

## Bathymasteridae – The Ronquils

*Small and reclusive, the Northern Ronquil is sometimes encountered by scuba divers when it ventures outside of a crevice near the bottom of the sea. But the meetings are always brief, for this is a shy fish, not particularly inclined for further acquaintance with this strange, bubbling, large, many-limbed creature. Meeting a ronquil is as likely in an aquarium as it is in the sea.*

Although included by many researchers in the large Perciformes fish order, a group that numbers over 10,000 species, the ronquils comprise a very small family, the Bathymasteridae. The family consists of only three genera and seven species, with the Northern Ronquil (*Ronquilus jordani*) the solitary member of its genus. This species ranges off the Washington coast with forays into the Salish Sea, including the Strait of Juan de Fuca. Small in numbers as they are, Bathymasteridae species are nevertheless widely distributed in the northern Pacific Ocean. There they inhabit the cold seas of Russia and Japan, but also range east to the Bering Sea and as far south as California. Primarily cold-water species, they are closely related to eelpouts and prowlfish.

Bathymasteridae is a Greek word for “the searcher,” while “Ronquil” is derived from a Spanish word for “hoarse” or “grunt,” and “Jordani” honors David Starr Jordan, a 19<sup>th</sup> century ichthyologist. Distributed from the Aleutians to La Jolla, California, and most abundant as far south as Washington, the Northern Ronquil is uncommon in the Strait but has been collected in recent trawl surveys and is known from historic observations. It is a demersal fish, meaning it lives just above the sea floor, seeking prey both in the substrate and the water column. It is known to occur at depths of 10-902 feet (3-275 m) but is most common in shallow waters. There the ronquil inhabits rocky reefs and sandy substrates and is believed to be most active during the day, taking shelter amongst the rocks at night.

The Northern Ronquil is also tolerant of reduced salinity and thus occasionally make forays into diluted estuarine waters. They can also withstand temperatures as cold as 32 ° F (0° C) but more typically are present in waters that range from 40-50° F (5-10° C) with a mean temperature of 42.3° F (5.7° C).

Ronquils consume various small invertebrates and larvae, including worms. Larger fish pursue them for a substantial meal, particularly halibut and flounders, as do cormorants, puffins, and Pigeon Guillemots. Ronquil bones have also been found in the scat of river otters.



**Northern Ronquil (*Ronquilus jordani*)**

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A small fish with a maximum length of 8 inches (20 cm) and a weight of .8 pounds, the Northern Ronquil has an elongated body, with long dorsal and anal fins, a truncated caudal fin, and large pectorals; spines are absent. The eyes and mouth are large and the lips fleshy. The snout is pointed, and sensory pores are present around the eyes. There is a single pair of nostrils, and like other family members, they lack a swim bladder. The lateral line is distinctive. Accented with various bars and blotches, male ronquils are orange on their backs, olive below, and yellowish beneath the lateral line and accented with various other bright patches. Females are olive on their back with a pale belly and yellowish stripes on the sides. During the breeding season the male can develop bright blue iridescence on its anal fin and purple blotches on its head.

The Northern Ronquil spawns in late winter to early spring, with the nonadhesive small eggs laid beneath rocks. The courtship is quite elaborate and lengthy, in which the male displaying by quivering and fanning its fins. Males are known to guard the eggs.

Ronquil research is very incomplete. These little solitary fish are difficult to observe and money for investigating a non-commercial fish is always in short supply. They are taken in surveys, such as those conducted by the Washington Department of Fish and Wildlife; these collections provide information about distribution and are an aid to estimating abundance.

### **Relations and Evolution**

In recent years, researchers have moved the ronquil family back and forth between at least two orders and occasionally more. Recent consensus keeps the family in the Perciformes, a truly ancient group that evolved nearly 150 million years ago. More importantly when considering the closest relatives of the ronquils as well as their own evolutionary history is that they are consistently placed in the Zoarcoidei suborder, also named the eelpouts or the northern blennies. The Zoarcoidei includes a more manageable 14 families that includes about 400 species. All share the common feature of a single nostril. They are eel-like fishes, tending to have long dorsal fins, sometimes with spines. The Zoarcoidei species are for the most part Northern Hemisphere fish, inhabiting the Pacific, Atlantic, and Arctic oceans, although one family, the eelpouts (Zoaridae) is also present in the Southern Hemisphere. Recent research (2016) concludes that the suborder may have evolved approximately 22 million years ago, separating from Notothenioidei (the Antarctic “icefishes”) after that time. It is most likely that the eelpouts evolved in the northwestern Pacific, possibly in the Sea of Okhotsk, a Russian sea northeast of Japan. True to their origins, most Zoaridae members are cold water fish that tend to live near the bottom of the sea. And first to diverge from the ancient stock were the Bathymasteridae, the ronquils, endemic to the western and the eastern Pacific.

This ronquil split occurred about 18.4 million years ago, while the last of the suborder families to evolve was the Zoaridae, approximately 8.5 million years ago. It took a long time, at least in human terms, but was an ongoing process influenced by many factors, not the least of which was north Pacific plate tectonics. Warming of the Arctic was also important, as the opening of that icy sea probably permitted passage of several fish families to the Atlantic. It is also possible some incursion occurred through the open waters between North and South America, where the Panama Isthmus blocks passage today.

But while the eelpouts would eventually make their way south as far as the Antarctic, and the pricklebacks and gunnels took advantage of open seas, swimming east to opportunities in Atlantic waters, the ronquils would stay at home, the family reduced to a handful of species. Nevertheless, their

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long tenure on the planet not only demonstrates the success of the group to which they belong, but the supremely persistent adaptation of their own form and way of life.

*Ancient and small, as their younger relatives have left home to travel thousands of miles distant, the solitary ronquil keeps to itself at the bottom of the sea. Human myth has passed it by, and anglers seldom seek it. Here in the shallow cool depths is safety and solace, food, and shelter. Let the youngsters wander; this is home.*