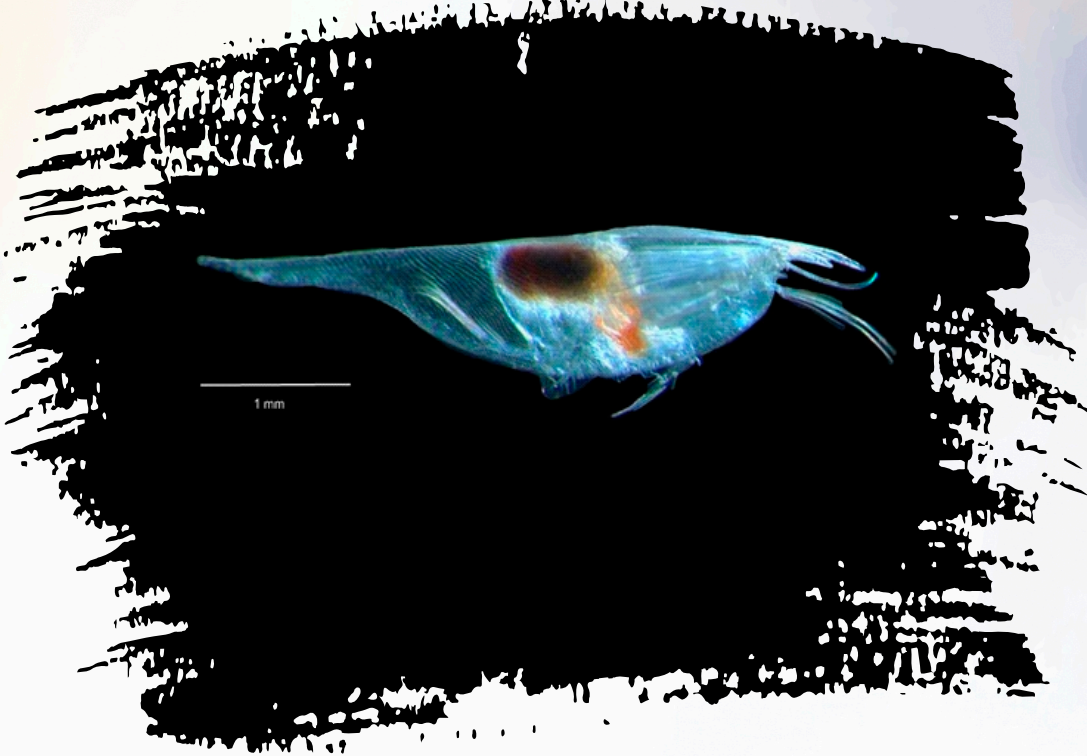


FAUNA OF INDIA CHECKLIST

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ONLINE VERSION 1.0



MARINE PLANKTONIC OSTRACODS (Arthropoda: Crustacea: Ostracoda)

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Key words: Crustacea, Ostracoda, marine, plankton, India, checklist

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Comments on the checklist:
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ZOOLOGICAL SURVEY OF INDIA
Ministry of Environment, Forest & Climate Change

MARINE PLANKTONIC OSTRACODS (ARTHROPODA: CRUSTACEA: OSTRACODA)

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Introduction: Planktonic ostracods (Subphylum Crustacea; Class Ostracoda) are a diverse group of ecologically significant microcrustaceans (upto 5 mm in size) distinguished by a body encased within a bivalved carapace which is primarily made of calcium carbonate in most species. Characteristically they have upto eight pairs of jointed appendages used for survival, reproduction, locomotion, feeding and sensory perceptions. They are frequently abundant holoplanktonic component of the mesozooplankton assemblages across the global ocean. Despite being prevalent at all oceanic depths, their abundance is often greater at the mesopelagic layer. Due to their susceptibility to changing environmental conditions, this meiofaunal group exhibits high spatiotemporal variability in both their population density and diversity, making them crucial biomonitors of anthropogenic impacts (Ruiz *et al.*, 2015). As they have been often neglected due to their subtle morphological traits and smaller size, there is a significant dearth in data regarding their responses to alterations in the complex physical as well as biological processes. In consequence, integrating morphological analyses with molecular taxonomic methods is essential to validate the identification, diversity, and distribution, and also to ensure their role in the pelagic communities

Global diversity: In the global oceans, a total of 6266 marine ostracod species are present, belonging to a single class, two subclasses, five orders, and 14 superfamilies (WoRMS 2023). Among them, more than 200 species of ostracods are known to be planktonic (Nigro *et al.*, 2016).

Diversity in India: There are currently 60 species of planktonic ostracods known to exist in Indian marine waters. They belong to the two families and two orders of the class Ostracoda.

