



Contribution to the knowledge on Indian Marine Molluscs : Family Conidae

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Abstract

This study was aimed to compile the information on the diversity and distribution of Indian cone shells (Family Conidae) from the materials present in National Zoological Collections (NZC) of Zoological Survey of India (ZSI). About 93 species were known from India and a total of 76 species are reported in this study and it revealed that the species distribution is more on the Andaman and Nicobar islands (37), 12 species from Andhra Pradesh, 32 species from Tamil Nadu, 8 species each from Puducherry, Maharashtra and Lakshadweep, 5 species from Kerala and Gujarat respectively and one species each of Odisha and Karnataka. Beside above, systematic taxonomic account, nomenclature, synonymy, distinctive features and their distribution along with their current status are also discussed.

Keywords: Conidae, Diversity, Distribution, Nomenclature, Systematic

Introduction

John Fleming (1822) first proposed the term Conidae as a family-level taxon and it was generally accepted since about 1850, but its scope has been variably perceived. Twentieth-century workers generally consider the Neogastropoda, Super family Conoidea (or Conacea or Toxoglossa) to comprise two families, Conidae and Terebridae, (Thiele, 1931), or three, with separation of Turridae from Conidae (Wenz, 1942; Powell, 1966; Ponder and Waren, 1988). Kohn (1990) elucidated the distinction between Turridae and Conidae and implied that several genera intermediate in shell form, most with extant representatives, appear to link the two families, and different authors have drawn different lines between them. Cossmann (1896) and Powell (1966) described each of these genera and noted their similarities and distinguishing features. Most 20th century authors include in the Conidae only *Conus*, and *Hemiconus* if they consider this extinct genus or subgenus. Species

of *Conus* vary widely from specialists to generalists. Cossmann's (1896) criteria that distinguish Coninae and Cryptoconinae are clear and applicable to both fossil and recent forms. Partial resorption of inner walls, a hallmark of *Conus* (Kohn *et al.*, 1978), also occurs in *Conorbis* and *Hemiconus* (Coninae) but not in *Cryptoconus* (Cryptoconinae). The spire and aperture in *Cryptoconus* each comprise about half the total shell length, whereas the spire of *Conorbis* is always shorter than the aperture length. In Coninae, shell form is generally conic or biconic with the sides of the aperture parallel. *Hemiconus* and *Conorbis* thus share important shell features with *Conus*. Members of the Cryptoconinae do not resorb inner shell walls and have fusiform shells with ovate apertures. The genus *Conus* appears to have been confined to warm seas, with all of the major radiations occurring in tropical conditions.

In India, only in the 19th century the taxonomy and distribution of Conidae were studied by Ferdin and Stoliczka (1867, 1868) and Winckworth (1943, 1945)

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Tryon (1883) Cernohorsky, (1964), Coomans *et al.*, (1979). Kohn (1978) documented the diversity of cone snails in Indian Coastal waters. Various studies on the taxonomy and distribution of Conidae along the Indian Coasts carried out during 1835–2010. Most of these were reported from the Tamil Nadu Coast (Thurston 1895; Melvill & Standen 1898, 1899a, 1901; Melvill 1904; Gravely 1942; Satyamurti 1952; Kohn 1960, 1978, 2001; Röckel *et al.*, 1995; Hylleberg and Kilburn 2002; Subba Rao, 2003; Franklin *et al.*, (2007) Ramakrishna and Dey, 2010). Franklin *et al.*, (2009) documented on diversity and distribution of 60 species of Conidae found in the coastal waters of India, particularly of Tamil Nadu. The recent publication on Manual of the Living Conidae by Rockel *et al.*, (1995) provides a concise and detailed account of 316 valid species with several subspecies and forms from the tropical Indo-Pacific region. Sixteen identified species found off the coast of India are currently placed in the list of unverified species due to lack of comprehensive data (Kohn 1978). Species such as *C. generalis* and *C. litoglyphus* which were earlier considered as unverified species have since been confirmed as species native to the Indian Coastal waters (Rockel *et al.*, 1995; Kohn 2001). Recent publication of Zoological Survey of India reviewed detailed account of conidae recorded from different coastal states. A total of 3 species were recorded from the coast of Orissa (Subba Rao *et al.*, 1990) 13 species from Andhra Pradesh (Ramakrishna *et al.*, 2007) 18 species from Maharashtra (Pati and Sharma, 2010).

Although several authors, along the history of Malacology tried to present a classification within the single family Conidae, most of the authors treated it as one undivided and mono-generic family. All such previous attempts of finer classification more or less used morphology as a basis for their divisions. The new classification of the cone shells is based and combined with molecular work and cladistic analysis. A. J. da Motta (1982, 1990) presented a definitive systematic classification of cones which in recent years has been more readily adopted in the literature. cone shells are undoubtedly the most popular group of collectable seashells. The varied colors and patterns exhibited by these shells are immediately eye-catching. The diversity of species makes amassing a comprehensive collection. In recent years there has been a push to subdivide the genus *conus* into a more neatly defined group of genera and subgenera based on shell characteristics. Kersten (2010) splits the super

family *Conoidea* into five families, two subfamilies, and 89 genera (of which 27 new ones) and made few changes to species names because of the choice of masculine names for most of the genera. The new scheme is based primarily on the radula, with morphology and other factors used when the radula is not known (e.g. fossils). On the other hand, a lot of technical concepts (cladistics, DNA, etc.) are used to support their classification. Thus the biological taxonomy is in the process of dynamic and not fixed, and opinions about the correct status of taxa at all levels, and their correct placement, are constantly revised as a result of new research. Many aspects of classification will always remain a matter of scientific judgment.

Due to the large number of species in the family, cone specialists are finding it advantageous to concentrate on building regional collections of Conidae. This has helped concentrate their efforts on better learning the complexities of cone shell taxonomy and identification. It has always been a challenge to determine the identity of many newly discovered *Conus* forms and their relation-ship to the more well-known species from the region. A well-documented and comprehensive Conidae collection is not only aesthetically pleasing, but of great scientific importance. The cone shells have fascinated biologists from time immemorial. Recently, these snails captivated a new set of admirers among biochemists and pharmacologists with their unique venoms. The venom of some species is powerful enough to kill a human being (Rumphius, 1705). The crude venom of cone snails is a cocktail of different peptides termed as ‘conotoxins’ (Olivera *et al.*, 1985, 1991; Olivera and Cruz 2001). It is hoped that discovery of new species of cone snails would add to the knowledge of extant species as well as to the chemical diversity of pharmacologically active peptides.

The objective of this work is to update our knowledge on Cone shells of India. The present account deals with the 76 species inhabiting the Indian seas. It includes the up to date nomenclature, synonymy, distinctive features and their distribution. The materials are present in the National Zoological Collection of Zoological Survey of India.

Material and Methods

This work is based on the large collection of cone shells present in the National Zoological Collection of Zoological Survey of India obtained from the following sources.

- i. Shore collections from Indian main land and its adjoining islands by surgeons Naturalists of Indian Marine Survey, Aboard RIMS 'Investigator' during 1887-1939.
- ii. Collection brought by faunistic survey parties of Zoological Survey of India from different coastal areas.

Procedural Techniques

Morphological examination of the shell was carried out with the help of magnifying glass (10 x) or under a binocular microscope. All the measurements are given in millimeters (mm). For each species, largest and smallest were selected for measurements. Shell measurements are given in terms of maximum dimension along the longitudinal axis (Length = L) maximum dimension along body whorl (Diameter = Width) and the maximum length of the aperture (Aperture length = APL). All the measurements were taken with the help of a dial caliper. In the descriptive part the usual procedure employed by malacologist is followed for the sake of uniformity. The identification guide and taxonomic lists of Rockel *et al.*, (1995) and Kohn (1978, 2001) were used for species identification. Synonyms of type-species that have not been cited were adopted from Rockel *et al.*, 1995. The systematic arrangement of genera and species is mainly based on Vaught's classification (1989).

Systematic List of Indian Species

Class GASTROPODA
 Subclass PROSOBRANCHIA
 Order NEOGASTROPODA
 Superfamily CONOIDEA
 Family CONIDAE

1	<i>Conus abbas</i> Hwass in Bruguiere
2	<i>Conus achatinus</i> Gmelin
3	<i>Conus aculeiformis</i> Reeve
4	<i>Conus acutangulus</i> Lamarck
5	<i>Conus amadis</i> Gmelin
6	<i>Conus araneosus</i> (Lightfoot)
7	<i>Conus arenatus</i> Hwass in Bruguière
8	<i>Conus asiaticus</i> da Motta
9	<i>Conus augur</i> (Lightfoot)
10	<i>Conus aulicus</i> Linnaeus

