

ON DECAPODA BRACHYURA FROM THE ANDAMAN AND
NICOBAR ISLANDS

1. FAMILIES PORTUNIDAE, OCYPODIDAE, GRAPSIDAE AND
MICTYRIDAE.*

By C. SANKARANKUTTY
Central Marine Fisheries Research Institute

INTRODUCTION

THE present paper begins a series on the brachyuran fauna of the Andaman and Nicobar Islands, and describes 29 species and a variety collected during February to March 1960 from (1) Localities around Port Blair, viz. Bimbletan, South Point, Corbins Cove, Aberdeen Bay, Phoenix Bay, North Bay and Kalapahad ; (2) Neill Island ; (3) Car Nicobar ; (4) Maya Bandar ; (5) Long Island ; and (6) Nancauri. Of these reported in this account, 8 species and 1 variety are recorded for the first time from this region.

Heller (1868) recorded 27 species of crabs belonging to the three families Portunidae, Ocypodidae, and Grapsidae. Alcock (1899 & 1900) in his 'Materials for a Carcinological Fauna of India' described 35 species of portunids, 13 species of ocypodids and 24 species of grapsoids from the Andaman and Nicobar Islands, apart from *Mictyris longicarpus* Latreille. Later de Man (1908-09) reported *Sesarma thelxionae* de Man ; Kemp (1919) *Macrophthalmus pacificus* Dana (= *M. bicarinatus* Heller) and *Dotilla wichmanni* de Man and Chopra (1931) *Lissocarcinus ornatus* Chopra from the same region.

The collections were made mainly from the coral reefs and the intertidal region, vast areas of which get exposed during the ebb tide. A number of specimens were collected from the submerged reef with the help of a mask and snorkel. Portunids were mainly collected with a small dredge operated at 10 metres in the Aberdeen Bay, Port Blair.

In this paper only those works dealing with the fauna of Indian region and a few of the outstanding works are referred to.

The following is the list of species described in this paper. The asterisk mark denotes new record for the Andaman and Nicobar Islands.

* Published with the kind permission of the Director, Central Marine Fisheries Research Institute, Mandapam Camp.

Family PORTUNIDAE

1. *Portunus sanguinolentus* (Forsk.)
2. *P. granulatus* (Milne Edwards).
- *3. *P. pelagicus* (Linnaeus)
- *4. *P. minutus* (Shen).
- *5. *P. emarginatus* Stephenson & Campbell.
6. *Scylla serrata* (Forsk.)
7. *Thalamita crenata* (Latreille).
8. *T. prymna* (Herbst).
9. *T. chaptali* (Audouin & Savigny).
10. *T. admete* (Herbst).
11. *T. integra* Dana.
- *12. *Charybdis (Goniohellenus) truncata* (Fabr.).

Family GRAPSIDAE

13. *Grapsus albolineatus* Lamarck.
- *14. *Metopograpsus frontalis* Miers.
- *15. *Pachygrapsus minutus* Milne Edwards.
- *16. *P. planifrons* de Man.
- *17. *Ptychognathus dentatus* de Man.
18. *Sesarma (Chiromantes) bidens* (De Haan).
19. *Metaplax distincta* Milne Edwards.
- *20. *Plagusia depressa* var. *immaculata* Lamarck.
21. *Percnon planissimum* (Herbst).

Family OCYPODIDAE

22. *Ocyropa ceratophthalma* (Pallas).
23. *O. cordimana* Desm.
24. *Uca marionis excisa* Nobili.
25. *U. annulipes* (Latreille).
26. *Dotilla mictyroides* (Milne Edwards).
27. *D. wichmanni* de Man.
28. *Macrophthalmus convexus* Stimpson.
29. *Macrophthalmus telescopicus* (Owen).

Family MICTYRIDAE

30. *Mictyris longicarpus* Latreille.

Family PORTUNIDAE

Portunus minutus (Shen)

- Neptunus (Lupocycloporus) minutus*, Shen, 1937, p. 115.
Portunus minutus, Stephenson and Campbell, 1959, p. 89.
 Material : One female 10 mm. broad and 6 mm. long.
 Locality : Dredged from Aberdeen Bay.

Remarks : The ventral distal part of the merus of the cheliped has a spinule, the carpus carries three longitudinal ridges, the outer ridge joins the outer spine while the inner bifurcates in the middle and its inner branch joins the inner spine, the outer branch runs straight to the distal end of the joint.

Distribution : Singapore (Shen). This is the first record of the species from Andaman and Nicobar Islands.

Portunus emarginatus Stephenson and Campbell

Portunus emarginatus, Stephenson and Campbell, 1959, p. 107.

Material : Twelve males and seven females. The smallest ovigerous female 12 mm. broad.

Locality : Dredged from Aberdeen Bay.

Remarks : The specimens agree in all respects with the description given by Stephenson and Campbell except that they possess in addition a spinule at the distal end on the ventral side of the merus of the cheliped.

Distribution : Darnley Island, Queensland (Stephenson and Campbell); This is the first record of the species outside Australia.

Portunus sanguinolentus (Forsk.)

Neptunus sanguinolentus, Heller, 1868, p. 26.

Alcock, 1899, p. 32.

Chopra, 1935, p. 475.

Pillai, 1951, p. 21.

Neptunus (Neptunus) sanguinolentus, Laurie, 1906, p. 412.