Diversity in States

Table-01. Scleractinians of India, State-wise distribution

Sl. No.	State/UT	No. of Species
	INDIA TOTAL	60
1.	Andhra Pradesh	0
2.	Arunachal Pradesh	0
3.	Assam	0
4.	Bihar	0
5.	Chhattisgarh	0
6.	Gujarat	0
7.	Goa	0
8.	Haryana	0
9.	Himachal Pradesh	0
10.	Jharkhand	0
11.	Karnataka	0
12.	Kerala	0

Sl. No.	State/UT	No. of Species
13.	Madhya Pradesh	0
14.	Maharashtra	0
15.	Manipur	0
16.	Meghalaya	0
17.	Mizoram	0
18.	Nagaland	0
19.	Odisha	0
20.	Punjab	0
21.	Rajasthan	0
22.	Sikkim	0
23.	Tamil Nadu	0
24.	Telangana	0
25.	Tripura	0
26.	Uttar Pradesh	0
27.	Uttarakhand	0
28.	West Bengal	0
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	1
36.	Puducherry	0
37.	State Unknown	59

Endemism: There is no evidence of true endemism of planktonic ostracods from the Indian marine waters.

Habitat: Marine planktonic ostracods dwell nearly all bathymetric layers of the ocean. From warm tropical waters to freezing polar seas, as well as from intertidal zones to deep sea environments, they occupy a diverse range of habitats.

Ecological Significance: Planktonic ostracods are primarily detritivores and are essential for the vertical transport of carbon in the marine ecosystem. They help in indicating water temperature, salinity and water masses, making them potential indicators of water quality, ecosystem health, and climate change (Angel *et al.*, 2007). They are critical for palaeoecological and palaeoclimate studies, and also have applications in environmental monitoring, biostratigraphy and geology, and evolutionary studies.

Human Significance : Despite having limited direct relevance to humans, planktonic ostracods indirectly supports several economic activities. They are important food source of economically important fishes and are also used as live feed for aquaculture species thereby supporting the fisheries sector and aquaculture operations respectively. Additionally, they are important research subjects due to their pivotal role in comprehending marine ecosystems, food webs, and climate change..

Threatened species as per IUCN : No species are evaluated as threatened as per IUCN

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 appendices of CITES

Invasive alien species : No invasive alien species of ostracods are known from India

Gap areas : Although planktonic ostracods are encountered throughout the world's ocean layers, they didn't start overrunning the scientific literature until the middle of the eighteenth century. As long as Indian waters are concerned, they are still a least recognised component of mesozooplankton communities both ecologically and taxonomically. Globally, their functional roles in pelagic ecosystem, community dynamics and interactions, and response to environmental changes remain largely unknown and almost certainly underestimated. Furthermore, long-term monitoring of planktonic ostracods are also vital to detect trends, changes, and prospective shifts in their distribution and abundance.

Systematic list of marine planktonic ostracods of India:

Kingdom **Animalia**

Phylum **Arthropoda** von Siebold, 1848

Class **Ostracoda** Latreille, 1802

Order **Halocyprida** Dana, 1853

Family **Halocyprididae** Dana, 1853

Genus **Alacia** Poulsen, 1973

1. *Alacia alata* (Müller, 1906)

Genus **Archiconchoecia** Müller, 1894

2. *Archiconchoecia striata* Müller G. W., 1894

Genus **Archiconchoecissa** Chavtur & Stovbun, 2003

3. *Archiconchoecissa cucullata* Brady, 1902

Genus **Bathyconchoecia** Deevey, 1968

4. *Bathyconchoecia angeli* George, 1977

Genus **Clausoecia** Chavtur & Angel, 2011

5. *Clausoecia pusilla* (Müller, G. W., 1906)

Genus **Conchoecetta** Claus, 1890

6. *Conchoecetta acuminata* Claus, 1890

7. *Conchoecetta giesbrechti* (Müller, 1906)

Genus **Conchoecia** Dana, 1849

8. *Conchoecia indica* Merrylal James, 1972

9. *Conchoecia magna* Claus, 1874

10. *Conchoecia subarcuata* Claus, 1890

Genus **Conchoecilla** Claus, 1890

11. *Conchoecilla chuni* (Müller, G. W., 1906)

12. *Conchoecilla daphnoides* Claus, 1890

Genus **Conchoecissa** Claus, 1890

13. *Conchoecissa imbricata* (Brady, 1880)

14. *Conchoecissa plinthina* (Müller, G. W., 1906)

15. *Conchoecissa symmetrica* (Müller, G. W., 1906)

