

CHECK-LIST OF ESTUARINE AND MARINE BIVALVES OF PORTO NOVO WATERS

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ABSTRACT

Surveys were conducted in Vellar estuary and adjacent waters during the period 1981-82. The check-list of estuarine and marine bivalves is presented and distribution of bivalves tabulated.

Key-words : Bivalves, check-list, Porto Novo.

Hornell (1917, 1951) made a detailed study on the distribution, biology and ecology of marine and estuarine molluscs of Madras Presidency. Ramamoorthy (1954) gave an account of the hydrobiological factors and the fauna of the Vellar estuary. The marine fauna of the Gulf of Kutch was reported by Kundu (1965). Upto recent years studies have been conducted only on the biology, ecology and biochemistry of the commercially important bivalves from Porto Novo waters. So far, no attempt has been made to study on the distribution pattern of the available species. The present study is an attempt in this direction.

Three surveys were conducted in Vellar estuary and adjacent waters (Lat. 11°29' N; Long. 79°46' E) during the period 1981-'82. The sediments of both marine and estuarine regions were sieved and both adults and spats of bivalves collected. In deeper parts of the estuary, Peterson's grab was used and in shallow areas and inter-tidal regions specimens were collected with the help of shovel or by hand picking.

The present list includes 3 orders, 15 families and 38 species.

Order : Taxodonta
 Series : Arcacea
 Family : Arcidae
A. granosa
A. rhombea Born
A. gubernaculum Reeve
A. inaequalis Brugiere
A. tortuosa Linnaeus
A. concamera Brugiere

Order : Anisomyaria
 Series : Mytilacea
 Family : Mytilidae
Perna viridis Linnaeus
Perna indica
Modiolus metcalfei Hanley

- Series : Pteriacea
 Family : Pteriidae
Pinctada fucata Gould (shells only collected)
- Family : Pinnidae
Pinna pectinata Linnaeus
Pinna bicolor Gmelin
- Series : Pectinacea
 Family : Pectinidae
Pecten tranquebaricus Gmelin
Amussium pleuronectes Linnaeus
- Series : Anomiacea
 Family : Anomidae
Placenta placenta Linnaeus
- Series : Ostracea
 Family : Ostreidae
Crassostrea madrasensis Preston
Crassostrea cucullata
- Order : Eulamellibranchiata
 Series : Cardacea
 Family : Cardiidae
Cardium coronatum
- Series : Veneracea
 Family : Veneridae
Meretrix meretrix Linnaeus
M. casta Chemnitz
Katelysia optima Gmelin
Sunetta meroe Linnaeus
S. scripta Linnaeus
Dosinia excisa Gmelin
Paphia textile Gmelin
- Series : Tellinacea
 Family : Donacidae
Donax cuneatus Linnaeus
D. scortum Linnaeus
- Family : Tellinidae
Tellina ala Hanley
T. cuspis Hanley
T. nobilis Hanley
T. angulata Gmelin
T. immaculata Philippi
- Series : Solanacea
 Family : Solenidae
Solen lamerkii Deshayes
Siliqua radiata Linnaeus

- Series : Adesmacea
 Family : Pholadidae
Pholas orientalis Gmelin
Martesia striata Linnaeus
- Series : Pandoracea
 Family : Laternulidae
Laternula anathina Linnaeus
- Family : Psammobiidae
Psammobia radiata Philippi
Sanguinolaria diphos Gmelin

Table I - Distribution of bivalves in Porto Novo waters

Species	Distribution
<i>Anadara granosa</i>	Estuarine and Backwater
<i>A. rhombea</i>	"
<i>A. gubernaculum</i>	"
<i>A. inequivalvis</i>	"
<i>A. tortuosa</i>	"
<i>A. concomera</i>	"
<i>Perna viridis</i>	Estuarine and Marine
<i>Modiolus metcalfei</i>	"
<i>Pinctada fucata</i>	Marine
<i>Pinna pectinata</i>	"
<i>P. bicolor</i>	"
<i>Pecten tranguebaricus</i>	"
<i>Amusium pleuronectes</i>	"
<i>Placenta placenta</i>	"
<i>Crassostrea madrasensis</i>	Estuarine and Backwater
<i>C. cucullata</i>	"
<i>Cardium coronatum</i>	Marine
<i>Meretrix meretrix</i>	Estuarine and Backwater
<i>M. casta</i>	"
<i>Katelysia opima</i>	"
<i>Dosinia excisa</i>	"
<i>Sunnetta meroe</i>	Marine
<i>S. scripta</i>	"
<i>Paphia textile</i>	"
<i>Donax cuneatus</i>	"
<i>Tellina ala</i>	Estuarine
<i>T. cuspis</i>	"
<i>T. nobilis</i>	"
<i>T. angulata</i>	Estuarine and Marine
<i>T. immaculata</i>	"
<i>Siliqua radiata</i>	Marine
<i>Pholas orientalis</i>	"
<i>Sanguinolaria diphos</i>	Estuarine

The distribution pattern of the bivalves in Porto Novo waters are presented in Table I. In Porto Novo waters bivalve resources are distributed in estuarine, marine and backwater habitats. Oyster beds are present

opposite to the Marine Biological Station and Killai backwaters. Clams like *Meretrix* sp. and *Katelysia opima* form beds in Navapettai region, 9 km upstream from the mouth of Vellar estuary. In other regions of the Vellar estuary the clams are distributed discontinuously. Generally, most of the bivalves in Porto Novo waters breed during February-September and the fresh recruitment to the population starts from March or April onwards. Clams and cockles are of good value among the edible molluscs of India. Natarajan, Devadoss and Muniyandi (1979) estimated the total landings of molluscan resources for the period 1973-'74 of Porto Novo waters. Shell fishes are estimated to be 64.4% of the total landings, 55.2% of which is from clams alone.

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REFERENCES

- Hornell, J., 1917. The edible molluscs of the Madras Presidency. *Madras Fisheries Bulletin*, 11 : 1-51.
- Hornell, J., 1951. *Indian Molluscs*. Published by the Bombay Natural History Society.
- Kundu, H.K., 1965. On the marine fauna of the Gulf of Kutch. Part III - Pelecypods. *Journal of Bombay Natural History Society*, 62 : 38-103.
- Natarajan, P., P. Devadoss and K. Muniyandi, 1979. Fisheries of Vellar estuary. *Indian Journal of Fisheries*, 26 : 201-206.
- Ramamoorthy, K., 1954. A preliminary study of the hydrology and fauna of Vellar estuary. *Proceedings of the Indo-Pacific Fisheries Council Symposium*, Bangkok.