

Heteronereis

Classification :

Kingdom : Animalia
Phylum : Annelida
Class : Polychaeta
Family : Nereididae
Genus : Heteronereis



For further details, [Link](#)

Characteristics :

- Heteronereis are sexually mature polychaete worms, typically marine and free-swimming, that temporarily leave their burrows for breeding.
- **Sexual Differentiation:** The body is divided into two distinct regions: the anterior atoke (non-sexual) and the posterior epitoke (sexual region).
- **Gonad Development:** Gonads (producing eggs and sperm) develop in the posterior epitoke region.

Body Changes:

- **Parapodia:** Become larger, more vascular, and modified into oar-like structures to aid in swimming.
- **Eyes:** Become greatly enlarged and more sensitive to light. The eyes are significantly larger, likely aiding in locating mates during spawning.
- **Peristomial Cirri:** Lengthen, acting as tactile organs.
- **Alimentary Canal and Muscles:** These become reduced in the epitoke region to accommodate the development of gonads.
- **Metamerism:** The body is metamerically segmented.
- **Internal Changes:** Developing germ cells (sperm and eggs) fill the body cavity, to a large extent, causing the obliteration of internal organs and the digestive system to facilitate reproduction.

Habit

- **Swarming:** In the breeding season, heteronereis leave their burrows and swim actively to the surface of the sea, usually at night.
- **Nuptial Dance:** During swarming, males and females may swim rapidly in circles, a behavior known as a nuptial dance.
- **Gamete Release:** They release sperms and eggs into the water, a process stimulated by pheromones (like fertilium) produced by the females.
- **Post-Reproduction:** After spawning, the sexually mature individuals die.

Habitat

- **Marine:** Heteronereis are free-living, marine worms.
- **Surface and Burrows:** They originate from the sea floor, where they normally live in burrows, but temporarily inhabit the water column for reproduction.
- **Environmental Factors:** Reproduction and swarming are synchronized by environmental cues such as the lunar cycle, day length, water temperature, and salinity.
- The transformation into the Heteronereis form is a profound life-cycle event where the worm abandons its usual burrowing lifestyle to become a pelagic (open water) reproducer. This specialized reproductive morph is critical for the dispersal and survival of the species, ensuring that gametes are released in a coordinated, widespread event.