



## NEW RECORD OF FRESHWATER SNAIL, PLANORBIS PLANORBIS IN MAHARASHTRA, INDIA.

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### ABSTRACT:

In present work Author reported on the newly observed exotic freshwater snails, *Planorbis planorbis* form slowly running water bodies, ponds and water logged area around Godavari River in Gangapur area of Nasik of Maharashtra state. Shell and a live specimen were observed in the field area and shell studied in detail in the laboratory. The shell shows characteristic size, shape and a brown line. These snails are found in floating vegetation, aquatic substratum and in benthic soil along with mud and decaying matter. They prefer to feed on dead and decaying matter in their ecosystem.

**Keywords:-** Freshwater Snail, Shell, *Planorbis Planorbis*, Ecology, Habitat.

### INTRODUCTION :

On earth, molluscs are available more in numbers and distributed with diverse habitat. Generally, they found in all ecological conditions and shows great adaptations. Molluscs in aquatic habitat, especially in freshwater habitat shows great variations in their shell structure and development patterns. In recent time the study of molluscs is increasing because of their great importance in food and their parasitic infection which causes spread of various pathogens among humans. Most of the molluscs are used as food as they are rich in protein and calcium. The changing aquatic conditions in habitats of molluscs play a major role in limiting their survivability and diversity. (Brown, 1991). As compare to prosobranchs, pulmonates are adapted more in their ecosystem.

The shells of some shells is rigid and strong whereas some shows transparent and lucid shells. Generally, the planorbid snails shows spirally coiled shells and are compressed from both sides. Mostly the planorbid gastropods

shows strong and compact shell as compare to other members of the family. The shell is brownish or blackish with gray black body which is soft and slimy with flat foot used in crawling at the benthos of on the substratum. These are very sensitive to acidic conditions and prefer alkaline conditions for survival and breeding. They can survive in changing climatic conditions but survive well in alkaline conditions. They feed on algae, decaying plants and animal wastes, and sometimes weeds also but fresh plants are preferred rarely for feeding.

Some researchers working on molluscs and environment are busy recently on the biological invasion of variety of species in various parts of the world as they cause serious impact on local species. (Gheradi et. al. 2008). Recently a new freshwater planorbid snails were reported by Magare (2015) from Godavari river of Maharashtra.

Studies on invasion of Alien molluscan species in India is important in order to maintain the environment of ecosystems. This is the need of

time to improve the knowledge of molluscan diversity and their problems due to entry of Alien species of molluscs. Present study reviews the presence of new alien species of Planorbella in our Indian ecosystem and are tremendously found in ponds and slow flowing streams near Godavari River of Nasik near Gangapur area.

#### **MATERIAL AND METHOD :**

Suurvey has been carried out to study the diversity of molluscs during 2016-2017 from Gangapur, Taluka and District-Nasik in different waterbodies around Godavari River. [Fig-3]. The collection of molluscs was made from various sites around ponds and streams around Godavari river of Nasik. The shelled specimens were collected by hands using gloves to prevent any parasitic infection if any. Along with Lymnoid and Indoplaborbis exustus, some Plaborbis snails were found in slow running water in streams near Godavari River. Observations and confirmation of the species was made from various research papers available on internet and from reputed references like Dillon et. al. (2006,2007.) Further the shells and snails were collected and observed under lens and according to Burch. J.B, 1982, Baker, 1989)

#### **SYSTEMATIC ACCOUNT :**

Planorbis planorbis

Domain-Eukaryota

Kingdom- Animalia

Phlum- Mollusca

Class-Gastropoda

Sub-Class-Heterobranchia.

order-Hygrophila

Sub-order-Branchiopulmonata

Infraorder-Planorboinei

Superfamily-Planorboidea.

Family-Planorbidae (Gray, 1840)

Genus-Planorbis

Species- plabnorbis (Linnaeus, 1758)

#### **RESULTS :**

The materials collected from the study area were observed in the field area as well as in laboratory and characteristics of shells and snails' behavior reported. The materials examined was mostly the shells and morphological appearance of snails.

