

Records of the Zoological Survey of India

**Cephalopoda in NZC of the
Zoological Survey of India, Kolkata**

**Basudev Tripathy
Amit Mukhopadhyay
Md. Hafiz
R. Venkitesan**



Zoological Survey of India



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Cephalopoda in NZC of the Zoological Survey of India, Kolkata

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INTRODUCTION

The malacological collection of the Zoological Survey of India (ZSI) is unique, as it is the largest collection in Southeast Asia region. The departmental collections of mollusca are the most comprehensive. Developed over more than two centuries with its first collection of molluscs was made in 1872 by Dr. J. Woodmason, the mollusca collection in the National Zoological Collections (NZC) serves as the depository of primary type specimens for several Southeast Asian countries and also a National Designated Repository for Zoological Collections (NZC) of the country.

Cephalopods are the most highly organized molluscs and are the most accomplished swimmers other than fish. The size varies from minute to 55 m long and 2.5 m diameter. The class represented by 650 species belonging to Nautilus, Cuttlefish, Squids and Octopuses. There are 65 species under the class Cephalopoda reported so far from the Indian Ocean region (Roper et al. 1984) of which 64 species are reported by ZSI. The collections present at the Zoological Survey of India is based on two primary sources viz. inherited from the Indian Museum and obtained from its own surveys conducted by the scientists and naturalists of the department. Bulk of the materials was obtained from the old holdings of the Asiatic Society of Bengal comprising marine collections made by successive surgeon naturalists on board of RIMS Investigator during 1884-1926. In the first report on the collection of Cephalopoda in the Indian Museum published by Goodrich (1896), 18 species of Decapods and 10 species of Octopods were described. In 1916, Massy described the materials which had been accumulated in the Indian Museum since Goodrich's report (Massy, 1916). Subsequently, Adam (1939) described 43 species with changes in nomenclature or identification made earlier either by Goodrich (1896), Massy (1916), Adam (1939) or others. In the recent past, Jhothinayagam (1987) studied Cephalopods collected during the period 1975-1982 present in the NZC at ZSI HQ, Kolkata and SRC, Chennai and made some comparative accounts of the specimens of NZC at ZSI, Kolkata.

The Cephalopods in the present list have been taken in most instances by the 'Investigator' off the Indian and Burmese coasts at depths varying from 5 to 2000 fathoms. Reference to the text will show that many specimens were also collected onshore, and that the area covered extends from the Persian Gulf to China and Japan, and southwards to the Andaman Islands. It will be noted that many interesting specimens owe their capture to the energy of private collectors. There are some recent collections too through surveys of individual scientific teams of Zoological Survey of India in early sixties and seventies. There are also some specimens which are too young or in too bad a state of preservation for specific identification.

This paper reviews the identified Cephalopods collection of the NZC at the ZSI, Kolkata. This work is intended mainly to update the knowledge on Cephalopod

resources of India and to identify gap areas for future taxonomic exploration on Cephalopods of Indian region.

Along with four examples of dry collections of *Nautilus pompilius*, a total of 741 no. of examples were examined. Detailed information on the first report till last published records have been cited for each specimen. A brief description of each example viz. location, collector/donor, year of collection and number of examples, is presented based on information inscribed in the label as well verified from the specimen registration records/specimen cards. Vaught (1989) classification of taxonomy was followed for species description and diagnostic characters.

Abbreviations used:

ZSI = Zoological Survey of India; SRC = Southern Regional Centre; HQ = Headquarters

NZC = National Zoological Collections

SYSTEMATIC LIST OF CEPHALOPODS PRESENT IN NZC OF ZSI

Class CEPHALOPODA

Subclass NAUTILOIDEA

Order NAUTILIDA

Family NAUTILIDAE

1. Genus *Nautilus* Linnaeus, 1758

1. *Nautilus pompilius* Linnaeus

Suborder SEPIINA

Family SEPIIDAE

2. Genus *Sepia* Linnaeus, 1758

2. *Sepia aculeata* Ferussac and d'Orbigny

3. *Sepia arabica* Massy

4. *Sepia brevimana* Steenstrup

5. *Sepia esculenta* Hoyle

6. *Sepia elliptica* Hoyle

7. *Sepia kobiensis* Hoyle

8. *Sepia pharaonis* Ehrenberg

9. *Sepia prashadi* Winckworth

10. *Sepia hierredda* Rang.

3. Genus *Sepiella* Gray, 1849

11. *Sepiella inermis* Ferussac & d'Orbigny

Family SEPIOLIDAE

4. Genus *Euprymna* Steenstrup, 1887

12. *Euprymna berryi* Sasaki

5. Genus *Inioteuthis* Verrill, 1881

13. *Inioteuthis japonica* Verrill

14. *Inioteuthis maculosa* Goodrich

Family HISTIOTEUTHIDAE

6. Genus *Stigmatoteuthis* Verrill, 1880

15. *Stigmatoteuthis japonica* Pfeffer

Order TEUTHIDA

Suborder MYOPSIDA

Family LOLIGINIDAE

7. Genus *Loligo* Schneider, 1784

16. *Loligo duvauceli* Ferussac & d'Orbigny

17. *Loligo edulis* Hoyle

18. *Loligo kobeensis* Hoyle

19. *Loligo japonica* Hoyle

20. *Loligo beka* Sasaki

21. *Loligo spectrum* Massy (nec Pfeffer 1884)

8. Sub-genus *Doryteuthis* Neaf, 1912

22. *Loligo (Doryteuthis) singhalensis* Ortmann

9. Genus *Sepioteuthis* Blainville, 1824

23. *Sepioteuthis lessoniana* Lesson

10. Genus *Loliolus* Steenstrup, 1856

24. *Loliolus investigatoris* Goodrich

Suborder OEGOPSIDA

Family ENDOPLUTEUTHIDAE

11. Genus *Abralia* Gray, 184925. *Abralia andamanica* Goodrich12. Genus *Abraliopsis* Joubin, 189626. *Abraliopsis lineata* (Goodrich)

Family CHIROTEUTHIDAE

13. Genus *Chroteuthis* d'Orbigny, 183927. *Chroteuthis macrosoma* Goodrich28. *Chroteuthis pellucida* Goodrich14. Subgenus *Chirothauma* Chun 191029. *Chroteuthis (Chirothauma) imperator* Goodrich

Family: CRANCHIIDAE

15. Genus *Megalocranchia* Pfeiffer, 188430. *Megalocranchia abyssicola* (Goodrich)16. Genus *Teuthowenia* Chun, 191031. *Teuthowenia joubini* Pfeffer

Order OCTOPODA

Suborder CIRRATA

Family CIRROTEUTHIDAE

17. Genus *Grimpoteuthis* Robson, 193232. *Grimpoteuthis grimaldii* (Joubin)33. *Grimpoteuthis pacifica* (Steenstrup)

Suborder INCIRRATA

Superfamily BOLITAENOIDEA

Family BOLITAENIDAE

18. Genus *Eledonella* Verrill, 188434. *Eledonella diaphana* (Hoyle)

Superfamily OCTOPODOIDEA

Family OCTOPODIDAE

Subfamily OCTOPODINAE

19. Genus *Octopus* Lamarck, 1798

- 35. *Octopus globosus* Apelloef
- 36. *Octopus macropus* Risso
- 37. *Octopus microphthalmus* Goodrich
- 38. *Octopus prashadi* Adam
- 39. *Octopus vulgaris* Lamarck
- 40. *Octopus defillipi* Verany
- 41. *Octopus fusiformis* Brock
- 42. *Octopus niveus* Lesson
- 43. *Octopus rugosus* (Bosc)
- 44. *Octopus tonganus* Hoyle 1885
- 45. *Octopus areolatus* d'Orbigny
- 46. *Octopus fusiformis* Brock
- 47. *Octopus arborescens* Hoyle
- 48. *Octopus (Octopus) arborescens* (Hoyle)

20. Genus *Teretoctopus* Robson, 1929

- 49. *Teretoctopus alcocki* Robson

21. Subgenus *Callistoctopus* Taki, 1964

- 50. *Octopus (Callistoctopus) cyaneus* (Gray)

22. Subgenus *Microtritopus* defilippi

- 51. *Octopus (Microtritopus) bandensis* (Hoyle, 1885)

Subfamily: BATHYPOLYPODINAE

23. Genus *Benthoctopus* Grimpe, 1921

- 52. *Benthoctopus profundorum* Robson

24. Genus *Argonauta*

- 53. *Argonauta boettgeri* Maltzan
- 54. *Argonauta gondola* Dillwyn

25. Genus *Calliteuthis* Verill, 1880

- 55. *Calliteuthis reversa* Verill

26. Genus *Onychoteuthis* Lichtenstein, 1818

- 56. *Onychoteuthis banksii* Leach

27. Genus *Hapalochlaena* Robson, 1929
57. *Hapalochlaena marculosa* (Hoyle)
28. Genus *Hymenoteuthis* Berry, 1916
58. *Hymenoteuthis macrope* Berry
29. Genus *Cirroteuthis* Eschricht, 1836
59. *Cirroteuthis macrope* Berry
30. Genus *Teretoctopus* Robson, 1929
60. *Teretoctopus indicus* Robson
31. Genus *Gonatus* Gray, 1849
61. *Gonatus fabricei* (Lichtenstein, 1818)
32. Genus *Bathyteuthis* Hoyle, 1885
62. *Bathyteuthis abyssicola* Hoyle 1885
33. Genus *Berry* Adam, 1939
63. *Berry hoylei* (Berry 1909)

SYSTEMATIC ACCOUNT

Class CEPHALOPODA

Subclass NAUTILOIDEA

Order NAUTILIDA

Family NAUTILIDAE

Genus *Nautilus* Linnaeus, 1758

1758. *Nautilus* Linnaeus, Syst. Nat., ed 10: 709.

1. *Nautilus pompilius* Linnaeus

1758. *Nautilus pompilius* Linnaeus, Syst. Nat., ed 10: 709.

1906. *Nautilus pompilius*: Comber, J. Bombay nat Hist. Soc., 17: 207.

1940. *Nautilus pompilius*: Crichton, J. Bombay nat. Hist. Soc., 42: 327.

1968. *Nautilus pompilius*: Silas, Proc. Symp. Moll., pt. 1(3): 293. Mar. Biol. Ass. India.

1986. *Nautilus pompilius*: Tikader, Daniel and Subba Rao, Sea shore animals of Andaman and Nicobar Islands, p.178. Zool. Surv. India.

2000. *Nautilus pompilius*: Subba Rao and Dey, Rec. zool. Surv. India, Occ. Paper No. 187 : 190.

2003. *Nautilus pompilius*: Ramakrishna and Dey, *Manual on identification of Schedule Molluscs from India*, p. 22, pl. 6, figs. 17 & 18. Zool. Surv. India.

2007. *Nautilus pompilius*: Dey and Ramakrishna, *Fauna of Andhra Pradesh, State Fauna Series*, 5(7): 162. Zool. Surv. India.

2008. *Nautilus pompilius*: Mahapatra, *Fauna of Krishna Estuary, Estuarine Ecosystem Series*, 5(7): 141. Zool. Surv. India.

2010. *Nautilus pompilius*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 9.

Diagnostic Features: Shell large, smooth apart from numerous, imperforate umbilicus filled-in with a concretion; flame-striped colour pattern, white or cream, ornamented with broad brown or reddish brown streaks, extending across nearly entire shell.

Size: 120 mm-150 mm.

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Maharashtra, Tamil Nadu.

There are three registered and one unregistered specimens available in the NZC at the ZSI, Kolkata. The details thereof are as below:

Registration No.

M-4469. Loc. ?, Coll. ?, Date ?. 1 ex.

M-26323/5. Loc. Laitora, North of Takaibuea, Little Andaman,
Coll. Dr.A.Daniel, 14.02.1961. 1 ex.

M-26324/5. Loc. Gulf of Mannar, Island, Coll.A.Mukhopadhyay,
14.02.2004. 1 ex.

_____ Loc. Vadarevu beach, Chirala, Coll. S.C.Mitra & party,
18.04.2000, 1 ex.

Suborder SEPIINA

Family SEPIIDAE

Genus *Sepia* Linnaeus, 1758

1758. *Sepia* Linnaeus, *Syst. Nat. ed. 10*: 658.

2. *Sepia aculeata* Ferussac and d'Orbigny

1848. *Sepia aculeata* Ferrussac and d' Orbigny, *Hist. nat. gen. Part Paris*, p. 287, pl. 5, fig. 25.

1916. *Polypus aculeatus*: Massy, *Rec. Indian Mus.*, 12(5): 191.

1956. *Sepia aculeata*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, 1(2), pt. 7: 179, pl. 26, fig.4.

1987. *Sepia aculeata*: Jothinayagam, *Tech. Mon.*, 15: 14, fig. 5. Zool. Surv. India

1991. *Sepia aculeata*: Rao, Rao and Maitra, *Fauna of Orissa, State Fauna series*, 1(3): 166. Zool. Surv. India.
1992. *Sepia aculeata*: Subba Rao, Dey and Barua, *Fauna of West Bengal, State Fauna Series*, 3(9): 256, pl.29, figs.3 & 4. Zool. Surv. India.
2000. *Sepia aculeata*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 191
2001. *Sepia aculeata*: Mahapatra, *Fauna of Godavari Estuary, Estuarine Ecosystem Series*, 4: 80. Zool. Surv. India.
2007. *Sepia aculeata*: Dey and Ramkrishna, *Fauna of Andhra Pradesh, State Fauna Series*, 5(7): 163. Zool. Surv. India.
2008. *Sepia aculeata*: Dey, *Rec. zool. Surv. India, Occ. Paper No. 286*: 15.
2010. *Sepia aculeata*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 11.

Diagnostic Features: Mantle about half as broad as long. Tentacular club long, slender with 10 to 12 minute, subequal suckers in each row across the club in males, 13 or 14 suckers across in females; club protective membranes not united, extending proximally along oral face of stalk as low ridges. Left arm IV hectocotylized: 12 suckers (3 series) proximally, followed by about 5 or 6 series of very small suckers in ventral longitudinal rows; corresponding suckers of dorsal longitudinal rows extremely minute (or absent) in a deep, smooth groove; suckers normal distally. Cuttle bone long and broad with striated zone in the ventral surface.

Size: Mantle length: 15-20 cm.

Distribution: India: Andhra Pradesh, Andaman and Nicobar Islands, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, West Bengal.

A total of 31 exs. are present in the NZC at ZSI. The following are the details thereof.

Registration No.

- M-318/1. Loc. Orissa coast, Coll. Capt. J.J. Row, Date ?, 1 ex.
- M-319-22/2. Loc. Andamans, Coll. Investigator, Date ?, 4 exs.
- M-619/1. Loc. Akyab, Burma, Coll. W. Dodgson, 1 ex.
- M-728/0. Loc. Sandhead River Hoogly, Coll. A. Milner, Date ?, 1 ex.
- M-349/1. Loc. Irrawady Delta, 20 fms., Coll. Investigator, Date ?, 1 ex.
- M-2505-06/7. Loc. Sandhead River Hoogly, Coll. J.H. Row, Date ?, 1 ex.
- M-8124/1. Loc.Sta.360, Arabian Sea, 130 fms., Coll. ?, Date ?, 1 ex.
- M-8146/1. Loc.Sta. 464, S. of Ceylon, 52-68 fms., Date ?, 1 ex.
- M-8228/1. Loc. Palk Strait, Madras coast, Coll. purchased, 29.11.1913, det. A.L. Massy, 1 ex.
- M-8251/1. Loc. Burma, Coll. I.H.Burnhill, 29.07.1913, 1 ex.

- M-8255/1. Loc. ?, Coll. Marine Survey of India, 29.07.1913, det. A.L. Massy, 1 ex
- M-8262/1. Loc. Bay of Bengal, Coll. I.H. Burnhill, Golden Crown, 29.07.1913. 1 ex.
- M-8267-68/1. Loc. Bay of Bengal, Coll. I.H. Burnhill, Golden Crown, 29.07.1913. 2 exs.(1+1)
- M-8269/1. Loc. Balasore Bay, Coll. B F Deptt, A.L.M, Golden Crown, 29.07.1913, 1 ex.
- M-9004/1. Loc. St. 577, Loc. Port Maria, Elphinstone Is. Coll. Inshore collection, Date ?, 1 ex.
- M-15316/2. Loc. Sandhead River Hoogly, Coll. A. Milner, 06.01.1926, 1 ex.
- M-20905/4. Loc. Visakhapatnam, Coll. ?. 28.09.1960, 1 ex.
- M-20947/4. Loc. Sta.3, Inshore areas of Palk Bay, a mile from fish farm, Mandapam, Coll. A. Daniel, 1 ex.
- M-21423/4. Loc. Valanjavazhi, Alleppy coast, Kerala, Coll. S.Chakrapany, 1 ex.
- M-21596/4. Loc. From Fishermen's net, Opp. Seaview hotel, Waltair, A.P., Coll. Dr.A Daniel & party, 2 exs.
- M-21419/1. Loc. Inshore waters off N.W. of Cannanore, 10 fms., Coll. K.V.Rama Rao & party, 2 exs.
- M-8155/1. Loc. Sta. 519, Mergui Archipelago, Elphinstone Is., Port Maria (Shore collecting). Coll. Investigator, Date ?, 1 ex.
- M-21603/4. Loc. Royapuram, AP, Coll. P.G.T.S., 11.09.1965, 2 exs.
- M-22793/4. Loc. Andamans, Coll ?, 09.06.1989. 1 ex.

