

## Summary:

- Molluscs are being macro benthic faunal group shows global distribution and possesses a wonderful power of regeneration as a part of survival strategies.
- Molluscs are soft-bodied animals, a large and most important group of invertebrates which occupies all the possible habitats except aerial. Molluscs are largest phylum among the marine invertebrates and it occupies 23% of total marine animals.
- It is under taking pilot survey on availability of marine molluscs, edible marine molluscs and nutritional values in different spots (8 spots) at Digha (latitudinally 21°36'30" N and longitudinally 87°30' E) were selected for details study.
- The present investigation spanning a period of 4 years and 7 months (January, 2013 to July, 2017) was carried to record the collection of molluscs specimen from study areas. Surveyed in 5 number of coastal villages at Digha to know about the edible molluscs species among the available marine molluscs at Digha coast. It is analysed the physico-chemical parameters of water and soil specially Salinity, Dissolved Oxygen, pH, Turbidity, Temperature etc from the laboratory, Department of Aquaculture Management, Ramnagar College and the laboratory, Department of Fisheries, Govt. of West Bengal. Calculate the size and weight variation of available edible marine molluscs at Digha coast to take 10 numbers of species of different size and weight of each molluscs specimen. During this calculation, it is included maximum and minimum size and weight groups of edible molluscs available at Digha coast. Proximate compositions analysis was a part of the research work. It is analysed the proximate compositions like moisture, ash, carbohydrate, protein, crude fat and minerals of most popular 4 edible cephalopods available at Digha coast from CIFT, Visakhapatnam Research Center.

- Major geomorphologic features of Digha coastal environment have revealed the presence of sand dunes, sand flats, mud flats and imprints of macro tidal long shore currents in the form of ripples on this inter tidal belt.
- During investigation, the total number of 54 species of bivalves belonging to 8 orders, 18 families and 34 genera, 35 species of gastropods belonging to 4 orders, 18 families and 27 genera & 4 species of cephalopods belonging to 3 orders, 3 families and 4 genera had been recorded at Digha coast of West Bengal.
- During the study period it had an interview with some poor villagers and fishermen lived in coastal villages at Digha. From this survey it is known that 12 bivalves species belonging to 5 orders, 6 families and 8 genera out of 54 available bivalves species, 2 gastropods species belonging to 2 orders, 2 families and 2 genera out of 35 available gastropods species and 4 cephalopods species belonging to 3 orders, 3 families and 4 genera out of 4 available cephalopods species are edible.
- At present, the total population of India is about 127 crores. Among them a huge number of our children have been suffering from mal-nutritional diseases. They need protein food and molluscs meat is a good source of protein. India harvested 1.73 lakh tones of Cephalopods, 0.04 lac tones of Bivalves and 0.02 lakh tones of gastropods from Indian marine resources in the year 2013 - 2014. In Southern part of India especially Andhra Pradesh, Tamilnadu, Kerala, Karnataka etc, the poor people including fisher folk population considers the molluscs meat as their food. But at Digha local people consume them very little except cephalopods because they are getting different varieties of marine fishes in low price value. But in future the molluscs meat may be adequately eaten by local poor people due to containing high protein in comparison with marine fishes and scarcity of marine fishes also.

- This study is conducted to make awareness among the people at Digha especially poor coastal villagers and fisher folk communities about nutritive values of molluscs meat and its beneficial effect on human body. There are also great possibilities of export of edible molluscs in future from Digha coast.
- The coastal belt of West Bengal especially Midnapore district harbors diversified benthic fauna of which the molluscs under investigation represent a bio energetically significant macro benthic fauna of ecological and economical importance. The molluscs are macro benthic with huge power of regeneration and can tolerate the fluctuation of different types of physico-chemical parameters like temperature, salinity etc.
- Most popular edible marine molluscs at Digha coast are cephalopods. It is analysed the proximate compositions of four available edible marine cephalopods from CIFT, Visakhapatnam Research Center. The proximate compositions (values expressed as percentage of wet weight for moisture and dry weight for others) of four edible cephalopods muscles represent –

Particulars	Sample - 1	Sample - 2	Sample - 3	Sample - 4
Moisture (%)	83.35±2.04	82.57±2.97	84.44±3.21	81.19±2.09
Protein (%)	12.17±0.84	12.71±1.02	11.48±0.91	14.53±1.52
Fat (%)	0.56±0.08	0.60±0.06	0.51±0.08	0.69±0.05
Carbohydrate (%)	2.14±0.12	1.74±0.18	1.76±0.20	1.32±0.15
Ash (%)	0.76±0.02	1.41±0.04	0.90±0.01	1.34±0.03
Sodium (mg/100g)	994.03	2081.26	1603.20	1569.03
Potassium (mg/100g)	1391.65	1688.00	1503.00	1882.84
Calcium(mg/100g)	198.80	401.10	340.60	334.70

- Digha beach becomes familiar to tourists and a large number of visitors (about 40 lakh / year) came for mental relaxation and also for zoological excursion. They come frequently and continued their works while collecting a large number of specimen including molluscs. Simultaneously, they also collect a number of species which are now endangered due to destruction of their habitat and little over exploitation very recently.
- It is also observed that *Amalda ampla* (a marine bivalve) is being increasingly threatened at Digha coast due to uncontrolled collection of live specimen by local women for some ornament preparation. The recent development of aquaculture has introduced a new economic group along with fishermen and their daily activities destroy a huge number of invertebrates (including their eggs) and also fish, shrimp at the time of tiger shrimp (*Penaeus monodon*) post larvae collection.
- As the studied molluscs species have been intimately associated with human benefit in respect of its direct contribution as food for human consumption, the molluscs meat is used as feed of poultry birds, ducks, carnivorous fishes and prawns etc, it is being neglected at Digha by the researchers till date but they need immediate attention for their conservation as an important group of keystone fauna.