both branches 3-jointed; 4th pair composed of 1 branch only.

The characters of this genus do not agree in all respects with any of the known sub-families of the *Asterocheridæ*, and a new sub-family may therefore be required for its reception.

**Cletopontius serratus, n. sp.**—Plate XX., figs. 9 to 18.

Length, female 0·8 millim.; male unknown.

Lateral edges of 1st and 2nd thoracic segments bluntly serrated. Abdomen small, the genital segment being about equal in size to 16 of either of the 2 following joints.

Anterior antenna 18-jointed, the proportional lengths of the joints being as follows:—

|     |     |    |     |    |    |     |    |    |     |     |     |     |     |     |     |     |     |
|-----|-----|----|-----|----|----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | 2.  | 3. | 4.  | 5. | 6. | 7.  | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. |
| 28. | 12. | 7. | 15. | 6. | 8. | 10. | 3. | 6. | 12. | 10. | 8.  | 8.  | 10. | 10. | 13. | 14  | 3.  |

The 4th joint is faintly divided into 3, the 16th joint bears a long filament. Inner branch of posterior antenna 2-jointed; the apical joint less than  $\frac{1}{2}$  the length of the basal joint.

The other characters as those of genus, which readily distinguish it. A few specimens, all female, were found in the general washings of dredged Invertebrates.

**Bradypontius siphonatus, GIESBR.**

Found in washings from Ceylon dredged material.

**Artotrogus orbicularis, BOECK.**

One specimen was in the general washings from Ceylon dredged Invertebrates.

**Stephopontius, n. gen.**

Body sub-quadrate, a strongly marked dividing line separating the cephalic segment from the thoracic joints; all have rounded margins.

Abdomen of female composed of 1 joint; that of male 3-jointed. Anterior antenna of female 6-jointed; the male antenna is 2-jointed, the apex forming in conjunction with the extremity of the basal joint what appears to be a strong clasping organ.

Posterior antenna 1-branched. Mandible stylet-shaped; palp 1-jointed. Maxilla represented by a stout plumose spine. Maxillipeds as in *Asterocheres*. First pair of natatory legs each composed of two 1-jointed branches, the outer branch very small; 2nd and 3rd pair 2-branched, both 2-jointed; 4th pair 1-branched, having 2 joints. In 5th pair each consists of a lamella.

**Stephopontius typicus**, n. sp.—Plate XX., figs. 19 to 31.

Length, female 6·7 millims.; male 8 millims.

Second thoracic segment in female has a terminal lateral appendage on each side; this is absent in male, which has a prolongation of the last thoracic segment on each side of the abdomen. The 1-jointed abdomen in female has a small protuberance on each side at the genital opening. Male abdomen 3-jointed, very small.

Anterior antenna of female 6-jointed, the proportional lengths being as follows:—

|     |     |    |    |    |     |   |
|-----|-----|----|----|----|-----|---|
| 1.  | 2.  | 3. | 4. | 5. | 6.  | The terminal joint bears a long filament. |
| 13. | 16. | 8. | 8. | 7. | 16. |   |

Posterior antenna 4-jointed, the apical joint bearing a broad spine with wide trifid end. Other characters as in the genus. Furcal rami very small, spherical in male; knob-like in female. A number of specimens, both males and females, of this very striking form were found in the general washings from dredged Invertebrates. Its general appearance, the male anterior antennæ, and the 1st, 2nd and 5th natatory legs prevent its being mistaken for any other known species.

FAMILY: ERGASILIDÆ.

**Bomolochus scomberesocis**, KR.

One adult female with 2 larval forms attached to vulva was taken from the gills of *Caranx leptolepis* from Aripu, Ceylon.

**Bomolochus unicirrus**, RICHIARDI.

Several specimens, male and female, were found in the gill chambers of *Amphisile scutata*, Linn., from Ceylon.

FAMILY: CALIGIDÆ.

**Caligus dakari**, VAN BENEDEN.

Several specimens were taken from the mouth of *Arius venosus* caught in Palk Bay, Ceylon.

**Caligus diaphanus**, NORDMANN.

Several were found about the mouth and attached to the dorsal fin of *Therapon puta* from Aripu, Ceylon.



**Caligus benedeni**, BASSETT-SMITH.

Found attached to the inner surface of operculum of *Sciæna diacanthus* from Palk Strait, Ceylon.

**Lepeophtheirus thompsoni**, BAIRD.

Found associated with *Caligus dakari* in the mouth of *Arius venosus* from Palk Bay, Ceylon.

## FAMILY: CHONDRACANTHIDÆ.

**Chondracanthus cornutus**, MÜLLER.

One only was taken from the gills of *Cynoglossus oligolepis*, from Ceylon.

**Chondracanthus cynoglottidis**, n. sp.—Text, fig. 1.

Length, female 4.65 millims. (excluding ovisacs); male unknown.

Head rounded, 2-lobed, as wide as the widest part of the body. Body constricted for about  $\frac{1}{3}$  of its length, when it expands in width, again narrowing towards the posterior end, and terminating in short strong spines. Anterior antennæ unjointed, about 3 times as long as broad. Posterior antennæ consist of 2 gracefully curved spines. Two pairs of lateral prolongations (rudimentary appendages), having on under side of each a small rounded tubercle, spring from the constricted part of the body. A pair of long wide ovisacs, equalling in length the entire animal, are attached to the posterior end.



Fig. 1.  
*Chondracanthus*  
*cynoglottidis*.

Specimens were found attached to the nasal cœcum in *Cynoglossus brachyrhynchus* and *C. brevirostris* by Mr. J. JOHNSTONE, who obtained for us this series of 11 fish-parasites while examining the collection of Ceylon fishes in the Zoological Department of Liverpool University.

## FAMILY: LERNÆOPODIDÆ.

**Brachiella thynni**, CUV.

Attached to gills of *Chirocentrus dorab*, from Palk Strait.

**Brachiella merlucii**, BASSETT-SMITH.

From grooves underneath the head of *Sciæna diacanthus* from Palk Strait.

**Anchorella uncinata**, MÜLLER.

Found under head in the folds of operculum of *Gazza aquilæformis* from Palk Bay.

## EXPLANATION OF PLATES.

## PLATE I.

- Fig. 1. *Ridgewayia typica*, n. gen. et n. sp., female, from left side. × 80.  
 ,, 2. ,, ,, last thoracic segment, from left side. × 160.  
 ,, 3. ,, ,, anterior antenna. × 123.  
 ,, 4. ,, ,, posterior antenna. × 220.  
 ,, 5. ,, ,, mandible and palp. × 220.  
 ,, 6. ,, ,, maxilla. × 220.  
 ,, 7. ,, ,, 1st maxilliped. × 220.  
 ,, 8. ,, ,, 2nd ,, × 220.  
 ,, 9. ,, ,, 1st natatory leg. × 220.  
 ,, 10. ,, ,, 2nd ,, × 220.  
 ,, 11. ,, ,, 4th ,, × 220.  
 ,, 12. ,, ,, 5th ,, × 220.  
 ,, 13. ,, ,, abdomen and furca, from above. × 53.  
 ,, 14. *Centropages tenuiremis*, n. sp., female, from above. × 40.  
 ,, 15. ,, ,, 5th pair of natatory legs, female. × 106.  
 ,, 16. ,, ,, right anterior antenna, male. × 53.  
 ,, 17. ,, ,, 5th pair of natatory legs, male. × 106.  
 ,, 18. ,, ,, abdomen and furca (male), from above. × 53.  
 ,, 19. *Centropages dorsispinatus*, n. sp., female, from above. × 53.  
 ,, 20. ,, ,, cephalic segment, from left side. × 53.  
 ,, 21. ,, ,, basal joints of anterior antennæ, female. × 106.  
 ,, 22. ,, ,, 5th natatory leg, female. × 106.  
 ,, 23. ,, ,, right anterior antenna, male. × 53.  
 ,, 24. ,, ,, 5th pair of natatory legs, male. × 106.  
 ,, 25. ,, ,, abdomen and furca (male), from above. × 53.

## PLATE II.

- Fig. 1. *Pontella danae*, var. *ceylonica*, female, from above. × 32.  
 ,, 2. ,, ,, ,, rostrum. × 80.  
 ,, 3. ,, ,, ,, inner branch of 1st natatory leg. × 159.  
 ,, 4. ,, ,, ,, 5th pair of natatory legs. × 80.  
 ,, 5. ,, ,, ,, abdomen and furca. × 53.  
 ,, 6. *Labidocera kroyeri*, var. *gallensis*, male, 5th pair of natatory legs. × 53.  
 ,, 7. ,, ,, ,, last thoracic and 1st abdominal segments. × 53.  
 ,, 8. ,, var. *stylifera*, male, 5th pair of natatory legs. × 53.  
 ,, 9. ,, ,, ,, last thoracic and 1st abdominal segments. × 53.  
 ,, 10. *Labidocera pectinata*, n. sp., female, from above. × 40.  
 ,, 11. ,, ,, ,, rostrum. × 106.  
 ,, 12. ,, ,, ,, inner branch of 1st natatory leg. × 160.  
 ,, 13. ,, ,, ,, 5th pair of natatory legs. × 106.  
 ,, 14. ,, ,, ,, abdomen and furca. × 80.  
 ,, 15. *Pontellopsis herdmanni*, n. sp., female, from above. × 40.  
 ,, 16. ,, ,, ,, rostrum. × 80.

- Fig. 17. *Pontellopsis herdmani*, n. sp., female, 5th pair of natatory legs. × 106.  
 ,, 18. *Metacalanus aurivillii*, CLEVE, female, 5th pair of natatory legs. × 552.  
 ,, 19. " " " " abdomen and furca. × 552.  
 ,, 20. " " " " male, 5th pair of natatory legs. × 159.  
 ,, 21. *Pseudodiaptomus salinus*, GIESBR., female, 5th natatory leg. × 159.  
 ,, 22. " " " " male, 5th pair of natatory legs. × 159.  
 ,, 23. " " " " abdomen and furca. × 159.  
 ,, 24. *Pseudodiaptomus aurivillii*, CLEVE, female, 5th natatory leg. × 159.  
 ,, 25. " " " " male, 5th pair of natatory legs. × 159.  
 ,, 26. " " " " abdomen and furca. × 159.

## PLATE III.

- Fig. 1. *Sunariestes inopinata*, n. sp., female, from left side. × 80.  
 ,, 2. " " " " anterior antenna. × 156.  
 ,, 3. " " " " 1st natatory leg. × 90.  
 ,, 4. " " " " 2nd " × 120.  
 ,, 5. " " " " 4th " × 120.  
 ,, 6. " " " " last abdominal segment and furca. × 60.  
 ,, 7. " " " " male, apical joints of anterior antenna. × 195.  
 ,, 8. " " " " female, 5th natatory leg. × 390.  
 ,, 9. *Sunariestes longipes*, n. sp., female, from left side. × 80.  
 ,, 10. " " " " 4th natatory leg. × 120.  
 ,, 11. " " " " last abdominal segments and furca. × 60.  
 ,, 12. *Sunariestes curticaulata*, n. sp., female, from left side. × 80.  
 ,, 13. " " " " anterior antenna. × 111.  
 ,, 14. " " " " 2nd natatory leg. × 120.  
 ,, 15. " " " " 3rd " × 120.  
 ,, 16. " " " " 4th " × 120.  
 ,, 17. " " " " last abdominal segments and furca. × 90.  
 ,, 18. *Hersilioles dubia*, n. sp., male, from above. × 45.  
 ,, 19. " " " " anterior antenna. × 90.  
 ,, 20. " " " " posterior antenna. × 180.  
 ,, 21. " " " " mandible. × 260.  
 ,, 22. " " " " maxilla. × 260.  
 ,, 23. " " " " 1st maxilliped. × 260.  
 ,, 24. " " " " 2nd " × 90.  
 ,, 25. " " " " 1st natatory leg. × 120.  
 ,, 26. " " " " 4th " × 120.  
 ,, 27. " " " " 5th " × 180.

## PLATE IV.

- Fig. 1. *Tegastes imthurni*, n. sp., female, from right side. × 106.  
 ,, 2. " " " " another female, from left side. × 159.  
 ,, 3. " " " " female, anterior antenna. × 195.  
 ,, 4. " " " " 2nd maxilliped. × 195.  
 ,, 5. " " " " 1st natatory leg. × 136.  
 ,, 6. " " " " 2nd " × 90.



|         |   |                   |        |
|---------|---|-------------------|--------|
| Fig. 7. | <i>Tegastes inthurni</i> , n. sp., female,  | 3rd natatory leg. | × 60.  |
| " 8.    | " " " "                                     | 4th " "           | × 60.  |
| " 9.    | " " " "                                     | 5th " "           | × 60.  |
| " 10.   | <i>Tegastes donnani</i> , n. sp., female,   | from right side.  | × 159. |
| " 11.   | " " " "                                     | anterior antenna. | × 390. |
| " 12.   | " " " "                                     | 5th natatory leg. | × 90.  |
| " 13.   | <i>Tegastes twynami</i> , n. sp., female,   | from right side.  | × 106. |
| " 14.   | " " " "                                     | anterior antenna. | × 60.  |
| " 15.   | " " " "                                     | 2nd maxilliped.   | × 260. |
| " 16.   | " " " "                                     | 5th natatory leg. | × 181. |
| " 17.   | <i>Tegastes chalmersi</i> , n. sp., female, | from left side.   | × 159. |
| " 18.   | " " " "                                     | anterior antenna. | × 781. |
| " 19.   | " " " "                                     | 2nd maxilliped.   | × 320. |
| " 20.   | " " " "                                     | 1st natatory leg. | × 500. |
| " 21.   | " " " "                                     | 4th " "           | × 500. |
| " 22.   | " " " "                                     | 5th " "           | × 500. |

## PLATE V.

|         |   |                                       |        |
|---------|---|---------------------------------------|--------|
| Fig. 1. | <i>Stenhelia brevicornis</i> , n. sp., female,    | from left side.                       | × 106. |
| " 2.    | " " " "   | anterior antenna.                     | × 368. |
| " 3.    | " " " "   | posterior antenna, inner branch.      | × 276. |
| " 4.    | " " " "   | mandible and palp.                    | × 276. |
| " 5.    | " " " "   | 2nd maxilliped.                       | × 368. |
| " 6.    | " " " "   | 1st natatory leg.                     | × 276. |
| " 7.    | " " " "   | 4th " "                               | × 221. |
| " 8.    | " " " "   | 5th " "                               | × 276. |
| " 9.    | " " " "   | last abdominal segment and furca.     | × 159. |
| " 10.   | <i>Stenhelia gracilicaudata</i> , n. sp., female, | from left side.                       | × 159. |
| " 11.   | " " " "   | anterior antenna.                     | × 276. |
| " 12.   | " " " "   | 1st natatory leg.                     | × 276. |
| " 13.   | " " " "   | 4th " "                               | × 276. |
| " 14.   | " " " "   | 5th " "                               | × 276. |
| " 15.   | " " " "   | last abdominal segment and furca.     | × 159. |
| " 16.   | <i>Stenhelia longicornis</i> , n. sp., female,    | from left side.                       | × 106. |
| " 17.   | " " " "   | anterior antenna.                     | × 221. |
| " 18.   | " " " "   | 1st natatory leg.                     | × 221. |
| " 19.   | " " " "   | 5th " "                               | × 221. |
| " 20.   | " " " "   | last abdominal segment and furca.     | × 104. |
| " 21.   | " " " "   | male, 2nd natatory leg, inner branch. | × 221. |
| " 22.   | " " " "   | 5th " "                               | × 221. |
| " 23.   | <i>Ancira minor</i> , n. sp., female,             | from left side.                       | × 159. |
| " 24.   | " " " "   | anterior antenna.                     | × 335. |
| " 25.   | " " " "   | posterior antenna, inner branch.      | × 552. |
| " 26.   | " " " "   | mandible and palp.                    | × 552. |
| " 27.   | " " " "   | 1st natatory leg.                     | × 276. |
| " 28.   | " " " "   | 5th " "                               | × 335. |
| " 29.   | " " " "   | last abdominal segment and furca.     | × 335. |