3. *Sepia arabica* Massy

1916. *Sepia arabica* Massy, *Rec. Indian Mus.*, 12: 128, pl. 23, figs. 1-5, pl. 24, fig. 10. Type locality: Laccadive sea, 68-148 fathoms.

1968. *Sepia arabica*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 295. Mar.Biol.Ass. India.

1987. *Aurosepina arabica*: Jothinayagam, *Tech. Mon.*, 15: 33, fig. 11. Zool. Surv. India.

2004. *Sepia arabica*: Ramakrishna, Dey and Mitra, *Rec. zool. Surv. India, Occ. Paper No. 228*: 92.

2010. *Sepia arabica*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 11-12.

Diagnostic Features: Body elongate, narrow, bluntly pointed posteriorly, the mantle extending dorsally to level with the eyes. Tentacles very slender; clubs crescent-shaped with 5-6 suckers in transverse rows across the club, subequal in size; their dorsal protective membrane as broad as sucker-bearing surface, their swimming keel well developed, slightly longer than club. Cuttlebone long, narrow; tapered, very narrow posteriorly; spine lacking.

Size: Mantle length: 5 -7 cm

Distribution: India: Bay of Bengal, Tamil Nadu, Arabian Sea, Lakhadweep.

Massy (1916) has designated the locality for *Sepia arabica* as Laccadive Sea (Lakshadweep) and Persian Gulf of which the former was collected first. There are 02 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-8113/1. Loc. Laccadive Sea, St.246, 68-148 fms., 15-x-1898, Coll. Investigator., det. L. Massy, 1 ex. ♂ Type

M-8122/1. Loc. Persian Gulf, St. 292, 53 fms., 2-xi-1901, Coll. Investigator, det. L. Massy, 1 ex. Type

Remarks: One ♂ specimen collected by Jyothinayagam (1987) from Chennai reported to reveal different characters with that described by Massy (1916) for *Sepia arabica* to be accidental. The characters being unique, the author support for a new species *Aurosepina arabica* Jothinayagam, 1987. However, the current systematic status of this specimen is unresolved and need further taxonomic investigation.

4. *Sepia brevimana* Steenstrup

1875. *Sepia brevimana* Steenstrup, *K. danske Selsk. Skr. Nat. Afd., series, 5, 10(7): 475.* Type locality: Indian Ocean.

1968. *Sepia brevimana*: Silas, *Proc. Symp. Moll., pt. 1(3): 295.* Mar.Biol.Ass.India.

1986. *Sepia brevimana*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands, 178.* Zool. Surv. India

1987. *Sepia brevimana*: Jothinayagam, *Tech. Mon., 15 : 23, fig. 8.* Zool. Surv. India.

Diagnostic Features: Mantle broad, its dorsal margin acuminate, strongly projecting anteriorly; posteriorly very pointed due to the long spine. Tentacular club short, with a well developed swimming keel extending proximally beyond base; dorsal protective membrane as broad as sucker-bearing surface; suckers very small, subequal; 6 to 8 suckers in oblique transverse rows.

Size: Mantle length: 10-12 cm

Distribution: India: Arabian Sea, Bay of Bengal.

There is 06 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-21502/4. Loc. Sta. 5, Beach of terminus, Quilon, Kerala, Coll. A.S. Rajagopal, 27.11.1969, 6 exs.

5. *Sepia esculenta* Hoyle

1885. *Sepia esculenta* Hoyle, *Ann. Mag. Nat. Hist.*, (5)16: 195.

1886. *Sepia elliptica* Hoyle, *Rept. Sci. Res. Voy. Challenger, Zool.*, 16: 131.

1916. *Sepia elliptica*: Massy, *Rec. Indian Mus.*, 12(5): 226.

1968. *Sepia elliptica*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 296. Mar.Biol.Ass.India.

2005. *Sepia esculenta*: Jereb and Roper, *FAO Species Catalogue for Fishery Purposes*, No. 4 (1): 84-85.

Diagnostic Features: The median tentacular suckers are a little larger than those at the margin (as observed by Joubin), and there are two larger than the rest at the tip of the club. Thirty to forty teeth are present on some of the tentacular rings. The crescent-shaped folds, or wrinkles on the dorsal skin, which frequently occur along the origin of the fin in this genus, are well-marked. The horny brown mass noticed by Joubin between the spine and inner cone is distinct. Berry has remarked that this species is very nearly allied to *S. aculeata*.

Size: Mantle length: Range - 18-20 cm.

There is only one registered specimen of *Sepia esculenta* present in the NZC at the ZSI. However, data on this example from the specimen registration record/specimen card suggests that this species was collected from Japan and does not have geographical distribution in the Indian Ocean or collections subsequently made in India by anyone.

Registration No.

M-8286/1. Loc. Moji, Japan, Coll. R.D.Copper, det. Miss.A.L.Massy, 17.10.1916.
1ex.

6. *Sepia elliptica* Hoyle

1885. *Sepia esculenta* Hoyle, *Ann. Mag. Nat. Hist.*, (5)16: 195.

1885. *Sepia elliptica* Hoyle, *Ann. Mag. Nat. Hist.*, (5)16: 195.

1886. *Sepia elliptica* Hoyle, *Rept. Sci. Res. Voy. Challenger, Zool.*, 16: 131.

1916. *Sepia elliptica*: Massay, *Rec. Indian Mus.*, 12(5): 226.

1968. *Sepia elliptica*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 296. Mar.Biol.Ass.India.

2005. *Sepia elliptica*, Jereb and Roper, *FAO Species Catalogue for Fishery Purposes*, No. 4 (1): 81-82.

2010. *Sepia elliptica*: Ramakrishna, Dey and Mitra, *Rec. zool. Surv. India, Occ. Paper No. 228*: 12.

Diagnostic Features : Tentacular club with 12 minute, subequal suckers in transverse rows; swimming keel extending on stalk proximal to club; protective membranes narrow, separate at base, extending along stalk as very low membranous ridges. Six or 7 elongate, membranous, fleshy papillae along base of each fin. Left arm IV

hectocotylized by 5 or 6 transverse rows of small sized suckers distal to the first 5 transverse rows of suckers.

Size: Mantle length: Range 15-18 cm.

Distribution: India: Arabian Sea, Bay of Bengal.

A total of 05 exs. present in the NZC at ZSI. The following are the details thereof.

Registration No.

- M-08108/1. Marine Survey of India, 9 miles south west of Bhawanapadu beach, Ganjam coast, 29.07.1913, 1 ex.
- M-08283/1. Loc.Sta. 366, Persian Gulf, 53 fms. Arabian Sea, Coll. Investigator, Date? 1 ex.
- M-20906/4. Loc. Fishermen's net, Opposite Cattle Farm, Kakinada Bay, A.P., Coll. Dr. A. Daniel & Party, Date ?, 1 ex.
- M-21476/4. Purchased from fishermen at Chinna Waltair beach, AP. Coll. H.A. Hafiz, 13.01.1941. 2 exs. (1 ♂ & 1 ♀).

Diagnostic Features : Tentacular club with 12 minute, subequal suckers in transverse rows; swimming keel extending on stalk proximal to club; protective membranes narrow, separate at base, extending along stalk as very low membranous ridges. Six or 7 elongate, membranous, fleshy papillae along base of each fin. Left arm IV hectocotylized by 5 or 6 transverse rows of small sized suckers distal to the first 5 transverse rows of suckers.

The median tentacular suckers are a little larger than those at the margin (as observed by Joubin), and there are two larger than the rest at the tip of the club. Thirty to forty teeth are present on some of the tentacular rings. The crescent-shaped folds, or wrinkles on the dorsal skin, which frequently occur along the origin of the fin in this genus, are well-marked. The horny brown mass noticed by Joubin between the spine and inner cone is distinct. Berry has remarked that this species is very nearly allied to *S. aculeata*.

Size: Mantle length: 15-18 cm.

Distribution: India: Arabian Sea, Bay of Bengal.

A total of 05 exs. present in the NZC at ZSI. The following are the details thereof.

Registration No.

- M-08108/1. Marine Survey of India, 9 miles south west of Bhawanapadu beach, Ganjam coast, 29.07.1913, 1 ex.
- M-08283/1. Loc.Sta. 366, Persian Gulf, 53 fms. Arabian Sea, Coll. Investigator, Date ? 1 ex.

M-20906/4. Loc. Fishermen's net, Opposite Cattle Farm, Kakinada Bay, A.P., Coll. Dr.A.Daniel & Party, Date ?, 1 ex.

M-21476/4. Purchased from fishermen at Chinna Waltair beach, AP. Coll. H.A.Hafiz, 13.01.1941. 2 exs. (1 ? & 1 ?).

Remarks: There is only one registered specimen of *Sepia esculenta* present in the NZC at the ZSI. However, data on this example from the specimen registration record/specimen card suggests that this species was collected from Japan and does not have geographical distribution in the Indian Ocean or collections subsequently made in India by anyone. However, a detailed study is required.

Registration No.

M-8286/1. Loc. Moji, Japan, Coll. R.D.Copper, det. Miss.A.L.Massy, 17.10.1916. 1ex.

7. *Sepia kubiensis* Hoyle

1831. *Sepia kubiensis* Hoyle, *Ann. Mag. Nat. Hist.*, (5)16: 195.

1916. *Sepia (Doratosepia) kubiensis*: Massy, *Rec. Indian Mus.*, 12(5): 230.

1916. *Sepia (Doratosepia) andreanoides*: Massy, *Rec. Indian Mus.*, 12(5): 229.

1940. *Sepia andreanoides*: Crichton, *J. Bombay nat. Hist. Soc.*, 42: 327.

1968. *Sepia kubiensis*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 298. Mar.Biol.Ass.India.

1987. *Sepia kubiensis*: Jothinayagam, *Tech. Mon.*, 15: 20, fig. 7, Zool. Surv. India.

Diagnostic Features: Mantle width less than half the length. Tentacular club short, narrow; suckers small, 8 suckers in transverse rows; 5 suckers of third longitudinal row much larger than all others; swimming keel broad, extending proximally beyond base of club; arms short, attenuate, subequal; arm suckers globular, quadriserial, greatly reduced in size.

Size: Mantle length: 3-5 cm

Distribution: India: Arabian Sea (Lakshadweep), Bay of Bengal.

Remarks: A total of 13 exs. present in the NZC at ZSI of which 10 exs. are *Sepia (Doratosepia) kubiensis* and other three have been named as *Sepia (Doratosepia) andreanoides*. The following are the details thereof.

Registration No.

M-0797/1. Loc. Marine Survey of India, Laccadive, Coll.?, 13.07.1899, 1 ex. [*Sepia (Doratosepia) andreanoides*]

M-8114-19/1. Loc. Station 246: Laccadive Sea, 68-148 fathoms, Coll. Investigator, 15-10-1898, 4 ♀, 2 young.

- M-8120-21/1. Loc. Station 292: Persian Gulf, 53 fathoms, Coll. Investigator, 2-11-1901, 1 ♂, 1 ♀.
- M-8135/1. Loc. Station 383: Off C. Negrais, Burma, 40 fathoms, Coll. Investigator, 22-2-1909, 1 ♂.
- M-8145/1. Loc. Station 464: S. of Ceylon, 52-68 fathoms, Coll. Investigator, 22-4-1912, 1 ♀.
- M-797/1. Loc. Station 246: Laccadive Sea, 68-148 fathoms, Coll. Investigator, 15.10-1898, 1 ♂. [*Sepia (Doratosepia) andreanoides*]
- M-8124/1. Loc. Station 360: 130 fathoms, Coll. Investigator, 20-12-1905, 1 ♂. [*Sepia (Doratosepia) andreanoides*]
- M-8146/1. Loc. Station 464 : 22-4-1912, S. of Ceylon, 52-68 fathoms, Coll. Investigator, 22-4-1912. 1 ♀. [*Sepia (Doratosepia) andreanoides*]

On *Sepia (Doratosepia) andreanoides*, Adam and Rees (1966: pp. 71-78, pi. 19, figs. 116-120; pi. 43, fig. 255; pi. 44, fig. 264) have indicated that all previous records of this species from the Indian Ocean are doubtful. The present geographical distribution for this species is western Pacific, south China sea, Yellow sea to southern and central Japan.

8. *Sepia pharaonis* Ehrenberg

1831. *Sepia pharaonis* Ehrenberg, *Symbolae Physical animalia evertebrata Mollusca*, Berlin, 4: unpag.
1896. *Sepia singalensis*: Goodrich, *Trans. Linn. Soc. London* (2)7: 3, pl.1, figs.4-8.
- 1916: *Sepia singalensis* Massy, *Rec. Indian Mus.*, 12(5): 227.
1956. *Sepia rouxii*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, 1 (2), pt.7: 179, pl. 26, fig. 3.
1987. *Sepia pharaonis*: Jothinayagam, *Tech. Mon.*, 15 : 17, fig. 6. *Zool. Surv. India*.
1991. *Sepia pharaonis*: Rao, Rao and Maitra, *Fauna of Odisha, State Fauna series*, 1(3): 166. *Zool. Surv. India*.
2000. *Sepia pharaonis*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 191.

Diagnostic Features: Mantle broad. Fins wide, nearly as long as mantle. Tentacular clubs moderately long; 8 suckers in transverse rows with 5 or 6 median ones (3rd and 4th in the series) quite enlarged. Left arm IV hectocotylized: basal 12 quadriserial rows normal, next 10 rows with ventral suckers (2 rows) normal but those in dorsal 2 rows minute and separated from ventral rows by a fleshy, transversely grooved ridge.

Size: Mantle length: 5-15 cm.

Distribution: India: Andhra Pradesh, Andaman Islands, Odissa, Tamil Nadu, West Bengal.

A total of 04 exs. present in the NZC at ZSI. The following are the details thereof.

Registration No.

- M-328/1. Loc. Singapore, Coll. Dr. F. Stoliczka, Date ?, 1 ex.
 M-12084/2. Loc. Off Bombay, Coll. S.T. William, Date ?, 1 ex.
 M-21420/4. Loc. Sea at Gopalpur, Coll.?, 22.01.1941, 1 ex.
 M-22794/4. Loc. ?, Coastal waters of Pondicherry, Coll. A.S. Rajagopal, 18.02.1975, 1 ex.

Sepia singalensis Goodrich has been synonymised with *Sepia pharaonis* Ehrenberg. However, one ex. (M-357/1) is a Type specimen and is designated as a Holotype of *Sepia singalensis*.

A total of 07 exs. under this names are present in the NZC at ZSI including the Holotype. The following are the details thereof.

Registration No.

- M-357/1. Loc. Colombo, Ceylon, Coll. Investigator, Date ?, 1 ex. Holotype
 M-4771/1. Loc. Indian Seas, Coll. Investigator, Marine Survey of India, Date ?, 1 ♂.
 M-8136/1. Loc. Station 387: Off C. Negrais, Burma, 40-49 fathoms, Coll. Investigator, 16-11-1909, 1 ♂.
 M-8265-66/1. Loc. Arakan coast, Coll. Golden Crown, 03.01.1909, 2 ♂.
 M-8277/1. Loc. Off Gopalpur, Ganjam, Odisha, Coll. Golden Crown, 23.09.1909, 1 ♂.
 M-8282/1. Loc. Sta. 366, 544 fms., Coll. Investigator, 10.04.1906, 1 ♂.
 M-9373/1. Loc. Port Blair, Andaman, Coll. G.H.Booley, Date ?, 1 ♂.

9. *Sepia prashadi* Winckworth

1936. *Sepia prashadi* Winckworth, *Proc. malac. Soc. London*, 22: 17, pl.4. Type locality: Madras coast, South India.

1940. *Sepia prashadi*: Crichton, *J. Bombay nat. Hist. Soc.*, 42: 327.

1987. *Sepia prashadi*: Jothinayagam, *Tech. Mon.*, 15: 26, fig. 9. Zool. Surv. India.

