IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 5, December 2025
Impact Factor: 7.67

Malacofaunal Diversity of Asolamendha Dam of Chandrapur (MS), India.

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Abstract: *Molluscs are the environment indicators and play a very important role in maintaining aquatic ecosystem by recycling nutrients and surviving as nutrition for certain aquatic organisms. Also they are important source of food for other animals i.e. fishes, birds and mammals even for human being. In the age of global decline of biodiversity, it is necessary to study the present status of different biota and hence this attempt was made.*

The present paper deals with check list of diversity of malacofauna from Asolamendha Dam of Chandrapur district in the period January 2025 to December 2025. A total of 20 molluscan species were reported and identified in this paper. Out of these, 12 are gastropods and 08 are bivalves. Collected molluscs belong to 02 Class, 10 Orders and 10 Families. Molluscs play an important role in ecosystems. Study of malacofauna in freshwater bodies in particular region provides documentation of molluscan species in that region which in turn helps in managing conservation policies.

Keywords*:* Malacofauna, Asolamendha Dam, Diversity

I. INTRODUCTION

Across the globe around 8000 species of gastropods are present. Gastropods are soft bodied animals with univalve, spirally coiled shells. Inside the shell the soft muscular body of gastropods composed of head, foot, visceral mass and mantle. In rivers and lakes, freshwater bivalves serve as filters. Numerous species can be found in dense clusters and filter out a lot of silt, bacteria, diatoms, blue-green algae, and other microscopic organisms as well as heavy metals and big organic compounds.

Fresh water molluscs serve as food for humans in many areas all over the world. Use of shellfish food is very popular among poor and tribal people of India as additional resources of protein rich food. About 22 freshwater species are used as food in various regions in India. (Subba Rao, N. V 1989; Dey, A. 2007; Tripathy, B. & Mukhopadhayay, A., 2015). Ecosystems with lower levels of diversity are more susceptible to pollution, ailments, and other environmental stresses. Aqueous ecosystems are threatened by pollution, changes to the topography or hydrobiological system, as well as more important causes like global change. All the biotic and abiotic factors of an ecosystem are interconnected. Thus, abrupt changes in abiotic factors and stress experienced by biotic components damage the whole ecosystem.

The Asolamendha Dam was constructed as part of Irrigation Projects by the Britishers during the British Raj in the Year 1918. It is built on and impounds Pathari River of Saoli taluka of Chandrapur District of Maharashtra. The dam is an Earth fill Dam.The Length of dam is 1376.52 m (4516.1417 Feet), while the Height of the dam above lowest foundation is 18.08 m (59.3175 feet). Project has other type of spillway. The Dam's catchment area is 24.553 thousand hectors. Now days almost all the water bodies make for well picnic spots. Asolamendha Lake is also a popular Tourist attraction for its scenic beauty. Hilly terrain and forest adds to the natural beauty.

During the last few decades considerable studies on The taxonomic study of Indian fresh water molluscs has been done by Zoological Survey of India, Subba Rao (1989), Also in Maharashtra, freshwater Mollusca reported by Rao (1925), Tonapi and Mulherkar (1963), Tonapi ((1971), Subba Rao and Mitra (1975,1979), Surya *et al.* (2002), Patil and Talmale (2003,2005), Tripathy and Mukhpadhyay, (2015), Magare *et al.* (2016), Kambale, (2018), Kumar et al., (2019), Misar, SD *et al*.(2020). This work has therefore undertaken of document the malacofauna of Asolamendha Dam

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located in Saoli taluka of Chandrapur district. The Asolamendha dam is harbor a large number of fauna and is harbors a number of aquatic weeds in the submerged as well as floating state on which thrive a large number of organisms.

II. MATERIAL AND METHODS

The present work was carried out from January 2025 to December 2025. Molluscan shells were collected by hand-picking them from the littoral zone of water bodies. Scoop net was used to pull out mollusks lodged in aquatic weeds or buried in bottom of water bodies (Sajan, S. K., et al., 2021). For research, no live mollusks were collected. If samples of living molluscan species were the only thing observed, rather than shells, they were promptly released into water bodies after photography and documented on film. Collected shells were cleaned properly by using soft bristle brush to remove mud and dried. Species identification was done by using standard keys Subba Rao N. V. (1989), Ramkrishna and Dey (2007) and some with research papers and articles on internet.

III. RESULT AND DISCUSSION

During the present investigation, a total of 20 malacofaunal species out of these, 12 are gastropods and 08 are bivalves. Collected molluscs belong to 02 Class, 10 Orders and 10 Families were recorded from the Asolamendha Dam.

Gastropod species at study sites 12 species of gastropods were documented belonging to 01 Class, 07 Orders and 07 Families during the study. Gastropods found belong to families Pilidae, Viviparidae, Bithyniidae, Thiaridae, Lymnaeidae and Planorbidae recorded during the study area. Two species belonging to the family Pilidae are Pila globosa, Pila virens, two species belonging to the family Viviparidae are Bellamya bengalensis and Bellamya dissimilis, two species belonging to the family Bithyniidae are Gabbia orcula producta and Gabbia alticola, three species belonging to the family Thiaridae are Thiara scabra, Thiara lineata and Thiara tuberculata, one species belonging to the family Lymnaeidae is Lymnaea acuminata and two species belonging to the family Planorbidae are Indoplanorbis exustus and Gyraulus rotula.

At study site 08 species of Bivalve collected which belong to 01 Class, 03 Orders and 03 Families. Three species are found under family Unionidae are Lamellidens marginalis, Lamellidens consobrinus and Lamellidens corrianus, two species are recoded from family Amblemidae are Parreysia shurtleffiana and Parreysia favidens, two species from family Corbiculidae are Corbicula striatella and Corbicula peninsularis and one species is found under family Pisidiidae is Sphaerium indicum.

