

ARKIV FÖR ZOOLOGI.

BAND 1.

Report on Plankton collected by Mr. THORILD WULFF during a voyage to and from Bombay.

By

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with 4 plates (Tafl. 16-19).

Read November 11th 1903.

Mr. THORILD WULFF of the University of Lund collected during a voyage, September 1902 to February 1903, to and from Bombay a series of samples of plankton, which were delivered to me for examination. All the samples had been obtained by filtering water from the pump of the steamer through a fine silk-net. In the same time the samples were collected the temperature of the water was noted and samples of water bottled for chemical examination. The latter samples were tested for chlorine by Miss A. PALMQUIST.

The following lists indicate the stations, where the samples had been collected. The temperature of the water in centigrades is to be found under the head *Temp.*, the salinity in »pro mille» under *Sal.* I have under the heads *Pn qt*, *Pn ql*, and *NS.* noted the quantity (*c* large, + median, *r* sparingly, and *o* no plankton) the quality (*Cp*, copepoda, *Pr*, peridinales, *D*, diatoms, *R*, radiolaria and *T*, tintinnodea) and the number of species noted.

1. *Atlantic* 1902.

D a t e.	Lat. N.	Long. W.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
IX 29	48° 6'	6°12'	16,6	35,50	e	Cp	9
» 30	45°13'	8°34'	17,9	35,66	r	Cp	4
X 1	41°50'	9°44'	19,0	35,97	o	—	—
» 2	38°20'	9°31'	18,4	36,09	r	Cp	7
» 2	36°55'	8°46'	19,7	36,18	e	Cp	5
» 3	36°14'	6°48'	18,9	36,45	e	Cp Pr	18
» 3	36° 5'	6° 8'	18,9	36,31	e	Cp	25

2. *Atlantic* 1903.

D a t e.	Lat. N.	Long. W.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
II 6	36°39'	7°47'	15,7	36,44	e	Cp RT	37
» 7	38°41'	9°38'	14,5	36,18	r	—	8
» 8	41°33'	9°40'	13,6	35,97	r	Cp	7
» 9	44°27'	8°35'	13,4	35,93	r	Cp R	3
» 10	47°26'	6°45'	11,5	35,68	r	Cp R	7

The plankton collected in september—october to 37° N. 9 W. belonged to styliplankton, that from 36°N.7 W. contained a mixture of styli- and desmo-plankton, but, besides, *Nyctiphanes norvegicus*, of which species the sample contained not less than six specimens.

The plankton collected in February at 37° N. 8 W. contained styli- and desmo-plankton and, besides, *Thalassiothrix longissima* sparingly. The later samples contained styliplankton sparingly.

3. *Mediterranean* 1902.

D a t e.	Lat. N.	Long.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
X 3	36° 5'	5° 3'W.	18,9	36,45	e	Cp Pr	24
» 4	36°33'	2°18' »	22,0	37,43	e	Cp Pr	34
» 4	36°44'	0°30' »	21,4	36,98	e	Cp Pr	34
» 5	36°57'	1°51'E.	21,2	36,76	+	Cp Pr	37

Date.	Lat. N.	Long.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
X 5	37°12'	4° 2' E.	21,8	36,94	+	Cp Pr	30
6	37°25'	6° 7' »	22,6	37,56	+	Cp Pr	13
6	37°38'	7°56' »	22,2	37,12	+	Cp Pr	29
7	37°27'	10°20' »	22,5	37,29	+	Cp Pr	21
7	36°59'	12° 7' »	23,3	37,52	+	Cp Pr	35
8	36°12'	14°18' »	24,3	37,66	+	Cp Pr	21
8	35°43'	16 12' »	24,6	37,79	r	Cp Pr	17
9	35° 8	18°12' »	24,2	38,60	r	Pr	10
9	34°42'	20° 5' »	24,6	38,78	r	Cp Pr	12
10	34°10'	22° 4' »	24,4	39,11	r	Pr	5
10	33°45'	24° 6' »	24,5	39,34	r	Cp Pr	19
11	33°23'	26° »	24,9	39,25	r	Cp Pr	23
11	32°52'	27°55' »	24,6	39,13	—	—	—
12	32°25'	29°32' »	24,9	38,69	+	Cp Pr	17
12	31°49'	31°46' »	25,5	39,49	r	Cp Pr	9

It is of interest to note that the temperature and the salinity increase eastwards, but on the other hand the amount of plankton and the number of species in it decrease as a rule. The plankton in all samples belonged to styli- and desmo-plankton, the former apparently predominant.

4. *Mediterranean* 1903.

Date.	Lat. N.	Long.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
I 26	32°47'	29°32' E.	16,7	38,87	r	Cp Pr	7
27	33°44'	26°31' »	16,0	38,95	o	—	—
28	34°48'	23° 3' »	15,5	38,93	r	—	2
29	35°29'	19° 6' »	15,8	38,86	r	Cp Pr	27
30	35°54'	15°17' »	15,1	38,33	o	—	—
31	37°12'	11° 8' »	14,5	37,12	r	Cp Pr	14
II 1	37°48'	8° 4' »	14,9	37,03	+	Cp	13
2	37°21'	4°50' »	14,2	37,56	—	—	—
4	37° 7'	0°10' W.	13,9	37,63	c	Cp Pr	27
5	36°21'	4° 4' »	15,1	36,62	c	Cp Pr	66

As was the case in October 1902, the salinity and the temperature increased eastwards. The plankton was as a rule

scarce in the eastern parts of the Mediterranean, but fairly rich in the western parts. The plankton in the eastern Mediterranean belonged to *desmo-* and *styliplankton*. In the western Mediterranean there occurred chiefly *styliplankton*, but with a certain amount of *desmoplankton*. There occurred, besides, some *didymus-plankton* and some remarkable boreal forms, as *Thalassiothrix longissima*, *Peridinium ovatum* and *Calanus finmarchicus*.

5. Bitterlakes southern part, 1903.

Date.	Temp.	Sal.	Pt. qt.	Pt. ql.	NS.
II 24	13,3	47,99	+	Cp Pr	3 besides larval forms
» »	13,8	52,56	r	Cp Pr	3 » »

The low temperature and high salinity are remarkable. The plankton contained chiefly *Oithona nana* and *Ceratium furca*, besides some larval stages of *Acartia* etc.

6. Red Sea 1902.

Date.	Lat. N.	Long. E.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
X 14	29°45'	32°32'	25,2	42,81	c	Cp Pr	35
» 14	28° 1'	33°31'	26,2	40,70	r	Cp Pr	37
» 15	26°35'	34°52'	26,5	40,59	r	Cp Pr	13
» 15	25° 1'	35°54'	28,2	40,32	r	Cp	8
» 16	23°30'	36°46'	29,2	39,92	r	Cp Pr	36
» 16	21°57'	37°41'	30,3	39,40	+	Cp	13
» 17	20°25'	38°33'	30,7	39,16	+	Cp Pr	36
» 17	18°51'	39°30'	31,4	39,04	+	Cp Pr	30
» 18	17°11'	40°34'	31,3	39,04	+	Cp Pr	23
» 18	15°43'	41°37'	29,6	37,47	c	Cp	32
» 19	14°18'	42°33'	30,5	37,70	c	Cp Pr	26
» 19	12°43'	43°18'	29,6	36,80	c	Cp	28

The temperature increased, as could be expected, southwards, but the salinity decreased. The Gulf of Suez contained, in spite of the high salinity, a rich plankton, but else the plankton increased steadily from the north to the south.

The plankton belonged chiefly to the *desmo-type* and the almost total absence of diatoms is remarkable. The sample from 16°N. 42°E. contained *Doliolum sp.* abundantly.

7. *Red Sea* 1903.

D a t e.	Lat. N.	Long. E.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
I 18	14° 8'	42°42'	24,8	37,01	c	D	8
» 18	15°25'	41°50'	24,8	37,63	c	Cp D	38
» 19	17° 6'	40°50'	26,15	37,68	c	Cp D	27
» 19	18° 2'	39°54'	26,9	38,26	c	Cp	26
» 20	19°54'	39° 1'	26,7	38,78	r	Cp Pr D	46
» 21	22°15'	37°30'	24,6	39,49	r	Cp	7
» 22	24°56'	35°56'	23,2	40,21	r	Cp	15
» 23	27°33'	34° 8'	22,5	40,61	r	Cp	17
» 23	28°24'	33° 8'	18,2	41,68	r	Cp	12

The temperature increased and the salinity diminished from north to south. The northern part of the Red Sea was poor in plankton, the southern part rich. The principal mass of the plankton belonged to *desmo-plankton*. The diatoms are represented chiefly by *Hemidiscus cuneiformis*, which formed in the most southern sample the principal mass and gave the living sample a very bad smell.

8. *Gulf of Aden and Arabian Sea* 1902.

D a t e.	Lat. N.	Long. E.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
X 20	12°22'	44°59'	29,35	36,76	c	Cp Pr	24
» 20	12°47'	46°47'	29,15	36,82	c	Cp Pr	27
» 21	13°11'	48°31'	28,2	36,49	c	Cp Pr	41
» 21	13°32'	50° 4'	26,0	35,62	c	Cp Pr	34
» 22	13°59'	51°52'	28,5	36,33	+	Cp	20
» 22	14°22'	53°33'	28,3	36,24	c	Cp	49
» 23	14°50'	55° 9'	27,4	36,15	c	Cp Pr	56
» 23	15°12'	56°49'	27,0	35,97	c	Cp Pr D	35
» 24	15°30'	58° 3'	26,7	35,90	+	Cp Pr	31
» 24	15°52'	59°39'	25,8	35,52	c	Cp Pr	38
» 25	16°20'	61°15'	26,4	35,77	c	Cp Pr	23
» 25	16°44'	62°54'	26,8	36,13	+	Pr D	17

D a t e.	Lat. N.	Long. E.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
> 26	17° 5'	64°27'	27,4	36,45	c	Cp Pr	52
> 26	17°28'	66°14'	27,8	36,64	c	Cp Pr	43
> 27	17°55'	67°56'	28,3	36,76	+	Cp Pr	17
> 27	18°20'	69°47'	28,6	35,97	+	Cp	15
> 28	18°46'	71°37'	29,6	35,41	+	Cp Pr	26

The salinity is as a rule high, which is remarkable as large rivers carry fresh water in the Arabian Sea. The plankton belongs chiefly to the desmotype. The diatoms found in the middle of the route belonged to *Hemidiscus cuneiformis*, which in January advanced to the middle of the Red Sea, and then also appeared in the northern parts of the Arabian Sea. The sample collected at 17° N. 66° E. was remarkable for an abundance of *Pyrocypris chierchie*.

9. Arabian Sea and Gulf of Aden, Bombay—Karschi—Aden 1903.

D a t e.	Lat. N.	Long. E.	Temp.	Sal.	Pn. qt.	Pn. ql.	NS.
I 4	20°28'	70°30'	24,7	35,71	+	D	27
> 4	21°32'	68°37'	23,3	35,35	—	Cp D	— ¹
> 5	22°30'	67°27'	23,9	36,24	c	Cp	30
> 10	24°37'	66°43'	22,6	36,76	c	Cp	32
> 11	23°37'	65°19'	23,7	36,36	+	Cp	17
> 12	21°22'	62° 8'	24,5	36,49	c	Cp Pr	52
> 13	19°31'	58°51'	24,0	36,45	c	Cp Pr	56
> 14	16°51'	55°49'	23,9	36,33	c	Cp Pr	48
> 15	15°17'	52°20'	23,5	36,02	c	Cp Pr D	86
> 16	13°44'	48°45'	24,25	36,11	+	Cp	31
> 17	12°49'	45°23'	24,85	36,15	+	Cp D	26
> 17	12°18'	44° 2'	24,8	36,24	c	D Cp	29

The figures show that the salinity was high also in the northern part of the Arabian Sea. The diatoms were to a certain extent forms of styli- and didymusplankton and, besides, sparingly *Thalassiothrix longissima* and *Pseudoeunotia doliolus*. The sample from 22 N. 67° E. contained large masses of *Salpa sp.*

¹ This sample could not be thoroughly examined, because it contained too much roset.

Plankton-forms noted.*

Myxophyceæ.

Heliostrichum radians Wille (*Trichodesmium thiebaulti* Clev.).

Red Sea: X, 14°--13° N. 43° E.

Gulf of Aden: X, 12° N. 45° E.

T. 29,3 to 30,5 — S. 36,76 to 37,70 — Spls. 3.

Chlorophyceæ.

Halosphæra viridis Schmitz.

Atl. IX, 48° N. 6° W. — II, 37°—47° N. 7°—10° W.

Medit. X, 37° N. 2° W. to 34° N. 24° E. — I, 33° N. 30° E.
to 36° N. 4° W.

Red Sea: X, 30°—23° N. 33°—37° E.

Arab. Sea: I, 21° N. 62° E.

T. 19,6 max. 29,2, min. 11,5 — S. 37,89, max. 42,81 min.
35,50 — Spls. 24.

Cystæ.

Pyrocystis lamulus Clev.

Red Sea: I, 15° N. 41° E. — T. 24,8 — S. 37,63 — Spl. 1.

P. pseudonoctiluca J. Murray.

Medit. X, 35°—32° N. 18°—30° E. — I, 35° N. 19° E.

Red Sea: X, 27°—20° N. 35°—39° E. — I. 15°—20° N.
41°—39° E.

Gulf of Aden: I, 12° N. 44° E.

T. 26,3, max. 30,7, min. 15,8 — S. 39,02, max. 40,57, min.
36,24 — Spls. 17.

Xanthidium paucispinosum Clev.

Medit. X, 38°—32° N. 8°—32° E.

Red Sea: X, 30°—23° N. 33°—37° E.

Gulf of Aden: X, 13° N. 49° E.

* In the following T denotes the temperature in C° of the water, in which a form has been found, usually as means of several observations, S the salinity in p. m., Sple and Spls denote the number of samples, in which a form has been found. Chaetognata, Amphipoda, Thaliacea, Pteropoda and Prochordata have not been examined.

T. 26,1 max. 29,2, min. 22,2 — S. 39,42, max. 42,81,
min. 36,49 — Spls. 6.

Diatomaceæ.

Asterolampra marylandica Ehrbg.

Medit. I, 33°—35° N. 30°—19° E.

T. 15,8 to 16,7 — 38,86. — Spls. 2.

A. rotula Grev.

Medit. X, 35°—32° N. 18°—30° E.

T. 24,2 to 24,9 — S. 38,60 to 39,25 — Spls. 3.

Asteromphalus reticulatus Clev.

Arab. Sea: I, 15° N. 52° E. — T. 23,5 — S. 36,02 — Sple. 1.

Bacteriastrum varians Lauder.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple. 1.

Biddulphia mobilensis Bail.

Medit. II, 36° N. 4° W.

Arab. Sea: I, 20° N. 70° E.