## PLATE VI.

- Fig. 1. *Stenhelia perplezo*, n. sp., female, from left side. × 159.  
 " 2. " " " " anterior antenna. × 390.  
 " 3. " " " " 2nd maxilliped. × 530.  
 " 4. " " " " 1st natatory leg. × 260.  
 " 5. " " " " 4th " × 260.  
 " 6. " " " " 5th " × 260.  
 " 7. " " " " last abdominal segment and furca. × 260.  
 " 8. *Stenhelia dentipes*, n. sp., female, from left side. × 159.  
 " 9. " " " " basal joints of anterior antenna. × 260.  
 " 10. " " " " 2nd maxilliped. × 781.  
 " 11. " " " " 1st natatory leg. × 390.  
 " 12. " " " " 4th " × 260.  
 " 13. " " " " 5th " × 390.  
 " 14. " " " " last abdominal segment and furca.  
 " 15. *Ameira tenuipes*, n. sp., female, from left side. × 159.  
 " 16. " " " " anterior antenna. × 390.  
 " 17. " " " " posterior antenna, inner branch. × 390.  
 " 18. " " " " mandible and palp. × 390.  
 " 19. " " " " 1st natatory leg. × 390.  
 " 20. " " " " 5th " × 390.  
 " 21. *Stenhelia minuta*, n. sp., female, from left side. × 159.  
 " 22. " " " " anterior antenna. × 260.  
 " 23. " " " " 1st natatory leg. × 390.  
 " 24. " " " " 5th " × 390.

## PLATE VII.

- Fig. 1. *Parastenhelia hornelli*, n. gen. et sp., female, from left side. × 106.  
 " 2. " " " " anterior antenna. × 260.  
 " 3. " " " " posterior antenna. × 260.  
 " 4. " " " " mandible and palp. × 390.  
 " 5. " " " " 2nd maxilliped. × 390.  
 " 6. " " " " 1st natatory leg. × 260.  
 " 7. " " " " 4th " × 195.  
 " 8. " " " " 5th " × 195.  
 " 9. " " " " male, 2nd " × 260.  
 " 10. " " " " " 5th " × 260.  
 " 11. *Ceylonia aculeata*, n. gen. et sp., female, from left side. × 106.  
 " 12. " " " " anterior antenna. × 390.  
 " 13. " " " " posterior antenna. × 390.  
 " 14. " " " " mandible and palp. × 390.  
 " 15. " " " " maxilla. × 260.  
 " 16. " " " " 1st maxilliped. × 260.  
 " 17. " " " " 2nd " × 780.  
 " 18. " " " " 1st natatory leg. × 260.  
 " 19. " " " " 4th " × 195.

- Fig. 20. *Ceylonia aculeata*, n. gen. et sp., female, 5th natatory leg. × 195.  
 „ 21. „ „ „ „ last abdominal segment and furca. × 90.  
 „ 22. „ „ „ male, 3rd natatory leg. × 195.  
 „ 23. „ „ „ „ 5th „ × 390.

## PLATE VIII.

- Fig. 1. *Laophonte hirsuta*, n. sp., female, from above. × 106.  
 „ 2. „ „ „ anterior antenna. × 260.  
 „ 3. „ „ „ posterior antenna, inner branch. × 395.  
 „ 4. „ „ „ mandible and palp. × 395.  
 „ 5. „ „ „ 2nd maxilliped. × 395.  
 „ 6. „ „ „ 1st natatory leg. × 395.  
 „ 7. „ „ „ 4th „ × 395.  
 „ 8. „ „ „ 5th „ × 260.  
 „ 9. *Laophontella typica*, n. gen. et sp., female, from above. × 106.  
 „ 10. „ „ „ from left side. × 106.  
 „ 11. „ „ „ anterior antenna. × 395.  
 „ 12. „ „ „ 2nd maxilliped. × 395.  
 „ 13. „ „ „ 1st natatory leg. × 260.  
 „ 14. „ „ „ 2nd „ × 260.  
 „ 15. „ „ „ 4th „ × 260.  
 „ 16. „ „ „ 5th „ × 260.  
 „ 17. *Tetragoniceps dubia*, n. sp., female, from left side. × 106.  
 „ 18. „ „ „ anterior antenna. × 260.  
 „ 19. „ „ „ 2nd maxilliped. × 395.  
 „ 20. „ „ „ 1st natatory leg. × 195.  
 „ 21. „ „ „ 4th „ × 195.  
 „ 22. „ „ „ 5th „ × 260.  
 „ 23. *Tetragoniceps minor*, n. sp., female, from left side. × 159.  
 „ 24. „ „ „ anterior antenna. × 520.  
 „ 25. „ „ „ 2nd maxilliped. × 780.  
 „ 26. „ „ „ 1st natatory leg. × 260.  
 „ 27. „ „ „ 5th „ × 156.  
 „ 28. „ „ „ last abdominal segment and furca. × 195.

## PLATE IX.

- Fig. 1. *Dactylophus dentata*, n. sp., female, from left side. × 80.  
 „ 2. „ „ „ anterior antenna. × 221.  
 „ 3. „ „ „ posterior antenna, inner branch. × 221.  
 „ 4. „ „ „ mandible palp. × 221.  
 „ 5. „ „ „ 2nd maxilliped. × 221.  
 „ 6. „ „ „ 1st natatory leg. × 184.  
 „ 7. „ „ „ 5th „ × 221.  
 „ 8. „ „ „ last abdominal segment and furca. × 221.  
 „ 9. „ „ „ male, 2nd natatory leg, inner branch. × 221.  
 „ 10. „ „ „ 5th „ × 221.



|          |  |        |
|----------|--|--------|
| Fig. 11. | <i>Dactylophusia lavelocki</i> , n. sp., female, from left side. | × 80.  |
| " 12.    | " " " anterior antenna.  | × 159. |
| " 13.    | " " " posterior antenna, inner branch.                           | × 260. |
| " 14.    | " " " mandible palp.   | × 260. |
| " 15.    | " " " 2nd maxilliped.  | × 260. |
| " 16.    | " " " 1st natatory leg.  | × 195. |
| " 17.    | " " " 5th "  | × 130. |
| " 18.    | " " " last abdominal segment and furca.                          | × 130. |
| " 19.    | <i>Dactylophusia hirsuta</i> , n. sp., female, from left side.   | × 80.  |
| " 20.    | " " " anterior antenna.  | × 195. |
| " 21.    | " " " 2nd maxilliped.  | × 195. |
| " 22.    | " " " 1st natatory leg.  | × 156. |
| " 23.    | " " " 5th "  | × 156. |
| " 24.    | " " " last abdominal segment and furca.                          | × 111. |
| " 25.    | <i>Dactylophusia ceylonica</i> , n. sp., female, from left side. | × 64.  |
| " 26.    | " " " anterior antenna.  | × 156. |
| " 27.    | " " " 2nd maxilliped.  | × 156. |
| " 28.    | " " " 1st natatory leg.  | × 156. |
| " 29.    | " " " 5th "  | × 98.  |
| " 30.    | " " " male, 1st " inner branch.                                  | × 98.  |
| " 31.    | " " " 2nd " "  | × 156. |
| " 32.    | " " " 5th " "  | × 130. |

## PLATE X.

|         |  |        |
|---------|--|--------|
| Fig. 1. | <i>Dactylophusia hamiltoni</i> , n. sp., female, from left side. | × 80.  |
| " 2.    | " " " anterior antenna.  | × 120. |
| " 3.    | " " " posterior "  | × 181. |
| " 4.    | " " " 2nd maxilliped.  | × 260. |
| " 5.    | " " " 1st natatory leg.  | × 195. |
| " 6.    | " " " 5th "  | × 195. |
| " 7.    | " " " last abdominal segment and furca.                          | × 181. |
| " 8.    | <i>Parastenhelia similis</i> , n. sp., female, from left side.   | × 106. |
| " 9.    | " " " anterior antenna.  | × 260. |
| " 10.   | " " " 2nd maxilliped.  | × 390. |
| " 11.   | " " " 1st natatory leg.  | × 260. |
| " 12.   | " " " 4th "  | × 195. |
| " 13.   | " " " 5th "  | × 260. |
| " 14.   | " " " last abdominal segments and furca.                         | × 260. |
| " 15.   | <i>Stenhelia knovi</i> , n. sp., female, from left side.         | × 106. |
| " 16.   | " " " anterior antenna.  | × 390. |
| " 17.   | " " " 1st natatory leg.  | × 390. |
| " 18.   | " " " 5th "  | × 195. |
| " 19.   | <i>Dactylophusia robusta</i> , n. sp., female, from left side.   | × 159. |
| " 20.   | " " " anterior antenna.  | × 390. |
| " 21.   | " " " 2nd maxilliped.  | × 390. |
| " 22.   | " " " 1st natatory leg.  | × 260. |
| " 23.   | " " " 5th "  | × 260. |
| " 24.   | " " " last abdominal segments and furca.                         | × 260. |

## PLATE XI.

- Fig. 1. *Dactylophusia laticaudata*, n. sp., female, from above. × 159.  
 " 2. " " " " anterior antenna. × 260.  
 " 3. " " " " posterior antenna, inner branch. × 260.  
 " 4. " " " " mandible palp. × 260.  
 " 5. " " " " 2nd maxilliped. × 260.  
 " 6. " " " " 1st natatory leg. × 260.  
 " 7. " " " " 4th " × 260.  
 " 8. " " " " 5th " × 260.  
 " 9. *Dactylophusia æmula*, n. sp., female, from above. × 159.  
 " 10. " " " " anterior antenna. × 390.  
 " 11. " " " " 1st natatory leg. × 260.  
 " 12. " " " " 5th " × 260.  
 " 13. *Dactylophusia platysoma*, n. sp., female, from above. × 106.  
 " 14. " " " " anterior antenna. × 390.  
 " 15. " " " " 2nd maxilliped. × 390.  
 " 16. " " " " 1st natatory leg. × 260.  
 " 17. " " " " 4th " × 260.  
 " 18. " " " " 5th " × 195.  
 " 19. *Pseudothalestris imbricata*, BRADY, female, from left side. × 159.  
 " 20. " " " " anterior antenna. × 390.  
 " 21. " " " " 2nd maxilliped. × 260.  
 " 22. " " " " 1st natatory leg. × 195.  
 " 23. " " " " 5th " × 195.  
 " 24. " " " " last abdominal segment and furca. × 395.

## PLATE XII.

- Fig. 1. *Porcellidium fimbriatum*, CLAUS, female, from above. × 106.  
 " 2. " " " " anterior antenna. × 260.  
 " 3. " " " " posterior antenna, inner branch. × 260.  
 " 4. " " " " mandible and palp. × 195.  
 " 5. " " " " 1st maxilliped. × 396.  
 " 6. " " " " 2nd " × 396.  
 " 7. " " " " 1st natatory leg. × 260.  
 " 8. " " " " 4th " × 195.  
 " 9. " " " " 5th " × 195.  
 " 10. " " " " abdomen and furca. × 180.  
 " 11. *Porcellidium brevicaudatum*, n. sp., female, from above. × 106.  
 " 12. " " " " anterior antenna. × 260.  
 " 13. " " " " 5th natatory leg. × 260.  
 " 14. " " " " abdomen and furca. × 195.  
 " 15. *Porcellidium acuticaudatum*, n. sp., female, from above. × 106.  
 " 16. " " " " anterior antenna. × 260.  
 " 17. " " " " 5th natatory leg. × 195.  
 " 18. " " " " abdomen and furca. × 195.  
 " 19. *Porcellidium rawanæ*, n. sp., female, from above. × 106.

- Fig. 20. *Porcellidium rarana*, n. sp., female, anterior antenna. × 260.  
 ,, 21. ,, ,, ,, 5th natatory leg. × 195.  
 ,, 22. ,, ,, ,, abdomen and furca. × 156.

## PLATE XIII.

- Fig. 1. *Peltidium ovale*, n. sp., female, from above. × 40.  
 ,, 2. ,, ,, ,, anterior antenna. × 195.  
 ,, 3. ,, ,, ,, 2nd maxilliped. × 95.  
 ,, 4. ,, ,, ,, 1st natatory leg. × 95.  
 ,, 5. ,, ,, ,, 4th ,, × 95.  
 ,, 6. ,, ,, ,, 5th ,, × 95.  
 ,, 7. *Peltidium angulatum*, n. sp., female, from above. × 53.  
 ,, 8. ,, ,, ,, anterior antenna. × 195.  
 ,, 9. ,, ,, ,, 2nd maxilliped. × 95.  
 ,, 10. ,, ,, ,, 1st natatory leg. × 95.  
 ,, 11. ,, ,, ,, 5th ,, × 195.  
 ,, 12. *Peltidium speciosum*, n. sp., female, from above. × 53.  
 ,, 13. ,, ,, ,, anterior antenna. × 195.  
 ,, 14. ,, ,, ,, 2nd maxilliped. × 95.  
 ,, 15. ,, ,, ,, 1st natatory leg. × 120.  
 ,, 16. ,, ,, ,, 5th ,, × 195.  
 ,, 17. ,, ,, ,, a smaller form, with thinner bands. × 64  
 ,, 18. *Peltidium serratum*, n. sp., female, from above. × 40.  
 ,, 19. ,, ,, ,, anterior antenna. × 195.  
 ,, 20. ,, ,, ,, 2nd maxilliped. × 95.  
 ,, 21. ,, ,, ,, 1st natatory leg. × 95.  
 ,, 22. ,, ,, ,, 5th ,, × 95.  
 ,, 23. *Peltidium perplexum*, n. sp., female, from above. × 40.  
 ,, 24. ,, ,, ,, anterior antenna. × 156.  
 ,, 25. ,, ,, ,, 2nd maxilliped. × 95.  
 ,, 26. ,, ,, ,, 1st natatory leg. × 95.  
 ,, 27. ,, ,, ,, 5th ,, × 195.