2004. *Sepia prashadi*: Ramakrishna, Dey and Mitra, *Rec. zool. Surv. India, Occ. Paper No. 228*: 92.

Diagnostic Features: Mantle widest at the anterior end; fins several millimeters shorter than mantle, narrow, separate. Tentacular clubs short, broad; swimming keel broad, strong, slightly longer than the club; sucker bearing surface nearly separated from the stalk by a very deep cleft under the dorsal protective membrane; both protective membranes well developed, converging but not meeting at proximal base of club and not extending down the stalk; 8 suckers arranged in very oblique series across the club, but the arrangement is greatly distorted by the 2 or 3 enormously enlarged suckers of the 3rd longitudinal row. Left arm IV hectocotylized for most of its length after the 2nd uadriseal row; it is broad, flat, with transverse folds; suckers minute in the 2 very closely packed ventral rows, slightly larger in the dorsal rows which are separated proximally and converge distally.

Size: Mantle length: 5-15 cm

Distribution: India: Arabian Sea, Bay of Bengal.

The type locality of *Sepia prashadi* is Madras coast of India. There is only one ex. present in the NZC at ZSI. The following are the details thereof.

Registration No.

M-14417/2. Loc. Madras coast, S.India. Coll. R.Winckworth, 30.06.1936 (Type locality: Madras coast, South India).

10. *Sepia hierredda* Rang.

1837. *Sepia hierredda* Rang, *Mag. Zool.*, 7(Cl.v): n.d. 1-77.

Distribution: Indian Ocean (From mouth of Zambesi River southwards at Natal, Delagoa Bay, Isipingo, and Port Elizabeth to Knysna Estuary, Union of South Africa).

Remarks: While giving a description of the subspecies Adam and Rees (1966) have also commented on its affinities to the other subspecies known from the Atlantic and the Mediterranean, viz., subsp. *officinalis* Linnaeus (1758), subsp. *hierredda* Rang, subsp. *filliouxii* Lafont, and subsp. *mediterranea* Ninni.

There is only one ex. present in the NZC at ZSI. The following are the details thereof.

Registration No. No History, Loc. Ceylon, Coll. ?, Dated ?, 5 exs.

Sepia sp.

There is one example of *Sepia* sp. present which is not yet worked out upto species level.

There is only 1 ex. present in the NZC at ZSI. The details thereof is as below.

Registration No.

M-8104/1. Loc. Sta. 80, Coll. Investigator, Date ?, 1 ex.

Remarks: Adam & Rees (1966) remark that the specimen is closely related to *Sepia simoniana* (= *S. natalensis*), but differ in the structure of tentacular club. Hardly any critical study has been made to evaluate the status of this specimen and is difficult to ascertain the status.

Genus *Sepiella* Gray, 1849

1849. *Sepiella* Gray, *Cat. Moll. Coll. Brit. Mus.*, 1: 106.

11. *Sepiella inermis* Ferussac & d'Orbigny

1848. *Sepiella inermis* Ferussac & d'Orbigny, *Hist. nat. gen. Part. Paris*, p. 286, pl. 20, figs., 1-9. Type locality: Batavia, Bombay, Pondicherry, Tamil Nadu.

1916. *Sepiella inermis*: Massy, *Rec. Indian Mus.*, 12(5): 231.

1956. *Sepiella inermis*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, 1(2), pt.7: 178, pl. 26, figs. 2a and 2b.

1987. *Sepiella inermis*: Jothinayagam, *Tech Mon.*, Zool. Surv. India, 15: 29, fig. 10.

1986. *Sepiella inermis*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, Zool. Surv. India, p. 178.

1991. *Sepiella inermis*: Rao, Rao and Maitra, *Fauna of Odisha, State Fauna series*, 1(3): 167. Zool. Surv. India.

1992. *Sepiella inermis*: Subba Rao, Dey and Barua, *Fauna of West Bengal, State Fauna series*, 3(9): 257, pl. 30, figs. 1 & 2. Zool. Surv. India.

2000. *Sepiella inermis*: Subba Rao and Dey, *Rec. zool. Surv. India*, Occ. Paper No. 187: 191.

2001. *Sepiella inermis*: Mahapatra, *Fauna of Godavari Estuary, Estuarine Ecosystem series*, 4: 81. Zool. Surv. India.

2007. *Sepiella inermis*: Dey and Ramkrishna, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 163. Zool. Surv. India.

2008. *Sepiella inermis*: Mahapatra, *Fauna of Krishna Estuary, Estuarine Ecosystem series*, 5: 142. Zool. Surv. India.

2010. *Sepiella inermis*: Ramkrishna and Dey, *Rec. zool. Surv. India*, Occ. Paper No. 320: 14-15.

Diagnostic Features: Mantle elongate, oval; a pigmented gland and pore at posterior tip of mantle on ventral side. Tentacular clubs with 16-24 equal-sized minute suckers in transverse rows; swimming keel shorter than club; protective membranes narrow, extending proximally on stalk as low ridges. Shell spineless, its width 40% of length.

Size: Mantle length: 5-12 cm

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Kerala, Lakshadweep, Maharashtra, Odisha, Puducherry, Tamil Nadu, West Bengal.

A total of 234 exs. are present in the NZC at ZSI of which 07 are unregistered. The following are the details thereof.

Registration No.

- M-210/1. Loc. Sandheads, River Hoogly, Coll. F. Barnett, 1 ♀.
- M-330/1. Loc. Ganjam coast, Odisha, Coll. Investigator, Date ?, 1 ex.
- M-322/1. Loc. Penang, Coll. Investigator, Date ?, 1 ex.
- M-331/1. Loc. Bombay, Coll. Investigator, Date ? 1 ex.
- M-333/1. Loc. ?, Coll. ?, Date ?, 1 ex.
- M-334-8/1. Loc. Madras, Coll. Museum Collection, Date ?, 5 exs.
- M-337-39/1. Loc. Madras, Coll. Marine Survey of India, Date ? 3 exs.
- M-339/1. Loc. Mergui, Burma, Coll. Museum Collection, Date ?, 1 ex.
- M-356/1. Loc. Ganjam coast, 10 fms., Coll. Investigator, Date ?, 1 ex.
- M-358/1. Loc. Bombay, Coll. Investigator, Date ? 1 ex.
- M-611/1. Loc. Galle, Ceylon, Coll. Dr. Anderson, Date ? 1 ♂.
- M-614/1. Loc. Indian Seas, Coll. Dr. Armstrong, Date ? 1 ♀.
- M-615/1. Loc. ?, Coll. Asiatic Society, Bengal, Date ?, 1 ♂.
- M-616/1. Loc. Penang, Malaya Peninsula, Coll. Dr. F. Stoliezka, Date ? 1 ♂.
- M-727/1. Loc. Sandhead, R.Hoogly, Coll. Milner, Date ?, 1 ♀.
- M-3273/1. Loc. Sta.332, Andaman Seas, 279 fms., Coll. Mar. of India, Date ? 1 ♂.
- M-3647-9/1. Loc. Mutlah River Surface, Coll. ?, Date ?, 1 ♂, 2 ♀.
- M-4772-4/1. Loc. Indian Sea, Coll. Marine Survey of India, Date ?, 1 ♂, 2 ♀.
- M-5459-61/1. Loc. Off Puri, Odisha coast, Golden Crown, Date ?, 1 ♂, 2 ♀.
- M-8087/1. Loc. Sandhead, R.Hoogly, Coll. G.Lord, 20.04.1870, 1 ♂.
- M-8100/1. Loc. Hainze Basin, Burma, Coll. Marine Survey of India, Date ?, 1 ♀.
- M-8106/1. Loc. Sta.70, Off Chilka, Odisha coast, Coll. Investigator, Date ?, 1 ♀.
- M-8107/1. Loc. Sta.83, 9 miles S.W. of Bhawanapadu beacon, Ganjam coast, Coll. Investigator, 28.01.1890, 1 ♂.
- M-8142-3/1. Loc. Sta.463a, Bay of Bengal, 400 fms., Coll. Investigator, 21.04.1912, 2 ♂.
- M-8152-3/1. Loc. Sta.481, Mergui Harbour, 7 fms., Coll. Investigator, Date ?, 1 ♂, 1 ♀.

- M-8162/1. Loc. Mouth of R.Hoogly, Coll. Capt. T. Munro, Date ?, 1♀.
- M-8170/1. Loc. Puri beach, Coll. N.Annadale, 22-03-1906, 1♂.
- M-8171-2/1. Loc. Puri beach, Coll. N.Annadale, 02-02-1906, 2♀.
- M-8202-05/1. Loc. Puri beach, Odisha coast, Coll. Golden Crown, Capt. R.E.Llyod, 19.01.1908, 1♂, 3?.
- M-8211/1. Loc. Puri beach, Odisha coast, Coll. F.H. Gravely, Date ?, 3♂, 1♀.
- M-8212/1. Loc. Puri beach, Odisha coast, Coll. Capt. Paiva, Date ?, 1♀.
- M-8219/1. Loc. Persian Gulf, Coll. R. Hugh Butlor, Date ?, 1♂.
- M-8222/1. Loc. Parsian Gulf, Coll. ?, Date ?. 1 ex.
- M-8229-31/1. Loc. Palk Strait, South India, Coll. ?, Date ?, 2♂, 1♀.
- M-8250/1. Loc. Akyab, Burma, Coll. I.H. Burkill, Date ?, 1♀.
- M-8255-8/1. Loc. 10 miles M.E. Devi R, Odisha, 9 fms., Coll. ?, 24.12.1888, 3?, 1♀.
- M-8259-61/1. Loc. Puri beach, Coll. Bengal Fisheries Deptt., 1♂, 2♀.
- M-8260-61/1. Loc. ?. Coll. ?. Date ?. 2 exs. (♀♀).
- M-7270-71/1. Loc. Balasore coast, Odisha coast, Coll. Golden Crown, Bengal Fisheries Deptt., Date ?, 2♀.
- M-7272-73/1. Loc. Balasore coast, Odisha coast, Coll. Golden Crown, Bengal Fisheries Deptt., Date ?, 2♀.
- M-9013-29/1. Loc. Sta.563-567, 6-7 fms., Coll. Investigator, 20-11-1913, 14♂, 3♀.
- M-9098-959/1. Loc. Sta.569, 5 fms., Coll. Investigator, 30-11-1913, 43♂, 19♀.
- M-20904/1. Loc. Fishermen's net, Opp. Cattle farm, Kakinada, A.P., Coll. A. Daniel & party, 1 ex.
- M-83648/1. Loc. ?. Coll. ?. Date ?. 1 exs.
- M-8229-31/1. Loc. Gangaram, Madras coast, Coll. Museum collector, Date ?, 3 exs.
- M-8225-28/1. Loc. 10 miles N.E. of Devi River, Odisha coast, 8 fms., Coll. Bengal Fisheries, Date ?, 4 ex.
- M-12088/2. Loc. Bombay, Coll. Investigator, Date ? 1 ex.
- M-8143/2. Loc. ?. Coll. ?. Date ?. 2 exs. (1♂. & 1♀).
- M-12088/2. Loc. ?, Coll. ?, Date ?, 1 ex.
- M-12087/2. Loc. Penang, Coll. Investigator, Date ?, 1 ex.
- M-12048/2. Loc. Puri beach, Odisha coast, Coll. Dr. N. Annadale, Date ?, 4 exs.
- M-10306/2. Loc. Singapore, Tale Sap Siam, Coll. A.Milner, Date ?, 1 ex.
- M-8106/2. Loc. Sta. 70, Off Chilka Lake, Odisha coast, 11 fms., Coll. Investigator, Date ?, 1 ex.
- M-15314/2. Loc. Bay of Bengal, between Pilot Ridge L.V. and E.Channel L.V., 10 miles N. & S. of E.Channel L.V., Coll. Investigator, 1 ex.

- M-15315/2. Loc. Sandhead, River Hoogly, Coll. P.V.Lady Frazer, Date ? 3 exs.
- M-17916/3. Loc. Bombay, Coll. ?, Date ?, 3 exs.
- M-12089/2. Loc. ?, Coll. ?, Date ?, 1 ex.
- M-15315/2. Loc. Hoogly, Coll. ?, Date ?, 1 ex.
- M-17698/3. Loc. Marina beach, Madras coast, Coll. M.K. G & M.A.M, Date ?, 5 exs.
- M-02084/4. Loc. Off Holiday camp, Choward, Gujarat, Coll. B.P.Haldar, 23.01.1978, 1 ex.
- M-20903/4. Loc. Kilingimedu coast, 3 ½ miles north of fisheries office, Karaikkal, Date ?, 1 ex.
- M-20834/4. Sta. III, Off Holiday camp, Chorwad, Gujarat, Coll. P.K. Sastry & B.D.haldar, Date ?, 1 ex.
- M-20904/4. Loc. Kakinada Bay, Coll. ?, Date ?, 1 ex.
- M-21422/4. Loc. Calaught, Goa, Coll. ?, Date ?.M-21593/4. Loc. Gopalpur coast, Ganjam, Coll. M. hafeezullah, Date ?, 2 exs.
- M-21460/4. Loc. Arasalan River, Karaikkal, Coll. A.G.K Menon, 9 exs.
- M-21461/4. Loc. Malpe, 60 km north of Mangalore, Coll. K.V.Rama Rao & Party, 2 exs.
- M-21462/4. Loc. Opposite Diu, Sta. 8, Coll. A.K. Nagabhusanam, K.V. Surya Rao, S. Ahmed, R.N. Mukherjee and R.K. Chakraborty, 18.02.1970, 8 exs.
- M-21488/4. Loc. Valapatnam, Cannanore, Coll. K.V.Rama Rao, Date ?, 1 ex.
- M-21503/4. Loc. Karwar, Mysore, Coll. U. Kutty & Party, 10.04.1967, 8 exs.
- M-21504/4. Loc. Mangalore, Coll. Dr.U.Kutty & Party, 24.12.1966, 5 exs.
- M-21604/4. Loc. Off Paradip, Coll. Dr. V.K. Prem Kumar, Date ?, 13 exs.
- M-21889/4. Loc. Vadarevu beach, Chirala, Coll. N.V.Subba Rao & Party, 20.12.1964, 2 exs.
- M-21930/4. Loc. Visakhapatnam, Coll. M. Rao & Party, Date ?, 5 exs.
- M-22795/4. Loc. Coastal waters of Pondicherry, Coll. ?, Date ?, 1 ex.
- M-23290/4. Loc. Collected from fishing net, Digha beach, Coll. A.Dey & S.Barua, Date ? 3 exs.
- _____. Loc. Kakinada Bay, Coll. A. Deniel & Party, 18.07.1963, 4 exs.
- _____. Loc. Visakhapatnam, Coll. ?, 05.07.1963, 3 exs.

Remarks: A description of the species as well as a taxonomic discussion is given by Adam and Rees (1966). They have also commented on the close resemblance of *Sepiella melwardi* Iredale (1954) from Condon Bay, Melville Island, Northern Territory, Australia, to *S. inermis*.

Records of *Sepia Sepiella japonica* species from Viet Nam are likely to be misidentified specimens of *Sepiella inermis* (Reid et al. 2005). In China this species is treated under the name *Sepiella maindroni*. *Sepiella maindroni* Rochebrune 1884 was described from Puducherry, India and has previously been treated as a junior synonym of *Sepiella inermis* (Van Hasselt, 1835 in Férussac and d'Orbigny, 1834-1848), the type locality of which is also Puducherry. The latin name *Sepiella maindroni* Rochebrune 1884 is used in China, and *Sepiella japonica* is considered its synonym (Dong, 1988). Sasaki (1929) when establishing *Sepiella japonica* clearly separated it from *Sepiella maindroni* Rochebrune, 1884. Adam and Rees (1962) pointed out the problem of using *Sepiella maindroni* for specimens from Japan and East China Sea and placed *S. maindroni* Rochebrune, 1884 as a junior synonym of *Sepiella inermis*, and put *Sepiella maindroni* of Hoyle (1886) in the synonymy of *S. japonica*.

Sepiella sp.

There are two examples of *Sepiella* sp. present which are is not yet worked out upto species level.

There is 02 exs. are present in the NZC at ZSI. The details thereof is as below.

Registration No.

M-8240/1. Loc. Ramnad district, S.India, Coll. S.W. Kemp, Date ?, 1 ex.

M-8222/1. Loc. Persian Gulf, Townsend, Coll. ?, Date ?, 1 ex.

Remarks: Massy (1916) while determined the above (M-8240/1) feels that the specimen is too young to determine with certainty as it has a mantle-length of only 13 mm. Wilker regards *Sepia* specimen with mantle of 27-40 mm as too young to determine specifically. If, however, a number of specimens of large and small size occur together it seems possible to assign them specifically at a much earlier age.

