

Dactyloscopus tridigitatus (Sand Stargazer)

Family: Dactyloscopidae (Stargazers)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Sand stargazer, *Dactyloscopus tridigitatus*.

[<http://animalia-z-life.com/fishes/sand-stargazer.html>, downloaded 10 March 2016]

TRAITS. *Dactyloscopus tridigitatus* is a bony fish that may reach up to lengths of 8.5cm. It is a pale tan colour with the body blotched in brown and with salmon streaks behind the eye. The eyes are small and located at the top of the cranium, pointing in an upwards direction (Fig. 1), on short stalks. The head is large and flattened from above. The mouth is upturned with a protruding lower jaw. Both lips have skin flaps present which keeps sand out of the mouth. There is a front and rear nostril, the rear being a single pore at the base of the front nostril. The dorsal fin takes up a large proportion of its body (Fig. 2). The operculum has 10-16 skin flaps, also to keep out sand. The pelvic fin is located under the throat, and there is a distinct notch beneath the lower edge of the caudal fin base. They lack scales, the head and belly being scaleless. There is no great difference in weight and length between the males and females.

DISTRIBUTION. *Dactyloscopus tridigitatus* is one of the most widely distributed of dactyloscopids. It is widely distributed within the western Atlantic Ocean, ranging from South Carolina to the Bahamas, the eastern Gulf of Mexico (Fig. 3), to Sao Paulo in Brazil.

HABITAT AND ACTIVITY. This fish can be found in reef associated areas and tropical climates. It ranges from a depth of 0-30m, often in shallow waters of less than 2.5m. It burrows into soft, sandy bottoms, covering all parts of its body besides the eye, nose and mouth which is left protruding just above the surface of the sand (Fig. 4). Due to its burrowing ability, it is a lie-and-wait predator devouring a wide range of prey items such as molluscs, annelids, amphipods and other fish. Its main dietary components are isopods, amphipods and polychaetes.

FOOD AND FEEDING. Most of its time is spent buried in the sand, waiting for the presence of unsuspecting prey. Its eyes, mouth and nostril is left just above the sand. They may move their eyes back and forth to fool the prey into thinking there is a meal. As the prey gets close enough, the large mouth creates a vacuum that can suck in prey, and it lunges towards them out of the sand.

REPRODUCTION. Reproduction is mainly focused in the rainy season. Males are observed carrying egg clumps under their enlarged pectoral fins, which aids in egg defence. The amount of eggs which each clump contained did not differ much from the amount of eggs of a mature female, showing that each clump is from a single female (Teixeira, 2011). The total length of the male was found to not be correlated to the number of eggs carried, however, female fecundity is directly correlated to their length. The eggs are laid at the bottom of the sea, but will eventually start floating towards the surface, where they hatch to larvae. The larvae remain at the surface until they mature at about 45mm, when they will swim back to the bottom of the water.

REFERENCES

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Smith, C.L. 1997. National Audubon Society Field Guide to Tropical Marine Fishes of the Caribbean, the Gulf of Mexico, Florida, the Bahamas, and Bermuda.
Teixeira, R.L. 2011. Life history traits of the sand stargazer *Dactyloscopus tridigitatus* (Teleostei: Blenniodei) from south-eastern Brazilian coast, Volume 93.
Williams, J.T. 2014. *Dactyloscopus tridigitatus*, The IUCN Red List of Threatened Species 2014.

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Fig. 2. Physical appearance of *Dactyloscopus tridigitatus*.

[https://commons.wikimedia.org/wiki/File:Dactyloscopus_tridigitatus_-_pone.0010676.g139.png, downloaded 10 March 2016]



Fig. 3. Caribbean distribution of the sand stargazer.

[<http://biogeodb.stri.si.edu/caribbean/en/thefishes/species/4050>, downloaded 10 March 2016]



Fig. 4. Sand stargazer buried in sand.

[<http://animaliaz-life.com/fishes/sand-stargazer.html>, downloaded 10 March 2016]

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