Chilomycterus schoepfii (Striped Burrfish)

Family: Diodontidae (Porcupinefish)
Order: Tetraodontiformes (Pufferfish, Triggerfish and Boxfish)
Class: Actinopterygii (Ray-finned Fish)

Fig. 1. Striped burrfish, *Chilomycterus schoepfii*.

[http://fineartamerica.com/featured/striped-burrfish-on-caribbean-reef-karen-doody.html, downloaded 22 February 2016]

TRAITS. The striped burrfish is a small (approximately 25cm in length) pufferfish with a large head, with bulging golden-yellow eyes with iridescent blue-green specks. The striped burrfish has a yellow-green rounded body with dark wavy stripes (Fig. 1) from which its common name is derived, there are also large dark spots which appear at the base of the dorsal fin and behind the pectoral fins (Edward, 2015). The striped burrfish is uniquely different from most of the other pufferfish because they are unable to move the always-erected sharp spines that cover their entire body (Caretakers, 2015), however, like other members of its family the striped burrfish will inhale water thereby inflating to ward off predators via an organ known as a 'buccal pump' making it look menacing and difficult to swallow. The striped burrfish also contains a v-shaped mouth and a strong fused beak (Alderton, 2014). The fish has small semi-transparent dorsal fin with 12 rays and anal fin with 10 rays but no pelvic fins. Locomotion is accomplished via the joint action of the pectoral, dorsal, anal and caudal fins. There are not any differences between the male and female striped burrfish (Masterson, 2008).

DISTRIBUTION. The striped burrfish can be found on a wide distribution in the western hemisphere, commonly ranging from Nova Scotia (Canada), Maine to Florida (USA), some sections of the Gulf of Mexico, West Indies and south to Brazil (Fig. 2) (Froese and Pauly, 2015). The stripped burrfish is a native species to the following countries: Bahamas, Bermuda, Brazil, Canada, Cuba, Trinidad and Tobago and United States (Matsuura, 2010).

HABITAT AND ACTIVITY. The striped burrfish can be found in shallow seagrass beds or coastal lagoons over shallow coral reefs and sometimes in estuaries and prefer to stay in brackish water. The fish survives at range of 22-25 °C, an ocean depth of 11-90m, salinity levels of 7-47 ppt (parts per thousand) and a pH range of 8.1-8.4. The striped burrfish is nocturnal (Alderton, 2014).

FOOD AND FEEDING. The striped burrfish is a mainly carnivorous but however may resort to grazing on algae. Due to its adapted beak-like mouth, it has been known to swallow several shelled invertebrates such as oysters, mussels, barnacles, hermits, shrimp, krill, and clams whole, several types of larval eels or jellyfish, while resorting to several small bites or nips at the larger slow moving reef fish. The striped burrfish has also been seen to gnaw on the stony corals to help sharpen their beak (Alderton, 2014). It is a solitary nocturnal hunter, using its darkly striped body to camouflage within the environment e.g. the seagrass beds, and await unsuspecting prey (Fig. 3). The fish lunges towards its target by forcing water through restricted gill openings which jets their body forwards.

POPULATION ECOLOGY. The fish is solitary, residing in its natural habitat of seagrass beds on the bottom of the ocean, choosing to be alone rather than hunt in a large group. This may be due to the fact that the fish has very little predators (Virginia Living Museum, 2014). Being a nocturnal fish, it is assumed that they release their spawn at night but at an offshore location as compared to their habitat, the eggs have been determined to be demersal (near the floor of the sea) and non-adhesive (Masterson, 2008).

BEHAVIOUR. The striped burrfish does not have a lot of predators due to its two defensive mechanisms, it's always erected spines on their body and their ability to inhale water and inflate their bodies to almost 3 times the original size (Fig. 4) appearing menacing to predators. Due to this swelling, most carnivorous oceanic species – e.g. sharks or eels would avoid this fish completely as they would view the spines as a deterrent. Unfortunately, upon swelling, the fish is hardly able to move in any direction and must deflate before moving again (Alderton, 2014).

APPLIED ECOLOGY. The striped burrfish is listed by the IUCN as an organism of Least Concern, their population numbers have not diminished significantly. However, there is loss and degradation of the ocean's seagrass beds and coral reefs which are the striped burrfish's natural habitat. While this is occurring the IUCN believes that the loss of habitat is specific for certain regions and does not give a general viewpoint for the entire population of *Chilomycterus schoepfii* hence why it is given the "Least Concern" status (Matsuura, 2010). The striped burrfish is a favourite amongst many aquarium owners as they claim that the fish is quite friendly and will not harm the other residents within the tank (Alderton 2014).

REFERENCES

Alderton, D. 2014. *Striped Burrfish.* Accessed 02 29, 2016. http://www.fishchannel.com/fish-species/saltwater-profiles/striped-burrfish-2.aspx.

