

**Original Review Article**

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**INDIAN ASCIDIANS OVER THE HUNDRED YEARS - A CHECKLIST****V. K. Meenakshi<sup>1\*</sup>, S. Gomathy<sup>2</sup>**

1.Department of Zoology, A.P.C. Mahalaxmi College for Women, Thoothukudi, Tamilnadu, India.

2.PG &amp; Research Department of Zoology, V.O. Chidambaram College, Thoothukudi, Tamilnadu, India.

**ABSTRACT:** The tropical climate of India and its vast stretches of coastline offers favorable features of environment for the settlement and continuous breeding of ascidians. They are well known for their pharmacologically potent secondary metabolites. In this paper a comprehensive updated checklist of the marine sedentary ascidians of the Indian coast is being presented which is the first of its kind giving a systematic taxonomic list of 263 species coming under 41 genera, 12 families, 3 suborders and 2 orders of the class Ascidiacea. This contribution to the knowledge on the biodiversity of ascidians giving the details of classification and current scientific names with the author would be beneficial to future workers and for taking up steps to conserve this group.

**KEYWORDS:** Indian coast, ascidians, Aplousobranchia, Phlebobranchia, Stolidobranchia.

**Corresponding Author: Dr. V. K. Meenakshi\* Ph.D.**

Department of Zoology, A.P.C. Mahalaxmi College for Women, Thoothukudi, Tamilnadu, India.

Email Address: vkmeenakshi.apcm@gmail.com

**1.INTRODUCTION**

The Indian seacoast extending to 8118 km lies distributed among the coastal states, union territories and islands. Our coastal marine habitats have large diversity of sensitive ecosystems like sand dunes, coral reefs, sea grass beds, wet lands, mudflats, rocky and sandy shores along with backwaters, estuaries and coastal lagoons that support rich and diverse flora and fauna (Ingole, 2005) [1]. Among these, corals, sea grass, mangroves serve additional habitats for other organisms' especially sedentary ones. Sedentary organisms belonging to the phylum - Chordata; subphylum - Tunicata and class - Ascidiacea inhabit soft muddy flats, cracks and crevices of coral reefs, undersurface of calcareous rocks and have been noticed in fouling community, on hull of ships, barges, buoys, floats, aquaculture equipments, concrete, metal installations of harbors and almost all marine under water

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structures. The intertidal rocky shores nourished by nutrient run off from land exhibits great species diversity and abundance of ascidians. They are filter, ciliary, mucous feeders enabling them to make use of all forms of food materials available in the water column which in turn adds to the organic matter of the ecosystem thus making their role indispensable. Ascidians occupying the intertidal rocky shores are adapted to overcome the vagaries caused by waves, tides, salinity, temperature and desiccation. They are highly invasive and in most harbors around the world ascidians introduced through hull of ships and ballast water is causing serious threat to the native fauna. In spite of this they serve as model organisms in various branches of biology and are the most wanted in the search for natural products research. This species list provides an insight into the enormous biodiversity of ascidians and the need to tap their potential for the benefit of the society. The first comprehensive work on the ascidians of Indian waters was a report upon ten Tunicates in the collection of the Indian Museum presented by Oka, 1915 [2]. The occurrence of five species of ascidians from the sea adjoining Tuticorin, Ennur and Bombay was reported by Das, 1936, 1938, 1940, 1945 [3,4,5,6]. Sebastian, 1952; 1953; 1954; 1955; 1956 described two new species, two new records and two fouling ascidians from Madras coast of Indian waters [7-11]. The occurrence of one species of the family Pyuridae from the Kerala coast of India was reported by Sebastian, 1959 [12]. Prakasam and Azariah, 1978 recorded the presence of one simple ascidian from Madras coast [13]. A brief account of 7 species of ascidians as new records to Indian coast was given by Sebastian and Kurian, 1981 [14]. The availability and detailed taxonomic descriptions of forty two species was given by Renganathan, 1981a, b; 1982a, b; Renganathan and Daniel, 1982; Renganathan, 1983a, b, c; 1984a, b, c, d, e; Renganathan and Monniot, 1984; Renganathan, 1985; Renganathan and Nelson, 1985; Renganathan and Krishnaswamy, 1985; Renganathan, 1986a, b, c with 27 species as first reports to India and five new species [15-34]. In addition to the above species, Krishnan *et al.*, 1989 made a brief reference to the ascidian fauna of the Roypuram coast of Madras describing 4 species as new records [35]. Nagabhushanam and Krishnamoorthy, 1992 studied the occurrence and biology of the solitary ascidian *Ascidiella aspersa* from Tamil Nadu coastal waters [36]. A report on the preliminary survey of the sea adjoining the southeast coast of India for the collection of ascidians from the intertidal rocky shores, depth of 4-5 meters and pearl oyster cages from Thoothukudi to Rameswaram during the period 1994-1997 was given by Meenakshi, 1996, 1997, 2004 [37-39]. In a short span of three years 40 species of ascidians, two families (Holozoidae Berrill, 1950 and Corellidae Lahille, 1888) and 5 genera (*Distaplia* Della Valle, 1881; *Trididemnum* Della Valle, 1881; *Phallusia* Savigny, 1816; *Rhodosoma* Ehrenberg, 1828; *Eusynstyela* Michaelsen, 1904) has been described as new records. Detailed description of all the 40 species is available (Meenakshi and Renganathan, 1997; Meenakshi and Renganathan, 1998; Meenakshi, 1998a, b; Meenakshi and Renganathan, 1999a, b; Meenakshi, 2000a, b; Meenakshi and Venugopal, 2000; Meenakshi, 2002, 2005; Meenakshi and Senthamarai, 2006a, b; 2007a, b; Meenakshi, 2009) [40-55]. The first

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extensive biological resources survey of the ascidians of Indian water was done during 2000-2003 by Meenakshi, 2003 [56]. Sampling was carried out from different habitats like trawl discards, intertidal rocky areas, deep sea (SCUBA), hull of ships, barges, mangrove, sea water inlet and outlet pipelines, filters of desalination plants, pearl, edible oyster farm, cages, oyster, chank, mussel beds, fishing harbor, fish, mussel landing centers, harbour installations, coral reef, marine aquarium tanks and fouling panels of 520 stations spread along the Indian coast from Visakhapatnam in the east coast to Mumbai in the west coast with a sincere and deeper survey of the Gulf of Mannar waters which included 263 stations. The presence of 359 species of ascidians belonging to 36 genera under 10 families was listed. 10 genera - *Aplidiopsis* Lahille, 1890; *Synoicum* Phipps, 1774; *Cystodytes* Drasche, 1884; *Polycitor* Renier, 1804; *Exostoma* Kott, 1990; *Leptoclinides* Bjerkan, 1905; *Polysyncraton* Nott, 1892; *Botryllus* Gaertner, 1774; *Boltenia* Van Name, 1945; *Ctenyura* Van Name, 1918; 133 species were new records (Meenakshi 2003; Meenakshi, 2008; Meenakshi, 2012; Meenakshi and Senthamarai, 2013a) [56-59]. 34 species of ascidians were reported as associated with coral reef from Tuticorin coast (Senthamarai, 2004; Meenakshi and Senthamarai, 2004, 2005, 2006c) [60-63]. Abdul Jaffar Ali *et al.*, 2010 recorded 23 species of ascidians from the south west coast of India with a brief account of 7 species - *Polyclinum tenuatum*, *Aplidiopsis confluenta*, *Synoicum prunum*, *Didemnum fragile*, *Didemnum tonga*, *Trididemnum miniatum* and *Trididemnum spumosum* [64]. Veena Shettigar & Kaladharan, 2010 reported the occurrence of ascidian *Molgula pyriformis* from the coastal waters of Visakhapatnam, India [65]. Venkataraman *et al.*, 2012 reported the availability of 6 species of ascidians - *Clavelina moluccensis*, *Atriolum robustum*, *Botrylloides leachii*, *Perophora modificata*, *Didemnum molle* and *Phallusia arabica* from the Andaman Sea [66]. Senthamarai, 2013 conducted a survey of the Gulf of Mannar region by collecting ascidians from trawl discards, chank, mussel beds, intertidal rocky area and from a depth of 2-6 m and reported the presence of 3 families - Polyclinidae, Polycitoridae and Didemnidae and 9 genera - *Aplidium*, *Eudistoma*, *Polycitor*, *Didemnum*, *Diplosoma*, *Leptoclinides*, *Lissoclinum*, *Polysyncraton*, *Trididemnum* and 26 species [67]. Of these, one species - *Aplidium digitalis* is new to science and the remaining 25 species are new records to the Gulf of Mannar. A detailed account of the morphological and anatomical features of 26 species is given by Meenakshi and Senthamarai, 2012, 2013b, 2014; Meenakshi *et al.*, 2014; Senthamarai *et al.*, 2015, 2016a, 2016b [68-74]. Ananthan, 2014 reported 14 species and Ananthan *et al.*, 2015 recorded 6 species - *Botrylloides leachii*, *Botrylloides pizoni*, *Clavelina picta*, *Clavelina robusta*, *Phallusia julinea* and *Polycarpa pigmentata* as new records from the Great Nicobar Biosphere Reserve [75,76]. Jhimli Mondal *et al.*, 2015 reported the diversity of ascidians from South Andaman and added 23 species [77]. Abdul Jaffar Ali *et al.*, 2015 documented 3 species - *Botryllus niger*, *Eudistoma sluiteri*, *Microcosmus sulcatus* as new records from the south west coast of India [78]. An Inventory of Ascidian Fauna from the Indian Coast giving a brief account of 57 species of which 8 species - *Eudistoma carnosum*, *Synoicum*

