

Education Department
Waikīkī Aquarium
University of Hawai‘i-Mānoa

MARINE LIFE PROFILE: HAWAIIAN TRIGGERFISHES

Hawaiian name: humuhumu
Scientific name: Family Balistidae
Distribution: world-wide, tropical and subtropical seas
Size: most to 10-12 inches (25-30 cm)



The triggerfishes or humuhumu are fairly common fishes on Hawaiian reefs. Their angular bodies, distinctive dorsal (top) spine (for which they are named), and fin arrangement make them easy to distinguish.

Triggerfishes have a very characteristic way of swimming, propelling themselves through the water using waving motions of the broadened dorsal (top) and anal (bottom) fins. This kind of swimming allows them great maneuverability. They can go forward, backward, or even hover over the reef, but they cannot swim at great speed at length. Thrust for a quick dash into the protection of the reef is made using the broom-like tail. When pursued by a predator, triggerfishes sometimes make grunting sounds which may serve to warn nearby triggerfish of danger. The eyes of these wary fish are set high on their heads and can move independently, so that they can scan the reef for food and predators.

When threatened, a triggerfish dives into a hole or crevice in the reef and wedges itself into the shelter by erecting the large dorsal spine on the head. The spine is locked into place by a second, smaller spine behind it and can only be unlocked by the fish itself. Another spine on the fish's belly also extends to help wedge the fish securely into its shelter. Triggerfish also use this wedging behavior at night, when they rest within the reef in a preferred shelter hole that they use over and over.

Triggerfishes have fused teeth and can feed on hard-shelled animals like snails, corals, shrimp and crabs, and sea urchins. The family contains some of the few fishes that can feed on the long-spined sea urchins (wana). Their high-set eyes and tough skin allow them to approach the urchin closely enough to grab the long spines in their teeth. They flip the urchin over and attack it around its softer mouth area where the spines are shorter. Other triggerfishes feed on sand-dwelling organisms which they locate by blowing water into the sand to uncover the hidden prey. A few triggerfishes feed on zooplankton, the small animals that drift in the water above the reef. The black triggerfish, for example, is often found 15 to 30 feet (4.5-9 m) above the bottom, plucking food from the water along with the schools of plankton-feeding butterflyfishes and others.

Early Hawaiians had interesting uses for triggerfishes, some were eaten, others dried and used for firewood. Certain species, the humuhumu-nukunuku-ā-pua‘a (*Rhinecanthus rectangulus* and *Rhinecanthus aculeatus*) were used as substitutes for pigs in some religious ceremonies. To early Hawaiians, their behaviors of rooting through the sand or rocks for food and making grunting noises when handled represented piglike habits and this is reflected in their name which means "humuhumu with the snout of a pig".

Classification:

Kingdom Animalia

Phylum Chordata, Subphylum Vertebrata

Class Osteichthyes

Order Tetraodontiformes

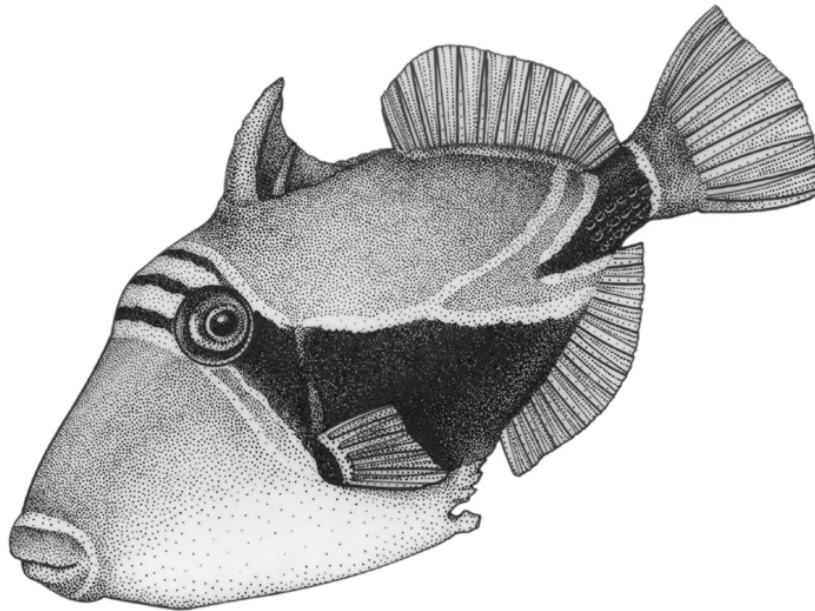
Family Balistidae

Genus Rhinecanthus

Species rectangulus (reef triggerfish)

Species aculeatus (lagoon triggerfish)

REEF TRIGGERFISH
humuhumu-nukunuku-a-pua‘a
Rhinecanthus rectangulus



LAGOON TRIGGERFISH
humuhumu-nukunuku-ā-pua‘a
Rhinecanthus aculeatus

