

Northern Clingfish (*Gobiesox maeandricus*)

Clinging to a barely submerged rock with a sucker disk of sufficient strength to lift over 300 similar tiny bodies, a camouflaged fish searches for small invertebrates on the tidepool floor. If none are available, a limpet, unfortunate enough to be stuck fast on the same stone, will do just fine. The limpet also clings with an adhesive power of its own, but it is in a precarious position near the little fish. Turning its attention to its immobile neighbor, the clingfish opens its mouth, revealing sharp teeth, excellent tools for prying loose the defenseless prey. There is only one problem. While the fish and limpet carry out a struggle of nearly matched strength, the tidepool begins its clocklike transformation. The water drops, leaving the two above its surface.

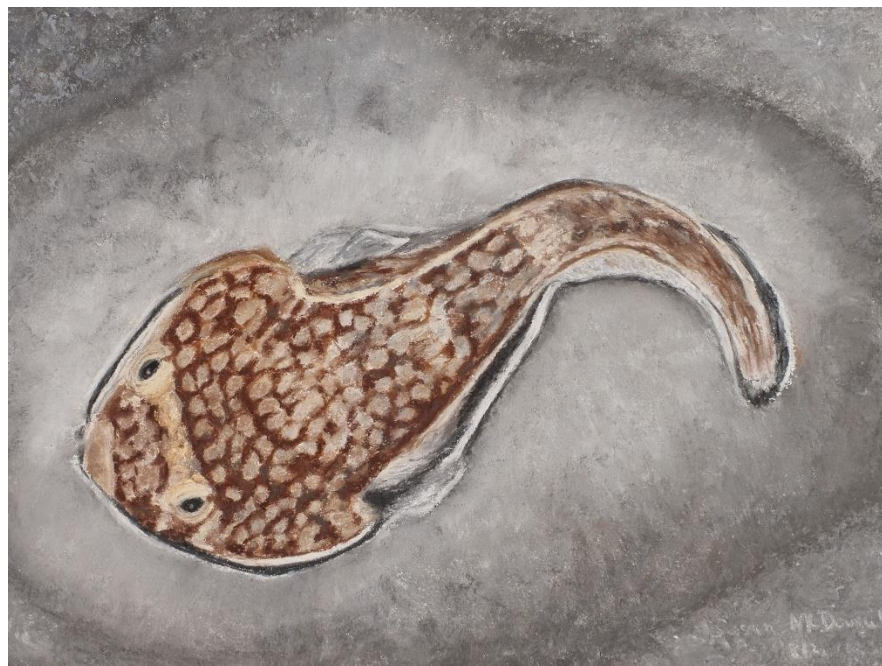
Unconcerned, protected against drying by a thick mucus, absorbing air through gills and skin, the clingfish holds on, eating and resting until the next tide offers an escape, perhaps to a nearby rock where food may once again be plentiful.

Although a member of a family (the Gobiosocidae) that at present includes 180 species organized into 52 genera, with identification of new clingfish occurring on a periodic basis, the Northern Clingfish (*Gobiesox maeandricus*) is the only clingfish species regularly encountered in the Strait of Juan de Fuca. As members of the single family of its order, the Gobiosociformes, the many clingfish species nevertheless exhibit a variety of forms. Yet nearly all share one feature— the suction disk. Sufficiently strong to permit attachment to both rough and smooth surfaces, the disk is constructed of modified pelvic fins, joined and altered for a new function.

Clingfish heads are flattened and large, the body tapering to a small thin tail, and the sharp teeth arranged in rows or patches. Most species are small and inhabit shallow waters. Thus, they attract little attention from anglers, although in the southeast Pacific at least one family member, the Pejesapo (*Sicyases*

sanguineus) has been traditionally caught for human consumption.

“Gobiesox” is derived from “Gobius” (the goby genus) and “pike,” which the fish does not resemble, while the species’ name “maeandricus” means “meandering,” as you might expect. Ranging from Revillagigedo Island in southeastern Alaska, to southern California, this little clingfish is one of the more northerly of its family; most are at home in warm temperate to tropical waters. The majority are saltwater inhabitants, but a few species are at home in freshwater streams and rivers. There are 12 species present in the western Pacific along the North American coast.



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As with many clingfish, the Northern Clingfish resembles a tadpole, with short, broad pectoral fins, a rounded caudal fin, and an amazingly strong disk, covered by a fold of skin. The body is elongated and encased in mucus, the snout is long, and the lips are thick. The eyes protrude, and there are sensory pores on the head. Mottled and splotched, these clingfish are light olive brown to cherry red in color, with dark lines appearing to radiate from the eyes. Lacking a swim bladder, the Northern Clingfish is most easily recognized by its large, depressed head, a single dorsal fin positioned towards the back of the body, and the sucking disk.

Measuring a maximum of six inches (16 cm), throughout its extensive range the Northern Clingfish most typically inhabits shallow waters, adhering to the undersides of rocks or sometimes foraging amongst eelgrass leaves and algae. It is often present in tidepools, and the young tend to reside close to shore. Occasionally recorded as deep as 459 feet (140 m), near the surface where they most commonly reside these little fish can survive occasional exposure to air, sometimes for several days.

Northern Clingfish are also found in areas subject to currents and strong wave action. Here the water movement may keep them moist as the tide recedes.

A mucus layer offers some protection against dry air, but life above the water-air interface is hardly free of hazards. Whereas the Northern Clingfish takes small water-borne invertebrates, land-based predators are much larger; garter snakes are known to feast on clingfishes. At sea, pelagic cormorants will not decline a clingfish offering, and large fish, such as some rockfish, find them tasty.

This is a solitary species, sharing its pool with others but giving little notice until spawning begins, typically in November. Then the meetings are short, as the female lays sticky yellow eggs in concentric rings, numbering from 194 to 382 (yes, somebody did count them) on the undersides of rocks and then departs. The larger male fertilizes several nests and guards them. The season may extend throughout the winter into spring.

Family Affinities and Fossils

At least one taxonomic key shows a close relationship of the clingfishes with other “sucker” fishes, including the namesake gobies (Gobiidae), the deeply ranging Snailfishes (Liparidae), and the cute Lumpsuckers (Cyclopteridae); this key is based upon the modified pelvic fins. All three related families are represented in the Strait. Each has several species, with the gobies most numerous of all. Interestingly, at least one — the snailfishes — “lost” their sucker disk but reacquired it over time.

Clingfish fossil evidence is rare, making its evolutionary record difficult to determine. A recent investigation into fish skeletons collected in the Dolje region of Croatia revealed that three of the specimens are members of the Gobiesocidae family. These fossils could not be determined to species, but confidence in their family affiliation is convincing. The skeletons dated to the Middle Miocene, approximately 16-12 million years ago.

Not content with rocks and seaweed, a few tropical clingfish species spend their lives nestled in the shelter of sea urchins or crinoids, the latter being “feather duster” creatures with a stem, giving them an appearance much like a floppy plant. Other clingfishes serve as “cleaner” fish, a popular occupation with parasites on bigger fish as a constant food source. In the Strait, however, the Northern Clingfish goes about its life under rocks or nestled in the shelter of eelgrass. Occasionally a diver or a tidepool explorer may be fortunate to see the little fish change position, lifting off from their hidden place to seek food beneath another welcoming stone.