

NORTHERN CLINGFISH

GOBIESOX MAEANDRICUS (GIRARD, 1858)

NATURAL HISTORY SUMMARY BY MAYA BAMBA

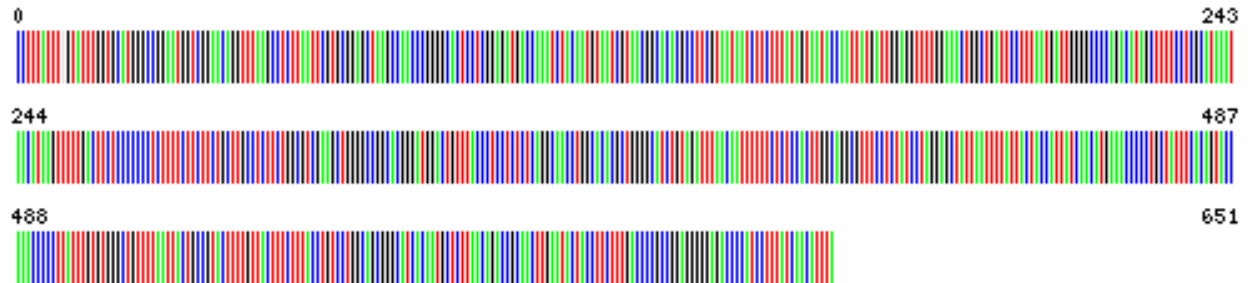


Figure 1. *Gobiesox maeandricus* DNA Barcode - Barcode of Life Database - BOLD Systems (Ratnasingham and Hebert 2007)

Classification

Kingdom: Animalia

Phylum: Chordata

Class: Actinopterygii

Order: Gobiesociformes

Family: Gobiesocidae

Genus: *Gobiesox*

Species: *G. maeandricus*

Description

The Northern Clingfish (*Gobiesox maeandricus*) is fairly small, growing to about 6 inches in length. It can be brown, gray, green, or a dark red color and has a distinct chain-like pattern or “reticulations”. A flat head and body allow it to wedge itself between the rocks it clings to using an adhesive disk on the underside of its belly. The pectoral fins form this adhesive disk which covers about a quarter of the stomach area. Another identifying feature is the white stripe that appears to connect the two eyes. In younger Northern Clingfish, there can be more of these stripes running down the entire body to the end of the caudal fin.

Distribution

Northern Clingfish can be found along North America's west coast from as far north as southeastern Alaska down to Mexico's Baja California Peninsula. *Gobiesox maeandricus*' [range map](#) is available at Aquamaps, 2016.

Diet

The Northern Clingfish is a predatory species whose diet changes based on its size. The smaller Northern Clingfish feeds on small crustaceans, isopods, and mollusks, whereas the larger ones seem to feed heavily on limpets attached to the surrounding rocks. The species has developed distinct morphologies that helps it obtain its food. The adhesive disk on the underside of the body is used to stabilize the fish when it finds its prey on nearby rocks. The mouth, located towards the front of the flattened head, contains chisel-like teeth. With the adhesive disk providing stability, the Northern Clingfish uses its mouth and teeth to pry food off of the rock.

Habitat and ecology

The Northern Clingfish can be found in rocky intertidal zones, often in the presence of algae and kelp. It can stick to smooth rocks covered in algae or biofilms, however, it is more capable of sticking to rougher rocks and gravel substrates using the adhesive disk on its underside. This is a significant morphological feature as the fish have to withstand the rough waves in the intertidal zone. The adhesive disk allows the Northern Clingfish to remain in place even when the waves are pulling at a force many times larger than its own body weight. It also uses the rocks in its reproductive cycle, to make nests for its eggs.

The intertidal zone makes the Northern Clingfish susceptible to air exposure and desiccation. To survive low tide conditions, it has developed modified pectoral fins that help keep water close to the gills for respiration, even when not submerged in water. If exposed to air, the Northern Clingfish can breathe through its gills for a short period of time.

For the most part, the Northern clingfish do not interact with other species, other than to feed. During low tide conditions, they also serve as a food source for raccoons, snakes, etc.

Reproduction and life cycle

Northern clingfish usually reproduce in the spring, after the males have built nests in their territories out of rocks in the surrounding area. The females lay large amounts of eggs and the males release their sperm and fertilize them. The males stay close to guard the eggs and soon after, many planktonic larvae hatch. They continue to develop in this planktonic state and soon are large enough to latch on to the kelp with their developing adhesive disk. They develop until they have reached their full size and are able to join the other adults in the rough, rocky intertidal area. They continue to grow until they too, are large enough to reproduce. No significant migrational patterns have been found within this species.

Conservation status

There are many conservation efforts already in place that will, indirectly, help the Northern Clingfish. The rocky habitats of the Northern Clingfish are considered to be at risk from pollution and development along the coast. Strong efforts to reduce this development and pollution have been made in many of the communities they inhabit. Though the Northern Clingfish habitat is considered to be at risk, the fish is not currently threatened or endangered.

Cultural significance

No specific cultural significance has been placed on the Northern clingfish, but it is very common to find it as part of larger aquariums and it is regularly sold in certain pet stores.

Specimen specific detail

The two Northern Clingfish (*G. maeandricus*) specimens from the Burton Ostenson Museum of Natural History at Pacific Lutheran University were caught in Manchester State Park, approximately 0.25 miles north of Manchester, Kitsap County, Washington on January 18, 1977. Specific collectors are not listed. These specimens are particularly important as the adhesive disks can be clearly seen. The timing of this specimen collection has some significance as many other clingfish discoveries were happening around the world, particularly in Australia.

Bibliography

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