Chhapghar, 1957, p. 417.

Portunus sanguinolentus, Stephenson and Campbell, 1959, p. 98.

Material : Two specimens, one male and one female.

Locality : North Bay, Caught in stake nets.

Remarks : Even in the live condition the three characteristic blood red blotches on the posterior region of the carapace were faint.

Distribution : Nicobar (Heller); east and west coast of Indian Peninsula (Alcock); Travancore (Pillai); Bombay (Chhapghar). Outside India the species is known from East Africa to Hawaii.

Portunus pelagicus (Linnaeus)

Neptunus pelagicus, Alcock, 1899, p. 34.

Gravely, 1927, p. 142.

Pillai, 1951, p. 21.

Neptunus (Neptunus) pelagicus, Laurie, 1906, p. 412.
 Chopra, 1935, p. 476.
 Chhapghar, 1957, p. 418.

Portunus pelagicus, Stephenson and Campbell, 1959, p. 96.

Material : One male specimen 44 mm. long and 102 mm. broad.

Locality : North Bay ; caught in stake nets.

Distribution : Coasts of India (Alcock) ; Gulf of Mannar (Gravelly) ; Travancore (Pillai) ; Bombay (Chhapghar).

The species is known from East Africa to Japan and Philippines.

Portunus granulatus (Milne Edwards)

Neptunus (Achelous) granulatus, Alcock, 1899, p. 45.
 Borradaile, 1903, p. 208.
 Laurie, 1906, p. 416.

Portunus granulatus, Stephenson and Campbell, 1959, p. 108.

Material : One male, one female and a juvenile, the former 18 mm. long and 27 mm. broad.

Locality : Male specimen from Car Nicobar, others dredged from Aberdeen Bay.

Remarks : In the juvenile specimen the anteroexternal angle of merus of the external maxilliped is less pronounced.

Distribution : Andaman, Nicobar Islands, Malabar Coast (Alcock). The species is known from Red Sea, Mauritius, up to Hawaii and Fiji.

Scylla serrata (Forsk.)

Scylla serrata, Heller, 1868, p. 27.
 Alcock, 1899, p. 27.
 Leene, 1938, p. 14.
 Pillai, 1951, p. 21.
 Chhapghar, 1957, p. 416.
 Stephenson and Campbell, 1960, p. 111.

Material : A male 51 mm. long and 75 mm. broad and a juvenile 13 mm. long and 19.5 mm. broad.

Locality : The large specimen was caught in a stake net in North Bay and the juvenile from Ross Island.

Remarks : The frontal lobes in the juvenile are low.

Distribution : Very extensive in the Indo-Pacific region ; from East Africa and Red Sea to Japan, Tahiti and New Zealand (Chhapghar).

Thalamita integra Dana

Thalamita integra, Henderson, 1893, p. 373.

Alcock, 1899, p. 85.

Laurie, 1906, p. 420.

Stephenson and Hudson, 1957, p. 339.

Material : A single male 11.5 mm. long and 18 mm. broad.

Locality : Dredged from Aberdeen Bay.

Distribution : Andamans (Alcock) ; Rameswaram, Tuticorin (Henderson) ; Gulf of Mannar off Ceylon (Laurie). Outside India the species is known from East Africa and Red Sea to Fiji.

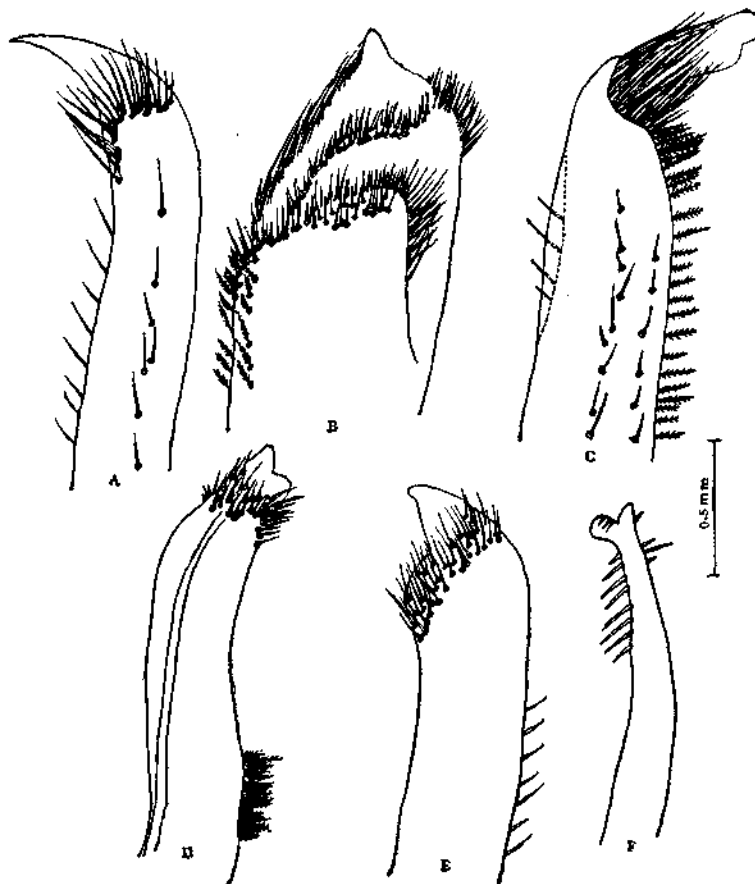


FIG. 1. First male pleopods of (A) *Mictyris longicarpus* ; (B) *Macrophthalmus convexus* ; (C) *Sesarma (Chiromantes) bidens* ; (D) *Dotilla wichmanni* ; (E) *Metaplex distincta* ; (F) *Thalamita admete*.