## PLATE XIV.

- Fig. 1. *Pseudanthessius maximus*, n. sp., female, from above. × 27.  
 ,, 2. ,, ,, ,, anterior antenna. × 90.  
 ,, 3. ,, ,, ,, posterior antenna. × 90.  
 ,, 4. ,, ,, ,, mandible and palp. × 156.  
 ,, 5. ,, ,, ,, 1st maxilliped. × 120.  
 ,, 6. ,, ,, ,, 2nd ,, × 90.  
 ,, 7. ,, ,, ,, 1st natatory leg. × 60.  
 ,, 8. ,, ,, ,, 4th ,, × 90.  
 ,, 9. ,, ,, ,, 5th ,, × 90.  
 ,, 10. ,, ,, ,, male, 2nd maxilliped. × 90.  
 ,, 11. ,, ,, ,, abdomen and furca. × 30.  
 ,, 12. *Pseudanthessius chelifer*, n. sp., female, from above. × 80.  
 ,, 13. ,, ,, ,, anterior antenna. × 260.



- Fig. 14. *Pseudanthessius chelifera*, n. sp., female, posterior antenna.  $\times 156$ .  
 " 15. " " " mandible and palp.  $\times 260$ .  
 " 16. " " " 1st maxilliped.  $\times 260$ .  
 " 17. " " " 2nd "  $\times 260$ .  
 " 18. " " " 4th natatory leg.  $\times 156$ .  
 " 19. *Pseudanthessius gracilis*, CLAUS, female, from above.  $\times 80$ .  
 " 20. " " " anterior antenna.  $\times 260$ .  
 " 21. " " " posterior "  $\times 195$ .  
 " 22. " " " 2nd maxilliped.  $\times 180$ .  
 " 23. " " " 4th natatory leg.  $\times 195$ .  
 " 24. *Pseudanthessius concinnus*, n. sp., female, from above.  $\times 80$ .  
 " 25. " " " anterior antenna.  $\times 260$ .  
 " 26. " " " mandible.  $\times 260$ .  
 " 27. " " " 1st maxilliped.  $\times 395$ .  
 " 28. " " " 2nd "  $\times 395$ .  
 " 29. " " " 1st natatory leg.  $\times 195$ .  
 " 30. " " " 4th "  $\times 195$ .

## PLATE XV.

- Fig. 1. *Lichomolgus gracilis*, n. sp., female, from above.  $\times 80$ .  
 " 2. " " " anterior antenna.  $\times 260$ .  
 " 3. " " " posterior antenna.  $\times 260$ .  
 " 4. " " " mandible and palp.  $\times 395$ .  
 " 5. " " " 1st maxilliped.  $\times 395$ .  
 " 6. " " " 2nd "  $\times 260$ .  
 " 7. " " " 4th natatory leg.  $\times 156$ .  
 " 8. " " " male, 2nd maxilliped.  $\times 181$ .  
 " 9. " " " abdomen and furca.  $\times 90$ .  
 " 10. *Lichomolgus ieverisi*, n. sp., female, from above.  $\times 80$ .  
 " 11. " " " anterior antenna.  $\times 260$ .  
 " 12. " " " posterior antenna.  $\times 260$ .  
 " 13. " " " mandible.  $\times 395$ .  
 " 14. " " " 1st maxilliped.  $\times 260$ .  
 " 15. " " " 2nd "  $\times 260$ .  
 " 16. " " " 4th natatory leg.  $\times 156$ .  
 " 17. " " " male, 2nd maxilliped.  $\times 180$ .  
 " 18. *Lichomolgus buddhensis*, n. sp., female, from above.  $\times 80$ .  
 " 19. " " " anterior antenna.  $\times 156$ .  
 " 20. " " " posterior antenna.  $\times 78$ .  
 " 21. " " " mandible and palp.  $\times 260$ .  
 " 22. " " " 1st maxilliped.  $\times 260$ .  
 " 23. " " " 2nd "  $\times 195$ .  
 " 24. " " " 4th natatory leg.  $\times 156$ .  
 " 25. *Lichomolgus lunkensis*, n. sp., female, from above.  $\times 80$ .  
 " 26. " " " anterior antenna.  $\times 260$ .  
 " 27. *Lichomolgus simplex*, n. sp., female, from above.  $\times 80$ .  
 " 28. " " " anterior antenna.  $\times 260$ .  
 " 29. " " " posterior antenna.  $\times 195$ .

- Fig. 30. *Lichomolgus simplex*, n. sp., female, mandible. × 260.  
 „ 31. „ „ „ 1st maxilliped. × 260.  
 „ 32. „ „ „ 2nd „ × 260.  
 „ 33. „ „ „ 4th natatory leg. × 195.  
 „ 34. „ „ „ male, abdomen and furca. × 90.

## PLATE XVI.

- Fig. 1. *Paralichomolgus curticaudatus*, n. gen. et sp., female, from above. × 80.  
 „ 2. „ „ „ anterior antenna. × 195.  
 „ 3. „ „ „ posterior antenna. × 90.  
 „ 4. „ „ „ mandible and palp. × 260.  
 „ 5. „ „ „ 1st maxilliped. × 260.  
 „ 6. „ „ „ 2nd „ × 260.  
 „ 7. „ „ „ 4th natatory leg. × 195.  
 „ 8. *Lichomolgus elegans*, n. sp., female, from above. × 53.  
 „ 9. „ „ „ anterior antenna. × 130.  
 „ 10. „ „ „ posterior antenna. × 120.  
 „ 11. „ „ „ 1st maxilliped. × 195.  
 „ 12. „ „ „ 2nd „ × 195.  
 „ 13. „ „ „ 4th natatory leg, inner branch. × 90.  
 „ 14. *Lichomolgus robustus*, n. sp., female, from above. × 80.  
 „ 15. „ „ „ anterior antenna. × 156.  
 „ 16. „ „ „ posterior antenna. × 156.  
 „ 17. „ „ „ mandible. × 260.  
 „ 18. „ „ „ 1st maxilliped. × 260.  
 „ 19. „ „ „ 2nd „ × 260.  
 „ 20. „ „ „ 4th natatory leg. × 195.  
 „ 21. *Lichomolgus gigas*, n. sp., female, from above. × 53.  
 „ 22. „ „ „ anterior antenna. × 98.  
 „ 23. „ „ „ posterior antenna. × 90.  
 „ 24. „ „ „ 1st maxilliped. × 260.  
 „ 25. „ „ „ 4th natatory leg. × 60.  
 „ 26. „ „ „ male, abdomen and furca. × 45.  
 „ 27. *Lichomolgus dentipes*, n. sp., female, from above. × 80.  
 „ 28. „ „ „ anterior antenna. × 98.  
 „ 29. „ „ „ 4th natatory leg. × 195.  
 „ 30. „ „ „ 5th „ × 156.

## PLATE XVII.

- Fig. 1. *Hermannella robusta*, n. sp., female, from above. × 80.  
 „ 2. „ „ „ anterior antenna. × 130.  
 „ 3. „ „ „ posterior antenna. × 156.  
 „ 4. „ „ „ mandible. × 195.  
 „ 5. „ „ „ 1st maxilliped. × 195.  
 „ 6. „ „ „ 2nd „ × 195.  
 „ 7. „ „ „ 1st natatory leg. × 156.  
 „ 8. „ „ „ 4th „ × 156.

- Fig. 9. *Hermannella serendibica*, n. sp., female, from above. × 80.  
 " 10. " " " anterior antenna. × 130.  
 " 11. " " " posterior antenna. × 156.  
 " 12. *Hersiliodes leggii*, n. sp., male, from above. × 54.  
 " 13. " " " anterior antenna. × 120.  
 " 14. " " " posterior antenna. × 90.  
 " 15. " " " mandible. × 260.  
 " 16. " " " maxilla. × 195.  
 " 17. " " " 1st maxilliped. × 195.  
 " 18. " " " 2nd " × 130.  
 " 19. " " " 1st natatory leg. × 90.  
 " 20. " " " 4th " × 130.  
 " 21. " " " 5th " × 111.  
 " 22. *Hersiliodes tamilensis*, n. sp., female, from above. × 66.  
 " 23. " " " anterior antenna. × 120.  
 " 24. " " " 2nd maxilliped. × 120.  
 " 25. " " " 5th natatory leg. × 156.

## PLATE XVIII.

- Fig. 1. *Collocheres giesbrechti*, n. sp., female, from above. × 159.  
 " 2. " " " anterior antenna. × 260.  
 " 3. " " " posterior antenna. × 260.  
 " 4. " " " mandible and palp. × 390.  
 " 5. " " " maxilla. × 260.  
 " 6. " " " 1st maxilliped. × 390.  
 " 7. " " " 2nd " × 260.  
 " 8. " " " 1st natatory leg. × 260.  
 " 9. " " " 4th " × 260.  
 " 10. " " " 5th " × 395.  
 " 11. *Asteropontius attenuatus*, n. gen. et sp., female, from above. × 106.  
 " 12. " " " anterior antenna. × 195.  
 " 13. " " " posterior antenna. × 156.  
 " 14. " " " mandible and palp. × 156.  
 " 15. " " " maxilla. × 156.  
 " 16. " " " 1st maxilliped. × 260.  
 " 17. " " " 2nd " × 260.  
 " 18. " " " 1st natatory leg. × 195.  
 " 19. " " " 4th " × 195.  
 " 20. " " " 5th " × 260.  
 " 21. *Asterocheres major*, n. sp., female, from above. × 80.  
 " 22. " " " anterior antenna. × 156.  
 " 23. " " " posterior antenna. × 195.  
 " 24. " " " mandible and palp. × 195.  
 " 25. " " " maxilla. × 195.  
 " 26. " " " 4th natatory leg. × 120.  
 " 27. " " " 5th " × 130.  
 " 27a. " " " male, anterior antenna. × 156.  
 " 28. " " " abdomen and furca. × 80.



- Fig. 29. *Asterocheres minor*, n. sp., female, from above. × 80.  
 ,, 30. ,, ,, ,, anterior antenna. × 195.  
 ,, 31. ,, ,, male, abdomen and furca. × 80.

## PLATE XIX.

- Fig. 1. *Asteropontius typicus*, n. sp., female, from above. × 80.  
 ,, 2. ,, ,, ,, anterior antenna. × 195.  
 ,, 3. ,, ,, ,, posterior antenna. × 195.  
 ,, 4. ,, ,, ,, mandible and palp. × 195.  
 ,, 5. ,, ,, ,, maxilla. × 390.  
 ,, 6. ,, ,, ,, 1st maxilliped. × 195.  
 ,, 7. ,, ,, ,, 2nd ,, × 195.  
 ,, 8. ,, ,, ,, 1st natatory leg. × 195.  
 ,, 9. ,, ,, ,, 4th ,, × 195.  
 ,, 10. ,, ,, ,, 5th ,, × 195.  
 ,, 11. *Asterocheres manaarensis*, n. sp., female, from above. × 106.  
 ,, 12. ,, ,, ,, anterior antenna. × 195.  
 ,, 13. ,, ,, ,, posterior ,, × 195.  
 ,, 14. ,, ,, ,, mandible and palp. × 195.  
 ,, 15. ,, ,, ,, maxilla. × 195.  
 ,, 16. ,, ,, ,, 1st maxilliped. × 195.  
 ,, 17. ,, ,, ,, 2nd ,, × 195.  
 ,, 18. ,, ,, ,, 1st natatory leg. × 195.  
 ,, 19. ,, ,, ,, 4th ,, inner branch. × 195.  
 ,, 20. ,, ,, ,, 5th ,, × 195.  
 ,, 21. *Lepeopsyllus typicus*, n. gen. et sp., female, from above. × 53.  
 ,, 22. ,, ,, ,, anterior antenna. × 195.  
 ,, 23. ,, ,, ,, posterior ,, × 156.  
 ,, 24. ,, ,, ,, mandible and palp. × 156.  
 ,, 25. ,, ,, ,, maxilla. × 260.  
 ,, 26. ,, ,, ,, 1st maxilliped. × 90.  
 ,, 27. ,, ,, ,, 2nd ,, × 90.  
 ,, 28. ,, ,, ,, 1st natatory leg. × 111.  
 ,, 29. ,, ,, ,, 4th ,, × 111.  
 ,, 30. *Lepeopsyllus ovalis*, n. sp., female, from above. × 53.  
 ,, 31. ,, ,, ,, anterior antenna. × 195.  
 ,, 32. ,, ,, ,, 4th natatory leg. × 111.  
 ,, 33. ,, ,, ,, 5th ,, × 195.

## PLATE XX.

- Fig. 1. *Doropontius denticornis*, n. gen. et sp., female, from above. × 80.  
 ,, 2. ,, ,, ,, anterior antenna. × 195.  
 ,, 3. ,, ,, ,, 1st maxilliped. × 90.  
 ,, 4. ,, ,, ,, 2nd ,, × 90.  
 ,, 5. ,, ,, ,, 1st natatory leg. × 195.  
 ,, 6. *Paralichomolgus longicaudatus*, n. sp., female, from above. × 106.  
 ,, 7. ,, ,, ,, anterior antenna. × 195.  
 ,, 8. ,, ,, ,, 4th natatory leg. × 195.

