

**NEW RECORD OF EXOTIC SPECIES OF A SNAIL, PLANORBELLA  
DURYI FORM SEMINOLIS IN INDIA.**

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**Abstract**

*The freshwater snail, Planorbella duryi [Burch, J. B., 1982] is a first record in freshwater river Godavari near someshwar, [Maharashtra India.] as an exotic snail. About 28 specimens were collected, observed, photographed and data collected about feeding and behavior. They are found attached to aquatic vegetation and submerged decaying matter. These are slow runners and scrapping decaying matter. Present work provides data on presence, richness, systematics, shell morphology and behavior of a snail, Planorbella duryi. It's an interesting tiny snail species feeding on dead and decaying matters as well as hydrophytes.*

*Planorbella duryi is a freshwater snail belonging from the family Planorbidae, generally called as Rams horn snail. The shell of the snail Planorbella duryi is sinistral. These are oviparous and lay eggs in a globular transparent gelatinous mass. They are found tremendous in polluted zone of slow running river water or stagnant water showing temperature range 20-23°C, They prefer to aggregate in water having PH more than 5.8.*

**Keywords:** *Planorbella duryi, Someshwar, Planorbidae, Oviparous, Godavari.*

**Introduction:** The distribution of freshwater molluscs in India is not completely known but the data of distribution in diverse habitats reflects the past geographical as well as climatic changes. Maximum freshwater gastropods are distributed in freshwater bodies having calcium concentration is comparatively more than normal level. Several climatic conditions and availability of food resources limiting the distribution and diversity of freshwater snails. The physicochemical characteristics like, ph., temperature, hardness, dissolved oxygen, etc. limits diversity of snails. Temperature is limiting factor for many freshwater snails. (Harman & Berg, 1971,P- 1-68.; Brown, D.S. 1991 P. 140-153.; and Jokijneon, E. 1983 p.83).

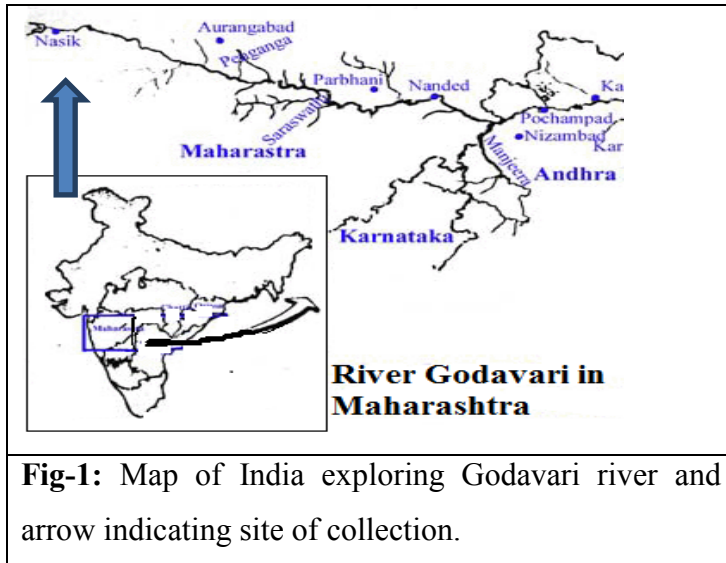
Since last two decade the scientific workers, researchers and environmentalist have become increasingly interested in study of biological invasions (Gherarid, 2007 a.). Alien species may cause impact economy and health (Gherardi et. Al. 2008). Due to this the study of invasive species of molluscs is important in order to manage and conserve freshwater ecosystem of an environment in India.(Javier Oscoz et. Al. 2010). Smith B.J. (1989) and Greenaway (1971). Studied on freshwater snail, like Lymnaea on calcium regulation and applied malacology. *Planorbella* has also good strength of shells as compared to their shape. Godavari River is located in very closer area of Western Ghats but the exploration of diversity of molluscs in an area is very scanty. In order to improve the knowledge of diversity of molluscs in India specially of alien species of molluscs is needed because this study reviews the species composition and distribution of aquatic non indigenous snails species found in Godavari river and allied regions of western Ghats of Maharashtra, according to the data available and literature cited from the publications of scientific research and survey of mollusk in various countries during last few years.