Family SEPIOLIDAE

Genus *Euprymna* Steenstrup, 1887

12. *Euprymna berryi* Sasaki

1896. *Euprymna morsei* Goodrich, *Trans. Soc. London*, 7: 3.

1929. *Euprymna berryi* Sasaki. *J. Coll. Agri. Hokk.*, 20: pp.134-146; pl. 15, figs. 12 & 13.

1881. *Iniotheuthis morsei*, Verrill, *Rep. U. S. Fish Comm.*, p. 417.

1887. *Euprymna morsei*: Steenstrup, *Overs, K. D. Vidensk. Selsk, Forh.*, p. 66.

1916. *Euprymna morsei*: Massy, *Rec. Indian Mus.*, 12(5): 216-17.

1986. *Euprymna berryi*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 305. *Mar. Biol. Ass. India*.

1986. *Euprymna berryi*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p.178. Zool. Surv. India.

1987. *Euprymna berryi*: Jothinayagam, *Tech. Mon.*, Zool. Surv. India, 15: 36, fig. 12.

2000. *Euprymna berryi*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 192.

There is 02 exs. are present in the NZC at ZSI. The details thereof is as below.

Registration No.

M-8099/1. Loc. Nyanbyini Bay, Burma, 5 fms. , Coll. ?, Date 28-viii-1911, 1 ♀.

M-8169/1. Loc. Andaman, Coll. ?, Date 1899, 1 ♂.

M 8224/1. Loc. Persian Gulf (Townsend), Coll. ?, Date ?, 1 ♂.

M 8469/6. Loc. Hongkong (R. Hungerford), Coll. ?, Date ?, 1 ♂.

Genus *Inioteuthis* Verrill, 1881

13. *Inioteuthis japonica* Verrill

1881. *Inioteuthis japonica* Verrill, *Trans. Conn. Acad. Art. Sci.*, 5: 418.

1916. *Inioteuthis japonica*: Massy, *Rec. Indian Mus.*, 12(5): 215.

1968. *Inioteuthis japonica*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 306. Mar.Biol.Ass.India.

1987. *Inioteuthis japonica*: Jothinayagam, *Tech Mon.*, Zool. Surv. India, 15: 41, fig. 14.

1986. *Inioteuthis japonica*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p.178. Zool. Surv. India.

2000. *Inioteuthis japonica*: Subba Rao and Dey, *Rec. zool. Surv. India Occ. Paper No. 187*: 192.

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Kerala, Lakshadweep, Maharashtra, Odisha, Puducherry, Tamil Nadu, West Bengal.

There is only one ex. present in the NZC at the ZSI. The details thereof is as below.

Registration No.

M-10075-76/2. Loc. Sta. 8, Port Blair, Coll. Dr. S.W.Kemp, Date ?, 1 ex.

14. *Inioteuthis maculosa* Goodrich

1896. *Inioteuthis maculosa* Goodrich, *Trans. Linn. Soc.* (2)7: .2-3, pl.1, figs. 1-3.

1916. *Inioteuthis maculosa*: Massy, *Rec. Indian Mus.*, 12(5): 216.

1968. *Inioteuthis maculosa*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 306. Mar.Biol.Ass.India.

1986. *Inioteuthis maculosa*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p.178. Zool. Surv. India.

1987. *Inioteuthis maculosa*: Jothinayagam, *Tech. Mon.*, Zool. Surv. India, 15:39, fig. 13.

2000. *Iniotheuthis maculosa*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 192.

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Kerala, Lakshadweep, Maharashtra, Odisha, Puducherry, Tamil Nadu, West Bengal.

There are 03 exs. present in the NZC at ZSI of which one is a Type and the Type locality is Andaman Islands. The details thereof are as below.

Registration No.

- M-388/1. Loc. Andamans, Coll. Purchased. 09.03.1896. *Holotype*.
 M-8211/1. Loc. Puri beach, Odisha coast, Coll. Dr.N.Annadale & Capt. R.E. Lloyd, Date ?, 1 ex.
 M-8994/2. Loc. Sta. 556, 10 fms., Coll. Investigator, Date ?, 1 ex.

Family Histiotheuthidae

Genus *Stigmatoteuthis* Verrill, 1880

15. *Stigmatoteuthis japonica* Pfeffer

1912. *Stigmatofeuthis japonica*, Pfeffer, *Plankton Exp.*, (Oegopsida) pp. 284-85.

1916. *Stigmatoteuthis japonica* Massy: *Rec. Indian Mus.* 12: 242.

Massy (1916) described a specimen from the 'Investigator' collections, Stn. 374 (Andaman Sea) as *Stigmatoteuthis japonica* Pfeffer. Its status is uncertain.

There is only one registered specimen of *Stigmatoteuthis japonica* present in the NZC at ZSI. The following are the details thereof.

Regd. No.

- M-8132/1. Loc. Andaman, Coll. det. Miss.A.L.Massy, 17.10.1916.

Order TEUTHIDA

Suborder MYOPSIDA

Family LOLIGINIDAE

Genus *Loligo* Schneider, 1784

1784. *Loligo Schneider*, *Bull. Sci. Soc. Philom. Paris*, 17: 130.

16. *Loligo duvauceli* Ferussac & d'Orbigny

1848. *Loligo duvauceli* Ferussac and d'Orbigny, *Hist. nat. gen. Part. Paris*, p.318, pl. 14, figs. 6-16.

1884. *Loligo indica* Pfeiffer, *Abh. Naturw. Ver. Hamburg*, 8: 5, fig. 3.

1916. *Loligo indica*: Massy, *Rec. Indian Mus.*, 12(5): 218.

1956. *Loligo indica*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, 1(2), pt.7: 181, pl.27.

1968. *Loligo indica*: Silas, *Proc. Symp Moll.*, pt. 1(3): 308. *Mar. Biol. Ass. India*.
1916. *Loligo indica*: Massy, *Rec. Indian Mus.*, 12(5): 218.
1956. *Loligo indica*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*,1(2), pt.7: 181, pl. 27.
1968. *Loligo indica*: Silas, *Proc. Symp Moll.*, pt. 1(3): 308. *Mar. Biol. Ass. India*.
1986. *Loligo duvauceli*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p.178. *Zool. Surv. India*.
1987. *Loligo duvauceli*: Jothinayagam, *Tech. Mon.*, *Zool. Surv. India*,15: 43, fig. 15.
1991. *Loligo duvauceli*: Rao, Rao and Maitra, *Fauna of Odisha, State Fauna series*, 1(3): 168. *Zool. Surv. India*.
1992. *Loligo duvauceli*: Subba Rao, Dey and Barua, *Fauna of West Bengal, State Fauna series*, 3(9): 258. *Zool. Surv. India*.
2000. *Loligo duvauceli*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No*, 187: 193.
2007. *Loligo duvauceli*: Dey and Ramakrishna, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 164. *Zool. Surv. India*.
2008. *Loligo duvauceli*: Dey, *Rec. zool. Surv. India, Occ. Paper No*. 286: 15.
2010. *Loligo duvauceli*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No*. 320: 17.

Diagnostic Features: Mantle relatively short, stout. Fins rhombic, broad, short, just over 50% of mantle length. Tentacular clubs expanded; large median anal suckers 1 ½ times larger than marginals, with 14 to 17 short, sharp teeth around ring.

Size: Mantle length: 6-28 cm.

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Kerala, Odisha, Tamil Nadu, West Bengal

A total of 69 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

- M-8226/1. Loc. Visakhapatnam, Coll. ?, 29.07.1913. 1 ex.
- M-8227/1. Loc. Visakhapatnam, Coll. ?, 29.07.1913. 1 ex.
- M-15304/2. Loc. Bay of Bengal. Coll. ?, Date ?. 1 ex.
- M-15303/2. Loc. Sandheads, R.Hoogly, Coll. P.V.Lady Frazer, Date ?. 2 exs.
- M-15304/2. Loc. Bay of Bengal, Coll. Investigator, Date ?. 2 exs.
- M-20901/4. Loc. Lawson's Bay, about 6 miles away from the Rly. Station, Coll. Dr.M.C. and G.R.K, Date ?. 3 exs.
- M-20902/2. Loc. Kilingimedu coast, 3 ½ miles off Karaikkal, north of Fisheries, Coll. ?, Date ?. 1 ex.

- M-17468/3. Loc. Visakhapatnam, Coll. B.L.Choudhury, Date ?. 4 ex.
 M-22806/4. Loc.?. Coll. ?, Date ?. 1 ex.
 M-22821/4. Loc. Mangalore, Coll. K.V.R.Rao & K.V.Surya Rao, 10.12.1964. 1 ex.
 M-21424/4. Loc. ?. Coll. K.S.Pradhan, 30.03.1964. 1 ex.
 M-21888/4. Loc. Chirala, Coll. S.Satyanarayana & Party, Date ?. 7 exs.
 _____. Loc. Vadarevu beach, Chirala, Coll. N.V.Subba Rao & Party, 20.12.1964. 1 ex.
 M-20948/4. Loc. Collected from the fishermen on the beach, near beach hotel, Waltair, Coll. ?, Date ?. 7 exs.
 M-20838/4. Loc. Sta.14, Inshore water of Cannanore, Coll. K.V.Rama Rao & K.V.Surya Rao, Date ?. 3 exs.
 M-21477/4. Loc. Tranquebar coast, Madras, Coll. ?, Date ?. 2 exs.
 M-21427/4. Loc. Porto Novo, Madras, Sta.2, Coll. Dr.A.Daniel, Date ?. 2 exs.
 M-21489/4. Loc. Udipi, Malpe, Mysore, Coll. Dr.U.Kutty & Party, Date ?. 5 exs.
 M-21474/4. Loc. Tondiarpet, Madras, Coll. Dr.A.Daniel, Date ?. 4 exs.
 M-21464/4. Loc. Goa, Sta.17, Coll. Dr.S.W.Kemp, Date ?. 2 exs.
 M-21424/4. Loc. Calangute, Goa, Coll. Sta.17, Coll. K.S.Pradhan, 30.03.1966, 5 exs.
 M-21605/4. Loc. Off Paradip, Coll. Dr.V.K. Prem Kumar & Party, Date ?. 13 exs.

A total of 96 exs. present in the NZC at ZSI as *Loligo indica*. The following are the details thereof.

Registration No.

- M-307/1. Loc. Cochin, Coll. F.Day, 26.06.1877, 1 ♀.
 M-621/1. Loc. Penang, Malay Peninsula, Coll. Dr. Stoliczka, 1 ♂.
 M-625/1. Loc. Akyab, Burma, Coll. W.Dodgson, Date ?, 1 ♂.
 M-5449/1. Loc. Puri, Odisha coast, Coll. S.W. Kemp, Date ?, 1 ♀.
 M-5456-8/1. Loc. Off Puri, Coll. Golden Crown, Bengal Fisheries, 1908, 1 ♀, 2 ♂.
 M-8088-90/1. Loc. Cochin, Coll. F.Day, 26.06.1877, 2 ♂, 1 ♀.
 M-8091/1. Loc. Akyab, Burma, Coll. W.Dodgson, Date ?, 1 ♀.
 M-8092/1. Loc. Madras, Coll. Purchased, Date ?, 3 ♀, 3 ♂.
 M-8148/1. Loc. Sta. 481, Mergui Harbour, 7 fms., Coll. Investigator, 25.12.1912, 1 ♀, 2 ♂.
 M-8156/1. Loc. Sta. 522, Mergui Archipelago, 5 fms., Coll. Investigator, 02.03.1913, 1 ♀.
 M-8165-8/1. Loc. Andamans, Coll. J.Wood Mason, Date ?, 2 ♀, 2 ♂.
 M-8174-94/1. Loc. Puri beach, Coll. ?, Date ?, 18 young ones.

- M-8192-200/1. Loc.Puri beach, Odisha coast, Coll. Dr.N.Annadale & Capt.R.E.Lloyd, Date ?, 4 ♀, 5 ♂.
- M-8206-10/1. Loc.Puri beach, Odisha coast, Coll. F.H. Gravely, Date ?, 2 ♀, 3 ♂.
- M-8215/1. Loc.Puri beach, Odisha coast, Coll. J.Caunter, 31.01.1909, 1 ♂.
- M-8216-18/1. Loc.Varkulay, Travancore, Coll. N.Annadale, 10.11.1909, 2 ♀, 1 ♂.
- M-8219/1. Loc.Karachi, Coll. W.B.Cumming, Date ?, 1 ♀.
- M-8226/1. Loc.Gangaram, Madras coast, Vizag district, Coll. Motiram, Date ?, 1 ♀.
- M-8252/1. Loc.Akyab, Burma, Coll. I.H.Burkill, Date ?, 1 ♀.
- M-8274-6/1. Loc.Off Gopalpore, Coll. Golden Crown, Bengal Fisheries, 27.09.1909, 3 ♀.
- M-8280-81/1. Loc.Off Eastern Channel, M.of R.Hoogly, Coll. Golden Crown, Date ?, 2 ♂.
- M-12052/1. Loc.Karachi, Coll. W.B.Cuming, Date ?, 1 ex.
- M-8995-9003/2. Loc.Sta.565 & 567, 6-7 fms., Coll. Investigator, Date ?, 2 ♀, 3 ♂, 3 young.
- M-9001/2. Loc.Sta.565;566;567, Coll. Investigator, Date ?, 1 ex.
- M-9002/2. Loc.Sta.565 & 567, 6-7 fms, Coll. Investigator, Date ?, 1 ex.
- M-9005/2. Loc.Sta.557 (Shore collecting), Port Maria, Elphinstone Is., Coll. Investigator, Date ?, 5 exs.
- M-9007-12/2. Loc.Sta.575, 7 fms., Coll. Investigator, Date ?, 6 young ones
- M-9317-19/2. Loc.Sta.590, 6 fms., Coll. Investigator, Date ?, 2 ♀, 1 ♂.
- M-9030-97/2. Loc.Sta.569, 5 fms., Coll. Investigator, Date ?, 32 ♀, 36 ♂.
- M-9374/2. Loc.Puri beach, Odisha Coll. Dr.N.Annadale & Capt.R.E.Lloyd, Date ?, 1 ♂.
- M-10307/2. Loc.Singgora, Tale Sap, Sian, Coll. Dr.N.Annadale, Date ?, 13 exs.
- M-10309-13/2.Loc.Singgora, Tale Sap, Sian, Coll. Dr.N.Annadale, Date ?, 6 exs.
- M-12105/2. Loc. Karachi, Coll. W.B.Cuming, Date ?, 1 ex.
- M-12106/2. Loc.Mergui Archipelago, Burma, Coll. Investigator, Date ?, 1 ex.
- M-16360/2. Loc. ?, Coll. Director of Fisheries, Bombay, Date?., 1 ex.
- M-17491/3. Loc.Sta.III, Sea coast near Koukishwar Village, Dewgad, Ratnagiri, Coll. Dr.B.K. Tikadar, Date ?, 5 exs.
- M-17468/3. Loc.Visakhapatnam, A.P., Coll. Dr.B.L. Choudhury, Date ?, 3 exs.
- M-19483/3. Loc.Off Karwar, Karnataka, Coll. V.N.Bande, Date ?, 2 exs.
- M-21592/4. Loc.Off Karwar, Karnataka, Coll. ?, Date ?, 2 exs.

This is the most common species of the genus in the Indo-Malayan Region. The genus is badly in need of a revision. Voss (1963) has pointed out that Massy's *Loligo indica* may not be identical though Adam (1954) had placed it in its synonymy.

17. *Loligo edulis* Hoyle

1885. *Loligo edulis* Hoyle, *Ann. Mag. Nat. Hist.*, (5)16: 186.

Diagnostic Features: Mantle moderately stout to elongate, slender in mature males, which have a ridge along ventral midline. Tentacular clubs expanded, lanceolate; about 16 medial anal suckers $1\frac{1}{2}$ times larger than the marginals, with 30 to 40 sharp conical teeth, 20 to 30 small ones interspersed between 10 larger ones. Arm sucker rings with 8-11 distinct, squared, truncate teeth in distal $\frac{2}{3}$, smooth or with rudimentary denticles proximally; slightly more than $\frac{1}{2}$ of left arm IV hectocotylized by enlargement of about 50 pairs of sucker stalks into swollen papillae, each with a minute rudimentary sucker on the tip; papillae slightly larger in ventral row; a fusiform photophore on each side of rectum.

Size: Mantle length: 15-30 cm.

There is only one ex. present in the NZC at ZSI. The details thereof are as below.

Registration No.

M-21162/4. Loc. ?, Coll. ?. 1974. 1 ex.

18. *Loligo kobeensis* Hoyle

1885. *Loligo kobeensis* Hoyle, *Ann. Mag. Nat. Hist.*, (5)16:184.