11	<i>Conus australis</i> Holten
12	<i>Conus balteatus</i> Sowerby
13	<i>Conus bandanus</i> Hwass in Bruguière
14	<i>Conus bayani</i> Jousseaume
15	<i>Conus bengalensis</i> (Okutani)
16	<i>Conus betulinus</i> Linnaeus
17	<i>Conus biliosus</i> Röding
18	<i>Conus boschi</i> Clover
19	<i>Conus canonicus</i> Hwass
20	<i>Conus capitaneus</i> Linnaeus
21	<i>Conus characteristicus</i> Fischer
22	<i>Conus catus</i> Hwass in Bruguière
23	<i>Conus chaldeus</i> , (Roeding)
24	<i>Conus cinereus</i> Hwass in Bruguiere
25	<i>Conus collisus</i> Reeve
26	<i>Conus consors</i> Sowerby
27	<i>Conus coromandelicus</i> (Smith)
28	<i>Conus coronatus</i> Gmelin
29	<i>Conus dictator</i> Melvill
30	<i>Conus dispar</i> Sowerby
31	<i>Conus distans</i> Hwass in Bruguiere
32	<i>Conus ebraeus</i> Linnaeus
33	<i>Conus eburneus</i> Hwass in Bruguiere
34	<i>Conus edwardi</i> Preston
35	<i>Conus elegans</i> Sowerby
36	<i>Conus epicopus</i> Hwass in Bruguière
37	<i>Conus eucoronatus</i> Sowerby
38	<i>Conus eximius</i> Reeve
39	<i>Conus figulinus</i> Linnaeus
40	<i>Conus flavidus</i> Lamarck
41	<i>Conus frigidus</i> Reeve
42	<i>Conus generalis</i> Linnaeus
43	<i>Conus geographus</i> Linnaeus
44	<i>Conus glans</i> Hwass in Bruguière
45	<i>Conus glaucus</i> Linnaeus
46	<i>Conus gubernator</i> Hwass in Bruguiere
47	<i>Conus hyaena</i> Hwass in Bruguiere
48	<i>Conus imperialis</i> Linnaeus
49	<i>Conus insculptus</i> Kiener
50	<i>Conus inscriptus</i> Reeve
51	<i>Conus jonus</i> Hwass in Bruguière

52	<i>Conus lentiginosus</i> Reeve
53	<i>Conus leopardus</i> Roeding
54	<i>Conus litoglyphus</i> Hwass in Bruguiere
55	<i>Conus litteratus</i> Linnaeus
56	<i>Conus lividus</i> Hwass in Bruguiere
57	<i>Conus locumtenens</i> Blumenbach
58	<i>Conus longurionis</i> Kiener
59	<i>Conus loroisii</i> Kiener
60	<i>Conus madagascariensis</i> Sowerby
61	<i>Conus malacanus</i> Hwass in Bruguiere
62	<i>Conus marmoreus</i> Linnaeus
63	<i>Conus miles</i> Linnaeus
64	<i>Conus milliaris</i> Hwass in Bruguiere
65	<i>Conus milne edwardsi</i> Jousseume
66	<i>Conus mitratus</i> Hwass in Bruguiere
67	<i>Conus monile</i> Hwass in Bruguiere
68	<i>Conus mosonii</i> Nevill
69	<i>Conus musicus</i> Hwass in Bruguiere
70	<i>Conus nobilis</i> Linnaeus
71	<i>Conus nicobaricus</i> Hwass in Bruguiere
72	<i>Conus nussatella</i> Linnaeus
73	<i>Conus pennaceus</i> Born
74	<i>Conus pertusus</i> Hwass in Bruguiere
75	<i>Conus praecellens</i> Adams
76	<i>Conus pretiosus</i> Nevill
77	<i>Conus quercinus</i> (Lightfoot)
78	<i>Conus rattus</i> Hwass in Bruguiere
79	<i>Conus striatus</i> Linnaeus
80	<i>Conus striolatus</i> Kiener
81	<i>Conus sulcatus</i> Hwass in Bruguiere
82	<i>Conus suratensis</i> Hwass in Bruguiere
83	<i>Conus terebra</i> Born
84	<i>Conus tessulatus</i> Born
85	<i>Conus textile</i> Linnaeus
86	<i>Conus tulipa</i> Linnaeus
87	<i>Conus tuticorinensis</i> Rockel & Korn
88	<i>Conus vexillum</i> Gmelin
89	<i>Conus vimineus</i> Reeve
90	<i>Conus violaceus</i> Gmelin
91	<i>Conus virgo</i> Linnaeus
92	<i>Conus zeylanicus</i> Gmelin
93	<i>Conus zonatus</i> Hwass in Bruguiere

Class GASTROPODA

Subclass PROSOBRANCHIA

Order NEOGASTROPODA

Superfamily CONOIDEA

Family CONIDAE

Genus *Conus* Linnaeus, 1758

1758. *Conus* Linnaeus, *Syst. Nat.*, ed, **10**: 712

1. *Conus abbas* Hwass in Bruguiere (Plate I fig. 1)

1792. *Cylinder abbas* Hwass in Bruguiere, *Enc. Méth.* 1: p. 750, no. 144.

1937. *Conus abbreviata* (variety *textile* Linnaeus) Dautzenberg., *Mem. Mus. Hist. nat. Belg.* 2 (18): p. 255, not figured.

Material examined: Andaman - 03 exs.

Measurements (in mm): Length: 30.00–45.7.00; Diameter: 15.20 –29.60; Aperture: 27.65 – 41.50

Remarks: The shell is very similar to that of *C. textile*, but the shell is smaller, the reticulations much smaller, the longitudinal streaks rarely apparent, and the dark bands of *Conus abbas* occupy about the same positions as the lightest markings of *Conus textile*

Distribution: Andaman Nicobar islands, South India. *Elsewhere*: East Africa, Java, Indonesia, Philippines, New Caledonia, Sri Lanka

2. *Conus achatinus* Hwass in Bruguiere (Plate I fig. 2)

1792. *Conus achatinus* Hwass in Bruguiere, *Encycl. Meth. Vers.*, **1**: 672, pl.330, fig.6.

2003. *Conus achatinus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 321.

Material examined: Indian Seas -10 exs.

Measurements (in mm): Length: 30.20-42.40; Diameter: 18.30 – 24.60 Aperture: 27.10-38.40

Distribution: India: Andaman and Nicobar Islands, Maharashtra. *Elsewhere*: Indian Ocean.

Remarks: *C. achatinus* is similar to *C. striolatus* in shell characters

3. *Conus aculeiformis* Reeve (Plate I fig. 3)

1843. *Conus aculeiformis* Reeve, *Proc. zool. Soc. London* : 176.

2007. *Conus aculeiformis*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 126, X, figs. 121 & 122. *Zool. Surv. India.*

Material examined: Malabar Coast -3 exs.

Measurements (in mm): Length: 31.50-36.30 Diameter: 12.40-17.30 Aperture: 24.60-28.10

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Puducherry, Tamil Nadu. *Elsewhere:* Indo-Pacific.

4. *Conus acutangulus* Lamarck (Plate I fig. 4)

1810. *Conus acutangulus* Lamarck, *Hist. Nat. Anim. Sans. Vert.*, 7: 498, sp. No., 121.

2003. *Conus acutangulus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, 192: 312, pl.83, figs.1-2.

Material examined: 2 exs. from Station 246: 68-148 fms-Marine Survey.

Measurements (in mm): Length: 30.40 -36-50 Diameter: 14.20 – 16.40 Aperture: 27.60- 33.30

Distribution: India: Andhra Pradesh, Maharashtra, Tamil Nadu. *Elsewhere:* Indo-Pacific.

Remarks: This species appears to be rare and uncommon.

5. *Conus amadis* Gmelin (Plate I fig. 5)

1791. *Conus amadis* Gmelin, *Syst. Nat.*, ed, 13: 3388.

2003. *Conus amadis*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, 192: 312, pl. 81, fig.6.

Material examined: Andamans. 5 exs.

Measurements (in mm): Length: 25.20–32.40 Diameter: 15.30–19.20 Aperture : 28.10-34.40

Distribution: India: Andaman and Nicobar Islands, Puducherry, Tamil Nadu. *Elsewhere:* China, Indonesia, Myanmar, New Caledonia, Persian Gulf, Philippines, Sri Lanka, Thailand.

Remarks: Very common, *Conus amadis* was found to be a common species. The colour pattern on the body whorl varied widely within populations.

6. *Conus araneosus* Hwass in Bruguiere (Plate I fig.6)

1786. *Conus araneosus* Hwass in Bruguiere, *Dict.*, sp. no., 51.

2003. *Conus araneosus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, 192: 312, pl.80, fig.4.

Material examined: Andaman, 02 exs. Tamil Nadu- 02 exs.

Measurements (in mm): Length: 22.00-67.60 Diameter: 14.50 – 28.40 Aperture: 16.10- 19.40

Distribution: India: Andaman and Nicobar Islands, Tamil Nadu. *Elsewhere:* Indo-Pacific.

Remarks: The specimens of *C. araneosus* will have elevated stepped spire, running one-fourth of the total shell length.

7. *Conus arenatus* Hwass in Bruguiere (Plate I fig. 7)

1792. *Conus arenatus* Hwass in Bruguiere, *Encyl. Meth. Vers.*, 1(2): 621.

2003. *Conus arenatus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, 192: 313, pl. 81, fig.2.

Material examined: Andamans- 11 exs. Indian seas- 6 exs.

Measurements (in mm): Length: 25.60-40.10 Diameter: 11.40-17.60 Aperture: 23.20-26.50

Distribution: India: Andaman and Nicobar Islands, Maharashtra, Tamil Nadu. *Elsewhere:* African coast, Australia, Fiji, Gulf of Aden, Japan, Malagasy, Mauritius, Mocambique, Seychelles.

Remarks: The last whorl has widely spaced dark brown dots, as opposed to narrowly spaced dots reported by Kohn (1978).

8. *Conus asiaticus* da Motta (Plate I fig. 8)

1985. *Conus asiaticus* da Motta, *La Conchiglia*, 17(192-193). p.25

1993. *Conus lovellreevei*, Massila, *Gloria Maris*, 22(1): 3, pl. 1, figs. 4, 5

Material examined: Tamil Nadu - 2 exs.

