

PROTOZOANS AND OTHER FAUNA ASSOCIATED WITH SEA GRASS ECOSYSTEMS OF PALK BAY

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INTRODUCTION

Palk Bay is situated in the southeast coast of India between latitude 9° 55' -10° 45' N and longitude 78° 58' -79° 55' E. The Palk Bay itself is about 110 km long and is surrounded on the northern and western sides by the coastline of the state of Tamil Nadu in the mainland of India. Palk Bay is a shallow and flat basin, the depth hardly exceeds 9 metres on an average. The Palk bay has landmarks between the Point Calimere and Rameswaram island as northern and southern borders, respectively. The eastern part of the bay is connected with Srilanka whereas the western part of the bay is the border of the Indian subcontinent. The plants and animals of this bay are dependent on various physicochemical factors including nutrients which are responsible for the fertility of the water masses (Harvey, 1995). The areas are rich in biological diversity and have a long history of human settlement, use and exploitation. They contain diversified and productive ecosystems such as estuaries, salt marshes, seagrass beds and mangroves that are sensitive to human activities.

Seagrasses are specialized marine flowering plants classified under the superorder Alismatiflorae, belonging to the class Monocotyledonae adapted to the near shore environment. These form extensive meadows supporting rich biodiversity (Connolly *et al.*, 1999). These plants regulate water column dissolved oxygen, modify their physical and chemical

environments, and reduce suspended sediments, chlorophyll and nutrients in the water column (Nair and Gopinathan, 1983). Seagrasses stabilize sediments, slow water movements and trap heavy metals and nutrient rich runoff, thus improving the water quality for corals and other fauna. From the Indian coast, 14 species of sea grasses under seven genera have been reported and grow in shallow and sheltered coastal waters, anchored in sandy or muddy bottoms. Sea beds on which they form complex ecosystems harbour a variety of organisms and function as nursery grounds for many commercially important species. The major seagrass meadows in India occurs along the Gulf of Mannar and Palk Bay. The regions of India that are colonized by seagrasses support rich and diverse fauna like corals, sea anemones, mollusks and microorganisms. The seagrass species diversity is high in Gulf of Mannar and Palk Bay and the seagrasses are one of the important producer in the marine environment from extensive meadows supporting high biodiversity; serves as feeding and nursery habitat. Although many studies have been done on different seagrass associated faunal groups, the study of microfauna is almost lacking. The taxonomic inventorization and systematics of protozoa and other organisms with reference to the major sea grass areas is a lacuna so far for these important ecosystems in India. In this context the present study of protozoa and associated organisms of sea grass ecosystems was proposed and 21 species of sea grass associated rhizopods belonging to 8 genera and 6 families; 29 species

of foraminifera coming under 25 genera and 16 families and 9 species of nematodes under 9 genera and 6 families have been identified and reported herewith.

MATERIAL AND METHODS

The survey covered different seagrass areas of Palk Bay like Thondi, Thiruppalaikkudi, Devipatinam, S.P. Patinam, Mimisel, Pasipatinam, Panaikulam and Attankarai, of Tamil Nadu state. Collected sand samples and water samples with sea grass from different sea grass beds using standard methods for the study of protozoa and other organisms. 5 species of sea grasses were identified from the study areas as *Cymodocea rotundata*, *Cymodocea serrulata*, *Halodule uninervis*, *Syringodium isoetifolium* and *Halophila ovata*.

SYSTEMATIC ACCOUNT

The systematic account of the identified groups are given below

1. Rhizopods

Subkingdom PROTOZOA

Phylum SARCOMASTIGOPHORA

Class LOBOSEA

Order TESTACEALOBOSA

Family ARCELLIDAE

1. *Arcella discoides* Ehrenberg 1843

1843. *Arcella discoides* Ehrenberg, *Ber. K. Akad. Wiss.*, Berlin, p. 139.

1928. *Arcella discoides* Ehrenberg: Deflandre, *Arch. Protistenkd.*, 64, p. 256

Material examined: 1ex., Thondi, 29. x. 2010, K. Venkatraman and party; 2exs., Thondi, 5. x. 2011, Bindu. L and party; 2exs., Athankarai, 4. ii. 2012 Bindu. L and party; 3exs., Mimisel, 3. ii. 2012, Bindu. L and party.

Diagnosis: Test light yellow, smooth, flattened, circular in front view and planoconvex in lateral view with a rounded border, height of test about one-third to one-fourth the diameter, oral aperture large and circular.

Distribution: Cosmopolitan.

Remarks: First record associated with seagrass.

Family CENTROPYXIDAE

2. *Centropyxis aculeata* (Ehrenberg 1832)

Stein 1857

1832. *Arcella* Ehrenberg, *Abh. Preuss. Akad. Wiss., Berlin*, p. 40.

1857. *Centropyxis aculeata* Stein, *Sitz. Bohm. Gesellsch. Wiss.*, Prague, 5(10), p. 41

Material examined: 3 exs., Adirampatinam, 30. x. 2010, K. Venkatraman and party; 2exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 2exs., Devipatinam, 5. x. 2011, Bindu. L and party; 1ex., Adirampatinam, 6. x. 2011, Bindu. L and party.

Diagnosis: Test compressed in ventral view, cap-shaped in lateral view; fundus obtusely rounded and furnished with few spines (usually 4-6), divergent at the border of the test, arranged in a single somewhat regular row; aperture eccentric and circular or oval, test brownish, frequently encrusted with quartz crystals and sometimes with sand particles.

Distribution: Cosmopolitan.

Remarks: First record associated with seagrass.

3. *Centropyxis aerophila* Deflandre, 1929

1929. *Centropyxis aerophila* Deflandre, *Arch. Protistenkd.*, 67, p. 330

Material examined: 4exs., S. p. Patinam, 7. x. 2011, Bindu. L and party; 2exs., Devipatinam, 5. x. 2011, Bindu. L and party; 2exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 1ex., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: Test ovoid in ventral view and pear shaped in lateral view; flank of posterior part of the test little arched, often almost straight, fundus spheroidal with dorsal face strongly flattened towards oral aperture; test hyaline, yellowish or yellowish brown, chitinous, finely punctate and rough bearing foreign particles, usually vegetable fragments; aperture semi-circular or elliptical.

Distribution: Cosmopolitan.

Remarks: First record associated with seagrass.

4. *Centropyxis constricta* (Ehrenberg, 1841)
Penard, 1902

1841. *Arcella constricta* Ehrenberg, *Abh. Akad. Wiss. Berlin*.

1929. *Centropyxis constricta* Deflandre, *Arch. Protistenkd.*, 67, p. 340.

Material examined: 3exs., Pasipatinam, 3. ii. 2012, Bindu. L and party; 1ex., Mallipatinam, 6. x. 2011, Bindu. L and party.

Diagnosis: Test elliptical or oval and elongated in ventral view, its anterior border largely elliptical, sometimes nearly circular and posterior part strongly arched; test grayish in colour and covered with sand particles and one or a few stony particles often attached with its posterior most border; in lateral view test sufficiently elevated at posterior part; aperture eccentric, largely elliptical, sometimes circular and located near the anterior border of the test.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

5. *Centropyxis minuta* Deflandre, 1929

1929. *Centropyxis minuta* Deflandre, *Arch. Protistenkd.*, 67, p. 366.

1902. *Diffflugia constricta* Penard, *Fauna Rhizopodique du bassin du Leman, Geneve*, p. 299, figs. 13-14.

Material examined: 1ex., Thondi, 29. x. 2010, K. Venkatraman and party; 2exs., Mimisel, 7. x. 2011, Bindu. L and party; 2exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 3exs., Thirupalaikkudy, 5. x. 2011, Bindu. L and party; 1ex., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: Test small, grayish or brown, less conspicuous, more or less circular in ventral view with slightly more elevated posterior part; aperture circular, eccentric and in general obliquely invaginated, test encrusted with siliceous particles.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

6. *Centropyxis orbicularis* Deflandre, 1929

1929. *Centropyxis orbicularis* Deflandre, *Arch. Protistenkd.*, 67, p. 334.

Material examined: 1ex. Mimisel, 3. ii. 2012, Bindu. L and party; 2exs., Thondi., 2. ii. 2012, Bindu. L and party; 2exs., Mimisel, 7. x. 2011, Bindu. L and party.

Diagnosis: Test brownish, almost circular in ventral view, ventral surface flat; in lateral view test semi-circular, displaying considerable invagination towards the oral aperture; oral aperture nearly semi-circular, plagiostomic; test encrusted with large stony particles on its dorsal border.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

7. *Cyclopyxis* sp. Deflandre, 1929

1929. *Centropyxis* (*Cyclopyxis*) Deflandre, *Arch. Protistenkd.*, 67, pp. 330, 337

Material examined: 1ex., Thondi, 29. x. 2010, K. Venkatraman and party; 2exs., Thirupalaikkudy, 2. ii. 2012, Bindu. L and party; 1ex., Devipatinam, 5. x. 2011, Bindu. L and party.

Diagnosis: Test regularly arched, oral aperture centrally located.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

Family DIFFLUGIIDAE

8. *Diffflugia acuminata* Ehrenberg, 1838

1838. *Diffflugia acuminata* Ehrenberg, *Infusionsthierchen*, p. 131, pl. 9, fig.3.

Material examined: 8exs., Devipatinam, 5. x. 2011, Bindu. L and party; 5 exs., Devipatinam, 2. ii. 2012, Bindu. L and party; 3exs., Thondi, 2. ii. 2012, Bindu. L and party; 2exs., Mimisel, 3. ii.

2012, Bindu. L and party; 3exs., S. P. Patinam, 3. ii. 2012, Bindu. L and party

Diagnosis: Test cylindrical, without any collar and with pointed horn like extension at the base; horn straight and differentiated from the base. Quartz crystals of test big; some even projecting out of the margin of the test giving an irregular appearance of its margin.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

9. *Diffflugia globulosa* Dujardin, 1837

1837. *Diffflugia globulosa* Dujardin, *Ann. Sci. nat. zool.* (2) 8, p. 310, pl. 9. fig. 1.

