

## *Acanthemblemaria maria* (Secretary Blenny)

Family: Chaenopsidae (Tube Blennies)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



**Fig. 1.** Secretary blenny, *Acanthemblemaria maria*.

[<http://www.eol.org/pages/217079/overview>, downloaded 27 October 2016]

**TRAITS.** *Acanthemblemaria maria* is known as the secretary blenny or punk blenny (Fig. 1); it can sometimes be misidentified as the spinyhead blenny *A. spinosa* (Williams, 2014) as a result of both species sharing similar characteristics. *Acanthemblemaria maria* is an elongate fish that can grow up to 5.2cm in length (Fig. 2). This fish has a dark-brown colour that is almost black, and no scales. On its short blunt head behind its eyes it has an identifiable orange spot that distinguishes it from other species of the family Chaenopsidae (Figs 1 and 3). It has one pair of cirri (projections) above the eyes, and others over the nostrils, and two rows of well-developed teeth on the palatine bone in its mouth (Fishbase, 2016). The dorsal fin has both spines and soft rays, ranging from 29-40 dorsal fin elements forming a continuous fin. In males the anal fins are modified for reproductive proposes. At the base of each pectoral fin is a white blotch that is joined by a white stripe on the side of the body. The blotches on its back are a pale off white colour. The belly and tail have larger white blotches which are separated by a dark wide stripe (Fishbase, 2016).

**DISTRIBUTION.** *Acanthemblemaria maria* is native to the western Atlantic, Caribbean Sea and Central America (Fig. 4). It can be seen in waters around the Bahamas to as far as Trinidad and Tobago. In addition, from Belize to Panama along the coastline of Central America (Williams, 2014).

**HABITAT AND ECOLOGY.** *Acanthemblemaria maria* is strictly a marine fish, found on shallow reef flats and slopes less than 6m in depth (Savage, 2008). This tube-dwelling fish inhabits holes in lime stone, brain coral, stinging coral and sea fans. The burrows provide a form of protection for the *Acanthemblemaria maria*. It prefers high-energy water, with strong currents or tides (Williams, 2014).

**REPRODUCTION.** *Acanthemblemaria maria* reproduce by means of external fertilisation known as spawning. The males have a specially developed pair of anal glands for female attraction and egg protection. This gland is located on the anal fin where it secretes pheromones specifically for female attraction and antimicrobials for egg protection. The females are attracted to the burrows of the males after it has been conditioned. They then release their eggs in his burrow for fertilisation by the male sperm, these eggs are attached to the surface of the walls. After fertilisation, the eggs are left in the care of the male. Females can spawn in several burrows. Very little information is available on the duration of the spawning period for this species (Barrett and Breed, 2008).

**BEHAVIOUR.** *Acanthemblemaria maria* are hemisessile, which means that they only leave their burrows for food, spawning and to compete for a better hole. It sits at the edge of the burrow and observes its surroundings. It occasionally pokes its head out to snatch food. *Acanthemblemaria maria* is a predatory species that feeds on small invertebrates. Surge water makes food more available, hence it is preferred. This species of blenny exhibits intraspecific competition which can lead to a reduction in the fitness of both individuals (Savage, 2008).

**APPLIED BIOLOGY.** *Acanthemblemaria maria* is not endangered or of any concern, its population is stable (Williams, 2014).