T. 15,1 to 24,7 — S. 36,62 to 35,71 — Spls. 2.

Chaetoceras coarctatum Lauder.

Red Sea: X 30° N. 33° E. — I, 20 — 28° N. 39°—33° E.

Arab. Sea: I, 21° N. 62° E.

T. 23,5, max. 26,7, min. 24,5 — S. 39,99, max. 42,81, min.
36,49 — Spls. 5.

C. compressum Lauder.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

C. curvisetum Clev.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — 35,71 — Sple 1.

C. densum Clev.

Medit. II, 36° N. 4° W. — T. 15,1 — S. 36,62 — Sple 1.

C. didymum Ehrbg.

Medit. II, 36° N. 4° W. — T. 15,1 — S. 36,62 — Sple 1.

C. diversum Clev.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

C. furca Clev.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — 35,71 — Sple 1.

C. lorenzianum Grun.

Medit. X, 32° N. 30° E.

Red Sea: I, 20° N. 39° E.

Arab. Sea: I, 15° N. 52° E.

T. 23,5 to 26,7 — S. 36,02 to 38,78 — Spls. 3.

C. peruvianum Brtw.

Arab. Sea: I, 15° N. 52° E. — T. 23,5 — S. 36,02 — Sple 1.

Climacodium frauenfeldianum Grun.

Red Sea: X, 14° N. 43° E. — I, 15°—20° N. 41°—39° E.

Gulf of Aden: X, 13° N. 49° E. — I, 12° N. 44° E.

Arab. Sea. X, 17° N. 66° E. — I, 20°—21° N. 70°—62° E.

T. 26,4, max. 30,5, min. 24,5 — S. 37,02, max. 38,78, min. 35,71 — Spls. 9.

Coscinodiscus bipartitus Rattray (A. S. Atl. LIX f. 35).

Arab. Sea: I, 22° N. 69° E. — T. 23,3 — S. 35,35 — Sple 1.

C. gigas Ehrbg.

Medit. X, 32° N. 30°—32° E.

Red Sea: X, 30° N. 33° E. — I, 17° N. 41° E.

T. 25,4, max. 26,1, min 24,9 — S. 39,66, max. 42,81, min. 37,68 — Spls. 4.

C. janischii A. Schmidt.

Arab. Sea: I, 22° N. 67° E. — T. 23,9 — S. 36,24 — Sple 1.

C. lineatus Ehrbg.

Arab. Sea: I, 15° N. 52° E. — T. 23,5 — S. 36,02 — Sple 1.

C. nodulifer Janisch.

Arab. Sea: I, 15° N. 52° E. — T. 23,5. — S. 36,02 — Sple 1.

C. oculus iridis Ehrbg.

Arab. Sea: I, 22° N. 67°—69° E.

T. 23,3 to 23,9. — S. 35,35 to 36,24 — Spls 2.

C. radiatus Ehrbg.

Atl. II, 37° and 47° N. 7° W.

Medit. II, 36° N. 4° W.

T. 11,5 to 15,7 — S. 35,68 to 36,62 — Spls. 3.

C. sol Wallich.

Atl. II, 37° N. 8° W.

Red Sea: I, 20°—28° N. 39°—36° E.

Gulf of Aden: X, 14° N. 50° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—16° N. 54°—61° E. — I, 21°—14° N. 62°—49° E.

T. 24,3, max. 28,3, min. 15,7 — S. 36,98, max. 40,61, min. 35,62 — Spls. 13.

Detonula delicatula (Perag.).

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

Eucampia cornuta (Clev.).

Arab. Sea: I, 20° N 70° E. — T. 24,7 — S. 35,71 — Sple 1.

E. zodiacus Ehrbg.

Medit. II, 36° N. 4° W. — T. 15,1 — S. 36,62 — Sple 1.

Hemiaulus chinensis Greville (H. heibergi Clev.).

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

Hemidiscus euneiformis Wallich.

Red Sea: I, 14°—20° N. 43°—40° E.

Gulf of Aden: I, 12° N. 44° E.

Arab. Sea: X, 14°—17° N. 54°—63° E. — I, 21°—13° N.
62°—45° E.

T. 25,6, max. 28,3, min. 23,5 — S. 36,79, max. 38,78, min.
35,97 — Spls. 15.

Lauderia annulata Clev.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

Nitzschia pungens var. *atlantica* Clev.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

Pseudoeunotia doliolus Wallich.

Arab. Sea: I, 15° N. 52° E. — T. 23,5 — S. 36,02 — Sple 1.

Rhizosolenia alata Brtw.

Red Sea: I, 20° N. 39° E.

Arab. Sea: I, 20° N. 70° E.

T. 24,7 to 26,7 — S. 35,71 to 38,78 — Spls. 2.

R. calcar avis Schulze.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

R. delicatula Clev.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

R. gracillima Clev.

Red Sea: I, 20° N. 39° E. — T. 26,7 — S. 38,78 — Sple 1.

R. robusta Norm.

Red Sea: I, 20° N. 39° E. — T. 26,7 — S. 38,78 — Sple 1.

R. setigera Brtw.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

R. shrubsolei Clev.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Spl 1.

R. styliformis Brtw.

Atl. II, 42° N. 10° W.

Red Sea: I, 20° N. 39° E.

T. 13,6 and 26,7 — S. 35,97 and 38,78 — Spls. 2.

Stephanopyxis turris (Greville).

Medit. II, 37°—36° N. 0°—4° W.

Arab. Sea: I, 20° N. 70° E.

T. 13,9 to 24,7 — S. 35,71 to 37,63 — Spls. 3.

Streptothea thamesis Shrubsole.

Arab. Sea: I, 20° N. 70° E. — T. 24,7 — S. 35,71 — Sple 1.

Thalassiothrix longissima Clev. a. Grun.

Atl. II, 37° N. 8° W. (rr).

Medit. II, 37° N. 0° W. (rr.).

Arab. Sea: I, 20°—15° N. 70°—52° E. (rr.).

T. 13,9 to 24,7 — S. 35,71 to 37,63 — Spls. 4.

Peridinales.

Amphisolenia globifera Stein (incl. *A. bidentata* Schröder).

Red Sea: I, 20° N. 39° E.

Arab. Sea: X, 21° N. 62° E. — I, 19°—15° N. 59°—52° E.

T. 24,2, max. 27,4, min. 23,5 — S. 36,94, max. 38,78, min. 36,02 — Spls. 5.

A. inflata Murr. a. Whitting.

Arab. Sea: I, 15° N. 52° E. — T. 23,5 — S. 36,02 — Sple 1.

A. palmata Stein.

Medit. X, 37° N. 0°—12° E. — I, 37° N. 0° E.

Red Sea: X, 23°—17° N. 37°—41° E.

Gulf of Aden: X, 12° N. 45° E.

Arab. Sea: X, 15°—18° N. 55°—68° E. — I, 21°—15° N. 62°—52° E.

T. 25,8, max. 31,3, min. 13,9 — S. 37,38, max. 39,92, min. 36,02 — Spls. 12.

Ceratium arcuatum Gourret.

Atl. X, 36° N. 6°—7° W.

Medit. X, 36° N. 5° W. to 37° N. 19° E. — II, 38°—36° N. 8° E. — 4° W.

Red Sea: X, 28° N. 34° E. — I, 15° N. 41° E.

Gulf of Aden: X, 13°—14° N. 47°—50° E.

Arab. Sea: X, 15°—17° N. 55°—64° E. — I, 21°—15° N. 62°—52° E.

T. 22,4, max. 29,5, min. 18,9 — S. 37,30, max. 40,70, min. 35,62 — Spl. 28.

C. *azoricum* Clev. (*C. tripos* v. *brevis* Ostenf. a. Schm.).

Medit. X, 38° N. 8° E. — II, 36° N. 4° W.

Arab. Sea: X, 14°—17° N. 54°—64° E.

T. 24,1, max. 28,3, min. 15,1 — S. 36,52, max. 37,12, min. 36,15 — Spl. 5.

C. *candelabrum* Ehrbg.

Medit. X, 36° N. 5° W. to 16° E. — I, 35° N. 19° E. to 36° N. 4° W.

Red Sea: X, 30° N. 33° E. — I, 15° N. 41° E.

Gulf of Aden: X, 13°—14° N. 49°—50° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—19° N. 54°—72° E. — I, 21°—14° N. 62°—49° E.

T. 23,9, max. 28,3, min. 13,9 — S. 36,88, max. 42,81, min. 35,41 — Spl. 32.

C. *contortum* (Gourret).

Red Sea: X, 23°—20° N. 37°—38° E. — I, 28° N. 33° E.

Gulf of Aden: X, 12°—13° N. 45°—47° E.

Arab. Sea: X, 15°—17° N. 55°—66° E. — I, 19° N. 59° E.

T. 27,0, max. 30,7, min. 18,2 — S. 38,01, max. 41,68, min. 36,15 — Spl. 8.

C. *curvicorne* v. Daday.

Medit. X, 37°—32° N. 12°—30° E.

Red Sea: X, 30°—23° N. 33°—37° E. — I, 15°—17° N. 41° E.

Gulf of Aden: X, 13°—14° N. 49°—50° E.

Arab. Sea: X, 14°—19° N. 54°—72° E. — I, 19°—15° N. 59°—52° E.

T. 25,8, max. 29,6, min. 23,3 — S. 37,25, max. 42,81, min. 35,62 — Spl. 23.

C. *dens* Ostenf. a. Schm. Vidensk. Med. Nath. For. Kbhvn. 1901 p. 165.

Red Sea: X, 16° N. 42° E. — I, 20° N. 39° E.

Arab. Sea: X, 17°—19° N. 64°—72° E.

T. 28,2, max. 29,6, min. 26,7 — S. 36,90, max. 38,78, min. 35,41 — Spl. 6.

C. (*fusus* var.) *extensum* Gourret.

Medit. X, 36°—34° N. 5° W.—24° E. — II, 36°—37° N. 0°—4° W.

Red Sea: X, 30° N. 32° E. — I, 28° N. 38° E.

Arab. Sea: X, 17°—18° N. 64°—68° E. — I, 21°—15° N.
62°—52° E.

T. 22,7, max. 28,3, min. 13,9 — S. 37,60, max. 42,81, min.
36,02 — Spls. 15.

C. flagelliferum Clev.

Atl. X, 36° N. 7°—6° W.

Medit. X, 37°—33° N. 0°—30° E. — I, 35° N. 19° E.

Red Sea: X, 28°—14° N. 34°—43° E. — I, 25° N. 36° E.

Gulf of Aden: X, 14° N. 50° E.

Arab. Sea: X, 15°—19° N. 55°—72° E. — I, 21°—15° N.
62°—52° E.

T. 24,4, max. 31,4, min. 15,8 — S. 37,78, max. 42,20, min.
35,41 — Spls. 25.

C. furca Ehrbg.

Atl. X, 38°—37° N. 10°—9° W.

Medit. X, 36°—37° N. 5°—0° W.

Bitter Lakes, I.

Red Sea: X, 30°—13° N. 32°—43° E. — I, 20° N. 39° E.

Gulf of Aden: X, 13°—14° N. 47°—50° E.

Arab. Sea: X, 14°—17° N. 54°—66° E.

T. 24,2, max. 30,5, min. 13,8 — S. 38,68, max. 52,56, min.
35,52 — Spls. 18.

C. gravidum Gourret.

Medit. I a. II, 35°—36° N. 19° E. and 4° W.

Red Sea: X, 27°—23° N. 35°—37° E.

Arab. Sea: X, 15°—17° N. 57°—66° E. — I, 21°—15° N.
62°—52° E.

T. 23,17, max. 29,2, min. 15,1 — S. 37,39, max. 40,59, min.
35,97 — Spls. 10.

C. heterocamptum (Jörgens).

Arab. Sea: I, 17° N. 56° E. — T. 23,9 — S. 36,33 — Sple 1.

C. limulus Gourret.

Atl. X, 36° N. 7° W.

Medit. X, 37° N. 12° E. — II, 36° N. 4° W.

Red Sea: X, 28°—23° N. 34°—37° E.

T. 22,5, max. 29,2, min. 15,1 — S. 38,24, max. 40,70, min.
36,45 — Spls. 5.

C. lineatum Ehrbg. *var. longiseta*. Osterf. a. Schm.

Atl. II, 37° N. 8° W.

Medit. X, 37° N. 2° E. — I, 35° N. 19° E.

Red Sea: X, 28°—19° N. 34°—39° E.

Arab. Sea: X, 15°—16° N. 55°—61° E. — I, 19° N. 59° E.
T. 24,31, max. 31,4, min. 15,7 — S. 37,61, max. 40,70, min.
35,52 — Spls. 10.

C. macroceros Ehrbg.

Atl. X, 36° N. 6° W. — II, 39° N. 10° W.

Medit. X, 33°—32° N. 26°—30° E. — I, 35°—36° N. 19°—4° W.

Red Sea: X, 30°—14° N. 33°—43° E.

Gulf of Aden: X, 12°—14° N. 45°—50° E.

Arab. Sea: X, 14° N. 54° E. — I, 21° N. 62° E.

T. 25,2, max. 31,4, min. 14,5 — S. 37,78, max. 41,81, min.
35,62 — Spls. 18.

C. paradoxides Clev.

Medit. II, 36° N. 4° W. — T. 15,1 — S. 36,62 — Sple. 1.

C. platycorne v. Daday.

Atl. X, 42° N. 10° W.

Arab. Sea: I, 15° N. 52° E.

T. 13,6 to 23,5 — S. 35,97 to 36,02 — Spls. 2.

C. ranipes Clev. 1900 (*C. tripus* var. *palmata* Schröder 1900).

Medit. II, 36° N. 4° W.

Arab. Sea: I, 21°—15° N. 62°—52° E.

T. 15,1 to 24,5 — S. 36,02 to 36,62. — Spls. 3.

C. reflexum Clev.

Red Sea: X, 20° N. 39° E. — T. 30,7 — S. 39,16 — Sple. 1.

C. reticulatum (Pouchet).

Atl. X, 36° N. 6° W.

Medit. X, 37° N. 2°—12° E.

Red Sea: X, 28°—25° N. 34°—36° E.

Arab. Sea: I, 17°—15° N. 56°—52° E.

T. 23,4 max. 28,2, min. 18,9 — S. 37,65, max. 40,70, min.
36,02 — Spls. 8.

C. robustum Ostenf. a. Schm. Vid. Med. Nath. For. Kbhvn.
1901, p. 166.

Red Sea: X, 22°—20° N. 38°—39° E.

Arab. Sea: X, 19° N. 72° E. — I, 21°—19° N. 62°—59° E.

T. 24,8, max. 30,7, min. 24,0 — S. 37,48, max. 39,40, min.
35,41 — Spls. 5.

C. tripus (O. F. Müller).

Atl. IX a. X, 48°—37° N. 6°—10° W.