Genus **Discoconchoecia** Martens, 1979

16. *Discoconchoecia discophora* Müller G. W., 1906
 17. *Discoconchoecia elegans* (Sars, 1866)

Genus ***Euconchoecia*** Müller, 1890

18. *Euconchoecia chierchiae* Müller G. W., 1890
 19. *Euconchoecia aculeata* (Scott, 1894)
 20. *Euconchoecia elongata* Müller, 1906

Genus ***Fellia*** Poulsen, 1969

21. *Fellia bicornis* (Müller, 1906)

Genus ***Halocypria*** Poulsen, 1969

22. *Halocypria globosa* Claus, 1874

Genus ***Halocypris*** Dana, 1853

23. *Halocypris inflata* Dana, 1849

Genus ***Kyrtoecia*** Chavtur & Angel, 2011

24. *Kyrtoecia kyrtophora* (Müller, G. W., 1906)

Genus ***Loricoecia*** Poulsen, 1973

25. *Loricoecia loricata* (Claus, 1894)

Genus ***Macrochoecilla*** Chavtur, in Chavtur & Bashmanov, 2018

26. *Macrochoecilla macrocheira* (Müller, 1906)

Genus ***Macroconchoecia*** Granata & Caporaccio, 1949

27. *Macroconchoecia caudata* (Müller, G. W., 1890)
 28. *Macroconchoecia reticulata* (Müller, G. W., 1906)

Genus ***Mamilloecia*** Graves, 2012

29. *Mamilloecia nanomamillata* (Deevey & Brooks, 1980)

Genus ***Metaconchoecia*** Howe, 1955

30. *Metaconchoecia obtusa* (Gooday, 1981)
 31. *Metaconchoecia rotundata* (Müller, G. W., 1890)

Genus ***Mikroconchoecia*** Claus, 1891

32. *Mikroconchoecia acuticosta* Müller G. W., 1906
 33. *Mikroconchoecia curta* (Lubbock, 1860)
 34. *Mikroconchoecia echinulata* Claus, 1891
 35. *Mikroconchoecia stigmatica* Müller G. W., 1906

Genus ***Orthoconchoecia*** Granata & Caporiacco, 1949

36. *Orthoconchoecia atlantica* (Lubbock, 1856)
 37. *Orthoconchoecia bispinosa* (Claus, 1890)
 38. *Orthoconchoecia haddoni* (Brady & Norman, 1896)
 39. *Orthoconchoecia striola* (Müller, G. W., 1906)

Genus ***Paraconchoecia*** Claus, 1891

40. *Paraconchoecia decipiens* (Müller, G. W., 1906)
 41. *Paraconchoecia echinata* (Müller, G. W., 1906)
 42. *Paraconchoecia cophopyga* (Müller, G. W., 1906)
 43. *Paraconchoecia dasyophthalma* (Müller, G. W., 1906)
 44. *Paraconchoecia dorsotuberculata* (Müller, G. W., 1906)
 45. *Paraconchoecia inermis* Claus, 1890
 46. *Paraconchoecia mamillata* (Müller, 1906)

47. *Paraconchoecia oblonga* Claus, 1890
 48. *Paraconchoecia spinifera* Claus, 1890

Genus ***Parthenoecia*** Chavtur, in Chavtur & Bashmanov, 2018

49. *Parthenoecia parthenoda* (Müller, 1906)

Genus ***Parvidentoezia*** Chavtur, in Chavtur & Bashmanov, 2018

50. *Parvidentoezia parvidentata* (Müller, 1906)

Genus ***Platyconchoecia*** Poulsen, 1973

51. *Platyconchoecia prosadene* (Müller, G. W., 1906)

Genus ***Porroecia*** Martens, 1979

52. *Porroecia porrecta* (Claus, 1890)
 53. *Porroecia spinirostris* (Claus, 1874)

Genus ***Proceroecia*** Kock, 1992

54. *Proceroecia procera* (Müller, G. W., 1894)
 55. *Proceroecia macroprocera* (Angel, 1971)

Genus ***Pseudoconchoecia*** Claus, 1891

56. *Pseudoconchoecia concentrica* (Müller, G. W., 1906)

Genus ***Septemoecia*** Angel & Brandao, 2018

57. *Septemoecia deeveyae* (Kornicker, 1970)

Order **Myodocopida** Sars, 1866

Family **Cypridinidae** Baird, 1850

Genus ***Cypridina*** Milne Edwards, 1840

58. *Cypridina acuminata* (Müller, 1894)
 59. *Cypridina dentata* (Müller, 1906)

Genus ***Vargula*** Skogsberg, 1920

60. *Vargula hilgendorfii* (Müller, 1890)

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