Shell: The shell of freshwater snail, Planorbis planorbis is of planorbid type and is of sinistral (left coiling) type. This is a flat Ramshorn snail. The shell is flat, coiled, discoidal and thick. The suture is shell is well impressed and slightly concave at its upper side. Generally, the color of the shell is faint to dark brown with gray tint. The shell is rather strong and not transparent. The shell bears a brownish red line on the body whorl and some on last whorl. The shell size is small to medium and shell diameter reaches to 4-14 mm. The height of the shell reaches between 1-4 mm. (Neubauer, Thomas A., 2014) [Fig-1 & 2]

Ecology: Planorbis planorbis is a freshwater snail breathing from air and inhabits in slow streams and also found in ponds close to Godavari river. Planorbis planorbis is a pulmonate gastropod mollusc found attached to aquatic algae growing on substratum and also on vegetation preferably in floating plants like hydrilla or weeds available in their habitat. They are greatly adapted to tolerate in adverse ecological conditions in changing seasons. They were also found in dry mud but their number is very less and are scanty (Burch, 1982).

Habits and Habitats: These are freshwater snails of ponds and springs. They inhabit in dirty and muddy water also. They found attached to the floating vegetation like algae, hydrilla, etc. They also found attached to the substratum in their ecosystem and around some weeds. They feed on decaying matter floating in streams and surrounding stagnant water bodies. They are not preferring to feed on live algae instead they feed on decaying fish body.

**DISCUSSION :**

Distribution: The snails *Planorbis planorbis* are found to be distributed in Czech Republic and Slovakia. (Horsak et.al.2010; Jurickova et. al. (2001). The shells were collected during 2016-17 but observed keenly in recent times and then again visited to the study area and confirmed the size, shape, shell morphology, observation of snails and studied the ecological aspects of the snail, *Planorbis planorbis*. These snails were observed very rarely in their habitat and are found attached to the green algae, weeds and substratum like rocks, etc. They prefer to feed on dead and decaying matter in their habitat instead to feed on fresh live algae. They also prefer to feed on dead fish or tadpole body. These are very compressed and somewhat strong shell with brown lining on the shell, which is the characteristic of the snail, *Planorbis planorbis*.

They prefer to survive in slowly running waterbodies close to spring or riverside. They are also found in stagnant water around these springs. They show very slow movement and prefers mostly the clean waterbodies. In India these are distributed in the slow running water near the rainwater springs close to the Godavari river in Nasik of Maharashtra. This is the first report of these snails.

**REMARKS :**

Morphology and Behavior: These snails' creeps on aquatic plants or on the substratum using a flat foot. Sometimes they found to creep at the benthos on muddy surface. They protrude the body while creeping and moves forward. They bear a globular head with a pair of tentacles. The mouth bears at ventral side and scrap the food using radula present in mouth. The sensory tentacles detect the food quality and chemical compound around their habitat. They feed slowly on decaying matter in their ecosystem.

**SUMMARY :**

Author reported on the newly observed exotic freshwater snails, *Planorbis planorbis* form slowly running water bodies, ponds and water logged around Godavari River in Gangapur area of Nasik. Shell and a live specimen were observed in the field area and shells studied in detail in the laboratory. These snails are found in floating vegetation and in benthic soil along with mud and decaying matter. They prefer to feed on dead and decaying matter in their ecosystem.