Diagnostic Features: Mantle short, slender. Fins rhomboidal with round lateral angles, their length about 65% of mantle length. Tentacular clubs expanded, lanceolate; protective membranes very broad; club suckers in 4 rows; 6-8 medial anal suckers enormously enlarged, 4-5 times the diameter of lateral suckers - with entirely smooth rings; other rings with 6-15 triangular or quadrangular teeth. Suckers on arms II and III especially enlarged; sucker rings with about 9 (5-10) very low, broad, squared, teeth.

Size: Mantle length: 8-10 cm.

Distribution: Western Pacific: Southwestern Japan.

There is only one ex. present in the NZC at ZSI. The details thereof are as below.

Registration No.

M-21164/4. Loc. ?, Coll. ?. 10.05.1977. 1 ex.

19. *Loligo japonica* Hoyle

1885. *Loligo japonica* Hoyle, *Ann. Mag. Nat. Hist.*, (5)16: 187.

Distribution: Western Pacific: East China Sea and around Japan, excluding northern Hokkaido.

There is only one ex. present in the NZC at ZSI. The details thereof are as below.

Registration No.

M-21163/4. Loc. ?, Coll. ?. 04.08. 1978.

20. *Loligo beka* Sasaki

1929. *Loligo beka* Sasaki, J. Coll. Agri., Hokk., 20: 121.

Diagnostic Features: Mantle length about 7 cm; fins rhomboidal, angles rounded, length greater than 1/2 of mantle length. Tentacular clubs small, narrow; suckers small, quadriserial, those of median 2 rows on manus slightly less than 2 times the diameter of the marginal suckers; rings of suckers on mantle with about 20 small, sharp, conical teeth. Arm sucker rings with 3 to 5 very broad, squared, plate-like teeth

Size: Mantle length: 8-10 cm

Distribution: Western Pacific; southern Japan, Taiwan (Province of China), and Hainan Island; mainland distribution unreported.

This species is not distributed in the Indian Ocean and identification of the example as *Loligo beka* is doubtful. However, there is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-21166/4. Loc. ?, Coll. ?. Date ?.

21. *Loligo spectrum* Massy (nec Pfeffer 1884)

Adam (1939) considered *Loligo spectrum* Massy (nec Pfeffer) from Arakan coast as a doubtful synonym of *Doryteuthis singhalensis* and more work must be done before their status can be decided.

There is only one ex. present in the NZC of ZSI. The details thereof are as below.

Registration No. 8264/1. Loc. Arakan coast, Coll. Bengal Fisheries, Date ?, 1 ex.

Sub-genus: *Doryteuthis* Neaf, 1912

1912. *Doryteuthis* Neaf, Zool. Anz., 39: 742.

22. *Loligo (Doryteuthis) singhalensis* Ortmann

1891. *Doryteuthis singhalensis* Ortmann, Zool. Jb. Syst., 5: 676, pl. 46, fig. 3. Type locality: Ceylon.

1987. *Doryteuthis singhalensis*: Jothinayagam, Tech. Mon., zool. Surv. India, 15: 51, fig. 18.

1992. *Doryteuthis singhalensis*: Subba Rao, Dey and Barua, *Fauna of West Bengal, State Fauna series*, 3(9): 258. Zool. Surv. India.

2008. *Loligo (Doryteuthis) singhalensis*: Dey, *Rec. zool. Surv. India, Occ.Paper No. 286*: 15.

2010. *Loligo (Doryteuthis) singhalensis*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ.Paper No. 320*: 19.

Diagnostic Features: Mantle very long and slender attains a large size for loliginids. Fins very long, up to 70% of mantle length; a ridge along ventral midline of mantle of males. Tentacular clubs short, slightly expanded; suckers in medial rows of mantle only about 25% larger than those on lateral rows with 20 to 22 sharply pointed, curved teeth, some of which are quite reduced in size. Arms relatively short; sucker rings with 7 to 9 long, slender bluntly pointed to truncate teeth distally, smooth proximally.

Size: Mantle length: 45-50 cm.

Distribution: India: Gujarat, Kerala, Karnataka, Puducherry, Tamil Nadu, West Bengal.

A total of 14 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-23110/4. Loc. Thaleswar, Gujarat, Coll. ?, Date 15.11.1971, 1 ex.

M-11803/4. Loc. St.4, Shankumgham beach, Tiruvananthapuram, Kerala, Coll. A.S. Rao, 25.01.1969. 7 exs.(5 ♀ & 2 ♂).

M-15301/2. Loc. Sand Head, Hugli, Coll. P.V.Lady fraser, Date ?, 1 ex.

M-15302/2. Loc. Bay of Bengal, Coll. Investigator, Date ?, 1 ex.

M-22807/4. Loc. Karwar shore, Mysore, Coll. A.Daniel, 15.09.1960. , 1 ex.

M-21595/4. Loc. Valiathura, Kerala, Coll. A.Daniel, 15.09.1960., 1 ex.

M-22791/4. Loc. Coastal waters of Pondicherry, Valluvaru, Kuppam, Coll. A.S. Rao, 18.02.1975, 1 ex.

M-22791/4. Loc. Sta.14, Inshore waters of Cannanore, Kerala, Coll. K.V.Rama Rao & K.V.Surya Rao, Date ?, 1 ex.

Loligo singhalensis (Ortmann, 1890) has been synonymised with *Loligo (Doryteuthis) singhalensis*. There are 60 exs. present in the NZC at the ZSI in the name of former. The following are the details thereof.

Registration No.

M-15305/2. Loc. Bay of Bengal, Coll. Investigator, Dated ?, 1 ex.

- M-21606/4. Loc. Off Paradip, Coll. Dr.V.K. Prem Kumar & Party, Date ?, 5 exs.
- M-729. Loc. Sandheads, R.Hoogly, Coll. G.Lloyd, Date ?, 1 ex.
- M-5447/1. Loc. Puri beach, Odisha coast, Coll. Dr.S.W.Kemp, Date ?, 1 ex.
- M-8173/1. Loc. Near mud point, R.Hoogly, Coll.T.Southwell, Date ?, 5 exs.
- M-8098/1. Loc. Mouth of Tavoy R., Burma, Coll. Marine Survey of India, Date ?, 1 ex.
- M-9324/1. Loc. Sta.402, 5 fms., Coll. Investigator, Date ?, 1 ex.
- M-10079-83/1. Loc. Karnafully R., Chittagong, Coll. A.C.Choudhury, Date ?, 5 exs.
- M-8263/1. Loc. E.S.E of Mose Island, Coll. Marine Survey of India, Date ?, 1 ex.
- M-8102/1. Loc. E.S.E of Mose Island, Coll. Marine Survey of India, Date ?, 1 ex.
- M-10073-74/1. Loc. Near mud point, R.Hoogly, Coll. T.Southwell, Date ?, 2 exs.
- M-8201/1. Loc. Puri beach, Odisha, Coll. Dr.N.Annadale & Capt. R.E. Lloyd, Date ?, 1 ex.
- M-8151/1. Loc. Sta.481.7 fms., Coll. Investigator, Date ?, 1 ex.
- M-8254/1. Loc. 10 miles N.E.of Devi R., Odisha, Coll. Dr.S.W.Kemp, Date ?, 1 ex.
- M-5448/1. Loc. Puri beach, Odisha, Coll. Dr.S.W.Kemp, Date ?, 1 ex.
- M-623/1. Loc. Renang, Coll. Dr. Stoliczka, Date ?, 1 ex.
- M-8157-61/1. Loc. Mouth of R.Hoogly, Coll. Capt.R.Munro, Date ?, 3 exs.
- M-21478/1. Loc. Fishermen's net at Uppara, A.P, Coll. Dr. A.Daniel, Date ?, 11 exs.
- M-20844/1. Loc. Sta.III Off Holiday camp, Chorwad, Gujarat, Coll. B.P.Haldar and R.K. Sastry, Date ?, 1 ex.
- M-20841/1. Loc. Sta IX, Off Div., Coll. B.P.Haldar and R.K. Sastry, Date ?, 1 ex.
- M-20840/1. Loc. Sandheads, R.Hoogly, Coll. P.V.Lady Frazer, Date ?, 2 exs.
- M-20836/1. Loc. In deepnet: 5 fms. of water, Borakara bunder, Coll. Dr. Prasad, Date ?, 3 exs.

Remarks: Jyothinayagam (1987) has described a new species from Madras coast of Bay of Bengal under genus *Loligo* as *Loligo bengalensis* Jyothinayagam, 1987 which resembles *Loligo (Doryteuthis) singhalensis* in having the pointed poster end of mantle, but differs from the latter in having shorter fins. However, the confirmation of the species is yet to be ascertained.

***Loligo* sp.**

There are 06 exs. of *Loligo* sp. present in the NZC of ZSI. The status of these at species level are yet to be determined. The following are the details thereof.

Registration No.

- Nil. Loc. Valiathura, about 3 miles from Trivendrum, Kerala, Sta.1. Coll. Dr. A. Daniel, Date ?, 1 ex.
- Nil. Loc. Madras; Pamban, Ramnad District; Gulf of Mannar, Kilakarai; and from 'Investigator' Stn. 1 ex.
- M-825/1. Loc. Madras, Coll. Purchased, Date ?, 1 ex.
- M-626/1. Loc. Madras, Coll. Purchased, Date ?, 1 ex.
- M-8237/1. Loc. Pamban, Ramnad district, Coll.S.W.Kemp, Date?, 1 ex.
- M-8238/1. Loc. Kilakarai, Ramnad district, Coll. Investigator, Date?, 1ex.

Genus *Sepioteuthis* Blainville, 1824

1824. *Sepioteuthis* Blainville, *Dict. Sci. Nat.*, 32: 175.

23. *Sepioteuthis lessoniana* Lesson

1830. *Sepioteuthis lessoniana* Lesson, *Voy. autour de monde execute sur la corvette de S.M.*, Paris, 2(1): 244, pl. 2.
1896. *Sepioteuthis indica*: Goodrich, *Trans. Linn. Soc.*, 2(7): 5.
1956. *Sepioteuthis arctipinnis*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, 1(2), pt. 7: 182, pl. 28.
1968. *Sepioteuthis lessoniana*: Silas, *Proc. Symp Moll.*, pt. 1(3): 308.
1986. *Sepioteuthis lessoniana*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, Zool. Surv. India, p. 178.
1987. *Sepioteuthis lessoniana*: Jothinayagam, *Tech. Mon.*, zool. Surv. India, 15: 54, fig. 19.
2000. *Sepioteuthis lessoniana*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 193.
2010. *Sepioteuthis lessoniana*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 19.

Diagnostic Features: Mantle long, robust, its width about 40% of length. Fins very large, their length over 90% up to nearly 100% of mantle length, their width up to 75% of mantle length; the greatest width occurs posterior to the midpoint of the fins. Tentacular clubs long, expanded; median mantle suckers enlarged; rings with 14 to 23 sharp teeth. Arm sucker rings with 18 to 29 sharp, triangular teeth.

Size: Mantle length: 8-20 cm.

Distribution: India: Andaman and Nicobar Islands.

A total of 09 exs. present in the NZC at the ZSI of which one is a Type specimen. The following are the details thereof.

Registration No.

- M-312/1. Loc. ?, Coll. ?, Date ?. 1 ex.
 M-314-16/1. Loc. ?, Coll. ?, Date ?. 1 ex.
 M-317/1. Loc. Singapore. Coll. ?, 07.03.1896. 1 ex. Type.
 M-354/1. Loc. ?, Coll. ?, Date ?. 1 ex.
 M-20946/4. Loc. Palk Bay, about 2 miles north of CMFRI, Coll. M.A.S. Menon, 13.03.1955, 2 exs.
 M-22798/4. Loc. ?, Coll. ?, Date ?. 1 ex.
 M-23291/4. Loc. Sta.M-4, Off Smith Is., Diglipur, Andaman, Coll. B.K. Tikader, 26.04.1971, 2 exs.

Sepioteuthis indica Goodrich has been synonymised with *Sepioteuthis lessoniana*. However, a total of 07 exs. present in the NZC at the ZSI with this name of which one is a Holotype specimen. The following are the details thereof.

Registration No.

- M-311/1. Loc. No History, 1 ex.
 M-312-13/2. Loc. Singapore, Coll. Dr.F.Stoliezka, Date ?, 2 ex.
 M-314/1. Loc. Port Blair, Coll. Investigator, Date ?, 1 ex.
 M-115-6/1. Loc. Andamans, Coll. ?, Date ?, 2 exs.
 M-317/1. Loc. No History, 1 ex. Holotype

Similarly *Sepioteuthis arctipinnis* Gould has been synonymised with *Sepioteuthis lessoniana*. However, a total of 04 exs. present in the NZC at the ZSI with this name. The following are the details thereof.

Registration No.

- M-513-14/1. Loc. N. Andaman Is., Coll. Investigator, Date ?, 2 exs.
 M-8103/1. Loc. E.S.E of Moscos Is., Coll. Investigator, Date ?, 1 ex.
 M-8163-64/1/1. Loc. Andamans, Coll. J.W.Mason, Date ?, 1 exs.

Genus *Loliolus* Steenstrup, 1856

1856. *Loliolus* Steenstrup, *Danske Vidensk. Selsk. Skrift.*, (5)4: 190.

24. *Loliolus investigatoris* Goodrich

1896. *Loliolus investigatoris* Goodrich, *Tran. Linn. Soc. London* 7: 8, pl. 2, figs. 29-37. Type locality: Bay of Bengal.

1881. *Loliolus affinis* Steenstrup, *K. danske. Selsk. Skr. Nat. Afd., Ser. 5*, 10(7): 214. Type locality: Tranquebar, India.

1916. *Loliolus investigatoris*: Massy, *Rec. Indian Mus.*, 12(5): 222.

1987. *Loliolus investigatoris*: Jothinayagam, *Tech Mon.*, zool. Surv. India, 15: 57, fig. 20.

1991. *Loliolus investigatoris*: Rao, Rao and Maitra, *Fauna of Odisha, State Fauna series*, 1(3): 168. Zool. Surv. India.

1992. *Loliolus investigatoris*: Subba Rao, Dey and Barua, *Fauna of West Bengal, State Fauna series*, 3(9): 258, pl. 30, fig. 3. Zool. Surv. India.

2007. *Loliolus investigatoris*: Dey and Ramkrishna, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 165. Zool. Surv. India.

2008. *Loliolus investigatoris*: Dey, *Rec. zool. Surv. India, Occ. Paper No. 286*: 15.

2010. *Loliolus investigatoris*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 20.

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Odisha, Tamil Nadu, West Bengal.

Diagnostic Features: Mantle short and stout, widest at about 2/3 of its length from the posterior end; fin length 65% of mantle length; tentacles thin, club narrow, sucker small, arranged in four rows with 24-26 acute teeth in sucker ring. Left ventral arm hectocotylied.

Size: Mantle length: 2-5 cm.

A total of 14 exs. present in the NZC at the ZSI of which one is a Type. The following are the details thereof.

Registration No.

M-730. Loc. Saugor, Bay of Bengal, Coll. S. Elson, 04.04.1893. Holotype. 1 ex.

M-5147-48/1. Loc.?, Coll. ?, Date ?, 1 ex.

M-5151/1. Loc.?, Coll. ?, Date ?, 1 ex.

M-5157-61/1. Loc.?, Coll. ?, Date ?, 1 ex.

M-8173/1. Loc.?, Coll. ?, Date ?, 1 ex.

M-8201/1. Loc.?, Coll. ?, Date ? 1 ex.

M-9324/1. Loc.?, Coll. ?, Date ?, 1 ex.

M-21594/4. Loc. Gopalpur on Sea, Coll. M. Hafiz, 28.11.1973, 1 ex.

M-20836/2. Loc.?, Coll. Prashad?, Date ?, 1 ex.

M-15306/2. Loc. Bay of Bengal, Coll. Investigator, Date ?, 1 ex.

M-15307/2. Loc. Sandhead, R. Hoogly, Coll. P.V. Lady Fraser ?, Date ?, 1 ex.

M-8147-48/1. Loc.?, Coll. ?, Date ?, 1 ex.

M-8173/1. Loc.?, Coll. ?, Date ?, 1 ex.

M-8201/1. Loc.?, Coll. ?, Date ?, 1 ex.

M-8254/1. Loc.?, Coll. ?, Date ?. 1 ex.

Suborder OEGOPSIDA
Family ENDOPLUTEUTHIDAE
Genus *Abralia* Gray, 1849

1849. *Abralia* Gray, Cat.Moll. Coll. Brit. Mus., (1): 50.

25. *Abralia andamanica* Goodrich

1896. *Abralia andamanica* Goodrich, Trans. Linn. Soc., 7, p. 9, pl. 2, figs. 38-45.