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*citrum*, *Synoicum galei*, *Aplidiopsis confluata*, *Trididemnum caelatum*, *Trididemnum vermiforme*,  
*Didemnum spadix*, *Diplosoma simileguwa* as new records was published by Abdul Jaffar Ali and  
Tamilselvi, 2016 [79]. Jhimli Mondal *et al.*, 2016 reported three stolidobranch ascidians - *Pyura*  
*curvigona* Tokioka, 1950; *Herdmania papietensis* (Herdman, 1882); *Halocynthia spinosa* Sluiter,  
1905 associated with coral reef from the Andaman and Nicobar Islands as new records [80]. Jhimli  
Mondal and Raghunathan, 2016 gave the taxonomic characters of 2 Pyurid ascidians - *Pyura*  
*isobella* Kott, 1985 and *Pyura sacciformes* (Drasche, 1884) collected from buoys and reef ecosystem  
of Andaman Sea [81]. Jhimli Mondal *et al.*, 2017a,b gave a short account of 6 Aplousobranch  
ascidians *Rhopalaea circula* Monniot and Monniot, 2001; *Rhopalaea fusca* (Herdman, 1880);  
*Clavelina australis* (Herdman, 1899); *Clavelina fecunda* (Sluiter, 1904); *Rhopalaea macrothorax*  
Tokioka, 1953 and *Clavelina robusta* Kott, 1990 as new records from Andaman and Nicobar Islands  
[82,83]. Stalin *et al.*, 2017 reported the presence of 4 photosynthetic ascidians from Andaman and  
Nicobar Islands [84]. Meenakshi and Gomathy, 2017 assessed the influence of habitat destruction  
on ascidian biodiversity loss and stated the total disappearance of 24 species of ascidians from  
Tuticorin area [85]. This comprehensive updated checklist has been prepared on the basis of the  
taxonomic papers, textbooks, biological resources survey reports, status reports, Memoirs of Indian  
museum monograph, doctoral thesis, MPhil. Dissertation, Proceedings, special issues, compendium,  
Final Technical Reports of sponsored projects carried out especially on the assessment of the marine  
sedentary ascidians of Indian coast during the period of more than hundred years (1915 to 2018).  
The taxonomic status suggested by Kott, 1985, 1990, 1992, 2001 was followed for the suborders  
Aplousobranchia, Phlebobranchia and Stolidobranchia [86-89]. While preparing the list; species  
with uncertain identification or those that have been assigned only to the genus level due to the  
absence of zooids with fully mature gonads or larval forms for confirmation has not been added.  
Pioneering studies on the systematics of sedentary ascidians of Indian waters began in early 19<sup>th</sup>  
century by Oka, 1915. Uncertain species described by Oka are not considered here. Gravely, 1927  
reported a number of ascidians from Krusadai Islands, Pamban and Rameswaram, the descriptions  
of which are incomplete, vague and the identification doubtful [90]. Venkat *et al.*, 1995 reported the  
presence of 7 species from New Mangalore Port [91]. Many reports are available on the distribution  
and occurrences of ascidians on fouling panels. As these reports lack taxonomical description of the  
species, they are not considered. The data given includes the first report of the species even if it is  
in the form of listing and the descriptive paper also. Care was taken to bring the latest taxonomic  
status of the species incorporating their recent nomenclature avoiding synonyms as per World  
Register of Marine Species [92]. Ascidians are highly contractile. Unless the samples are properly  
narcotised and preserved it is very difficult to work on the taxonomic status of this group especially  
the colonial forms. This compilation is the first of its kind on ascidians of Indian water which has  
been prepared with utmost care keeping in mind the chaos that may arise due to misidentification.

All available literature have been carefully reviewed and presented taking pains to avoid errors and omissions.

## 2. CONCLUSION

From the review of literature it is evident that adequate information on the biodiversity and long term quantitative studies of Indian ascidians are lacking as the early collections were at wide intervals and later reports were random. The present analysis reveals the occurrence of 263 species belonging to the class Ascidiacea coming under 2 orders, 3 suborders, 12 families, 4 subfamilies and 41 genera. The list of species reported from Indian water with their classification is given in table 1. It shows that the order Enterogona is represented by 203 and Pleurogona by 60 species. The suborders Aplousobranchia, Phlebobranchia and Stolidobranchia are represented by 160, 43, 60 species respectively. In this compilation 2330 samples which includes those specimen collected by the author and that received from National Institutes for identification and assigned with Voucher Numbers and deposited in the Museum of the Department of Zoology, A.P.C. Mahalaxmi College for Women, Thoothukudi and the Museum of the PG & Research Department of Zoology, V.O. Chidambaram College, Thoothukudi have been studied in detail whereas samples of surveys by other authors have not been examined for taxonomic verification. In the present list corrections based on mistakes in the spelling of the species name and synonyms have been incorporated.

