Sacculina on crab

Classification :

Kingdom : Animalia

Phylum : Arthropoda

Class : Thecostraca

Family : Sacculinidae

Genus : Sacculina

For further details, Link

Characteristics :

- Sacculina, a type of parasitic barnacle, significantly alters the characteristics of its crab host.
- **External Appearance:** A sac-like structure (externa) attached to the crab's abdomen, often resembling a tumor or growth.
- **Internal Structure:** Contains reproductive organs (ovaries and testes) and a network of root-like filaments (interna) that penetrate the crab's body for nutrient absorption.
- **Degeneration:** Sacculina lacks many typical crustacean features, including segmentation, appendages, and most organ systems (except reproductive organs).
- **Parasitic Lifestyle:** Sacculina is an obligate parasite, meaning it relies entirely on its crab host for survival and reproduction.

Effects on Crabs:

- **Castration:** Sacculina' s presence typically leads to the degeneration or atrophy of the crab's gonads (testes or ovaries), preventing reproduction.
- **Feminization:** In male crabs, Sacculina can induce the development of female-like characteristics, such as a wider abdomen and altered behaviour.

- **Behavioural Changes:** Parasitized crabs may exhibit changes in feeding patterns, molting frequency, and even mating behavior.
- **Reduced Growth and Survival:** Sacculina can stunt the growth of crabs and increase their mortality rate, impacting crab populations and potentially affecting fisheries.
- **Altered Hormonal Balance:** Sacculina can manipulate the crab's hormonal balance, further contributing to the feminization process.
- **Nutrient Depletion:** The crab's energy is redirected to support the Sacculina, potentially leading to malnutrition and reduced fitness.

Habit and Habitat:

Habit:

- **Parasitic Lifestyle:** Sacculina lives inside and outside of the crab's body, affecting its behavior and physiology.
- **"Zombie" Manipulation:** The parasite's presence alters the crab's behavior, causing it to care for the parasite's reproductive structures as if they were its own eggs, including grooming and protecting them.
- **Castration:** Sacculina prevents the crab from reproducing, effectively castrating its host.
- **Infection Process:** The parasite's larva infects the crab by injecting a microscopic blob into its bloodstream, which then develops into a parasite that takes over the crab's body.

Habitat:

- **Marine Environment:** Sacculina is found in marine ecosystems.
- **Coastal Waters**: The crabs they parasitize often inhabit coastal waters with mud, rock, or sand substrates.
- **Larval Stage:** During their brief larval stage, they are pelagic (drifting in the water column).

- **Adult Stage:** As adults, they reside within and on the bodies of crabs.