Thalamita admete (Herbst)

Thalamita admete, Heller, 1868, p. 28.
Stephenson and Hudson, 1957, p. 320.

Thalamita admeta, Alcock, 1899, p. 82.
Laurie, 1906, p. 420.

Thalamita admeta, var. *A. admeta*, Borradaile, 1903, p. 202.
var. *B. edwardsi*, Borradaile, 1903, p. 202.
var. *C. savignyi*, Borradaile, 1903, p. 202.
var. *edwardsi*, Gravely, 1927, p. 142.

Material : Five ovigerous females, four non-ovigerous females and four males. The smallest ovigerous female is 7 mm. long and 11 mm. broad.

Locality : Car Nicobar and Aberdeen Bay (Dredge collection).

Remarks : Compared to the description given by Stephenson and Hudson, the number of bristles on the first male pleopod is small, obviously this is a variable character.

Distribution : Andamans, Palk Straits (Alcock); Krusadai Island in Gulf of Mannar (Gravely). Outside India the species is known from East Africa, Red Sea to Japan, Hawaii and Fiji (Stephenson and Hudson).

Thalamita chaptali (Audomin and Savigny)

Thalmita chaptali, Alcock, 1899, p. 80.
Laurie, 1906, p. 419.
Stephenson and Hudson, 1957, p. 327.

Material : An ovigerous female 5.5 mm. long and 8 mm. broad and three males.

Locality : Dredged from Aberdeen Bay.

Remarks : The ventral distal end of the merus of the cheliped carried a spinule.

Distribution : Andamans (Alcock); outside India the species is known from Red Sea, Gulf of Siam and Australia (Stephenson and Hudson).

Thalamita crenata (Latreille)

Thalamita crenata, Heller, 1868, p. 29.
Alcock, 1899, p. 76.
Kemp, 1915, p. 249.
Gravely, 1927, p. 142.
Chhapghar, 1957, p. 423.
Stephenson and Hudson, 1957, p. 332.

Thalamita prymna var. *crenata*, Laurie, 1906, 418.

Material : One female and a male, the male measures 17 mm. in length and 25 mm. in breadth.

Locality : Dredged from Aberdeen Bay.

Distribution : Nicobar (Heller); Andamans, Bombay (Alcock); Chilka Lake (Kemp), Gulf of Mannar—Krusadai Island (Gravelly); Bombay (Chhapghar). The species is also known from South Africa and Red Sea to Australia, Japan and Society Island (Stephenson and Hudson).

Thalamita prymna (Herbst)

Thalamita prymna, Alcock, 1899, p. 78.

Borradaile, 1903, p. 201.

Gravelly, 1927, p. 142.

Chhapghar, 1957, p. 424.

Stephenson and Hudson, 1957, p. 346.

Thalamita prymna var. *annectans*, Laurie, 1906, p. 418.

Material : One female and two males; large male measuring 36 mm. in length and 55 mm. in breadth.

Locality : Dredged from Aberdeen Bay.

Distribution : Andamans, Nicobars, Madras (Alcock); Krusadai Island in Gulf of Mannar (Gravelly); Bombay (Chhapghar); The species is also known from Deloga Bay and Red Sea in the west to Japan and Marshall Islands in the east (Stephenson and Hudson).

Charybdis (Goniohellenus) truncata (Fabr.)

Charybdis (Goniohellenus) truncata, Borradaile, 1903, p. 200.

Leene, 1938, p. 118.

Stephenson, Hudson and Campbell,
1957, p. 503.

Charybdis (Goniohellenus) ornata, Laurie, 1906, p. 418.

Material : A single ovigerous female 18 mm. long and 27 mm. broad.

Locality : Port Blair, Andamans.

Remarks : Compared to the description given by Leene the following differences were observed. Instead of a distinct transverse ridge, the cardiac region of the carapace shows a group of granules. The second patch of granules, Leene observed on the mesobranchial region could not be seen. The second antero-lateral tooth is conical, third and fourth exactly alike, fifth and sixth are of the same shape

but the former is slightly smaller. In both chelipeds the dactylus exceeds the upper border of the propodus in length. The carpus of the third walking leg carries a minute spinule at the dorsal distal part. The single specimen in my collection shows certain characters hitherto not observed. The inner orbital lobe carries an oblique granulated ridge joining its corner. The merus of the cheliped carries a spinule on the distal border of its ventral side. The second and third abdominal segments have transverse carinae extending from side to side, that of the fourth segment is however shorter, not reaching the lateral borders.

Distribution : From Maldives to Japan and Australia. This is the first record of the species from Andaman and Nicobar Islands.

Family GRAPSIDAE

Grapsus albolineatus Lamarck

- Grapsus strigosus*, Heller, 1868, p. 47.
 Henderson, 1893, p. 390.
 Alcock, 1900, p. 393.
 Chopra and Das, 1937, p. 425.
 Barnard, 1950, p. 115.
 Pillai, 1951, p. 34.
 Chhapghar, 1957, p. 515.