Material examined: 1ex., Athankarai, 4. ii. 2012, Bindu. L and party; 2exs., Devipatinam, 5. x. 2011, Bindu. L and party.

Diagnosis: Test slightly ovoidal; pseudostome circular; its diameter about half of that of the test; diversified material like clay, mineral platelets, vegetable fragments etc, embedded in brownish chitinous membrane.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

10. *Diffflugia lobostoma* Leidy, 1879

1879. *Diffflugia lobostoma* Leidy, *Freshwater Rhizopods of North America*, p. 112

Material examined: 3exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 1ex., Mimisel, 7. x. 2011, Bindu. L and party.

Diagnosis: Test ovoidal, oral aperture usually quadrilobed in the form of a cross and sometimes trilobed, not enclosed by collar, test covered with angular quartz particles.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass

11. *Diffflugia lucida* Penard, 1890

1890. *Diffflugia lucida* Penard *Mem. Soc. Phys. et. Hist. Nat. Geneve*, 31, p. 145.

1958. *Diffflugia lucida* Gauthier-Lievre and Thomas, *Arch. Protistenkd.*, 103, p. 294.

Material examined: 1ex., Thondi, 29. x. 2010., K. Venkatraman and party; 2exs., Devipatinam, 5. x. 2011, Bindu. L and party; 1ex., Athankarai, 4. ii. 2012, Bindu. L and party; 3exs., Panaikulam, 4. ii. 2012, Bindu. L and party.

Diagnosis: Test elongate, transparent, slightly compressed, covered with flat quartz particles.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

12. *Diffflugia oblonga* Ehrenberg, 1838

1838. *Diffflugia oblonga* Ehrenberg, *Infusionsthierchen*, p. 131, pl. 2, figs. 3a-d.

Material examined: 4exs., Devipatinam, 5. x. 2011, Bindu. L and party; 2exs., Sp. Patinam, 7. x. 2011, Bindu. L and party; 2exs., Mimisel, 3. ii. 2012, Bindu. L and party; 1ex., Athankarai, 4. ii. 2012, Bindu. L and party

Diagnosis: Test typically oblong, crown(post-oral portion) usually rounded, composed of big angular quartz crystals; pseudostome circular.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

13. *Diffflugia tuberculata* Wallich 1864.

1864. *Diffflugia proteiformis* sub sp. *Globularis* var. *tuberculata* Wallich, *Ann. Mag. Nat. Hist.* (3) 13, p. 241, pl. 15, fig. 48 and pl. 16, fig. 18.

Material examined: 1ex., Thirupalaikkudy, 29. x. 2010, Dr. K. Venkatraman and party; 3exs., Thondi, 5. x. 2011, Bindu. L and party; 2exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 2exs., S. P. Patinam, 3. ii. 2012, Bindu. L and party; 1ex., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: Test ovoidal with wide base; pseudostome hexagonal in outline with obtuse angles surrounded by a short collar; test yellowish or chocolate brown, covered with tubercles or

disc-shaped protuberances and composed of small platelets perfectly uniting the tubercles.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

Family NEBELIDAE

14. *Nebela dentistoma* Penard, 1890

1890. *Nebela dentistoma* Penard, Mem. Soc. Phys. et Hist. Nat. Geneve, 31, p. 162.

1879. *Nebela collaris* (Partim) Leidy, Freshwater Rhizopods of North America, pl. 24, fig. 12.

Material examined: 2exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 3exs., S. P. Patinam, 7. x. 2011, Bindu. L and party.

Diagnosis: Test variable, ovoid to pyriform, compressed, without any neck, margin of aperture crenulate, test covered with small, circular, polygonal or oval transparent platelets, usually of uniform size or mixed with angular platelets or short rods of chitinous or siliceous substance.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

15. *Nebela wailesi* Deflandre, 1936

1936. *Nebela wailesi* Deflandre, Ann. Protist. 5, p. 265.

1911. *Nebela lageniformis* var. minor Wailes, proc. R. Irish Acad., 31, p. 157

Material examined: 2exs., Mimisel, 7. X. 2011, Bindu. L and party; 2exs., S. P. Patinam, 7. x. 2011, Bindu. L and party; 2exs., Mimisel, 3. ii. 2012, Bindu. L and party; 3exs., Athankarai, 4. ii. 2012, Bindu. L and party; 1ex., Panaikulam, 4. ii. 2012. Bindu. L and party.

Diagnosis: Test flask-shaped with a torulose neck, aperture slightly arched and bordered by thickened organic collar; in lateral view test vase-shaped but slightly compressed; test covered with elliptical, polygonal or rounded platelets of mixed sizes.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

Family CYPHODERIIDAE

16. *Cyphoderia ampulla* (Ehrenberg, 1840) Leidy, 1878

1840. *Diffugia ampulla* Ehrenberg, Bericht press. Akad. Wis., p. 199.

1878. *Cyphoderia ampulla* Leidy, Proc. Akad. Nat. Sci. Philad. P. 173.

Material examined : 2exs., Mallipatinam, 6. x. 2011, Bindu. L and party.

Diagnosis: Test yellowish or brownish, translucent, covered with distinct circular or oval scales or plates lying appreciably apart, aperture circular, terminal, placed obliquely with a curved neck, fundus of the present materials obtusely rounded.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

Family EUGLYPHIDAE

17. *Euglypha acanthophora* (Ehrenberg, 1842) Perty, 1849

1842. *Diffugia acanthophora* Ehrenberg, Abh. Acad. Berlin, 1842, pp. 413, 444, pl 4., fig. 36.

1915. *Euglypha acanthophora* : Cash, Wailes and Hopkinson, *The British Freshwater Rhizopoda and Heliozoa*, 3, p. 8.

Material examined: 2exs., Thondi, 5. x. 2011, Bindu. L and party; 2exs., Devipatinam, 5. x. 2011, Bindu. L and party; 1ex., S. P. Patinam, 3. ii. 2012, Bindu. L and party; 2exs., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: Test ovoid or slightly elongated towards aperture, not compressed; aperture circular, bordered by one or occasionally two rows of finely serrated apertural platelets; test platelets elliptical, some platelets of posterior half and at the base of fundus prolonged into spines, spines usually 4-7 in number.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

18. *Euglypha cristata* Leidy, 1874

1874 (1875). *Euglypha cristata* Leidy, Proc. Acad. Philad., p. 226.

1915. *Euglypha cristata* : Cash, Wailes and Hopkinson, The British Freshwater Rhizopoda and Heliozoa, 3, p. 19, pl. 34, figs. 1-2, pl. 35, figs. 6-8, text-fig. 115.

1988. *Euglypha cristata*: Luftenegger *et al.*, Arch. Protistenkd., 136, p. 172, figs. 15 & 26.

Material examined: 2exs., S. P. Patinam, 7. x. 2011, Bindu. L and party; 6exs., Thondi, 2. ii. 2012, Bindu. L and party; 4exs., Devipatinam, 2. ii. 2012, Bindu. L and party.

Diagnosis: Test elongated, colourless, slightly compressed, fundus hemispherical, furnished with a bunch of 3-8 long curved spines; aperture circular bordered by a single row of 6 elongated denticulated platelets, each with one inwardly bent median tooth and 3 pairs of lateral teeth.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

19. *Euglypha rotunda* Wailes and Penard 1911

1911. *Euglypha rotunda* Wailes and Penard, Proc. R. Irish Acad., 31, pp.17, 41, 60-62, pl. 4, Figs. 19a-g.

1915. *Euglypha rotunda* : Cash, Wailes and Hopkinson, The British Freshwater Rhizopoda and Heliozoa, 3, p. 31. Pl. 34, fig. 9; pl. 35, figs. 14-16, text-fig.121.

Material examined: 2exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 1ex., Mimisel, 7. x. 2011, Bindu. L and party

Diagnosis: Test small, oviform, glabrous, compressed, test platelets oval, about twice as long as broad, slightly imbricated, aperture circular, bordered by 8 apertural platelets; apertural platelets with one median tooth bent towards interior of the aperture and two pairs of lateral teeth, platelets of the test oval and imbricated.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

20. *Trinema enchelys* (Ehrenberg, 1838)
Leidy, 1878

1838. *Diffflugia enchelys* Ehrenberg (Partim), *Infusionsth.*, p. 132, pl. 9, Figs. 4 a-b.

1878. *Trinema enchelys* Leidy, Proc. Acad. Philad., p. 172.

1915. *Trinema enchelys* : Cash, wailes and Hopkinson, The British Freshwater Rhizopoda and Heliozoa, 3, p. 86, pl. 47, figs. 1-10, pl. 48, figs. 1-3, text-figs. 1-3.

Material examined: 2exs., Thondi, 5. x. 2011, Bindu. L and party; 3exs., Devipatinam, 5. x. 2011, Bindu. L and party; 2exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 2exs., Mimisel, 3. ii. 12, Bindu. L and party; 2exs., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: Test hyaline, elliptic, formed of siliceous circular large particles, scarcely overlapping, as well as smaller platelets of different sizes in between large ones; aperture circular, oblique, invaginated, bordered by toothed apertural platelets.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass

21. *Trinema lineare* Penard, 1890

1890. *Trinema lineare* Penard, *Mem. Soc. Geneve*, 31, p. 187, pl. 11., Figs. 5-17.

1915. *Trinema lineare* : Cash, Wailes and Hopkinson, *The British Freshwater Rhizopoda and Heliozoa*, 3, p. 91, pl. 47, figs. 11-21.

