

## Notes on A Small Collection of Marine Copepoda from the Malay States

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In 1928 a small collection of Copepoda from the sea off Penang and the Kurau river, Perak, was submitted to me for examination and identification by Mr. Cedric Dover then attached to the Malayan Museums Department. In this collection the following species were represented.

### CALANOIDA

#### Tribe Amphaskandria

#### Family EUCALANIDAE

#### Genus *Eucalanus* Dana

#### *Eucalanus subcrassus* Giesbrecht

*Eucalanus subcrassus*, Sewell, 1929, p. 51.

*Eucalanus subcrassus*, Menon, 1931, p. 509.

Examples of this species were taken in the following localities:—

- (a) Kurau river, Stations 11–12, 3. iii. 28.
- (b) Kurau river, Stations 56–64, 3. iii. 28.
- (c) Sea off Penang, 5. iii. 28.

Adult forms were taken in both (a) and (b) but only young forms were present in the third collection from the sea. As I have pointed out (*loc. cit.*, p. 52) "this species is widely distributed throughout Indian waters and at least in certain areas is extremely common." Menon (1931, p. 508), however, states that in Madras it is not so common as *Eucalanus crassus* Giesbrecht.

#### Family PARACALANIDAE

#### Genus *Paracalanus* Boeck.

#### *Paracalanus crassirostris* Dahl.

*Paracalanus crassirostris*, Sewell, 1929, p. 73, fig. 27.

Examples of this species were taken at the following stations:—

- (a) Kurau river, Stations 11–12, 3. iii. 28.
- (b) Kurau river, Stations 17–26, ..
- (c) Kurau river, Stations 56–64, 3. iii. 28.
- (d) Sea off Penang, 5. iii. 28.

This species is for the most part an inhabitant of brackish and estuarine waters and the littoral region, where the salinity of the water tends to be somewhat lower than that of the open

sea. The species appears to have a wide distribution and it is possible that there are several local races in different parts of the world.

Genus *Acrocalanus* Giesbrecht.

*Acrocalanus inermis* Sewell.

*Acrocalanus inermis*, Sewell, 1929, p. 81.

Examples were taken at the following stations:—

- (a) Kurau river, Station 17-26, . . .
- (b) Kurau river, Station 42-53, 4. iii. 28.
- (c) Kurau river, Station 56-64, 3. iii. 28.

This species appears to be widely distributed in brackish-water around the coasts of the Bay of Bengal and the Malay Archipelago.

*Acrocalanus gibber* Giesbrecht.

*Acrocalanus gibber*, Sewell, 1929, p. 80, fig. 32.

This species was taken at the following stations:—

- (a) Kurau river, Stations 56-64, 3. iii. 28.
- (b) Sea off Penang, 5. iii. 28.

This species is of almost universal occurrence throughout the coastal regions of the Bay of Bengal and the northern part of the Indian ocean.

### Tribe Heterarthrandria

#### Family CENTROPAGIDAE

Genus *Centropages* Herrick.

*Centropages furcatus* (Dana).

*Centropages furcatus*, Sewell, 1932, p. 229.

*Centropages furcatus*, Menon, 1931, p. 509.

Examples were taken at the following station:—

- (a) Sea off Penang, 5. iii. 28.

This species is widely distributed throughout Indian waters and the Malay Archipelago, and, so far as my experience goes, is the most common member of the genus.

*Centropages kroyeri* Giesbrecht.

*Centropages kroyeri*, Sewell, 1932, p. 230.

A single example, male, of this species was taken in the tow-netting from Kuala<sup>1</sup>, Kurau river, Stations 54-64, 3. iii. 28.

1. Kuala = mouth of a river.

#### Family DIAPTOMIDAE

Genus *Pseudodiaptomus* Herrick.

*Pseudodiaptomus aurivillii* Cleve.

*Pseudodiaptomus aurivillii*, Sewell, 1932, p. 240, fig. 85, a.

Examples occurred at the following stations:—

- (a) Kuala, Kurau river, Stations 56-64, 3. iii. 28.
- (b) Kurau river, Stations 42-53, 4. iii. 28.
- (c) Sea off Penang, 5. iii. 28.