Grapsus albolineatus, Banerjee, 1960, p. 147.

Material : One male 20.5 mm. broad and 18 mm. long.

Locality : Car Nicobar.

Distribution : Nicobar (Heller); Rameswaram, Tuticorin (Henderson); Baluchistan, Sind coast, Malabar coast, Ceylon, Coromandel coast, the Arakan and Tenasserim coast, Andaman and Nicobar (Alcock); Travancore (Pillai), Bombay (Chhapghar). The species is widely distributed throughout the Indo-Pacific region from the Red Sea and east coast of Africa to Japan, the Polynesian Islands and Hawaii (Banerjee).

Metopograpsus frontalis Miers

Metopograpsus frontalis, Banerjee, 1960, p. 182.

Material : One ovigerous female, one male and two juveniles.

Locality : Car Nicobar.

Remarks : The recent publication by Banerjee (1960) has clearly brought out the salient characters by which the present species can be distinguished from its closely related species *M. messor*. An examination of the specimens in the present collection showed that they all belonged to the species *M. frontalis*.

The two species of this genus so far known from this region are *M. messor* and *M. oceanicus*, while *M. frontalis* is a new record for this region. But it may be pointed out here that as indicated by Banerjee (*l.c.*); *M. messor* was often confused with *M. frontalis*. Hence in all probability Alcock's collection might have included *M. frontalis* also. Definite confirmation as to whether Alcock's collection had only *M. frontalis* or not can be ascertained only after a restudy of his specimens.

Distribution : Indo-West Pacific region, from Ceylon to the Pacific Ocean (Banerjee).

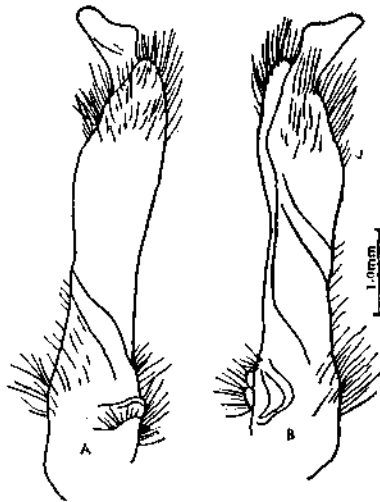


FIG. 2. First male pleopod of *Metopograpsus frontalis*. (A) dorsal view ; (B) ventral view.

Pachygrapsus minutus A. M. Edw.

Pachygrapsus minutus, Alcock, 1900, p. 399.

Borradaile, 1903, p. 432.

Tesch, 1918, p. 77.

Edmondson, 1959, p. 171.

Material : A single ovigerous female 5 mm. broad and 3 mm. long.

Locality : Car Nicobar.

Remarks : A few additional points of interest are noticed in the specimen. The merus of the cheliped has a terminal spinule on the ventral side. A spinule and few granules are seen on the dorsal surface of the carpus. Propodus has a longitudinal ridge on its outer side. Upper surface of propodus has a few beaded ridges running obliquely.

Distribution : The species is known through the Indo-Pacific region to Japan and eastward (Edmondson). This is the first record of the species from Andaman and Nicobar Islands.

Pachygrapsus planifrons de Man

Pachygrapsus planifrons, Borradaile, 1903, p. 432.

Tesch, 1918, p. 77.

Edmondson, 1959, p. 173.

Material : One ovigerous and one non-ovigerous female. The ovigerous female is 4 mm. long and 5 mm. broad.

Locality : Car Nicobar.

Distribution : This is the first record of the species from Andaman and Nicobar Islands.

Sesarma (Chiromantes) bidens (De Haan)

Sesarma bidens, Heller, 1868, p. 64.

Alcock, 1900, p. 415.

Sesarma (Chiromantes) bidens, Tesch, 1918, p. 115.

Chopra and Das, 1937, p. 431.

Material : A single male specimen 8.5 mm. long and 10.5 mm. broad.

Locality : Bimbletan, Port Blair.

Remarks : The first male pleopod in this species is stout and straight for most of its length, but near the distal end bends outwards, with a bilobed tip, the larger of the two lobes has a rounded tip. The inner border of the appendage is naked for about 2/3rd the length, beyond which a few bipinnate hairs are seen. Along the outer border, there is a fringe of bipinnate hairs. Beyond the bend part of the appendage, there are simple hairs surrounding the tip.

Distribution : Nicobar (Heller) ; coasts of Bay of Bengal, Andamans, Nicobar (Alcock). The species is known from East Africa to Australia and New Guinea (Chopra and Das).

Metaplax distincta M. Edw.

Metaplax distincta, Alcock, 1900, p. 432.

Tesch, 1918, p. 117.

Chhapghar, 1957, p. 523.

Material : Four males, one female and three juveniles.

Locality : Maya Bandar.

Remarks : The present specimen differs from the previous record as follows. The infraorbital border has bi- or tri-lobed teeth which progressively decrease in length towards the outer side so that their division into inner larger and outer smaller

teeth is bound to be arbitrary. The fixed finger has no enlarged teeth. The dactylus exceeds the upper border of the propodus in length.

The first male pleopod is a stout, blunt appendage ; its distal end is enlarged with a blunt projection at the tip pointing slightly outwards. Around this projection are a large number of setae almost concealing the middle projection.