Material examined: 2exs., Thondi, 5. x. 2011, Bindu. L and party; 1ex., Devipatinam, 5. x. 2011, Bindu. L and party; 3exs., S. P. patinam, 3. ii. 2012, Bindu. L and party; 1ex., athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: Test hyaline, elliptic or elongate, formed of circular platelets of different sizes, almost invisible in vivo, aperture circular, oblique, invaginated, bordered by toothed apertural platelets.

Distribution: Cosmopolitan

Remarks: First record associated with seagrass.

2. Foraminifera

Kingdom PROTOCTISTA

Phylum GRANULORETICULOSA

Class FORAMINIFERA

Order LITUOLIDA

Family : Ammodiscidae

1. *Glomospira* sp. Rzehak, 1888

1992. Loeblich and Tappan. Foraminiferal genera and their classification, pp. 829.

Material examined: 3exs., Thondi, 2. ii. 2012, Bindu. L and party; 3exs., Thondi, 2. ii. 2012, Bindu. L and party.

Diagnosis: Test free, with a proloculum and long, tubular, undivided, second chamber winding about its earlier coils in various planes; wall arenaceous with much cement; aperture at the end of the tube – Silurian to Recent.

Distribution: Cosmopolitan

Family HAPLOPHRAGMOIDIDAE

2. *Haplophragmoides* sp. Cushman, 1910

1992. Loeblich and Tappan. Foraminiferal genera and their classification, pp. 829.

Material examined: 2exs., Devipatinam, 5. x. 2011, Bindu. L and party.

Diagnosis: Test free, planispiral, of several coils, usually not completely involute; chambers simple; wall single, arenaceous or with sponge spicules, firmly cemented, amount of cement varying greatly in different species; aperture simple, at the base of the apertural face of the chamber.-Carboniferous to Recent.

Distribution: Cosmopolitan

Order TROCHAMMINIDA

Family TROCHAMMINIDAE

3. *Ammoglobigerina* sp. Eimer and Fickert, 1899

1899. Eimer, G.H.T., Fickert, C.. *Die Artbildung und Verwandtschaft bei den Foraminiferen. Entwurf einer naturerlichen Eintheilung derselben.* Zeitschrift fuer Wissenschaftliche Zoologie 65, 599-708

2001. Gross, O. *Foraminifera*, in: Costello, M.J. *et al.*, (Ed.) (2001). *European register of marine species: a checklist of the marine species in Europe and a bibliography of guides to their identification.* *Collection Patrimoines Naturels*, 50: pp. 60-75.

Material examined: 2exs., Devipatinam, 2. ii. 2012, Bindu. L and party.

Diagnosis: Test free or adherent, spiral, trochoid all chambers visible from dorsal side, only those of the last-formed whorl from the ventral, varying from much compressed to nearly globular; wall arenaceous, with chitinous base, amount of cement very variable; aperture an arched slit at the inner margin of the ventral side of the chamber.-Silurian to Recent.

Distribution: Cosmopolitan

4. *Trochamina inflata* (Montagu,1808)

2009. B. K. Sen Gupta, L. E. Smith, and M. L. Machain-Castillo *Foraminifera of the Gulf of Mexico*, Pp. 87–129 in Felder, D.L. and D.K. Camp (eds.), *Gulf of Mexico—Origins, Waters, and Biota*.

Material examined : 2exs., Thondi, 5. x. 2011, Bindu. L and party; 2exs., Devipatinam, 5. x. 2012, Bindu. L and party; 3exs., Mimisil, 3. ii. 2012, Bindu. L and party; 2exs., S. P. Patinam, 3. ii. 2012, Bindu. L and party.

Diagnosis: The small subtrochoid test is unequally biconvex. The inflated chambers are increasing in size gradually in the earlier whorls, but rapidly in the final whorl. The distinct sutures are depressed both ventrally and dorsally. Umbilical depression is deep. The rounded periphery is lobulate. The thin arenaceous wall has smoothly cemented fine sand grains. The narrow slit like aperture is on the ventral side of the apertural face.

Distribution: Cosmopolitan

Order TEXTULARIIDA

Family : Eggerellidae

5. *Eggerella bradyi* (Cushman, 1911)

2001. Gross, O. *Foraminifera*, in: Costello, M.J. *et al.*, (Ed.) (2001). *European register of marine species: a checklist of the marine species in Europe and a bibliography of guides to their identification.* *Collection Patrimoines Naturels*, 50: pp. 60-75

2004. Cornelius, N., Gooday, A.J. 'Live'(stained) deep-sea benthic foraminiferans in the western Weddell Sea: trends in abundance, diversity, and taxonomic composition along a depth transect. *Deep-Sea Research II* 51, 1571-1602.

Material examined: 2exs., Thondi., 2. ii. 2012, Bindu. L and party; 3exs., Devipatinam, 2. ii. 2012, Bindu. L and party; 2exs., Mimisel, 3. ii. 2012, Bindu. L and party.

Diagnosis: Test with a small lip around the aperture, wall very fine grained and smooth.

Distribution: Cosmopolitan

6. *Textularia* sp. DeFrance, 1824

1996. Gooday, A.J., Bowser, S.S., Bernhard, J.M. Benthic foraminiferal assemblages in Explorers Cove, Antarctica: a shallow-water site with deep-sea characteristics. *Progress in Oceanography* 37, 117-166.

Material examined: 3exs., Thondi, 5. x. 2011, Bindu. L and party; 2exs., S. P. Patinam, 7. x. 2011, Bindu. L and party; 3exs., Thondi, 2. ii. 2012, Bindu. L and party; 1ex., Devipatinam, 2. ii. 2012, Bindu. L and party.

Diagnosis: Test free, elongate, tapering, typically compressed with the zigzag line between the chambers on the middle of the flattened side, early chambers on the middle of the flattened side, early chambers in the microscopic form usually planispirally coiled, later biserial, chambers simple, not labyrinthic; wall arenaceous, cement of various sorts, the relative amount variable; aperture, typically an arched slit at the inner margin of the chamber, occasionally in the apertural face.-Cambrian, Devonian to Recent.

Distribution: cosmopolitan

Order MILIOLIDA

Family MILIOLIDAE

7. *Triloculina trigonula* (Lamarck, 1804)

1992. Loeblich and Tappan. Foraminiferal genera and their classification, pp. 829.

Material examined: 7exs., Thondi, 5. x. 2011, Bindu. L and party; 3exs., Devipatinam, 5. x. 2011, Bindu. L and party; 3exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 3exs., Mimisel, 3. ii. 2012, Bindu. L and party; 4exs., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: The small test is longer than broad and subtriangular in apertural view. Some specimens are short and as long as broad. The externally visible three triloculine chambers are tubular and slightly inflated. The distinct sutures are depressed. The periphery is subrounded. The smooth calcareous porcelaneous wall is smooth, polished and shining. The large elongate aperture at the distal end of the end chamber has a prominent bifid tooth.

Distribution: Cosmopolitan

Family CORNUSPIRIDAE

8. *Cornuspira* sp.

2001. Gross, O. Foraminifera, in: Costello, M.J. *et al.*, (Ed.) (2001). European register of marine species: a checklist of the marine species in Europe and a bibliography of guides to their identification. *Collection Patrimoines Naturels*, 50: pp. 60-75.

2003. Barun K. Sen Gupta, Modern foraminifera, pp. 369.

Material examined: 3exs., Adirampatinam, 6. x. 2011, Bindu. L and party.

Diagnosis: Test free, with a proloculum and long, planispirally coiled, second chamber, rounded or complanate; wall calcareous, imperforate; aperture formed by the open end of the chamber, sometimes constricted and with a thickened lip.-Carboniferous to Recent.

Distribution: Cosmopolitan

Family CRIBROLINOIDIDA

9. *Adelosina laevigata* d'Orbigny, 1826

1826. *Adelosina laevigata* d'Orbigny, p.303. - Barker. 1960, p. 6. pl.3, figs.10-11. 12a-c. - Yassini and Jones, 1995, p. 80. figs. 135-136.

1998. *Adelosina laevigata* d'Orbigny. Rao, p. 69. pl. 8, figs. 9-10.

Material examined: 3exs., Thondi, 5. X. 2011, Bindu. L and party; 2exs., Mallipatinam, 6. X. 2011, Bindu. L and party; 2exs., S. P. Patinam, 7. X. 2011, Bindu. L and party; 3exs., Mimisel, 3. ii. 2012, Bindu. L and party

Diagnosis: This species is similar to *Quinqueloculina*. The test is rounded in shape without any striations.

Distribution: Cosmopolitan

Family HAUERINIDAE

10. *Hauerina complanata* Dakin, 1906

2011. Hayward, B. *Hauerina complanata*. In: Hayward, B.W., Cedhagen, T., Kaminski, M., Gross, O. *World Modern Foraminifera Database*.

Material examined: 2exs., Thondi, 5. x. 2011, Bindu. L and party; 2exs., Mimisel,, 7. x. 2011, Bindu. L and party; 1ex., Thondi, 2. ii. 2012, Bindu. L and party.

Diagnosis: species has the characteristic planospiral porcelaneous test, milioline only in the very early convolutions. It is very thin, with practically circular convolutions. Four of these, with indications of a fifth, are present, the outer, or last, consisting of 4 chambers.

Distribution: cosmopolitan

11. *Miliolinella circularis* (Bornemann, 1855)

2009. Sen Gupta, B. K., L. E. Smith, and M. L. Machain-Castillo.. Foraminifera of the Gulf of Mexico, Pp. 87–129 in Felder, D.L. and D.K. Camp (eds.), Gulf of Mexico–Origins, Waters, and Biota. *Biodiversity*. Texas A & M Press, College Station, Texas.

