Tube worm essay

Design, Fashion



Tube worm essay – Paper Example

Tube WormThe Reef-building tube worm or Phragmatopoma lapidosa, belong to the Phylum Annelida, Class Polychaeta, Order Terebellida and Family Sabellariidae. This species is predominately present in the Atlantic Ocean from the coast of Florida to Santa Catarina near Brazil, and also along the Gulf of Mexico. The Tube worms are present in depths such as a few feet below water to about 100 meters below the surface. They grow the best when the height of water is about 2 meters. They are also present in areas where the tidal currents are high (Zale, 1989). The tube worm consists of a segmented cylindrical body that is made up of four portions namely, the head (opercular stalk), the para-thoracic portion, abdominal portion and the caudal portion. The head contains a pre-oral region fused to a post-oral region. The head of the tube worm is round and anterior opercular disc has a stopper.

Several claw-like processes present on the opercular help to guide the sand particles. The para-thoracic region is made up of 3 segments which include lateral appendages, gills and muscular plate. The abdomen is composed of 32 segments which help to anchor the body. The caudal portion ends in the anus. The tube worms which are 30 to 40 mm long weight about 30 to 40 mg. Along the Florida coast, the tube worms can grow to a height of 10 to 30 cm (Zale, 1989). Successive colonization of the tube worms have resulted in the formation of huge reefs along the Florida coast.

They reefs may be hundreds of meters wide and thousands of kilometers long. They often run parallel to the beaches. The tube worms have a density of about 5 per centimeter square. The tube worms tend to survive in high-energy conditions, in which the tidal forces are very high.

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Their tubes extend upwards and prevent the sediments including the sand particles, shell fragments, etc, from moving seawards. In this way the tube worm reefs helps in retention of the beach sediments. In the tube worm reefs, gaps and spaces are present in which shells, sediments and debris accumulate, thus helping to prevent more debris from escaping to the deep sea. The tube worms are resistant to the waves and hence prevent the waves from eroding the sea.

The reefs provide shelter to a variety of marine life and in this way provide a marine ecosystem, adjacent to the beaches. The reef-building tube worms, spawns and multiples in a semi continuous fashion (Zale, 1989). Reef-building tube worms are tolerant to naturally-occurring sediments and particles that are present in the water. However, they demonstrate only short-term tolerance to fuels or oils that are present in the water. If the tube worms were exposed to kerosene, only 44 % survived after 48 hours. As the concentrations of kerosene went higher, the mean mortality was higher. Hence, leaking kerosene, diesel or other fuels emitted by the power boats, may be damaging to the tube worms.

The worms were however, quite resistant to furnace fuel. Reproduction, growth and development were reduced when the tube worms were exposed to high amounts cadmium. If there were large quantities of sand and other debris drifting towards the reefs, then there are also chances that the tube worms would get suffocated and die (Zale, 1989). The tube worms require certain conditions for it to grow and multiply. They would preferable grow in a sandy stable seabed, with a variety of natural and artificial substrates. The

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presence of living and dead worms provides a site for attachment of new worms. The tube worm reefs may be difficult to grow in areas having rocky seabed. Suspended particles present would offer tube building.

High-energy wave actions are required to supply sediments, remove metabolic wastes and bring in food and water (Zale, 1989). ReferenceZale, A. V. & Merrifield, S.

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