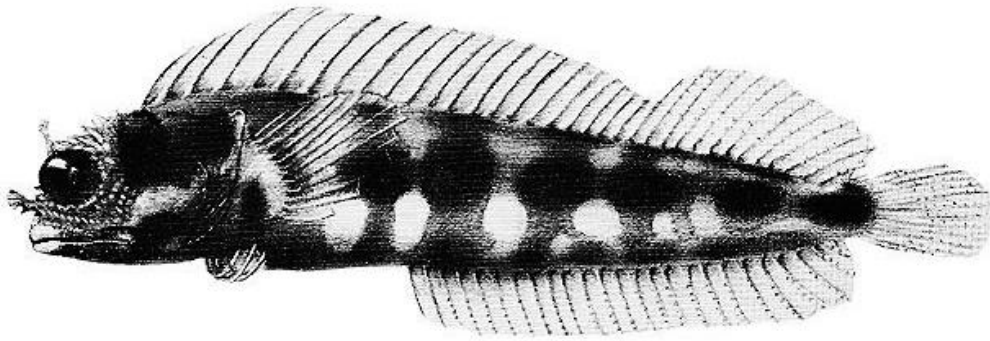
## REFERENCES

- Barrett, L. and Breed, M. (2008). Animal Behaviour, volume 75, issue 2. Pages 379–389. Elsevier
- FishBase.(2016).*Acanthemblemaria maria*. <http://www.fishbase.org/summary/16485#> accessed 27 October 2016
- Myers, P. (2016). *Acanthemblemaria maria*. The Animal Diversity Web. <http://animaldiversity.org>. accessed 27 October 2016
- Robertson,R. (2015),*Acanthemblemaria maria* . <http://biogeodb.stri.si.edu/caribbean/en/thefishes/species/3995> accessed 27 October 2016
- Savage,C.(2008). Good fences make good neighbors: Habitat partitioning by spinyhead (*Acanthemblemaria spinosa*) and secretary (*Acanthemblemaria maria*) blennies. Physis:Journal of marine science. downloaded 27 October 2016.
- Williams, J.T. (2014). *Acanthemblemaria maria*. The IUCN Red List of Threatened Species 2014. <http://www.iucnredlist.org/details/summary/47141570/0>. Downloaded 27 October 2016

