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Note

Annotated list of molluscs from the coastal tract of Midnapore District, West Bengal, India

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Abstract

The paper deals with 43 species (live - 31, dead - 12) of molluscs belonging to 33 genera, 28 families, and 12 orders, recorded from the intertidal belts along the coastal tract of Midnapore District, West Bengal, India. Among these, 11 species have been recorded for the first time from this coastal environment. A comparison of present findings with earlier records from these study sites and other coastal belts of India has been made.

Molluscs constitute an important faunal component in the food web of any estuarine-marine coastal environment. The coastal belt of Midnapore District (60 km.) represents 27% of coastal tract of West Bengal (WB) extending along the Hoogly Estuary from New Digha (at the confluence of Subarnarekha with Hoogly) at the extreme south-west point and then curving around Sankarpur, Purusattampur, Junput, Rasulpur, and Haldia on the east to further north-east upto Tamluk (earstwhile Tamralipta) or even Kolaghat on the bank of Rupnarayan.

The results of several studies made on the littoral molluscs from different coastal belts of West Bengal (Subba Rao *et al.*1987, 1991, 1992, 1995; Mandal and Nandi, 1989, Chakraborty and Choudhury, 1993) and other areas in coastal India (Radhakrishna and Janakiram, 1975, Untawale and Parulekar, 1976, Ansari *et al.* 1986; Das and Dev Roy, 1989; Mandal and Nandi 1989; Subba Rao *et al.*1995, Sunil Kumar, 1995 and Surya Rao and Maitra, 1998) are available. However, almost no such attempts have been made from the coastal tract of Midnapore, WB, excepting occasional report by Subba Rao (1977), Subba Rao *et al.* (1992) and Bharati Goswami (1992). The present study aims at assessing the present status of coastal molluscan diversity of Midnapore District, and there by making a comparison with earlier records.

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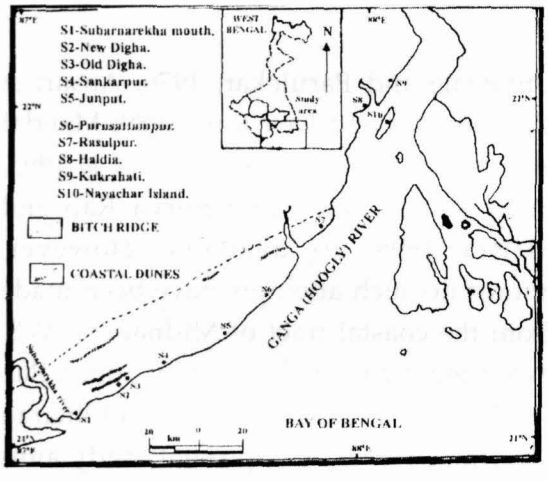
Material and methods

Collections were made during July 2000 to June 2001from the intertidal belts of different coastal sites (Lat. 21° 30' - 22° 2'N and Long. 87°20' - 88° 5'E) viz. Subarnarekha mouth, New Digha, Old Digha, Sankarpur, Junput, Purusattampur, Rasulpur, Haldia, Kukrahati and Nayachar Island (Fig.1). Identification of all the collected species were made following standard literature (Subba Rao *et al.* 1992) and through consultation with the scientists of Zoological Survey of India.



Results and Discussion

Out of 43 species of molluscs recorded from the Midnapore coastal tract, the shells of 12 species (*Nassarius (Hima) stolatus, Murex tribulus, Perna viridis, Sanguinolaria (Soletellina) acuminata, Barnea candida, Tonna dolium, Modiolus undulatus, Haminea crocata, Ellobium (Auricula) gangeticum, Solen brevis, Neosolen aquaedulcioris, Macoma birmanica*) might have been brought to this coastal areas from adjoining regions like Sagar Island, Sandheads and Estuaries of Orissa (Table 1). Most of the species are bottom dwelling forms while few like *Littorina (Littoraria) melanostoma, Cerithidea obtusa, Neritina smithi, N. (Dostia) violacea, Onchidium tenerum, Saccostrea cucullata* were collected from boulders, mangrove vegetation, wooden and concrete jetties, etc., where tidal exposure and inundation occur.