Distribution : Madras, Coconada, Nicobars (Alcock) ; Bombay (Chhapghar). Though Chhapghar mentions that his is the first record of the species from the west coast of India, Tesch in the foot note (p. 117) has already indicated its occurrence in Bombay. Outside India Alcock records it from Mergui also.

Ptychognathus dentatus de Man

Ptychognathus dentata, Alcock, 1900, p. 403.

Ptychognathus dentatus, Tesch, 1918, p. 86.

Material : A single berried female measuring 7 mm. in length and breadth.

Locality : Bimbletan, Port Blair.

Remarks : When compared with Alcock's description of the species the following differences are noticed. The carapace is equal in length and breadth. The inner side of the carpus of *cheliped* lacks the spine and instead there is a tubercle. According to Alcock the presence of a tubercle is distinct character of the male. The dactylus is only twice as long as the upper border of the propodus.

Distribution : The species is recorded for the first time from Andamans. The species is also known from upper Tenasserim (Alcock) and Celebes Sea (de Man).

Plagusia depressa var. *immaculata* Lamarck

Plagusia depressa var. *immaculata*, Laurie, 1906, p. 429.
Tesch, 1918, p. 128.

Plagusia immaculata, Edmondson, 1959, p. 190.

Material : A male 14 mm. broad and 13 mm. long.

Locality : Long Island.

Remarks : As observed by Alcock, this variety lacks the flagellum of exopod of the external maxilliped. But Tesch (1918, p. 128) remarks, 'Alcock states, that in *Plagusia* the exognath of the external maxillipeds is destitute of a flagellum, but already de Haan has figured one in *P. dentipes*, and both Stebbing and Borradaile state the occurrence of a flagellum in *P. capensis*.' The absence of flagellum appears to be more of specific character than generic.

Distribution : The variety is reported for the first time from Andaman and Nicobar Islands. The variety is also known from the Gulf of Mannar (Laurie) ; Hawaiian Islands (Edmondson).

Percnon planissimum (Herbst)*Acanthopus planissimus*, Heller, 1868, p. 51.*Liolophus planissimus*, Alcock, 1900, p. 439.*Leiolophus planissimum*, Borradaile, 1903, p. 432.

Laurie, 1906, p. 429.

Percnon planissimum, Tesch, 1918, p. 130.

Edmondson, 1959, p. 197.

Barnard, 1950, p. 138.

Material : One male, two ovigerous females, smaller ovigerous female measuring 16 mm. in length and 14.5 mm. in breadth.

Locality : South Point. This is a very common species under the stones and dead coral beds.

Distribution : Andamans, Ceylon, Laccadives (Alcock); Laccadives (Borradaile); The species is also known from Mauritius, Amirante Island, East Coast of Africa, Indo-Pacific (Barnard).

Family OCYPODIDAE

Ocypoda cordimana Desm.*Ocypoda cordimana*, Heller, 1868, p. 42.

Henderson, 1893, p. 387.

Alcock, 1900, p. 349.

Tesch, 1918, p. 35.

Gravely, 1927, p. 148.

Pillai, 1951, p. 27.

Chhapghar, 1957, p. 507.

Ocypoda cordimana, Barnard, 1950, p. 84

Material : A female specimen measuring 20.5 mm. in length and 23 mm. in breadth.

Locality : Neill Island.

Distribution : Nicobar (Heller); Laccadive, Madras coast, Ceylon, Andamans, Nicobars (Alcock); Tuticorin (Henderson); Krusadai Island in Gulf of Mannar (Gravely); Travancore (Pillai); Bombay (Chhapghar). This species is distributed from Tahiti and Japan to Red Sea (Chhapghar).

Ocypoda ceratophthalma (Pallas)*Ocypoda ceratophthalma*, Heller, 1868, p. 42.

Henderson, 1893, p. 387.

Alcock, 1900, p. 345.
Laurie, 1906, p. 426.
Tesch, 1918, p. 36.
Gravely, 1927, p. 148.
Chhapghar, 1957, p. 506.

Ocypode ceratophthalma, Borradaile, 1903, p. 96.

Material : A large female 40 mm. long and 45.5 mm. broad, and a small male.

Locality : Neill Island.

Remarks : The granular upper part of the stridulating ridge is seen to vary considerably, often becoming indistinguishable.

Distribution : Nicobar (Heller); Tuticorin, Rameswaram (Henderson); Krusadai Island in Gulf of Mannar (Gravely); Bombay (Chhapghar). The species is also known from Indo-Pacific, from east coast of Africa to Sandwich Islands (Alcock).

Uca annulipes (Latreille)

Gelasimus annulipes, Heller, 1868, p. 38.
Henderson, 1893, p. 388.
Alcock, 1900, p. 353.
Laurie, 1906, p. 425.
Kemp, 1915, p. 221.
Gravely, 1927, p. 148.
Pillai, 1951, p. 28.
Chhapghar, 1957, p. 508.

Ocypode ceratophthalmus, Barnard, 1950, p. 86.

Uca annulipes, Borradaile, 1903, p. 96.

Material : 18 males and four females.

Locality : Aberdeen Bay, Bimbletan and Maya Bandar.

Remarks : The spooned setae agree with the description given by Chhapghar.

Distribution : Nicobar (Heller); Tuticorin, Rameswaram (Henderson); Chilka Lake (Kemp); Kutical backwater in the Gulf of Mannar (Gravely); Travancore (Pillai); Bombay (Chhapghar); The species is also known from Red Sea, coast of Africa to Australia and West Coast of America (Pillai).