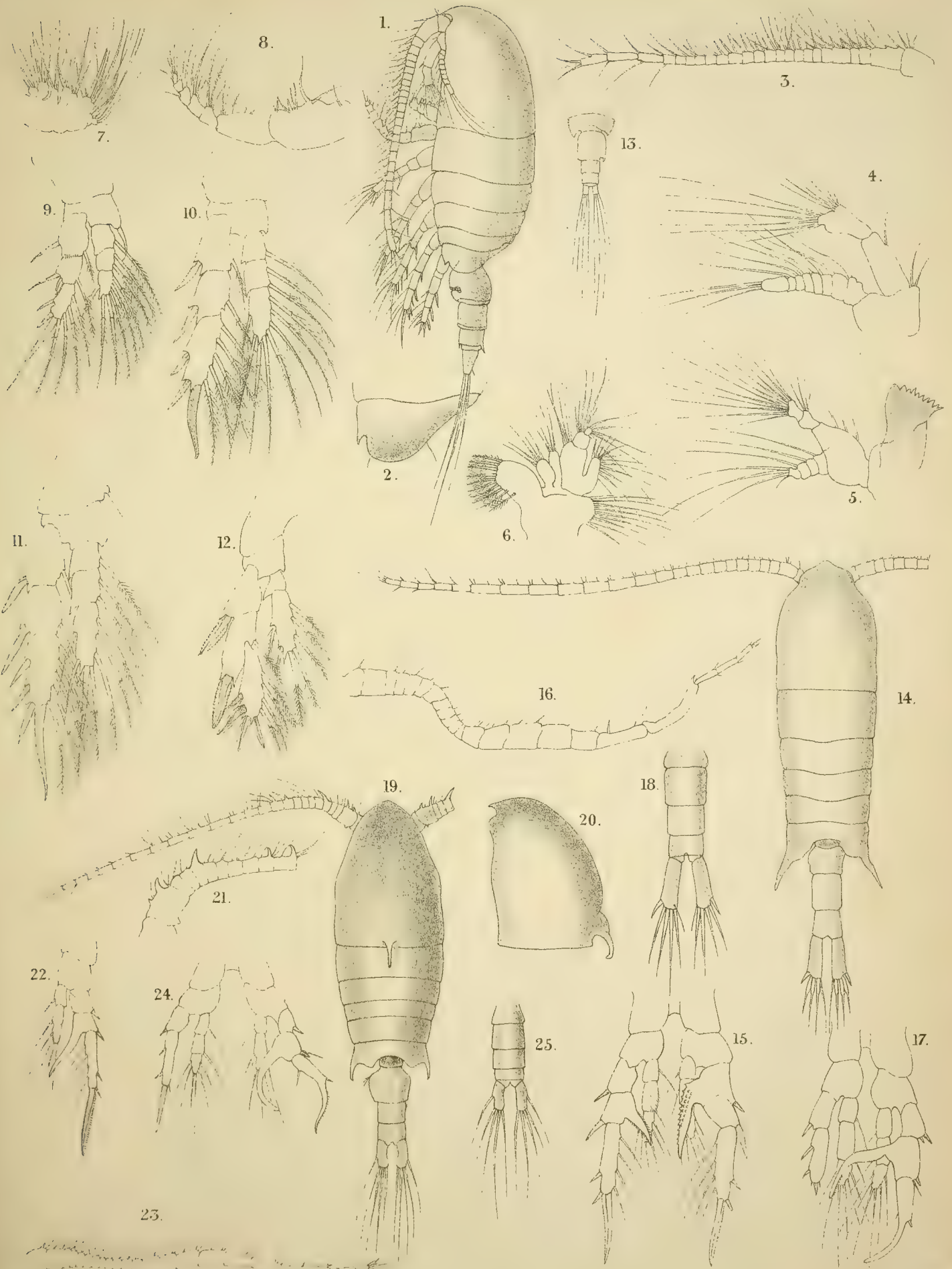
|         |  |        |
|---------|--|--------|
| Fig. 9. | <i>Cleopontius serratus</i> , n. gen. et sp., female, from above.  | × 80.  |
| „ 10.   | „ „ „ „ anterior antenna.  | × 260. |
| „ 11.   | „ „ „ „ posterior antenna.   | × 260. |
| „ 12.   | „ „ „ „ mandible and palp.   | × 195. |
| „ 13.   | „ „ „ „ maxilla.   | × 195. |
| „ 14.   | „ „ „ „ 1st maxilliped.  | × 195. |
| „ 15.   | „ „ „ „ 1st natatory leg.  | × 195. |
| „ 16.   | „ „ „ „ 3rd „  | × 195. |
| „ 17.   | „ „ „ „ 4th „  | × 390. |
| „ 18.   | „ „ „ „ 5th „  | × 260. |
| „ 19.   | <i>Stephopontius typicus</i> , n. gen. et sp., female, from above. | × 80.  |
| „ 20.   | „ „ „ „ male „   | × 80.  |
| „ 21.   | „ „ „ „ female, anterior antenna.                                  | × 520. |
| „ 22.   | „ „ „ „ male „   | × 195. |
| „ 23.   | „ „ „ „ female, posterior antenna.                                 | × 260. |
| „ 24.   | „ „ „ „ „ mandible and palp.                                       | × 260. |
| „ 25.   | „ „ „ „ „ maxilla.   | × 395. |
| „ 26.   | „ „ „ „ „ 1st maxilliped.  | × 195. |
| „ 27.   | „ „ „ „ „ 2nd „  | × 195. |
| „ 28.   | „ „ „ „ „ 1st natatory leg.  | × 395. |
| „ 29.   | „ „ „ „ „ 2nd „  | × 260. |
| „ 30.   | „ „ „ „ „ 4th „  | × 260. |
| „ 31.   | „ „ „ „ „ 5th „  | × 156. |

It is with deep sorrow that I have to record the sudden death of my friend and fellow-worker, the senior author of this Report, just as his last sheets were passing through the press, and too late for any change to be made elsewhere in this volume. MR. ISAAC THOMPSON'S many scientific friends, who have known and appreciated his work on the Copepoda, will share the feelings of regret which Mr. Andrew Scott, the joint-author, and I desire to express that this Report should have proved to be his last piece of scientific work.

W. A. H.

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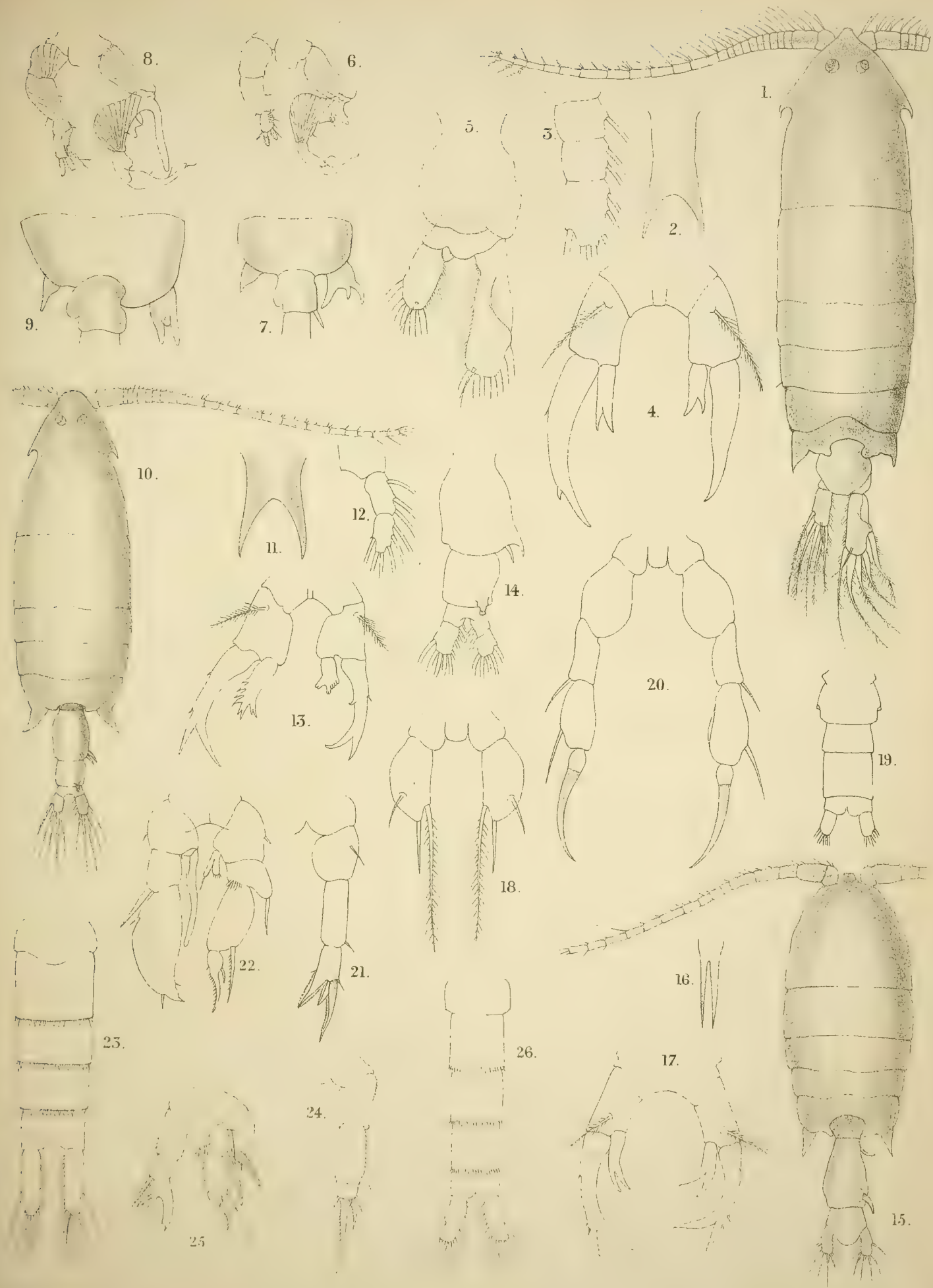


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FIGS 1-13, RIDGEWAYIA TYPICA. FIGS 14-18, CENTROPAGES TENUIREMIS. FIGS. 19-25, CENTROPAGES DORSISPIN.





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FIGS 1-5 PONTELLA DANÆ, VAR. CEYLONICA.

FIGS. 6, 7. LABIDOCERA KROYERI, VAR. GALLENSIS.

FIGS 8-9 LABIDOCERA KROYERI VAR. SYLIFERA.

FIGS. 10-14, LABIDOCERA PECTINATA.

FIGS 15-17 PONTELLOPSIS HERDMANI

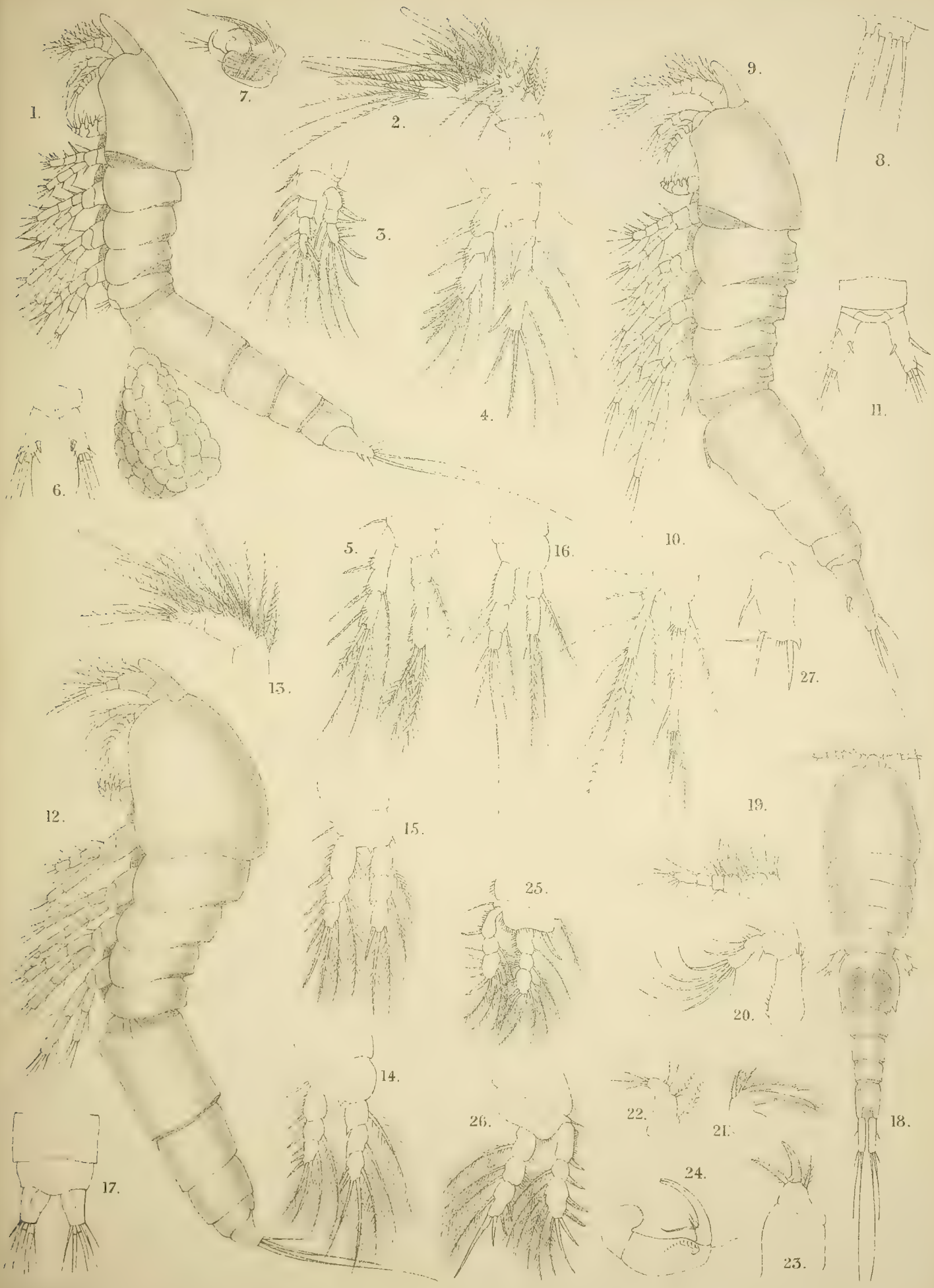
FIGS 18-20 METACALANUS AURIVILLII, LEVE.

FIGS. 21-23, PSEUDODIAPTOMUS SALINUS, GIESB.

FIGS. 24-26, PSEUDODIAPTOMUS AURIVILLII, LEVE.







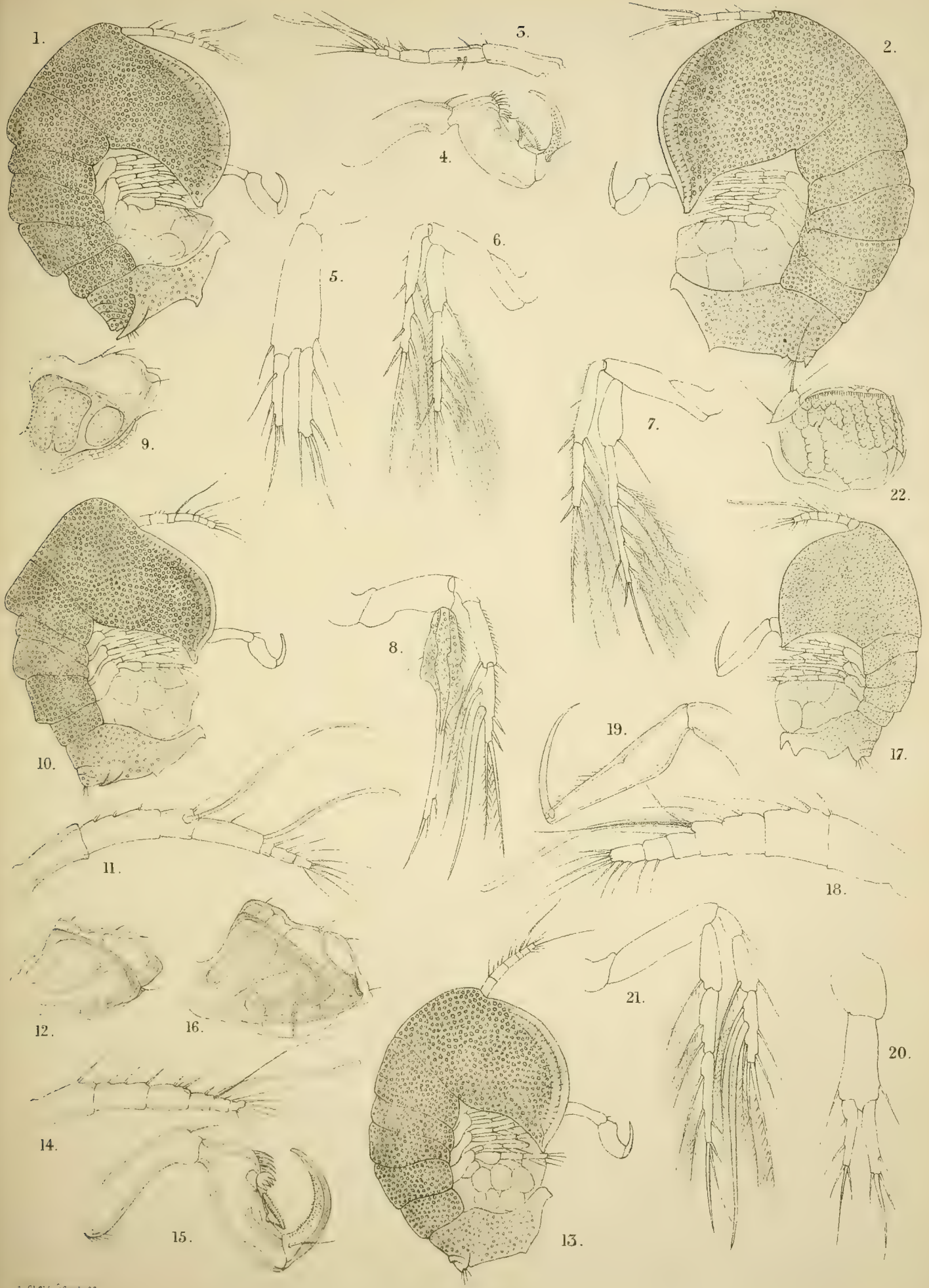
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FIGS 1-8. *SUNARISTES INOPINATA*. FIGS 9-11, *SUNARISTES LONGIPES*. FIGS 12-17, *SUNARISTES CURTICAUDATA*. FIGS 18-27, *HERSILIODES DUBIA*.







