

Toad Crab

Hyas araneus

Class: Malacostraca
Order: Decapoda
Family: Oregoniidae
Genus: Hyas

Distribution

The toad crab is widespread on both sides of the North Atlantic Ocean.

It is known as the spider crab in other areas.

Habitat

Globally it ranges from shallow subtidal areas to depths of 1,650 metres. They are on all kinds of substrate and on current exposed locations as well as in calm waters.

Food

They are omnivorous feeding on a variety of items including seaweed. They are both predators and scavengers.

Reproduction

Adult crabs attract each other using pheromones (chemical scents). This brings individuals together for the spring mating season. Females need to have a shell width of 20-25mm for this to occur.



This is one found on the nearby shoreline.

It is widespread in the North-East Atlantic, including Iceland, Norway, the British Isles and the coasts of central Europe. It is also common along the coasts of Labrador, Newfoundland and Nova Scotia. It occurs in both the Bay of Fundy and the Gulf of St. Lawrence. Distribution continues southwards to Rhode Island, USA.

It inhabits a wide variety of habitats from vertical rock walls to rough ground and is frequently seen climbing up kelp plants. In Nova Scotia *Hyas araneus* is found on hard and sandy substrates, among rocks and seaweed on the lower shore and below low tide level to a depth of about 50 m. Although not particularly selective about habitat they appear to prefer gravel, sand or mud substrates in local areas.

The toad crab feeds on a variety of organisms including amphipod, bivalve, gastropod, chiton, sea urchin and small crab. They prey on surface feeding fish as well as being scavengers of dying or dead fish. At the larval stage they feed on plankton. Young crabs feed on small molluscs and barnacles.

Males select a female to follow in a form of courtship. He holds on to her and when she finds him acceptable mating takes place. The testes or ovaries are situated dorsally in the thorax. Testes open externally in the male near the basal segment of the last pair of legs. The male sperm are inserted using his first pair of abdominal legs into the genital opening of the female during copulation. Sperm is deposited directly into her oviduct. She broods the fertilized eggs until hatching occurs.



Development

Larvae hatch during the early, warm summer months and float to the surface. These tiny “zoea” larvae adapt to a planktonic lifestyle living close to the surface, free swimming and feeding on plankton.

Characteristics

The shell is pear-shaped; it is almost round at the base. The top surface (carapace) is usually a red-brown to olive colour, shading to a white colour on the lower surface. There are large, scattered tubercules, (growths) on the carapace. It has a rostrum, a forward extension of the carapace situated between the eyes. It consists of two tapered horns, close together.

Adaptations

This species has superb camouflage which it makes for itself. Their carapace is often covered with a growth of barnacles and other invertebrates. These encrusters remain attached to the crab. It also attaches a variety of other objects to itself including seaweed.

Status/Threats

The species is common. Larvae are preyed upon by various marine species. Adults are prey of lobster and surface feeding fish.

Sightings in Nova Scotia

Numerous and frequent.

Larvae are dispersed throughout the upper water column by oceanic currents. The larvae pass through several stages of growth and development (moult) until they become megalopa, the final larval stage. Once they reach this stage they are ready to search for an area where they can settle on the bottom and moult into tiny crablets. These very young crabs travel to coastal waters and begin a moulting cycle and life as juvenile crabs. They moult many times as they grow. Juveniles usually reach sexual maturity at 20 mm carapace length.



The first pair of legs has well developed pincers or claws. These chelipeds are equal in length to each other. They account for about two-thirds the length of the walking legs. They are much shorter and stouter than pairs 2-5, which are long, slender and spider-like. This is why the species is also commonly referred to as the Spider crab. Adult males weigh up to 0.75 kg with a carapace length and width up to 10.5 and 7.5 cm. Adult females are typically smaller than males, reaching a maximum carapace width of 6.5 cm. Each of the tapered horns of the rostrum has two rows of hooked dorsal setae (hair like bristles).



These horn extensions usually touch at the tip giving the front of the carapace a somewhat beak shape.

This species of crab is slow moving and in its own defense utilizes several body parts to place various items of disguise around its body. The strong chelipeds cut chunks of seaweed for placement around the carapace. These pieces hook onto the numerous tubercules and bristly hairs. This attached seaweed, and other selected items, invites small organisms such as caprellids and hydroids to colonize the carapace. It becomes a well hidden, slow moving “forest”. It frequently sits still amongst its surrounding seaweed ocean garden.



Commercial harvesting has occurred, however processing has been problematic. Future management of this resource requires further research. Seawater acidification and global warming are ongoing threats to all marine life, especially with crustaceans.



These are a common occurrence on shorelines.