This species is distributed throughout the Malay Archipelago and the eastern and northern parts of the Bay of Bengal.

*Pseudodiaptomus mertoni* Früchtl.

*Pseudodiaptomus mertoni*, Sewell, 1932, p. 241, fig. 85 b.

This species is liable to be mistaken for the preceding form. Examples were taken, along with *Pseudodiaptomus aurivillii* Cleve, at Kuala, Kurau river, Station 26, 22. iv. 26.

*Pseudodiaptomus daughlihi* Sewell.

*Pseudodiaptomus daughlihi*, Sewell, 1932, p. 241, fig. 86.

This species was taken in an almost pure culture at Kuala, Kurau river, Station 26, 22. iv. 26.

*Pseudodiaptomus* sp. juv.

A few immature examples of a species of *Pseudodiaptomus* were taken in the Kurau river, Station 56-62, 3. iii. 28.

#### Family TEMORIDAE

Genus *Temora* Baird.

*Temora stylifera* (Dana).

*Temora stylifera*, Sewell, 1932, p. 246.

Examples were taken in the Kurau river at Stations 42-53, 4. iii. 28. The species is widely distributed throughout the Indian Ocean.

*Temora turbinata* (Dana).

*Temora turbinata*, Sewell, 1932, p. 246.

*Temora turbinata*, Sewell, 1932, p. 246.

A few examples of this species were taken with the preceding form in the Kurau river, Station 42-53, 4. iii. 28.

Like the former species this is widely distributed throughout the Indian Ocean and, according to Menon, is the commonest form of *Temora* in the Madras plankton.

## Family PONTELLIDAE

Genus *Labidocera* Lubbock.*Labidocera euchaeta* Giesbrecht.*Labidocera euchaeta*, forma *minor*, Sewell, 1932, p. 362.

Examples of this species were taken in the Kurau river at Station 11-12, 3. iii. 28.

This was the form originally described by Giesbrecht; the form that I previously associated with this under the name *Labidocera euchaeta* forma *major* is almost certainly a different species and not a dimorphic form. Both species appear to be inhabitants of brackish and estuarine waters.*Labidocera kroyeri* (Brady).*Labidocera kroyeri*, Sewell, 1932, p. 362.

Examples were taken in the Kurau river at Stations 11-12, 3. iii. 28.

This species is widely distributed throughout Indian waters and the Malay Archipelago. A number of varieties have been described.

*Labidocera pectinata* Thompson and A. Scott.*Labidocera pectinata*, Sewell, 1932, p. 372, fig. 124.

Examples were obtained at the following stations:—

- (a) Kurau river, Stations 11-12, 3. iii. 28.
- (b) Kurau river, Stations 56-64, 3. iii. 28.

This species has been taken at numerous localities in the Mergui Archipelago and in the Cochin Backwaters on the west coast of India. It appears to prefer the neighbourhood of river mouths or backwaters.

## Family ACARTIIDAE

Genus *Acartia* Dana.Sub-genus *Odontacartia* Steuer.*Acartia (Odontacartia) spinicauda* Giesbrecht.*Acartia (Odontacartia) spinicauda*, Sewell, 1932, p. 397.

Examples were taken at the following stations:—

- (a) Kurau river, Stations 11-12, 3. iii. 28.
- (b) Kurau river, Stations 17-26, ..
- (c) Kurau river, Stations 42-53, 4. iii. 28.
- (d) Kurau river, Stations 56-64, 3. iii. 28.
- (e) Sea off Penang, 5. iii. 28.

This species is widely distributed throughout Indian waters and in the Malay Archipelago. In certain areas, such as the

estuarine region of the River Hoogli, India, it appears to be establishing itself in brackish-water.

*Acartia (Odontacartia) erythraea* Giesbrecht.*Acartia erythraea*, Menon, 1931, p. 510.*Acartia (Odontacartia) erythraea*, Sewell, 1932, p. 396.Examples were taken in the tow-net from the sea off Penang, 5. iii. 28, and in the Kurau river, Stations 56-64, 3. iii. 28. The species is widely distributed throughout the Indian Ocean and the Malay Archipelago. Menon (*loc. cit.*) records that it is a very common form in the plankton off Madras.*Acartia (Odontacartia) pacifica* Steuer.variety *mertoni* Früchtl.*Acartia (Odontacartia) pacifica*, Sewell, 1932, p. 397.