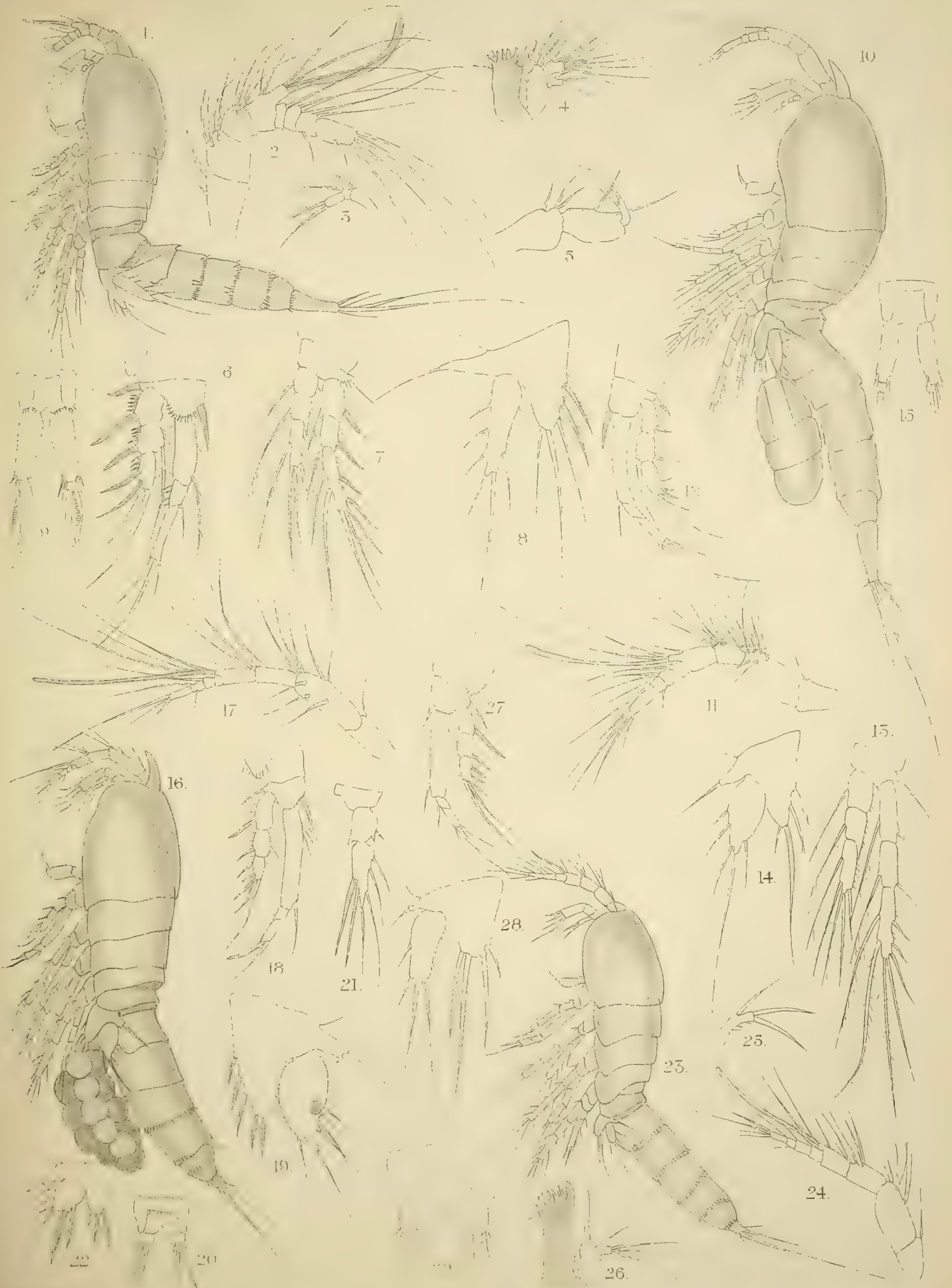
FIGS. 1-9, TEGASTES IMTHURNI.

FIGS. 13-16, TEGASTES TWYNAMI.

FIGS. 10-12, TEGASTES DONNANI.

FIGS. 17-22, TEGASTES CHALMERSI.





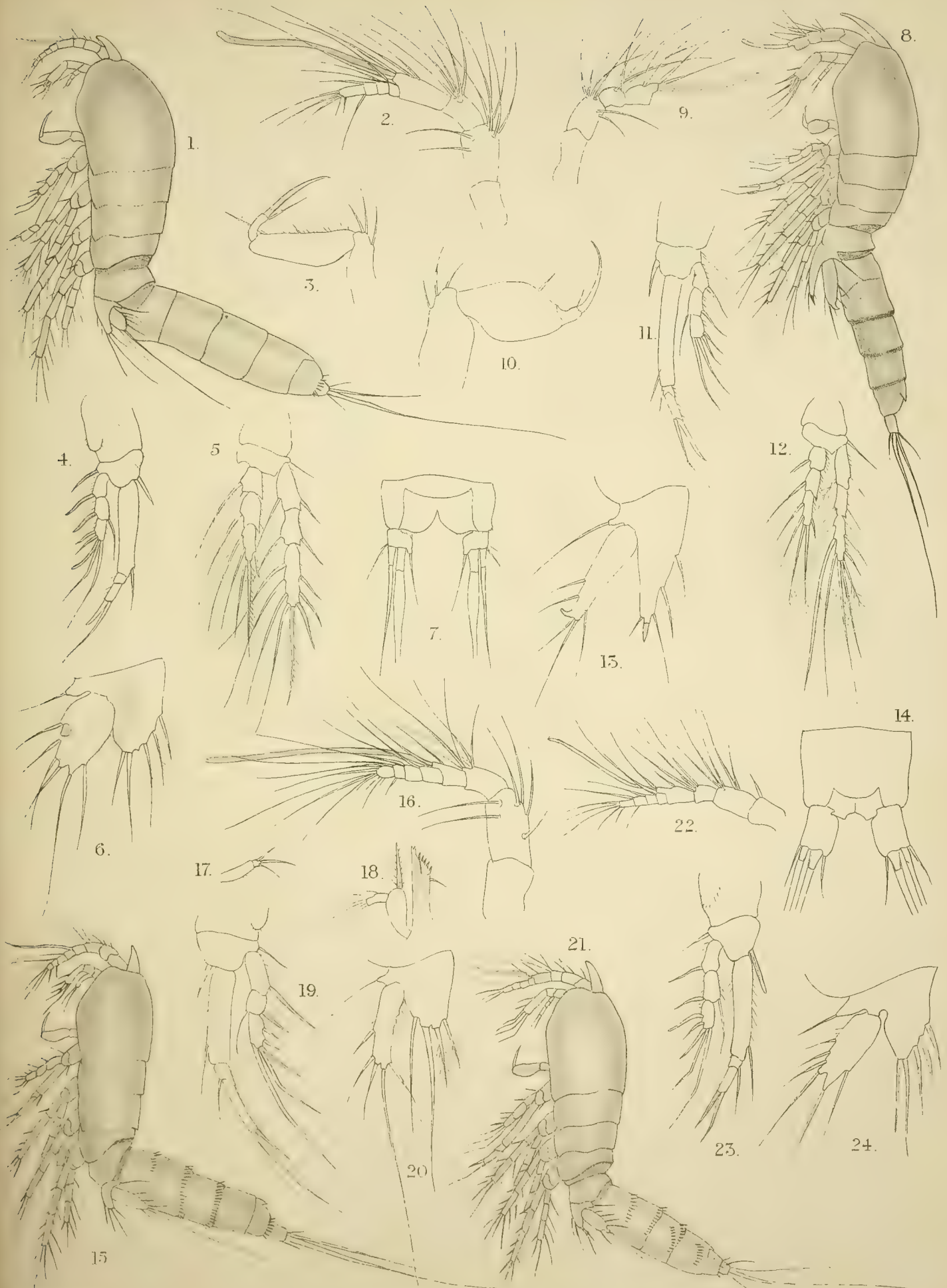
FIGS 1-9 STENHELIA BREVICORNIS  
 FIGS 16-22, STENHELIA LONGICORNIS.

FIGS. 10-15, STENHELIA GRACILICAUDATA.  
 FIGS. 23-29, AMEIRA MINOR.

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FIGS. 1-7, STENHELIA PERPLEXA  
 FIGS. 15-20, AMEIRA TENUIPES.

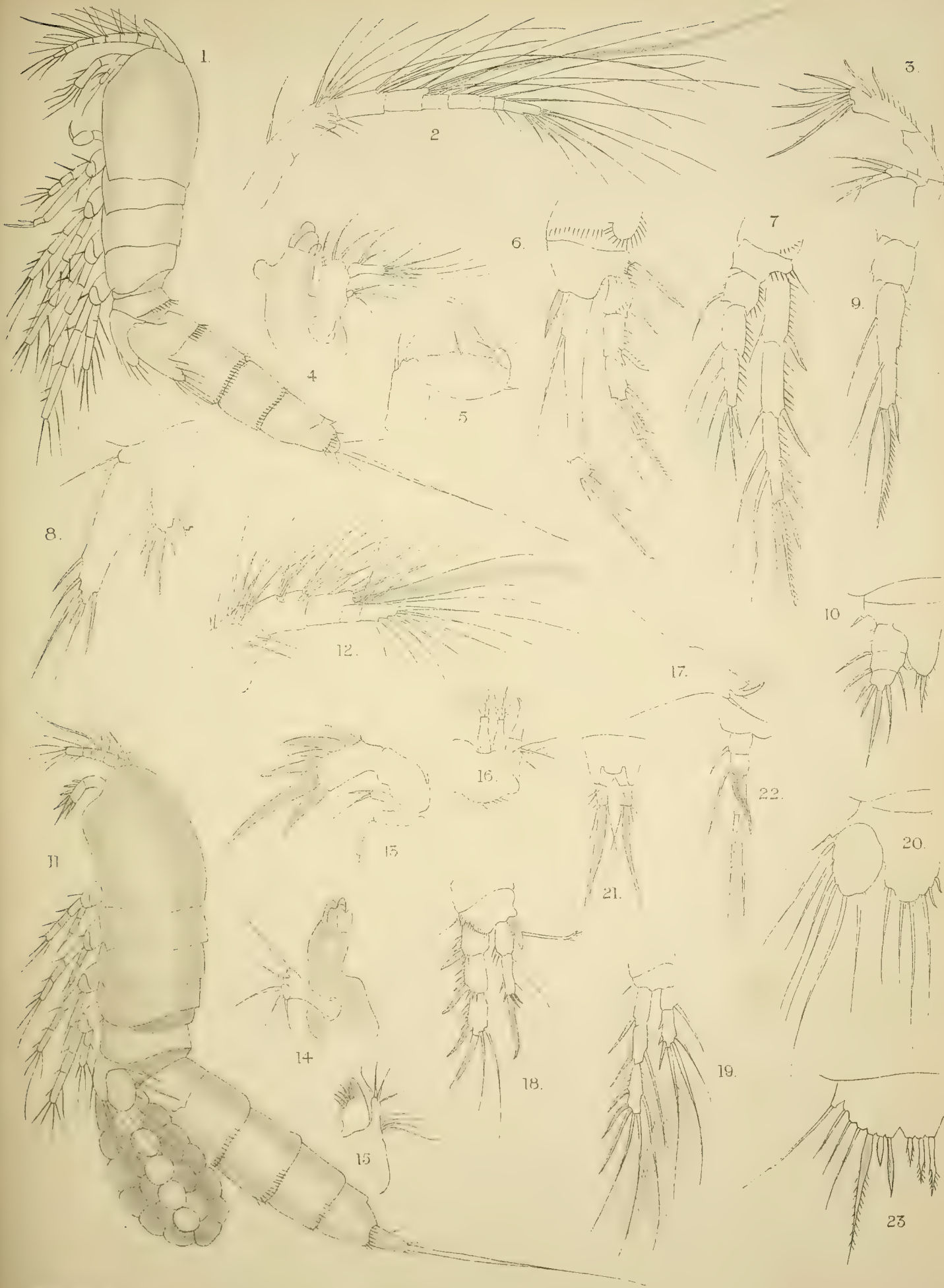
FIGS. 8-14, STENHELIA DENTIPES.  
 FIGS. 21-24, STENHELIA MINUTA.

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Arthropoda, Dec.