Medit. X, 38°—37° N. 8°—12° E. — I, 35°—37° N. 19°—11° E.

Red Sea; X, 19° N. 39° E. — I, 28° N. 33° E.

Arab. Sea: X, 15°—19° N. 57°—72° E. — I, 19—14° N. 59°—49° E.

T. 22,5, max. 31,4, min. 14,5 — S. 36,93, max. 41,68, min. 35,41 — Spls. 15.

C. volans Clev.

Medit. X, 36°—38° N. 6°—16° E.

Red Sea: X, 30°—16° N. 33°—42° E. — I, 15°—28° N. 41°—33° E.

Gulf of Aden: X, 13° N. 47° E.

Arab. Sea: X, 15°—19° N. 55°—72° E. — I. 21°—15° N. 62°—52° E.

T. 25,8, max. 29,6, min. 18,2 — S. 37,50, max. 42,81, min. 35,90 — Spls. 25.

C. vultur Clev.

Medit. I, 35° N. 19° E.

Red Sea: X, 27°—14° N. 35°—43° E.

Gulf of Aden: X, 13° N. 49° E.

Arab. Sea: X, 15°—19° N. 55°—72° E. — I, 21°—13° N. 62°—45° E.

T. 25,9, max. 30,5, min. 15,8 — S. 37,23, max. 40,59, min. 35,41 — Spls. 8.

Ceratocorys horrida Stein.

Atl. X, 36° N. 7°—6° W. — I, 37° N. 8° W.

Medit. X, 36°—32° N. 5° W.—30° E. — I, 33—36° N. 30° E. and 4° W.

Red Sea: X, 22°—13° N. 38°—43° E. — I, 18° N. 40° E.

Gulf of Aden: X, 12°—13° N. 45°—49° E.

Arab. Sea: X, 14°—18° N. 52°—70° E. — I, 21—15° N. 62°—52° E.

T. 29,9, max. 31,4, min. 15,1 — S. 36,80, max. 39,40, min. 35,52 — Spls. 41.

Cladopyxis brachiolata Stein.

Medit. X, 35°—32° N. 18°—32° E.

T. 24,2 to 25,5 — S. 38,60 to 39,49 — Spls. 4.

Dinophysis acuta Ehrbg.

Atl. X, 38° N. 10° W. — T. 18,4 — S. 36,09 — Sple 1.

D. hastata Stein.

Atl. II, 37° N. 8° W.

Red Sea: X, 28°—23° N. 34°—37° E.

Gulf of Aden: X, 12° N. 45° E.

T. 15,7 to 29,3 — S. 36,44 to 40,70 — Spls. 4.

D. homunculus Stein.

Atl. X, 36° N. 6° W. — II, 37° N. 8° W.

Medit. X, 36° N. 5° W.

Red Sea: X, 30°—28° N. 33°—34° E.

Gulf of Aden: X, 12° N. 45° E.

Arab. Sea: X, 16° N. 61° E.

T. 22,9, max. 29,3, min. 15,7 — S. 37,95, max. 42,81, min. 35,77 — Spls. 7.

D. miles Clev.

Red Sea: X, 20°—13° N. 39°—43° E. — I, 20° N. 39° E.

Arab. Sea: X, 15°—17° N. 58°—64° E. — I, 22°—13° N. 69°—45° E.

T. 27,1, max. 31,4, min. 22,6 — S. 37,20, max. 39,16, min. 36,02 — Spls. 15.

D. sphaerica Stein.

Red Sea: X, 23° N. 37° E. — T. 29,2 — S. 39,92 — Sples 1.

D. uracantha Stein.

Medit. X, 36° N. 5° W. — T. 18,9 — S. 36,45 — Sples 1.

Diplopsalis lenticula Bergh.

Atl. X, 36° N. 6° W.

Medit. X, 36°—37° N. 5° W.—10° E. — I, 37°—36° N. 11° E.—4° W.

Red Sea: X, 14° N. 43° E. — I, 17°—20° N. 41°—39° E.

Gulf of Aden: X, 13°—14° N. 49°—50° E.

Arab. Sea: X, 14°—17° N. 52°—66° E. — I, 22° N. 69° E.

T. 23,8, max. 30,5, min. 13,9 — S. 36,99, max. 38,78, min. 35,35 — Spls. 21.

Exuviella compressa (Bail.).

Atl. II, 37° N. 8° W.

Medit. X, 37° N. 2° E. — I, 36° N. 4° W.

Red Sea: X, 30°—13° N. 33°—43° E.

Gulf of Aden: X, 12° N. 45° E.

Arab. Sea: X, 14°—17° N. 54°—64° E. — I, 15° N. 52° E.

T. 24,9, max. 29,6, min. 15,1 — S. 37,48, max. 42,81, min. 35,45 — Spls. 13.

Goniodoma acuminatum Stein.

Atl. X, 36° N. 6°—7° W. — II, 37° N. 8° W.

Medit. 37°—32° N. 2° W.—30° E. — I, 33° N. 30° E., 35° N. 19° E., 36° N. 4° W.

Red Sea: X, 28°—13° N. 34°—43° E. — I, 20°—22° N. 39°—37° E.

Arab. Sea: X, 15°—18° N. 55°—68° E. — I, 15° N. 52° E.
T. 23,3, max. 29,6, min. 15,7 — S. 37,61, max. 40,70, min. 35,52 — Spl. 28.

Goniodoma? *bipes* Clev. n. sp.

Red Sea: I, 17° N. 41° E.

Arab. Sea: X, 15°—17° N. 55°—64° E. — I, 15° N. 52° E.
T. 26,3, max. 27,4, min. 23,5 — S. 36,45, max. 37,68, min. 36,02 — Spl. 5.

Gonyaulax *jolliffei* Murr. a. Whitt.

Medit. X, 37°—36° N. 2° W.—14° E. — I, 36° N. 4° W.

Red Sea: X, 23° N. 37° E. — I, 25°—28° N. 36°—38° E.

Arab. Sea: X, 15° N. 55°—57° E. — I, 15° N. 52° E.

T. 23,2, max. 27,4, min. 15,1 — S. 37,58, max. 40,61, min. 35,97 — Spl. 13.

G. *polygramma* Stein.

Medit. X, 37°—33° N. 2°—26° E. — II, 36° N. 4° W.

Red Sea: X, 28°—23° N. 34°—37° E.

Arab. Sea: X, 17° N. 64° E.

T. 24,0, max. 29,2, min. 15,1 — S. 38,28, max. 40,70, min. 36,45 — Spl. 5.

Histioneis *magnifica* (Stein incl. *Ornithocercus quadratus* Schütt).

Atl. X, 36° N. 6°—7° E. — II, 37° N. 8° W.

Medit. X, 37° N. 4° E. — II, 33° N. 30° E.

Red Sea: X, 23°—17° N. 37°—41° E.

Arab. Sea: X, 15°—18° N. 57°—68° E. — I, 21°—15° N. 62°—52° E.

T. 24,7, max. 30,7, min. 15,7 — S. 36,90, max. 39,92, min. 35,52 — Spl. 20.

Oxytoxum *constrictum* (Stein).

Arab. Sea: X, 17° N. 64° E. — T. 27,4 — S. 36,45 — Sple. 1.

O. *diploconus* (Stein).

Arab. Sea: X, 17° N. 64° E. — T. 27,4 — S. 36,45 — Sple. 1.

O. *milneri* Murr. a. Whitt.

Medit. X, 33° N. 26° E. — T. 24,9 — S. 39,25 — Sple. 1.

O. *scolopax* (Stein).

Medit. X, 35° N. 18° E. — II, 36° N. 4° W.

T. 24,2 to 15,1 — S. 38,60 to 36,60 — Sple. 1.

O. *tessellatum* (Stein).

Medit. II, 36° N. 4° W.

Red Sea: X, 30° N. 33° E.

T. 15,1 to 25,2 — S. 36,62 to 42,81 — Spls. 2.

Peridinium diabolus Clev.

Medit. X, 36° N. 5° W.

Gulf of Aden: X, 14° N. 50° E.

T. 18,9 to 26,0 — S. 36,45 to 35,62 — Spls. 2.

P. divergens Ehrbg.

Atl. X, 36° N. 6° W.

Medit. X, 37° N. 0°—12° E. — II, 38° N. 8° E. and 36° N. 4° W.

Red Sea: X, 30°—13° N. 33°—43° E.

Gulf of Aden: X, 13° N. 49° E.

T. 24,3, max. 31,4, min. 14,9 — S. 37,50, max. 42,81, min. 35,90 — Spls. 16.

P. elegans Clev.

Atl. X, 36° N. 6° W.

Medit. X, 36°—33° N. 5° W. to 26° E. — I, 36° N. 4° W.

Red Sea: X, 30°—14° N.

Gulf of Aden: X, 12°—13° N. 45°—47° E.

Arab. Sea: X, 15°—18° N. 55°—70° E. — I, 21°—15° N. 62°—52° E.

T. 26,5, max. 30,5, min. 15,1 — S. 37,74, max. 42,81, min. 35,97 — Spls. 22.

P. globulus Stein.

Medit. X, 36°—37° N. 5° W.—12° E. — I a. II, 35°—37° N. 19° E.—4° W.

Red Sea: X, 28°—19° N. 34°—39° E.

Gulf of Aden: X, 17° N. 64° E. — I, 15° N. 52° E.

T. 22,3, max. 31,4, min. 13,9 — S. 37,62, max. 40,70, min. 36,02 — Spls. 13.

P. oceanicum Vanhöffen.

Atl. X, 36° N. 10° W.

Medit. II, 37°—36° N. 0°—4° W.

Red Sea: X, 20°—13° N. 39°—43° E. — II, 20° N. 39° E.

Gulf of Aden: X, 12°—14° N. 45°—50° E.

Arab. Sea: X, 14°—17° N. 52°—66° E. — I, 22°—14° N. 69°—49° E.

T. 25,4, max. 30,7, min. 15,1 — S. 36,77, max. 39,16, min. 35,35 — Spls. 21.

P. ovatum Pouchet.

Medit. II, 36° N. 4° W. — T. 15,1 — S. 36,62 — Spls. 1.

P. pedunculatum Schütt.

Atl. X, 38° N. 10° W. — T. 18,4 — S. 36,09 — Spls. 1.

P. steinii Jörgens.

Atl. X, 36° N. 6° W. — II, 37° N. 8° W.

Medit. II, 36°—37° N. 0°—4° W.

Red Sea: X, 23°—13° N. 37°—43° E.

Arab. Sea: X, 15°—17° N. 55°—66° E. — I, 21°—15° N. 62°—52° E.

T. 23,3, max. 29,6, min. 13,9 — S. 36,70, max. 39,92, min. 36,02 — Spls. 12.

Phalocroma cuneus Schütt.

Atl. II, 37° N. 8° W.

Arab. Sea: X, 17° N. 63°—66° E. — I, 21°—17° N. 62°—56° E.

T. 24,3, max. 27,8, min. 15,7 — S. 36,40, max. 36,49, min. 36,13 — Spls. 6.

P. doryphorum Stein.

Atl. II, 37° N. 8° W.

Medit. X, 37° N. 2° W—8° E.

Red Sea: X, 28°—23° N. 34°—37° E.

Arab. Sea: X, 15°—17° N. 55°—66° E. — I, 15° N. 52° E.

T. 24,4, max. 29,2, min. 15,7 — S. 37,08, max. 40,70, min. 35,97 — Spls. 14.

P. jourdani Gourret.

Atl. X, 36° N. 7° W.

Medit. X, 36° N. 5° W. — II, 36° N. 4° W.

Red Sea: X, 30°—23° N. 33°—37° E.

Gulf of Aden: X, 12° N. 45° E.

Arab. Sea: X, 14° N. 54° E.

T. 23,9, max. 29,3, min. 15,1 — S. 38,24, max. 42,81, min. 36,24 — Spls. 8.

P. operculatum Stein.

Atl. X, 36° N. 7° W.

Medit. X, 36°—33° N. 5° W.—33° E.

Red Sea: X, 30°—20° N. 33°—39° E.

Gulf of Aden: X, 12°—13° N. 45°—49° E.

Arab. Sea: X, 17° N. 63°—66° E. — I, 15° N. 52° E.

T. 23,1, max. 30,7, min. 18,9 — S. 37,52, max. 42,81, min. 36,02 — Spls. 17.

P. rapa Stein.

Atl. X, 36° N. 6°—7° W.

Medit. 36°—37° N. 5° W—10° E. — II, 36° N. 4° W.

Arab. Sea: X, 14°—17° N. 54°—64° E. — II, 15° N. 52° E.

T. 22,1, max. 28,3, min. 15,1 — S. 36,59, max. 37,29, min. 36,02 — Spls. 13.

Podolampas bipes Stein.

Medit. X, 37° N. 0° W. to 32° N. 32° E. — I a. II, 35°—36° N. 19° E. and 4° W.

Red Sea: X, 23°—14° N. 37°—43° E. — I, 18°—20° N. 40°—39° E.

Gulf of Aden: X, 12° N. 45° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—19° N. 54°—72° E. — I, 15° N. 52° E.

T. 25,3, max. 31,4, min. 15,1 — S. 37,11, max. 39,92, min. 35,41 — Spls. 30.

P. palmipes Stein.

Medit. X, 32°—33° N. 26°—30° E.

Red Sea: X, 23° N. 37° E.

Arab. Sea: X, 17° N. 64° E. — I, 19° N. 59° E.

T. 26,1, max. 29,2, min. 24,0 — S. 38,15, max. 39,92, min. 36,45.

Prorocentrum micans Ehrbg.

Bitter Lakes: I, T. 13,8 — S. 47,99—52,56 — Spls. 2.

Arab. Sea: X, 14°—15° N. 54°—57° E.

T. 27,0 to 38,3 — S. 35,97 to 36,24 — Spls. 2.

Pyrophacus horologiam Stein.

Medit. X, 37° N. 2° W. to 4° E.

Red Sea: X, 30°—13° N. 33°—43° E. — I, 20° N. 39° E.

Gulf of Aden: X, 13°—14° N. 49°—50° E.

Arab. Sea: X, 15°—18° N. 55°—68° E. — I, 19°—16° N. 59°—56° E.

T. 26,5, max. 31,4, min. 21,2 — S. 37,61, max. 42,81, min. 36,15 — Spls. 21.

Steiniella? complanata Clev. n. sp.

Medit. X, 38° N. 8° E. — II, 36° N. 4° W.

Atl. II, 37° N. 8° W.

T. 15,1 to 22,2 — S. 36,44 to 37,12 — Spls. 3.

Tintinnodea.

Amphorella amphora (Cl. a. Lachm.) Entz.*Red Sea*: X, 20° N. 39° E.*Arab. Sea*: X, 17° N. 64° E.