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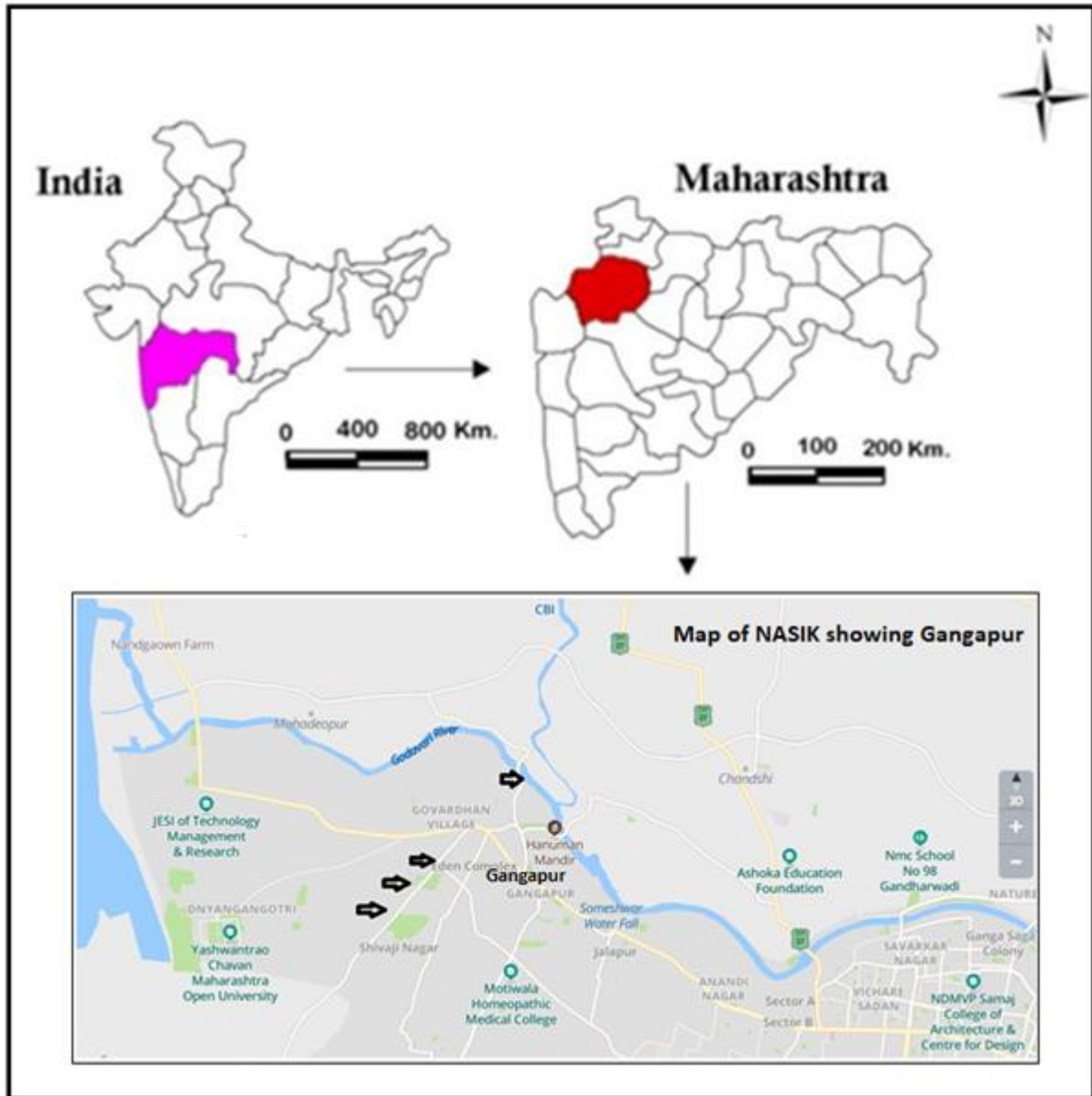


**Fig:1.** Apertural view of shell of a snail, *Planorbis planorbis* showing Characteristic brown line on shell.



**Fig:2.** Umbilical side of shell showing spiral whorls, umbilicus.

**Fig.2:** Planorbella pilsbryi.



**Fig.3:** Map of India showing Maharashtra and Nasik exploring sites of collection in Gangapur area indicated by arrows.