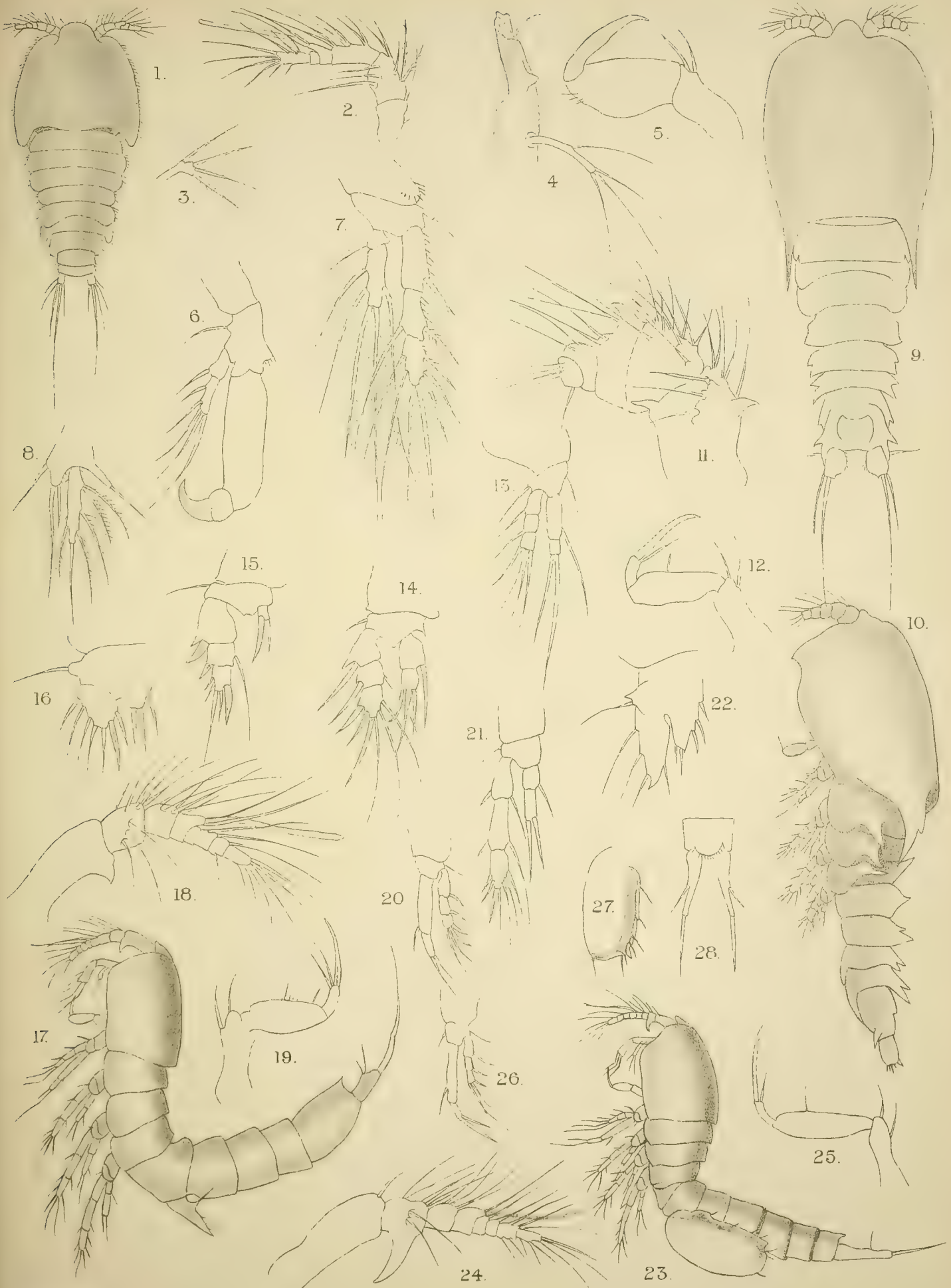
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FIGS 1-10. PARASITENHELIA HORNELLI

FIGS. 11-23. CEYLONIA AGULEATA.





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FIGS. 1-8, LAOPHONTE HIRSUTA.  
FIGS. 17-22, TETRAGONICEPS DUBIA.

FIGS. 9-16, LAOPHONTELLA TYPICA.  
FIGS. 23-28, TETRAGONICEPS MINOR.







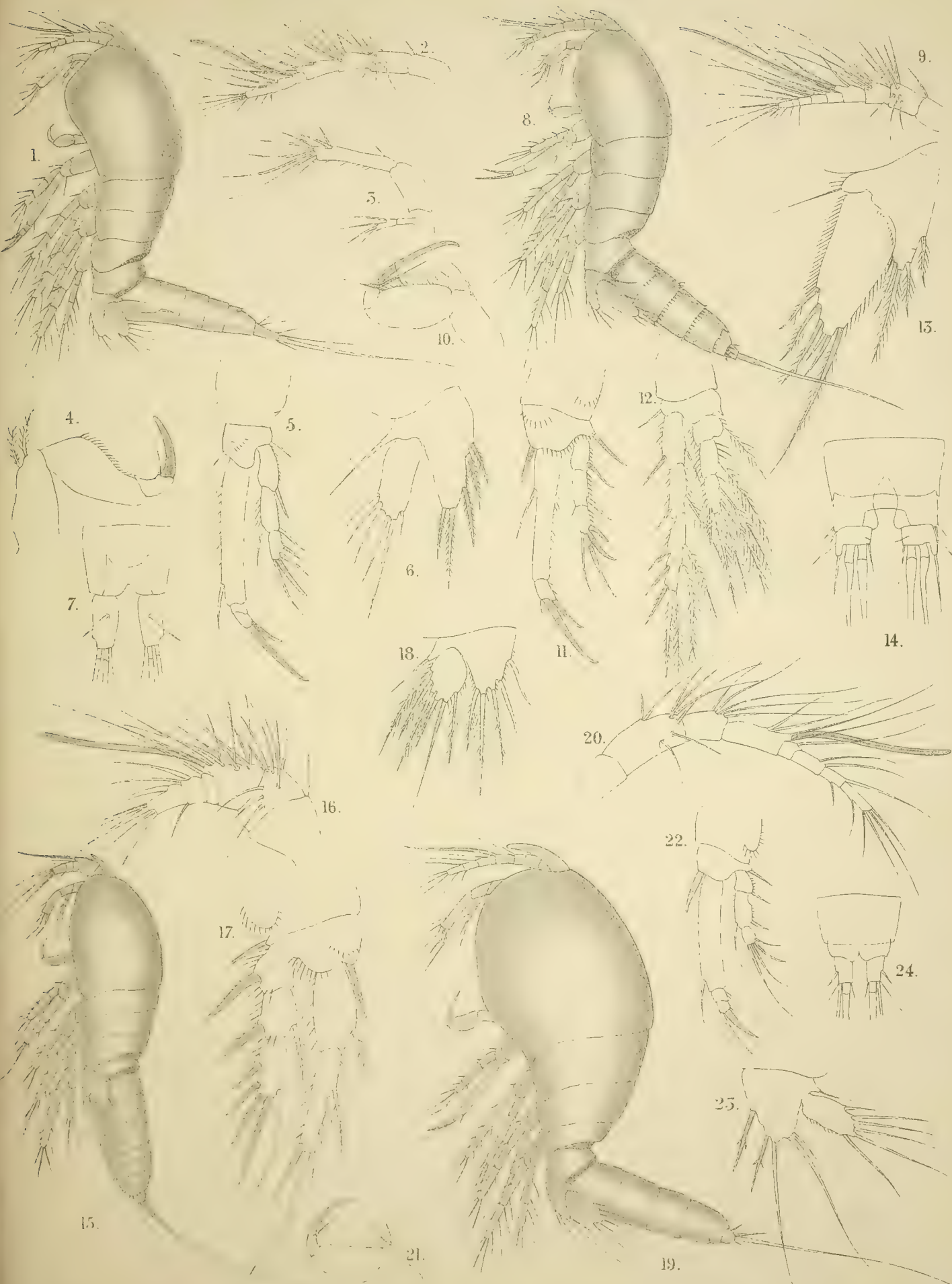
FIGS. 1-10, DACTYLOPHUSIA DENTATA.  
FIGS. 19-24, DACTYLOPHUSIA HIRSUTA.

FIGS. 11-18, DACTYLOPHUSIA HAVELOCKI.  
FIGS. 25-32, DACTYLOPHUSIA CEYLONICA.

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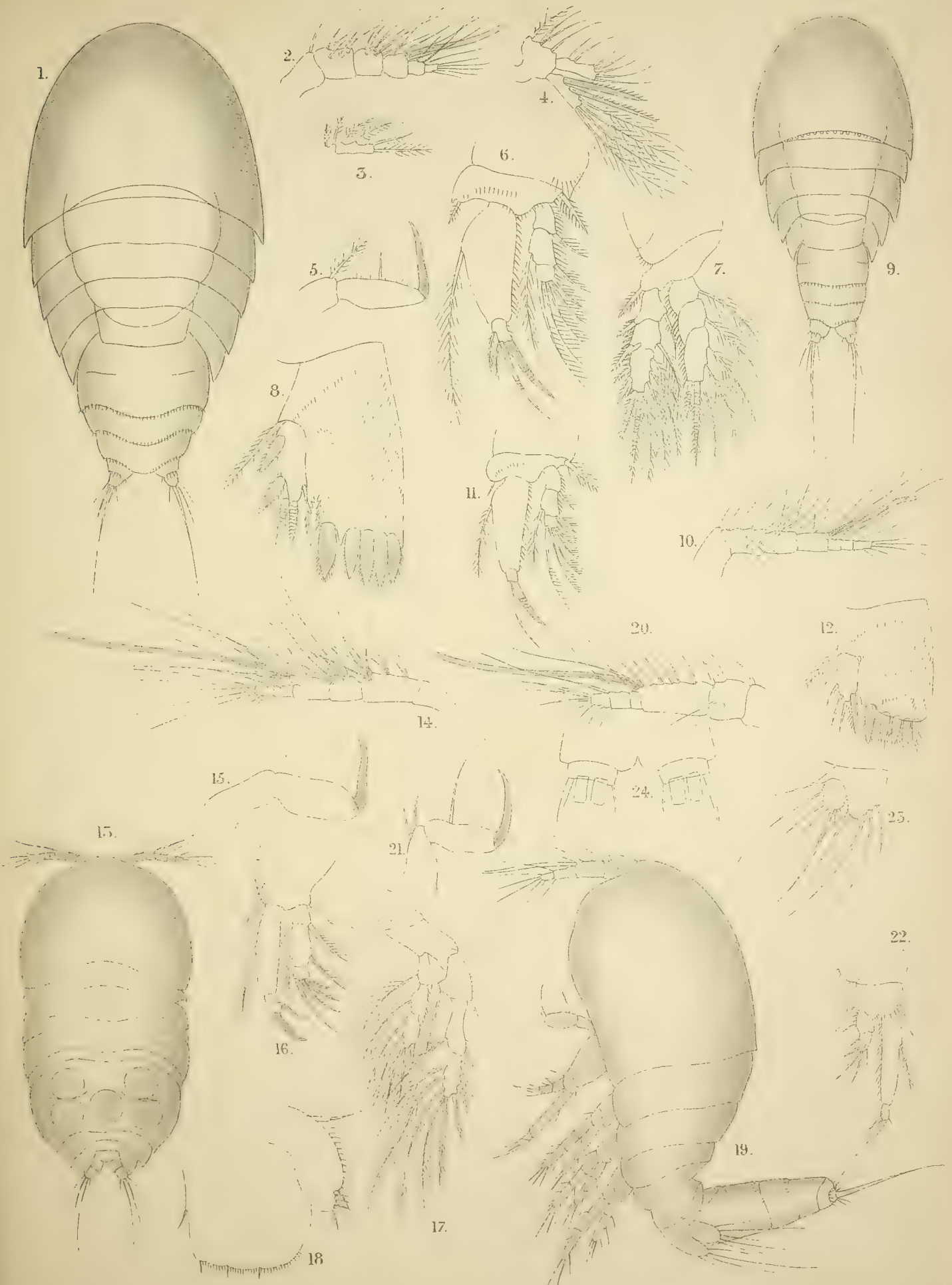




FIGS 1-7, DACTYLOPHUS HAMILTONI.  
FIGS 15-18, STENHÆLIA KNOXI.

FIGS 8-14, PARASTENHÆLIA SIMILIS.  
FIGS 19-24, DACTYLOPHUS ROBUSTA.





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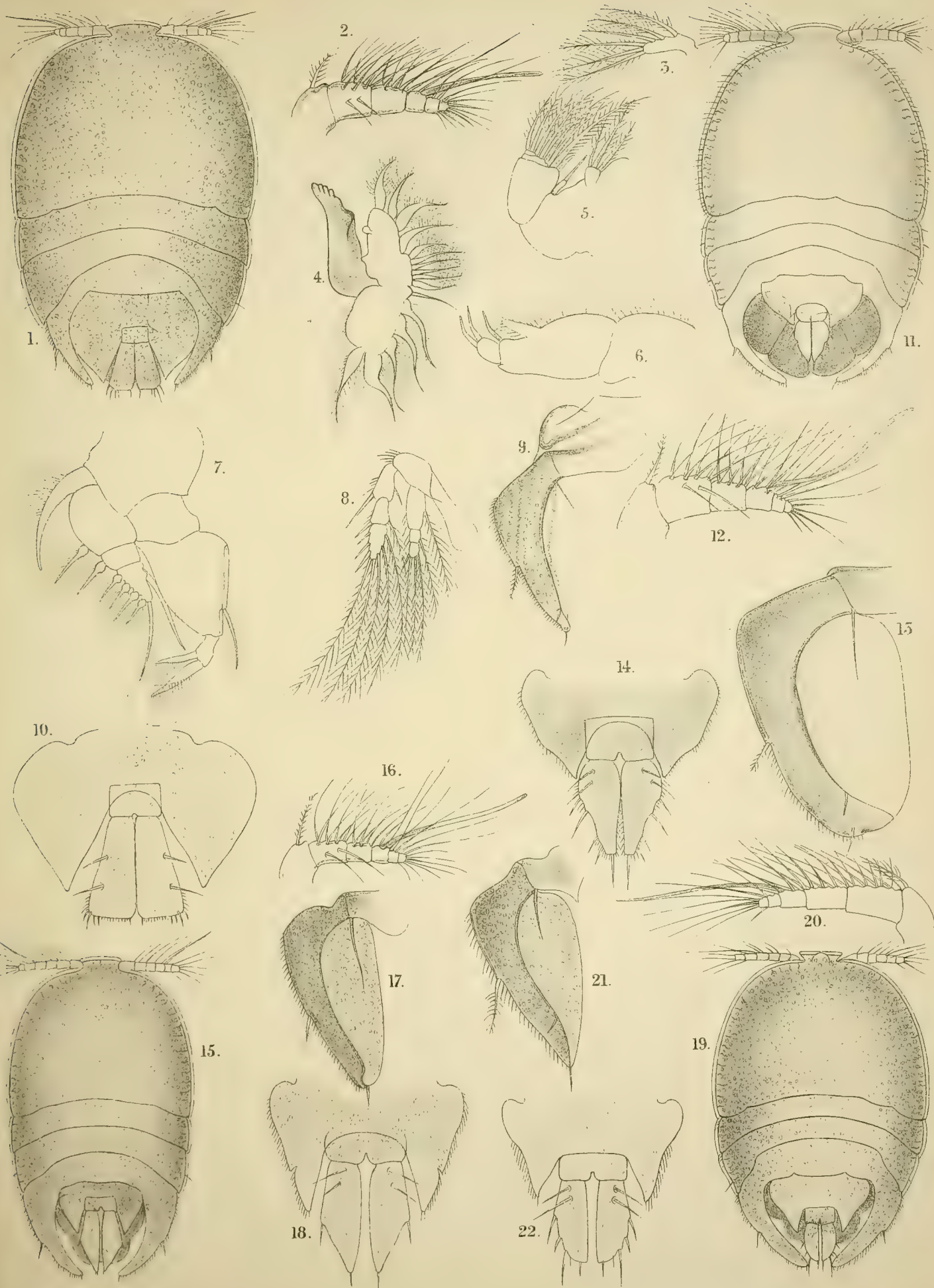
FIGS 1-8 DACTYLOPHUSIA LATICAUDATA.  
FIGS 13-18 DACTYLOPHUSIA PLATYSOMA.

