

FAUNA OF INDIA CHECKLIST

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CTENOPHORA

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ZOOLOGICAL SURVEY OF INDIA
Ministry of Environment, Forest & Climate Change

CTENOPHORA, Eschscholtz, 1829

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Introduction: Ctenophores, also known as comb jellies, are exclusively marine organisms found in oceans worldwide ((Mianzan et al., 2009; Mills, 2010). They have a gelatinous body and are known for their ferocious predatory behavior. They have rows of cilia (or microscopic hair-like structures) that these gelatinous organisms use for mobility and prey capture, giving them a distinctive look. Ctenophores are frequently compared to jellyfish, however despite this, they are truly considerably different because they come from a different phylum. Unlike cnidarians, they lack cnidoblast (stinging cells), which is a characteristic feature of the phylum Cnidaria. Instead of that, ctenophores possess colloblasts (sticky cells) for capturing prey. One of the most characteristic features of ctenophores is the light scattering created by the beating of their locomotory cilia, which looks like a shifting rainbow of colours running down the comb rows. People usually confuse it with bioluminescence, but in reality, they are in fact witnessing light diffraction or scattering by the moving cilia. Although not all ctenophores are bioluminescent, the majority of them produce light (often blue or green), which can only be seen in complete darkness (Mills, 2010).

Global Diversity: The phylum Ctenophora is composed of 205 species classified under 31 families, 9 orders and 2 classes (WORMS, 2023).

Diversity in India: 19 species of ctenophores are reported from India, and are classified under 7 families, 5 orders and 2 classes. Tamil Nadu had the highest number of reported ctenophore species, with 12 out of the 19 species recorded from here. Kerala and West Bengal had the second-highest number of reported ctenophore with 8 species each and followed by Odisha with 7 species. *Beroe* sp. was the most widely distributed species found in 8 out of the 9 coastal states of India, followed by *Pleurobrachia* sp. with a presence in 7 states.

Diversity in States (Table)

Sl.No.	State/Union Territory	No. Species
1	Andhra Pradesh	3
2	Arunachal Pradesh	0
3	Assam	0
4	Bihar	0
5	Chhattisgarh	0
6	Gujarat	4
7	Goa	2
8	Haryana	0
9	Himachal Pradesh	0
10	Jharkhand	0
11	Karnataka	2
12	Kerala	8

Sl.No.	State/Union Territory	No. Species
13	Madhya Pradesh	0
14	Maharashtra	1
15	Manipur	0
16	Meghalaya	0
17	Mizoram	0
18	Nagaland	0
19	Odisha	7
20	Punjab	0
21	Rajasthan	0
22	Sikkim	0
23	Tamil Nadu	12
24	Telangana	0
25	Tripura	0
26	Uttar Pradesh	0
27	Uttarakhand	0
28	West Bengal	8
29	Andaman & Nicobar	0
30	Chandigarh	0
31	Dadra Nagar Haveli, Daman & Diu	0
32	Delhi	0
33	Jammu & Kashmir	0
34	Ladakh	0
35	Lakshadweep	0
36	Puducherry	0
	INDIA TOTAL	19

Endemism: No endemic species of ctenophores were found in the studies conducted till now in India.

Habitat: Ctenophores are exclusively marine organisms found in estuarine, coastal and oceanic regions. They are planktonic and mostly inhabit the pelagic region, but the species of the genus *Coeloplana* creep on the sea floor and three species of this genus were reported from Gulf of Mannar, Tamilnadu (Devanesen & Varadarajan, 1942).

Ecological Significance: Ctenophores are highly adaptable species, their ability to starve and shrink during times of limited food availability, their capacity to tolerate increased temperatures, as well as high reproductive capacity are making them more likely to benefit from changing environmental conditions (Majaneva, 2014). Because of these characteristics, the ctenophore is a particularly invasive and destructive bloom-forming species that is degrading most of the environments it has been introduced to.

Human Significance: Ctenophores have a voracious appetite for fish eggs, fish larvae, and zooplankton, making them a competitor for the fish population (Fuentes et al., 2010). Additionally, when they form swarms, they can clog fishermen's nets, adversely affecting the fishery and creating a high economic loss for the fishermen community (Purushothaman et al., 2020).

Threatened species as per IUCN: No species are included under IUCN as Threatened species.

Protected Species as per WPA (2022): No species are included under any schedule as per the WPA (2022).

Species under CITES: No species are included under CITES.

Invasive alien species; Four invasive ctenophore species have been reported from India, which include *Beroe ovata* Bruguère, 1789, *Beroe cucumis* Fabricius, 1780, *Vallicula multiformis* Rankin, 1956 and *Mnemiopsis* sp.

Gap areas: Studies of this gelatinous group are infrequent and incomplete, leaving important questions unanswered, such as their spatial and temporal distribution and dynamics, as well as their ecological roles such as natural diet, feeding-growth-reproductive rates, biological associations, and other aspects.

