

Overview of benthos.

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Description

The benthos is comprised of all the organisms that live at the bottom of a body of standing or running water. The layer that the benthos possess is known as the benthic zone, which is the most lowest layer of a lake, ocean, stream, or waterway. This zone, obviously, goes from the shallow depths where water meets land, to outrageous profundities that people have not yet had the option to investigate. Benthos, thusly, fluctuate incredibly, and can either be noticed creeping, tunneling, swimming close to the base, or staying attached to the substrate. Many tend to rely on food sources that sink down to the base, like inorganic matter and dead creatures, yet the benthos likewise feed on each other. The zone over the benthic zone where life forms that swim or float the pelagos are found is known as the pelagic zone [1].

The primary food hotspots for the benthos are green growth (algae) and natural spillover from land. The profundity of water, temperature and salinity, and sort of nearby substrate all influence what benthos is present. In coastal waters and different spots where light arrives at the base, benthic photosynthesizing diatoms can multiply. Filter feeders, such as sponges and bivalves, dominate hard, sandy bottoms [2]. Deposit feeders, such as polychaetes, populate softer bottoms. Fish, such as dragonets, as well as sea stars, snails, cephalopods, and crustaceans are important predators and scavengers.

Benthic living beings, such as, sea stars, shellfish, mollusks, sea cucumbers, brittle stars and sea anemones, assume a significant part as a food hotspot for fish, such as the California sheep head, and humans. Benthos are classified into three groups depending upon their habitat [3].

Hyperbenthos: These are the life forms that can swim and live close to the base however are not attached to it. Rock cods are hyperbenthic fish.

Epibenthos: Epibenthos spend their lives attached to the floor, on rocks, or on shells and they include sponges.

Endobenthos: Rather than living on top of the ocean bottom, these organisms have become adapted to live within the sediments, often creating underground tunnels. An example of endobenthos is the sand dollar [4]. They are classified into 3 forms:

- Microbenthos
- Meiobenthos
- Macrobenthos

Microbenthos: Microbenthos contains microscopic benthic creatures that are less than about 0.1 mm in size. Some examples are bacteria, diatoms, ciliates, amoeba, flagellates.

Meiobenthos: Meiobenthos contains little benthic creatures that are not exactly around 1 mm however more prominent than about 0.1 mm in size. A few examples are nematodes, foraminiferans, tardigrades, gastrotriches smaller crustaceans such as copepods and ostracodes.

Macrobenthos: Macrobenthos comprises the larger, visible to the naked eye, benthic organisms greater than about 1 mm in size. Some examples are polychaete worms, bivalves, echinoderms, sea anemones, corals, sponges, sea squirts, turbellarians and larger crustaceans such as crabs, lobsters and cumaceans [5].

Conclusion

The benthos has a reason in keeping balance in the climate. . Filter-feeders, for example similar to mussels that live in the benthic zone, play an essential role in keeping bodies of water healthy by cleaning them up from pollutants and waste as part of their feeding process. Many benthos in shallow waters also rely on dead organic matter as their source of nutrition, breaking it down and recycling it. This makes them very important for nutrient-cycling and returning nutrients to the environment in useable forms. Certain benthos are also useful to scientists in the way that can indicate the health and quality of the water. For example, a decline in the number of caddisflies, which are very sensitive to pollutants, can indicate an increase in pollution and waste in the water.

References

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