11 species (gastropods-6, bivalves-5) have been reported for the first time from this environment. 58 other species, which were reported earlier by Subba Rao *et al.* (1992), have not been encountered in the present study. This biodiversity loss is supposed to be due to the different anthropogenic activities like construction of fishing harbours, coupled with intensive aquaculture, tourism, industrial development, establishment of thermal power plants, etc., in this fragile coastal front during the last three decades. Out of 28 families documented in the present study, representative species of 27 families are found to occur in Hoogli-Matla estuarine complex of Sundarbans, South 24 parganas, WB. (Subba Rao *et al.*, 1992). Representative species of 16 families from Chilka Lake (Subba Rao *et al.*, 1995), 12 from Rushikulya estuary (Rama Rao *et al.*, 1992), 24 from Mahanadi estuary (Surya Rao and Maitra, 1998), 21 from Godavari estuary, 10 from Krishna estuary, 19 from Vellar estuary, 19 from Andaman Islands (Subba Rao *et al.*, 1992) are common to this environment. Thirty five species found in Hoogli - Matla estuary, 37 in Mahanadi estuary, 23 in Chilka Lake and 13 in

Table 1. *Occurrence and distribution of molluscan species in Midnapore coastal tract (Station S-1 to S-10)*

	Species	S -1	S - 2	S - 3	S - 4	S - 5	S - 6	S - 7	S - 8	S - 9	S - 10	
	Class Gastropoda											
	Order Mesogastropoda											
	Family Assimineidae											
1	*Assiminea brevicula* (Pfeiffer)	++	-	-	-	+++	-	+	+	-	++	Live
2	*A. francesiae* (Wood)	-	-	-	-	-	-	-	+	+	++	Live
	Family Littorinidae											
*3	*Littorina (Littoraria) melanostoma* Gray	+++	+	-	++	-	-	+	+	-	+	Live
4	*Littorina (Littoraria) undulata* Gray	-	+	-	-	-	-	-	++	-	++	Live
	Family Potamididae											
5	*Telescopium telescopium* (Linnaeus)	++	-	-	+	++	-	++	-	-	+	Live
6	*Cerithidea (Cerithideopsis) cingulata* (Gmelin)	+++	+	-	++	+++	-	+	-	-	-	Live
7	*C. obtusa* (Lamarck)	++	+	-	-	+	-		-	-	-	Live
	Family Epitoniidae											
*8	*Acrilla acuminata* (Sowerby)	-	+	-	-	-	-	-	-	-	-	Live
	Family Naticidae											
9	*Natica tigrina* (Roeding)	+	+	+	-	-	-	-	+	-	+	Live
*10	*N. vitellus* (Linnaeus)	-	-	+	-	-	-	-	+	-	+	Live
11	*Polinices didyma* (Roeding)	-	+	+	+	-	-	-	-	-	-	Live
12	*P. tumidus* (Swainson)	+	+	+	-	-	-	-	-	-	-	Live
	Family Tonnidae											
13	*Tonna dolium* (Linnaeus)	-	+	-	-	+	-	-	-	-	-	Shell
	Family Viviparidae											
14	*Bellamya bengalensis* f. *typica* (Lamarck)	++	-	-	-	-	-	+	+	+	-	Live
	Family Thiaridae											
15	*Thiara (Tarebia) lineata* (Gray)	-	-	-	-	-	-	-	-	-	+	Live
	Order Archaeogastropoda											
	Family Trochidae											
16	*Umbonium vestiarium* (Linnaeus)	-	+	+	-	-	-	-	-	-	-	Live
	Family Neritidae											
17	*Neritina (Dostia) violacea* (Gmelin)	-	-	-	-	-	+	+	+	+	+ +	Live
*18	*N.smithi* Wood	-	-	-	-	-	+	-	+	+	+ +	Live
	Order Neogastropoda											
	Family Muricidae											
19	*Murex tribulus* (Linnaeus)	-	-	+	+	-	-	-	-	-	-	Shell
	Family Nassariidae											
20	*Nassarius (Hima) stolatus* (Gmelin)	+	+	+	-	-	-	-	-	-	-	Shell