Systematic list:

Sl. No	Species	Gujarat	Maharashtra	Goa	Karnataka	Kerala	Tamilnadu	Andhra Pradesh	Odisha	West Bengal	Lakshadweep	Andaman & Nicobar
	Phylum CTENOPHORA Eschscholtz, 1829 Class NUDA Chlun, 1879 Order BEROIDA Eschscholtz, 1829 Family BEROIDAE Eschscholtz, 1825 Genus <i>Beroe</i> Muller, 1776											
1	<i>Beroe</i> sp.	1	0	1	1	1	1	1	1	1	0	0
2	<i>Beroe cucumis</i> Fabricius, 1780	0	0	0	0	1	1	1	1	1	0	0
3	<i>Beroe flemingii</i> (Eschscholtz, 1829)	0	0	0	0	0	1	0	0	0	0	0
4	<i>Beroe gracilis</i> Künne, 1939	0	0	0	0	0	0	0	0	1	0	0
5	<i>Beroe ovata</i> Bruguère, 1789	0	1	0	0	1	0	0	0	1	0	0
	Class TENTACULATA Eschscholtz, 1825 Order CESTIDA Gegenbaur, 1856 Family CESTIDAE Gegenbaur, 1856 Genus <i>Cestum</i> Lesueur, 1813											
6	<i>Cestum veneris</i> Lesueur, 1813	1	0	0	0	1	0	0	0	0	0	0
	Order CYDIPPIDA Gegenbaur, 1856 Family PLEUROBRACHIIDAE Chun, 1880 Genus <i>Pleurobrachia</i> Fleming, 1822											
7	<i>Pleurobrachia</i> sp.	1	0	0	1	1	1	1	1	1	0	0
8	<i>Pleurobrachia globosa</i> Moser, 1903	0	0	1	0	1	1	0	1	1	0	0
9	<i>Pleurobrachia globosa</i> var. <i>bengalensis</i> Annandale & Kemp, 1915	0	0	0	0	0	0	0	1	1	0	0
10	<i>Pleurobrachia pileus</i> (O. F. Müller, 1776)	0	0	0	0	1	0	0	1	1	0	0
	Order LOBATA Eschscholtz, 1825 Family BOLINOPSISIDAE Bigelow, 1912 Genus <i>Bolinopsis</i> L. Agassiz, 1860											
11	<i>Bolinopsis infundibulum</i> (O. F. Muller, 1776)	0	0	0	0	0	1	0	0	0	0	0
	Genus <i>Mnemiopsis</i> L. Agassiz, 1860											
12	<i>Mnemiopsis</i> sp.	0	0	0	0	0	1	0	1	0	0	0
	Family OCYROPSIDAE Harbison & Madin, 1982 Genus <i>Ocyropsis</i> Mayer, 1912											

Sl. No	Species	Gujarat	Maharashtra	Goa	Karnataka	Kerala	Tamilnadu	Andhra Pradesh	Odisha	West Bengal	Lakshadweep	Andaman & Nicobar
13	<i>Ocyropsis</i> sp.	0	0	0	0	1	1	0	0	0	0	0
	Order PLATYCTENIDA Bourne, 1900 Family COELOPLANIDAE Willey, 1896 Genus <i>Coeloplana</i> Kowalevsky, 1880											
14	<i>Coeloplana indica</i> Devanesen & Varadarajan, 1942	0	0	0	0	0	1	0	0	0	0	0
15	<i>Coeloplana krusadiensis</i> Devanesen & Varadarajan, 1942	0	0	0	0	0	1	0	0	0	0	0
16	<i>Coeloplana tattersalli</i> Devanesen & Varadarajan, 1942	0	0	0	0	0	1	0	0	0	0	0
17	<i>Coeloplana meteoris</i> Thiel, 1968	0	0	0	0	0	0	0	0	0	0	0
	Genus <i>Vallicula</i> Rankin 1956											
18	<i>Vallicula multiformis</i> Rankin, 1956	1	0	0	0	0	0	0	0	0	0	0
	Family CTENOPLANIDAE Willey, 1896 Genus <i>Ctenoplana</i> Korotneff, 1886											
19	<i>Ctenoplana bengalensis</i> Gnanamuthu & Nair, 1948	0	0	0	0	0	1	0	0	0	0	0

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Fig. 1. *Pleurobrachia* sp.

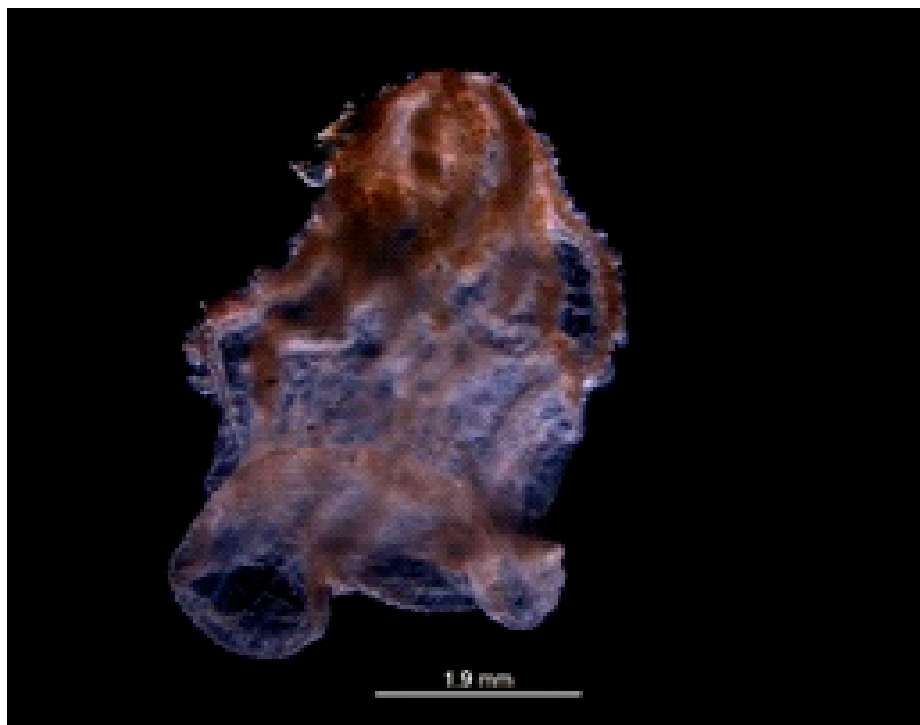


Fig 2. *Beroe* sp.