1912. *Asteroteuthis andamanica*, Pfeffer, Plankton Exp., (Oegospida), p. 137

1916. *Abralia andamanica*: Massy, Rec. Indian Mus., 12(5): 239.

1968. *Abralia andamanica*: Silas, Proc. Symp Moll., pt. 1(3): 311. Mar.Biol.Ass.India.

1986. *Abralia andamanica*: Tikader, Daniel and Subba Rao, Sea shore animals of Andaman and Nicobar Islands, Zool. Surv. India, p. 178.

2000. *Abralia andamanica*: Subba Rao and Dey, Rec. zool. Surv. India Occ. Paper No. 187: 194.

2010. *Abralia andamanica*: Ramakrishna and Dey, Rec. zool. Surv. India Occ. Paper No.320: 21.

Diagnostic Features: Possess a straight locking apparatus; biserial armature with at least some hooks on the arms; tetraserial armature on the clubs; photophores; 8 buccal lappets and buccal connectives that attach dorsally to the ventral arms. Possess hooks on the tentacular clubs.

Size: Mantle length: 2-5 cm.

Distribution: India: Andaman and Nicobar Islands, Arabian sea, Lakshadweep.

A total of 4 exs. present in the NZC at the ZSI of which one is a Type specimen. The Type locality for this species is Andaman Sea. The following are the details thereof.

Registration No.

M-339/1. Loc. Sta. 224, 55 fms., Coll. Investigator, 23.2.1897, 1 ?.

M-386/1. Loc. Andaman Sea, 188-225fms., Coll. Investigator, 09.03.1896, 1 ex.
Type

M-9320-21/1. Loc. Sta. 590, Mergui Archipelago. Coll. Marine Survey of India, 1 ?,
1 ? (?)

Genus *Abraliopsis* Joubin, 1896

26. *Abraliopsis lineata* (Goodrich)

1896. *Abralia lineata* Goodrich. Trans. Linn. Soc. London, (Series 2, Zoology) 7 (1): 1-24.

1968. *Abraliopsis lineata*: Silas, Proc. Symp Moll., pt. 1(3): 311. Mar.Biol.Ass.India.

1988. *Abraliopsis lineata*: Tsuchiya and Okutani, Bull. Nat. Sci. Mus, Tokyo (Series A) 14 (3): 119-136

2010. *Abraliopsis lineata*: Ramakrishna and Dey, Rec. zool. Surv. India, Occ. Paper No. 320: 21.

Remarks: *Abralia lineata* is synonyms of *Abralia morisii*. Chun (1914) considers *Abralia hoylei* and *A. lineata* as synonyms of *A. morisii*. Until a revision of the genus on a global basis is carried out, it will be better to list this species separately. Taxon Validity: Tsuchiya and Okutani (1988: 130).

Repository: ZSI Holotype M-389/1. Type Locality: Andaman Sea and off Ganjam coast.

Distribution: India: Andaman and Nicobar Islands, Arabian sea, Lakshadweep, Odisha

There is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No. M-389/1. Loc. Andaman Sea, 265 fms., Coll. Investigator. 09.03.1896. Holotype.

Family CHIROTEUTHIDAE

Genus *Chiroteuthis* d' Orbigny, 1839

1839. *Chiroteuthis* d' Orbigny, *Pal Franc. (Cret.) Ceph.*, p. 30.

27. *Chiroteuthis macrosoma* Goodrich

1896. *Chiroteuthis macrosoma* Goodrich, *Trans. Linn. Soc. London*, (2)7(1): 12, pl. 3, figs. 51-57.

2004. *Chiroteuthis macrosoma*: Ramakrishna, Dey and Mitra, *Rec. zool. Surv. India, Occ. Paper No. 228*: 90.

2010. *Chiroteuthis macrosoma*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 22.

Distribution: India: Bay of Bengal.

There is only one ex. present in the NZC at the ZSI and is a Type specimen. The Type locality is Bay of Bengal. The details thereof is as below.

Registration No. M-327/1. Loc. Sta.132, Bay of Bengal, Coll. Investigator. 07.03.1896. Holotype.

28. *Chiroteuthis pellucida* Goodrich

1896. *Chiroteuthis pellucida* Goodrich, *Trans. Linn. Soc. London*, (2)7(1): 14, pl.4, figs. 58-61.

2004. *Chiroteuthis pellucida*: Ramakrishna, Dey and Mitra, *Rec. zool. Surv. India, Occ. Paper No. 228*: 90.

2010. *Chiroteuthis pellucida*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 22.

Distribution: India: Bay of Bengal.

There is only one ex. present in the NZC at the ZSI and is a Type specimen. The Type locality is Bay of Bengal. The details thereof is as below.

Registration No.

M-385/1. Loc. Sta.101, Bay of Bengal, Coll. Investigator. 09.03.1896. Holotype.

Subgenus *Chirothauma* Chun 1910

29. *Chiroteuthis (Chirothauma) imperator* Goodrich

A total of 3 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-1250/1. Loc.Sta. 280,Bay of Bengal, 446 fms, Coll. Investigator, Date ? 1 ♀.

M-1380/1. Loc.Sta. 297, Loc. Gulf of Oman, Coll. Investigator, Date ? 1 ex.

M-8182/1. Loc. Sta. 366, Arabian Sea, 544 fms., Coll. Investigator, Date ? 1 ♀.

Distribution: India: Bay of Bengal.

Remarks: Voss (1963) has suggested that there is a great possibility that *Chiroteuthis macrosoma* and *Chiroteuthis imperator* may be synonyms of *Chiroteuthis picteti*, but only an examination of the Types will help to settle this problem. Hence *C. macrosoma* and *C. (Chirothauma) imperator* is listed separately in this account.

Family CRANCHIIDAE

Genus *Megalocranchia* Pfeiffer, 1884

1884. *Megalocranchia* Pfeiffer, *Abh. Naturw. Ver. Hamburg.*, 8(2): 84.

30. *Megalocranchia abyssicola* (Goodrich)

1896. *Taonius abyssicola* Goodrich, *Trans. Linn. Soc. London*, (2)7(1): 17, pl. 5, figs. 72-80. 1968.

Megalocranchia abyssicola: Silas, *Proc. Symp. Moll.*, pt. 1(3): 331. *Mar. Biol. Ass. India*.

2004. *Megalocranchia abyssicola*: Ramakrishna, Dey and Mitra, *Rec. zool. Surv. India, Occ. Paper No. 228*: 93.

2010. *Megalocranchia abyssicola*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 23.

Distribution: India: Lakshadweep. No subsequent records.

There are 02 exs. present in the NZC at the ZSI and both are Type specimens. The Type locality is Laccadive sea. The details thereof is as below.

Registration No.

M-309/1. Loc. Laccadive Sea, 902 fms. Coll. Investigator. 07.03.1896. Holotype.

M-310/1. Loc. Laccadive Sea, 902 fms.Coll. Investigator, 07.03.1896. Type.

Remarks: The description of the species was based on a single specimen, the Type of which is in such poor condition that nothing of value could be determined from it.

Joubin's record of *Megalocranchia abyssicola* from the Azores (Joubin, 1924) is based on mis-identification as discussed by Voss (1960). Therefore, the possibility of misidentification of this species cannot be ruled out.

31. *Teuthowenia joubini* Pfeffer

Hensenioteuthis joubini Pfeffer is synonymised with *Teuthowenia (Hensenioteuthis) joubini* Pfeffer. Massy's (1916) record of the species from the Bay of Bengal is based on a partly damaged specimen in which the tentacles are mutilated, but she has identified it on the nature of the chromatophores and the very distinctive eyes. Therefore, the status of this species needs further investigation.

There is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-8140/1. Loc. Sta.462, 47.5 fms., Bay of Bengal, Coll. Investigator. 1 ex.

Similarly, in the name of *Hensenioteuthis (Hensenioteuthis) joubini*, there is only ex. present. The details are as below.

Registration No.

M-8140. Loc. Sta. 462, Bay of Bengal, 475 fms., Coll. Investigator, Date ?, 1 ex.

Order OCTOPODA

Suborder CIRRATA

Family CIRROTEUTHIDAE

Genus *Grimpoteuthis* Robson, 1932

1932. *Grimpoteuthis* Robson, Monogr. Rec. Ceph., (Octopoda) 2: 67.

32. *Grimpoteuthis grimaldii* (Joubin)

1896. *Cirroteuthis grimaldii* Joubin, *Result Scientif. Camp. Caudan*, p. 247, text figs.7.

1916. *Cirroteuthis grimaldii*: Massy, *Rec. Indian Mus.*, 12(5): 188.

1968. *Grimpoteuthis grimaldii*: Silas, *Proc. Symp Moll.*, pt. 1(3): 333. Mar.Biol.Ass.India.

2000. *Grimpoteuthis grimaldii*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 195.

2010. *Grimpoteuthis grimaldii*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 23.

Distribution: India: Indian Ocean.

A total of 6 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-743/1. Loc.Andaman, Coll. ?, Date ?, 1 ex.

M-3274/1. Loc.Andaman, Coll. ?, Date ?, 1 ex.

- M-3283/1. Loc. Sta.333, S.W. of Ceylon, 401 fms, Coll. Investigator, Date ?, 1 ex.
 M-1451/1. Loc. Sta.315, S. of Andaman, 705 fms, Coll. Investigator, Date ?, 1 ex.
 M-8127/1. Loc.Sta.361, Arabian Sea, 540 fms., Coll. ?, Date ?, 1 ex.
 M-8133/1. Loc.Sta. 381, Off Akayab, Burma, 298 fms., Coll. ?, Date ? , 1 ex.

33. *Grimpoteuthis pacifica* (Steenstrup)

1880. *Tadarodes pacificus* Steenstrup, *Kongelige Danske Videnskabernes Selskabs Skr. Nat. Afd.*, 5(10): 83, Fig. 1.
 2000. *Grimpoteuthis pacifica*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 195.
 2010. *Grimpoteuthis pacifica*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 23.

Distribution: India: Andaman Islands.

There is only 01 ex. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

- M-390/1. Loc.Andaman Sea, 265 fms, Coll. Marine Survey of India, Date ?, 1 ex.

Suborder INCIRRATA

Superfamily BOLITAENOIDEA

Family BOLITAENIDAE

Genus *Eledonella* Verrill, 1884

1884. *Eledonella* Verrill, *Trans. Conn. Acad. Art. & Sci.*, 6(2): pt.i.

34. *Eledonella diaphana* (Hoyle)

1896. *Japetella diaphana* Hoyle, *Ann. Mag. Nat. Hist.*, (5)15: 232.
 1916. *Eledonella diaphana*: Massy, *Rec. Indian Mus.*, 12(5): 213
 2000. *Eledonella diaphana*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 195.
 2010. *Eledonella diaphana*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 24.

Distribution: India: Andaman Islands. Cosmopolitan species known from warm and temperate seas.

Bolitaena diaphana is synonymy with *Eledonella diaphana*. There are two exs. present in the NZC of ZSI. The details thereof are as below.

Registration No.

- M-1211/1. Loc. Sta.273, Laccadive Sea, Coll. Investigator, Date ?, 1 ex.
 M-1451/1. Loc. Sta.315, S. of Andaman, 705 fms, Coll. Investigator, Date ?, 1 ex.

Bolitaena (Eledonella) sp.

There are 5 exs. of *Bolitaena (Eledonella) sp.* present in the NZC of ZSI. However, these are not determined at the species level. The details thereof are as below.

Registration No.

M-8110/1. Loc. Sta.184, Arabian Sea, Coll. Investigator, Date ?, 3 exs.

M-8137/1. Loc. Sta.393, Bay of Bengal, 400 fms, Coll. Investigator, Date ?, 1 ex.

M-8141/1. Loc. Sta.462, Bay of Bengal, Coll. Investigator, Date ?, 1 ex.

Superfamily OCTOPODOIDEA

Family OCTOPODIDAE

Subfamily OCTOPODINAE

Genus *Octopus* Lamarck, 1798

1798. *Octopus* Lamarck, Bull. Sci. Soc. Philam. Paris, 2: 129.

35. *Octopus globosus* Apelloef

1889. *Octopus globosus* Apelloef, Berg. Mus. Aarsbr., 3: 7, pl. 1, figs. 4-5..

1916. *Polypus globosus*: Massy, Rec. Indian Mus., 12(5): 202.

1968. *Octopus (Octopus) globosus*: Silas, Proc. Symp Moll., pt. 1(3): 340. Mar. Biol. Ass. India

1986. *Octopus globosus* : Tikader, Daniel and Subba Rao, Sea shore animals of Andaman and Nicobar Islands, p. 178. Zool. Surv. India.

1991. *Octopus (Octopus) globosus*: Rao, Rao and Maitra, Fauna of Odisha, State Fauna series, 1(3): 168. Zool. Surv. India.

2000. *Octopus globosus*: Subba Rao and Dey, Rec. zool. Surv. India, Occ. Paper No. 187: 196.

2010. *Octopus globosus*: Ramakrishna and Dey, Rec. zool. Surv. India, Occ. Paper No. 320: 26.

Diagnostic Features : Mantle globular to slightly elongate; dorsal and lateral surface of mantle, head, and bases of arms covered with widely spaced conical warts of various sizes, skin smooth in between warts; 5 to 7 warts above and posterior to each eye of which 3 are elongated into cirri. Arms moderately long, arms I the longest, arms IV the shortest; right arm III hectocotylized, only 2/3 as long as left III; ligula about 15% of arm length, elongate-conical, with a broad, deep groove that has a median pinnate ridge with about 15 alternating side-arms and depressions on each side; calimus well-developed, relatively long; 17 to 19 lamellae in each gill.

Size: Total body length: 15-25 cm.

Distribution : India: Andaman and Nicobar Islands, Maharashtra, Odisha, West Bengal.

A total of 12 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-375/1.	Loc.Mallaca Strait, Coll. ?, Date ?, 1 ex.
M-377/1.	Loc.Mallaca Strait, Coll. ?, Date ?, 1 ex.
M-382/1.	Loc. Bombay, Coll. ?. Date ?, 1 ♂.
M-5450/1.	Loc. Bombay, Coll. ?. Date ?, 1 ♂.
M-7927/1.	Loc. Kabusa, Coll. ?. Date ?, 1 ex.
M-8278/1.	Loc. Gopalpur, Coll. ?. Date ?, 1 ♂.
M-12097/2.	Loc.Mallaca Strait, Coll. ?, Date ?, 1 ex.
M-120100/2.	Loc.Mallaca Strait, Coll. ?, Date ?, 1 ex.
M-15311/2.	Loc.Port Blair, Coll. ?, Date ?, 1 ex.
M-21525/4.	Loc.Coromondel coast, Coll.?, October 1975, 1 ex.
M-22797/4.	Loc.Coromondel coast, Coll.?, 31.05.1982, 1 ex.
M-21482/4.	Loc.Gokha, Gujarat, Coll.A. Daniel & party, 02.12.1968. 1 ex.

36. *Octopus macropus* Risso

1826. *Octopus macropus* Risso, *Hist. nat. Europe Meriduum*, 4: 3, pl. 4.

1916. *Polypus macropus*: Massy, *Rec. Indian Mus.*, 12(5): 192.

1987. *Octopus macropus*: Jothinayagam, *Tech. Mon.*, Zool. Surv. India, 15: 64, fig. 23.

1992. *Octopus macropus*: Subba Rao, Dey and Barua, *Fauna of West Bengal, State Fauna series*, 3(9): 259, pl. 30, fig.4. Zool. Surv. India.

2007. *Octopus macropus*: Dey and Ramkrishna, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 165. Zool. Surv. India.

2008. *Octopus macropus*: Dey, *Rec. zool. Surv. India, Occ. Paper No. 286*: 15

2010. *Octopus macropus*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 26.

Diagnostic Features : Dorsal pair of arms longest and stoutest (or coequally stoutest with arms II; right arm III of males hectocotylized by modification of tip to a large stout, tubular ligula; ligula index (length of ligula expressed as percentage of length of hectocotylized arm) up to 14; 9 to 13 gill lamellae outer side of gill. Colour: conspicuous white spots on reddish background.

Size : Total body length : 60-120 cm.

Distribution : India: Andhra Pradesh, Puducherry, Tamil Nadu, West Bengal.

A total of 07 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

- M-10308/2. Loc.Singapore, Coll. Annadale, Date ?, 1 ♀
 M-603/1. Loc. Indian Sea, Coll. Dr.Arushy. Date ?, 1 ♂.
 M-8220/1. Loc. Parsian Gulf, Coll. ?. Date ?, 1 ♂.
 M-20945/4. Loc. Vizag coast, Coll. A Daniel & party, 10.07.1963, 1 ex.
 M-21421/4. Loc. Madras coast, Coll. ?. 5.6.1961, 1 ex.
 M-22802/3. Loc. ?, Coll. ?. 23.11.1931, 1 ex.
 M-15312/1. Loc. ?, Coll. ?. Date ?, 1 ex.