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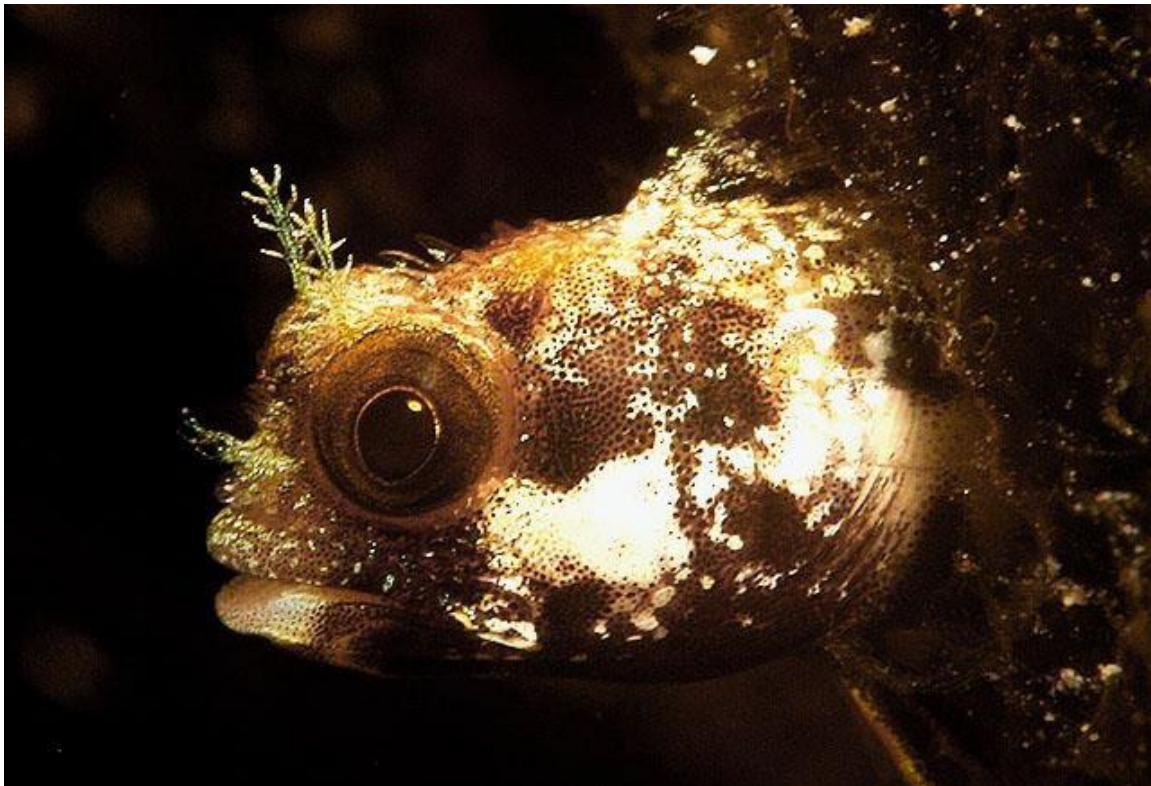
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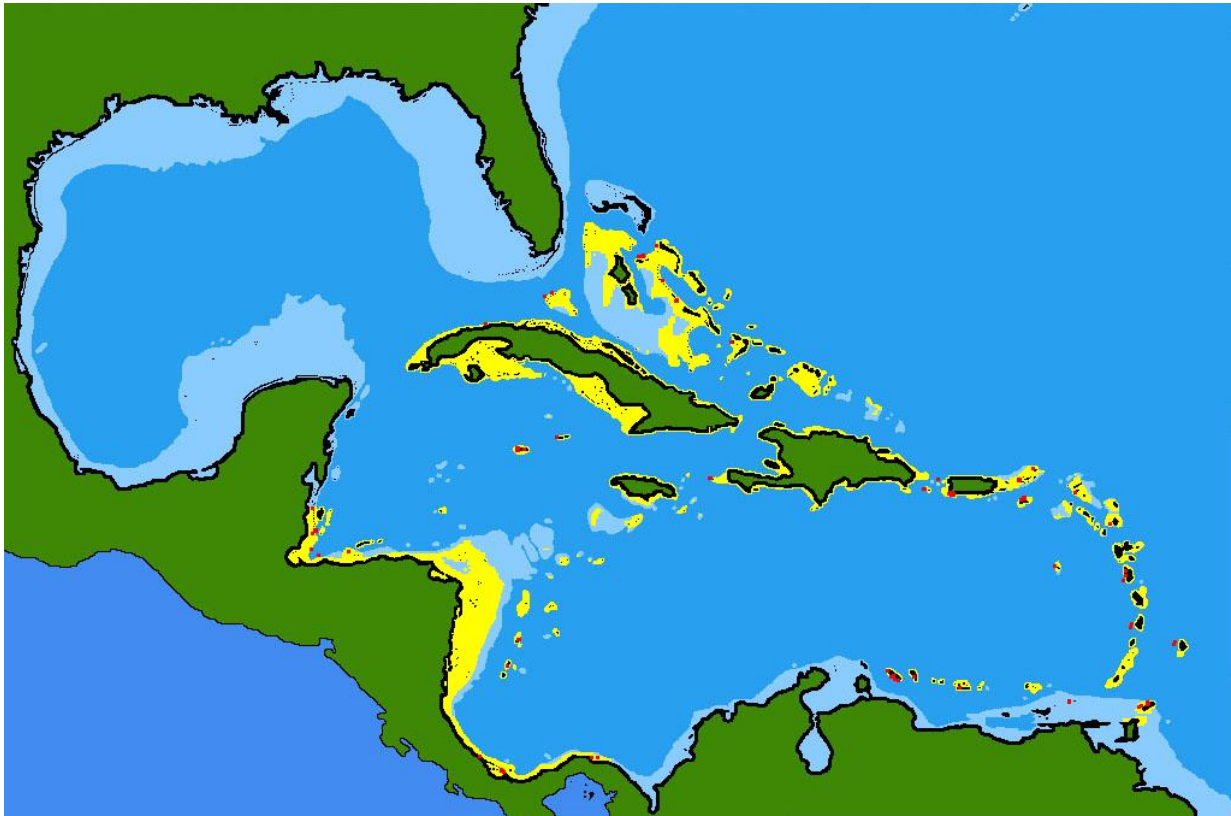
**Fig. 2.** *Acanthemblemaria maria* physical characteristics.

[<http://biogeodb.stri.si.edu/caribbean/en/pages/random/1868>, downloaded 27 September 2016]



**Fig. 3.** *Acanthemblemaria maria* coming out of a burrow.

[<http://biogeodb.stri.si.edu/caribbean/en/pages/random/4817>, downloaded 27 October 2016]



**Fig. 4.** *Acanthemblemaria maria*, secretary blenny geographic distribution.  
[<http://biogeodb.stri.si.edu/caribbean/en/thefishes/species/3995>, downloaded 27 October 2016]

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