3. SYSTEMATICS

Gastropods are diverse group of free living marine invertebrates. Trochids are widely distributed throughout the world in diverse habitats such as, estuaries, backwaters and inshore waters. The classification of marine gastropods initiated early in the 18th century has evoked considerable interest among biologists. Trochids have diversity in shape, size, texture and colour of shell and are governed by the prevailing environment also. The gastropod presently studied belonged to the family Trochidae. Many of the members of this family such as Trochus niloticus, Umbonium vestiarium and Trochus tentorium are commercially important Indian species which were widely studied. They are either used for industrial or occasionally for food purposes. Members of Trochidae are extensively distributed in both east and west coasts of India and are predominant in Islands of Gulf of Mannar, Andaman & Nicobar, Gulf of Kutch, Lakshadweep Islands and commercial exploitation is being done on regular basis.

In this chapter, an account of the recent systematic position of the gastropod is detailed as given below,

**Phylum:** Mollusca  
**Class:** Gastropoda  
**Subclass:** Prosobranchia  
**Order:** Archaeogastropoda  
**Family:** Trochidae  
**Genus:** Trochus  
**Species:** radiatus
**Genus - *Trochus* C. Linnaeus, 1758**

The shell is pyramidal, conical to globose in shape with a moderately large rounded to angular body whorl. The base is flattened (FAO, 2000). Umbilicus is more or less narrow to closed, sometimes with a calloused plug. Outer surface is smooth or sculptured axially and spirally, with beads, nodules, or tubercles. Sometimes Periostracum is conspicuous. The aperture is rounded to squarish, without a siphonal canal and nacreous inside. Columella and margin of the outer lip is generally not in the same plane. Operculum is corneous and it is nearly in circular shape. The operculum has many coils and a central nucleus. Head is present with a short snout. It has a pair of conical often papillate tentacles that are cup shaped. Eyes are present in distinct stalks. Foot is moderately small and often medially grooved with a large fleshy ridge on either side bearing sensitive tentaculate processes (FAO, 2000).

**Trochus radiatus* Gmelin, 1791**

The shell is medium sized. Its length varies between 17 mm and 40 mm. The body whorl has a sharply angled periphery. The shell surface is circled by irregularly beaded bands. The shell is thick and solid and conical in shape. The shell is possessed with regular rows of spiral tubercles. Spire is strongly narrowed in its upper part and with pointed apex. The whorls concave, flat or convexly bulging. Their sides covered with numerous spiral rows of irregularly sized granules (usually 6 to 8 per whorl). Granules either rounded and separated or laterally compressed, like axial folds, giving occasionally short axial ribs at the otherwise rather shallow sutures (Robin, 2008). Periphery of body whorl acutely rounded. Granules either rounded and separated or laterally compressed, like axial folds. They are giving occasionally short axial ribs at the otherwise rather shallow sutures. Base of the shell is flat with many
low and finely beaded spiral threads. Umbilicus is present and spirally corded. Aperture is roughly quadrate to subtrigonal. Outer lip is strongly oblique above the periphery and delicately lirate inside. The columella is present with 4 to 5 low spiral cords, giving its margin a blunt-dentate aspect.

**Colour**

The colour of the shell is yellowish white with broad uninterrupted, axial, reddish streaks. The aperture, columella and umbilical area are pearl white (Deepak, 1998). The umbilicus area and columella are nacreous. Normally adult and large shells are encrusted with algae. Shells washed on beaches are usually clean, exposing the underlying pearly layer below the surface.

*Figure 3.1. Various views of *Trochus radiatus*