

## *Gymnothorax funebris* (Green Moray)

Family: Muraenidae (Morays)

Order: Anguilliformes (True Eels and Morays)

Class: Actinopterygii (Ray-finned Fish)



**Fig. 1.** Green moray, *Gymnothorax funebris*.

[[http://24.media.tumblr.com/tumblr\\_m9sai7SQ9W1rcmvwbo1\\_500.jpg](http://24.media.tumblr.com/tumblr_m9sai7SQ9W1rcmvwbo1_500.jpg), downloaded 1 March 2016]

**TRAITS.** A large eel, an adult would be about 1.8m long and weigh around 13.3kg (Nelson, 1984), with a laterally compressed body. Its skin secretes a yellow coating which acts as a deterrent to any parasites or bacteria which may attempt to infect it, and gives the green appearance (Fig. 1) as it affects the way the brown/grey skin is seen. Green morays eels have no pelvic nor pectoral fins. They have a dorsal fin which runs from the top of the head to the end of its tail. On the face there are two nostrils which appear as protruding structures from the front of the face. The teeth are large and smooth-edged. Green morays have another set of jaws inside their throats to drag food into their digestive system (Fig. 2). These are called pharyngeal jaws, which allow them to open their mouth and swallow large prey. They open and close their mouths habitually to allow for respiration as the water passes over the gills and exits through openings at the back of the head.

**DISTRIBUTION.** This species is distributed throughout the Caribbean Sea, extending north past Florida, into the Bahamas and Bermuda, and south to the coast of Brazil (Fig. 3). It occurs in the coastal waters of all the countries within that region (Smith and McCosker, 2015).

**HABITAT AND ACTIVITY.** *Gymnothorax funebris* lives in a variety of habitats, including any areas in relatively shallow waters with crevices within which the moray may rest. It lives in reefs at depths of 30m or less, and has never been observed to go to depths beyond 50m. They may be found in salt water or brackish water environments, and spend daytime in crevices as it is primarily nocturnal and hides during the day. They tend to remain in one reef for long periods of time, migrating very infrequently.

**FOOD AND FEEDING.** Green moray eels feed at night. They eat fish, molluscs, crustaceans, cephalopods, octopi, and lobsters. The green moray eel's niche is as a predator, with its only enemies being large groupers and barracudas. The species' habit is to stay still and wait for its prey to pass by the recess within the reef where it is waiting before attempting to capture. Adults have been observed to engage in more active forms of predation but this is not the norm and most often occurs in areas near reefs and rock formations. Adults consume most types of fish and other available organisms once they are small enough to swallow whole. When it captures any prey which is too large to swallow whole, it wraps itself around its prey into a knot, allowing it to grasp the organism and rip it into chunks which are easier to swallow (Moyle and Cech, 1982). Larvae prey on smaller crustaceans and other zooplankton (Hutchins et al., 2003).

**REPRODUCTION.** The reproductive behaviour of this species has not been properly documented. This species engages in external fertilisation at specific sites. It is not known how often these animals breed. It is known, however, that in mating, millions of eggs are produced but only a small amount are ever fertilized and even less are able to survive into adulthood. This species does not engage in any form of care for their offspring (Hutchins et al, 2003).

**BEHAVIOUR.** The green moray eel is a solitary and nocturnal species and is most often observed to stay within the confines of underwater caves and holes among reefs during the day with only the heads being present outside of the openings at times. If during the daytime it is out of these spaces, it usually maintains a close proximity to the reef so that it may enter a space within it when necessary. At night the green moray eel swims freely in order to feed. They make use of certain other species such as gobies in mutualistic relationships in which the eel allows itself to be cleaned by them (Fig. 4). Adults do not often interact with each other apart from mating (Bertin, 1957).

**APPLIED ECOLOGY.** *Gymnothorax funebris* is well distributed and fairly abundant in the Caribbean Sea and surrounding aquatic environments. Its conservation status is listed as Least Concern due to the existence of no major threats to the organism. This species is not considered dangerous but it is known to bite humans when it is provoked.