37. *Octopus microphthalmus* Goodrich

1896. *Octopus microphthalmus* Goodrich, *Trans. Linn. Soc. London*, (2)7(1): 20, pl.5, figs. 83-84. Type locality: Port Blair, Andamans.
 1916. *Polypus microphthalmus*: Massy, *Rec. Indian Mus.*, 12(5): 205.
 1968. *Octopus (Octopus) microphthalmus*: Silas, *Proc. Symp Moll.*, pt. 1(3): 343. *Mar. Biol. Ass. India*.
 1986. *Octopus microphthalmus*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p. 178. *Zool. Surv. India*.
 2000. *Octopus microphthalmus*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 196.
 2010. *Octopus microphthalmus*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 27.

A total of 03 exs. present in the NZC at the ZSI of which one is a Type specimen. The following are the details thereof.

Registration No.

- M-391/1. Loc. Port Blair, Coll. Investigator, Date ?? 1896. 1 ex. Type.
 M-10077-8/2. Loc.Chittagong, Karnapuli River, Coll.A.C.Choudhury. Date?, 2 ?.

38. *Octopus prashadi* Adam

1916. *Polypus levis*: Massy, *Rec. Indian Mus.*, 12(5): 198.
 1939. *Octopus prashadi* Adams, *Rec. Indian Mus.*, 41: 103, pl. 2, figs. 1-3. Type locality: Port Blair, Andamans.
 1968. *Octopus (Octopus) prashadi*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 343. *Mar. Biol. Ass. India*.
 2000. *Octopus prashadi*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 197.
 2010. *Octopus prashadi*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 28.

Distribution : India : Andaman Islands.

There are two Type specimen of *Octopus prashadi* present in the NZC of ZSI. The following are the details thereof.

Registration No.

M-361/1. Loc. Madras coast, Coll. Investigator, 09.03.1896. Paratype

M-25493/5. Loc. Indian Seas, Coll. Investigator, Date ?? 1939. Type

Remarks : The species is based on two specimens described by Massy (1916) as *Octopus levis* which on account of the reported absence of an ink-sac, Robson (1929) placed in the genus *Benthoctopus*. Adam (1939) who had occasion to re-examine Massy's specimens found well-developed ink-sacs in the specimens which would automatically separate it from *Benthoctopus levis*. Adam (1939) remarks that *O. prashadi* shows several abyssal characters, but as the male is unknown, it is not possible to discuss its exact generic or subgeneric position. Hence its placement here may also be considered tentative.

39. *Octopus vulgaris* Lamarck

1799. *Octopus vulgaris* Lamarck, *Mem. Soc. Hist. nat. Paris*, 1: 130.

1968. *Octopus (Octopus) vulgaris*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 344. *Mar. Biol. Ass. India*.

1986. *Octopus vulgaris*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p. 178. *Zool. Surv. India*.

2000. *Octopus vulgaris*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 197.

2010. *Octopus vulgaris*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 29.

Diagnostic Features : Arms stout, of about equal length and thickness, dorsal pair of arms slightly shorter; shortened right arm III of males hectocotylyzed by modification of tip into a very small, spoon-shaped ligula; ligula index (length of ligula expressed as percentage of length of hectocotylyzed arm) less than 2.5; 7 to 11 gill lamellae on outer side of gill, including terminal lamella.

Size : Total length: 1-1.5 cm

Distribution : India: Andaman and Nicobar Islands.

There is only one ex. present in the NZC at the ZSI. The details thereof is as below.

Registration No.

M-325/1. Loc. Andaman Sea, Coll. Marine Survey of India. Date ?, 1 ex.

40. *Octopus defillipi* Verany

1851: *Octopus defillipi* Verany, *Mollusques Mediterraneens*, 1: 30, pl. 11.

There is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-8154/1. Loc. Sta. 503, Mergui Archipelago, Elphinstone Is., Port Maria (Shore collecting), Coll. Investigator, Date ?, 1 ex.

41. *Octopus fusiformis* Brock

1887: *Octopus* (*Octopus*) *fusiformis* Brock, Zool. Jb. Syst., 2: 591, pl. 16, figs. 1 & 2.

There is are two exs. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-8232-33/1. Loc. Palk Strait, Madras coast, S. India, Coll. I.G. Gleadall, 09.11.1996, 1 ex. M-17680/3. Loc. ?, Coll. Dr. P.N. Mathur (Ajmer), Date ?, 1 ex.

42. *Octopus niveus* Lesson

1831. *Octopus niveus* Lesson, *Voy. Coquille Zool.*, 2(1): 239.

1986. *Octopus niveus*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p. 178. Zool. Surv. India.

2000. *Octopus niveus*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 196.

2010. *Octopus niveus*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 28.

Distribution : India: Andaman and Nicobar Islands.

A total of 24 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-363-69/1. Loc. Andaman Sea, Coll. Marine Survey of India. Date ?, 7 exs.

M-371-74/1. Loc. Andaman Sea, Coll. Marine Survey of India. Date ?, 4 exs.

M-380-81/1. Loc. Mallaca Strait, Coll. Capt. Gardner. Date ?, 3 exs. (2? & 1?).

M-8101/1. Loc. Andaman Sea, Coll. Marine Survey of India. Date ?, 1 ex.

M-8243-44/1. Loc. Andaman Sea, Coll. Marine Survey of India. Date ?, 7 exs.

M-12101-4/2. Loc. Andaman Sea, Coll. Marine Survey of India. Date ?, 1 ex.

M-20831/4. Loc. Andaman Sea, Coll. Marine Survey of India. Date ?, 1 ex.

43. *Octopus rugosus* (Bosc)

1792. *Sepia rugosus* Bosc, *Act. Soc. H.N. Paris*, 1: 24, pl. 5, figs. 1 & 2.

1916. *Polypus rugosus*: Massy, *Rec. Indian Mus.*, 12(5): 189.

1956. *Octopus rugosus*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, 1(2), pt. 7: 184, pl. 29, figs. 2.

1968. *Octopus* (*Octopus*) *rugosus*: Silas, *Proc. Symp. Moll.*, pt. 1(3): 343. Mar. Biol. Ass. India.

1986. *Octopus rugosus*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p. 178. Zool. Surv. India.
1987. *Octopus rugosus*: Jothinayagam, *Tech. Mon.*, zool. Surv. India, 15: 62, fig. 22.
1992. *Octopus rugosus*: Subba Rao, Dey and Barua, *Fauna of West Bengal, State Fauna series*, 3(9): 259. Zool. Surv. India.
2000. *Octopus rugosus*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 197.
2010. *Octopus rugosus*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 28.

Distribution : India: Andaman and Nicobar Islands, Tamil Nadu.

A total of 15 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

- M-20834/4. Loc. Sta.3, Marina Beach, Madras, Coll. Ishwar Maligi, 21.09.1961, 1 ex.
- M-9325/2. Loc. Santhapalli, Madras coast, Coll. ?, Date ?, 1 ex.
- M-8279/1. Loc. Persian Gulf, Coll. ?, Date 19.05.1914., 1 ex.
- M-376/1. Loc. Andaman Is., Coll. Purchased, Date ?, 1 ex.
- M-378/1. Loc. Great Cocos Island, Coll. Marine Survey of India, Date ?, 1 ex.
- M-379/1. Loc. Muscat, Coll. ?, Date ?, 1 ex.
- M-4770/1. Loc. Palk Strait, Coll. Marine Survey of India, Date ?, 1 ex.
- M-1055/1. Loc. Sta.267, W.of Ceylon, Coll. Marine Survey of India, Date ?, 1 ex.
- M-8221/1. Loc. Persian Gulf, Coll. Marine Survey of India, Date ?, 1 ex.
- M-8279/1. Loc. Santhapalli, Madras coast, Coll. ?, Date ?, 1 ex.
- M-9006/2. Loc. Port Maria, Coll. ?, Date ?, 1 ex.
- M-9325/2. Loc. Persian Gulf, Coll. RIMS, Date ?, 1 ex.
- M-12090-95/2. Loc. Andaman, Coll. Purchased, Date ?, 1 ex.
- M-12096/2. Loc. Mallaca Strait, Coll. Capt. Gardner, Date ?, 1 ex.
- M-15313/2. Loc. Bay of Bengal, Coll. P.V.Lady Frazer, Date ?, 1 ex.

44. *Octopus tonganus* Hoyle 1885

Remarks : The species closely resembles *Octopus rugosus* and according to Robson (1929) it may be a variety of that species. There is only one ex. present in the NZC at the ZSI in the name of *Octopus tonganus*. The following are the details thereof.

Registration No. M-796/1. Loc. Sta.242, Arabian Sea, 56-58 fms, Coll. Marine Survey of India, Date ?, 1 ex.

45. *Octopus areolatus* d'Orbigny

1848. *Octopus areolatus* d' Orbigny, *Hist. nat. gen. et part.*, p. 65.
1916. *Polypus areolatus*: Massy, *Rec. Indian Mus.*, 12(5): 193.
1968. *Octopus areolatus*: Silas, *Proc. Symp Moll.*, pt. 1(3): 337. *Mar. Biol. Ass. India.*
1987. *Octopus areolatus*: Jothinayagam, *Tech. Mon.*, zool. Surv. India, 15: 68, fig. 25.
2010. *Octopus areolatus*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 25.

Distribution : India: Bay of Bengal.

A total of 03 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

- M-3272/1. Loc. Gulf of Martalan, 46 fms., Coll. Investigator, Date ?, 1 ex.
- M-15308/2. Loc. Bay of Bengal, Pilot Ridge L.V and eastern L.V, 10 miles N & E of east channel L.V., Date ?, 1 ex.
- M-21466/4. Loc. Pearl Bank, Coll. Dr. H.S. Raw, Date ?, 1 ex.

46. *Octopus fusiformis* Brock

1887. *Octopus fusiformis* Brock, *Zool. Jhrb. Syst.*, 2: 601.
1968. *Octopus fusiformis*: Silas, *Proc. Symp Moll.*, pt. 1(3): 340. *Mar. Biol. Ass. India.*
1987. *Octopus fusiformis*: Jothinayagam, *Tech. Mon.*, zool. Surv. India, 15: 66, fig. 24.
2010. *Octopus fusiformis*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 25.

Distribution : India : Bay of Bengal (Palk Strait).

A total of 02 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

- M-8232-33/1. Loc. Palk Strait, Madras coast, S.India, Coll. I.G.Gleadall, Date ?, 1 ex.
- M-17680/3. Loc. ?, Coll. Dr.P.N.Mathur (Ajmer), 9.11.1996, 1 ex.

47. *Octopus arborescens* Hoyle

1904. *Polypus arborescens* Hoyle, *Rep. Ceylo Pearl Oyster Fish.*, 2, Suppl. 14: 189, pl. 2, figs. 8, 9 & 12.
1916. *Polypus arborescens*: Massy, *Rec. Indian Mus.*, 12(5): 207.
1968. *Octopus (Octopus) arborescens*: Silas, *Proc. Symp Moll.*, pt. 1(3): 337. *Mar. Biol. Ass. India.*
1986. *Octopus arborescens*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, p.178. *Zool. Surv. India.*

2000. *Octopus arborescens*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No. 187*: 196.

2010. *Octopus arborescens*: Ramakrishna and Dey, *Rec. zool. Surv. India, Occ. Paper No. 320*: 24.

Distribution : India: Andaman and Nicobar Islands.

There is only one ex. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-8234/1. Loc. Pearl Bank, Ceylon, Coll. T.Southwell, Date ?, 1 ex.

48. *Octopus (Octopus) arborescens* (Hoyle)

1904. *Polypus arborescens*, Hoyle, *Rep. Pearl Fish. Gulf Mannar. II, Suppl. Rep. XIV*, p. 189, pl.ii, figs. 8,9,12; pl. ii.

1916. *Octopus arborescens*, Massy, *Rec. Ind. Mus.* 12(5): 207.

1929. *Octopus (Octopus) arborescens*, Robson, *Monograph I*, p. 151.

1938. *Octopus (Octopus) arborescens*: Adam, *Bull. Mus. Roy. Hist. Nat. Belgique XIV*, 7., p.11, Fig. 5 B-C,4.

1939. *Octopus (Octopus) arborescens*: Adam, *Rec. Indian Mus.*, 41: 61-110.

Distribution : Indian Ocean (Port Blair, South Andamans).

There is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-8234/1. Loc. Pearl Bank, Ceylon, Coll. T.Southwell; Date ?, 1 ex.

49. *Teretioctopus alcocki* Robson

1885. *Octopus januayii*, Steenstrup, *Challenger Rep. XVI (Cephalopoda)*, pp. 97-98, pl. 7, figs. 1-4.

1896. *Octopus januarii*: Goodrich, *Trans. Linn. Soc. Zool.*, 2, VII, part 1, p. 19.

1904. *Polypus januarii* : Hoyle, *Bull. Mus. Comp. Zool.*, XI.III, p. 18, pl. 5, fig. 2.

1916. *Polypus januarii*: Berry, *Proc. Acad. Nat. Sci. Phil.*, p. 392.

1916. *Polypus januarii*: Massy, *Rec. Indian Mus.*, 12(5): 199.

1932. *Teretioctopus alcocki*, Robson, *Monograph II, Bull. Raffles Mus.* 7: 21.

1939. *Teretioctopus alcocki*: Adam, *Rec. Indian Mus.*, 41: 61-110.

Distribution : India: Andaman and Nicobar Islands, Gulf of Oman.

There are only 02 exs. present in the NZC at the ZSI in the name of *Octopus alcocki*. The details thereof is as below.

- M-1311/1. Loc. Gulf of Oman, St.297, Coll. Investigator, 25° 11'N., 57015'E, 689-700 fms., Date 13-iv-1902, 1 ?.
- M-3348/1. Loc. Gulf of Oman, St.343, Coll. Investigator, 23° 46'15"N., 58031'50"E, 609 fms., Date 19-x-1904, 1 ?.

Subgenus *Callistoctopus* Taki, 1964

1798. *Callistoctopus* Taki, J. Fac. Fish Hiroshima Univ., 3: 297.

50. *Octopus (Callistoctopus) cyaneus* (Gray)

1849. *Octopus cyanea* Gray, Cat. Moll. Brit. Mus. Cephalopoda, 1: 15.

1916. *Polypus cyanea*: Massy, Rec. Indian Mus., 12(5): 195.

1968. *Octopus (Octopus) cyanea*: Silas, Proc. Symp Moll., pt. 1(3): 338. Mar. Biol. Ass. India.

1986. *Octopus cyanea*: Tikader, Daniel and Subba Rao, Sea shore animals of Andaman and Nicobar Islands, p.178. Zool. Surv. India,

2000. *Octopus cyanea*: Subba Rao and Dey, Rec. zool. Surv. India, Occ. Paper No. 187: 197.

2010. *Octopus cyanea*: Ramakrishna and Dey, Rec. zool. Surv. India, Occ. Paper No. 320: 23.

Diagnostic Features : Mantle round to oblong, smooth-skinned (non-papillose) with a few large tubercles; one large cirrus over each eye, usually with 2 secondary, smaller tubercles; a dark purplish, ringed ocellus or "eye spot" located on web on each side between the eye and the base of arms III and IV. Arms stout, robust, coequal, arms IV slightly longer; right arm III hectocotylized: calimus and ligula very small (0.4 to 1.4% of arm length); ligula groove shallow with about 10 often obscured transverse ridges; About 10 filaments on outer demibranch of gill.

Size : Total length: 1-1.5 cm

Distribution : India: Bay of Bengal (Andaman and Nicobar Islands, Tamil Nadu)

A total of 03 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-326/1. Loc. Andman, Coll. Marine Survey of India, Date ?, 1 ex.

M-8253/1. Loc. Akyab, Burma, Coll. I.H. Burnhill, Date ?, 1 ex.

M-15310/2. Loc. Andaman Sea, Coll. R.P. Mullins, Date ?, 1 ex.

Remarks : *Octopus cyanea* is a synonym of *Octopus cyaneus*. A total of 02 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-23118/4. Loc. Okha beach, Gujarat, Coll. K.V.Surya Rao & party, 13.08.1972, 5 exs.

M-8235/1. Loc. Pearl Bank, Ceylon, Coll. Dr. T.Southwell, Date ?, 1 ex.

Octopus (Octopus) cyanea is a synonym of *Octopus cyaneus*. A total of 02 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-326/1. Loc. Andamans, Coll. Marine Survey of India, Date ?, 1 ex.

M-8253/1. Loc. Akyab, Burma, Coll. I.H. Burnhill, Date ?, 1 ex.