Measurements (in mm): Length: 25.00–40.10 Diameter: 15.30 –20.50 Aperture: 18.60 –24.80

Distribution: India: Tamil Nadu. *Elsewhere:* Japan to Philippines and Vietnam, Queensland

Remarks: *Conus asiaticus* appears to be similar to that of *C. inscriptus*. It can be distinguished by the irregular

yellowish brown axial streaks and blotches on its body whorl,

9. *Conus augur* Lightfoot (Plate I fig. 9)

1786. *Conus augur* Lightfoot, *Cat. Port. Mus.*, 44, no. 1046.

1798. *Cucullus pulverulentus* Roeding, *Mus. Bolten* : 44, no.

Material examined: Karnataka 6 exs.; Tamil Nadu 5 exs.

Measurements (in mm): Length: 25.40-32.60 Diameter: 12.10 – 14.50 Aperture: 10.60-14.30

Distribution: India: Tamil Nadu, Karnataka

Remarks: *Conus augur* is presumed to inhabit sand substrates. It appears to be rare on the Tamil Nadu Coast.

10. *Conus aulicus* Linnaeus (Plate I fig. 10)

1758. *Conus aulicus* Linnaeus, *Syst. Nat.*, ed. 10: 717, no. 279

2003. *Conus aulicus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, 192: 313, pl. 79, fig.5.

Material examined: Little Andaman - 2 exs.

Measurements (in mm): Length: 70.10-90.60 Diameter: 45.40-61.60 Aperture: 65.70-78.20

Distribution: India: Andaman and Nicobar Islands, Lakshadweep. *Elsewhere*: African coast, Amirantes, China, Indonesia, Japan, Java, Mauritius, Philippines, Seychelles, Sri Lanka.

Remarks: The occurrence of living specimens at shallow depths agrees with Kohn's (2001) observation. Material present in ZSI as *Regiconus aulicus* (Linnaeus) bearing Reg No. M-17968/3 of 2 exs.

11. *Conus australis* Holten (Plate I fig. 11)

1802. *Conus australis* Holten, *Enum. Syst. Conchyl.*; p. 39, no.87.

1992. *Conus gabryae* Rockel & Korn, *Acta Conchylorum*, 3, 13-16, pl. 2, fig. 11-20.

Material examined: 4 exs. From-Marine survey Sta. 146, 36 fms.

Measurements (in mm): Length: 36.30-39.20 Diameter: 16.40-19.30 Aperture: 28.10-33.40

Distribution: Kerala: Calicut. Tamil Nadu; Tranquebar and Pazhayar

Remarks: *Conus australis* differs from other by having a strong, paired rib on the last whorl, weak spiral colour bands, predominant short axial lines and dashes, and a rather straight last whorl outline.

12. *Conus balteatus* Sower by (Plate I fig. 12)

1833. *Rolaniconus balteatus* Sowerby, *Conch. Illus.*, pl. 37. fig. 58.

1877. *Conus propingus* Smith, *Ann. Mag. nat. Hist.* 19(4) : 222-231.

Material examined: Andaman and Nicobar Islands -2 exs. Andhra Pradesh – 2exs. Tamil Nadu. 3 exs.

Measurements (in mm): Length: 25.10-44.20 Diameter: 12.40-16.10 Aperture: 20.10-34.60

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Tamil Nadu. *Elsewhere*: Australia, Fiji, Indonesia, Japan, Maldives, Mascarenes, Mozambique and Samoa.

Remarks: *C. balteatus* is similar to *C. rattus*. Shells differ only slightly from their morphometry, less pronounced sculpture and often subangulates shoulder, and they intergrade in all characters.

13. *Conus bayani* Jousseaume (Plate II- fig. 13)

1872. *Conus bayani* Jousseame, *Rev. Mag. Zool.*, 2(23): 200. pl.18. fig. 1.

Material examined: Pondicherry-2 exs. Tamil Nadu 3 exs.

Measurements (in mm): Length: 22.50-30.20 Diameter: 12.60 -18.40 Aperture: 19.10 -25.50

Distribution: India: Maharashtra, Tamil Nadu.

Remarks: *Conus bayani* occurs frequently with *C. amadis*, *C. monile* and *C. betulinus*.

14. *Conus bengalensis* (Okutani) (Plate II-fig. 14)

1968. *Darioconus bengalensis* Okutani, *Venus*, 26(3&4), p. 66, Pl. 7.

1968. *Conus insculptus* (Kien): Subramanyam, Karandikar and Murti, *J. Univ. Bombay*, 21(3): 53, fig.158.

1906. *Conus (Rhizoconus) punctatus*: Comber, *J. Bombay nat Hist. Soc.*, 17: 213.

Material examined: Tamil Nadu- 4 exs.

Measurements (in mm): Length: 60.30-90.20 Diameter: 45.40-55.30 Aperture: 38.10-43.10

Distribution: India: Bay of Bengal, *Elsewhere:* W. Thailand; Taiwan to Philippines; Papua New Guinea, Australia and Fiji

Remarks: Rockel *et al.*, (1995) observed that the shells of *C. bengalensis* from southeast India differed from typical *C. bengalensis* in having a broader body whorl. However, the specimens from Gulf of Mannar had comparatively narrowly conical body whorl. *Conus bengalensis* is rare along the Tamil Nadu Coast. (Franklin *et al.*, 2009)

15. *Conus betulinus* Linnaeus (Plate II-fig. 15)

1758. *Conus betulinus* Linnaeus, *Syst. Nat.*, ed, **10**.
2007. *Conus betulinus*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series, zool. Surv. India*. 5(7): 126.

Material examined: Andaman and Nicobar Islands-2 exs. Andhra Pradesh-4 exs. Pondicherry-6 exs. Tamil Nadu 4 exs.

Measurements (in mm): Length: 22.50-40.20 Diameter: 12.60-27.40 Aperture: 19.10-27.70

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Pudhucherry, Tamil Nadu. *Elsewhere:* Indo-pacific.

Remarks: *C. betulinus* widely distributed from shallow inshore water to sand and sandy mud bottoms.

16. *Conus biliosus* (Roeding) (Plate II fig. 16)

1798. *Cucullus biliosus* Röding, *Mus. Bolten*: 39, no. 489 .
2007. *Conus biliosus*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 127, XI, figs. 123 & 124. *Zool. Surv. India*.

Material examined: Andhra Pradesh 2 exs; Goa-5 exs; Tamil Nadu-2 exs.

Measurements (in mm): Length: 36.20-50.40 Diameter: 15.10-24.60 Aperture: 32.10-46.30

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Gujarat, Maharashtra, Tamil Nadu. *Elsewhere:* African coast, Persian Gulf.

17. *Conus canonicus* Hwass

1792. *Conus canonicus* Hwass in Bruguiere, *Encyl. Meth. Vers.*, **1**: 749.
2000. *Conus canonicus*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No.*, **187**: 160.

Material examined: Andaman and Nicobar Islands 4 exs.

Measurements (in mm): Length: 28.20-40.10 Diameter: 25.10-28.60 Aperture: 27.10-36.30

Distribution: India: Andaman and Nicobar Islands, Lakshadweep. *Elsewhere:* Australia, Indonesia: Java, Philippines, Seychelles, Sri Lanka, Sumatra, Zanzibar.

Remarks: Shell of *Conus canonicus* differs from *C. textile* by having chestnut or chocolate reticulations vivid coloration unique.

18. *Conus capitaneus* Linnaeus (Plate II - fig. 17)

1758. *Conus capitaneus* Linnaeus, *Syst. Nat.*, ed, **10**: 713.
2003. *Conus capitaneus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 313, pl.80, fig.6.

Material examined: Andaman and Nicobar Islands - 3 exs.

Measurements (in mm): Length: 32.50 – 36.40 Diameter: 14.30-19.00 Aperture: 24.40-28.10

Distribution: India: Andaman and Nicobar Islands. *Elsewhere:* Australia, Indonesia Mauritius, New Caledonia, Philippines, Polynesia, Sri Lanka, Seychelles, New Zealand.

Remarks: This species can be easily distinguished by the presence of spiral rows of coarse brown dots occur only at subshoulder area and centrally, and the spiral colour bands consistently lack dark brown axial strea.

19. *Conus characteristicus* Fischer (PlateII - fig. 18)

1807. *Conus characteristicus* Fischer, *Mus. Demidoff*, **9**: 139.
2000. *Conus characteristicus*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No.*, **187**: 161.

Material examined: Andaman and Nicobar Islands - 8 exs.

Measurements (in mm): Length: 32.50-36.40 Diameter: 14.30-22.00 Aperture : 25.40-29.10

Distribution: India: Andaman Islands, Puducherry, Tamil Nadu. *Elsewhere:* Indo West Pacific.

Remarks: *C. characteristicus* very rare and inhabits sandy bottoms at depths of 15-30 m depths.

- 20. *Conus cinereus*** Hwass in Bruguiere (Plate II fig. 19)
1792. *Phasmoconus cinereus* Hwass in Bruguière *Enc. Meth. Vers.* vol 1(2) p.673.
1847. *Conus bernardii* Kiener, *Icon. des coq. viv.* Vol. 2. pp. 104-106, pls. 4,6.

Material examined: Tamil Nadu - 2 exs.

Measurements (in mm): Length: 17.60-24.30 Diameter: 10.10 -13.50 Aperture: 13.50-15.30

Distribution: India: Tamil Nadu *Elsewhere:* Maldives, Philippines

Remarks: *Conus cinereus* differs from *Conus stramineus* with columella more peculiarly attenuated towards the base.