Material examined: 3exs., Thondi, 5. x. 2011, Bindu. L and party; 2exs., Devipatinam, 5. x. 2011, Bindu. L and party; 4exs., Devipatinam, 2.ii. 2012, Bindu. L and party; 2exs., Mimisel, 3. ii. 2012, Bindu. L and party; 3exs., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: Test ovate, periphery rounded, chambers distinct, inflated, sutures distinct, slightly depressed, wall smooth; aperture demilunar, with a broad, very short, thin tooth.

Distribution: Cosmopolitan

12. *Quinqueloculina seminula*

(Linnaeus, 1758)

1758. Linnaeus, C. *Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata. Laurentius Salvius: Holmiae.* ii, 824 pp.

2009. Sen Gupta, L. E. Smith, and M. L. Machain-Castillo.. Foraminifera of the Gulf of Mexico, Pp. 87–129 in Felder, D.L. and D.K. Camp (eds.), Gulf of Mexico–Origins, Waters, and Biota. *Biodiversity*. Texas A&M Press, College Station, Texas.

Material examined: 8exs., Thondi, 5. x. 2011, Bindu. L and party; 4exs., Devipatinam, 5. x. 2011, Bindu. L and party; 6exs., Thondi, 2. ii. 2012, Bindu. L and party; 4exs., Mimisel, 3. ii. 2012, Bindu. L and party; 3exs., Athankarai, 4. ii. 2012, Bindu. L and party

Diagnosis: Recognised by the elongate, porcelaneous test; narrowly rounded periphery; distinct sutures; and large aperture having simple tooth. Miocene to recent.

Distribution: Cosmopolitan

13. *Quinqueloculina laevigata* d’Orbigny, 1839

2009. Sen Gupta, L. E. Smith, and M. L. Machain-Castillo.. Foraminifera of the Gulf of Mexico, Pp. 87–129 in Felder, D.L. and D.K. Camp (eds.), Gulf of Mexico–Origins, Waters, and Biota. *Biodiversity*. Texas A&M Press, College Station, Texas.

Material examined: 5exs., Thondi, 5. x. 2011, Bindu. L and party; 4exs., Thirupalaikkudy, 5. x. 2011, Bindu. L and party; 4exs., Mallipatinam, 6. x. 2011, Bindu. L and party; 3exs., Thondi., 2. ii. 2012, Bindu. L and party.

Diagnosis: Mostly coastal, in strandline or tidepool deposits, uncommon, epifaunal, sometimes free or cling to plants or sediments, herbivore.

Distribution: Cosmopolitan

14. *Quinqueloculina bradyana* Cushman, 1917

2009. Sen Gupta, L.E. Smith, and M.L. Machain-Castillo.. Foraminifera of the Gulf of Mexico, Pp. 87–129 in Felder, D.L. and D.K. Camp (eds.), Gulf of Mexico–Origins, Waters, and Biota. *Biodiversity*. Texas A&M Press, College Station, Texas.

Material examined: 2exs., Thondi, 5. x. 2011, Bindu. L and party; 2exs., S. P. Patinam, 7. x. 2011, Bindu. L and party; 3exs., Mimisel, 3. ii. 2012, Bindu. L and party.

Diagnosis: Test stout, usually but slightly longer than broad, chambers angular, more or less plicated laterally, the outer peripheral angle usually sinuous, apertural end extended to any considerable length, aperture usually narrow with a simple tooth.

Distribution: Cosmopolitan

Family PENEROPLIDAE

15. *Peneroplis* sp. de Montfort, 1808

2001. Gross, O. Foraminifera, *in*: Costello, M.J. *et al.*, (Ed.) (2001). European register of marine species: a check-list of the marine species in Europe and a bibliography of guides to their identification. *Collection Patrimoines Naturels*, **50**: pp. 60-75.

Material examined: 3exs., Mallipatinam, 6. x. 2011, Bindu. L and party.

Diagnosis: Test free and compressed; younger chambers planispirally arranged and later portion much complanate and spreading out, reaching back on both sides towards earlier chambers, but not entirely embracing; sutures distinct, depressed and somewhat limbate; wall very distinctly striate; the striae numerous and nearly parallel to periphery; aperture simple, at base of apertural face.

Distribution: Cosmopolitan

16. *Spirolina arietina* (Batsch, 1791)

2001. Gross, O. Foraminifera, *in*: Costello, M.J. *et al.*, (Ed.) European register of marine species: a check-list of the marine species in Europe and a bibliography of guides to their identification. *Collection Patrimoines Naturels*, **50**: pp. 60-75.

Material examined: 2exs., Devipatinam, 2. ii. 2012, Bindu. L and party; 2exs., Mimisel, 3. ii. 2012, Bindu. L and party.

Distribution: cosmopolitan

Order LAGENIDA

Family ELLIPSOLEGENIDAE

17. *Fissurina laevigata* Reuss, 1850

2001. Gross, O. Foraminifera, *in*: Costello, M.J. *et al.*, (Ed.) (2001). European register of marine species: a check-list of the marine species in Europe and a bibliography of guides to their identification.
2009. Sen Gupta, L. E. Smith, and M. L. Machain-Castillo. Foraminifera of the Gulf of Mexico, Pp. 87-129 in Felder, D.L. and D.K. Camp (eds.), Gulf of Mexico—Origins, Waters, and Biota. *Biodiversity*. Texas A&M Press, College Station, Texas.

Material examined: 3exs., Mimisel, 3. ii. 2012, Bindu. L and party; 2exs., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: The small, suboval test is slightly compressed, longer than broad with an

entosolenian tube. It tapers towards the apertural end from the broadly rounded initial end. The subacute periphery has a smooth marginal keel which continues upto the aperture and merges with it. The terminal, narrow elliptical aperture is in the median line. The thin calcareous hyaline wall is smooth and translucent.

Distribution: cosmopolitan

Order LAGENIDA

Family VAGINULINIDAE

18. *Lenticulina limbosa* (Reuss, 1863)

1758. Linnaeus, C. Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata. Laurentius Salvius: *Holmia* 824.

Material examined: 2exs., Adirampatinam, 6. X. 2011, Bindu. L and party; 2exs., Mimisel, 3. ii. 2012, Bindu. L and party.

Distribution: cosmopolitan

Order ROTALIIDA

Family ROTALIIDAE

19. *Ammonia beccarii* (Linnaeus, 1758)

1758. Linnaeus, C. Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata. Laurentius Salvius: *Holmiae*. ii, 824 pp.
2001. Gross, O. Foraminifera, *in*: Costello, M.J. *et al.*, (Ed.) (2001). European register of marine species: a check-list of the marine species in Europe and a bibliography of guides to their identification. *Collection Patrimoines Naturels*, **50**: pp. 60-75.

Material examined: 2exs., Devipatinam, 5. x. 2011, Bindu. L and party; 3exs., Mallipatinam, 6.x.2011, Bindu. L and party; 3exs., Thondi, 2. ii. 2012, Bindu. L and party; 2exs., Devipatinam, 2. ii. 2012, Bindu. L and party; 2exs., Athankarai., 4. ii. 2012, Bindu. L and party.

Diagnosis: Test trochoid, with convex dorsal side and spirally arranged chambers; on the ventral side only the last coil with an open umbilical slit and wart-like ornamentation is visible. The test shape in *Ammonia beccarii* is dependent on ecological factors.

Distribution: Cosmopolitan

20. *Ammonia tepida* (Cushman, 1926)

2001. Gross, Foraminifera, *in*: Costello, M.J. *et al.*, (Ed.) (2001). European register of marine species: a checklist of the marine species in Europe and a bibliography of guides to their identification. *Collection Patrimoine Naturels*, **50**: pp. 60-75.
2009. Sen Gupta, L. E. Smith, and M. L. Machain-Castillo. Foraminifera of the Gulf of Mexico, Pp. 87–129 in Felder, D.L. and D.K. Camp (eds.), Gulf of Mexico—Origins, Waters, and Biota. Biodiversity. Texas A&M Press, College Station, Texas.

Material examined: 2exs., Thondi, 5. x. 2011, Bindu. L and party; 3exs., Devipatinam, 5. x. 2011, Bindu. L and party; 1ex., Thondi, 2. ii. 2012, Bindu. L and party.

Diagnosis: The small, subcircular test is trochoid and almost equally biconvex, the ventral side being more so. Dorsally, the chambers are slightly inflated, higher than broad and gradually increase in size. Ventrally, about 7-8 subtriangular chambers of the last-formed whorl alone are visible. Dorsally, the sutures are raised in the early portion, whereas slightly depressed and arcuate in the final whorl, while they are radial, excavated and thus a shallow cavity are formed around the umbilical region on ventral side. The rounded periphery is lobulate. The thin calcareous wall is finely perforate. The small elongate ventral aperture is interiomarginal.

Distribution: Cosmopolitan

21. *Pararotalia nipponica* Asano, 1936

2011. Hayward, B. *Pararotalia nipponica* Asano, 1936. *In*: Hayward, B.W., Cedhagen, T., Kaminski, M., Gross, O. (2011) *World Modern Foraminifera Database*.

Material examined: 2exs., Thondi, 5. x. 2011, Bindu. L and party, 2exs., S. P. Patinam, 7. x. 2011, Bindu. L and party.

Diagnosis: Test free, biconvex to-planoconvex, low trochospiral coil of three volutions; periphery weakly keeled, peripheral outline slightly lobulate or smooth in adult, but with a short and solid spine on each chamber in many young specimens; spiral sutures limbate and flush on surface, sometimes remaining spinate protrusions encrusted with secondary deposition of shell materials in earlier parts; chambers numerous, increase with shell-growth from six

or seven up to nine and half per one volution; intercameral sutures limbate and flush on spiral side, deeply depressed on umbilical side. forming open ventral fissures: intercameral septum imperforate, secondarily double. leaving open space on umbilical side. but perfectly closed on spiral side, towards which anterior lamella thins out.