T. 27,4 to 30,7 — S. 36,45 to 39,16 — Spls. 2.

A. ganymedes Entz.*Arab. Sea*: X, 15—17° N. 55°—66° E.*Gulf of Aden*: I, 12° N. 44° E.

T. 26,8, max. 27,8, min. 24,8 — S. 36,37, max. 36,64, min. 36,15 — Spls. 4.

A. steenstrupii (Cl. a. Lachm.).*Medit.* II, 36° N. 4° W.*Arab. Sea*: X, 17° N. 64° E.

T. 15,1 to 27,4 — S. 36,45 to 36,62 — Sple. 1.

Codonella cassis (Hkl.).*Atl.* II, 37°—42° N. 8°—10° W.*Red Sea*: I, 28°—17° N. 38°—56° E.*Arab. Sea*: I, 15°—14° N. 52°—49° E.

T. 20,6, max. 24,2, min. 13,6 — S. 36,91, max. 40,61, min. 35,97 — Spls. 6.

C. lagenula (Cl. a. Lachm.) Entz.*Atl.* II, 37° N. 8° W.*Medit.* X, 37° N. 12° E. — I a. II, 35—37° N. 19° E.—4° W.*Arab. Sea*: X, 14° 54° E.

T. 18,7, max. 28,3, min. 13,9 — S. 37,28, max. 38,86, min. 36,24 — Spls. 6.

C. morchella Clev.*Red Sea*: X, 30—13° N. 33°—43° E. — I, 22°—28° N. 37°—38° E.*Arab. Sea*: X, 14—17° N. 54°—66° E. — I, 19—15° N. 59°—52° E.

T. 26,0, max. 29,6, min. 22,5 — S. 37,63, max. 42,81, min. 35,52 — Spls. 13.

C. orthoceras (Hkl.) v. Daday.*Atl.* II, 37° N. 8° W.*Medit.* X, 37° N. 2°—4° E. — 37—36° N. 0°—4° W.*Red Sea*: I, 25°—28° N. 36°—38° E.*Arab. Sea*: X, 15° N. 58° E. — 15—13° N. 52°—45° E.

T. 21,1, max. 26,7, min. 13,9 — S. 37,22, max. 40,61, min. 35,90 — Spl. 11.

C. ostenfeldi Schm. Vidensk. Medd. Nath. For. Kbhvn. 1901 p. 187.¹

Red Sea: X, 30° N. 33° E.

Arab. Sea: X, 15° N. 55° E. — I, 14° N. 49° E.

T. 24,25 to 27,4 — S. 36,11 to 42,81 — Spl. 3.

Cyrtarocylus acuminata v. Daday (*C. undella* Ostf. a. Schm.).

Medit. X, 36° N. 14°—16° E.

Red Sea: X, 27°—20° N. 35°—39° E. — I, 20° N. 39° E.

Arab. Sea: X, 14°—17° N. 54°—66° E. — I, 14° N. 49° E.

T. 26,9, max. 30,7, min. 24,2 — S. 37,44, max. 40,59, min. 35,90 — Spl. 13.

C. amor Clev.

Medit. X, 37°—33° N. 12°—26° E.

Red Sea: X, 28°—19° N. 34°—39° E.

Arab. Sea: X, 15° N. 55° E. — I, 19° N. 59° E.

T. 26,3, max. 31,4, min. 23,3 — S. 38,19, max. 40,70, min. 36,15 — Spl. 9.

C. hebe Clev.

Atl. X, 36° N. 6° W.

Medit. X, 37°—38° N. 2° W.—8° E. — I, 35° N. 19° E.

Red Sea: X, 23°—30° N. 37°—39° E.

Gulf of Aden: X, 12°—13° N. 45°—49° E.

Arab. Sea: 15°—18° N. 57°—70° E. — I, 20°—15° N. 70°—52° E.

T. 25,1, max. 30,7, min. 15,8 — S. 36,89, max. 39,92, min. 35,52 — Spl. 20.

C. poculum Ostenf. a. Schm. Vidensk. Med. Nath. For. Kbhvn. 1901 p. 179.

Arab. Sea: X, 17° N. 63°—66° E.

T. 26,8 to 27,8 — S. 36,13 to 36,64 — Spl. 3.

C. reticulata Ostf. a. Schm. Vidensk. Med. Nath. For. Kbhvn. 1901 p. 180 (var of *C. acuminata*).

Arab. Sea: X, 16° N. 60° E. — I, 19°—14° N. 59°—49° E.

T. 24,4, max. 25,6, min. 24,0 — S. 36,02, max. 36,45, min. 35,52 — Spl. 4.

¹ This form is only a variety of *C. morchella*, as I have found specimens with partly perforated proboscis.

C. simplex Clev.*Gulf of Aden*: X, 12° N. 45° E.*Arab. Sea*: X, 15°—19° N, 55°—72° E. — I, 15° N. 52° E.

T. 27,6, max. 29,6, min. 23,5 — S. 36,08, max. 37,76, min. 35,41 — Spls. 4.

C. treforti v. Daday.*Medit.* II, 36° N. 4° W. — T. 15,1 — S. 36,62 — Sple. 1.**Dietyocysta elegans** Ehrbg. (incl. *D. templum* Entz.).*Medit.* II, 36° N. 4° W.*Red Sea*: I, 25° N. 36° E.*Arab. Sea*: X, 14°—17° N. 54°—64° E. — I, 15° N. 52° E.

T. 24,1, max. 28,3, min. 15,1 — S. 36,94, max. 40,21, min. 36,02 — Spls. 6.

Petalotricha ampulla v. Daday.*Atl.* IX, 45° N. 9° W. — II, 37°—42° N. 8°—10° W.*Red Sea*: X, 30° N. 33° N.*Arab. Sea*: I, 17°—13° N. 56°—45° E.

T. 20,3, max. 25,2, min. 13,6 — S. 36,85, max. 42,81, min. 35,66 — Spls. 9.

Tintinnus acuminatus Entz.*Arab. Sea*: X, 15°—17° N. 55°—64° E. — I, 19°—15° N. 59°—52° E.

T. 24,6, max. 27,4, min. 23,5 — S. 36,27, max. 26,45, min. 36,02 — Spls. 4.

T. fraknoi v. Daday.*Atl.* X. 38°—36° N. 10°—6° W.*Medit.* X, 37° N. 2° E. — I. a. II, 35°—37° N. 19° E.—4° W.*Red Sea*: X, 30°—19° N. 33°—39° E.*Arab. Sea*: X, 16° N. 60° E.

T. 22,3, max. 31,4, min. 15,1 — S. 37,87, max. 42,81, min. 35,52 — Spls. 12.

Undella claparedii Entz.*Medit.* II, 36° N. 4° W.*Red Sea*: X, 28°—19° N. 33°—39° E. — I, 22°—25° N.*Arab. Sea*: X, 17° N. 64° E — I, 15° N. 52° E.

37°—36° E.

T. 23,4, max. 31,4, min. 15,1 — S. 37,36, max. 40,70, min. 36,02 — Spls. 7.

U. hyalina v. Daday.*Atl.* II, 37° N. 8° W.

Medit. II, 36°—37° N. 4°—0° W.

T. 13,9 to 15,7 — S. 36,44 to 37,63 — Spls. 3.

Radiolaria.

Acanthochiasma krohnii Hkl.

Atl. II, 37°—39° N. 4°—10° W.

Medit. X, 37° N. 2° W.

Red Sea: X, 19° N. 39° E.

Arab. Sea: I, 21° N. 62° E.

T. 21,6, max. 31,4 min. 14,5 — S. 37,11, max. 39,04, min. 36,18 — Spls. 5.

Acanthometron catervatum Hkl.

Gulf of Aden: X, 13° N. 49° E.

Arab. Sea: X, 14°—19° N. 54°—72° E.

T. 27,9, max. 29,6, min. 27,0 — S. 36,12, max. 36,49, min. 35,41 — Spls. 6.

A. pellucidum J. Müll.

Medit. X, 37° N. 2°—12° E. — T. 21,2 to 23,3 — S. 36,76 to 37,52 — Spls. 2.

A. siculum Hkl.

Medit. I, 35° N. 19° E.

Red Sea: X, 14° N. 43° E.

Gulf of Aden: X, 13° N. 49° E.

Arab. Sea: X, 14°—17° N. 52°—64° E. — I. 19° N. 59° E.

T. 26,1, max. 30,5, min. 15,8 — S. 37,22, max. 38,86, min. 36,24 — Spls. 7.

Acanthonia cuspidata Hkl.

Medit. X, 32° N. 30° E.

Arab. Sea: X, 19° N. 72° E.

T. 24,9 to 29,6 — S. 35,41 to 38,64 — Spls. 2.

Amphilonche belonides Hkl.

Atl. II, 37° N. 8° W.

Medit. I, 35° N. 19° E.

Arab. Sea: I, 21°—19° N. 62°—59° E.

T. 20,0, max. 24,5, min. 15,7 — S. 37,18, max. 38,86, min. 36,44 — Spls. 4.

A. elongata (J. Müll.).

Medit. X, 37°—38° N. 2° W.—8° E. — I, 36° N. 4° W.

Red Sea: X, 28° N. 35° E. — I, 17° N. 41° E.

Arab. Sea: I, 15° N. 52° E.

T. 22,21, max. 26,2, min. 15,1 — S. 37,38, max. 40,70, min. 36,02 — Spl. 10.

A. ovata (J. Müll.).

Atl. X, 36° N. 7° W.

Medit. X, 37° N. 2° W.—12° E.

T. 18,9 to 23,3 — S. 36,45 to 37,53 — Spl. 3.

A. tetraptera Hkl.

Medit. X, 37°—38° N. 2° W.—8° E.

Red Sea: X. 14° N. 43° E.

Gulf of Aden: X, 13° N. 49° E.

Arab. Sea: X, 14°—15° N. 54°—55° E. — I, 19° N. 59° E.

T. 24,9, max. 30,5, min. 21,2 — S. 36,96, max. 37,43, min. 36,15 — Spl. 9.

Challengeria xiphodon Hkl.

Atl. II. 37° N. 8° W.

Medit. II, 36°—37° N. 0°—4° W.

T. 13,9 to 15,7 — S. 36,49 to 37,63 — Spl. 3.

Chaenicosphaera murrayana Hkl. (= *Trypanosphaera brachysiphon* Clev.).

Atl. II, 37°—47° N. 9°—7° W.

T. 11,5 to 15,7 — S. 35,68 to 36,44 — Spl. 3.

Collosphaera huxleyi (J. Müll.).

Arab. Sea: X, 17° N. 66° E. — T. 27,8 — S. 36,64 — Spl. 1.

Collozoum inerme (J. Müll.).

Atl. II, 44°—47° N. 9°—7° W.

T. 11,5 to 13,4 — S. 35,68 to 35,93 — Spl. 2.

Diploconus fascies Hkl.

Medit. X, 37°—38° N. 2°—10° E.

Gulf of Aden: X, 13° N. 49° E.

Arab. Sea: X, 19° N. 72° E. — I, 15° N. 52° E.

T. 24,5, max. 29,6, min. 21,2 — S. 36,51, max. 37,29, min. 35,41 — Spl. 6.

Lampromitra coronata Hkl.

Atl. II, 37° N, 8° W.

Arab. Sea: I, 15° N. 52° E.

T. 15,7 to 23,5 — S. 36,02 to 36,44 — Spl. 2.

Litholophus ligurinus Hkl.

Medit. I a. II, 37°—36° N. 11° E.—4° W.

T. 14,5 to 15,1 — S. 36,62 to 27,12 — Spl. 2.

Lithoptera fenestrata J. Müll.*Atl.* II, 37° N. 8° W.*Medit.* X, 37° N. 2° W.

T. 15,7 to 22,0 — S. 36,44 to 37,43 — Spls 2.

L. mülleri Hkl.*Red Sea:* X, 23° N. 37° E. — T. 29,2 — S. 39,92 — Sple. 1.**Lithostrobos botryocyrtilis** Hkl.*Arab. Sea:* I, 17°—15° N. 56°—52° E,

T. 23,5 to 23,9 — S. 36,02 to 36,33 — Spls. 2.

Medusetta inflata Borgert, *Jahrb. Zool. System.* XVI, p. 563, 1902.*Gulf of Suez:* I. — T. 18,2 — S. 41,68 — Sple. 1.**Panartus pluteus** Hkl.*Arab. Sea:* I, 19° N. 59° E. — T. 24,0 — S. 36,95 — Sple 1.**Pterocanium prætextum** (Ehrbg.).*Arab. Sea:* I, 15° N. 52° E. — T. 23,5 — S. 36,12 — Sple. 1.**Stylodictya arachnia** (J. Müll.).*Atl.* II, 37° N. 8° W. — T. 15,7 — S. 36,44 — Sple. 1.**Tessaraspis arachnoides** Hkl.*Arab. Sea:* I. 15° N. 52° E. — T. 23,5 — S. 36,02 — Sple. 1.**Tetrapyllum clevei** Jörgens. (*Phorticium pylonium* Clev. var. non Hkl.)*Arab. Sea:* I, 15° N. 52° E. — T. 23,5 — S. 36,02 — Sple. 1.**Theoconus zancleus** (J. Müll.).*Medit.* X, 37° N. 2° W. — T. 22,0 — S. 37,43 — Sple. 1.**Triastrum aurivillii** Clev. K. Sv. Vet. Ak. Handl. XXXV n. 5 p. 53. P. VII f. 16, 17, 1901.*Red Sea:* I, 15° N. 41° E.*Arab. Sea:* I, 25°—15° N. 67°—52° E.

T. 22,6 to 24,8 — S. 36,02 to 37,63 — Spls. 3.

Xiphacantha spinulosa Hkl.*Medit.* X, 37° N. 2° W. — T. 22,0 — S. 37,43 — Sple. 1.**Foraminifera.****Globigerina bulloides** and varieties.*Atl.* IX, 48° N. 6° W. — I, 37° N. 8° W.*Medit.* X, 36°—38° N. 2° W.—14° E. — I, a. II, 37°—36° N. 11° E—4° W.

Red Sea: X, 27°—16° N. 35°—42° E. — I, 15° N. 41° E.
Arab. Sea: X, 16° N. 60° E. — I, 19°—13° N. 59°—45° E.
 T. 24,3, max. 31,4, min. 14,5 — S. 37,53, max. 40,59, min.
 14,5 — Spls. 19.

Pulvinulina menardi (d'Orb.).

Red Sea: I, 14° N. 43° E.

Arab. Sea: I, 19°—17° N. 59°—56° E.

T. 23,9 to 24,0 — S. 36,33 to 37,01 — Spls. 3.

Copepoda.

Acartia clausii Giesb.

Atl. X, 38°—36° N. 10°—6° W. — II, 44°—37° N. 8°—9° W.

Medit. X, 36° 5° W.