Subgenus *Microtritopus* defilippi51. *Octopus (Microtritopus) bandensis* (Hoyle, 1885)

1885 *Octopus bandensis* Hoyle, *Polypus bandensis* Massy, 1916.

There is only one ex. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-8109/1. Loc. Sta. 152, 11 ½ miles S, 830 W of Colombo, 26 fms., Coll. Investigator, Date ?, 1 ex.

Octopus (Microtritopus) sp.

There is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-15309/1. Loc. Bay of Bengal, between Pilot ridge, Coll. Investigator, Date ?, 1 ex.

Octopus sp.

A total of 03 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-8112/1. Loc. Sta. 237, Andaman Sea, 90 fms., Coll. Mar. Surv. of India, Date ?, 1 ex.

M-742/1. Loc. Andaman Sea, 185 fms., Coll. Mar. Surv. of India, Date ?, 1 ex.

M-8253/1. Loc. ?, Coll. R.P.Mullins, Date ?, 1 ex.

Subfamily BATHYPOLYPODINAE

Genus: *Benthooctopus* Grimpe, 1921

1921. *Benthooctopus* Grimpe, Zool. Annx., 52: 299.

52. *Benthoctopus profundorum* Robson

1916. *Polypus januarii*, Berry, Proc. Acad. Nat. Sci. Phil., p. 392.

1932. *Benthoctopus profundorum*, Robson, Mem. Recent Cephalopoda, pt. 2: 237, pl. 4, fig. 1, text figs. 33 & 42.

1968. *Benthoctopus profundorum*: Silas, Proc. Symp. Moll., pt. 1(3): 348. Mar. Biol. Ass. India.

2000. *Benthoctopus profundorum*: Subba Rao and Dey, Rec. zool. Surv. India, Occ. Paper No. 187: 198.

2010. *Benthoctopus profundorum*: Ramakrishna and Dey, Rec. zool. Surv. India, Occ. Paper No. 320: 32.

Diagnostic Features : Mantle saccular, elongate, smooth, devoid of sculpture. Arms long, narrow, very attenuate; suckers biserial; web very shallow, a maximum of 15% of longest arm length; right arm III hectocotylized, only about half as long as left III; ligula medium-sized (6 to 9% of arm length) with a deep groove and weak transverse laminae; calimus small, acute. 7 or 8 lamellae on outer demibranch of gill.

Size : Mantle length : 3-6 cm.

Distribution: India : Andaman Islands

A total of 02 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-515/1. Loc. Andaman Sea, St.222, Coll. Investigator, 13° 27' N., 93° 14' 30" E., 405 fms., Date 21-xii-1896,, 1 ♀.

M-8111/1. Loc. St.332, Coll. Investigator, 10°21'N., 92°46'15" E, 279 fms., Date 12-iv-1904, 1 ♀.

53. *Argonauta boettgeri* Maltzan

1758. *Argonauta boettgeri* Maltzan, J. de Conch. Paris, 29: 163.

1916. *Argonauta boettgeri* : Massy, Rec. Indian Mus., 12(5): 188.

1968. *Argonauta boettgeri* : Silas, Proc. Symp Moll., pt. 1(3): 349. Mar.Biol.Ass.India.

1986. *Argonauta boettgeri* : Tikader, Daniel and Subba Rao, Sea shore animals of Andaman and Nicobar Islands, p.179. Zool. Surv. India.

2000. *Argonauta boettgeri* : Subba Rao and Dey, Rec. zool. Surv. India, Occ. Paper No. 187: 198.

2010. *Argonauta boettgeri* : Ramakrishna and Dey, Rec. zool. Surv. India, Occ. Paper No. 320: 32.

Distribution: India : Andaman and Nicobar Islands.

There is only one ex. present in the NZC at the ZSI. The details thereof is as below.

Registration No.

M-344/1. Loc. Andaman Sea, Coll. Marine Survey of India. Date ?, 1 ex.

54. *Argonauta gondola* Dillwyn

There is only one ex. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-3011/1. Loc. Andaman, 185 fms., Coll. Marine Survey of India, Date ?, 1 ex.

55. *Calliteuthis reversa* Verill

(Histioteuthidae)

Remarks : Goodrich (1896) has given *Caliteuthis reversa* Verill. It is very much unlikely that this species occurs in the Indian Ocean as Voss (1956) mentions that it would appear to be restricted to the northern and western north Atlantic and the Gulf of Mexico. Therefore, the specific status needs re-examination.

There is only one ex. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-387/1. Loc. Andaman sea, 265 fms. Coll. ?, Date ?, 1 ex.

56. *Onychoteuthis banksii* Leach

This species has been synonymised several times from its original naming of *Loligo banksii* Leach, 1817 to *Onychoteuthis aequimanus* Gabb, 1868; *Onykia angulatus* Lesueur, 1821; *Loligo angulatus* Ferussac, 1823; *Onychoteuthis angulata* d'Orbigny, 1826; *Loligo bartlingii* Lesueur, 1821; *Onychoteuthis bartlingii* Gray, 1849; *Onychoteuthis bergii* Lichtenstein, 1818; *Loligo bergii* Blainville, 1823; *Onychoteuthis bergii*, Middendorf, 1849; *Loligo bianconii* Verany, 184(6; *Ommastrephes bianconii* Gray, 1849; *Onychoteuthis borealijaponicus* Okada, 1927; *Teleoteuthis caroli* Jonhin, 1900; *Zo / / go / e / / na* Blainville, 1823; *Onychoteuthis felina* d'Orbigny, 1826; *Onychoteuthis fleuryi* Renaud, 1830; *Onychoteuthis fusiformis* Gahh, 1862; *Onychoteuthis krohnii* Verariy, 1846; *Teleoteuthis krohnii* Carus, 1889; *Teleonichoteuthis krohnii* Pfeiffer, 1900; *Ancistroteuthis lichtensteinii* (partim) Jatta, 1896; *Loligo lessoniid'*Orhigny, Mid (nomen nudum); *Onychoteuthis lessonii* Lessoa, 1830; *Onychoteuthis lobipennis* Dall, 1872; *Enoploteuthis margaritifera* (partim) Jatta, 1896; *Onychoteuthis molinae* Lichtenstein, 1818; *Onychoteuthis raptor* Owen, 1881; *Onychoteuthis rutilus* Gould, 1852; *Teleonichoteuthis rutilus*, Jatta, 1904; *Loligo uncinata* Quoy & Gaimard, 1824; *Onychoteuthis uncinata* d'Orbigny, 1826;

As would be seen from the list of synonyms, this species has been dealt with by several authors. For detailed synonymy reference is invited to Adam (1952), who has also given a description of the species.

There are 2 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-323/1. Loc. Sandhead, Mouth of Hoogly, Coll. Investigator, Date ?, 1 ex.

M-324/1. Loc. Bay of Bengal, 272 fms., Coll. Investigator, Date ?, 1 ex.

57. *Hapalochlaena marculosa* (Hoyle)

There is only one ex. present in the NZC at the ZSI. The details thereof is as below.

Registration No. 353/1. Loc. Port Jackson, Coll. Dr.W.Adam, Date ?, 1 ex.

58. *Hymenoteuthis macropes* Berry

Remarks : Pickford (1949) has considered "*Hymenoteuthis macropes* Berry" recorded by Massy (1916) from Indian Seas (off Gulf of Mannar) as a synonym of *Vampyroteuthis infernalis*, representing probably stage IV of this species.

There is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-8234/1. Loc. Sta. 109, S. of Comarin, 738 fms., Coll. Investigator, Date ?, 1 ex.

59. *Cirroteuthis macropes* Berry

Remarks : Pickford (1949) opined that *Hymenoteuthis macropes*=*Cirroteuthis macropes* is a representative of different developmental stages.

There is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-8284/1. Loc. Sta. 109, S. of Comarin, 738 fms., Coll. Investigator, Date ?, 1 ex.

60. *Tereoctopus indus/indicus* Robson

1916: *Octopus pricei* Massy, *Rec. Indian Mus.*, 12(5): 209, pi. 28, figs. 7-8.

1932: *Tereoctopus indicus* Robson, *Report on the Cephalopoda in the Raffles Museum. Bull. Raffles Mus.*, 7: 249-251, pi. 3, fig. 2; text-fig. 46.

Distribution : Indian Ocean (Pearl Banks, Ceylon).

There is only one ex. present in the NZC at the ZSI. The details thereof are as below.

Registration No.

M-8129/1. Loc. Sta. 366, Arabian Sea, 544 fms., Coll. Marine Survey of India, Date ?, 1 ex.

Remarks : Robson (1932) has given reasons for considering Massy's specimens (*Polypus pricei* Massy) as deserving the status of a new genus and species.

61. *Gonatus fabriciei* (Lichtenstein, 1818)

Remarks : Dell (1959) has recorded *Gonatus fabricii* (Lichtenstein, 1818) from New Zealand waters. This species is known to occur in the northern parts of North Pacific, Bering Sea, south-wards from Alaska to California, North Atlantic and the Mediterranean. It is not unlikely that members of this family may be represented in the Indian Ocean sector of the Antarctic.

There is only one ex. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-8497/1. Loc. 500 52' N 1026' W, 625-666 fms., Coll. Deptt. Of Ag. & Tech. Instructions (SWK), 1 ex.

62. *Bathyteuthis abyssicola* Hoyle 1885

A total of 02 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-8138/1. Loc. Sta. 393, Bay of Bengal, 2000 fms., Coll. Investigator, Date ?, 1 ex.

M-8139/1. Loc. Sta. 462, Bay of Bengal, 475 fms., Coll. Investigator, Date ?, 1 ex.

63. *Berry hoylei* (Berry 1909)

1909. *Polypus hoylei*, Berry, *Proc.U.S. Nat. Mus.* XXXVII, p.407, fig.1

1914. *Polypus hoylei*: Berry, *Bull. U.S. Bur.Fish. Washington*, p. 296.pls. xlvii-xlviii, iv.

1916. *Polypus hoylei*: Massy, *Rec. Indian Mus.* XII, p. 207

1929. *Octopus hoylei* and var. *annae* Robson, *Monograph I*, p.219, text fig.89.

1939. *Berrya hoylei*, Adam, *Rec. Indian Mus.* XLI, p.101.

1968. *Berrya hoylei*: Silas, *Proc. Symp Moll.*, pt. 1(3): 349. *Mar. Biol. Ass. India.*

A total of 05 exs. present in the NZC at the ZSI. The following are the details thereof.

Registration No.

M-741/1. Loc. Andaman Is., 185 fms., Coll. Marine Survey of India, Date ?, 1 ex.

M-8123/1. Loc. Sta. 349, Persian Gulf, Coll. Marine Survey of India, Date ?, 1 ex.

M-8125-26/1. Loc. Sta. 360, Arabian Sea, 130 fms., Coll. Mar. Surv. of India, Date ?, 1 ex.

M-8144/1. Loc. Sta. 464, S. of Ceylon, 52-68 fms., Coll. Mar. Surv.of India, Date ?, 1 ex.

M-8234/1. Loc. Pearl Bank, S. of Ceylon, Coll. D.T. Southwell, Date ?, 1 ex.

Remarks : Although Robson (1929) found Massy's specimens of *Polypus hoylei* to be sufficiently different from the description of Berry's specimens from Hawaii, Adam (1939) found that the creation of a special name for the Indian Ocean material was not necessary. However, Robson's opinion that Massy's specimens may belong to a distinct genus has found agreement with Adam, who has placed it under *Berrya*, which seems to be closely related to *Bathypolypodinae*.

64. *Eledonella* sp.

There are 05 exs. of *Eledonella* sp. present in the NZC of ZSI. However, these are not determined at the species level. The details thereof are as below.

Registration No.

- M-8110. Loc. Sta. 184, 947 fms., Coll. Investigator, Date ? 1 ex.
 M-8137/1. Loc. Sta. 363, 2000 fms., Coll. Investigator, Date ? 1 ex.
 M-2441/1. Loc. Sta. 462, 475 fms., Coll. Investigator, Date ? 1 ex.

SUMMARY AND DISCUSSION

A total of 64 species belonging to 34 genera and 12 families representing the class-Cephalopoda are reported by various research team workers from Zoological Survey of India, Kolkata. The specimens are in the NZC of ZSI at the Headquarter in Kolkata while five are yet to be identified upto species level and identification remain only upto genera level. The noteworthy works with specific reference to India are those by Goodrich (1896: Trans. Linn. Soc. London, 7,1-24), Massy (1916: Rec. Indian Mus., 12: 185-248), and Adam (1939, Ibid., 41; 61-110), based on collections in the Indian Museum. The Cephalopod collections present in the NZC at the ZSI, Kolkata reveals that 13 species (*Abralia andamanica*, *Abralia lineata*, *Chiroteuthis macrosoma*, *Chiroteuthis pellucida*, *Iniotheuthis maculosa*, *Loliolus investigatoris*, *Octopus microphthalmus*, *Octopus prashadi*, *Sepia arabica*, *Sepia prashadi*, *Sepia singalensis*, *Sepioteuthis lessoniana*, *Taonius abyssicola*) have been described as new species, three species endemic to Indian Ocean (*Sepia brevimana*, *S. prasadi* and *Octopus prasadi*) and nine species as Indo-pacific species (*Sepia aculeata*, *S. pharaonis*, *S. kobiensis*, and *S. inermis*, *Iniotheuthis maculosa*, *Loligo duvauceli*, *Doryteuthis singhalensis*, *Sepioteuthis lessoniana* and *Loliolus investigatoris*). Beside the NZC at ZSI, Kolkata, there are published reports of Cephalopods from India by ZSI regional centres viz. Marine Biological Station-Chennai, Andaman & Nicobar Regional Centre, Port Blair and the Estuarine Biological Station, Berhampur. Other than the report of ZSI, there are other species of Cephalopods which have been reported from India but are not present at the NZC of ZSI. While 25 species of Cephalopods recorded by Jyothinayagam (1987) from Madras coast, nine species (*Aurosepina arabica*, *Euprymna berryi*, *Loligo uyii*, *Octopus aegina*, *Octopus rugosus*, *Octopus fusiformis*, *Octopus areolatus*, *Halalochleana fasciata* and *Berrya hoylei*) are not present in the NZC, Kolkata. Similarly, 33 species have been recorded from the Andaman & Nicobar survey (Subba Rao and Dey, 2000) of which *Euprymna berryi*, *Sepiadarium kochii*, *Histioteuthis hoyle*,

Octopus arborescens, *Danoctopus hoylei* and *Teretoctopus alcocki* not present in the NZC of Kolkata. Confusion on the documentation of actual number of Cephalopod species occurring in India is there because of such issues.

The documentation of Cephalopods of West Coast of India by R.V. Varuna (Silas, 1968) with catalogue of species known from the Indian Ocean is one of most comprehensive study on Cephalopod resources of India with highlights on the taxonomic confusion on many species recorded from India in the past and there are still taxonomic confusions on many other species viz *Abralia lineata*, *Stigmatoteuthis japonica*, (*Doratosepion*) *andreanoides*, *Sepia esculenta* and *Aurosepina arabica*. So far, little attention has been paid to the study of the biology of Indian Cephalopods. Other sources of information are also limited to stray records or accounts in expedition reports. This is mostly due to scanty surveys on Cephalopods of Indian coastline in the past as most of the specimens present in the NZC are collected during the period 1896 to 1916 and very few surveys conducted thereafter. The erroneous documentation of older specimen also leading to confusion on the identification due to incorrect entries in the Specimen Register and/or incomplete information on the location, collector and date of collection. Besides, the NZC is not having many species of Cephalopods documented along the Indian coastline by other organizations or ZSI regional stations for comparative reference study. Therefore, it is obvious that repeated detailed offshore and onshore collections with adequate equipments would probably bring to light many additional species of Indian coastline and also will clear any mis-identification on the status of the species.

In the absence of comprehensive taxonomic details on many species, probably no one has attempted to bring out a catalogue of the Cephalopoda of the Indian Ocean. Several Cephalopods, especially the neritic squids and cuttlefishes are economically important as they form seasonal subsistence fishery in some places bordering the Indian Ocean. The same is true of several species of octopuses which are also consumed. Many of the Cephalopods are important links in the trophic chain and pelagic Cephalopods, especially some of the oceanic squids, are important as forage for pelagic fishes such as tunas, billfishes, lancet fishes and for the toothed whales. Some of the epipelagic and bathypelagic species are useful indicators of water masses. In spite of their usefulness, the Cephalopoda of the Indian Ocean has not received its due share of recognition. There are vast areas which have not been explored for their Cephalopod fauna. In the light of these it is evident that there is need for more information on the Cephalopoda of the Indian Seas. So, better understanding on the Cephalopoda of the India is urgently required.

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