

INDIA'S FOREIGN EXCHANGE EARNERS

[India's export earnings from fishery products have touched an all time record of Rs. 33.07 crores in 1969. The most important items which have contributed to this are processed prawn products, frozen lobster tails and frozen froglegs. Even though frogs are not of marine origin, they are processed and exported along with marine products so that for all practical purposes they are reckoned as sea-foods. Naturally, it is sure to be of absorbing interest to the processors and technological research workers as well as to the general public to know how many varieties/species of these occur in our country and also the localities where they are available. The following is an exhaustive list of the different species of prawns, lobsters and frogs that are found in our country, together with vernacular names wherever available, parts of India where they occur and the largest size (length) to which they grow. The figures in brackets on the left side show the progressive total. The different genera have been arranged in the order of their commercial importance and not according to any scientific principles. The main source of these informations is Bulletin no 14 of the Central Marine Fisheries Research Institute entitled "Prawn Fisheries of India," issued in August 1969, which may be consulted for further details regarding taxonomy etc. — Editor]

PENAEUS:

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| (1) 1. <i>Penaeus indicus</i> : Naran chemmeen Vellachemmeen, Puzha (river) naran, Kadal (sea) naran, Chorakkalan (Malayalam). All coastal waters, estuaries and backwaters. 20-23 cm. | more on the northern sector. Largest Indian marine prawn. 30-32 cm. |
| (2) 2. <i>P. monodon</i> : King prawn, Tiger prawn (common name), Karachemmeen (Malayalam), Shetli, Shingde (Kannada), Jinga (Marathi), Yera (Tamil), Bagda chingdi (Bengali). More on east coast, especially in Orissa and Bengal. On west coast, | (3) 3. <i>P. merguensis</i> ; Middle regions of east and west coasts. Sparingly in other regions. 24 cm. |
| | (4) 4. <i>P. semisulcatus</i> : More common on east coast. 23-25 cm. |
| | (5) <i>P. penicillatus</i> : Coastal waters of north Bombay and Orissa coasts. 21 cm. |
| | (6) 6. <i>P. japonicus</i> : Sparingly in Madras (Pulicat like) and Bombay coasts. 27 cm. |

- (7) 7. *P. canaliculatus*: Very sparingly on south west coast. 15 cm.
- (8) 8. *P. latisulcatus*: Only one or two specimens obtained recently from S. W. coast.

METAPENAEUS

- (9) 1. *Metapenaeus dobsoni*: Poovalan or Kadal chemmeen (Malayalam), Thellichemmeen (Mala. for smaller sizes), Era (Tamil), Chingri (Bengali). Largest single species landed in India. Found in all coastal waters. More common on S. W. coast. 12.5 cm.
- (10) 2. *M. affinis*: Kāzhanthan chemmeen (Malayalam). Jinga (Marathi and Gujarathi), Chingri (Bengali). All along Indian coast. 18 cm.
- (11) 3. *M. monoceros*: Choodan Chemmeen (Malayalam), Jinga (Marathi), Sonayya jacha (Gujarathi), Koraney chingri (Bengali). Entire coast line, estuaries and backwaters. 18 cm.
- (12) 4. *M. brevicornis*: Dhanbone chingri (Bengali). Both on east and west coasts including estuaries - only in the northern region. 12.5 cm.
- (13) 5. *M. ensis*: Reported only from east coast off Waltair. 17 cm.
- (14) 6. *M. lysianassa*: Mostly on east coast off river Hoogly, Orissa coast and Gulf of Mannar. Rarely found on S. W. coast. 9 cm.
- (15) 7. *M. burkenroadi*: Only recently reported in India in inshore waters and estuary in Cochin. 10 cm.
- (16) 8. *M. stebbingi*: Only recently reported in India from Gulf of Kutch. 12 cm.
- (17) 9. *M. kutchensis*: A good fishery in Gulf of Kutch area. 13-14 cm.
- (18) 10. *M. alcocki*: Recently reported from Gulf of Kutch area. 9.7 cm.

PARAPENAEOPSIS:

- (19) 1. *Parapenaeopsis stylifera*: Karikkadi

chemmeen (Malayalam). All along the coast line especially west and south east coasts. Entirely marine species. 14 cm.

- (20) 2. *P. hardwickii*: Fairly good fishery in N. W. coast, Bombay waters and off Godavari estuary. 12 cm.
- (21) 3. *P. sculptilis*: In northern region only; on both east and west coasts. 16.5 cm.
- (22) 4. *P. uncta*: Recorded from Orissa and S. W. coasts. 10 cm.
- (23) 5. *P. nana*: Recorded only from east coast off Orissa and Madras. 5.5 cm.
- (24) 6. *P. cornuta maxillipedo*: Bombay, Kerala and Madras coasts. Not significant. 12.5 cm.
- (25) 7. *P. acclivirostris*: Both east and west (Bombay) coasts. 5 cm.
- (26) 8. *P. tinella*: Only recently collected from east coast-Gulf of Mannar and Palk Bay. 5 cm.