**Table 1: A Checklist Of Indian Ascidians Over The Hundred Years**

| S. No. | Classification                               | Reference  |
|--------|--|--|
|        | Phylum: Chordata Haeckel, 1874               |  |
|        | Subphylum: Tunicata Lamarck, 1816            |  |
|        | Class: Ascidiacea Nielsen, 1995              |  |
| I.     | Order: Enterogona Perrier, 1898              |  |
| I.a.   | Suborder: Aplousobranchia Lahille, 1887      |  |
| A      | Family: Clavelinidae Forbes & Hanley, 1848   |  |
| I.     | Genus: <i>Clavelina</i> Savigny, 1816        |  |
| 1.     | <i>Clavelina australis</i> (Herdman, 1899)   | Jhimli Mondal <i>et al.</i> , 2017a  |
| 2.     | <i>Clavelina fecunda</i> (Sluiter, 1904)     | Jhimli Mondal <i>et al.</i> , 2017a  |
| 3.     | <i>Clavelina moluccensis</i> (Sluiter, 1904) | Venkataraman <i>et al.</i> , 2012; Jhimli Mondal <i>et al.</i> , 2015                                  |
| 4.     | <i>Clavelina oblonga</i> Herdman, 1880       | Ananthan, 2014   |
| 5.     | <i>Clavelina picta</i> (Verrill, 1900)       | Ananthan <i>et al.</i> , 2015  |
| 6.     | <i>Clavelina robusta</i> Kott, 1990          | Ananthan <i>et al.</i> , 2015; Jhimli Mondal <i>et al.</i> , 2015; Jhimli Mondal <i>et al.</i> , 2017b |

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| II  | Genus: <i>Pycnoclavella</i> Garstang, 1891              |  |
| 7.  | <i>Pycnoclavella diminuta</i> (Kott, 1957)              | Ananthan, 2014   |
| B   | Family: Diazonidae Seeliger, 1906                       |  |
| III | Genus: <i>Rhopalaea</i> Philippi, 1843                  |  |
| 8.  | <i>Rhopalaea circula</i> Monniot & Monniot, 2001        | Jhimli Mondal <i>et al.</i> , 2017a  |
| 9.  | <i>Rhopalaea fusca</i> (Herdman, 1880)                  | Jhimli Mondal <i>et al.</i> , 2017a  |
| 10. | <i>Rhopalaea macrothorax</i> Tokioka, 1953              | Jhimli Mondal <i>et al.</i> , 2015; Jhimli Mondal <i>et al.</i> , 2017b                            |
| C   | Family: Polyclinidae Milne-Edwards, 1841                |  |
| IV  | Genus: <i>Aplidiopsis</i> Lahille, 1890                 |  |
| 11. | <i>Aplidiopsis amoyense</i> Tokioka, 1967               | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 12. | <i>Aplidiopsis confluata</i> Kott, 1992                 | Abdul Jaffar Ali <i>et al.</i> , 2010; Abdul Jaffar Ali & Tamilselvi, 2016                         |
| V   | Genus: <i>Aplidium</i> Savigny, 1816                    |  |
| 13. | <i>Aplidium brevilarvacium</i> Kott, 1963               | Meenakshi, 2003; Meenakshi & Senthamarai, 2012; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013  |
| 14. | <i>Aplidium caelestis</i> Monniot, 1987                 | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 15. | <i>Aplidium digitalis</i> Meenakshi & Senthamarai, 2013 | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Meenakshi & Senthamarai, 2013b; Senthamarai, 2013 |
| 16. | <i>Aplidium directum</i> Kott, 1972                     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 17. | <i>Aplidium distaplum</i> Kott, 1992                    | Meenakshi, 2003; Meenakshi & Senthamarai, 2012; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013  |
| 18. | <i>Aplidium indicum</i> Renganathan & Monniot F., 1984  | Renganathan & Monniot F., 1984; Renganathan, 1986c   |
| 19. | <i>Aplidium lunacratum</i> Kott, 1992                   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Meenakshi &                                       |

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|     |   | Senthamarai, 2013b; Senthamarai, 2013  |
| 20. | <i>Aplidium macrolobatum</i> Kott, 1992             | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Meenakshi & Senthamarai, 2013b; Senthamarai, 2013   |
| 21. | <i>Aplidium mernooensis</i> (Brewin, 1956)          | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Meenakshi & Senthamarai, 2013b; Senthamarai, 2013   |
| 22. | <i>Aplidium minisculum</i> Kott, 1992               | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 23. | <i>Aplidium multiplicatum</i> Sluiter, 1909         | Renganathan & Monniot, 1984; Renganathan, 1984d; Renganathan, 1986c; Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015 |
| 24. | <i>Aplidium parolineatum</i> Kott, 1992             | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 25. | <i>Aplidium pentatrema</i> Monniot F., 1972         | Renganathan, 1986c   |
| 26. | <i>Aplidium pliciferum</i> (Redikorzev, 1927)       | Jhimli Mondal <i>et al.</i> , 2015   |
| 27. | <i>Aplidium ritteri</i> (Sluiter, 1895)             | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 28. | <i>Aplidium rubricollum</i> Kott, 1963              | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 29. | <i>Aplidium undulatum</i> Monniot F., & Gaill, 1978 | Ananthan, 2014   |
| 30. | <i>Aplidium uteute</i> Monniot & Monniot, 1987      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| VI  | Genus: <i>Polyclinum</i> Savigny, 1816              |  |
| 31. | <i>Polyclinum constellatum</i> Savigny, 1816        | Krishnan <i>et al.</i> , 1989; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005;  |

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|     |  | Meenakshi & Senthamarai, 2013a  |
| 32. | <i>Polyclinum fungosum</i> Herdman, 1886       | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 1998b, Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 33. | <i>Polyclinum glabrum</i> Sluiter, 1895        | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 34. | <i>Polyclinum incrustatum</i> Michaelsen, 1930 | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 35. | <i>Polyclinum indicum</i> Sebastian, 1954      | Sebastian, 1954; Sebastian & Kurian, 1981; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                           |
| 36. | <i>Polyclinum madrasensis</i> Sebastian, 1952  | Sebastian, 1952; Sebastian & Kurian, 1981; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                           |
| 37. | <i>Polyclinum marsupiale</i> Kott, 1963        | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 38. | <i>Polyclinum nudum</i> Kott, 1992             | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 1998b; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 39. | <i>Polyclinum psammiferum</i> Hartmeyer, 1911  | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 40. | <i>Polyclinum saturnium</i> Savigny, 1816      | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                   |
| 41. | <i>Polyclinum sundaicum</i> (Sluiter, 1909)    | Meenakshi, 1998b; Abdul Jaffar Ali & Tamilselvi, 2016   |



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| 42.  | <i>Polyclinum tenuatum</i> Kott, 1992              | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali <i>et al.</i> , 2010; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 43.  | <i>Polyclinum vasculosum</i> Pizon, 1908           | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| VII  | Genus: <i>Synoicum</i> Phipps, 1774                |  |
| 44.  | <i>Synoicum castellatum</i> Kott, 1992             | Ananthan, 2014   |
| 45.  | <i>Synoicum citrum</i> Kott, 1992                  | Abdul Jaffar Ali & Tamilselvi, 2016  |
| 46.  | <i>Synoicum galei</i> (Michaelsen, 1930)           | Abdul Jaffar Ali & Tamilselvi, 2016  |
| 47.  | <i>Synoicum indicum</i> Meenakshi, 2003            | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 48.  | <i>Synoicum macroglossum</i> (Hartmeyer, 1919)     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 49.  | <i>Synoicum papiliferum</i> (Michaelsen, 1930)     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 50.  | <i>Synoicum prunum</i> (Herdman, 1899)             | Abdul Jaffar Ali <i>et al.</i> , 2010  |
| D    | Family: Holozoidae Berril, 1950                    |  |
| VIII | Genus: <i>Distaplia</i> Della Valle, 1881          |  |
| 51.  | <i>Distaplia nathensis</i> Meenakshi, 1997         | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 1998a; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a |
| E    | Family: Polycitoridae Michaelsen, 1904             |  |
| IX   | Genus: <i>Cystodytes</i> Drasche, 1884             |  |
| 52.  | <i>Cystodytes dellechiajei</i> (Della Valle, 1877) | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| X    | Genus: <i>Eudistoma</i> Caullery, 1909             |  |
| 53.  | <i>Eudistoma amplum</i> (Sluiter, 1909)            | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016   |
| 54.  | <i>Eudistoma angolanum</i> (Michaelsen, 1914)      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |

