



A checklist of malacofauna of the Vellar Estuarine Mangroves, India

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Mangroves provide ideal conditions for high productivity of gastropods, which, in turn, serve as food, particularly the veliger larvae for numerous animals. Because of their predatory nature, gastropods play an important role in maintaining the function and productivity of mangroves through “cleansing” root systems by removing the encrusting fauna like barnacles. These snails also serve as intermediate host for many trematode parasites. Based on the structure of molluscan assemblages, pollution induced damage in mangrove forests can be evaluated. Hence, this study has been made to update the inventory of molluscs in Vellar Estuary.

The river Vellar flowing on the southeastern coast of India originates in the Servarayan hills of Salem District (Tamil Nadu, southern India). After meandering 480kms, it discharges water into the Bay of Bengal at Parangipettai (formerly known as Porto Novo). The Vellar estuary (11°29'N & 79°46'E) is perennially open.

For quantitative analysis, the molluscs were hand picked in a transect of known area or a quadrat of known size. Foulers like mussels and oysters were collected by scraping with knife or spatula. The infaunal bivalves were collected by digging the substratum. The arboreal forms were hand picked from the stems, roots and other parts of the mangrove trees vertically at every 25cm interval (Alfred 1997).

The macrobenthic molluscs of the estuary may be broadly grouped under three categories (1) arboreal, those live attached to stem and roots of mangrove vegetation (2) epifauna, lying on the mud of the intertidal area (3) infauna, burying themselves in the substratum. Some gastropods have habitat overlap.

Out of the 13 species (10 species of gastropods and 3 species of bivalves) observed in the Vellar Estuary mangroves, 6 species were arboreal and the remaining 4 species of gastropods crawl on the muddy substratum. There are

exceptions i.e., *N. violacea* is usually found attached to mangrove trees at the edge of the water which are subject to tidal action. In the absence of mangrove vegetation, it attaches on other structures squeeze into the gaps of the bricks, cracks and crevices of concrete / brick structures lining the banks in addition to solid materials lying in the muddy substratum. About 100 species of molluscs are known to occur in the mangrove areas of Indian subcontinent (Dey 2006), 11 from Godavari estuary (Ganapati 1959), 9 from Krishna estuary (Radhakrishna 1975), 20 from Mahanadi estuary (Roa 1975), 6 from Palk Bay & Gulf of Mannar (Pillai & Appukuttan 1980), 10 from Pichavaram Mangroves (Kasinathan & Shanmugam, 1985). Hundred species have been reported from mangroves of Andaman and Nicobar islands (Das & Roy 1989). In the present study 13 species of molluscs were recorded in mangroves of Vellar Estuary Mangroves.

A systematic list of species occurring in the Vellar Estuarine Mangroves

Phylum: Mollusca

Class: Gastropoda

Sub Class: Prosobranchia

Order: Archaeogastropoda

Family: Neritidae

Genus: *Neritina* (Dostia)

Neritina violacea (Gmelin)

Order: Mesogastropoda

Family: Littorinidae

Genus: *Littorina*

Littorina melanostoma (Gray)

Littorina scabra (Linnaeus)

Family: Assimineidae

Genus: *Assiminea*

Assiminea nitida (Pease, 1865)

Family: Potamididae

Genus: *Cerithidea*

Cerithidea cingulata (Gmelin)

Cerithidea obtusa Lamarck

Genus: *Telescopium*

Telescopium telescopium (Linnaeus)

Subclass: Pulmonata

Order: Bassomatophora

Family: Ellobiidae

Genus: *Ellobium*

Ellobium aurisjudae (Linnaeus)

Genus: *Cassidula*

Cassidula nucleus (Gmelin)

Genus: *Melampus*

Melampus ceylonicus (Petit)

Order: Mytiloida

Family: Mytilidae

Genus: *Modiolus*

Modiolus metcalfei (Hanley)

Genus: *Perna*

Perna viridis (Linnaeus, 1758)

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Neritina (Dostia) violacea



Littorina (Palustorina) melanostoma



Cerithidea cingulata



Telescopium telescopium



Cassidula nucleus



Cerithidea obtusa



Ellobium auris-judae



Melampus ceylonicus



Littorina (Littorinopsis) scabra



Assiminea nitida



Crassostrea madrasensis



Perna viridis



Modiolus metcalfei

Family: Ostreidae

Genus: *Crassostrea*

Crassostrea madrasensis (Preston)

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