- 21. *Conus coromandelicus*** (Smith) (Plate II fig. 20)
1894. *Conus coromandelicus* Smith, *Ann. Mag. nat. Hist.*, (6)14: 159, pl.4, figs, 1-2. Type locality: Coromandel coast, types: NZC, ZSI.
2003. *Conus coromandelicus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 314, pl.63, fig.1.

Material examined: 10 exs. Bay of Bengal, 68 fms-Station. 169 fms; Tamil Nadu -2 exs.

Measurements (in mm): Length: 30.20-42.40 Diameter: 26.50-28.50 Aperture: 27.40-39.10

Distribution: India: Tamil Nadu. *Elsewhere:* Gulf of Arabia. Sri Lanka

Remarks: *C. coromandelicus* is the only recent species placed in the genus *Conorbis*. Included this genus in the Conidae, because partial resorption of inner walls, a hallmark of *Conus*, also occurs in *Conorbis* (Kohn, 1978, 1990).

- 22. *Conus coronatus*** Gmelin (Plate II fig. 21)
1791. *Conus coronatus* Gmelin, *Syst. Nat.*, ed. 13: 3389, no. 39.
2004. *Conus coronatus*: Rao, Maitra, Barua and Ramakrishna, *Fauna of Gujarat, State Fauna series*, **8**(2): 320. *Zool. Surv. India*.

Material examined: Tamil Nadu- Hare island-8 exs. Kurusadai island-4 exs. Kavaratti – Lakshadeep- 4exs., Minicoy Island- 3 exs. Port Blair- Andaman- 3 exs.

Measurements (in mm): Length: 35.20-48.30 Diameter: 24.10-27.50 Aperture: 29.60-37.40

Distribution: India: Andaman, Tamil Nadu Gujarat, Maharashtra

Remarks: *Conus coronatus* is a rare species along the Tamil Nadu Coast.

- 23. *Conus dictator*** Melvill
1898. *Conus dictator* Melvill, *Mem. Proc. Manchester Lit & Phil. Soc.*, 9-10, pl. 1, fig. 10.

Material examined: Based on the published literature (Franklin *et al.*, 2009)

Distribution: Rameswaram- Tamil Nadu.

Remarks: *Conus dictator* may be distinguished from *C. lentiginosus* by the presence of more convex and broader body whorl, with weak tuberculation on the spire whorls.

- 24. *Conus dispar*** Sowerby
1833. *Conus dispar* Sowerby, *Conch. Illustr.*, fig. 57.
1952. *Conus dispar*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, **1**(2): 207.

Material examined: Based on the published literature (Franklin *et al.*, 2009)

Distribution: India: Tamil Nadu. *Elsewhere:* New Zealand

Remarks: The shell is white, marked with brown spots and markings disposed in spiral bands, close-set and less distinctly pitted.

- 25. *Conus distans*** Hwass in Bruguiere
1792. *Conus distans* Hwass in Bruguiere, *Encyl. Meth. Vers.*, **1**: 634.
2003. *Conus distans*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 314, pl.80, fig.5.

Material examined: Andaman and Nicobar Islands 11 exs.

Measurements (in mm): Length: 86.30-105.20; Diameter: 37.20-58.60; Aperture: 79.10-89.60

Remarks: The base of the body whorl is stained with blackish violet. The spire is convexly exerted and apex is characteristically and flatly truncated.

Distribution: India: Andaman and Nicobar Islands.
Elsewhere: New Zealand.

26. *Conus ebraeus* Linnaeus (Plate II fig. 22)

1758. *Conus ebraeus* Linnaeus, *Syst. Nat.*, ed.10: 715, no. 268 .
2003. *Conus ebraeus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 315, pl.82, fig.1.

Material examined: Andaman and Nicobar Islands- 7 exs., Kerala -2 exs., Tamil Nadu-6 exs.

Measurements (in mm): Length: 22.50-30.20; Diameter: 11.30-14.50; Aperture 18.40-27.10.

Distribution: India: Andaman and Nicobar Islands, Kerala, Tamil Nadu. *Elsewhere:* South African coast, Malagasy, Reunion, Amirantes, Seychelles, Gulf of Aden, Thailand, Indonesia, Philippines, China, Japan, and New Zealand.

Remarks: *Conus ebraeus* appears to be a very rare species.

27. *Conus eburneus* Hwass in Bruguiere (Plate II fig. 23)

1792. *Conus eburneus* Hwass in Bruguière, *Encyc. Méth. Hist. Nat. des Vers.*, 1: 640–641, no. 89.
2007. *Conus eburneus*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series, Zool. Surv. India.* 5(7): 127.

Material examined: Andaman and Nicobar Islands-11 exs. Andhra Pradesh- 2 exs; Kerala- 3 exs. Lakshadweep-4exs

Measurements (in mm): Length: 34.10-39.60 Diameter: 21.50-26.40 Aperture: 30.00-33.40

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Kerala, Lakshadweep. *Elsewhere:* African coast, Malagasy, Reunion, Amirantes, Seychelles, Gulf of Aden, Thailand, Indonesia, Philippines, China, Japan, New Zealand.

28. *Conus elegans* Sowerby (Plate II fig. 24)

1901. *Conus elegans* Sowerby, *Proc. zool. Soc. London*, **1901**: 334.
2003. *Conus elegans*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 315, pl.83, fig.3.

Material examined: Andhra Pradesh-3 ex. Kavaratti-Lakshadweep-1 ex.

Measurements (in mm): Length: 29.10-34.60 Diameter: 14.70-17.10 Aperture: 22.10-24.60.

Distribution: India: Andhra Pradesh. *Elsewhere:* Indian Ocean.

Remarks: *C. elegans* can be differentiated from *C. aculeiformis* with the last whorl encircled with rows of orange to brown dots, irregular blotches and axial streaks, often forming interrupted spiral bands below shoulder and on both sides of centre.

29. *Conus eucoronatus* Sowerby

1903. *Conus eucoronatus* Sowerby, *Mar. Invest. South Africa.*, p. 217, pl.3, fig. 9.

Material examined: Based on the published literature (Franklin *et al.*, 2009)

Distribution: India: Tamil Nadu. *Elsewhere:* Sri Lanka, Somalia

Remarks: *Conus eucoronatus* is a rare deep water species of *Conus* known for its unique shape, sculpture and pattern (Rockel *et al.*, 1995).

30. *Conus eximius* Reeve (Plate III fig. 25)

1849. *Conus eximius* Reeve, *Conch. Icon* (1): 103
1884. *Conus eximius* Tryon, *Manual of conch.* 1(6): 134.

Material examined: Andhra Pradesh, 3 exs. Pondicherry-2 exs., Tamil Nadu 6 exs.

Measurements (in mm): Length: 28.20-48.40; Diameter: 17.40-21.60; Aperture: 24.10-29.30

Distribution: India: Bay of Bengal, Tamil Nadu, Andhra Pradesh. *Elsewhere:* Papua New Guinea, Philippines and Taiwan.

Remarks: *C. eximius* is most similar to *C. lentiginosus*, but differs in its less concave spire outline, often more prominent spiral sculpture and in the absence of brown axial flames.

31. *Conus figulinus* Linnaeus (Plate III fig. 26)

1758. *Conus figulinus* Linnaeus, *Syst. Nat.*, ed, **10**: 718.
2007. *Conus figulinus*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 128. *Zool. Surv. India.*

Material examined: Andaman and Nicobar Islands, 4 exs. Andhra Pradesh 3 exs. Maharashtra, 2 exs. Pudhucherry, 6 exs. Tamil Nadu, 4exs.

Measurements (in mm): Length: 20.20-40.40; Diameter: 12.60-22.60; Aperture : 18.10-28.20.

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Maharashtra, Pudhucherry, Tamil Nadu. *Elsewhere*: South African coast, Reunion, Amirantes, Seychelles, Persian Gulf, Sri Lanka, Indonesia, Philippines, China.

Remarks: *Conus figulinus* is often mistaken for *C. loroisii* because of its similar shape, especially if the periostracum is intact. However, the absence of distinct brown spiral lines on the last whorl of *C. loroisii* distinguishes it from *C. figulinus*.

32. *Conus flavidus* Lamarck

1810. *Conus flavidus* Lamarck, *Ann. du Museum.*, **14**: 264.

2004. *Conus flavidus*: Rao, Maitra, Barua and Ramakrishna, *Fauna of Gujarat, State Fauna series*, **8**(2): 321. *Zool. Surv. India*.

Material examined: Andaman and Nicobar Islands 4 exs. and Gujarat-3 exs.

Measurements (in mm): Length: 24.50-29.40; Diameter: 15.40-18.50; Aperture: 22.30-24.50

Distribution: India: Andaman and Nicobar Islands, Gujarat. *Elsewhere*: African coast, Mocambique, Reunion, Persian Gulf, Sri Lanka.

33. *Conus frigidus* Reeve (Plate III fig. 27)

1848. *Conus frigidus* Reeve, *Conch. Icon.*, 1 *Conus suppl.*, pl. 3, no. 284.

1873. *Conus maltzanianus* Weinkauff, *Syst. Conch. Cab.*, p. 204, pl. 32, figs. 3-6 .

Material examined: Gujarat, 2 exs. Tamil Nadu 3 exs.