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| 55. | <i>Eudistoma carnosum</i> Kott, 1990          | Abdul Jaffar Ali & Tamilselvi, 2016   |
| 56. | <i>Eudistoma constrictum</i> Kott, 1990       | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2002; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                      |
| 57. | <i>Eudistoma eboreum</i> Kott, 1990           | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 58. | <i>Eudistoma gilboviride</i> (Sluiter, 1909)  | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2015; Jhimli Mondal <i>et al.</i> , 2015; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 59. | <i>Eudistoma glacum</i> (Sluiter, 1909)       | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 60. | <i>Eudistoma globosum</i> Kott, 1957          | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 61. | <i>Eudistoma incubitum</i> Kott, 1990         | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 62. | <i>Eudistoma kaverium</i> Meenakshi, 1997     | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2002; Meenakshi, 2004  |
| 63. | <i>Eudistoma lakshmiani</i> Renganathan, 1986 | Renganathan, 1986a; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                |
| 64. | <i>Eudistoma laysani</i> (Sluiter, 1900)      | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2002, Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                      |
| 65. | <i>Eudistoma loricatedum</i> (Sluiter, 1909)  | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 66. | <i>Eudistoma malum</i> Kott, 1990             | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |

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| 67. | <i>Eudistoma microlarvum</i> Kott, 1990    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016   |
| 68. | <i>Eudistoma ovatum</i> (Herdman, 1886)    | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2002; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                         |
| 69. | <i>Eudistoma pyriforme</i> (Herdman, 1886) | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2015; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 70. | <i>Eudistoma reginum</i> Kott, 1990        | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016   |
| 71. | <i>Eudistoma rubrum</i> Tokioka, 1954      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 72. | <i>Eudistoma sabulosum</i> Kott, 1990      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2015   |
| 73. | <i>Eudistoma sluiteri</i> Hartmeyer, 1909  | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2015; Abdul Jaffar Ali <i>et al.</i> , 2015; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 74. | <i>Eudistoma superlatum</i> Kott, 1990     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2015   |
| 75. | <i>Eudistoma toealensis</i> Millar, 1975   | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2002; Meenakshi, 2004   |
| 76. | <i>Eudistoma tokarae</i> Tokioka, 1954     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 77. | <i>Eudistoma tumidum</i> Kott, 1990        | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2015;  |

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|      |   | Abdul Jaffar Ali & Tamilselvi, 2016  |
| 78.  | <i>Eudistoma viride</i> Tokioka, 1955       | Renganathan, 1982b; Renganathan, 1984a; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 79.  | <i>Eudistoma vitiata</i> Kott, 1981         | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XI   | Genus: <i>Exostoma</i> Kott, 1990           |  |
| 80.  | <i>Exostoma ianthium</i> (Sluiter, 1909)    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XII  | Genus: <i>Polycitor</i> Renier, 1804        |  |
| 81.  | <i>Polycitor calamus</i> Kott, 1990         | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Meenakshi & Senthamarai, 2014  |
| F    | Family: Didemnidae Giard, 1872              |  |
| XIII | Genus: <i>Atriolum</i> Kott, 1983           |  |
| 82.  | <i>Atriolum robustum</i> Kott, 1983         | Venkataraman <i>et al.</i> , 2012  |
| XIV  | Genus: <i>Didemnum</i> Savigny, 1816        |  |
| 83.  | <i>Didemnum albidum</i> (Verrill, 1871)     | Ananthan, 2014   |
| 84.  | <i>Didemnum albopunctatum</i> Sluiter, 1909 | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 85.  | <i>Didemnum augusti</i> Michaelsen, 1920    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 86.  | <i>Didemnum candidum</i> Savigny, 1816      | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Ananthan, 2014               |
| 87.  | <i>Didemnum chartaceum</i> Sluiter, 1909    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b  |

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| 88.  | <i>Didemnum cuculliferum</i> (Sluiter, 1909)  | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b   |
| 89.  | <i>Didemnum etiolum</i> Kott, 1982            | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 90.  | <i>Didemnum fragile</i> Sluiter, 1909         | Meenakshi, 2003; Abdul Jaffar Ali <i>et al.</i> , 2010; Meenakshi & Senthamarai, 2013a  |
| 91.  | <i>Didemnum fulgens</i> (Milne Edwards, 1841) | Ananthan, 2014  |
| 92.  | <i>Didemnum granulatum</i> Tokioka, 1954      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Ananthan, 2014; Senthamarai <i>et al.</i> , 2016b                               |
| 93.  | <i>Didemnum lambitum</i> Sluiter, 1900        | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 94.  | <i>Didemnum ligulum</i> Monniot, F. 1983      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 95.  | <i>Didemnum megasterix</i> Monniot, F. 1994   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 96.  | <i>Didemnum membranaceum</i> Sluiter, 1909    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 97.  | <i>Didemnum molle</i> (Herdman, 1886)         | Meenakshi, 2003; Venkataraman <i>et al.</i> , 2012; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015; Stalin <i>et al.</i> , 2017 |
| 98.  | <i>Didemnum moseleyi</i> (Herdman, 1886)      | Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a   |
| 99.  | <i>Didemnum nekozita</i> Tokioka, 1967        | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 100. | <i>Didemnum nigricans</i> Monniot, F. 1994    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 101. | <i>Didemnum obscurum</i> Monniot, F. 1969     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |

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| 102. | <i>Didemnum ossium</i> Kott, 2001              | Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b   |
| 103. | <i>Didemnum pardum</i> Tokioka, 1962           | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 104. | <i>Didemnum psammatode</i> (Sluiter, 1895)     | Renganathan, 1981a; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 105. | <i>Didemnum perlucidum</i> Monniot, F. 1983    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 106. | <i>Didemnum semifuscum</i> Sluiter, 1909       | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 107. | <i>Didemnum spadix</i> Kott, 2001              | Abdul Jaffar Ali & Tamilselvi, 2016  |
| 108. | <i>Didemnum spongioides</i> Sluiter, 1909      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b  |
| 109. | <i>Didemnum ternerratum</i> Kott, 2001         | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b  |
| 110. | <i>Didemnum tonga</i> (Herdman, 1886)          | Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali <i>et al.</i> , 2010   |
| 111. | <i>Didemnum translucidum</i> Tokioka, 1953     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 112. | <i>Didemnum vahatuio</i> Monniot, C. & F. 1987 | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 113. | <i>Didemnum vexillum</i> Kott, 2002            | Ananthan, 2014   |
| 114. | <i>Didemnum viride</i> (Herdman, 1906)         | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XV   | Genus: <i>Diplosoma</i> Macdonald, 1859        |  |
| 115. | <i>Diplosoma listerianum</i> (Milne-Edwards,   | Meenakshi, 2003; Meenakshi &   |

|      |  |  |
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|      | 1841)  | Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 116. | <i>Diplosoma simileguwa</i> Oka & Hirose, 2005   | Abdul Jaffar Ali & Tamilselvi, 2016  |
| 117. | <i>Diplosoma simile</i> (Sluiter, 1909)          | Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Ananthan, 2014; Stalin <i>et al.</i> , 2017   |
| 118. | <i>Diplosoma spongiforme</i> (Giard, 1872)       | Ananthan, 2014   |
| 119. | <i>Diplosoma swamiensis</i> Renganathan, 1986    | Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 120. | <i>Diplosoma virens</i> (Hartmeyer, 1909)        | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b  |
| XVI  | Genus: <i>Leptoclinides</i> Bjerkan, 1905        |  |
| 121. | <i>Leptoclinides doboensis</i> (Sluiter, 1913)   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 122. | <i>Leptoclinides madara</i> Tokioka, 1953        | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016a  |
| 123. | <i>Leptoclinides reticulatus</i> (Sluiter, 1909) | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 124. | <i>Leptoclinides rufus</i> (Sluiter, 1909)       | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016a  |
| XVII | Genus: <i>Lissoclinum</i> Verrill, 1871          |  |
| 125. | <i>Lissoclinum abdominale</i> Monniot, F. 1983   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 126. | <i>Lissoclinum bistratum</i> (Sluiter, 1905a)    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015; Abdul Jaffar Ali &  |