	S -1	S - 2	S - 3	S - 4	S - 5	S - 6	S - 7	S - 8	S - 9	S - 10	
21 *N. faveolatus* (Mss. Dunker Reeve)	-	-	+	-	-	-	-	-	-	-	Live
Family Olividae											
22 *Amalda ampla* (Gmelin)	+	-	+	-	-	-	-	-	-	-	Live
*23 *Olivancillaria gibbosa* (Born)	+	-	-	-	-	-	-	-	-	-	Live
Order Soleolifera											
Family Onchidiidae											
*24 *Onchidium tigrinum* Stoliczka	+	-	+	-	-	-	-	+	-	++	Live
25 *O. tenerum* Stoliczka	+	-	-	-	-	-	-	+	-	-	Live
Order Nudibranchia											
Suborder Arminacea											
Family Arminidae											
26 *Armina* Sp.	+	-	-	-	-	-	-	-	-	-	Live
Order Basommatophora											
Family Lymnaeidae											
27 *Lymnaea (Pseudosuccinea) luteola* f. ovalis Gray	-	-	-	-	-	-	-	+	-	+	Live
28 *Ellobium (Auricula) gangeticum* (Pfeiffer)	-	-	+	+	-	-	-	-	-	-	Shell
Order Entomotaeniata											
Family Atyidae											
29 *Haminea crocata* Reeve	-	+	+	+	-	-	-	-	-	-	Shell
Class Bivalvia											
Order Arcoida											
Family Arcidae											
30 *Anadara granosa* (Linnaeus)	+	+	-	+	-	-	-	-	-	-	Live
Order Mytiloida											
Family Mytilidae											
*31 *Perna viridis* (Linnaeus)	+	+	-	+	-	-	-	-	-	-	Shell
*32 *Modiolus undulatus* (Dunker)	+	-	-	+	-	-	-	-	-	-	Shell
*33 *M. striatulus* (Hanley)	++	-	-	-	-	-	-	-	-	-	Live
Order Veneroida											
Family Donacidae											
34 *Donax (Hecuba) scortum* Linnaeus	-	-	+	+	-	-	-	-	-	-	Live
35 *D.(Latona) incarnatus* Gmelin	-	-	+	+	-	-	-	-	-	-	Live
Family Psammobiidae											
36 *Sanguinolaria (Soletellina) acuminata* (Deshayes)	-	-	+	+	-	-	-	-	-	-	Shell
Family Veneridae											
37 *Meretrix meretrix* (Linnaeus)	+++	-	+	+	-	-	-	-	-	-	Live
Family Corbiculidae											
*38 *Corbicula striatella* Deshayes	-	-	-	-	-	+	-	-	+	+	Live
Family Solenidae											
40 *Solen brevis* Gray	-	+	+	-	-	-	-	-	-	-	Shell
Family Cultellidae											
41 *Neosolen aquaedulcioris* Ghosh	-	+	+	+	-	-	-	-	-	-	Shell
Femily Tellinidae											
42 *Macoma birmanica* (Philippi)	-	-	+	+	-	-	-	-	-	-	Shell
Order Myioda											
Family Pholadidae											
39 *Barnea condida* (Linnaeus)	-	+	+	+	-	-	-	-	-	-	Shell
Order Pterioida											
Family Ostreidae											
*43 *Saccostrea cucullata* (Born)	-	-	-	+ +	-	-	-	-	-	-	Live

+++ Highly abundant, ++ Moderately abundant, + Occasional visitor, - Not found, * New record.

Rushikulya estuary of Orissa, have been recorded from this coastal region. Maximum number of molluscan species belonging to 28 different families have been recorded from Midnapore coastal tract followed by Mahanadi estuary (60), Andaman Island (58), Hoogli - Matla estuary (54), Godavary estuary (51), Hoogly estuary of Midnapore coast (42), Chilka lagoon (25), Rushikulya estuary (23) and Krishna estuary (10). From the present study, it may be stated that Midnapore coastal tract harbours a good molluscan fauna in the diversified sandflats and madflats, which require immediate attention for their conservation.

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