Measurements (in mm): Length: 36.00-45.10 Diameter: 13.00-16.50 Aperture: 19.30-24.50

Distribution: India: Gujarat, Tamil Nadu. *Elsewhere*: Australia, Cambodia, China, Fiji, Indonesia, Malaysia, New Caledonia, Philippines, Singapore, Solomon Islands, Taiwan, Thailand.

Remarks: This species can be confused with *C. flavidus* due to its similar colouration and morphology, but it appears somewhat larger in size, has a narrower, more conical and less convex-sided last whorl.

34. *Conus geographus* Linnaeus (Plate III fig. 28)

1758. *Conus geographus* Linnaeus, *Syst. Nat.*, ed, **10**: 713.

2003. *Conus geographus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 316, pl.80, fig.6.

Material examined: Andaman and Nicobar Islands-3 exs. Puducherry-2 exs. Lakshadweep-4 exs. Tamil Nadu-5 exs.

Measurements (in mm): Length: 56.40-78.10 Diameter: 24.80-30.60 Aperture: 45.20-54.10

Distribution: India: Andaman and Nicobar Islands, Puducherry, Lakshadweep, Tamil Nadu. *Elsewhere*: Indo-Pacific.

Remarks: The species can be distinguished by its oblong, thin and inflated shell. It is stained with flesh colour. The spire is concave and slightly canaliculated. It is spirally striated and coronated with rather prominent tubercles. The apex is rose tinted. This cone is as a dangerous species

35. *Conus glaucus* Linnaeus (Plate III fig. 29)

1758. *Dendroconus glaucus* Linnaeus, *Syst. Nat.* (Gmelin edit.), p. 3382.

1884. *Conus glaucus* Tryon, *Man. Conch.* (6): 131.

Material examined: Andaman and Nicobar islands 3 exs., Tamil Nadu 2 exs.

Measurements (in mm): Length: 44.10-77.30 Diameter: 31.80-36.20 Aperture: 43.20-55.10

Distribution: India: Andaman and Nicobar Islands, Tamil Nadu. *Elsewhere*: Amboyna, Isles of France, Batavia, China, East Indian Ocean, Moluccas, Philippines, Madagascar .

Remarks: The grey colour of this shell is most striking characteristic; the dwarf varieties look alike of the *Conus betulinus*.

36. *Conus gubernator* Hwass in Bruguiere (Plate III fig. 30)

1792. *Conus gubernator* Hwass in Bruguiere, *Encyl. Meth. Vers.*, **1**(2): 727, pl.340.

1952. *Conus gubernator*: Satyamurti, *Bull. Madras Govt. Mus. New Ser. (Nat. Hist)*, **1**(2): 212, 21, fig.2.

Material examined: Tamil Nadu -2 exs.

Measurements (in mm): Length: 28.50 - 40.30 Diameter: 18.20 - 32.40 Aperture : 24.40 - 36.10

Distribution: India: Tamil Nadu. *Elsewhere:* Indo-Pacific; Laccadives. Madagascar, Maldives, Mascarenes Somalia, Seychelles

Remarks: *Conus gubernator* appears to be a rare species along the Tamil Nadu Coast.

37. *Conus hyaena* Hwass in Bruguiere (Plate III fig. 31)

1844. *Conus mutabilis* Reeve, *Conch. Icon.*, 1: *Conus* sp. No., 249, pl. 45, fig. 249.

2007. *Conus mutabilis*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 129. *Zool. Surv. India*.

Material examined: Maharashtra - 9 exs.

Measurements (in mm): Length: 34.20-38.10 Diameter: 16.50 -19.30 Aperture :29.30-32.60

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Tamil Nadu. *Elsewhere:* Boroneo, Hong Kong, Indonesia, Sri Lanka.

Remarks: *C. biliosus* differs from *C. hyaena* in its tuberculate, straight last whorl outline and angulate shoulder as well as with convex outline and subangulate shoulder.

38. *Conus imperialis* Linnaeus

1758. *Conus imperialis* Linnaeus, *Syst. Nat.* 712. No. 251.

1970. *Conus imperialis compactus* Wils, *Familie Conidae.*, 8, 12, pl. 2, fig. 7

Material examined: Tamil Nadu 3 exs.

Measurements (in mm): Length: 30.00-36.10 Diameter: 14.50 -16.30 Aperture :24.30-29.60

Distribution: India: Tamil Nadu. *Elsewhere:* Indo-Pacific
Conus imperialis has not been previously reported from India.

Remarks: *C. imperialis* is most similar to *C. zonatus*, but it can be differentiated by the weaker shoulder tubercles and sometimes have relatively broader last whorls

39. *Conus inscriptus* Reeve (Plate III fig. 32)

1843. *Conus inscriptus* Reeve, *Conch. Icon.*, pl. 29, no. 164 (locality unknown).

2007. *Conus inscriptus*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 129. *Zool. Surv. India*.

Material examined: Andaman 4 exs, Andhra Pradesh 3 exs. Odisha 2 exs. Marine survey : Station.123, Off Calicut, 45 fms. 38 exs. Station. 295, 37-40 fms. 3 exs.

Measurements (in mm): Length: 22.30–30.60 Diameter: 10.30 –20.50 Aperture : 18.60 –24.80

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Gujarat, Kerala, Lakshadweep, Maharashtra, Orissa, Puducherry, Tamil Nadu. *Elsewhere:* African coast, Indonesia, Philippines, Australia.

Remarks: Common.

40. *Conus lentiginosus* Reeve (Plate III fig. 33)

1849. *Conus lentiginosus* Reeve, *Conch. Icon.*, pl. 44, no. 245.

2007. *Conus lentiginosus*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 129. *Zool. Surv. India*.

Material examined: Andhra Pradesh- 2 exs. Gujarat- 3 exs, Maharashtra 4 exs.

Measurements (in mm): Length: 28.90- 34.70 Diameter: 15.40-19.30 Aperture: 24.20- 29.10

Distribution: India: Andhra Pradesh, Gujarat, Maharashtra. *Elsewhere:* Indo-Pacific.

Remarks: The first record of this species from India was by Reeve (1843) off Bombay, also reported one specimen of *C. lentiginosus* deposited in the ZSI as dredged off Vizhagapattinam.

41. *Conus leopardus* Roeding (Plate III fig. 34)

1798. *Conus leopardus* Röeding, *Mus. Bolten* 2: 41, no. 520.

1986. *Conus millipunctatus*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands, Zool. Surv. India*, p.173.

Material examined: Andaman 6 exs.

Measurements (in mm): Length: 56.60–70.40 Diameter: 30.20–46.90 Aperture 51.30–61.40

Distribution: India: Adaman and Nicobar Islands. *Elsewhere:* Arabic Ocean.

42. *Conus litoglyphus* Hwass in Bruguiere (Plate III fig. 35)
1792. *Conus litoglyphus* Hwass in Bruguière, *Hist.Nat. Vers.*, 1:
692.

1874. *Conus seychellensis* Nevill & Nevill, *J. Asiatic. Soc. Bengal*,
43. pt. 2. no. 1.

Material examined: Andaman and Nicobar- 3 exs.

Measurements (in mm): Length: 34.60-39.50 Diameter:
22.40-26.40 Aperture 28.60-31.40

Distribution: India: Adaman and Nicobar Islands.
Elsewhere: Indo Pacific.

Remarks: *C. litoglyphus* can be distinguished with the
presence of white spiral bands with flames extending into
the brown areas.

43. *Conus litteratus* Linnaeus

1758. *Conus litteratus* Linnaeus, *Syst. Nat., ed.* 10: 712.

2003. *Conus litteratus:* Subba Rao, *Rec. zool. Surv. India, Occ.*
Paper No., 192: 317, pl.82, fig.2.

Material examined: Andaman & Nicobar Islands 3 exs.

Measurements (in mm): Length: 37.50 - 42.40 Diameter:
22.40-26.70 Aperture : 33.00 -36.30

Distribution: India: Andaman and Nicobar Islands,
Puducherry, Lakshadweep, Tamil Nadu. *Elsewhere:* South
African coast, Malagasy, Reunion, Seychelles, Gulf of
Aden, Indonesia, Philippines.

Remarks: It bears close resemblance with *Conus leopardus*
but differs in the absence of yellow bands and the presence
of more numerous spots.

44. *Conus lividus* Hwass in Bruguiere (Plate III fig. 36)

1792. *Conus lividus* Hwass in Bruguiere, *Encyl. Meth. Vers.*, 1:
630.

2004. *Conus lividus:* Rao, Maitra, Barua and Ramakrishna,
Fauna of Gujarat, State Fauna Series, 8(2): 321. *Zool.*
Surv. India.

Material examined: Andaman & Nicobar islands 5 exs.

Measurements (in mm): Length: 23.65-46.50; Diameter:
14.70-28.50; Aperture: 21.20-41.30.

Distribution: India: Andaman and Nicobar Islands,
Gujarat, Kerala, Maharashtra, Puducherry, Tamil Nadu.

Elsewhere: African coast, Malagasy, Reunion, Seychelles,
Gulf of Aden, Indonesia, Philippines.

Remarks: It exhibits variation in shell morphology, some
of these specimens are without any tubercles and the
granulations on the body whorl are not prominent or
sometimes even absent.

45. *Conus locumtenens* Blumenbach

1966. *Conus locumtenens* Blumenbach, *Bull. Zool. Nomencl.*,
22: (5/6): 320.

1998. *Conus acuminatus:* Apte, *Indian Shells, Bombay nat. Hist.*
Soc., p.67, pl.VIII, fig.32.

Material examined: Gujarat, 3 exs. Maharashtra, 2 exs.