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|       |  | Tamilselvi, 2016   |
| 127.  | <i>Lissoclinum fragile</i> (Van Name, 1902)        | Renganathan, 1982a; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 128.  | <i>Lissoclinum patella</i> (Gottschaldt, 1898)     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Stalin <i>et al.</i> , 2017   |
| 129.  | <i>Lissoclinum punctatum</i> Kott, 1977            | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b  |
| 130.  | <i>Lissoclinum tasmanense</i> (Kott, 1954)         | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 131.  | <i>Lissoclinum textile</i> Monniot & Monniot, 2001 | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 132.  | <i>Lissoclinum timorensis</i> (Sluiter, 1909)      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 133.  | <i>Lissoclinum triangulum</i> (Sluiter, 1909)      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XVIII | Genus: <i>Polysyncraton</i> Nott, 1892             |  |
| 134.  | <i>Polysyncraton aspiculatum</i> (Tokioka, 1949)   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 135.  | <i>Polysyncraton doboense</i> (Sluiter, 1913)      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 136.  | <i>Polysyncraton lithostrotum</i> (Brewin, 1956)   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 137.  | <i>Polysyncraton meandratum</i> Monniot, 1993      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 138.  | <i>Polysyncraton millepore</i> Vasseur, 1969       | Senthamarai, 2013; Meenakshi <i>et al.</i> , 2014  |
| 139.  | <i>Polysyncraton multipapillae</i> Monniot, 1993   | Meenakshi, 2003; Meenakshi &   |



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|      |   | Senthamarai, 2013a   |
| 140. | <i>Polysyncraton pavementum</i> Monnier, 1993           | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 141. | <i>Polysyncraton rugosum</i> Monnier, 1993              | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 142. | <i>Polysyncraton thallomorpha</i> Monnier, F.1993       | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 143. | <i>Polysyncraton victoriensis</i> Kott, 1976            | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XIX  | Genus: <i>Trididemnum</i> Della Valle, 1881             |  |
| 144. | <i>Trididemnum caelatum</i> Kott, 2001                  | Abdul Jaffar Ali & Tamilselvi, 2016  |
| 145. | <i>Trididemnum cerebriforme</i> Hartmeyer, 1913         | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2000b; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a                   |
| 146. | <i>Trididemnum clinides</i> Kott, 1977                  | Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 147. | <i>Trididemnum cyanophorum</i> Lafargue & Duclaux, 1979 | Ananthan, 2014   |
| 148. | <i>Trididemnum cyclops</i> Michaelsen, 1921             | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016; Stalin <i>et al.</i> , 2017                      |
| 149. | <i>Trididemnum discrepans</i> (Sluiter, 1909)           | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 150. | <i>Trididemnum miniatum</i> Kott, 1977                  | Meenakshi, 2003; Abdul Jaffar Ali <i>et al.</i> , 2010; Meenakshi & Senthamarai, 2013a   |
| 151. | <i>Trididemnum nubilum</i> Kott, 1980                   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b                                  |
| 152. | <i>Trididemnum paraclinides</i> Kott, 1982              | Meenakshi, 2003; Senthamarai,  |

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|      |   | 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a  |
| 153. | <i>Trididemnum paracyclops</i> Kott, 1980     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Senthamarai, 2013; Senthamarai <i>et al.</i> , 2016b                        |
| 154. | <i>Trididemnum profundum</i> (Sluiter, 1909)  | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 155. | <i>Trididemnum pseudodiplosoma</i> Kott, 1962 | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 156. | <i>Trididemnum savignii</i> (Herdman, 1886)   | Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                      |
| 157. | <i>Trididemnum spiculatum</i> Kott, 1962      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 158. | <i>Trididemnum spumosum</i> Kott, 2001        | Abdul Jaffar Ali <i>et al.</i> , 2010  |
| 159. | <i>Trididemnum strigosum</i> Kott, 1980       | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 160. | <i>Trididemnum vermiforme</i> Kott, 2001      | Abdul Jaffar Ali & Tamilselvi, 2016  |
| I.b. | Suborder: Phlebobranchia Lahille, 1887        |  |
| G    | Family: Perophoridae Giard, 1872              |  |
| XX   | Genus: <i>Ecteinascidia</i> Herdman, 1880     |  |
| 161. | <i>Ecteinascida bombayensis</i> Das, 1938     | Das, 1938  |
| 162. | <i>Ecteinascida diaphanis</i> Sluiter, 1885   | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003, Meenakshi, 2004; Meenakshi, 2009; Meenakshi & Senthamarai, 2013a          |
| 163. | <i>Ecteinascida diligens</i> Sluiter, 1900    | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2009   |
| 164. | <i>Ecteinascida garstangi</i> Sluiter, 1898   | Renganathan, 1984b; Renganathan, 1986c; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 165. | <i>Ecteinascida imperfecta</i> Tokioka, 1950  | Renganathan, 1986c   |

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| 166. | <i>Ecteinascida krishnani</i> Renganathan & Krishnaswamy, 1985 | Renganathan & Krishnaswamy, 1985; Renganathan, 1986c; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 167. | <i>Ecteinascida nexa</i> Sluiter, 1904                         | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2009  |
| 168. | <i>Ecteinascida rubricollis</i> Sluiter, 1886                  | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2009  |
| 169. | <i>Ecteinascida sluiteri</i> Herdman, 1906                     | Meenakshi, 1996; Meenakshi, 1997; Meenakshi & Venugopal 2000; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a  |
| 170. | <i>Ecteinascida styeloids</i> (Traustedt, 1882)                | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2009  |
| 171. | <i>Ecteinascida thurstoni</i> Herdman, 1890                    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 172. | <i>Ecteinascida venui</i> Meenakshi, 1997                      | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2000a; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| XXI  | Genus: <i>Perophora</i> Wiegmann, 1835                         |   |
| 173. | <i>Perophora clavata</i> Kott, 1985                            | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 174. | <i>Perophora hutchisoni</i> Macdonald, 1859                    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 175. | <i>Perophora listeri indica</i> Sebastian, 1955                | Sebastian, 1955; Sebastian & Kurian, 1981; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 176. | <i>Perophora modificata</i> Kott, 1985                         | Meenakshi, 2003; Venkataraman <i>et al.</i> , 2012; Meenakshi & Senthamarai, 2013a  |
| 177. | <i>Perophora multiclathrata</i> (Sluiter, 1904)                | Renganathan, 1983c; Renganathan,  |

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|      |  | 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016                         |
| H    | Family: Ascidiidae Adams & Adams, 1858             |   |
| XXII | Genus: <i>Ascidia</i> Linnaeus, 1767               |   |
| 178. | <i>Ascidia andamanensis</i> Oka, 1915              | Oka, 1915   |
| 179. | <i>Ascidia caguayensis</i> Millar & Goodbody, 1974 | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004   |
| 180. | <i>Ascidia challengerii</i> Herdman, 1882          | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2005; Senthamarai, 2004; Meenakshi & Senthamarai, 2005  |
| 181. | <i>Ascidia conchilega</i> Muller, 1776             | Jhimli Mondal <i>et al.</i> , 2015  |
| 182. | <i>Ascidia decepta</i> Kott, 1985                  | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2005  |
| 183. | <i>Ascidia dorsata</i> Meenakshi, 1999             | Meenakshi, 1996; Meenakshi, 1997; Meenakshi & Renganathan, 1999b; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a  |
| 184. | <i>Ascidia gemmata</i> Sluiter, 1895               | Krishnan <i>et al.</i> , 1989; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 185. | <i>Ascidia glabra</i> Hartmeyer, 1922              | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2005  |
| 186. | <i>Ascidia indica</i> Meenakshi, 1997              | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2005  |
| 187. | <i>Ascidia irregularis</i> Oka, 1915               | Oka, 1915   |
| 188. | <i>Ascidia kesavanica</i> Meenakshi, 1997          | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2005  |