T. 17,5, max. 19,7, min. 13,4 — S. 36,26, max. 36,45, min.
 35,93 — Spls. 5.

A. danæ Giesb.

Medit. X, 36°—32° N. 14°—32° E. — II, 38° N. 8° E.

T. 23,3, max. 25,5, min. 14,9 — S. 38,48, max. 39,49, min.
 37,03 — Spls. 7.

A. erythræa Giesb.

Red Sea: X, 20°—13° N. 39°—43° E. — I, 20°—14° N.
 39°—43° E.

Gulf of Aden: X, 12°—13° N. 45°—49° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—19° N. 52°—72° E. — I, 13°—22° N.
 45°—67° E.

T. 27,2, max. 31,4, min. 22,6 — S. 36,92, max. 39,16, min.
 35,41 — Spls. 29.

A. negligens Dana.

Medit. I, 37° N. 11° E.

Red Sea: X, 27°—20° N. 35°—39° E. — I, 28°—20° N.
 38°—39° E.

Gulf of Aden: X, 14° N. 50° E.

Arab. Sea: X, 14° N. 54° E.

T. 25,4, max. 30,7, min. 14,5 — S. 36,64, max. 40,61, min.
 35,33 — Spls. 9.

A. spinicauda Giesb.

Arab. Sea: I, 25° N. 67° E. — T. 22,6 — S. 36,76 — Sple. 1.

A. tonsa Giebt.

Arab. Sea: I, 25° N. 67° E. — T. 22,6 — S. 36,76 — Sple. 1.

Acrocalanus gibber Giesb.

Red Sea: X, 19°—14° N. 39°—43° E. — I, 20°—15° N. 39°—41° E.

Gulf of Aden: X, 13° N. 47°—49° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—19° N. 54°—72° E. — I, 13°—22° N. 45°—67° E.

T. 26,8, max. 31,4, min. 22,6 — S. 36,79, max. 49,04, min. 35,41 — Spls. 23.

A. gracilis Giesb.

Red Sea: I, 25°—15° N. 36°—41° E.

Gulf of Aden: I, 12° N. 44° E.

Arab. Sea: I, 22°—14° N. 67°—49° E.

T. 24,4, max. 26,7, min. 23,5 — S. 37,32, max. 40,21, min. 36,02 — Spls. 7.

A. monachus Giesb.

Red Sea: I, 14°—21° N. 40°—62° E.

Gulf of Aden: I, 12° N. 44° E.

T. 24,5, max. 24,8, min. 24,2 — S. 36,28, max. 36,49, min. 36,11 — Spl. 3.

A. pediger Clev. (K. Sv. Vet. Ak. Handl. XXXV n. 5 p. 35).

Red Sea: X, 20° N. 39° E.

Gulf of Aden: X, 13° N. 49° E.

Arab. Sea: X, 16°—17° N. 60°—64° E. — I, 13°—25° N. 45°—67° E.

T. 25,7, max. 30,7, min. 22,6 — S. 36,62, max. 39,16, min. 35,52 — Spls. 9.

Calanopia elliptica Brady.

Red Sea: X, 28°—13° N. 34°—43° E. — I, 28°—15° N. 33°—41° E.

Gulf of Aden: X, 13° N. 47° E. — I, 12° N. 44° E.

Arab. Sea: X, 14° N. 54° E. — I, 25°—17° N. 67°—56° E.

T. 25,8, max. 30,5, min. 18,2 — S. 37,68, max. 41,68, min. 36,24 — Spls. 12.

C. minor A. Scott Trans. Liverpool. Biol. Soc. XVI, p. 406, 1902.

Red Sea: X, 20°—17° N. 39°—41° E. — I, 20° N. 39° E.

Gulf of Aden: X, 14° N. 50° E.

Arab. Sea: X, 16° N. 60° E. — I, 22° N. 67° E.

T. 28,0, max. 31,4, min. 23,9 — S. 37,63, max. 39,16, min. 35,52 — Spls. 7.

Calanus darwini (Lubbock).*Gulf of Aden*: I, 12° N. 44° E.*Arab. Sea*: X, 17° N. 66° E. — I, 25—15° N. 67—52° E.

T. 24,6, max. 27,8, min. 22,6 — S. 36,43, max. 36,76, min. 36,02 — Spls. 5.

C. finmarchicus (Gunnerus).*Atl.* IX, 48° N. 6° W. — II, 42° N. 10° W.*Medit.* II, 36—37° N. 0—7° W.

T. 14,8, max. 16,6, min. 13,6 — S. 36,43, max. 37,63, min. 35,50 — Spls. 4.

C. gracilis Dana.*Medit.* X, 37° N. 4° E.

T. 21,8 — S. 36,94 — Sple. 1.

C. minor (Cls).*Medit.* X, 37—33° N. 4—26° E.*Arab. Sea*: X, 15—17° N. 57—66° E. — I, 22—13° N. 67—45° E.

T. 24,4, max. 27,8, min. 21,8 — S. 36,38, max. 39,34, min. 35,52 — Spls. 14.

C. pauper Giesbr.*Red Sea*: I, 28° N. 33° E.*Arab. Sea*: I, 25—14° N. 67—49° E.

T. 23,5, max. 24,2, min. 18,2 — S. 37,38, max. 41,68, min. 36,02 — Spls. 5.

C. tenuicornis Dana.*Medit.* X, 36—34° N. 16—24° E.

T. 24,5 to 24,6 — S. 37,79 to 39,34 — Spls. 2.

C. vulgaris (Dana).*Red Sea*: X, 22—13° N. 38—43° E. — I, 18—14° N. 40—43° E.*Gulf of Aden*: X, 13—14° N. 47—50° E. — I, 44° N. 1° E.*Arab. Sea*: X, 14—17° N. 54—66° E. — I, 22—25° N. 67—65° E.

T. 27,2, max. 31,4, min. 22,6 — S. 37,09, max. 39,40, min. 35,62 — Spls. 21.

Calocalanus pavo Dana.*Medit.* 37—34° N. 2—24° E.*Red Sea*: X, 17° N. 41° E. — I, 18—28° N. 40—38° E.*Gulf of Aden*: X, 13—14° N. 47—50° E.

Arab. Sea: X, 14°—16° N. 54°—61° E. — I, 21°—15° N. 62°—52° E.

T. 25,8, max. 31,3, min. 21,2 — S. 37,05, max. 40,61, min. 35,77 — Spls. 18.

Candacia ethiopia Dana.

Medit. X, 36° N. 14° E. — T. 24,3 — S. 37,66 — Sple. 1.

C. bispinosa Cls.

Red Sea: X, 22° N. 38° E. — 17° N. 41° E

T. 30,3 and 26,1 — S. 39,90 and 37,68. — Spls. 2.

C. catula Giesbr.¹

Red Sea: X, 28°—13° N. 33°—43° E. — I, 15°—18° N. 41°—40° E.

Gulf of Aden: X, 13° N. 47° E. — I, 12° N. 44° E.

Arab. Sea: X, 15°—16° N. 55°—61° E. — I, 24° N. 65° E.

T. 27,4, max. 31,4, min. 23,7 — S. 37,53, max. 40,70, min. 35,77 — Spls. 11.

C. curta Dana.

Red Sea: X, 16° N. 42° E. — I, 15°—18° N. 41°—40° E.

Gulf of Aden: 13° N. 49° E.

Arab. Sea: X, 15°—16° N. 56°—60° E.

T. 26,9, max. 29,6, min. 24,8 — S. 36,86, max. 38,26, min. 35,52 — Spls. 8.

C. pachydaetyla Dana.

Arab. Sea: I, 17° N. 56° E. — T. 23,9 — S. 36,33 — Sple. 1.

C. pectinata Brady.

Medit. X, 37° N. 2° W. — II, 37°—36° N. 0°—4° W.

T. 17,0, max. 22,0, min. 13,9 — S. 37,56, max. 37,63, min. 36,62 — Spls. 4.

C. simplex Giesbr.

Medit. 37° N. 12° E. — T. 23,3 — S. 37,52 — Sple. 1.

C. truncata Dana.

Red Sea: I, 18°—22° N. 40°—37° E.

Arab. Sea: I, 21° N. 62° E.

T. 25,7, max. 26,9, min. 24,5 — S. 38,25, max. 39,49, min. 36,49 — Spls. 4.

Centropages arabicus Clev. n. sp.

Arab. Sea: X, 14° N. 50° E. — T. 26,0 — S. 35,62 — Sple. 1.

¹ The setæ of the 5th pair of legs of the female were 2, not 3, therefore the determination is somewhat uncertain.

C. calaninus Dana.

Red Sea: I, 25° N. 36° E. — T. 23,2 — S. 40,21 — Spls. 1.

C. chierchiae Giesb.

Atl. X, 36° N. 6° W. — II, 37° N. 8° W.

Medit. X, 36° N. 5° W. — II, 36° N. 4° W.

T. 17,1, max. 18,9, min. 15,1 — S. 36,45, max. 36,62, min. 36,31 — Spls. 4.

C. elongatus Giesb.

Red Sea: X, 27° N. 35° E.

Arab. Sea: X, 16° N. 61° E.

T. 26,5 to 26,45 — S. 40,59 to 35,77 — Spls. 2.

C. furcatus Dana.

Red Sea: X, 28°—13° N. 34°—43° E. — I, 28°—15° N. 33°—41° E.

Gulf of Aden: X, 13° N. 47° E. — I, 12° N. 44° E.

Arab. Sea: X, 15°—16° N. 58°—60° E. — I, 25°—15° N. 67°—52° E.

T. 25,4, max. 29,6, min. 23,5 — S. 37,49, max. 41,68, min. 35,52 — Spls. 12.

C. gracilis (Dana).

Arab. Sea: 17° N. 66° E. — T. 27,8 — S. 36,64 — Sple. 1.

C. notoceras Clev. n. sp.

Arab. Sea: 25° N. 67° E. — T. 22,6 — S. 36,76 — Sple. 1.

C. orsini Giesb.

Red Sea: X, 20°—16° N. 39°—42° E.

Gulf of Aden: X, 13°—14° N. 49°—50° E.

Arab. Sea: X, 14°—19° N. 52°—72° E. — I, 19° N. 72° E.

T. 27,8, max. 30,7, min. 22,6 — S. 37,71, max. 39,16, min. 35,41 — Spls. 9.

C. violaceus (Cls).

Medit. X, 37°—34° N. 0°—24° E. — II, 38° N. 8° E.

T. 21,5, max. 24,5, min. 14,9 — S. 37,49, max. 39,34, min. 36,76 — Spls. 7.

C. typicus (Kröyer).

Atl. IX, 48° N. 6° W. — II, 39° N. 10° W. — T. 16,6 to 14,5 — S. 35,50 to 36,18 — Spl. 2.

Clausocalanus arcuicornis (Dana).

Atl. X, 36° N. 6°—7° W. — II, 37°—42° N. 8°—10° W.

Medit. X, 37° N. 2° W. to 12° E. — I and II, 33° N. 30° E. to 36° N. 4° W.

Red Sea: X, 28°—22° N. 34°—38° E. — I, 15°—28° N. 40°—38° E.

Arab. Sea: X, 18° N. 70° E. — I, 22°—13° N. 67°—45° E.
T. 21,1, max. 28,6, min. 13,6 — S. 37,19, max. 40,70, min. 35,97 — Spls. 28.

C. furcatus (Brady).

Atl. X, 36° N. 6°—7° W.

Medit. X, 36° N. 6° W. to 32° N. 32° E. — I, 36° N. 4° W. to 35° N. 19° E.

Red Sea: X, 28°—22° N. 34°—38° E. — I, 28°—15° N. 38°—41° E.

Gulf of Aden: X, 12°—13° N. 45°—49° E.

Arab. Sea: X, 16°—19° N. 52°—72° E. — I, 52°—13° N. 67°—45° E.

T. 24,0, max. 30,3, min. 13,9 — S. 37,53, max. 40,70, min. 35,52 — Spls. 52.

Clytemnestra scutellata Dana.

Arab. Sea: I, 25° N. 67° E. — T. 22,6 — S. 36,76 — Sple. 1.

Copilia mirabilis Dana.

Red Sea: I, 17°—20° N. 41°—39° E.

Arab. Sea: I, 22° N. 67° E.

T. 25,9, max. 26,9, min. 23,9 — S. 37,74, max. 38,78, min. 36,24 — Spls. 4.

Corycaeus danae Giesb.

Red Sea: X, 20°—17° N. 39°—41° E. — I, 15°—20° N. 41°—39° E.

Arab. Sea: X, 15°—17° N. 55°—64° E. — I, 22°—19° N. 67°—59° E.

T. 27,0, max. 31,3, min. 23,9 — S. 37,50, max. 39,16, min. 36,15 — Spls. 8.

C. elongatus Cls.

Medit. X, 37° N. 2° E. — I, 35°—36° N. 19° E.—4° W.

Red Sea: X, 27° N. 35° E.

T. 19,6, max. 26,5, min. 15,1 — S. 38,21, max. 40,59, min. 36,62 — Spls. 4.

C. erythraeus Clev. n. sp.

Red Sea: X, 30°—28° N. 33° N. — T. 25,2 to 26,2 — S. 40,70 to 42,81 — Spls. 2.

C. flaccus Giesb.

Medit. X, 37° N. 2° W. — *II*, 36° N. 4° W.

T. 22,0 to 15,1 — S. 37,43 to 36,62 — Spls. 2.

C. gibbulus Giesb.

Red Sea: X, 27°—13° N. 35°—43° E. — *I*, 25°—17° N. 36°—41° E.

Gulf of Aden: X, 12°—13° N. 45°—49° E.

Arab. Sea: X, 14°—18° N. 52°—70° E. — *I*, 25°—14° N. 67°—49° E.

T. 27,4, max. 31,4, min. 22,6 — S. 37,72, max. 40,59, min. 35,90 — Spls. 28.

C. gracilicaudatus Giesb.

Arab. Sea: X, 14° N. 54° E. — *I*, 19° N. 59° E.

T. 28,3 to 24,0 — S. 36,24 to 36,45 — Spls. 2.

C. longicaudis Dana.

Medit. X, 37° N. 0°—2° W.

T. 22,0 to 21,4 — S. 37,43 to 36,98 — Spls. 2.

C. lubbocki Giesb.

Red Sea: *I*, 15°—20° N. 41°—39° E.

T. 24,8 to 26,7 — S. 37,63 to 38,78 — Spls. 2.

C. obtusus Dana.

Medit. X, 37° 2° E. — *II*, 37° N. 0° W.

Red Sea: X, 17°—16° N. 41° E. — *I*, 15° N. 41° E.

Gulf of Aden: X, 13° N. 49°—43° E.

Arab. Sea: X, 15° N. 54° E. — *I*, 24°—14° N. 65°—49° E.

T. 25,3, max. 31,3, min. 13,9 — S. 37,08, max. 39,04, min. 36,11 — Spls. 11.

C. ovalis Cls.

Medit. X, 34°—32° N. 24°—32° E. — *II*, 38° N. 8° E.