Measurements (in mm): Length: 35.00-40.30 Diameter:
11.40-15.30 Aperture: 25.00-27.10

Distribution: India: Gujarat, Maharashtra, Tamil Nadu.
Elsewhere: Lakshadweep

Remarks: Common species of sandy bottom near low tide.

46. *Conus longurionis* Kiener

1845. *Conus longurionis* Kiener, *Spec. Gen. Icon. des Coq. Viv.*,
2, p. 308. pl. 92, fig. 6.

1982. *Conus kantanganus* da Motta, *Seventeen New Cone Shell*
Names (Gastropoda: Conidae). 11–12, figs. 10a, b.

Material examined: Based on the published literature
(Franklin *et al.*, 2009)

Distribution: India: Tamil Nadu, Gulf of Mannar. *Elsewhere:*
Mozambique, Philippines, Taiwan. Tanzania, Thailand, Sri
Lanka

47. *Conus lorisii* Kiener

1845. *Conus lorisii* Kiener, *Spec. Gen. Icon. des Coq. Viv.*, 2, p.
91, pl. 65, fig. 1.

1989. *Conus huberorum* da Motta, *La Conchiglia*, 21 : 9–11, 2
text figs.

Material examined: Andhra Pradesh 2 exs. Maharashtra,
2 exs. Tamil Nadu- 3exs.

Measurements (in mm): Length: 32.00-38.30 Diameter:
14.40-16.30 Aperture : 10.00-13.10

Distribution: India: Andhra Pradesh, Maharashtra, Puducherry,
Tamil Nadu. *Elsewhere:* Java, Philippines, Sri Lanka.

Remarks: *Conus lorioisii* and *C. figulinus* appear similar, and both the species are sympatric in the northern Indian Ocean and Philippines and their specific characters either coincide or overlap as described previously.

48. *Conus madagascariensis* Sowerby (Plate IV fig. 37)
1858. *Conus madagascariensis* Sowerby, *Thes. Conch.* (3) : 43, sp. 371, pl. 24, fig. 582

Material examined: 03 exs. from Marine survey Indian seas.

Measurements (in mm): Length: 54.60- 68.50 Diameter: 28.60 –34-40 Aperture: 42.10- 48.30

Distribution: Andhra Pradesh, Karnataka, Kerala, Tamil Nadu. *Elsewhere:* Thailand

Remarks: *Conus madagascariensis* can be distinguished from *C. pennaceus* by the presence of straight-sided apex and uniformly reticulate pattern on the body whorl.

49. *Conus malacanus* Hwass in Bruguiere
1792. *Conus malacanus* Hwass in Bruguiere, *Meth. Hist. Nat. des Vers.*, 1: 645, no. 43.
1873. *Conus cuneatus* Sowerby, *Proc. Zool. Soc. Lond.*, p.146, pl. 15, fig. 5.

Material examined: Based on the published literature (Franklin *et al.*, 2009)

Distribution: India: Andaman-Nicobar Islands, Andhra Pradesh, Tamil Nadu. *Elsewhere:* New Guinea, Sri Lanka

Remarks: Kohn (1978) stated that the distribution of *C. malacanus* is restricted to the east coast. It often occurs in the same habitat as like *C. monile*, *C. bayani*, *C. amadis* and *C. betulinus*.

50. *Conus marmoreus* Linnaeus (Plate IV fig. 38)
1758. *Conus marmoreus* Linnaeus, *Syst. Nat.*, ed, 10: 713.
2003. *Conus marmoreus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, 192: 317, pl.79, fig.2.

Material examined: 02 exs from Marine survey- Indian seas.

Measurements (in mm): Length: 58.60- 82.50 Diameter: 28.60 –39-40 Apl : 54.10- 78.30

Distribution: India: Andaman and Nicobar Islands, Tamil Nadu. *Elsewhere:* South African coast, Malagasy, Reunion, Amirantes, Seychelles, Indonesia, Philippines, Japan.

Remarks: This species is appears to be a rare species along the Indian Coast.

51. *Conus miles* Linnaeus
1758. *Conus miles* Linnaeus, *Syst. Nat.*, ed, 10: 713.
2003. *Conus miles*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, 192: 317, pl.79, fig.1.

Material examined: Andaman and Nicobar Islands -2 exs.

Measurements (in mm): Length: 41.00-43.20 Diameter: 22.50- 24.30 Aperture : 39.30-41.00

Distribution: India: Andaman and Nicobar Islands, Puducherry, Lakshadweep, Tamil Nadu. *Elsewhere:* South African coast, Reunion, Amirantes, Indonesia, Philippines, Japan, New Zealand.

52. *Conus milne edwardsi* Jousseaume
1894. *Conus milneedwardsi* Jousseaume, *Bull. Soc. Philom. Paris*, 6(8): 99.
1989. *Conus lemuriensis* Wils & Delsaerdt, *Gloria Maris*, 28(6): 105-110, figs. 1-3, 7.

Material examined: Based on the published literature (Franklin *et al.*, 2009)

Distribution: India: Andaman and Nicobar Islands, Kerala. *Elsewhere:* Mauritius, Pakistan, Sri Lanka

Remarks: Last whorl generally with reddish brown reticulated lines forming small to large triangular, quadrangular and round markings, and with similarly coloured triangular spots to variably shaped blotches concentrated in 2-3 spiral bands

53. *Conus mitratus* Hwass in Bruguiere
1792. *Conus mitratus* Hwass in Bruguiere, *Ency. Meth. Hist. Nat. des Vers.*, 1 : 738, no. 132
1870. *Conus mitratus* var. *pupaeformis* Sowerby, *Proc. Zool. Soc. Lond.*, p. 256, pl. 22, fig. 2.

Material examined: Based on the published literature (Franklin *et al.*, 2009)

Distribution: India: Andaman and Nicobar Islands. *Elsewhere:* Malagasy, Indonesia, Philippines, China.

Remarks: *C. Mitratus* resembles that of *Conus cylindraceus* in size and shape. It can be distinguished by its less glossy and less smooth last whorl with granulose spiral ribs or

spiral rows of granules and the stronger spiral ribs on its sutural ramps.

- 54. *Conus monile***. Hwass in Bruguiere (Plate IV fig. 39)
1792. *Conus monile* Hwass in Bruguière, *Enc. Meth. vers*, 1(2)
p. 646. No. 45.
1843. *Conus monile* Reeve, *Conch. Icon.*, 1. p.23. pl. 12. Sp.no.61.
(Mus. Cuming).

Materials examined: Andaman- 2 exs; Tamil Nadu -4 exs.

Measurements (in mm): Length: 65.40- 78.20; Diameter:
32.10- 38.60; Aperture: 63.30-75.60

Distribution: India: Andaman, Tamil Nadu. *Elsewhere*:
Sri Lanka

Remarks: Some specimens may have elevated spire and
considerable variation in the colour pattern of the body
whorl is also observed.

- 55. *Conus musicus*** Hwass in Bruguiere
1792. *Conus ceylanensis* Hwass in Bruguiere, *Encyl. Meth. Vers.*,
1: 636.
2000. *Conus ceylanensis*: Subba Rao and Dey, *Rec. zool. Surv.*
India, Occ. Paper No., 187: 161.

Material examined: Tamil Nadu- 3 exs. Port Blair-
Andaman-3 exs.

Measurements (in mm): Length: 30.20- 45.30 Diameter:
22.10 -25.40 Aperture: 27.30-36.40

Distribution: India: Andaman and Nicobar Islands, Tamil
Nadu. *Elsewhere*: Indian Ocean and Eastern Pacific.

Remarks: This species can be distinguished by the presence
of more pronounced darker dotting and the markings
between the tubercles are blackish brown in most shells.

- 56. *Conus nussatella*** Linnaeus (Plate IV fig. 40)
1758. *Conus nussatella* Linnaeus, *Syst. Nat.*, ed, 10: 716.
2003. *Conus nussatella*: Subba Rao, *Rec. zool. Surv. India, Occ.*
Paper No., 192: 318, pl.82, fig.7.

Material examined: 06 exs from Indian Seas

Measurements (in mm): Length: 50.20 -52.50; Diameter:
21.40-23.50; Aperture: 47.60-49.20

Distribution: India: Andaman and Nicobar Islands, Gujarat,
Tamil Nadu. *Elsewhere*: Tropical Indo West Pacific.

Remarks: Although known to be present on both east and
west coasts, this species appears to be very rare.

- 57. *Conus pennaceus*** Born (Plate IV fig. 41)
1778. *Cone plumeux* . Bom *Mus.* p. 167.t. 7. f. 14.
1847. *Conus stellatus* Kiener, *Icon. des coq. Viv.* Vol. 2.p.107. pl 5.

Material examined: Andaman -2 exs. Tamil Nadu
(Tuticorin)-2 exs.

Measurements (in mm): Length: 30.20-34.60 Diameter:
18.50-19.50 Aperture: 26.10-29.30

Distribution: India: Andaman and Nicobar Islands,
Lakshadweep. *Elsewhere*: Indo-Pacific

Remarks: Shell look similar to that of *C. textile*, but differs
in size of narrower and glossy appearance.

- 58. *Conus pertusus*** Hwass in Bruguiere
1792. *Conus pertusus* Hwass in Bruguière, *Ency. Meth. Hist.*
Nat. des Vers., 1: 686, no. 75
1817. *Conus festinus* Dillwyn, *Descr. Cat. Rec. Shells*, 1 : 413, no.
116.