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| 189.  | <i>Ascidia latesiphonica</i> Hartmeyer, 1922 | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Meenakshi, 2005; Meenakshi & Senthamarai, 2013a  |
| 190.  | <i>Ascidia liberata</i> Sluiter, 1887        | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Meenakshi, 2005; Meenakshi & Senthamarai, 2013a  |
| 191.  | <i>Ascidia samea</i> Oka, 1935               | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 192.  | <i>Ascidia sydneyensis</i> Stimpson, 1855    | Meenakshi, 1996; Meenakshi, 1997; Meenakshi & Renganathan, 1998; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 193.  | <i>Ascidia tuticoriensis</i> Meenakshi, 1997 | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi, 2005   |
| 194.  | <i>Ascidia virginea</i> Muller, 1776         | Ananthan, 2014   |
| 195.  | <i>Ascidia zara</i> Oka, 1935                | Renganathan, 1986c; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XXIII | Genus: <i>Ascidiella</i> Roule, 1884         |  |
| 196.  | <i>Ascidiella aspersa</i> (Mueller, 1776)    | Das, 1945; Prakasam & Azariah, 1978; Nagabhushanam & Krishnamoorthy, 1992; Ananthan, 2014  |
| XXIV  | Genus: <i>Phallusia</i> Savigny, 1816        |  |
| 197.  | <i>Phallusia arabica</i> Savigny, 1816       | Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Venkataraman <i>et al.</i> , 2012; Meenakshi & Senthamarai, 2013a;   |

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|       |  | Jhimli Mondal <i>et al.</i> , 2015; Abdul Jaffar Ali & Tamilselvi, 2016   |
| 198.  | <i>Phallusia barbarica</i> Kott, 1985      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 199.  | <i>Phallusia julinea</i> Sluiter, 1915     | Ananthan <i>et al.</i> , 2015   |
| 200.  | <i>Phallusia mammillata</i> (Cuvier, 1815) | Jhimli Mondal <i>et al.</i> , 2015  |
| 201.  | <i>Phallusia nigra</i> (Savigny, 1816)     | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 1998a; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 202.  | <i>Phallusia polytrema</i> (Herdman, 1906) | Meenakshi, 1996; Meenakshi, 1997; Meenakshi & Renganathan, 1999a; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a  |
| I     | Family: Corellidae Lahille, 1888           |   |
| I.a   | Subfamily: Rhodosomatinae Seeliger, 1893   |   |
| XXV   | Genus: <i>Rhodosoma</i> Ehrenberg, 1828    |   |
| 203.  | <i>Rhodosoma turcicum</i> (Savigny, 1816)  | Meenakshi, 1996; Meenakshi, 1997; Meenakshi & Renganathan, 1997; Meenakshi 2003; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016        |
| II.   | Order: Pleurogona Perrier, 1898            |   |
| II.a. | Suborder: Stolidobranchia Lahille, 1887    |   |
| J     | Family: Styelidae Sluiter, 1895            |   |

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| J.a   | Subfamily: Botryllinae Adams & Adams, 1858               |   |
| XXVI  | Genus: <i>Botrylloides</i> Milne-Edwards, 1841           |   |
| 204.  | <i>Botrylloides anceps</i> (Herdman, 1891)               | Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2006c; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 205.  | <i>Botrylloides chevalense</i> Herdman, 1906             | Renganathan, 1984c; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 206.  | <i>Botrylloides leachii</i> (Savigny, 1816)              | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Venkataraman <i>et al.</i> , 2012; Ananthan <i>et al.</i> , 2015   |
| 207.  | <i>Botrylloides magnicoecum</i> Hartmeyer, 1912          | Renganathan & Krishnaswamy, 1985; Renganathan, 1986c; Meenakshi 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 208.  | <i>Botrylloides nigrum</i> (Herdman, 1886)               | Abdul Jaffar Ali <i>et al.</i> , 2015   |
| 209.  | <i>Botrylloides perspicuus</i> (Herdman, 1886)           | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 210.  | <i>Botrylloides pizoni</i> Brunetti & Mastrototaro, 2012 | Ananthan <i>et al.</i> , 2015   |
| XXVII | Genus: <i>Botryllus</i> Gaertner, 1774                   |   |
| 211.  | <i>Botryllus schlosseri</i> (Pallas, 1766)               | Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2006c; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali &   |

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|        |   | Tamilselvi, 2016  |
| 212.   | <i>Botryllus stewartensis</i> Brewin, 1958                          | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 213.   | <i>Botryllus tuberatus</i> Ritter & Forsyth, 1917                   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| J.b    | Subfamily: Polyzoinae Hartmeyer, 1902                               |   |
| XXVIII | Genus: <i>Eusynstyela</i> Michaelsen, 1904                          |   |
| 214.   | <i>Eusynstyela tincta</i> (Van Name, 1902)                          | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 1998a; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a  |
| 215.   | <i>Eusynstyela latericius</i> (Sluiter, 1904)                       | Jhimli Mondal <i>et al.</i> , 2015  |
| 216.   | <i>Eusynstyela misakiensis</i> (Watanabe & Tokioka, 1972)           | Jhimli Mondal <i>et al.</i> , 2015  |
| XXIX   | Genus: <i>Polyandrocarpa</i> Michaelsen, 1904                       |   |
| 217.   | <i>Polyandrocarpa chendurensis</i> Renganathan & Krishnaswamy, 1985 | Renganathan & Krishnaswamy, 1985; Renganathan, 1986c  |
| 218.   | <i>Polyandrocarpa durbanensis</i> Millar, 1955                      | Renganathan, 1986c  |
| XXX    | Genus: <i>Polyzoa</i> Lesson, 1831                                  |   |
| 219.   | <i>Polyzoa violacea</i> (Oka, 1915)                                 | Oka, 1915   |
| XXXI   | Genus: <i>Symplegma</i> Herdman, 1886                               |   |
| 220.   | <i>Symplegma brakenhielmi</i> (Michaelsen, 1904)                    | Renganathan, 1985; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 221.   | <i>Symplegma reptans</i> (Oka, 1927)                                | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 222.   | <i>Symplegma viride</i> Herdman, 1886                               | Sebastian, 1956; Sebastian & Kurian, 1981; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004;   |



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|        |   | Meenakshi & Senthamarai, 2013a   |
| 223.   | <i>Symplegma viride stolonica</i> Berrill, 1931 | Sebastian, 1956; Sebastian & Kurian, 1981  |
| J.c    | Subfamily: Styelinae Herdman, 1881              |  |
| XXXII  | Genus: <i>Cnemidocarpa</i> Huntsman, 1912       |  |
| 224.   | <i>Cnemidocarpa areolata</i> Heller, 1878       | Das, 1945; Renganathan & Jones Nelson, 1985; Renganathan, 1986c; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a                   |
| 225.   | <i>Cnemidocarpa intestinata</i> Kott, 1985      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XXXIII | Genus: <i>Polycarpa</i> Heller, 1877            |  |
| 226.   | <i>Polycarpa annandalei</i> Oka, 1915           | Oka, 1915; Das, 1945   |
| 227.   | <i>Polycarpa aurita</i> (Sluiter, 1890)         | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2006a; Meenakshi & Senthamarai, 2013a |
| 228.   | <i>Polycarpa cryptocarpa</i> (Sluiter, 1885)    | Oka, 1915  |
| 229.   | <i>Polycarpa glebosa</i> (Sluiter, 1904)        | Oka, 1915; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 230.   | <i>Polycarpa palkensis</i> Herdman, 1906        | Renganathan, 1986c; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 231.   | <i>Polycarpa papillata</i> (Sluiter, 1885)      | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 232.   | <i>Polycarpa pigmentata</i> (Herdman, 1906)     | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015; Ananthan <i>et al.</i> , 2015                 |
| 233.   | <i>Polycarpa maniensis</i> Meenakshi, 1997      | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi & Senthamarai, 2006a  |
| 234.   | <i>Polycarpa scatterata</i> Meenakshi, 1997     | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Meenakshi & Senthamarai, 2006a; Meenakshi & Senthamarai, 2013a |