MACROBRACHIUM

- (27) 1. *Macrobrachium rosenbergii*: Konchu (Malayalam), Golda chingri or mocha chingri (Bengali). Most of the lakes and estuaries along the coast line of India. 30-32 cm.
- (28) 2. *M. malcolmsonii*: Most common in peninsular rivers draining into Bay of Bengal. Also in river Indus. 20-23 cm.
- (29) 3. *M. villosimanus*: Calcutta and Chittagong region. 15 cm.
- (30) 4. *M. lamarrei*: Northern region of east coast - Chilka lake and Bengal.
- (31) 5. *M. rude*: S. W. region of west coast and throughout east coast, especially deltaic Bengal, Orissa and Andhra coasts. 12-13 cm.
- (32) 6. *M. idae*: More common along east coast. 10-11 cm.
- (33) 7. *M. equidens*: Found only in Kerala in small numbers. 10 cm.

- (34) 8. *M. mirabile*: Mostly in Gangetic delta area. 6.5 cm.
- (35) 9. *M. javanicum*: Restricted to deltaic Bengal. 10 cm.
- (36) 10. *M. sabriculum*: Deltaic Bengal, Chilka lake, Kerala and Madras. 10 cm.
- (60) Besides, 24 other species of this genus have been reported to occur in India; but they are only of very minor importance.

PALAEEMON

- (61) 1. *Palaemon tenuipes*: Ambad (Marathi), Mostly in the northern area both on east and west coasts - a good fishery. 8 cm.
- (62) 2. *P. styliferus*: Ambad (Marathi), Ghora chingri (Bengali). Occurrence same as above. 9 cm.
- These and the genus *Macrobrachium* belong to the family *Palaemonidae*.

ACETES

- (63) 1. *Acetes indicus*: Jawla (Marathi). Most common in Bombay waters where it is an important fishery. Also on entire east coast both in sea and brackish waters. 4 cm.
- (64) 2. *A. erythraeus*: Fairly good quantities in Bengal, Orissa, Madras and Trivandrum coasts. 2 to 3 cm.
- (65) 3. *A. sibogae*: Only off Quilon. 3.5 cm.
- (66) 4. *A. serrulatus*: Travancore coast. 2 cm.
- (67) 5. *A. japonicus*: West and south west coasts. 2.6 cm.
- (68) 6. *A. cochinensis*: Reported very recently in Cochin waters. 2 cm.

PANDALIDAE

Prawns of this family (pink in colour) have been found recently in deep water trawling operations off southern Kerala coast at 150 to 200 fathoms depth.

- (69) 1. *Parapandalus spinipes*: Only Arabian Sea off south west coast. 13 cm.
- (70) 2. *Plesionika martia*: Arabian sea and Bay of Bengal. 12.5 cm.
- (71) 3. *P. ensis*: Only Arabian Sea off S. W. coast. 12.5 cm.

HETEROCARPUS

- (72) 1. *Heterocarpus gibbosus*: Arabian Sea, Bay of Bengal and Andaman Sea. 14 cm.
- (73) 2. *H. woodmasoni*: Andaman sea and Arabian sea off Kerala coast 13 cm.

HIPPOLYSMATA

- (74) 1. *Hippolysmata ensirostris*: Kolumbi (Marathi). Fairly good fishery in Bombay coast and Godavari estuary. Present in most regions in small numbers. 8 cm.
- (75) 2. *H. vittata*: Present in small numbers in Indian seas. 4 cm.

TRACHYPENAEUS

- (76) 1. *Trachypenaeus pescadorensis*: Only recently reported from south east and south west coasts. 9 cm.
- (77) 2. *T. sedili*: Recently reported from Visakapatnam coast. 6 cm.
- (78) 3. *T. curvirostris*: Both east and west coasts in small numbers. 9.5 cm.

ATYPOPENAEUS

- (79) 1. *Atypopenaeus stenodactylus*: Kolumbi (Marathi). Both east and west coasts off Madras and Bombay 5 cm.

METAPENAEOPSIS

- (80) 1. *Metapenaeopsis stridulans*: Bombay as well as northern region of east coast. 10 cm.
- (81) 2. *M. mogiensis*: Off Malabar coast and Andaman islands. 9 cm.
- (82) 3. *M. andamanensis*: Deep waters of S. W. coast and Andamans. Recently

caught at 150-200 fms off southern Kerala. 13.5 cm.