Red Sea: X, 14° N. 43° E. — *I*, 17°—25° N. 41°—36° E.

Gulf of Aden: X, 13° N. 47° E.

Arab. Sea: X; 15°—16° N. 52°—60° E. — *I*, 25°—19° N. 67°—59° E.

T. 25,1, max. 30,5, min. 14,9 — S. 37,48, max. 40,21, min. 35,52 — Spls. 12.

C. robustus Giesb.

Red Sea: *I*, 28° N. 38° E.

Arab. Sea: *I*, 22°—13° N. 67°—45° E.

T. 23,8, max. 24,8, min. 22,5 — S. 37,03, max. 40,61, min. 36,02 — Spls. 5.

C. rostratus Cls.*Atl.* X, 36° N. 7° W.*Medit.* X, 37°—33° N. 2° W.—26° E. — I, 33°—38° N. 30°—8° E.*Red Sea:* (Gulf of Suez): I, 28° N. 38° E.

T. 21,0, max. 24,9, min. 14,5 — S. 37,87, max. 40,61, min. 36,45 — Spls. 18.

C. speciosus Dana.*Red Sea:* X, 17° N. 40° E.*Gulf of Aden:* X, 13° N. 47° E.*Arab. Sea:* X, 14°—19° N. 54°—72° E. — I, 22°—13° N. 67°—45° E.

T. 26,5, max. 31,3, min. 23,5 — S. 36,47, max. 39,04, min. 35,41 — Spls. 10.

C. venustus Dana.*Arab. Sea:* I, 25° N. 67° E. — T. 22,6 — S. 36,76 — Spl. 1.**Eucalanus attenuatus** (Dana).*Gulf of Aden:* X, 14° N. 50° E.*Arab. Sea:* X, 17° N. 64° E. — I, 19° N. 59° E.

T. 25,8, max. 27,4, min. 24,0 — S. 36,17, max. 36,45, min. 35,62 — Spls. 3.

E. crassus Giesb.*Red Sea:* I, 15°—17° N. 41° E.*Arab. Sea:* I, 22° N. 67° E.

T. 24,9, max. 26,1, min. 23,9 — S. 37,18, max. 37,68, min. 36,24 — Spls. 3.

E. monachus Giesb.*Gulf of Aden:* X, 14° N. 50° E. — T. 26,0 — S. 35,62 — Spl. 1.**E. mucronatus** Giesb.*Arab. Sea:* I, 22°—15° N. 67°—52° E.

T. 23,9, max. 24,5, min. 23,5 — S. 36,25, max. 36,49, min. 36,02 — Spls. 3.

E. subcrassus Giesb.*Red Sea:* X, 20°—13° N. 39°—43° E. — I, 14°—20° N. 43°—39° E.*Gulf of Aden:* X, 13° N. 47° E. — I, 12° N. 44° E.*Arab. Sea:* X, 14°—16° N. 54°—61° E. — I, 22°—13° N. 67°—45° E.

T. 27,1, max. 31,4, min. 23,6 — S. 37,07, max. 39,16, min. 35,52 — Spls. 21.

E. subtenuis Giesb.

Arab. Sea: I, 24°—15° N. 65—52° E.

T. 23,9, max. 24,5, min. 23,5 — S. 36,43, max. 36,95, min. 36,02 — Spls. 5.

Euchæta concinna Dana.

Red Sea: X, 19° N. 39° E. — T. 31,4 — S. 39,04 — Spl. 1.

E. marina Prestand.

Medit. X, 38°—36° N. 8°—16° E.

Red Sea: I, 14°—20° N. 43°—39° E.

Gulf of Aden: X, 14° N. 50° E. — I, 12° N. 44° E.

Arab. Sea: X, 15°—18° N. 55°—70° E. — I, 22°—13° N. 67°—45° E.

T. 25,4, max. 28,6, min. 22,2 — S. 36,78, max. 38,78, min. 35,62 — Spls. 23.

Euterpe acutifrons (Dana).

Atl. X, 36° N. 6°—7° W.

Medit. X, 36°—37° N. 5° W.—14° E. — I, 35°—36° N. 19° E.—4° W.

Red Sea: X, 30°—16° N. 33°—42° E. — I, 15° N. 41° E.

Gulf of Aden: X, 13°—14° N. 49°—50° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—16° N. 54°—60° E. — I, 22°—13° N. 67°—45° E.

T. 24,7, max. 29,6, min. 15,1 — S. 37,24, max. 42,81, min. 15,1 — Spls. 20.

Heterorhabdus papilliger (Cls.).

Gulf of Aden: X, 14° N. 50° E. — T. 26,0 — S. 35,62 — Spl. 1.

Labidocera acutum (Dana).

Red Sea: I, 28° N. 33° E.

Gulf of Aden: X, 13°—14° N. 47°—50° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—16° N. 54°—71° E.

T. 26,1, max. 29,5, min. 18,2 — S. 36,88, max. 41,68, min. 35,62 — Spls. 8.

L. minutum Giesb.

Red Sea: X, 30°—17° N. 33°—41° E. — I, 15° N. 41° E.

Gulf of Aden: X, 13° N. 47°—49° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—18° N. 52°—72° E. — 22°—14° N. 67°—49° E.

T. 26,4, max. 31,3, min. 23,5 — S. 37,03, max. 42,81, min. 35,41 — Spls. 17.

L. pavo Giesb.

Gulf of Suez: X, 30° N. 33° E.

Arab. Sea: X, 15° N. 58° E.

T. 25,2 to 26,7 — S. 35,90 to 42,81 — Spls. 2.

L. similis Clev. n. sp.

Arab. Sea: I, 25° N. 67° E. — T. 22,6 — S. 36,76 — Spl 1.

Lucicutia flavicornis (Cls).

Medit. X, 36°—33° N. 16°—26° E.

Red Sea: I, 18° N. 40° E.

T. 25,2, max. 26,9, min. 24,6 — S. 38,52, max. 39,25, min. 37,79 — Spls. 4.

L. longicornis Giesb.

Arab. Sea: X, 15° N. 57° E. — T. 27,0 — S. 35,97 — Spl. 1.

Lubbockia aculeata Giesb.

Red Sea: X, 19° N. 39° E. — T. 31,4 — S. 39,04 — Spl. 1.

Mecynocera clausii J. C. Thomps.

Medit. II, 37° N. 4° W. — T. 15,1 — S. 36,62 — Spl. 1.

Metridia lucens Boeck.

Atl. II 47° N. 7° W. — T. 11,5 — S. 35,68 — Spl. 1.

Microstella atlantica (Brady a. Robertson).

Atl. II, 37° N. 8° W.

Medit. X, 37° N. 2° W. to 33° N. 26° E. — I a. II, 35° N. 19° E. to 36° N. 4° W.

Red Sea: X, 30°—13° N. 33°—43° E. — I. 15°—28° N. 41°—33° E.

Gulf of Aden: X, 12°—13° N. 45°—49° E.

Arab. Sea: X, 14°—18° N. 52°—70° E. — I, 20°—13° N. 70°—45° E.

T. 24,8, max. 31,3, min. 13,9 — S. 37,66, max. 42,81, min. 35,35 — Spls. 55.

M. rosea Dana.

Medit. X, 38°—37° N. 8°—12° E. — I, 36° N. 4° W.

Red Sea: X, 23°—14° N. 37°—43° E. — I, 28° N. 38° E.

Arab. Sea: X, 14°—15° N. 54°—55° E. — I, 20°—13° N. 70°—45° E.

T. 24,3, max. 30,5, min. 15,1 — S. 36,99, max. 40,61, min. 35,5 — Spls. 15.

Monops regalis (Dana).

Gulf of Aden: X, 13° N. 47° E. — T. 29,5 — S. 36,82 — Spl. 1.

Oithona linearis Giesb.

Red Sea: I, 28° N. 38° E. — T. 22,5 — S. 40,61 — Spl. 1.

O. brevicornis Giesb.

Arab. Sea: I, 25° N. 67° E. — T. 22,6 — S. 36,76 — Spl. 1.

O. nana Giesb.

Atl. X, 36° N. 6° W.

Medit. X, 36°—37° N. 5°—2° W.

Bitter Lakes: I.

Red Sea: X, 16°—14° N. 42°—43° E.

Gulf of Aden: X, 12° N. 45° E.

Arab. Sea: X, 14° N. 52° E. — I, 14° N. 49° E.

T. 23,9, max. 30,5, min. 13,8 — S. 38,51, max. 52,56, min. 36,11 — Spls. 10.

O. plumifera Baird.

Medit. X, 37° N. 2° W. to 33° N. 26° E. — I a. II, 35° N. 19° E. to 36° N. 4° W.

Red Sea: X, 30°—16° N. 33°—42° E. — I, 15°—28° N. 41°—33° E.

Gulf of Aden: X, 14° N. 50° E.

Arab. Sea: X, 15°—19° N. 58°—72° E. — I, 22°—13° N. 67°—45° E.

T. 23,3, max. 31,3, min. 14,5 — S. 37,25, max. 42,81, min. 35,41 — Spls. 38.

O. rigida Giesb.

Gulf of Aden: X, 13° N. 49° E. — T. 28,2 — S. 36,49 — Spl. 1.

O. similis Cls.

Atl. IX a. X, 48°—36° N. 6°—9° W. — II, 37°—47° N. 7°—10° W.

Medit. X, 36°—37° N. 5° W.—10° E. — I a. II- 35°—37° N. 19° E.—4° W.

Red Sea: X, 14° N. 43° E. — I. 15°—20° N. 41°—39° E.

Arab. Sea: X, 14°—17° N. 52°—64° E. — I, 24°—14° N. 65°—49° E.

T. 21,4, max. 30,5, min. 11,5 — S. 36,65, max. 38,78, min. 35,50 — Spls. 29.

Oncæa conifera Giesb.

Red Sea: X, 22°—13° N. 38°—43° E. — I, 15°—20° N. 41°—39° E.

Gulf of Aden: X, 13°—14° N. 47°—50° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—19° N. 54°—72° E. — I, 19°—13° N. 59°—45° E.

T. 26,9, max. 31,3, min. 23,5 — S. 36,93, max. 39,40, min. 35,41 — Spl. 21.

0. media Giesb.

Atl. II, 37° 8' W.

Medit. X, 37°—38° N. 0°—12° E. — I a. II, 35°—38° N. 19° E.—4° W.

Red Sea: X, 30°—16° N. 33°—42° E. — I, 15°—28° N. 41°—38° E.

Gulf of Aden: I, 12° N. 44° E.

Arab. Sea: X, 14°—19° N. 52°—72° E. — I, 22°—13° N. 69°—45° E.

T. 23,3, max. 29,6, min. 13,9 — S. 37,21, max. 42,81, min. 35,35 — Spl. 36.

0. mediterranea (Cl.)

Medit. X, 36° N. 5° W.

Red Sea: X, 27°—13° N. 35°—43° E.

Gulf of Aden: X, 12° N. 45° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—18° N. 54°—70° E. — I, 19°—15° N. 59°—52° E.

T. 26,2, max. 29,6, min. 18,9 — S. 36,88, max. 40,59, min. 35,97 — Spl. 12.

0. subtilis Giesb.

Atl. IX, 48° N. 6° W.

Medit. II, 36° N. 4° W.

T. 16,6 to 15,1 — S. 35,50 to 36,62 — Spl. 2.

0. venusta Phil.

Medit. X, 38° N. 8° E. — II, 38° N. 8° E.

Red Sea: X, 13° N. 43° E. — I, 15°—20° N. 41°—39° E.

Gulf of Aden: X, 12°—14° N. 45°—50° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—19° N. 52°—72° E. — I, 22°—13° N. 67°—45° E.

T. 26,0, max. 29,6, min. 14,9 — S. 36,51, max. 38,78, min. 35,41 — Spl. 32.

Paracalanus aculeatus Giesb.

Medit. I, 37° N. 11° E.

Red Sea: X, 16° N. 42° E. — I, 14°—18° N. 43°—40° E.

Gulf of Aden: X, 13° N. 49° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—18° N. 54°—68° E. — I, 22°—13° N. 69°—45° E.

T. 25,2, max. 29,6, min. 22,6 — S. 36,78, max. 38,26, min. 35,35 — Spls. 22.

P. parvus Cls.

Atl. IX a. X, 48°—36° N. 6°—9° W.

Medit. X, 36°—38° N. 5° W.—14° E. — II, 37°—36° N. 0°—4° W.

Red Sea: X, 28°—13° N. 34°—43° E. — I, 17°—28° N. 41°—38° E.

Gulf of Aden: X, 12°—17° N. 45°—66° E.

Arab. Sea: 15°—19° N. 55°—72° E. — I, 24°—13° N. 65°—45° E.

T. 24,7, max. 31,4, min. 13,9 — S. 37,00, max. 40,70, min. 35,41 — Spls. 35.

Phaenna spinifera Cls.

Gulf of Aden: X, 14° N. 50° E. — T. 26,0 — S. 35,62 — Spl. 1.

Pleuromamma abdominalis (Lubbock).

Medit. X, 36°—37° N. 5° W.—12° E.

Gulf of Aden: X, 14° N. 50° E.

T. 22,3, max. 26,0, min. 18,9 — S. 36,70, max. 37,52, min. 35,62 — Spls. 5.

P. gracilis (Cls).

Medit. X, 37° N. 12° E.

Gulf of Aden: X, 13°—14° N. 47°—50° E.

T. 23,3 to 29,5 — S. 35,62 to 37,52 — Spls. 3.

P. robusta (Dahl) G. O. Sars, Crust. of Norway IV Copepoda p. 115 P. LXXVIII, LXXIX, 1902.

Red Sea: X, 19°—16° N. 39°—42° E. — I, 15°—18° N. 41°—40° E.

Gulf of Aden: X, 13°—14° N. 47°—50° E.

Arab. Sea: X, 14°—16° N. 54°—60° E.

T. 27,7, max. 31,4, min. 25,8 — S. 36,95, max. 39,04, min. 35,52 — Spls. 9.

Pontellina plumata Dana.

Red Sea: X, 17° N. 41° E. — I, 17° N. 41° E.

Gulf of Aden: X, 13°—14° N. 47°—50° E.

Arab. Sea: X, 14° N. 52° E.

T. 28,3, max. 31,3, min. 26,1 — S. 37,10, max. 39,04, min. 25,62 — Spl. 5.

Pseudocalanus elongatus Boeck.

Atl. IX, 48° N. 6° W. — T. 16,6 — S. 35,50 — Spl. 1.

Pseudodiaptomus serriacaudatus (T. Scott) A. Scott *Trans. Liverp.*

Biol. Soc. XVI p. 404 P. I f. 6, 1902.

Gulf of Aden: X, 14° N. 50° E.