Material examined: Based on the published literature
(Franklin *et al.*, 2009)

Distribution: India: Tamil Nadu (Gulf of Mannar).
Elsewhere: Entire Indo pacific.

Remarks: This species is probably restricted to the Gulf
of Mannar and appears to be a rare species along the
Tamil Nadu Coast (Franklin *et al.*, 2009).

- 59. *Conus praezellens*** Adams (Plate IV fig. 42)
1854. *Conus praezellens* Adams, *Proc. Zool. Soc. Lond.*, p. 119
1870. *Conus sowerbyi* var. *subaequalis* Sowerby *Proc. Zool. Soc.*
Lond., p. 257, pl. 22, fig. 5.

Material examined: Tamil Nadu - 2 ex.

Measurements (in mm): Length: 38.10-48.00 Diameter:
19.00-25.50 Aperture: 22.00-24.20

Distribution: India; Tamil Nadu. *Elsewhere*: Australia,
Indonesia, Japan, Madagascar, New Caledonia, Philippines,
Somalia, Thailand.

Remarks: *C. praezellens* appears to be an extremely rare
species along the Tamil Nadu Coast (Franklin *et al.*,

2009). *C. praecellens* varies from *C. acutangulus* with very widely diameter and weakly sculptured last whorl with maculation of light brown.

60. *Conus pretiosus* Nevill (Plate IV fig. 43)

1778. *Conus pretiosus* G. and H. Nevill, *J. Asiat. Soc. Beng.*, **43**(2): 22.

Type locality: Andamans, Types in NZC, ZSI.

1986. *Conus pretiosus*: Tikader, Daniel and Subba Rao, *Sea shore animals of Andaman and Nicobar Islands*, *Zool. Surv. India*, p.173.

Material examined: Andaman and Nicobar Islands-2 exs; Tamil Nadu 1 ex.

Measurements (in mm): Length: 44.10–58.00 Diameter: 19.00–24.50 Aperture : 39.00–43.20

Distribution: India: Andaman and Nicobar Islands, Tamil Nadu: Tuticorin, Keelakarai and Pamban of Bay of Bengal. *Elsewhere*: No records.

Remarks: *Conus pretiosus* is extremely rare and probably restricted to Gulf of Mannar. (Franklin *et al.*, 2009).

61. *Conus quercinus* (Lightfoot)

1786. *Conus quercinus* (Lightfoot), *Cat. Portland . Mus.*, pl. 6, no. 1501.

1966. *Conus albonerosa* Garrard, *Journ . Mal. Soc. Aus.* 11–12, pl. 1, fig. 1.

Material examined: Based on the published literature (Franklin *et al.*, 2009)

Distribution: Melvill & Standen (1898) reported this species from the east coast of India (as '*C. ponderosus* ') without providing precise locality data. Kohn (1978) reported a museum specimen collected by Winckworth from Tuticorin. *Elsewhere*: Indo-Pacific.

Remarks: *C. quercinus* shells have obsolete spiral sculpture on the sutural ramps, a golden brown periostracum and an immaculate white colouration.

62. *Conus rattus* Hwass in Bruguiere (Plate IV fig. 44)

1792. *Conus rattus* Hwass in Bruguiere, *Ency. Meth. Hist. Nat. des Vers.*, **1**: 700, no. 89 .

2000. *Conus rattus*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No.*, **187**: 166.

Material examined: Andaman and Nicobar Islands 2 exs; Tamil Nadu 3 exs.

Measurements (in mm): Length: 47.60–96.50 Diameter: 24.40–48.60 Aperture : 45.10–91.30

Distribution: India: Andaman and Nicobar Islands, Lakshadweep, Tamil Nadu. *Elsewhere*: South African coast, Reunion, Seychelles, Sri Lanka, Indonesia, Philippines

Remarks: It differ from *C. balteatus* in spaced, weaker and usually granulose ribs around the last whorl, the apex is not reddish violet and the aperture is bluish to purple violet behind a orange-brown margin.

63. *Conus striatus* Linnaeus (Plate IV fig. 45)

1758. *Conus striatus* Linnaeus, *Syst. Nat.*, ed, **10**: 716.

2003. *Conus striatus*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 319, pl.81, fig.10.

Material examined: Andaman and Nicobar Islands- 3 exs.

Measurements (in mm): Length: 47.60–56.50 Diameter: 24.40–28.60 Aperture : 45.10–49.30

Distribution: India: Andaman and Nicobar Islands, Tamil Nadu. *Elsewhere*: South African coast, Amirantes, Seychelles, Indonesia, Philippines, China, Australia, and New Zealand.

Remarks: The bands contain solid, dashed or dotted darker spiral lines.

64. *Conus striolatus* Kiener

1845. *Conus striolatus* Kiener, *Spec. Gen. Icon. Des Coq. Viv.*, **2**, pl. 105, fig.

1910. *Conus magus* var. *decurtata* Dautzenberg, *J. conchyl.*, **58**: 26.

Material examined: Based on the published literature

Distribution: India: Tamil Nadu. *Elsewhere*: Australia, Seychelles, Thailand, Taiwan.

Remarks: First record in India by Franklin *et.al* (2009) and this species is found to be a rare species along the Tamil Nadu Coast.

65. *Conus suratensis* Hwass in Bruguiere (Plate V fig. 46)

1792. *Conus suratensis* Hwass in Bruguiere, *Encyl. Meth. Hist. Nat. vers.*, p. 669. no. 63.

Material examined: Tamil Nadu- 3 exs.

Measurements (in mm): Length: 40.60–60.50 Diameter: 24.40–42.60 Aperture: 38.10–55.30

Distribution: Tamil Nadu. *Elsewhere:* Australia, New Guinea, Papua, Philippines, Solomon Islands and Sri Lanka.

Remarks: *Conus suratensis* is rare and reported from Cuddalore (Rockel *et al.*, 1995).

66. *Conus terebra* Born (Plate V fig. 47)

1778. *Conus terebra* Born, *Ind. Rer. Nat Mus. Caes. Vinod.*, p.131.

2003. *Conus terebra:* Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 319, pl.82, fig. 9.

Material examined: Andaman and Nicobar Islands-4exs. Tamil Nadu- 2exs.

Measurements (in mm): Length: 47.50-59.20 Diameter: 20.10-25.00 Aperture; 45.20-54.00

Distribution: India: Andaman and Nicobar Islands, Tamil Nadu. *Elsewhere:* Malagasy, Reunion, Seychelles, Indonesia, Java, Sumatra, Celebes, Timor, Amboina, Moluccas, Philippines, China, Australia, Society Island, Cooks Island.

67. *Conus tessulatus* Born (Plate V fig. 48)

1778. *Conus tessulatus* Born, *Ind. Rer. Nat Mus. Caes. Vinod.*, p.131.

2000. *Conus tessulatus:* Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No.*, **187**: 168.

Material examined: 5 exs from Indian seas

Measurements (in mm): Length 30.00 – 35.40; Width 24.00–27.10; Aperture - 27.00-30.00

Distribution: India: Andaman and Nicobar Islands, Kerala, Puducherry, Tamil Nadu. *Elsewhere:* South African coast, Malagasy, Amirantes, Seychelles, Sri Lanka, Indonesia, Philippines, Japan.

Remarks: *Conus tessulatus* occurs generally at with the large fishing harbours. Material present in ZSI as *Lithoconus tessellatus*.

68. *Conus textile* Linnaeus (Plate V fig. 49)

1758. *Conus textile* Linnaeus, *Syst. Nat.*, ed, **10**: 717.

2007. *Conus textile:* Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series*, 5(7): 130. *Zool. Surv. India.*

Material examined: Andaman and Nicobar Islands-3 exs. Andhra Pradesh (waltiar) 2 exs. Indian seas 8 exs. Maharashtra (Bombay) 3 exs. Puducherry-2 exs. Tamil Nadu. 2 exs.

Measurements (in mm): Length 33.10-39.80 ; Diameter 10.50-14.40 ; Aperture-30.20-35.50

Distribution: India: Andaman and Nicobar Islands, Andhra Pradesh, Maharashtra, Puducherry, Tamil Nadu. *Elsewhere:* South African coast, Malagasy, Mocambique, Reunion, Amirantes, Seychelles, Persian Gulf, Indonesia, Philippines, Australia, Queensland.

Remarks: *Conus textile* shows wide variations in shape and colour patterns.

69. *Conus tulipa* Linnaeus (Plate V fig. 50)

1758. *Conus tulipa* Linnaeus, *Syst. Nat.*, ed, **10**: 717.

2003. *Conus tulipa:* Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 320, pl.79, figs.9-10.

Material examined: Andaman and Nicobar Islands-6 exs. Lakshadweep 5 exs.

Measurements (in mm): Length: 28.40-31.20 Diameter: 19.30-21.60 Aperture: 25.10-28.40

Distribution: India: Andaman and Nicobar Islands, Lakshadweep. *Elsewhere:* South African coast, Malagasy, Indonesia, Philippines, Australia.

Remarks: It can be differentiated easily by the swollen and wider lower half of the aperture and dark brown maculations on the body whorl.

70. *Conus tuticorinensis* Rockel & Korn (Plate V fig. 51)

1990. *Conus tuticorinensis* Rockel & Korn, *Arch. Moll.*, **119**(4-6): 277–291, pl. 2, fig. 2, pl. 2, fig. 1

Material examined: Tamil Nadu- 5 exs.

Measurements (in mm): Length: 28.40-38.00 Diameter: 19.30 -21.60 Aperture: 22.10-26.40

Distribution: Tamil Nadu-Tuticorin

Remarks: This species is extremely rare in the Tamil Nadu Coast. Rockel & Korn (1990) described *C. tuticorinensis* as *C. boschi*.