Uca marionis excisa Nobili

Gelasimus vocans, Heller, 1868, p. 37.

Gelasimus marionis var. *nitidus*, Alcock, 1900, p. 360.
Gravely, 1927, p. 148.
Chhapghar, 1957, p. 510.

Uca marionis excisa, Tesch, 1918, p. 38.

Material : Two ovigerous females and a male, the smaller ovigerous female 10 mm. long and 14.5 mm. broad.

Locality : Maya Bandar.

Distribution : Nicobar (Heller); Andamans, Coromandel coast, Malabar coast (Alcock); Kutikal Point in the Gulf of Mannar (Gravely); Bombay (Chhapghar).

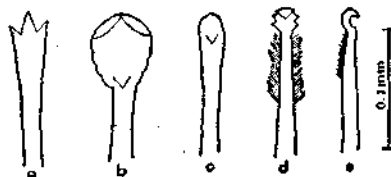


FIG. 3. Spooned setae of (A) *Dotilla wichmanni*; (B, C) *Mictyris longicarpus*; (D, E) *Dotilla myctiroides*.

Dotilla myctiroides (Milne Edwards)

Dotilla myctiroides, Henderson, 1893, p. 390.

Alcock, 1900, p. 368.

Laurie, 1906, p. 426.

Kemp, 1915, p. 227.

Kemp, 1919, p. 326.

Gravely, 1927, p. 149.

Chhapghar, 1957, p. 511.

Dotilla myctiroides, Pillai, 1951, p. 29.

Material : Two male specimens.

Locality : Aberdeen Bay.

Remarks : The lateral parts of the carapace show characteristic sculpturing. Beginning from the posterior upper part is a broad groove which goes forwards up to half the distance from the orbit. Below this is a longitudinal groove almost reaching the orbit. It sends ventralwards two vertical branches. The posterior branch which is long almost reaches the lateral edge of the carapace but the anterior is very short. In front of the posterior branch is a roughly 'Y' shaped groove, the anterior limb of which almost reaches the orbit. Parallel to the lateral border of the carapace is a faint groove which stops behind in front of the insertion of the cheliped. Passing longitudinally almost at the middle of the lateral region is a narrow but deep furrow dividing the surface into two unequal halves.

Cross-section of the dactylus of first three walking legs is rectangular with the corners thickened, and the two narrow lateral sides fringed with hairs. Cross-section of dactylus of the last leg is triangular, with two dorsal and a median ventral carina. In between the two dorsal carinae is a faint carina flanked by two fringes of hairs. The median ventral carina is also provided with a fringe of hairs.

Distribution : Andamans, Coramandel coast (Alcock) ; Chilka Lake, Portuguese India, Tuticorin, Pamban backwaters, Ennur, Port Blair (Kemp) ; Travancore (Pillai) ; Bombay (Chhapghar) ; Kutikal, Pamban, Krusadai Island (Graveley) ; Outside India, the species is known from Singapore, Java, Gaspar straits, Billiton Islands and Mindanao (Kemp).

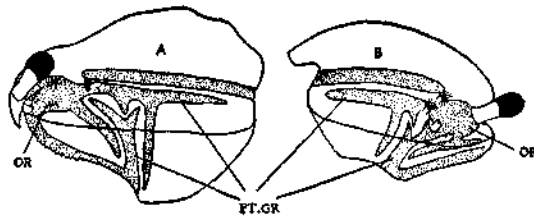


FIG. 4. Pterygostomial grooves in (A) *Dotilla myctrioides* ; (B) *D. wichmanni*. OR—orbit ; PT.GR.—pterygostomial grooves.

Dotilla wichmanni de Man

Dotilla wichmanni, Tesch, 1918, p. 45.

Kemp, 1918, p. 277.

Kemp, 1919, p. 329.

Material : Five males and a female.

Locality : Aberdeen Bay.

Remarks : The inner half of the infra-orbital border is serrated, and the outer border uneven as the pterygostomial grooves open into the orbit. The outer half of the infra-orbital border has three lobes, with tuberculated tips, the outermost of which lies just below the outer orbital lobe of the supra-orbital border.

The disposition of the pterygostomial grooves differs slightly from that of *D. myctrioides*. The second vertical groove is not 'Y' shaped, but has an anteriorly directed branch, which bifurcates, the anterior branch of which opens into the orbit between the first and second infra-orbital lobes. A vertical groove runs down immediately behind the last lobe of infra-orbital border and ends between the second vertical groove and the proximal branch of its anteriorly running groove. Joining the second vertical groove at its base and running close to the border of the pterygostomial region, is an anteriorly running groove, which ends blindly below the orbit. Originating between the second vertical groove and the groove running along the margin of the pterygostomial region, is another groove which takes a sinuous course and opens into the orbit immediately inside the first infra-orbital lobe, and also extends anteriorly.

The tympanum on the inner side of the arm of the cheliped has a fringe of hairs running across it and another fringe running at the upper inner corner of the arm.

The merus of the external maxilliped on its outer surface has three grooves, two of them running longitudinally and a third one obliquely. Another groove runs along the inner margin of the merus.

The setae on the second maxilliped are in the shape of a three-pronged spear.