**Materials And Methods :** Survey for the study of diversity of molluscs has been carried out during 2012-2013 from Deola, Malegaon and Nasik from river Godavari and allied tributaries and lakes connected thereto. Along with Lymnoid and Planorbid snails, tiny species of *Planorbella duryi*, were found which are of differently arranged shell and delicate snails have been observed and recorded. Study, observation and confirmation of different publicatons reported me that the species is new for India and is *Planorbella duryi*. The identification has been confirmed from Zoological Survey of India, Kolkata and Akurdi, Pune, India. Further this unknown snail was examined according Burch, J. B., 1982. Freshwater snails (Mollusca: Gastropoda) of North America. E.P.A., Cincinnati, The collection of freshwater molluscs was made from different sampling sites of study area. The shelled specimens were collected manually by hand picking, using gloves to prevent infection of cercaria larvae if any. Sieving the river sediments by using coarse nylon sieves collected some diverse forms, like depressed shells of *Planorbella duryi*. From each site soil/silt/mud collected by hand net along with vegetation and spread over a muslin cloth and counted species. The collections of the freshwater molluscs were transported to the laboratory in polythene bags with aquatic vegetation and water. The snails were identified using renowned resources and confirmed from Zoological Survey of India from Kolkata and Akurdi, Pune.

### **Results and Discussion:**

**Ecology:** *Planorbella duryi* is a freshwater snail belonging from the family Planorbidae, generally called as Rams horn snail. These snails are originally found in Florida of North

America. These are presently studied from the stagnant and running water of the river Godavari. In between two districts, Dhule and Nasik comprises, Malegaon, Deola, Pimpalgaon Basawant are of Maharashtra. [Fig-1].



**Fig-1:** Map of India exploring Godavari river and arrow indicating site of collection.

They are found tremendous in polluted zone of slow running river water or stagnant water showing temperature tolerance range between, 22-24 ° C and PH more than 5.8 and in hard water. In their habitat, they prefer aquatic vegetation, decaying plants, woods, hydrophytes, etc.

**Population:** The snails are tremendous in Godavari River

around Nasik city. These are more in and around aquatic vegetation and in slow running water. They also prefer rough surface of walls, dams, decaying vegetation, dry woods in rivers, or on any substratum naturally found in rivers. These are tremendous in Gangapur area and Siddhershwar area of Nasik.

**Systematics:**

Kingdom: Animalia.

Subkingdom: Bilateria

Infrakingdom: Protostomia.

Superphylum: Lophozoa.

Phylum: Mollusca

Class: Gastropoda

Clade: Heterobranchia

Sub Class: Pulmonata

Order: Basommatophora

Hygrophila

Planorbidea

Family: Planorbidae (Freshwater)

Sub family: Bulininae

Genus: Planorbella

Species: duryi [ Jay, 1839 -ID:

**3672900070]**

**Shell Morphology:** The shell is sinistral. It is spiral with depressed spire showing three whorls. The shells has prominent lateral displacement is an arrangement of spirals. The sharp edge of the spires marks the spaces between each round of the whorls. And appears like spirals staircase. The spire is arranged as it is compressed from tip. The colour of shell is light brown like transparent. In stagnant water it is greyish or dark brown in colour. Its size ranges between, 1-1.8 mm the mouth of the shell is wide and the total body is snail but is

compact. The shell has no operculum or lid to enclose the shell aperture. The shell opening is wide.

**Behavior:** Locomotary: These are creeping smoothly and continuous in aquatic vegetation.

Feeding: It's an interesting tiny snail species feeding on dead and decaying living matters.

They also found to feed on aquatic vegetation. Breeding: Bulimides like planorbella are hermaphrodite. These are oviparous and lay eggs in a transparent gelatinous mass. During copulation two partners unite together (Interbreeding). The eggs hatch in about three weeks and tiny snails cling the substratum like plant leaves aquatic shoots, rock, etc. and feeds on micro algae and decaying matter. These are fast and prolific breeders.

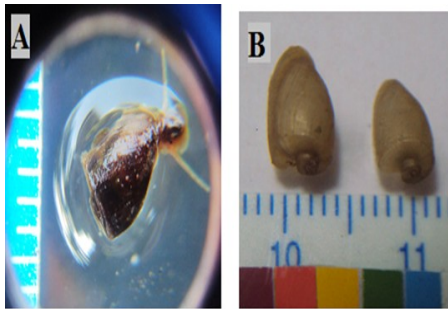


Fig-2:A= Live Planorbella scalaris under dissecting microscope.  
B= Dorsal view of shells from apex.

**Summary :** Author reported on a recently investigated occurrence of an exotic species of freshwater snail, Planorbella scalaris going to record first time in India from Godavari river. Five shells and 48 live individuals were observed and studied from the locations. The snails were found associated with other lymnoid and planorbid snails in river and are comparatively rare. These are oviparous and feeds on decaying vegetation. They prefer alkaline water.

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