Arab. Sea: X, 14°—16° N. 54°—60° E. — I, 25°—17° N. 67°—56° E.

T. 25,3, max. 28,3, min. 22,6 — S. 36,88, max. 36,95, min. 35,52 — Spl. 7.

Rhinocalanus cornutus (Dana).

Gulf of Aden: X, 14° N. 50° E.

Arab. Sea: X, 16° N. 61° E. — I, 17° N. 56° E.

T. 26,4 to 23,9 — S. 36,33 to 35,62 — Spl. 3.

R. nasutus Giesb.

Arab. Sea: I, 15° N. 52° E. — T. 23,5 — S. 36,02 — Spl. 1.

Sapphirina angusta Dana.

Arab. Sea: I, 22° N. 67° E. — T. 23,9 — S. 36,24 — Spl. 1.

S. gemma Dana.

Arab. Sea: I, 17° N. 56° E. — T. 23,9 — S. 36,33 — Spl. 1.

S. nigromaculata Cls.

Medit. X, 37° N. 12° E. — II, 37° N. 0° E.

Red Sea: X, 14° N. 43° E.

Arab. Sea: I, 21°—19° N. 62°—59° E.

T. 23,2, max. 30,5, min. 13,9 — S. 37,26, max. 37,63, min. 36,49 — Spl. 5.

S. ovato-lanceolata Dana.

Red Sea: I, 20° N. 39° E. — T. 26,7 — S. 38,78 — Spl. 1.

S. pyrosomatis Giesb.

Arab. Sea: I, 22° N. 67° E. — T. 23,9 — S. 36,24 — Spl. 1.

S. scarlata Giesb.

Red Sea: I, 15° N. 41° E. — T. 24,8 — S. 37,63 — Spl. 1.

S. stellata Giesb.

Arab. Sea: I, 24° N. 65° E. — T. 23,7 — S. 36,36 — Spl. 1.

Scolecithrix danæ (Lubbock).

Arab. Sea: I, 16° N. 60° E. — T. 25,8 — S. 35,52 — Spl. 1.

Setella gracilis Dana.

Medit. X, 34° N. 24° E. — I, 35° N. 19° E.

Red Sea: X, 30°—13° N. 33°—43° E. — I, 15°—17° N. 41° E.

Gulf of Aden: X, 13° N. 49° E. — I, 12° N. 44° E.

Arab. Sea: X, 15°—18° N. 55°—70° E. — I, 22°—19° N. 67°—59° E.

T. 26,7, max. 31,3, min. 15,8 — S. 37,92, max. 42,81, min. 35,97 — Spls. 23.

Temora discaudata Giesb.

Red Sea: X. 16°—13° N. 42°—43° E.

Gulf of Aden: X, 13°—14° N. 49°—50° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—18° N. 52°—70° E. — I, 22°—15° N. 67°—52° E.

T. 26,8, max. 29,6, min. 23,5 — S. 36,13, max. 37,47, min. 35,5 — Spls. 16.

T. stylifera (Dana).

Atl. 36° N. 6° W.

Medit. X. 36° N. 5° W. to 32° N. 32° E. — II, 36° N. 4° W. to 38° N. 8° E.

Red Sea: X, 30°—13° N. 33°—43° E. — I, 14°—28° N. 43°—33° E.

Gulf of Aden: X. 13°—14° N. 49°—50° E. — I, 12° N. 44° E.

Arab. Sea: X, 14°—17° N. 52°—66° E. — I, 21°—17° N. 62°—56° E.

T. 23,7, max. 31,3, min. 13,9 — S. 37,97, max. 42,81, min. 35,62 — Spls. 32.

Tortanus gracilis (Brady).

Red Sea: X, 30°—17° N. 33°—41° E.

Arab. Sea: I, 22° N. 67° E.

T. 27,9, max. 31,4, min. 23,9 — S. 39,28, max. 42,81, min. 36,24 — Spls. 4.

Crustacea cætera.

Nyctiphanes norvegicus (M. Sars).¹

Atl. (off Gibraltar), X, 36° N. 7° W. — T. 18,9 — S. 36,45 — Spl. 1. Specimens 6.

Evadne spinifera P. E. Müller.

Atl. X, 36° N. 6° W.

¹ Prof G. O. Sars has kindly controlled the determination.

Medit. X, 37 N. 2—10 E.

T. 21,3, max. 22,6, min. 18,9 — S. 36,98, max. 37,56, min. 36,31 — Spl. 4.

E. tergestina Cls.

Medit. X, 37 N. 2—0 W.

Red Sea: X, 16 N. 42 E.

T. 21,4 to 29,6 — S. 36,98 to 37,47 — Spl. 3.

Conchoecia magna Cls.

Gulf of Aden: X, 13 N. 49 E. — T. 28,2 — S. 36,49 — Spl. 1.

C. spinirostris Cls.

Medit. X, 37 N. 13 E. — T. 23,3 — S. 37,52 — Spl. 1.

Euconchoecia chierchiae G. W. Müller, Jahrb. Zool. System.

V p. 277 P. XXVIII f. 1—10, 1890.

Red Sea: X, 16 N. 42 E. — I, 15 N. 41 E.

Gulf of Aden: X, 13 N. 49 E.

Arab. Sea: I, 19 N. 59 E.

T. 26,6, max. 29,6, min. 24,0 — S. 37,01, max. 37,63, min. 36,49 — Spl. 4.

Microconchoecia clausii (G. O. Sars).

Medit. X, 38—37 N. 8—0 E.

Gulf of Aden: X, 13 N. 49 E.

T. 23,4, max. 28,2, min. 21,4 — S. 36,88, max. 37,12, min. 36,49 — Spl. 4.

Paraconchoecia oblonga Cls.

Gulf of Aden: X, 13 N. 49 E. — T. 28,2 — S. 36,49 — Spl. 1.

Pyrocypris chierchiae G. W. Müller Jahrb. Zool. System. V p.

232 P. XXV f. 1 etc. 1890.

Red Sea: X, 28—22 N. 34—38 E.

Arab. Sea: X, 17 N. 66 E. — I, 25—17 N. 67—56 E.

T. 26,1, max. 30,3, min. 22,6 — S. 38,09, max. 40,70, min. 36,33 — Spl. 7.

Systematical notes.

Peridinales.

Steiniella? complanata N. sp. Membranaceous, not distinctly tabulated, flat, upper and lower valve on the flat side protracted, somewhat unequal in length. Transverse furrow distinct. Pervalval axis 0,27 millim., sagittal axis 0,07 mm. Transverse axis 0,015 millim. (Fig. 1).

Sparingly off Gibraltar and in the Mediterranean.

Goniodoma? bipes N. sp. By this name I denote a form (Fig. 2) of which I have found some few specimens only. The valves are solid and all over coarsely granulate. The epivalva is slightly convex, the hypovalva ends in two rounded, apiculate processes and in 2 smaller ones. Pervalval axis 0,08 millim., sagittal and transverse axis 0,07 millim. Red Sea, Arabian Sea, Malay Archip. (Semau Sound).

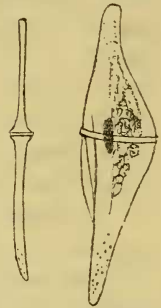


Fig. 1. 150 t. magnif.

Copepoda.

Centropages arabicus N. sp.

Diagn. Proximal joints of the anterior antennæ not spiniferous. Posterior corner of the last thoracic segment symmetrical, produced into spines, parallel to the longitudinal axis of the animal. Ri of the 1—5 pairs of legs 3-jointed. Serration of St of the legs very fine.

Female. Si of Ri 1 of the 5 p. of legs plumose. Ri 2 hairy on the interior side. Re 1 and 2 of the right leg of the 5th p. incompletely articulated and with a common strong, denticulated Si. Anterior antennæ reach beyond the furca. Length 1,5 mm.

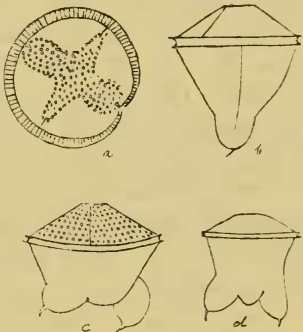


Fig. 2. a. End of hypovalva. b, c, d, the cellula in different positions. The granulation has been represented in the fig. c on the epivalva only. All figures 259 t. magnif.

Male. Aa 15 and 16 of the prehensele antennula not spiniferous. The simply curved Re 3 of the right 5th leg longer than Re 2. Re 1—3 of the same limb with Se. — Length 1,5 mm.

Habitat: Arabian Sea 13°32' N. 50°4' E. (three somewhat damaged specimens).

Description of the female. Body. Length of the anterior part 1 millim., of the posterior part 0,5 millim.; $3\frac{1}{2}$ times longer than broad. *Anterior part* 6-jointed; proportional length of the joints 10:2:1, 8:1, 9:1, 8:3, 3. Rostral filaments narrow. Last segment symmetrical, ending in backwards directed spines. *Abdomen* 3-jointed, joints of about equal length. *Furca* 3 times longer than broad, somewhat longer than the 2 last abdominal segments together.

Antennæ of the 1st pair reach beyond the furca, their proximal segments not spiniferous.

Antennæ of the 2nd pair. B1 with 1 plumose Si not reaching to the distal margin of B2. — B2 with 2 Si, one as long as the joint, the other half as long. — Re longer than Ri. Proportional length of Re 1+2, Re 3—6, Re 7 as 10:5:12. Distal margin of Re 2 strongly projecting. Sp of Re 7 nearer the proximal than the distal margin of the joint. Proportional length of B, Ri 1 and Ri 2 as 10:10:6,5. Ri 1 with 2 Si, inserted distally. Ri 2 $1\frac{1}{2}$ times longer than broad. Le with 4 shorter and 4 longer S.

Mandible. Trapezoidal, $1\frac{1}{2}$ times longer than broad. B2 with 3 short Si. Re 4-jointed somewhat longer than Ri, with 5 (?6) setæ. Ri 2-jointed. Ri 1 with one coarse and three finer Si. Ri 2 with 6+1 S. — *Masticatory apparatus* with 8 teeth, the exterior tooth strong, by a gap separate from the others, of which 2—6 are double and 7—8 bifid. Si small scarcely longer than the innermost tooth.

Maxilla as long as broad. — Li 1 with strong falciform sparingly hairy spines, the distal as long as the lobe — Li 2 with 3 S. — Li 3 developed. B2 and Ri 1 and 2 uniting. Ri somewhat longer than Re.

Maxilliped 1 stout, the lobes crowded towards the end, carrying strong spiniferous S. The 1st lobe with 4 S.

Maxilliped 2. Proportional length of B1, B2 and Ri as 10:9:7. B1 with the lobes 2—4 strongly projecting. — L2 with one long spiniferous S and one small plumose S. — L3

with 3 spiniferous S, 2 as long as the joint, 1 half as long. L4 with 1 short spiniferous and 1 long not spiniferous S. — B2 with finely denticulate interior margin, 3 times longer than broad, distally with 5 S; S1 and 2 short plumose, S3 and S5 twice as long, also plumose, S4 short and naked. Ri 1 $1\frac{1}{2}$ times as long as broad with 2 S, Ri 2 with 3 S; Ri 3—4 with 2 S. — Se two.

Natatory legs of the 1—4 pairs. B1 of all pairs with a short plumose Si. Re and Ri of all pairs 3-jointed. Proportional length of

	B2	Re1	Re2	Re3	St.
1 pair . . .	10	10	10	15	20
2 » . . .	10	10	10	25	—
3 » . . .	10	10	11	25	22
4 « . . .	10	10	10	25	18

Se of the 1st p. 1, 1, 2, long, narrow, inside finely serrate. Se of 2—4 p. 1, 1, 3 with smooth margins. Exterior margin of the legs hairy. — St straight, finely serrate (teeth about 7 in 0.01 millim). Si of the 1st. p. 1, 1, 4 and of the 2—4th p. 1, 1, 5. — Ri reach in the 1st and 3d p nearly to the distal margin of Re 2, in the 2 and 4th p. slightly beyond it. — Si of the 1st p. 0, 0, 1 of the others 0, 0, 2 — Si of the 1st and 4th p. 1, 2, 5, of the 2nd and 3rd 1, 2, 6.

Fifth pair of legs asymmetrical. Re 1 and Re 2 of the right leg uniting, carrying on the interior margin a strong, denticulated upwards directed spine reaching nearly to the end of Re 3. Se 1, 1, 2. Si of Re 3 four. — Re of the left leg 3-jointed, Re 1 shorter than Re 2, and Re 3 longer than Re 1 and 2 together — Se 1, 1, 2, Si 0, 1, 4. Si of Re 2 a strong spine as long as the joint. St of Re 3 of the right and left leg straight, knife like, $\frac{3}{4}$ as long as the joint. Ri of both legs similar, about half as long as Re, 3-jointed. Ri 1 short, as long as broad. Ri 2 more than twice as long as Ri 1, with dense short hairs on the interior side. Ri 3 short. Se 0, 0, 2. Si 1, 1, 4.

Centropages notoceras N. sp.

Diagn. Female. First joint of the anterior antennæ (Aa 1—4) with two spines, second joint (Aa 5) with one spine, so also the 7th and 8th (Aa 10 and 11). Last thoracic segment ending symmetrically in spines parallel to the longitu-

dinal axis of the body. First thoracic segment dorsally with a backwards directed spine, somewhat in front of the posterior margin. Genital end 2nd abdominal segments with a row of stiff small bristles on the ventral side. Ri of the 1—5 pairs of legs with 3-joints. Furca symmetrical, as long as the anal segment. — Length 1.3 millim.

Description. *Body*, anterior part length 1 millim, posterior part length 0,3 millim. Greatest breadth behind the head, about 0,43 millim. Cephalon highly woulted. Rostral filaments short, with broad, triangular bases. Two dorsal eyes. Frontal organs distinct. On the place of the ventral eye is a conical process. — Anterior part of the body 6-jointed, proportional length of the joints as 10:2, 4:2:2:1, 5:2,5. The first segment carries dorsally a backwards directed spine. Last segment symmetrical, ending in two backwards directed spines. — Abdomen 3-jointed. Proportional length of the joints and the furca as 10:5:6:8. Genital segment and the following ventrally with a set of small stiff bristles. — Furca 2½ times longer than broad. Se inserted at ⅔ of the length of the furca.

Antennæ of the 1st pair reach to the end of the furca, forming regular bows, 21-jointed, Aa 1 to 4 and Aa 24 to 25 uniting. The exterior margin of the first joint (Aa 1—4) with two spines, the 2nd joint (Aa 5) with one spine, the 7th and 8th (Aa 10 and 11) each with one spine. Length of the joints in 0,01 millim.

