

Agonostomus monicola (Mountain Mullet)

Family: Mugilidae (Mulletts)

Order: Mugiliformes (Mulletts)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Mountain mullet, *Agonostomus monicola*.

[<http://www.photosous-marine.com/fr/Mulet-de-riviere-Agonostomus-monticola,2808,Antilles,,P81,,,html>, downloaded 28 February 2016]

TRAITS. *Agonostomus monticola* or mountain mullet, is a diadromous species (living in both fresh and sea water) which belongs to a genus that is regarded as the most primitive amongst all living mugilid fish (Nirchio et al., 2009). The body is elongated and compressed to a very small extent, with a greyish-brownish back colour with dark outlines to the scales (Fig. 1). The fins include five dorsal spines (Fig. 2), eight dorsal soft rays, two anal spines and nine anal soft rays. The fins are pale yellow with a dark patch at the base. Adult mountain mullets have silver lateral scales and its ventral region is plain white. They have very muscular stomachs with unusually long intestines (Crossetti and Blaber, 2016). Their mouths are relatively small with an upper terminal lip and a lower rounded jaw with teeth that are in a continuous band. Additionally, the mountain mullet has a distinct oral and branchial filter-feeding mechanism which involves a feature known as gill rakers (Crossetti and Blaber, 2016). At its largest, these fish are recorded to be approximately 72cm (Anderson, 1957).

DISTRIBUTION. The mountain mullet is found along both the Atlantic and Gulf coasts, proceeding throughout the Caribbean and West Indies, making its way to Columbia, the coast of Mexico and Venezuela into South America (Fig. 3). Some of these native islands include Trinidad and Tobago, Aruba, Bahamas, Barbados, Dominican Republic, the Virgin Islands, Martinique and Jamaica.

HABITAT AND ACTIVITY. The mountain mullet fish prefer high gradient streams where water tends to move at a very quick pace with strong current and rocky bottoms. The adults are commonly found in tropical freshwater systems as well as brackish waters from the Atlantic slope.

FOOD AND FEEDING. The mountain mullet is an omnivorous species. This type of fish relies on its sight in order to obtain its prey. It feeds on small, freshwater shrimp and tiny, aquatic insects which it finds mostly near the edge of water systems or on the water surface. Additionally, it may also feed on algae, plant detritus and freshwater prawns. It can also be referred to as a filter-feeder or an opportunistic feeder which consumes crustaceans.

REPRODUCTION. The reproductive season of mountain mullet falls between September to December and therefore tends to coincide with the rainy season of tropical countries. The minimum size of a mature female is 123mm fork length (FL) and 96mm FL for males. Based on past research, it is believed that the reproductive behaviour of this species may take place in freshwater where the eggs are slowly drifted to the ocean. The eggs of this species are non-adhesive and pelagic. It is here that the eggs hatch and the larvae end up growing in the sea. After it has grown to a reasonable stage in its life where they are juveniles, it tends to return to its original source which is the freshwater systems.

BEHAVIOUR. Mountain mullets are referred to as rheophilic and fast swimmers that tend to reside near large boulders when they are in the adult stage. They mostly prefer swimming in upstream and reach up to heights of 1500m. All or most of the times, these fish are in schools and therefore always in large numbers. Very little is known about their anti-predator behaviour.

POPULATION ECOLOGY. The population of the mountain mullet is stable. It is diadromous, which means that it spends part of its lifetime in freshwater and the other part in salt water. Females of this species outnumber the males by a 1.2:1 ratio. Therefore it can be said that the females are slightly dominant over the males. These fish usually travel in schools as a form of protection from predators.

APPLIED ECOLOGY. This species may be negatively impacted by habitat degradation, pollution and the presence of foreign objects which may damage their bodies and their respiratory surfaces (Natureserve, 2013). The mountain mullet is a huge part of fisheries in certain countries such as Honduras and Southern Mexico. However, there is very little focus placed on this species with respect to conservation actions. This is due to the fact that its population is quite stable due to healthy reproductive levels.

REFERENCES

- Anderson, W. W. 1957. Larval forms of the freshwater mullet (*Agonostoma monticola*) from the open ocean off the Bahamas and South Atlantic Coast of the United States. U. S. Fish Wildl. Serv. Fish. Bull. 120, 57:415-425
- Crosseti, D., and Blaber, S. 2016. Biology, Ecology and Culture of Grey Mulletts (Mugilidae). Accessed 10 March 2016. <https://books.google.tt/books?id=GAhCCwAAQBAJ>.
- NatureServe. 2013. *Agonostomus monticola*. The IUCN Red List of Threatened Species 2013: e.T192943A2180465. <http://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T192943A2180465.en>.
- Nirchio, M., Oliveira, C., Ferreira, I.A., Martins, C., Rossi, A.R. and Sola, L. 2009. Classical and Molecular Cytogenetic Characterization of *Agonostomus monticola*, a Primitive Species of Mugilidae (Mugiliformes). *Genetica* 135: 1-5.

Author: Kristen Jaggernath

Posted online: 2016



Fig. 2. Dorsal fin spines of mountain mullet.

[<http://txstate.fishesoftexas.org/agonostomus%20monticola.htm>, downloaded 28 February 2016]



Fig. 3. Mountain mullet distribution.

[<http://www.fishbase.org/summary/1085>, downloaded 28 February 2016]

For educational use only - copyright of images remains with original source