Distribution: cosmopolitan

22. *Pararotalia calcar* (d'Orbigny, 1839)

2011. Hayward, B. *Pararotalia nipponica* Asano, 1936. *In*: Hayward, B.W., Cedhagen, T., Kaminski, M., Gross, O. (2011) *World Modern Foraminifera Database*.

Material examined: 2exs., Thondi, 2.ii 2012, Bindu. L and party.

Distribution: Cosmopolitan

23. *Rotalina agglutinans* Pourtales, 1850

2011. Hayward, B. *Rotalina agglutinans* Pourtales, 1850. *In*: Hayward, B.W., Cedhagen, T., Kaminski, M., Gross, O. (2011) *World Modern Foraminifera Database*.

Material examined: 2exs., Thondi., 5. x. 2011, Bindu. L and party; 1ex., S. P. Patinam, 3. ii. 2012, Bindu. L and party.

Diagnosis: Shell rough with grains of sand incrusting; last whorl of the spire nearly covering the other ones; aperture indistinct.

Distribution: Cosmopolitan

24. *Rosalina bradyi* (Cushman, 1915)

2011. Hayward, B. *Rosalina bradyi* (d'Orbigny, 1839). *In*: Hayward, B.W., Cedhagen, T., Kaminski, M., Gross, O. (2011) *World Modern Foraminifera Database*.

Material examined: 2exs., Thirupalakkudy, 5. x. 2011, Bindu. L and party; 3exs., Adirampatinam, 6. x. 2011, Bindu. L and party; 2exs., Mimisel, 3. ii. 2012, Bindu. L and party; 2exs., Athankarai, 4. ii. 2012, Bindu. L and party.

Diagnosis: Trochospiral concavo-convex test; dorsally evolute; chambers 15, slightly inflated; sutures limbate, raised; ventrally involute, slightly concave, chambers 6 with umbilical flaps; umbilicus depressed; periphery keeled; aperture slit-like extended up to periphery, supplementary foramen on chambers irregular and complex, generally a bifurcating indentation extending from

umbilical to peripheral margin; wall calcareous, coarsely perforations on dorsal and fine on ventral side.

Distribution: Cosmopolitan

25. *Rosalina globularis* d'Orbigny, 1826

2009. Sen Gupta, L. E. Smith, and M. L. Machain-Castillo.. Foraminifera of the Gulf of Mexico, Pp. 87–129 in Felder, D.L. and D.K. Camp (eds.), Gulf of Mexico—Origins, Waters, and Biota. *Biodiversity*. Texas A&M Press, College Station, Texas.

Material examined: 1ex., Thondi, 5. X. 2011, Bindu. L and party; 2exs., Mallipatinam, 6. X. 2011, Bindu. L and party; 2exs., Devipatinam, 2. ii. 2012, Bindu. L and party.

Distribution: Cosmopolitan

Family PLANULINIDAE

26. *Hyalinea balthica* (Schröter, 1783)

2001. Gross, O. *Foraminifera, in:* Costello, M.J. *et al.*, (Ed.) (2001). European register of marine species: a checklist of the marine species in Europe and a bibliography of guides to their identification. *Collection Patrimoines Naturels*, **50**: pp. 60-75.

Material examined: 2exs., S. P. Patinam, 7. X. 2011, Bindu. L and party; 3exs., Mimisel, 7. X. 2011, Bindu. L and party; 2exs., Devipatinam, 2. ii. 2012, Bindu. L and party.

Distribution: Cosmopolitan

Family ELPHIDIDAE

27. *Elphidium incertum* (Williamson, 1858)

2001. Gross, O. *Foraminifera, in:* Costello, M.J. *et al.* (Ed.) (2001). European register of marine species: a checklist of the marine species in Europe and a bibliography of guides to their identification. *Collection Patrimoines Naturels*, **50**: pp. 60-75.

Material examined: 2exs., Thondi, 5. 10 2011, Bindu. L and party; 2exs., Mimisel, 3. ii. 2012, Bindu. L and party.

Diagnosis: Test equally biconvex, periphery narrowly rounded, 10-12 in last- formed coil, the periphery varying from even curvature to slightly lobulated in the last formed chambers; sutures indistinct, slightly curved, depressed, each with a single row of numerous small, short and narrow septal depressions.

Distribution: Cosmopolitan

Family NUMMULITIDAE

28. *Operculina* sp. d'Orbigny, 1826

1971. Fishelson, L., Ecology and distribution of the benthic fauna in the shallow waters of the Red Sea. *Marine Biology*, **10/2**: 113-133.

Material examined: 3exs., Thondi, 2. ii. 2012, Bindu. L and party.

Diagnosis: Test bilaterally symmetrical, planispiral, complanate, usually all coils visible from the exterior, earlier coils sometimes involute, chambers undivided, periphery with a thickened “marginal cord”; wall calcareous, perforate, smooth or ornamented with bosses; aperture single, at the base of the apertural face, median.- Lower Cretaceous to recent.

Distribution: Cosmopolitan

Family DISCORBINELLIDAE

29. *Discorbinella* sp. Cushman & Martin, 1935

2001. Gross, O. *Foraminifera, in:* Costello, M.J. *et al.*, (Ed.) (2001). European register of marine species: a checklist of the marine species in Europe and a bibliography of guides to their identification. *Collection Patrimoines Naturels*, **50**: pp. 60-75.

Material examined: 2exs., Thirupalaikkudy, 2. ii. 2012, Bindu. L and party.

Diagnosis: Test trochoid, Discorbis-like; wall calcareous, finely perforate, hyaline; aperture consisting mainly of an elongate opening near the base of the apertural face in the axis of coiling, with a distinctly thickened lip, and a supplementary, often poorly developed aperture, at the inner margin of the ventral face of the last-formed chamber, beneath a distinct, flap like projection of the chamber margin.-Miocene to Recent.

Distribution: Cosmopolitan

3. Marine Nematodes

Phylum NEMATODA

Class ADENOPHOREA

Order ENOPLIDA

Family ENOPLIDAE

1. *Enoplus brevis* Bastian

Family ANTICOMIDAE

2. *Anticoma acuminata*

Order CHROMADORIDA
Family CHROMODORIDAE

3. *Chromadora macrolaimus* De Man

Order CHROMODORIDA
Family CERAMONEMATIDAE

4. *Pselionema* sp.

Family CHROMADORIDAE

5. *Neochromadora* sp.

Order DESMODORIDA
Family COMESOMATIDAE

6. *Paracomesoma dubium* (Filipjev)

Family CYATHOLAIMIDAE

7. *Paracanthochus* sp

Order DESMODORIDA
Family DESMODORIDAE

8. *Desmodora (Desmodora) sanguinea* Southern

Order PLECTIDA
Family LEPTOLAIMIDAE

9. *Camacolaimus barbatus*

1. *Enoplus brevis* Bastian

1865. *Enoplus Brevis Bastian, Mem. Mus. r. Hist. Nat. Belg., 58: 1-163.*

Material Examined: 2 exs., Devipattinam, 5. x. 2011, Bindu & Party.

Diagnosis: Body is tapering, Head bluntly rounded, no papillae or no setae. Teeth are small and spicules are curved. Tail is sharp and cylindrical.

Distribution: Tamilnadu (Pichavaram mangroves)

2. *Anticoma acuminata*

Material Examined: 2exs. Thondi, 2. ii. 2012, Bindu & Party.

Diagnosis: Spicula curved, with fine velum and short manubrium. Spicular chord almost as long as the anal diameter. Gubernaculum short, of fine texture. Tail gradually tapering to a rather long and filiform flagellum, the latter slightly swollen at its tip.

Distribution: Andaman Nicobar and Pichavaram mangroves (Tamilnadu).

3. *Chromadora macrolaimus* De Man

Material Examined: 7 exs., Adirampattinam, 6. x. 2011, Bindu & Party.

Diagnosis: Cuticle with coarse transverse striation. Head with six short, conical labial papillae; six cephalic setae modified into prominent fleshy ear-like appendages. Amphids transversely oval. Tail conical with a short unstriated tip.

Distribution: Tamilnadu (Pichavaram mangroves).

4. *Pselionema* sp.

Material Examined: 1ex, Mimisal, 7. x. 2011, Bindu & Party.

Diagnosis: Body length 1.4 mm. Cuticle with about 350 annules of which 60 are in the tail region; 8 longitudinal ridges. Four 10 µm cephalic setae. Amphids 15×5 µm, elongate loops. Oesophagus cylindrical throughout. Tail 5.2 µm. Spicules 20 µm in length.

Distribution: Tamilnadu (Pichavaram mangroves).

5. *Neochromadora* sp.

Material Examined: 2 exs., Devipattinam, 2. ii. 2012, Bindu & Party.

Diagnosis: Cuticular ornamentation heterogenous. Tail is conical and tapering.

Distribution: Tamilnadu (Pichavaram mangroves).

6. *Paracomesoma dubium* (Filipjev)

Material Examined: 44 exs, Adirampattinam , 6.x.2011 Bindu & Party.

Diagnosis: Body length 1.6 mm. Cuticle smooth, without punctation. Six small labial papillae. Six anterior cephalic setae; Amphids spiral, of 3 turns, 7 µm wide. Buccal cavity conical with three small pointed triangular teeth. Tail µm cylindrical, 2.8 a.b.d. Spicules long, 210 µm in length (2.4 a.b.d.), slender, curved with delicate ventral ala.

Distribution: Tamilnadu (Pichavaram mangroves).

7. *Paracanthonchus* sp.

Material Examined: 2 exs, Devipattinam , 2. ii. 2012, Bindu & Party.

Diagnosis: Body in its whole length about evenly thick. Cuticle finely annulated. Head truncate, provided with rather short, clumsy bristles,. Buccal cavity funnel-shaped, in the anterior part supported by ribs, armed with a rather small, acute, dorsal tooth. Tail short, clumsy, conical. Spicules also short, moderately slender and slightly curved.