The first male pleopod is short, stout appendage curved distally and with a bifid tip. The basal part of the appendage on its outer side has a fringe of branched hairs, whereas the inner border is devoid of hairs. The tip of the appendage has a covering of unbranched hairs.

Distribution : Corbyn's Cove South, Port Blair, Andamans (Kemp). The species is known from Celebes, Makassar, Sumatra, Talaut Island, Gulf of Siam (Kemp).

Macrophthalmus convexus Stimpson

Macrophthalmus convexus, Alcock, 1900, p. 378.

Tesch, 1918, p. 59.

Kemp, 1919, p. 389.

Material : A single male measuring 13 mm. in length and 25.5 mm. in breadth.

Locality : North Bay.

Remarks : The only specimen is found to have a subterminal spine on the upper border of the merus of the first, second and third walking legs. Alcock has noticed subterminal spines on 2nd and 3rd walking legs only.

The first male pleopod is a stout appendage with an enlarged distal end and has a small projection at the distal end. The arrangement of the hairs is as shown in the diagram.

Distribution : Andamans (Alcock), Pamban (Kemp). The species is also known from the Gulf of Mannar to Australia, Loo Choo Islands and Hawaii (Kemp).

Macrophthalmus telescopicus (Owen)

Macrophthalmus verreauxi, Alcock, 1900, p. 377.

Macrophthalmus telescopicus, Tesch, 1918, p. 58.

Kemp, 1919, p. 387.

Gravely, 1927, p. 150.

Material : A female 10 mm. long and 16 mm. broad.

Locality : Andamans.

Distribution : Andamans (Alcock); Backwater at Pamban, Gulf of Mannar (Kemp); Krusadai Island in Gulf of Mannar (Gravely). The species is very widely distributed in Indo-Pacific region from Red Sea to Hawaii, Japan and Australia.

Family MICTYRIDAE

Mictyris longicarpus Latreille

Mictyris longicarpus, Alcock, 1900, p. 384.

Tesch, 1918, p. 42.

Material : Two males and a female.

Locality : Maya Bandar.

Remarks : The ischium of the enlarged cheliped of the male has a spine on its inner side but is absent in the female. A longitudinal carina is also clear on the inner side of the palm (Tesch). The dactylus of the last leg is curved upwards.

Though the male as well as the female have equally broad abdomen they can be distinguished by the shape of the various segments. The end segments of the abdomen of the female is semi-circular whereas in the male it is very broad and short. In the female, the segments are demarcated by deep lateral incisions which are comparatively indistinct in the male.

The spooned setae on the second maxilliped may be either well spooned or only partly so. In the well-spooned setae, the tip is bilobed with either borders of the spoon serrated.

The first male pleopod is a short appendage with a pointed tip, pointing outwards.

Distribution : Andamans, Nicobars (Alcock); Outside India the species is known from Philippine Sea, Banda Sea and Java Sea.

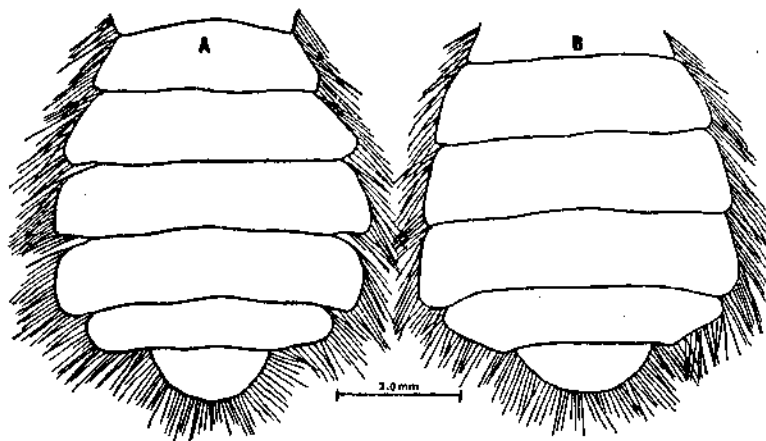


FIG. 5. Abdomen of *Mictyris longicarpus*. (A) female; (B) male.

SUMMARY

The present paper forms the first instalment in a series of papers on the Brachyura of the Andaman and Nicobar Islands and deals with the families Portunidae, Ocypodidae, Grapsidae and Mictyridae. Twenty-nine species and a variety are described of which eight species and a variety are new records for this locality.

ACKNOWLEDGEMENTS

I take this opportunity to express my grateful thanks to Dr. S. Jones, Director, Central Marine Fisheries Research Institute, for all facilities given in this study and

for the valuable criticism and guidance. I am also grateful to Dr. N. Krishna Pillai, Marine Biological Laboratory, Trivandrum for going through the manuscript and offering suggestions.