Specimens were obtained at the following stations:—

- (a) Kurau river, Stations 17-26, ..
- (b) Kurau river, Stations 42-53, 4. iii. 28.
- (c) Kurau river, Stations 56-64, 3. iii. 28.

## Family TORTANIDAE

Genus *Tortanus* Giesbrecht.Sub-genus *Tortanus* Sewell.*Tortanus (Tortanus) barbatus* (Brady).*Tortanus barbatus*, Menon, 1931, p. 510.*Tortanus (Tortanus) barbatus*, Sewell, 1932, p. 399.

Examples were taken at the following stations:—

- (a) Kurau river, Stations 11-12, 3. iii. 28.
- (b) Kurau river, Stations 17-26, ..
- (c) Kurau river, Stations 56-64, 3. iii. 28.
- (d) Sea off Penang, 5. iii. 28.

In my opinion this species is identical with *Tortanus denticulatus* (Giesbrecht). It is widely distributed throughout Indian waters and the Malay Archipelago.*Tortanus (Tortanus) forcipatus* (Giesbrecht).*Tortanus (Tortanus) forcipatus*, Sewell, 1932, p. 399.

A few examples were taken in the following localities:—

- (a) Kurau river, Stations 42-53, 4. iii. 28.
- (b) Sea off Penang, 5. iii. 28.

The species has been taken in the Malay Archipelago, off the coast of Burma and off Ceylon.

**CYCLOPOIDA**

Family OITHONIDAE

Sub-family OITHONINAE

Genus *Oithona* Baird.

***Oithona brevicornis*** Giesbrecht.

*Oithona brevicornis*, Sewell, 1924, p. 792.

Examples were obtained in the Kurau river, Station 56-64, 3. iii. 28.

This species is widely distributed, having been taken in the Pacific Ocean, Malay Archipelago and in various parts of the Indian Ocean. The species appears to have a distinct tendency to invade brackish-water areas, as it has been taken in such waters in Verlaten Island, Sunda Straits; in the Chilka Lake; and in the estuarine region of the Hoogli river.

***Oithona nana*** Giesbrecht.

*Oithona nana*, Sewell, 1924, p. 791.

Examples were obtained from the Kurau river, Stations 56-64, 3. iii. 28. This species has a world-wide distribution and, like the preceding species, has a tendency to invade brackish-water areas, though its power of adaptation does not appear to be quite so marked.

Family CORYCAEIDAE

Genus *Corycaeus* Dana.

***Corycaeus (Ditrichocorychaeus) subtilis*** Dahl.

A number of examples of both sexes were taken in the Kurau river, Stations 56-64, 3. iii. 28.

Family LICHOMOLGIDAE

Genus *Macrocheiron* Brady.

***Macrocheiron*** sp.

Two species of *Macrocheiron*, both of which appear to be new, were taken in the Kurau river, one at Station 42-53, 4. iii. 28; and the second at Stations 56-64, 3. iii. 28.

**HARPACTICOIDA**

Family ECTINOSOMIDAE

Genus *Microsetella* Brady and Robertson.

***Microsetella norvegica*** (Boeck).

*Microsetella norvegica*, Sewell, 1924, p. 809.

A few examples were taken in the tow-net from the Kurau river, Stations 56-64, 3. iii. 28.

ON SOME NEW OR RARE SPECIES OF OSTARIOPHYSI

Family TACHIDIIDAE

Genus *Euterpina* Norman.

*Euterpina acutifrons* (Dana).

*Euterpina acutifrons*, Sewell, 1924, p. 836.

*Euterpina acutifrons*, Menon, 1931, p. 510.

Examples were taken in the Kurau river, Stations 56-64, 3. iii. 28.

This species appears to have a world-wide distribution. Menon (*loc. cit.*) notes that it is a very important constituent of the plankton of the Madras coast and is never entirely absent from it.

REFERENCES

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