

## Maui Ocean Center's Marine Life Profile: Moray Eels

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Common Name: Moray Eels

Hawaiian Name: *puhi paka*

Found in Exhibit: Shallow Reef

Few fish excite scuba divers and snorkelers quite like moray eels. With sharp, dangerous-looking teeth, snake-like bodies, and an elusive lifestyle, morays eels have become a favorite of many underwater adventurers. As menacing as they appear, moray eels are not considered aggressive but have been known to defend their habitat. Although a risky and controversial practice, a few professional divers have even been able to tame certain individual eels by luring them out of their homes in the reef with tempting bits of chum. But these fascinating animals are interesting for more than just the fear-factor; their adaptations to life in the coral reef, and their bizarre reproductive system are incredible stories in themselves.

Known as *puhi* in Hawaiian, at least 38 different species of moray eels make their homes in the coral reefs surrounding these islands. Only the wrasse family has a greater number of species in Hawaiian waters. Two likely reasons for Hawai'i's numerous moray species are their long larval stage and the apparent lack of competition from other fish predators. A long larval stage, which is about nine months in moray eels, means larvae can survive drifting in the open ocean from as far away as the Indo-Pacific region. In other locations with fewer species of moray eels, there are more competitors present such as groupers and snappers.

Moray eels are perfectly adapted to living within the coral reef ecosystem, generally completely hidden within the reef, but most often seen with just the head visible. Some physical adaptations to their reef-dwelling lifestyle include lack of scales, pelvic fins, and pectoral fins. These exterior appendages could become damaged or get caught while

slithering into or out of a hole in the reef. They also have small gill openings to protect the delicate gills.

Most species have large mouths, to assist in capturing prey. Many species feed primarily at night; therefore they have developed an excellent sense of smell to help them locate their prey. Moray eels can be divided up into two groups, those with long, fang-like teeth, and those with rounder, pebble-like teeth. Eels with different types of teeth generally eat different types of prey. Those with fang-like teeth rely mostly on small reef fish for their meals. The teeth are often pointed inwards to reduce the possibility of prey escaping. Moray eels with pebble-like teeth generally feed on crustaceans, especially crabs.

In addition to the bizarre physical traits of moray eels, their reproductive traits are also somewhat unusual. Many species are hermaphroditic, starting off life as males, and then changing to females as they grow older. A few species are synchronous hermaphrodites, having male and female sexual parts at the same time.

As with many animals, moray eels are not generally dangerous unless provoked, or they feel threatened. Most reported eel bites result from a diver sticking a hand in a crevice in the reef, generally looking for a lobster or octopus, or when a diver is attempting to feed an eel and the finger is mistaken for the bait. Simple common sense would probably have prevented most of these unfortunate, and painful incidents. On your next snorkel or dive, remember to stay aware of your surroundings, and remember, it's always safer to use your eyes instead of your hands!



PHOTO CAPTION- The snowflake moray eel is easily identified by the distinctive markings along the body. The early Hawaiians named the snowflake eel *puhi kapa*, meaning fierce eel, although nowadays the snowflake eel is not considered any more dangerous than other moray eels. The snowflake eel has a blunt snout and conical teeth, and its diet consists mainly of crabs. They are more likely than other morays to be seen swimming in the open, even during the day.