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

Antennæ of the 2nd pair. B1 with a plumose Si reaching beyond the distal margin of B2. B2 with 2 Si, one shorter, as long as the joint, plumose, the other twice as long. Re and Ri of equal length. Proportional length of Re 1+2, Re 3—6 and Re 7 as 19:7,5:12,5. Sp of Re 7 inserted somewhat nearer the distal than the proximal part. Terminal S 3, long, plumose. — Proportional length of B2, Ri 1 and Ri 2 as 10:14:10. Ri 1 with 2 Si inserted somewhat in front of the centre. Ri 2 twice as long as broad. Le with 6 long S and 3 small bristles on the outside. Li with 3 longer, 4 shorter and one very small Se.

Mandible, B2 trapezoidal, twice as long as broad, on the broad side with a row of short bristles. Re 4-jointed, 1^1_2 as long as the 2-jointed Ri. Re with 6 S, Ri 1 with 1 strong and 3 finer S, Ri 2 with 7 long and 1 short S. — Masticatory apparatus twice as long as the denticulate margin. Exterior tooth strong, by a gap separate from the other 7 teeth of which the 2nd and 3d are obtuse and the 6th and 7th bifid. Si short, as long as the last tooth.

Maxilla. B and R 1—3 uniting. Le 1 about twice as long as broad with sparingly plumose, strong S, the distal the strongest and as long as the lobe. Le 2 pyriform with 3 Si of which the distal carries long, distant hairs. Li 3 cylindrical, with 3 long S. Ri somewhat longer than Re, with 3+2+2+5 S. Re with 8 S.

Maxilliped 1. Proportional length of B1, B2 and Ri as 10 : 5 : 2,5. The S strong spinous.

Maxilliped 2. Proportional length of B 1, B2 and Ri as 10 : 12 : 7. B2 about 4 times longer than it is broad. L1 small, L 2—4 strong protuberances. L1 with 1 S. L2 with 2 spinous S, one somewhat longer than the other which equals the joint in length. L3 with 3 spinous S, two longer and one shorter. L4 with 3 plumose S of equal length and as long as B2. B2 distally with 5 S; S 1,3 and 5 of equal length and $\frac{1}{3}$ of the length of the joint, S2 somewhat shorter, all strongly plumose. S4 narrow, short and naked. Ri 5-jointed. Ri1 twice as long as Ri2, with 2 strongly plumose S of equal length and as long as Ri1+Ri2. Ri 2 with 3 Si; Ri 3, 4 and 5 with 2 Si. Ri 4 with 1 and Ri 5 with 2 Se.

Natatory legs, 1—4th pairs. B1 of the 2nd and 3d pair with a short plumose Si (no Si was found on the B1 of the 1st p.). Re and Ri of all pairs 3-jointed. Ri scarcely longer than Re 1+2. Proportional length of B2, Re1, Re2 Re3 and St.

	B2	Re1	Re2	Re3	St.
1 p. . . .	10	18	9	18	25
2 p. . . .	10	13	13	33	33
3 p. . . .	10	10	10	17	20
4 p. . . .	10	10	12,5	25	27,5

Se of Re of the 1st p. 1, 1, 2 of the 2—4 p. 1, 1, 3. Se 1 and 2 of the 1st p. long and narrow, inserted at a distance

from the distal margins of the joints. Se₂ of the 2nd and 3d p. stronger than the other. St. coarsely serrate, coarser on the 2—4 pairs than on the 1st, teeth about 2,8 in 0,01 millim. Si 1, 1, 4 of the 1st p., of the others 1, 1, 5 — Ri 1, 2 and 3 of equal length in the 1st pair. Ri 3 of the 2nd and 3d p. as long as Ri 1+2, of the 4 p. shorter. Se of the 1st pair 0, 0, 1, of the other 0, 0, 2. Si of the 1st and 4th p. 1, 2, 5, of the 2nd and 3d pair 1, 2, 6.

Legs of the 5th pair symmetrical. B₂ with small Se. Re twice as long as Ri. Re 1 somewhat longer than Re 2, the proximal part protracted into a proximally directed protuberance. Re 2 with strong Si. Re 3 narrow, as long as Re 1+2 together. Se 1, 1, 2. St. slightly longer than Re₃, its edge serrate; teeth about 3 in 0,01 millim. Si 0, 1, 4 — Ri 3-jointed, Ri 3 as long as Ri 1+2. Se 0, 0, 2, Si 1, 1, 4. — Exterior margin of Re 1 and 2 hairy.

Corycaeus erythræus n. sp.

Diagn. *Female* Ventral keel in front of the first pair of legs gently convex. Abdomen 2-jointed. Furca rather more than half as long as the other parts of the abdomen together. Posterior part of the genital aperture with two setæ. Eggs 2. Anal segment as long as the genital segment and shorter than the furca. Genital segment laterally in front with a small ventral spine. Length 0,88—0,94 mm.

Male. Abdomen 2-jointed. Genital segment laterally in front with a spine, $\frac{3}{5}$ as long as the anal segment and the furca together — Length 0,78 mm.

Description of the female. *Body*, anterior part 0,53 to 0,59; posterior part 0,35 mm. in length. Th 3 short, not reaching to the middle of the genital segment, Th 4 small, acute. Abdomen 2-jointed; the genital segment in front with a ventral spine. Posterior margin of the genital aperture with 2 S. Eggs 2. Branches of the furca of equal breadth throughout, at least 10 times longer than broad. Si half as long as the furca and only slightly longer than the two St. Longitudinal proportion of the abdominal segments and the furca as 1:1:1,2.

Antennæ of the 1st pair. 6-jointed. Proportional length of the joints as 10:10:10:15:7:5.

Antennæ of the 2nd pair. B₁ with a strong S, considerably longer than B₂ — B₂ with a S reaching to the distal

margin of the joint, which ends in a triangel tooth, behind which is another, but smaller, tooth.

Maxilliped of the 2nd pair. Exterior margin of B2 distally notched.

Natatory legs. Longitudinal proportion of the three joints of Re and St.

	Re1	Re2	Re3	St.
1 p.	10	10	30	25
2 p.	10	10	23	20
3 p.	10	10	27	32
4 p.	10	10	16	16

Relative length of the four pairs as 10 : 13 : 11 : 6.

Se of the 1st—3d p. 1, 1, 3, of the 4th. p. 1, 0, 1, those of the 1st to 3d p. triangular with serrate margins. The Se of Re 3 divide the joint in equal parts. St of the 1st—3d p. knife-like, straight, with finely serrate margins (teeth about 5 in 0,01 millim.). The S of the 4th p. bristles. — Si of the 1st p. 0, 1, 4, of the 2nd and 3d p. 0, 2, 5, of the 4th p. 0, 1, 5.

Longitudinal proportion of the joints of Ri

	Ri1	Ri2	Ri3
1 p.	10	13	30
2 p.	10	10	20
3 p.	10	10	10

Ri of the 4th p. rudimentary.

Proportional length of Ri of the 1st—3d p. 10 : 12, 5 : 8, 5. Ri of the 1st and 2nd p. somewhat more than half as long as Re, of the 3d p. shorter. — Si of the 1st p. 1, 1, 5, of the 2nd p. 1, 2, 5 of the 3d p. 1, 1, 2.

Description of the male. *Body*, anterior part 0,43 to 0,45 millim.; posterior part 0,35 to 0,41 millim. Thorax 3 not reaching to the middle of the genital segment, Th 4 short, acute. — Abdomen 2-jointed; genital segment in front with a ventrally curved spine. Furca with parallel branches, of equal breadth throughout and at least 10 times longer than broad. Of the two St the interior is rather longer than the furca and more than twice as long as the exterior, which is somewhat shorter than the Si. Longitudinal proportion of the abdominal segment and the furca as 10 : 8 : 12.

Antennæ of the 1st pair 6-jointed. Proportional length of the joints 10:8:10:12:7:5.

Antennæ of the 2nd pair. B1 with a S reaching somewhat beyond the distal margin of B2. — B2 with a plumose S reaching to the margin of the joint, which ends in a triangular tooth, behind which are some smaller teeth. — Terminal claw strong, as long as the limb.

Maxilliped 2 with a claw reaching to the proximal end of B1. Exterior margin of B2 entire.

Natatory legs. Longitudinal proportion of the joints of Re and St.

	Re1	Re2	Re3	St.
1 p.	10	9	22	26
2 p.	10	10	30	25
3 p.	10	10	28	28
4 p.	10	7	10	25

Relative length of Re of the four pairs as 10:12,6:12:5,6 Se of the 1st—3d p. 1, 1, 3, of the 4th p. 1, 0, 1, the Se of the 1st—3d p. triangular, with serrate margins. The Se of Re3 of the 2nd and 3d p. divide the joint in three equal parts. St of the 1st and 2nd p. straight, of the 3d p. outwards curved, all knife-like, with finely serrate margins. St of the 4th p. bristle-like. — Si of the 1st p. 0, 1, 4, of the 2nd and 3d 0, 2, 5, of the 4th p. 0, 1, 5. — Longitudinal proportion of the joints of Ri

	Ri1	Ri2	Ri3
1 p.	10	10	17
2 p.	10	12	22
3 p.	10	10	10

Ri of the 4th p. rudimentary, with 2 plumose S. Proportional length of Ri of the three pairs as 10:13:9. — Ri of the 1st and 2nd p. somewhat longer than the half of Re, that of the 3d p. shorter. — Si of Ri of the 1st p. 1, 1, 5 of the 2nd 1, 2, 4 of the 3d 1, 2, 2.

Labidocera similis n. sp.

Diagn. *Female.* Front laterally rounded, without crista and hook. Head with a spine on each side. Last thoracic segment symmetrical, ending in triangular lobes. Abdomen 3-jointed. Genital segment dorsally with a large apophysis.

Furca symmetrical. Fifth pair of legs with bifid Re and Ri, the former three times longer than the latter, which has denticulate ends. — Length 2 millim.

Habitat. Off Karachi, 24°37' N. 66°43' E. (one specimen).

Description of the female. *Body.* Anterior part 1,5 millim. long, posterior part 0,5 millim. long. — Four times longer than broad. — Anterior part 5-jointed. Proportional length of the joints as 10 : 5, 5 : 2, 6 : 2, 6 : 4, 4. Posterior part 3-jointed; proportional length of the joints and the furca as 10 : 7 : 3, 5 : 4. The genital segment has dorsally a large apophysis turned to the right side. Furcal branches 1½ times longer than broad; Se behind the middle.

Antennæ of the 1st pair reach to the end of the genital segment. Joints 3—7 incompletely articulated. Length of the joints in 0,005 millim.

Aa2	3—7	8	9	10	11	12	13	14	15	16	17	18	19	20
22	22	9	9	9	12	12	15	19	19	22	22	22	27	19
						21	22	23	24—25					
						16	14	14	12					

Antennæ of the 2nd pair. B1 short, with 1 Si. Re does not reach to the distal end of Ri1, inserted near the proximal end of B2. Proportional length of B2, Ri1 and Ri2 as 10 : 13 : 6.

Mandible B2 twice as long as broad, with 1+1+2 Si. Re longer than Ri, but inserted at a lower level, masticatory apparatus with one larger exterior tooth and four smaller interior teeth.

Maxilla similar to that of *L. wollastoni*. B2, Ri1 and 2 uniting, with 1+2+2+2 S.

Natatory legs. Re of all pairs 3-jointed, Ri of all pairs 2-jointed, slightly shorter than Re 1+2. — Proportional length of B2, Re 1, 2, 3 and St.

	B2	Re1	Re2	Re3	St.
1 p. . . .	10	11	11	18	22
2 p. . . .	10	11	11	20	25
3 p. . . .	10	10	10	17	22
4 p. . . .	10	10	11	19	22

Se of Re 1, 1, 2 of the 1st pair, 1, 1, 3 on the other. Se of the 1st p. bristle-like, of the other pairs triangular.

St. of the 1st p. narrow, coarsely serrate, of the other pairs knife-like, finely serrate. Se of Re 3 of the 2—4th p. divide the joint in 3 almost equal parts. Se of Re 2 of the 2nd p. larger than the other. Si of Re 1 of the 1st p. 1, 1, 4 of the other pairs 1, 1, 5. — The two joints of Ri are in all pairs of equal length. — Se 0,1 on the 1st p., 0,2 on the 2—4th p. — Si 3,5 on the 1st and 4th p., 3,6 on the 2nd and 3d p.

Fifth pair of legs slightly asymmetrical. Re 3 times longer than Ri, with bifid apex and 2 small Se. Ri with bifid denticulated end.

Nearly akin to *L. wollastoni*, but differs chiefly in the shape of the 5th p. of legs. The enormous dorsal apophysis of the genital segment may perhaps be anomalous, which I cannot decide as I had only one specimen.

Additional.

When the above was in the press I received a copy of the publication: THOMPSON, I. C. & SCOTT, A. Report on the Copepoda collected by Professor Herdman at Ceylon in 1902. — Published 1903. (From the »Report to the Government of Ceylon on the Pearl Oyster Fisheries of the Gulf of Manaar«.)

The following there described new species are identical with the above described, viz.: *Centropages tenuiremis* Thomps. & Sc. = *C. arabicus* Clev. *C. dorsispinatus* Thomps. & Sc. = *C. notoceras* Clev. *Labidocera pectinata* Thomps & Sc. = *L. similis* Clev. My names are thus to be exchanged for those given by Thomps. & Sc.

Tafl. 16.

	Enlargement
Fig. 1. <i>Centropages arabicus</i> Clev., female, outline	40
» 2. Leg of the 1st p.	170
» 3. Leg of the 4th p.	170
» 4. Distal margin of the masticatory apparatus	500
» 5, 6. Fifth pair of legs	170
» 7. St. of the 4th p.	500
» 8, 9. <i>Centropages arabicus</i> male, 5th p. of legs	170

Tafl. 17.

Fig. 1. <i>Centropages arabicus</i> male, part of the prehensile antenna	170
» 2, 3. <i>Centropages notoceras</i> . Clev., female, outline	40
» 4. Proximal part of the anterior antenna	170
» 5. Head	170
» 6. Dorsal spine	500
» 7. Distal end of the masticatory apparatus	500
» 8. Leg of the 1st p.	170
» 9. Leg of the 4th p.	170
» 10. St. of the 4th p.	500

Tafl. 18.

Fig. 1. <i>Centropages notoceras</i> , leg of the 5th p.	170
» 2. <i>Corycaeus erythraeus</i> Clev., female, outline	85
» 3. Antenna of the 2nd p.	500
» 4. Maxilliped 2	500
» 5. Abdomen and furca	170
» 6. Leg of the 4th p.	500
» 7, 8. <i>Corycaeus erythraeus</i> male	85

Tafl. 19.

Fig. 1. <i>Corycaeus erythraeus</i> , male, abdomen and furca	170
» 2. Maxilliped 2	500
» 3. Antenna of the 2nd p.	500
» 4. <i>Labidocera similis</i> Clev., female, outline	40
» 5, 6. Fifth pair of legs	170