A study of the diversity of native freshwater malacofauna is accomplished by number of inventories. Pasupuleti, R., & Rao, N. S. (2015) observed one bivalve species Lamellidens jenkinsianus daccaensis from Krishna River, Nagarjuna Sagar, Telangana. (Das, U. K., et al., 2011) studied molluscan diversity of Pagladia river Asam, they reported Melanoides scabra as dominant species at that site. Pandya, P. J., & Vachhrajani, K. D. (2012) studied malacofauna of Mahi River Gujrat and Patil, S. (2013) Singhori wildlife sanctuary Madhya Pradesh. Chandra, K., et al., (2017) reported 150 species of gastropods belonging to 16 families and 51 genera along with 67 species of bivalves in India. The Western Ghats are recognized as a hotspot for freshwater molluscs biodiversity, and they discovered a maximum of 77 species there. Malacofauna in the Poba Reserve Forest in Assam, India, was examined in connection to specific physicochemical parameters by Chutia, J., & Kardong, D. (2022). They discovered 16 species, with the winter season recording the highest number of species, and the monsoon season the lowest. Sajan, S.K. et al., (2021) under Zoological Survey of India carried out inventory of land and freshwater molluscs in some parts of the Andhra Pradesh and Telangana state of Deccan Peninsula India during August to September 2016.

In the course of present study, a greater number of molluscs were recorded during summers, very less during monsoon and moderate during winters. Many surveys recorded an increase in number of molluscs during summer and decrease during monsoon season during summer season. Molluscs get ample amount of decomposed organic matter for feeding due to rise in temperature and increase in decomposition of organic matter in water bodies during summer (Dorlikar, A. V., et al., 2014; Malhotra Y. R. et al., 1996). High molluscs species richness and diversity flourish in the low water flow, or nearly lentic environment, with a rich macrophyte population in the side channels, according to (Bódis, E., et al. 2016). Asolamendha dam is also found rich in molluscan abundance and diversity.

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Table 1 - Showing Malacofaunal diversity of Asolamendha Dam

Sr. No.	Name of Species	Class/ Order/ Family
Gastropod		
1	Pila globosa	Gastropoda/Architaenioglossa /Pilidae
2	Pila virens	Gastropoda/Architaenioglossa /Pilidae
3	Bellamya bengalensis	Gastropoda/Mesogastropoda/Viviparidae
4	Bellamya dissimilis,	Gastropoda/ Architaenioglossa /Viviparidae
5	Gabbia orcula producta	Gastropoda/Mesogastropoda/Bithyniidae
6	Gabbia alticola	Gastropoda/Littorinimorpha/Bithyniidae
7	Thiara scabra	Gastropoda/Cerithiida/Thiaridae
8	Thiara lineata	Gastropoda/Cerithiida/Thiaridae
9	Thiara tuberculata	Gastropoda/Cerithiida/Thiaridae
10	Lymnaea acuminata	Gastropoda/Basommatophora/Lymnaeidae
11	Indoplanorbis exustus	Gastropoda/Hygrophila/Bulinidae
12	Gyraulus rotula.	Gastropoda/Lymnaeida/Planorbidae
Bivalve		
1	Lamellidens marginalis,	Bivalvia/Unionoida/Unionidae
2	Lamellidens consobrinus	Bivalvia/Unionoida/Unionidae
3	Lamellidens corrianus	Bivalvia/Unionoida/Unionidae
4	Parreysia shurtleffiana	Bivalvia/Unionoida/Unionidae
5	Parreysia favidens	Bivalvia/Unionoida/Unionidae
6	Corbicula striatella	Bivalvia/Venerida/Corbiculidae
7	Corbicula peninsularis	Bivalvia/Venerida/Corbiculidae
8	Sphaerium indicum	Bivalvia/Sphaeriida/Sphaeriidae

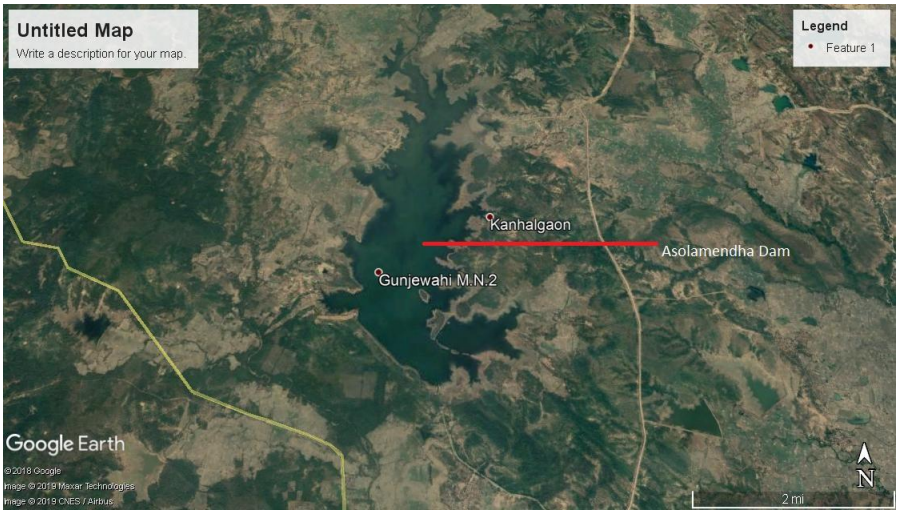

Fig 1 – Satellite image of Asolamendha Dam