Distribution: Tamilnadu (Pichavaram mangroves).

**8. *Desmodora (Desmodora) sanguinea*
Southern**

Material Examined: 44 exs, Thirupalakudi, 9. vii. 2006 & 25. xii. 07, Bindu & Party.

Diagnosis: Body length 0.7 mm, narrow. Cuticle thick with coarse striation. Amphids a rounded loop, 8 μ m wide. Tail 33 μ m and conical, and tip untreated.

Distribution: Tamil Nadu

9. *Camacolaimus barbatus*

Material Examined: 4 exs., Thirupalakudi, 2.ii. 2012, Bindu & Party.

Description: Body length 1.2 mm. Cuticle with striations. Amphids spiral, of 2.5 turns, 6 μ m wide. Buccal cavity with a long style-like dorsal tooth, 30 μ m long, with a prominent shoulder near its distal tip. Oesophagus narrows cylindrical. Tail conical with a pointed.

Distribution: Tamil Nadu (Pichavaram mangroves).

SUMMARY

A taxonomic account and distribution of three groups of sea grass associated fauna of Palk Bay viz., rhizopods, foraminifera and nematodes are dealt with in this communication. In all 59 sea grass associated species, rhizopods belonging to 21 species coming under 7 genera and 6 families; foraminiferans coming under 15 families, 24 genera and 29 species; 9 species of marine nematodes belong to 6 orders, 9 families and 9 genera are dealt with. All the species are new records associated with sea grass ecosystem.

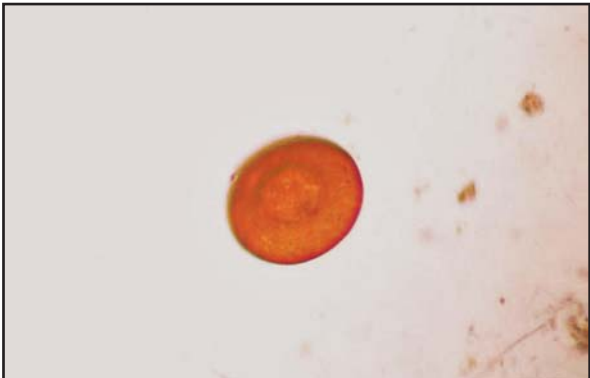
ACKNOWLEDGEMENT

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- Loeblich and Tappan. 1992. Foraminiferal genera and their classification, *Van Nostrand Reinhold*, New York, 829 pp.
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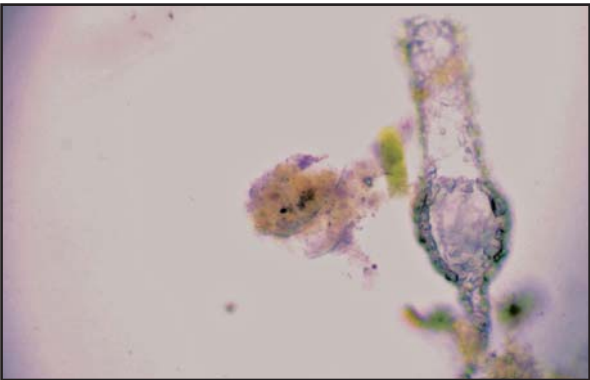
PLATE I