71. *Conus vexillum* Gmelin

1791. *Conus vexillum* Gmelin, *Syst. Nat.*, ed, **13**: 3397.
2003. *Conus vexillum*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 320, pl.79, fig. 4.

Material examined: Andaman – Port Blair - 4 exs. Tamil Nadu- Pamban – 2 exs. , Malabar coast (off Calicut) 3 exs.

Measurements (in mm): Length 38.10-42.00; Diameter 22.40 – 26.20 Aperture; 36.50-38.10

Distribution: India: Andaman and Nicobar Islands, Kerala coast, Tamil Nadu. *Elsewhere:* Indo-Pacific.

Remarks: An uncommon species probably restricted distribution.

72. *Conus vimineus* Reeve

1849. *Conus vimineus* Reeve, *Conch. Icon.*, **1**. *Conus. Suppl.* pl. 7, sp. 269.

Material examined: Based on the published literature (Franklin *et al.*, 2009)

Distribution: Andhra Pradesh, Kerala, Tamil Nadu. *Elsewhere:* Philippines, Sri Lanka, Thailand.

Remarks: Appears to be a rare species along the Tamil Nadu Coast.

73. *Conus violaceus* Gmelin

1791. *Conus violaceus* Gmelin, *Syst. Nat.*, *13th ed. Vol. 1*: 3391, no. 51.
1792. *Conus tendineus* Hwass in Bruguiere, *Encyc. Meth. Hist. Nat. des Vers.*, **1**: 733-734, no. 127.

Material examined: Malabar Coast- 3 exs (Kerala- off Calicut) Tamil Nadu-2exs.

Measurements (in mm): Length: 31.50-36.30 Diameter: 12.40-17.30 Aperture : 24.60-28.10

Distribution: India; Tamil Nadu-Pamban. *Elsewhere:* Comoros, Kenya, Madagascar, Mauritius, Mayotte, Mozambique, Seychelles, Somalia, Tanzania.

Remarks: The occurrence of *C. violaceus* reported for the first time from India by Franklin *et al.*, (2009). It is a very rare species along the Tamil Nadu Coast.

74. *Conus virgo* Linnaeus (Plate V fig. 52)

1758. *Conus virgo* Linnaeus, *Syst. Nat.*, ed, **10**: 713.
2003. *Conus virgo*: Subba Rao, *Rec. zool. Surv. India, Occ. Paper No.*, **192**: 320, pl.80, fig. 2.

Material examined: Andaman and Nicobar Islands-2 exs. Lakshadweep-4 exs, Puducherry- 3 exs. Tamil Nadu. 2 exs.

Measurements (in mm): Length 45.70–49.10; Diameter 24.00-29.60 Aperture: 35.50 –38.20

Distribution: India: Andaman and Nicobar Islands, Lakshadweep, Puducherry, Tamil Nadu. *Elsewhere:* Indo-Pacific.

Remarks: This species is confined at shallow depths around the coral islands indicates their preference for such habitat. They often occur with *C. araneosus*, *C. leopardus* and *C. terebra*.

75. *Conus zeylanicus* Gmelin (Plate V fig. 53)

1791. *Conus zeylandicus* Gmelin, *Syst. Nat.*, ed, **13**: 3389
2007. *Conus zeylandicus*: Ramkrishna, Dey, Barua and Mukhopadhyaya, *Fauna of Andhra Pradesh, State Fauna series*, **5(7)**: 131. *Zool. Surv. India*.

Material examined: Andaman-2 exs. Andhra Pradesh -3 exs, Gujarat- 4 exs. Maharashtra-2 exs, Puducherry-2 exs.

Measurements (in mm): Length 40.00 – 45.20 Diameter 21.00 - 26.20 APL ; 37.65 – 41.5x`0

Distribution: India: Andaman Islands, Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Puducherry, Tamil Nadu, West Bengal. *Elsewhere:* Indonesia, Kenya, Madagascar, Malaysia (Peninsular Malaysia), Maldives, Mauritius, Mayotte, Mozambique, Myanmar, Seychelles, Singapore, Somalia, Sri Lanka, Tanzania, Thailand.

Remarks: Uncommon. Specimens of *C. zeylanicus* varied in the colour pattern of the body whorl. The pinkish tones may be heavy or reduced. Apart from the typical two broad spiral bands of blackish triangles and blotches

on the bodywhorl, specimens vary from inconstant spiral bands to complete absence. Material present in as ZSI *Coronaxis ceylonensis*, Hwass.

- 76. *Conus zonatus*** Hwass in Bruguiere (Plate V fig. 54)
1792. *Conus zonatus* Hwass in Bruguiere, *Encyl. Meth. Vers.*, 1: 613.
2000. *Conus zonatus*: Subba Rao and Dey, *Rec. zool. Surv. India, Occ. Paper No.*, **187**: 168.

Material examined: Andaman and Nicobar Islands - 2 exs.

Measurements (in mm): Length: 31.20-34.60 Diameter: 19.60 -23.20 Aperture: 29.10-31.40

Distribution: India: Andaman and Nicobar Islands Andhra Pradesh, Kerala, Tamil Nadu. *Elsewhere*: Indonesia (Sumatera), Malaysia (Peninsular Malaysia), Maldives, Seychelles, Sri Lanka, Thailand.

Remarks: *C. zonatus* is similar to *C. imperialis* in size, shape of shell and differs in the colour pattern of its last whorl, exhibiting variable arranged spiral rows of alternating black/brown and white dashes and numerous spiral rows of minute brown dots.

Discussion

The study was aimed to compile the information on the diversity and distribution of Indian Conids from the materials present in National Zoological Collections (NZC) of Zoological Survey of India (ZSI). The species were arranged in alphabetical order and the status of the species is ascertained along the line of their synonym. The updated information of each species was presented in this article. The family Conidae includes about 500 recent species which are generally abundant in tropical coral reef habitats. Majority of species live in the intertidal zone between the reef and the shore. The Manual of the Living Conidae (Rockel *et al.*, 1995) provides a recent, detailed, and concise summary of 316 valid species along with several subspecies and forms from the tropical Indo-Pacific region. Cones are common in the Andaman and Nicobar Islands, Gulf of Mannar, Gulf of Kachchh and Lakshadweep. About 93 species of cones were known from India and of these 53 are reported from Andaman Islands (Subba Rao, 2003). Thus, these studies were mainly based on sporadic samplings. Zoological Survey of India has brought out many publications on the state fauna series,

the studies are mainly the fauna of Andhra Pradesh, Gujarat, Orissa and Andaman and Nicobar islands. An intensive study on the diversity and distribution pattern of Conidae may yield handy results of this spectacular group. Our knowledge of the species composition and the distribution is poor, and even more acute is our lack of knowledge of the biology of the species present where only a few species have been studied.

The biodiversity of marine organisms have been regularly monitored to study the climatic changes and pollution impacts. A total of 76 species are reported in this study and it revealed that the species distribution is more on the Andaman and Nicobar islands (37), 12 species from Andhra Pradesh, 32 species from Tamil Nadu, 8 species from Puducherry, 8 species from Maharashtra, 8 species from Lakshadweep 5 species from Kerala 5 species from Gujarat, one species each of Odisha and Karnataka. Of the 76 species reported the species *Conus areneatus* and *Conus biliosus* having 9 synonyms followed by the *Conus butylinus*. Almost all the species are having more than one named are synonymies. 19 commercial gastropods species observed in the Pudhumadam coastal area of Tamil Nadu including *Conus virgo*, *C. abbas*, *C. imperialis*, *C. textile*, (Tripathi *et al.*, 2012). Venkatraman & Venkatraman (2012) reported a total of 26 gastropods including three species of *Conus betulinus* *Conus figulinus* and *Conus lorisii* from Chennai coast.

Sari *et al.*, (2014) recorded and reported ten species of cone snails including *Conus betulinus* (Linnaeus), *C. coronatus* (Gmelin), *C. ebraeus* (Linnaeus), *C. inscriptus* (Reeve), *C. buxus lorisii* (Kiener), *C. miles* (Linnaeus), *C. milneedwardsi* (Jousseume), *C. monile*, (Hwass in Bruguiere), *C. rattus* (Hwass in Bruguiere), and *C. textile* (Linnaeus). Of these *C. rattus* and *C. miles* were reported for the first time from the west coast of India. Further they observed that cone shells are the highly priced marine ornamental gastropods contributing major share in the trawl catches of Kerala coast. Among the cone shells collected, the most important one is *Conus milneedwardsi*. The price of the shell varies from Rs. 250-2000 depending on the size of the shell. This is the most demanding species among cones. *C. textile* is another important species having a maximum price of Rs. 50/-. These two species are the economically important cone species of Kerala coast.

It is observed that many species have been described under multiple names is a major problem and it jeopardizes the estimation of alpha diversity. Before

naming a new species one should consider and verify the number of existing species in the particular group, and should examine the type specimens of the existing material, incomplete analysis and anatomical description of the specimens should be avoided. Without taking in to account individual intra specific variations one should not proceed to coining new name and Description: Anatomy and character variation have to be under taken vigorously before naming a new species. By considering the above facts alpha taxonomy needs to change in mindset, describing morphological diversity does not

require naming single set of species that differs from known species. The focus of the taxonomist should shift from the creation of names to species delineation and character variation. We hope that future studies will also include soft part anatomy and molecular data.

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