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| XXXIV  | Genus: <i>Styela</i> Fleming, 1822          |  |
| 235.   | <i>Styela canopus</i> (Savigny, 1816)       | Renganathan, 1981b; Krishnan <i>et al.</i> , 1989; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 236.   | <i>Styela plicata</i> (Lesueur, 1823)       | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2007a; Meenakshi & Senthamarai, 2013a   |
| K      | Family: Pyuridae Hartmeyer, 1908            |  |
| XXXV   | Genus: <i>Boltenia</i> Van Name, 1945       |  |
| 237.   | <i>Boltenia transversaria</i> Sluiter, 1904 | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XXXVI  | Genus: <i>Ctenyura</i> Van Name, 1918       |  |
| 238.   | <i>Ctenyura intermedia</i> Van Name, 1918   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| XXXVII | Genus: <i>Herdmania</i> Lahille, 1818       |  |
| 239.   | <i>Herdmania pallida</i> (Heller, 1878)     | Oka, 1915; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015   |
| 240.   | <i>Herdmania momus</i> (Savigny, 1816)      | Oka, 1915; Das, 1936; Das, 1945; Sebastian, 1953; Sebastian & Kurian, 1981; Renganathan, 1983b; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015; Abdul |

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|         |   | Jaffar Ali & Tamilselvi, 2016   |
| 241.    | <i>Herdmania papietensis</i> (Herdman, 1882)  | Jhimli Mondal <i>et al.</i> , 2016  |
| XXXVIII | Genus: <i>Microcosmus</i> Heller, 1818        |   |
| 242.    | <i>Microcosmus curvus</i> Tokioka, 1954       | Renganathan, 1983a; Renganathan, 1986c; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 243.    | <i>Microcosmus exasperatus</i> Heller, 1878   | Renganathan, 1986c; Krishnan <i>et al.</i> , 1989; Krishnan, 1992, Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 244.    | <i>Microcosmus helleri</i> Herdman, 1881      | Oka, 1915; Das 1945; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 245.    | <i>Microcosmus propinquus</i> Herdman, 1882   | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016  |
| 246.    | <i>Microcosmus pupa</i> (Savigny, 1816)       | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi & Senthamarai, 2007b   |
| 247.    | <i>Microcosmus stoloniferus</i> Kott, 1952    | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 248.    | <i>Microcosmus squamiger</i> Michaelsen, 1927 | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2003; Meenakshi, 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2007b; Meenakshi & Senthamarai, 2013a; Abdul Jaffar  |

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|       |  | Ali & Tamilselvi, 2016   |
| 249.  | <i>Microcosmus vulgaris</i> Heller, 1877     | Abdul Jaffar Ali <i>et al.</i> , 2015  |
| XXXIX | Genus: <i>Pyura</i> Molina, 1782             |  |
| 250.  | <i>Pyura curvigona</i> Tokioka, 1950         | Jhimli Mondal <i>et al.</i> , 2015; Jhimli Mondal <i>et al.</i> , 2016   |
| 251.  | <i>Pyura ennurensis</i> (Das, 1940)          | Das, 1940; Das, 1945; Sebastian, 1959; Sebastian & Kurian, 1981  |
| 252.  | <i>Pyura isobella</i> Kott, 1985             | Jhimli Mondal & Raghunathan, 2016  |
| 253.  | <i>Pyura lanka</i> (Herdman, 1906)           | Oka, 1915; Renganathan, 1984e; Renganathan, 1986c; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a   |
| 254.  | <i>Pyura sacciformis</i> (Drasche, 1884)     | Jhimli Mondal & Raghunathan, 2016  |
| 255.  | <i>Pyura spinosa</i> (Quoy & Gaimard, 1834)  | Meenakshi, 1996; Meenakshi, 1997; Meenakshi, 2004; Meenakshi & Senthamarai, 2006b  |
| 256.  | <i>Pyura vittata</i> Stimpson, 1852          | Renganathan, 1986c; Meenakshi, 2003; Meenakshi & Senthamarai, 2013a; Jhimli Mondal <i>et al.</i> , 2015  |
| L     | Family: Molgulidae, Lacaz-Duthiers, 1877     |  |
| XL    | Genus: <i>Molgula</i> Forbes, 1848           |  |
| 257.  | <i>Molgula calvata</i> Sluiter, 1904         | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 258.  | <i>Molgula ficus</i> (Macdonald, 1859)       | Renganathan, 1986b; Renganathan, 1986c; Meenakshi, 2003; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; Meenakshi & Senthamarai, 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 |
| 259.  | <i>Molgula mortensini</i> (Michaelsen, 1922) | Meenakshi, 2003; Meenakshi & Senthamarai, 2013a  |
| 260.  | <i>Molgula pyriformis</i> Herdman, 1881      | Veena Shettigar & Kaladharan, 2010   |
| 261.  | <i>Molgula sphaera</i> Kott, 1972            | Meenakshi, 2003; Meenakshi &   |

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|      |  | Senthamarai, 2013a                 |
| XLI  | Genus: <i>Halocynthia</i> Verrill & Rathburn, 1879 |                                    |
| 262. | <i>Halocynthia spinosa</i> Sluiter, 1905           | Jhimli Mondal <i>et al.</i> , 2016 |
| 263. | <i>Halocynthia dumosa</i> (Stimpson, 1855)         | Jhimli Mondal <i>et al.</i> , 2015 |

Oka, 1915 recorded two species - *Microcosmus mannarensis* Herdman, 1906 and *Herdmania ceylonica* (Herdman, 1906) belonging to Pyuridae, which is now synonymised with *Microcosmus helleri* Herdman, 1881 and *Herdmania pallida* (Heller, 1878) respectively. The genus *Monobotryllus* Oka, 1915 is a synonym of *Polyzoa* Lesson, 1831 and the species *Monobotryllus violaceus* is accepted as *Polyzoa violacea* (Oka, 1915). *Pyura momus* Savigny, 1816 reported by Das, 1936 is taken as *Herdmania momus* (Savigny, 1816). *Herdmania ennurensis* identified by Das, 1940 from Ennur coast is accepted as *Pyura ennurensis* (Das, 1940). *Styela areolata* Heller, 1878 (Styelidae) described by Das, 1945 is now *Cnemidocarpa areolata* (Heller, 1878). *Sidnyum pentatrema* Monniot F., 1972 and *Sidnyum indicum* Renganathan and Monniot F., 1984 (Polyclinidae) recorded by Renganathan, 1986c are accepted as *Aplidium pentatrema* (Monniot F., 1972) and *Aplidium indicum* (Renganathan and Monniot F., 1984). *Molgula martensii* Traustedt, 1855 (Molgulidae) recorded by Renganathan, 1986b, c is considered as *Molgula ficus* (Macdonald, 1859); *Didemnum psammathodes* (Didemnidae) reported by Renganathan, 1981a; Renganathan, 1986c; Meenakshi, 1997; 2003; 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; 2013a; Abdul Jaffar Ali & Tamilselvi, 2016 is *Didemnum psammathodes* (Sluiter, 1895); *Perophora formosana* Oka, 1931 (Perophoridae) recorded by Renganathan, 1983c; 1986c; Meenakshi, 1997; 2003; 2004; Senthamarai, 2004; Meenakshi & Senthamarai, 2005; 2013a is *Perophora multiclathrata* (Sluiter, 1904) and *Styela bicolor* Sluiter, 1887 (Styelidae) identified by Renganathan, 1981b; Meenakshi, 1997; 2004 is *Styela canopus* (Savigny, 1816). *Ascidia dorsalis* Monniot, 1987 identified and described from Tuticorin by Meenakshi, 1996; 1997 is *Ascidia dorsata* Meenakshi, 1999. *Ecteinascidia koumaci* Monniot, 1987 (Perophoridae) reported by Meenakshi, 1996; 1997; 2004; 2009 is synonymised as *Ecteinascidia rubricollis* Sluiter, 1886; *Phallusia caguayensis* Millar and Goodbody, 1974 (Asciidiidae) identified by Meenakshi, 1996; 1997; 2004 is *Ascidia caguayensis* (Millar and Goodbody, 1974); *Aplidium filiforme* Kott, 1992 (Polyclinidae) described by Meenakshi and Senthamarai, 2013b is *Aplidium mernoensis* (Brewin, 1956); *Eudistoma muscosum* Kott, 1990 (Polycitoridae) described by Senthamarai *et al.*, 2015; Abdul Jaffar Ali and Tamilselvi, 2016 is *Eudistoma sluiteri* Hartmeyer, 1909. *Didemnum pseudodiplosoma* Kott, 1962, *Didemnum turritum* Kott, 1962, *Echinoclinum triangulum* Sluiter, 1909, *Lissoclinum voeltzkowi* Michaelsen, 1920, *Trididemnum aspiculatum* Kott, 1957 (Didemnidae), *Botrylloides perspicum* Herdman, 1886 recorded by Meenakshi 2003; Meenakshi & Senthamarai, 2013a is *Trididemnum pseudodiplosoma* (Kott, 1962), *Didemnum membranaceum* Sluiter, 1909, *Lissoclinum triangulum* (Sluiter, 1909), *Lissoclinum timorensis* (Sluiter, 1909), *Trididemnum profundum* (Sluiter, 1909), *Botrylloides*