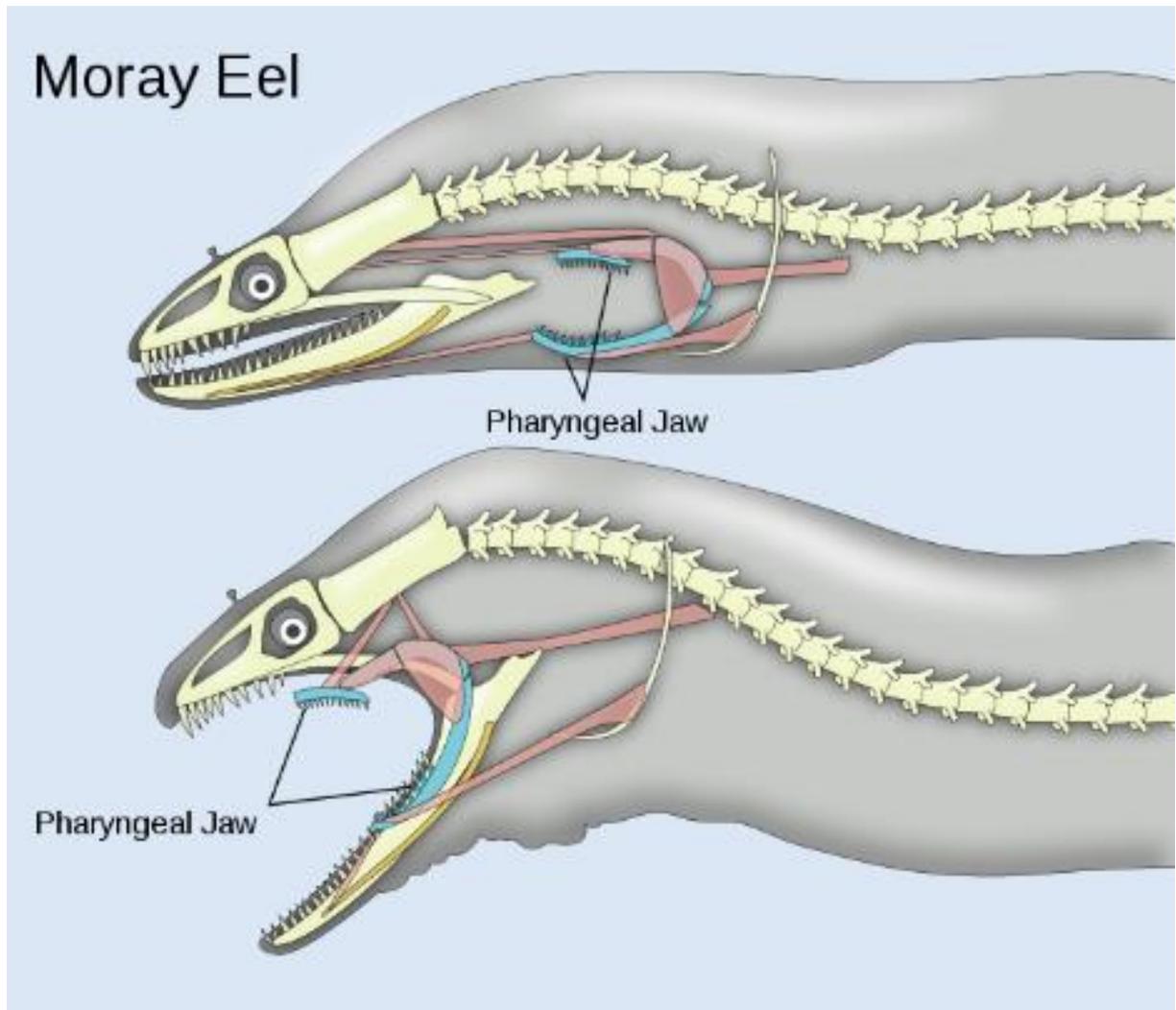
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**Fig. 2.** Diagram of *Gymnothorax funebris* pharyngeal jaw structure and action.

[<http://fishindex.blogspot.com/2008/07/green-moray-eel.html> downloaded 10 March 2016]



**Fig. 3.** Geographical distribution of *Gymnothorax funebris*.

[<https://www.flmnh.ufl.edu/fish/discover/species-profiles/gymnothorax-funebris/>, downloaded 11 March 2016]



**Fig. 4.** *Gymnothorax funebris* being cleaned by neon gobies (*Gobiosoma oceanops*) in Belize.

[<http://www.ryanphotographic.com/images/JPEGS/Gobiosoma%20oceanops%20Neon%20goby%20cleaning%20Gymnothorax%20funebris%20Green%20moray%20copy.jpg> downloaded 10 March 2016]

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