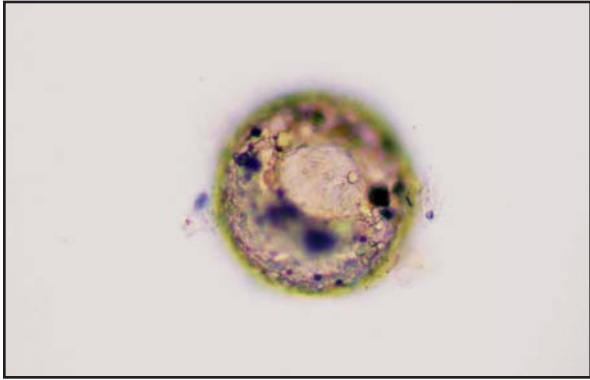
Arcella discoides



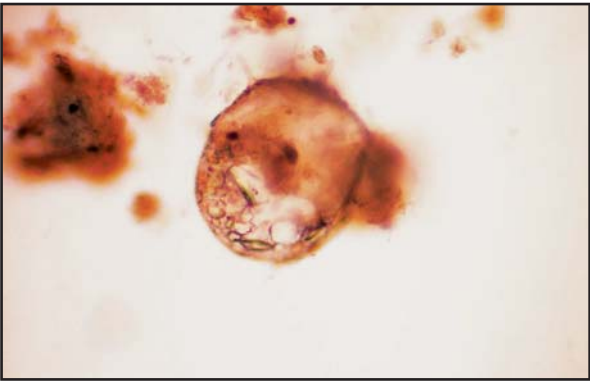
Cyphoderia ampulla



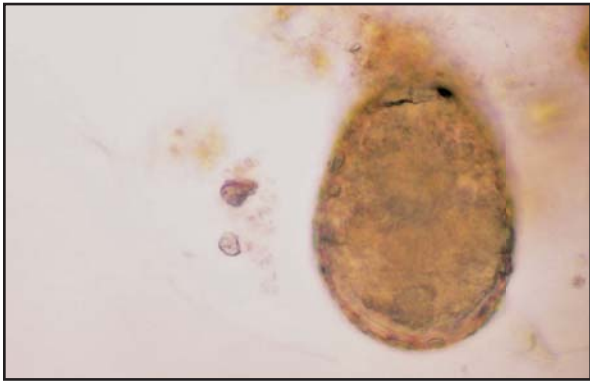
Diffugia acuminata



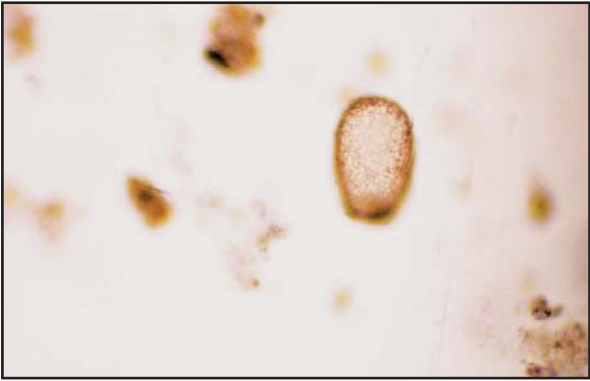
Diffugia globulosa



Diffugia gramen



Diffugia limnetica



Diffugia lobostoma

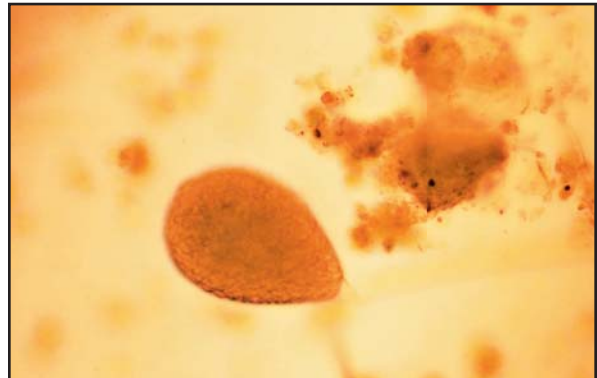


Diffugia lucida

PLATE II



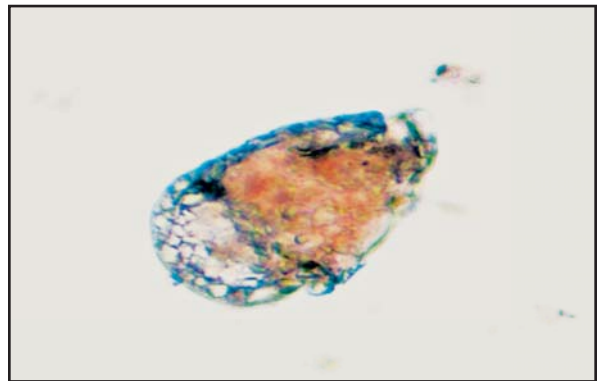
Diffugia tuberculata



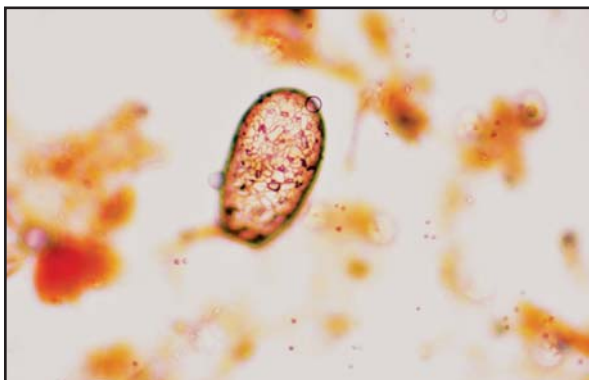
Euglypha cristata



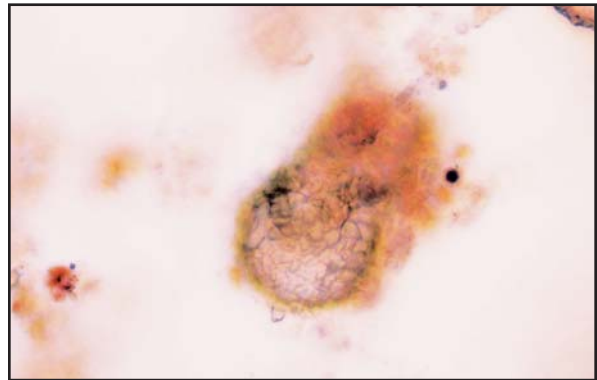
Euglypha rotunda



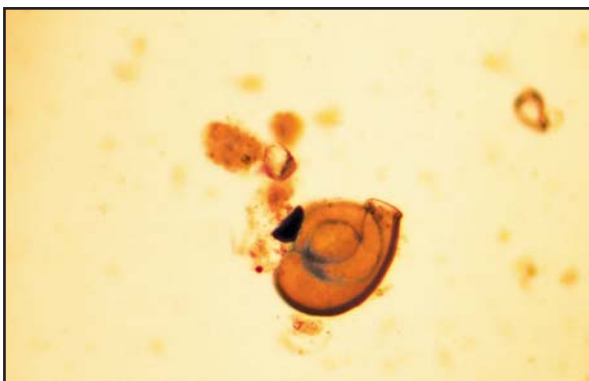
Nebela denticulata



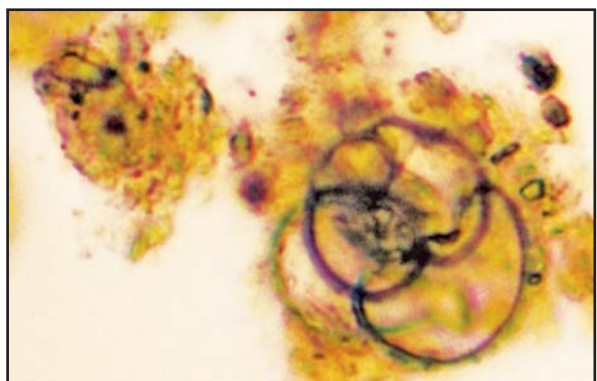
Nebela dentistoma



Nebela walesi

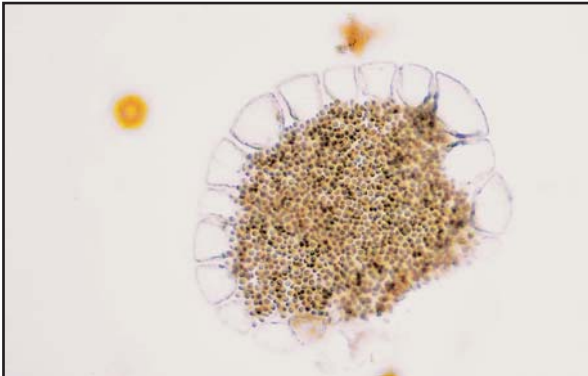


Adelosina laevigata

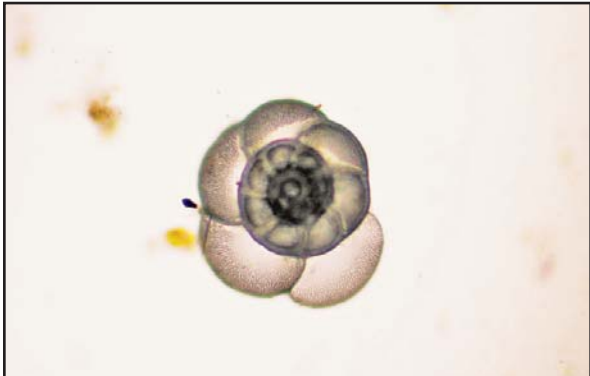


Ammoglobigerina

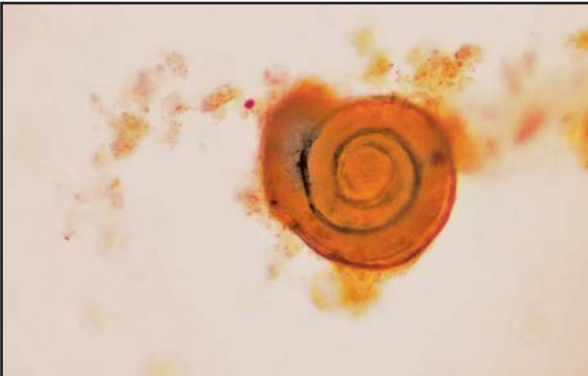
PLATE III



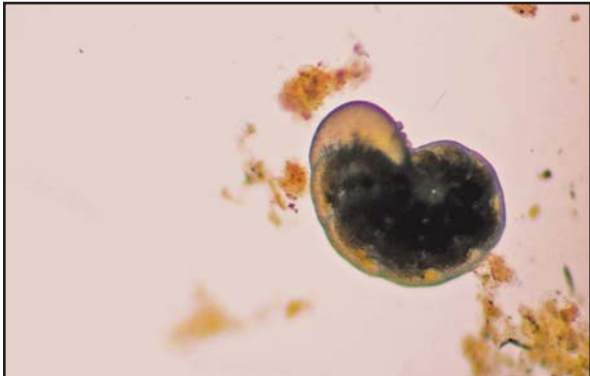
Ammonia beccari



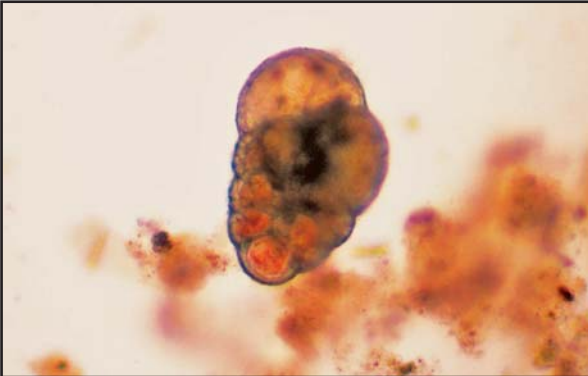
Ammonia lepidi



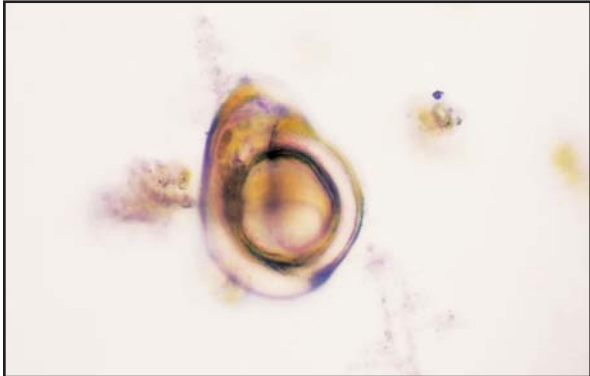
Cornuspira sp.



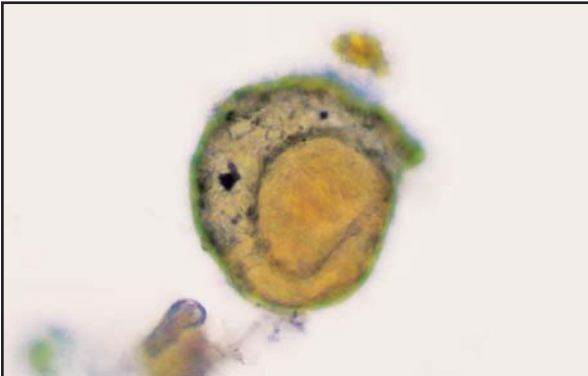
Cribronian sp.



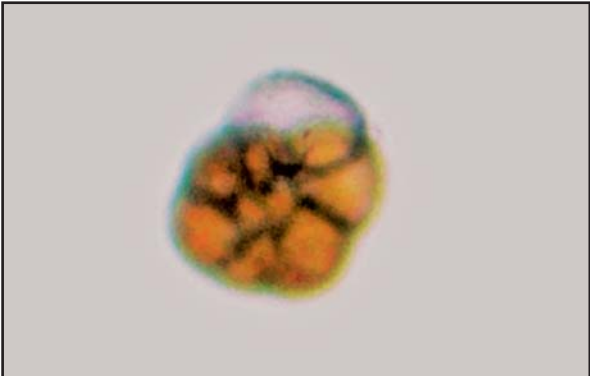
Eggerella bradyi



Fissurina laevigata

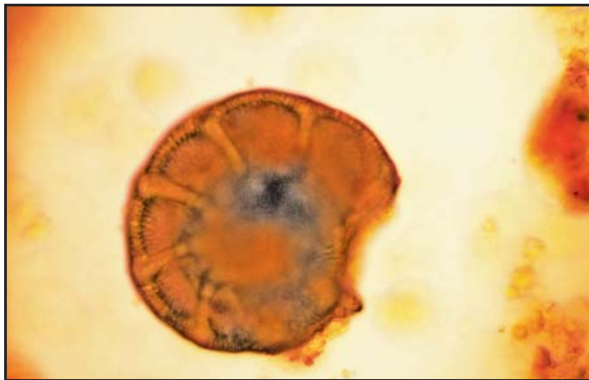


Glomospira sp.