FIGS 9-12 DACTYLOPHUSIA AEMULA.  
FIGS 19-24 PSEUDOTHALESTRIS IMBRICATA, BRADY.

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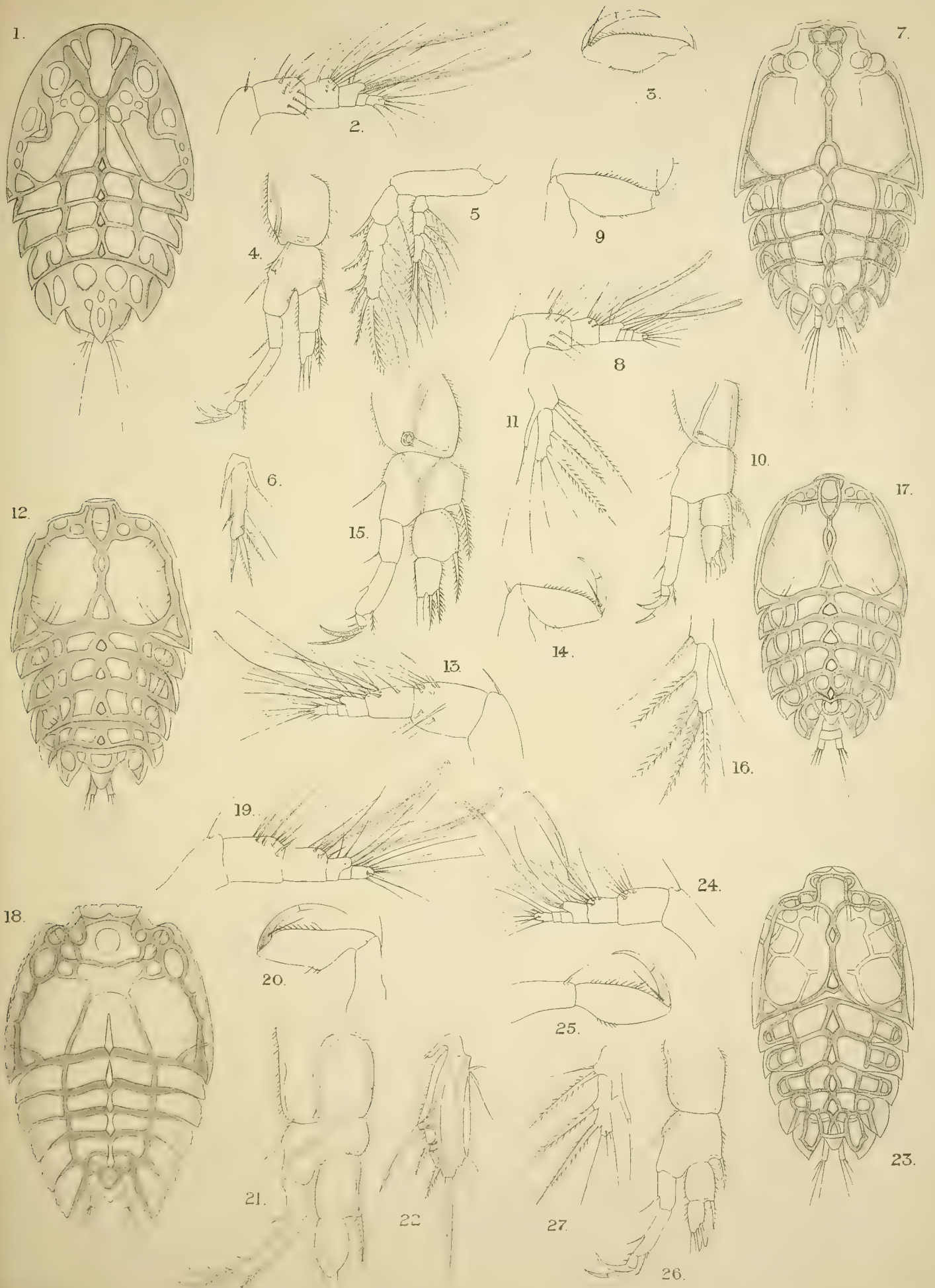
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FIGS. 1-10. PORCELLIDIUM FIMBRIATUM, CLAUS.  
FIGS. 15-18, PORCELLIDIUM ACUTICAUDATUM.

FIGS. 11-14. PORCELLIDIUM BREVICAUDATUM.  
FIGS. 19-22, PORCELLIDIUM RAVANÆ.







FIGS. 1-6, PELTIDIUM OVALE. FIGS. 7-11, PELTIDIUM ANGULATUM.

FIGS. 12-17 PELTIDIUM SPECIOSUM. FIGS. 18-22, PELTIDIUM SERRATUM. FIGS. 23-27, PELTIDIUM PERPLEXUM.

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FIGS. 1-11, PSEUDANTHESSIUS MAXIMUS.

FIGS. 12-18, PSEUDANTHESSIUS CHELIFER.

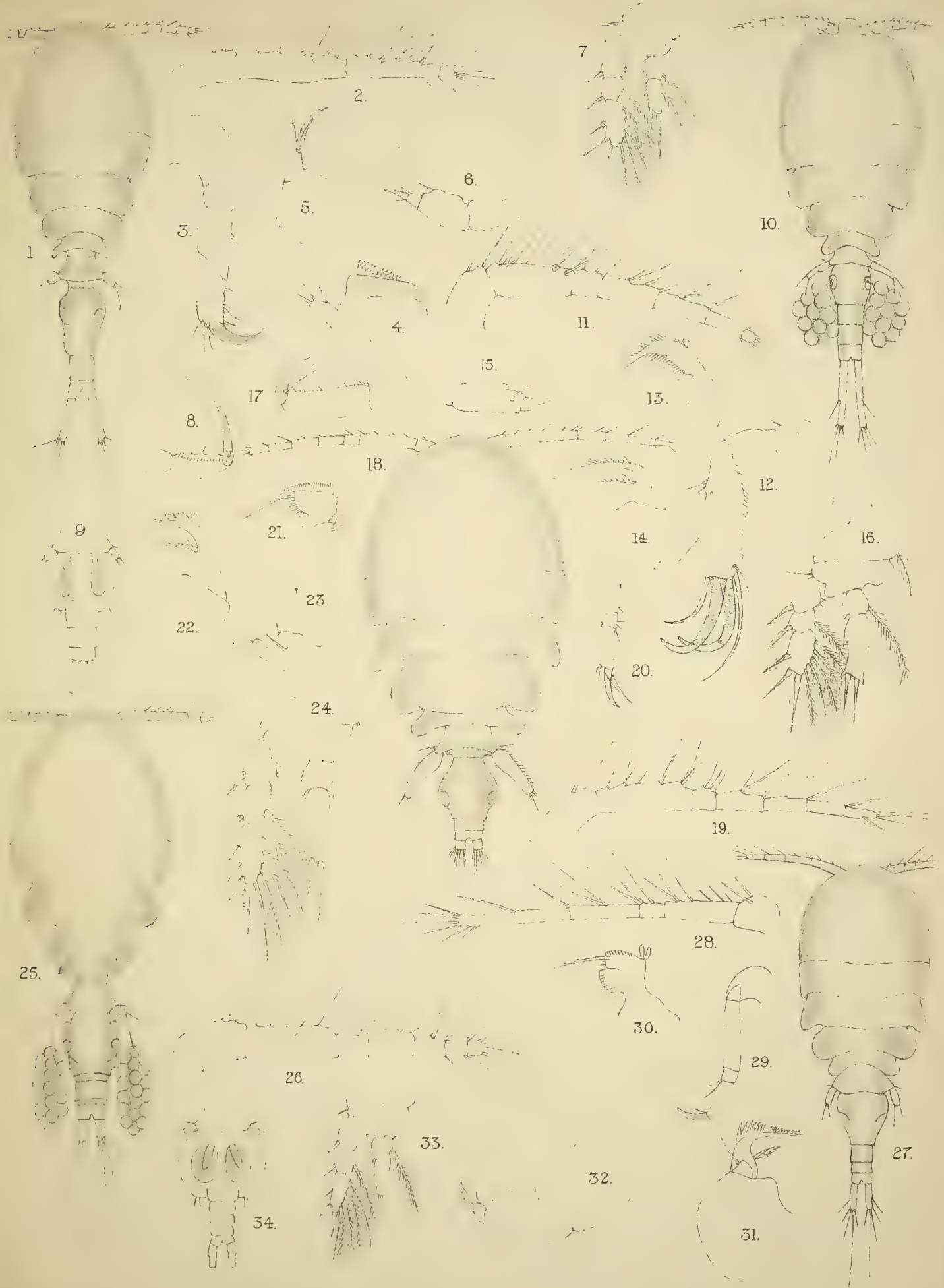
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FIGS. 19-23, PSEUDANTHESSIUS GRACILIS, CLAUS.

FIGS. 24-30, PSEUDANTHESSIUS CONCINNUS.







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Figs. 1-9, LICHOMOLGUS GRACILIS.

Figs. 10-17, LICHOMOLGUS IEVERSI.

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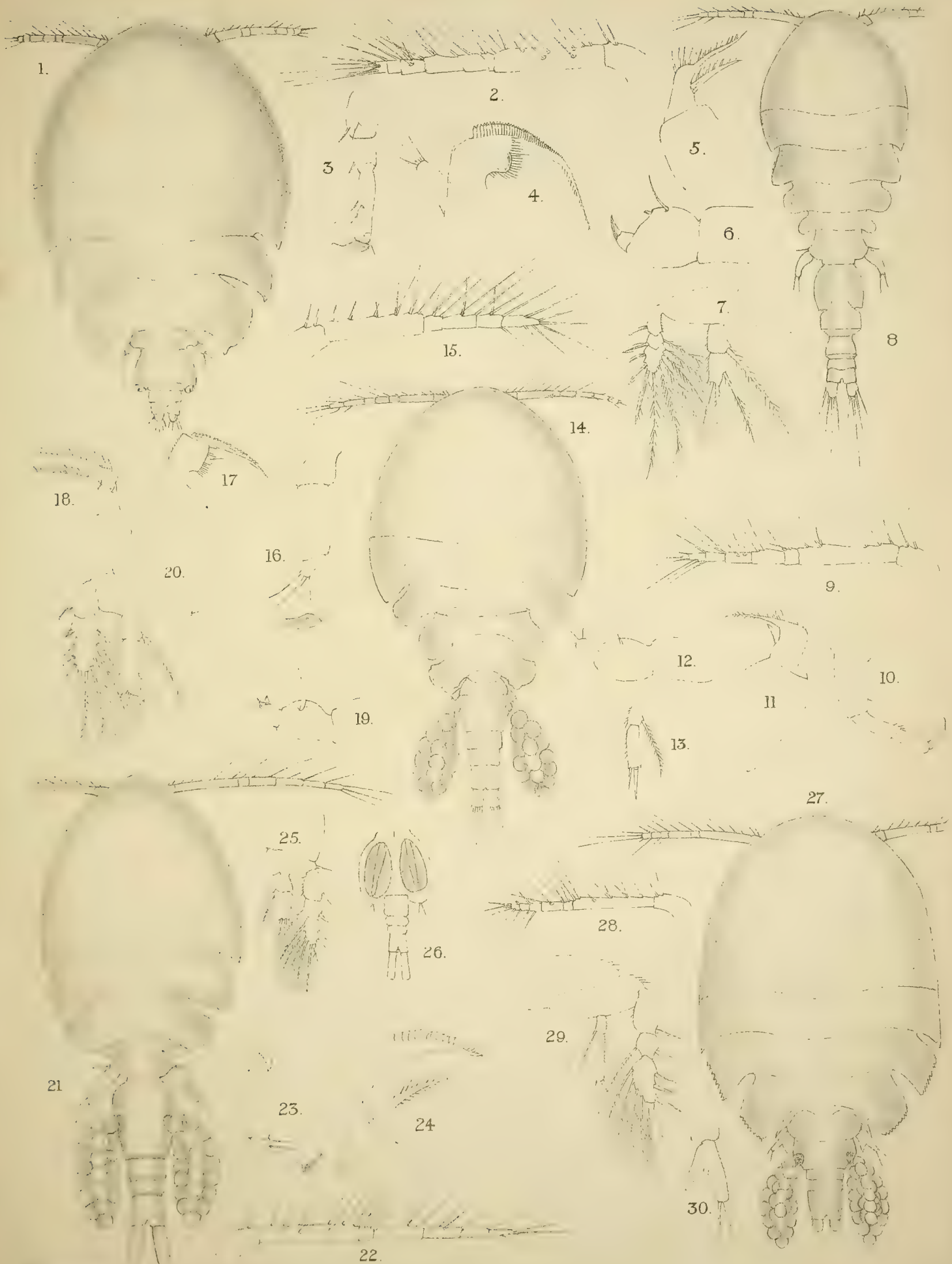
Figs. 18-24, LICHOMOLGUS BUDDHENSIS.

Figs. 25, 26, LICHOMOLGUS LANKENSIS.

Figs. 27-34, LICHOMOLGUS SIMPLEX.







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FIGS 1-7, PARALICHOMOLGUS CURTICAUDATUS.

FIGS. 8-13, LICHOMOLGUS ELEGANS.

