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

PROTISTA: ALVEOLATA: PERKINSOZOA, Norén & Moestrup, 1999

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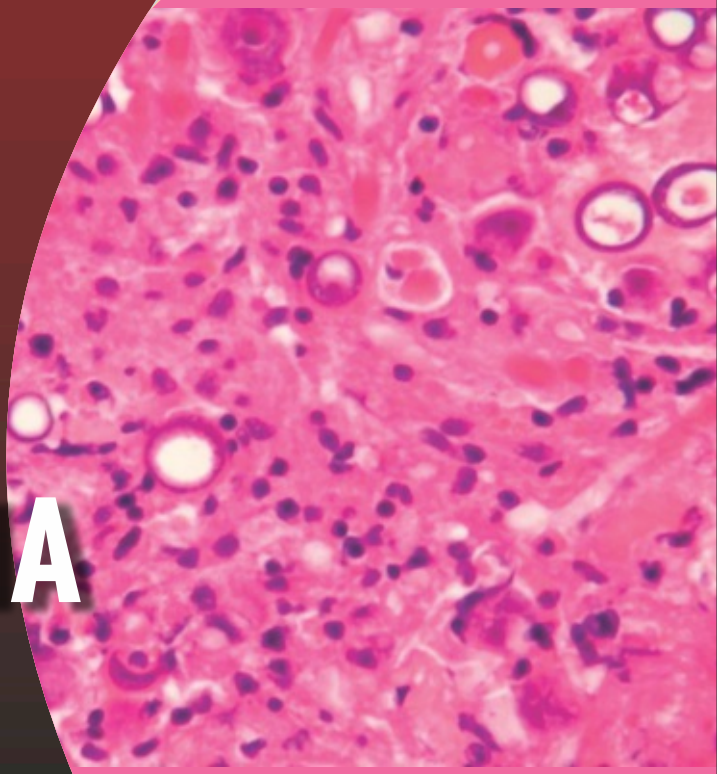

FAUNA OF INDIA CHECKLIST

PROTISTA: ALVEOLATA: PERKINSOZOA

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Introduction: Perkinsozoa is a proposed phylum of intracellular parasitic protists within the infra-kingdom Alveolata, implicated as a distinct lineage primarily to accommodate the genus *Perkinsus* alongside other protist species that resist classification within established alveolate phyla. The designation of *Perkinsus* as a representative of a novel phylum, Perkinsozoa, remains a subject of ongoing debate within the scientific community. Consequently, there is considerable divergence in taxonomic perspectives regarding the appropriate classification and hierarchical status of this group.

Global diversity: Bivalves, toxic-tide dinoflagellates, fish, and tadpoles are all affected by the Perkinsozoa genus of parasitic protists. As a relatively new classification, the precise number of species in the phylum Perkinsozoa is unknown.

Diversity in India: In India, only two species have been recorded till date.

Diversity in States (Table)

Sl. No.	State / Union Territory	No. of Species	No. of Endemic Species
1	Andhra Pradesh	0	NA
2	Arunachal Pradesh	0	
3	Assam	0	
4	Bihar	0	
5	Chhattisgarh	0	
6	Gujarat	0	
7	Goa	1	
8	Haryana	0	
9	Himachal Pradesh	0	
10	Jharkhand	0	
11	Karnataka	0	
12	Kerala	0	
13	Madhya Pradesh	0	
14	Maharashtra	0	
15	Manipur	0	
16	Meghalaya	0	
17	Mizoram	0	
18	Nagaland	0	
19	Odisha	0	

Sl. No.	State / Union Territory	No. of Species	No. of Endemic Species
20	Punjab	0	
21	Rajasthan	0	
22	Sikkim	0	
23	Tamil Nadu	1	
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	0	
36	Puducherry	0	
	INDIA TOTAL	**2**	**0**

Endemism: No species of the phylum Perkinsozoa are endemic to India.

Habitat: Freshwater habitats are less well known than those in the marine environments where Perkinsozoa can be found. Records of the Perkinsozoa phylum in sediments are essentially nonexistent.

Ecological Significance: Perkinsozoa, which are prevalent in marine environments, can play important ecological functions in the marine creatures' food chain. In addition to serving as host regulators, parasites are crucial to the food chain.

Human Significance: The parasites of the phylum Perkinsozoa have been associated with parasitic diseases in terrestrial and marine animals, particularly amphibians, which can be detrimental from an economic standpoint.

Threatened species: Species of the phylum Perkinsozoa from India are not assessed for IUCN threat categories.

Protected Species as per WPA (2022): Species of the phylum Perkinsozoa are not listed under any schedules of Wildlife Protection Act (2022).

Species under CITES: Species of the phylum Perkinsozoa are not listed under any appendices of CITES.

Invasive alien species: No Perkinsozoan species are reported to be invasive in India.

Gap areas: Research on Perkinsozoa within India remains limited. Given its recent recognition as a distinct phylum, there is a pressing need for extensive investigation into Perkinsozoan diversity and biology. Such studies are expected to yield novel insights, thereby advancing our understanding of the taxonomy and evolutionary relationships within this group.

Systematic List:

Sl. No.	Species
	Phylum PERKINSOZOA, Norén & Moestrup, 1999
	Class PERKINSEA, Levine 1978
	Order PERKINSIDA
	Family PERKINSIDAE, Levine 1978
	Genus ***Perkinsus***, Levine, 1978
1	*Perkinsus olseni*, Lester and Davis (1981)
2	*Perkinsus marinus*, (Mackin, Owen & Collier) Levine 1978

References:

Teles-Grilo, M.L., Duarte, S.M., Tato-Costa, J., Gaspar-Maia, A., Oliveira, C., Rocha, A.A., Marques, A., Cordeiro-da-Silva, A. and Azevedo, C. (2007). Molecular karyotype analysis of *Perkinsus atlanticus* (Phylum Perkinsozoa) by pulsed field gel electrophoresis. *European journal of protistology*, 43(4): 315-318.

Marques, A., Tato-Costa, J., Conde, C., Azevedo, C. and Teles-Grilo, M.L. (2012). Chromosomal localisation of five genes in *Perkinsus olseni* (Phylum Perkinsozoa). *European journal of protistology*, 48(3): 194-198.