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*perspicuus* (Herdman, 1886), respectively and *Botryllus purpureus* (Oka, 1932) described by Meenakshi and Senthamarai, 2006c; Abdul Jaffar Ali and Tamilselvi, 2016 is now accepted as *Botrylloides anceps* (Herdman, 1891). *Botrylloides niger* Michaelsen, 1921; *Microcosmus sulcatus* Michaelsen, 1915 (Pyruridae) described by Abdul Jaffar Ali, 2015 from south west coast is now *Botrylloides nigrum* (Herdman, 1886) and *Microcosmus vulgaris* Heller 1877. *Polyclinum solum* Kott, 1992 (Polyclinidae), *Diplosoma macdonaldi* (Herdman, 1886), *Symplegma oecania* Tokioka, 1961 (Styelidae) recorded by Meenakshi 2003; Meenakshi & Senthamarai, 2013a and Abdul Jaffar Ali and Tamilselvi, 2016 is considered as synonyms of *Polyclinum psammiferum* Hartmeyer, 1911, *Diplosoma listerianum* (Milne-Edwards, 1841), *Symplegma brakenhielmi* (Michaelsen, 1904). From the Indian coast twelve families are recorded. The family Clavelinidae is represented by two genera - *Clavelina* Savigny, 1816 with six and *Pycnoclavella* Garstang, 1891 by one species. The genus *Rhopalaea* Philippi, 1843 of the family Diazonidae reports three species all from Andaman Sea. The genus *Aplidiopsis* Lahille, 1890, *Aplidium* Savigny, 1816, *Polyclinum* Savigny, 1816 and *Synoicum* Phipps, 1774 are reported from the family Polyclinidae with two, eighteen, thirteen and seven species respectively. *Distaplia nathensis* is the only species described under the genus *Distaplia* Della Valle, 1881 of the family Holozoidae. The family Polycitoridae is represented by Genus *Cystodytes* Drasche, 1884 (one species); *Eudistoma* Caullery, 1909 (twenty seven sp.); *Exostoma* Kott, 1990 (one sp.) and *Polycitor* Renier, 1804 (one sp.). Family Didemnidae indicates the greatest diversity with genus *Atrium* Kott, 1983 showing (one); *Didemnum* Savigny, 1816 (thirty two); *Diplosoma* Macdonald, 1859 (six); *Leptoclinides* Bjerkan, 1905 (four); *Lissoclinum* Verrill, 1871 (nine); *Polysyncrator* Nott, 1892 (ten); *Trididemnum* Della Valle, 1881 (seventeen) species. The genus *Ecteinascidia* Herdman, 1880 and *Perophora* Wiegmann, 1835 of the family Perophoridae reports twelve and five species respectively. Family Ascidiidae is represented by the genus *Ascidia* Linnaeus, 1767 (eighteen sp.); *Ascidiella* Roule, 1884 (one sp.); *Phallusia* Savigny, 1816 (six sp.). *Rhodosoma turcicum* is the only species reported of the genus *Rhodosoma* Ehrenberg, 1828 of the subfamily Rhodosomatinae of family Corellidae. The family Styelidae is represented by the three subfamilies - Botryllinae, Polyzoinae and Styelinae. The genus *Botrylloides* Milne-Edwards, 1841 and *Botryllus* Gaertner, 1774 with seven and three species come under Botryllinae while Polyzoinae has genus *Eusynstyela* Michaelsen, 1904 (three sp.); *Polyandrocarpa* Michaelsen, 1904 (two sp.); *Polyzoa* Lesson, 1831 (one sp.); and *Symplegma* Herdman, 1886 (four sp.). Subfamily Styelinae reports the genus *Cnemidocarpa* Huntsman, 1912 (two sp.); *Polycarpa* Heller, 1877 (nine sp.) and *Styela* Fleming, 1822 (two sp.). The family Pyuridae has genus *Boltenia* Van Name, 1945, *Ctenyura* Van Name, 1918 each with one species and *Herdmania* Lahille, 1818 (three sp.); *Microcosmus* Heller, 1818 (eight sp.); *Pyura* Molina, 1782 (seven sp.). The genus *Molgula* Forbes, 1848 and *Halocynthia* Verrill and Rathburn, 1879 of the family Molgulidae are represented by five and two species. An analysis of the locality from which the ascidians included in the checklist

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were collected indicates 47 species from Andaman group of Islands, 3 (Krusadai Is.), 13 (Rameswaram Is.), 7 (Vanthivu), 1 (Karachalli Is.), 2 (Shingle Is.), 56 (West Coast), 99 (Kanniyakumari), 37 (Tirunelveli), 155 (Tuticorin), 125 (Mandapam and Ramanathapuram), 18 (Madras) and 1 (Visakhapatnam). This study also shows that 141 species are reported from trawl discards, 123 (Intertidal rocky shores), 84 (Deep sea), 80 (fouling organisms of Pearl oyster cages), 35 (Mussel Bed), 37 (Coral reef), 33 (Harbor Installations), 49 (Hull of ships), 15 (marine aquarium tanks), 37 (Chank Beds), 15 (Mangrove). India is a tropical country which offers favorable features of environment like substratum and food for the growth and continuous breeding of ascidians. People in the Far East and Mediterranean have realized the low calorific and high protein value of ascidians and appreciated them as food. Their role in the ecosystem, as important components of marine fauna playing a significant role in the coastal economy and as bio indicators of water pollution is well known. Moreover their high breeding capacity and faster growth rate facilitates their culture in open sea farms. In the view of recent developments in pharmacology reporting compounds with antitumoral and antiviral activity from ascidians, this group really needs attention. In this context, the present taxonomic list of 263 species of sedentary ascidians of the Indian sea coast is a contribution to the knowledge on the biodiversity which is a prerequisite for taking up steps to conserve this group of animals. Authenticity of the research contributions on biological investigations involving immunology, microbiology, biotechnology and those on marine natural products lies on the accurate identification of the selected ascidian. The present information on the details of classification and scientific names with the author given in the checklist would be beneficial to future workers.

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#### **CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

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