Caretakers. 2015. *National Aquarium- The Striped Burrfish.* Accessed 02 29, 2016. http://www.aqua.org/explore/animals/striped-burrfish.

Edward, R S. 2015. *Chesapeake Bay Program - The Striped Burrfish.* Accessed 02 29, 2016. http://www.chesapeakebay.net/fieldguide/critter/striped_burrfish.

Froese R, and Pauly D,. 2015. *The Striped Burrfish.* Accessed 03 01, 2016. www.fishbase.org.

Masterson, J. 2008. *The Striped Burrfish - Chilomycterus schoepfii.* Accessed 03 06, 2016. http://www.sms.si.edu/irlspec/Chilomycterus_schoepfii.htm.

Matsuura, K. 2010. *Chilomycterus schoepfii - The IUCN Red List of Threatened Species.* Accessed 03 06, 2016. http://www.iucnredlist.org/details/155166/0.

Virginia Living Museum. 2014. *Juvenlie Striped Burrfish, Puffers and Lookdowns.* Accessed 03 08, 2016. http://thevlm.org/juvenile-striped-burrfish-puffers-and-lookdowns/.

Author: Nicholas Mohammed

Posted online: 2016

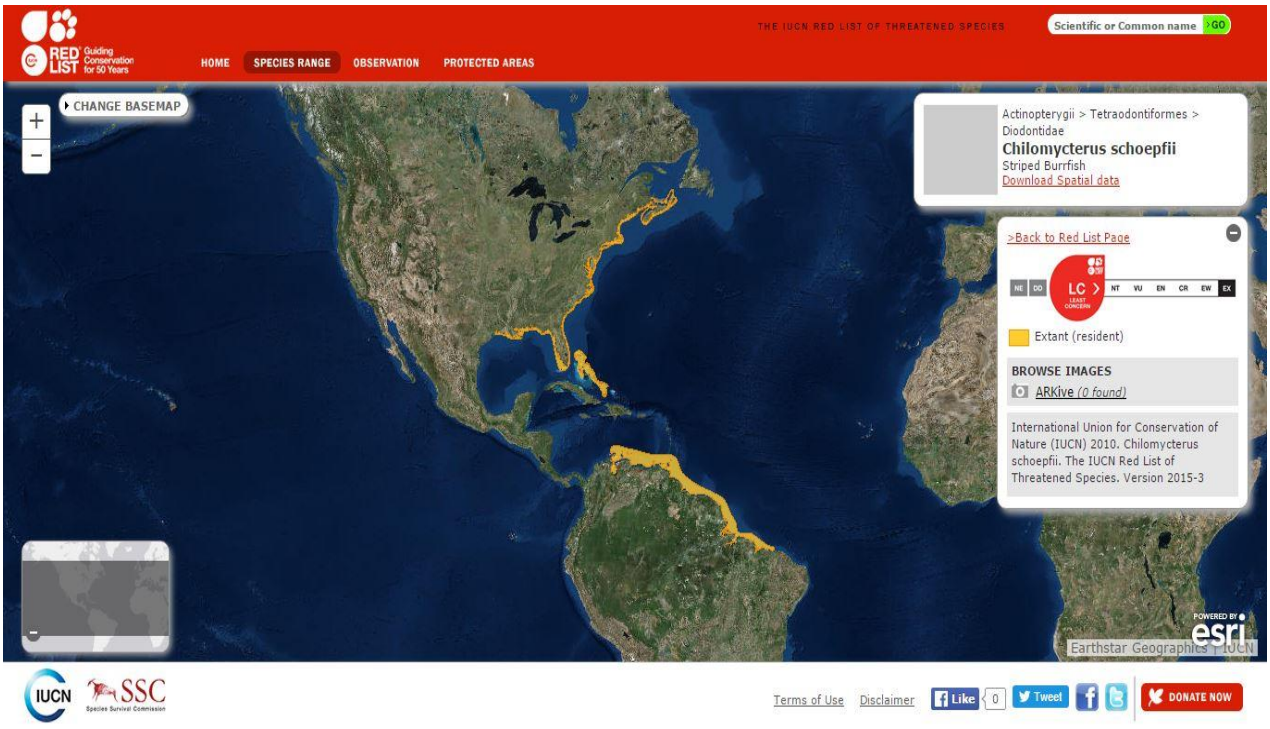

Fig. 2. The distribution of the striped burrfish (the shaded regions).

[http://maps.iucnredlist.org/map.html?id=155166, downloaded 6 March 2016]

Fig. 3. The striped burrfish using its environment as camouflage.

[http://www.forestventure.com/speciesdetail.cshtml?id=83214, downloaded 6 March 2016]

Fig. 4. The defensive mechanism or inflation of the striped burrfish to ward off predators.

[http://www.istockphoto.com/photo/tropical-salt-water-fish-striped-burrfish-chilomycterus-schoepfi-gm108329574-13319801, downloaded 6 March 2016]