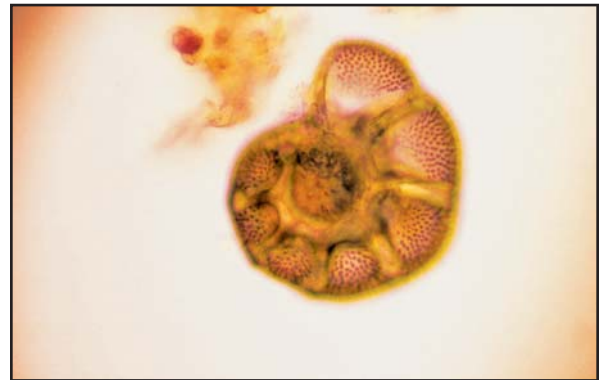


Haplophragmoides

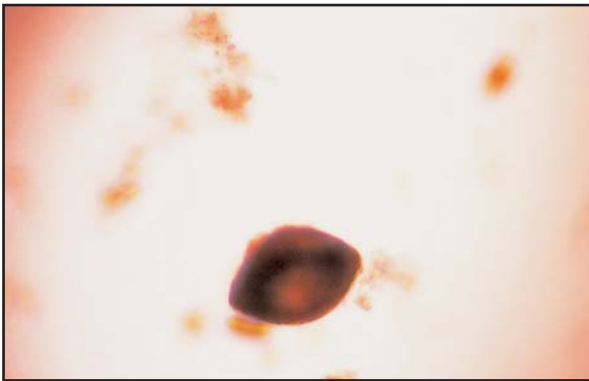
PLATE IV



Hyalinea balthica



Ammonia beccari



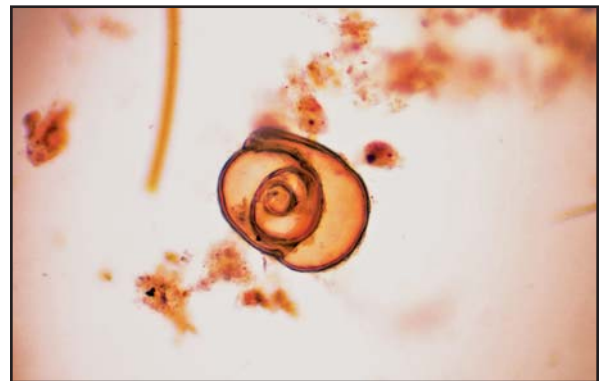
Triloculina trigonula



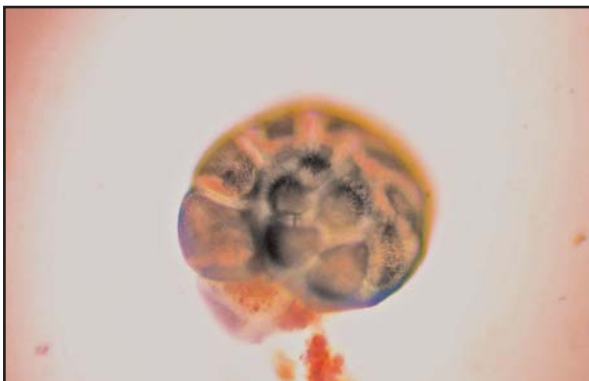
Pararotalia nipponica



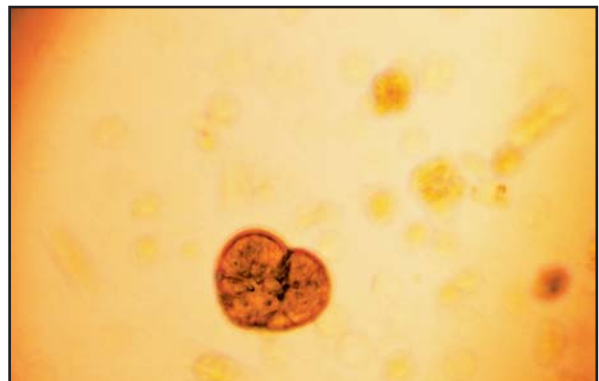
Rosalina bradyi



Adelosina laevigata

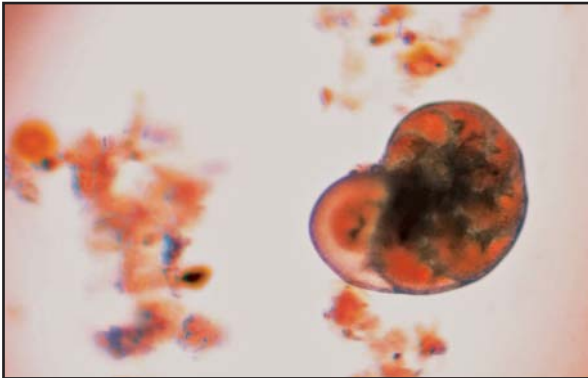


Ammonia beccari

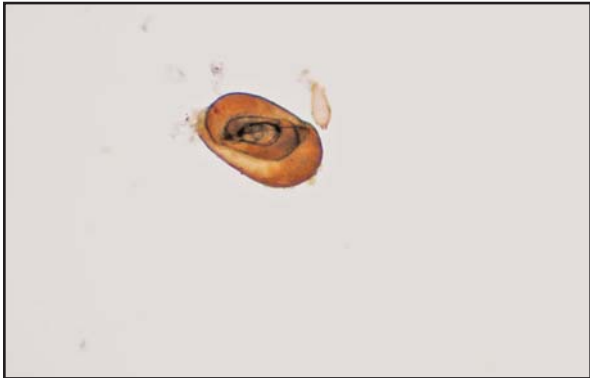


Miliolinella circularis

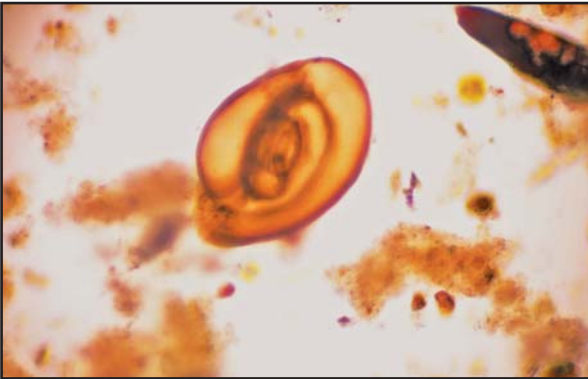
PLATE V



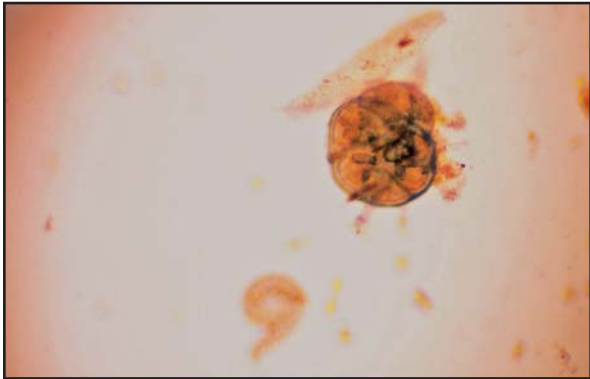
Operculina Sp.



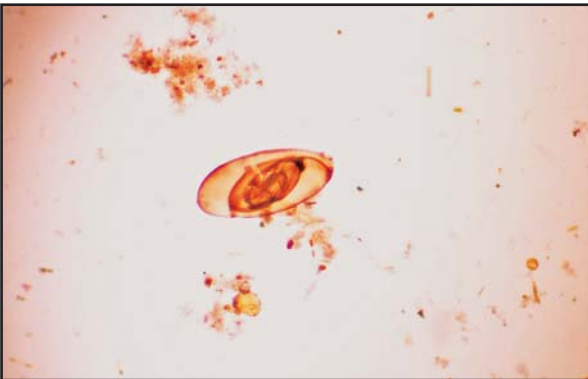
Quinqueloculina seminulum



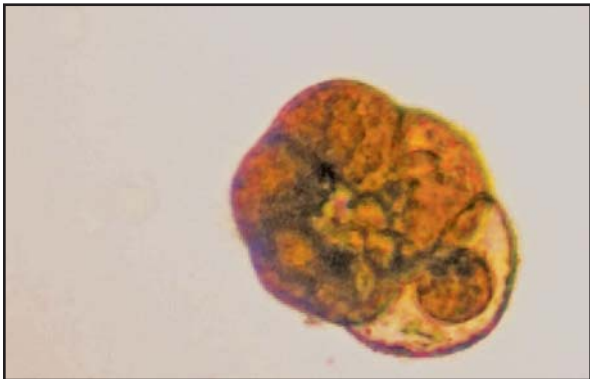
Quinqueloculina laevigata



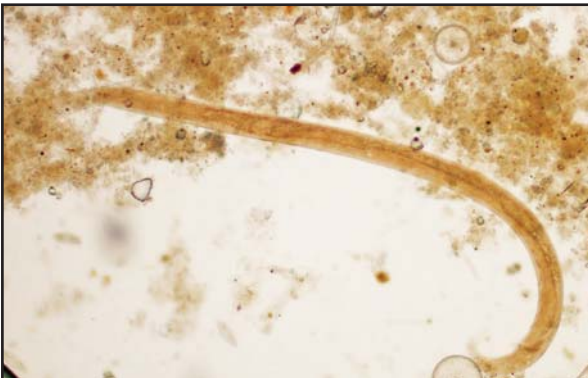
Rosalina sp.



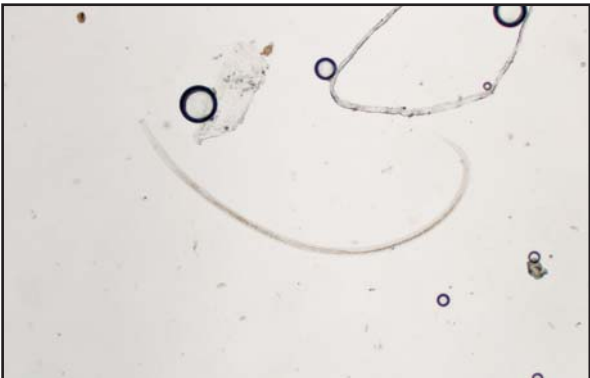
Textularia sp.



Trochammina inflata

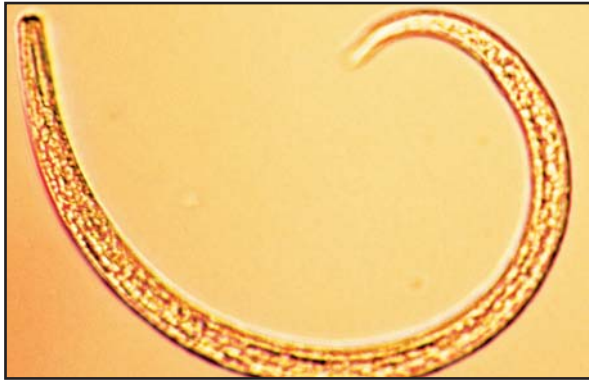


Anticoma acuminata



Camacolaimus barbatus

PLATE VI



Chromadora macrolaimus



Chromadora sp.



Desmodora (Desmodora) sanguinea



Paracanthonchus sp.



Paracomesoma sp.