- (83) 4. *M. philippii*: Recently caught from S. W. coast deep waters, 13 cm.

PARAPENAEUS

- (84) 1. *Parapenaeus longipes*: Off Mangalore, Cochin, Ganjam, Visakhapatnam and mouth of Hoogli river. 8 cm.
 (85) 2. *P. fissurus*: Only in east coast off Ganjam and Andamans. 12 cm.
 (86) 3. *P. investigatoris*: Gulf of Mannar, Pulicat lake, Andaman sea and off Cochin. 8 cm.

PENAEOPSIS

- (87) 1. *Penaeopsis rectacuta*: Off Madras, Andamans and deeper waters off Kerala coast. 13 cm.

SOLENOCERA

- (88) 1. *Solenocera indica*: Kolumbi (Marathi). Both east and west coasts. 11.4 cm.
 (89) 2. *S. pectinata*: Off south west coast. Too small.
 (90) 3. *S. hextii*: Entire west coast and Bay of Bengal.
 (91) 4. *S. choprai*: Only Arabian Sea.
 (92) 5. *S. koelbeli*: Only south west coast.
 (93) 6. *S. melantho*: Recently reported from Godavari estuarine system.

HYMENOPENAEUS

- (94) 1. *Hymenopenaeus aequalis*: Off south west coast and Andamans.

SICYONIA

- (95) 1. *Sicyonia lancifer*: Gulf of Mannar and south west coast.

ARISTEUS

- (96) 1. *Aristeus semidentatus*: Recently caught at 150-200 fms depth off Cochin and Alleppey. Largest prawns caught in these operations.
 (97) 2. *A. alcocki*: Bay of Bengal, Arabian

Sea, near Laccadives and Cape Comorin.

- (98) 3. *A. virilis*: Andaman sea.
 (99) 4. *Aristaemorpha woodmasoni*: Bay of Bengal, Andaman Sea and Arabian Sea.

Commercially important species :

Even though a total of 99 species are reported from our country, those that are commercially important are less than one-fifth this number as seen from the following figures.

Total annual landings of penaeid prawns in India

(average of 10 years:

1959-1968) : 47,538 tonnes

Contribution of different species

1) <i>Metapenaeus dobsoni</i>	...	33.81%
2) <i>Parapenaeopsis stylifera</i>	...	17.17,,
3) <i>Penaeus indicus</i>	...	11.68,,
4) <i>Metapenaeus affinis</i>	...	9.66,,
5) <i>M. brevicornis</i>	...	6.89,,
6) <i>M. monoceros</i>	...	4.40,,
7) <i>Parapenaeopsis hardwickii</i>	...	3.62,,
8) <i>Penaeus monodon</i>	...	2.78,,
9) <i>Parapenaeopsis sculptilis</i>	...	2.52,,
10) <i>Solenocera indicus</i>	...	1.34,,
11) <i>Penaeus merguensis</i>	...	1.34,,
12) <i>P. semisulcatus</i>	...	1.00,,
13) <i>Parapenaeopsis uncta</i>	...	0.26,,
14) <i>Penaeus penicillatus</i>	...	0.18,,
Unidentified	...	3.35,,

Total annual landings of non-penaeid prawns in India

(average of 10 years:

1959-1968) : 34,161 tonnes.

Contributions of different species

1) <i>Acetes indicus</i>	...	39.56%
2) <i>Palaemon tenuipes</i>	...	17.89,,
3) <i>P. styliferus</i>	...	11.52,,
4) <i>Hippolysmata ensirostris</i>	...	7.02,,
<i>Acetes spp</i>	...	2.93,,
<i>Palaemon spp</i>	...	0.02,,
Unidentified	...	21.06,,

Thus only 14 species of *penaeid* and 4 species of non-*penaeid* prawns are of commercial importance and even among these, what the processor or layman can distinguish between is still less, grouping closely resembling species into one name.

The second important animal in this context is the Indian Spiny Lobster, consisting of the following species:

1. *Panulirus homarus*: Kadal konchu (Malayalam). Most important species on south west coast. 20-30 cm.
2. *P. polyphagus*: } Bombay and east
3. *P. ornatus*: } coasts.
4. *P. penicillatus*:
5. *P. vesicolor*:

Sand lobster of the south west coast.

1. *Puerulus sewelli*: Discovered in recent deep sea explorations off Kerala at 200-300 m depth.

Next in importance is the frog (Malayalam: Thavala) of which two species occur in our country: 1. *Rana tigrina* (Bull frog) and 2) *R. hexadactyla*. They are at present collected for processing and export from all marshy places, paddy fields, canals etc throughout south and central India.