REFERENCES

- ALCOCK, A. 1899. Materials for a carcinological fauna of India. No. 4. The Brachyura Cyclometopa. Part II. A revision of the Cyclometopa with an account of the families Portunidae, Cancridae and Corystidae. *J. Asiat. Soc. Bengal*, 68(2) : 1-104.
- , 1900. Materials for a carcinological fauna of India. No. 6. The Brachyura Catometopa or Grapsoidae. *Ibid.*, 69(2) : 279-456.
- BANERJEE, S. K. 1960. The genera *Grapsus*, *Geograpsus* and *Metopograpsus* (Crustacea-Brachyura). Biological results of the Snellius Expedition. 18. *Temminckia*, 10 : 132-199.
- BARNARD, K. H. 1950. Descriptive catalogue of South African Decapod Crustacea. *Ann. S. Afr. Mus.*, 38 : 1-824.
- BORRADAILE, L. B. 1903. *Marine Crustaceans*. In *Fauna and Geography of the Maldive and Laccadive Archipelagos*. Vol. I, part 13 : 190-208 (Cambridge Univ. Press).
- , 1903. *Land Crustaceans*. *Ibid.* : 64-101.
- CHHAPGHAR, B. F. 1957. On the Marine Crabs (Decapoda : Brachyura) of Bombay State. *J. Bombay nat. Hist. Soc.*, 54(2) : 399-439.
- , 1957. On the Marine Crabs (Decapoda : Brachyura) of Bombay State. *Ibid.*, 54(3) : 503-549.
- CHOPRA, B. 1931. Further notes on crustacea Decapoda in the Indian Museum. II. On some decapod crustacea found in the cloaca of Holothurians. *Rec. Indian Mus.* 33 : 303-324.
- , 1935. Further notes on Crustacea Decapoda in the Indian Museum. VIII. On the Decapoda Crustacea collected by the Bengal Pilot Service off the mouth of the river Hoogly. Brachygnatha (Oxyrhyncha and Brachyrhyncha). *Ibid.*, 37 : 463-514.
- AND DAS, K. N. 1937. Further notes on Crustacea Decapoda in the Indian Museum. On three collections of crabs from Tavoy and Mergui Archipelagos. *Ibid.*, 39 : 377-434.
- DE MAN, J. G. 1908-09. Description of a new species of the genus *Sesarma* Say, from the Andaman Islands. *Ibid.*, 2 : 181-185.
- EDMONDSON, C. H. 1954. Hawaiian Portunidae. *Occ. Pap. Bishop Mus.*, 21(12) : 217-274.
- , 1959. Hawaiian Grapsidae. *Ibid.*, 22(12) : 153-202.
- GRAVELY, F. H. 1927. Crustacea in the littoral fauna of Krusadai Island in the Gulf of Mannar. *Bull. Madras Govt. Mus. (n.s.)*, 1(1) : 135-155.
- HELLER, C. 1868. Crustacean. *Reise Der Novara. Zool.* II(3) : 1-280.
- HENDERSON, J. R. 1893. A contribution to Indian Carcinology. *Trans. Linn. Soc. London (Zool.)* 5(2) : 325-458.
- KEMP, S. 1915. Fauna of Chilka Lake. *Mem. Indian Mus.*, 5 : 199-325.
- , 1919. Notes on Crustacea Decapoda in the Indian Museum-Scopimerinae. *Rec. Indian Mus.*, 17 : 305-348.
- , 1919. Notes on Crustacea Decapoda in the Indian Museum. The Indian species of *Macrophthalmus*. *Ibid.* : 383-394.
- LAURIE, R. D. 1906. Report on the Brachyura collected by Prof. Herdman. Report on the Pearl Oyster Fisheries of the Gulf of Mannar. 40(5) : 349-432.
- LEENE, J. E. 1938. Brachygnatha Portunidae. *Siboga Exped.* 39c³ : 1-153.
- PILLAI, N. K. 1951. Decapoda (Brachyura) from Travancore. *Bull. Res. Inst. Univ. Travancore*, 2(1) Ser. C : 1-46.
- RATHBUN, M. J. 1906. Brachyura and Macrura from the Hawaiian Islands. *Bull. U.S. Fish. Comm.*, 23 : 827-930.
- SAKAI, T. 1935. *Crabs of Japan* : 1-239. (Tokyo Sansendo Co. Ltd.)

ON DECAPODA BRACHYURA FROM THE ANDAMAN AND NICOBAR ISLANDS 119

- SANKARANKUTTY, C. 1959. A note on the abnormalities in *Thalamita integra* Dana. *J. Mar. biol. Ass. India*, 1(2) : 254.
- SHEN, C. J. 1937. Notes on a collection of swimming crabs (Portunidae) from Singapore. *Bull. Raffles Mus.*, 13 : 96-139.
- STEPHENSON, W. AND HUDSON J. J. 1957. The Australian portunids (Crustacea-Portunidae). I. The genus *Thalamita*. *Aust. J. Mar. Freshw. Res.*, 8(3) : 312-368.
- AND CAMPBELL, B. 1957. The Australian portunids (Crustacea-Portunidae). II. The genus *Charybdis*. *Ibid.*, 8(4) : 491-507.
- AND CAMPBELL, B. 1959. The Australian portunids (Crustacea-Portunidae). III. The genus *Portunus*. *Ibid.*, 10(1) : 84-124.
- , 1960. The Australian portunids (Crustacea-Portunidae). IV. Remaining genera. *Ibid.*, 11(1) : 73-122.
- TESCH, J. J. 1918. Decapoda Brachyura Hymenosomidae etc. *Siboga Exped.* 39C : 1-148.
- TWEEDIE, M. W. F. 1936. On the crabs of the family Grapsidae in the collection of the Raffles Museum. *Bull. Raffles Mus.*, 12 : 44-70.
- , 1937. On the crabs of the family Ocypodidae in the collection of the Raffles Museum. *Ibid.*, 13 : 140-170.