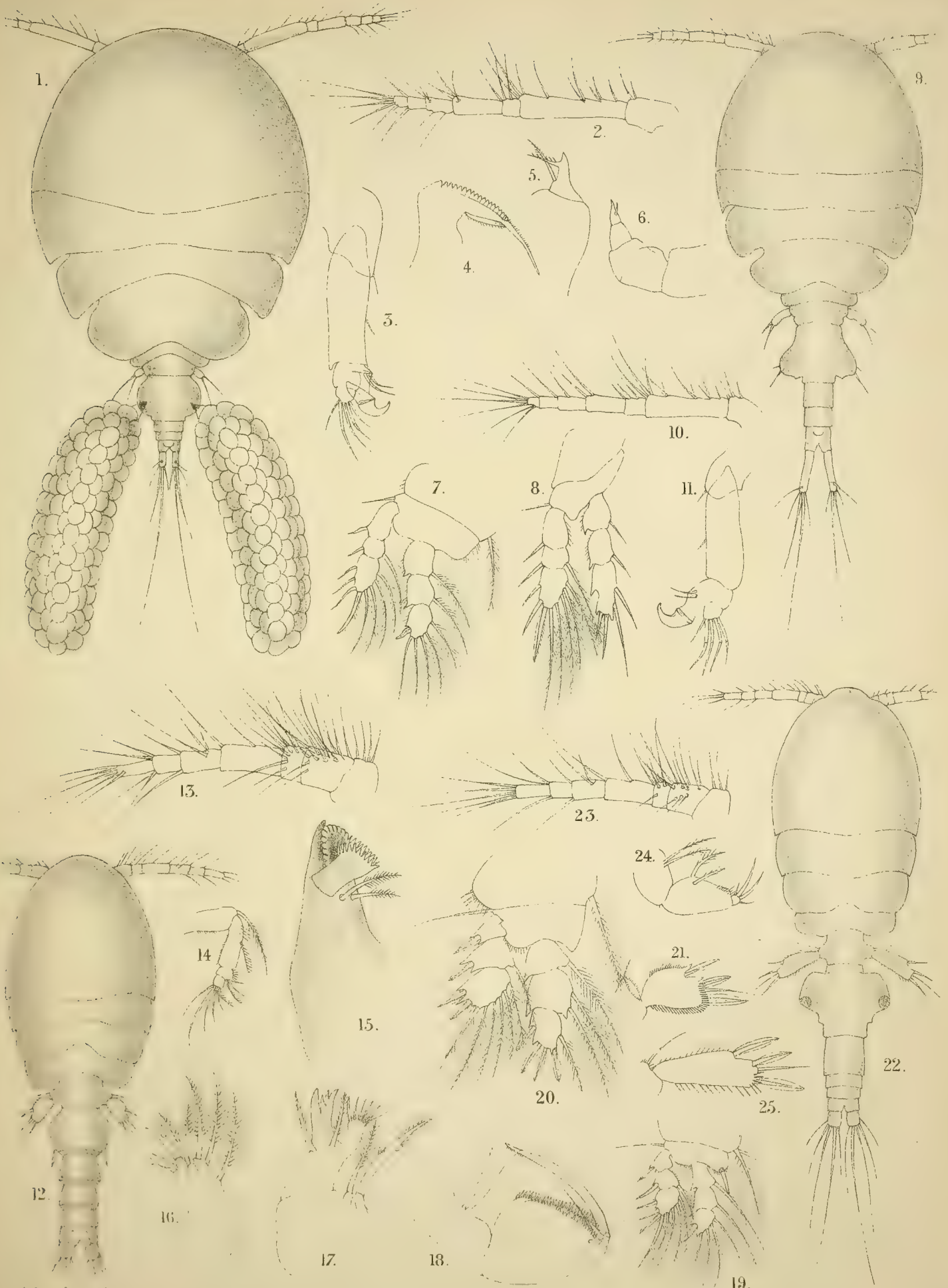
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FIGS 14-20, LICHOMOLGUS ROBUSTUS.

FIGS. 21-26, LICHOMOLGUS GIGAS

FIGS. 27-30, LICHOMOLGUS DENTIPES.





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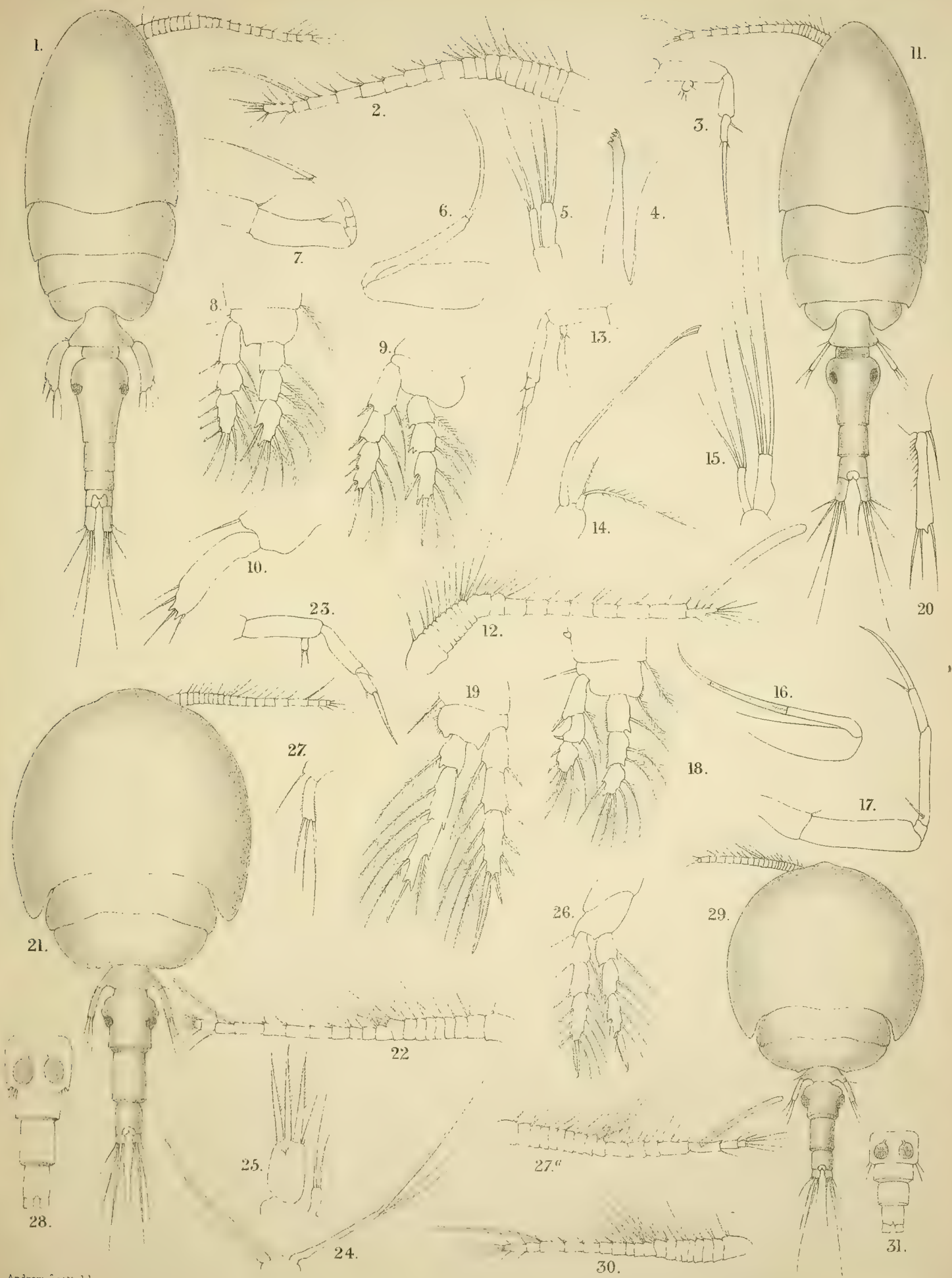
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FIGS. 1-8, HERMANNELLA ROBUSTA.  
FIGS. 12-21, HERSILIODES LEGGII.

FIGS. 9-11, HERMANNELLA SERENDIBICA.  
FIGS. 22-25, HERSILIODES TAMILENSIS.







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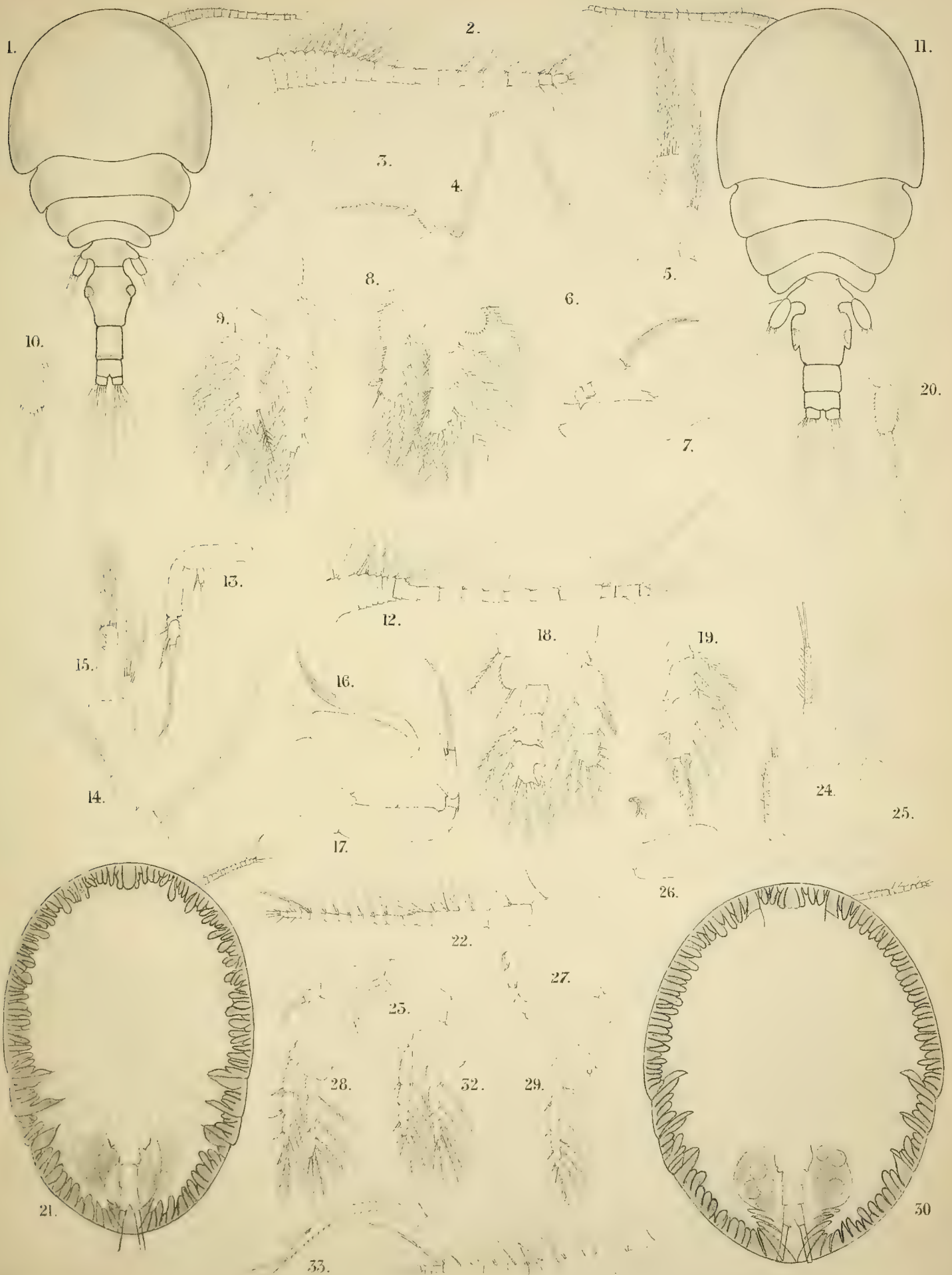
FIGS. 1-10, COLLOCHERES GIESBRECHTI.  
FIGS. 21-28, ASTEROCHERES MAJOR.

FIGS. 11-20, ASTEROPONTIUS ATTENUATUS.  
FIGS. 29-31, ASTEROCHERES MINOR.

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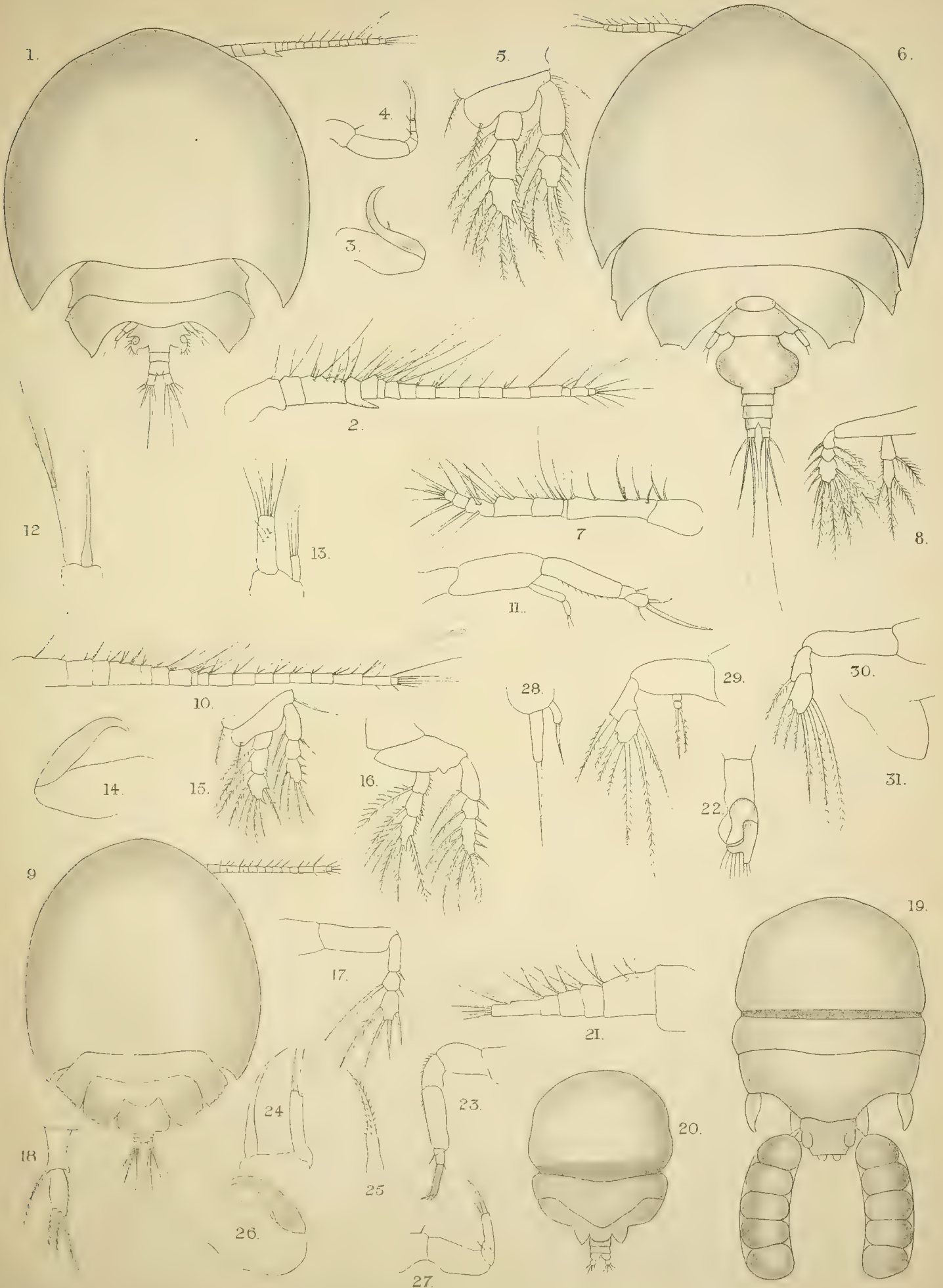




Figs. 1-10. ASTEROPONTIUS TYPICUS.  
Figs. 21-29. LEPEOPSYLLUS TYPICUS.

Figs. 11-20. ASTEROCHERES MANAARENSIS.  
Figs. 30-33. LEPEOPSYLLUS OVALIS.





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FIGS 1-5, DOROPONTIUS DENTICORNIS  
FIGS. 9-18, CLETHOPONTIUS SERRATUS.

FIGS. 6-8, PARALICHOMOLGUS LONGICAUDATUS.  
FIGS. 19-31, STEPHOPONTIUS TYPICUS.















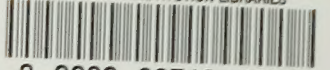








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