

Lythrypnus spilus (Spotwing Goby or Bluegold Goby)

Family: Gobiidae (Gobies)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Spotwing goby, *Lythrypnus spilus*.

[<http://biogeodb.stri.si.edu/caribbean/en/pages/random/3344>, downloaded 10 February 2017]

TRAITS. *Lythrypnus spilus*, commonly known as spotwing goby or bluegold goby, is a small species usually 25mm in length. It has a blue-grey body with approximately 12-13 vertical bands that are orange to brown-gold in colour from the operculum (gill cover) to caudal peduncle (tail base) (Fig. 1). The head is blue-grey in colour with an orange blotch on the cheek. The eye is orange with a few orange bands radiating from it (Fig. 2). The paired fins are translucent while the median fins are transparent with basally scattered orange spots (Böhlke and Robins, 1960). The body is elongated but reduces in thickness to the rear. They have jaws with bands of conical inward teeth and sharp outer canines but the palatine (bones located on both sides of the inside of the upper jaw) and vomer (bone which forms the front of the roof in the mouth) do not have any teeth. The anterior nostril is tubular in shape while the posterior nostril is slightly raised and separated from the anterior. There are two separate dorsal fins; the anterior dorsal fin has elongate spines (Böhlke and Robin, 1960).

DISTRIBUTION. The spotwing goby occurs in the western Atlantic, from southern Florida and the Bahamas to the Greater Antilles (Böhlke and Robin, 1960) (Fig. 3). This fish is native to Trinidad and Tobago as well as Bermuda, and Panama (IUCN, 2017).

HABITAT AND ACTIVITY. The spotwing goby is a coral-dwelling fish and it has been collected in depths between 3-26m (Böhlke and Robin, 1960). It inhabits spur and dropoff as well as groove coral reef habitats (IUCN, 2017) (Fig. 4). Research has not been done extensively on the feeding patterns of *Lythrypnus spilus*, however most small gobies feed on invertebrates (Wikipedia, 2017).

POPULATION ECOLOGY. According to Greenfield and Johnson (1999), this species is encountered rarely off of North Carolina. In data collected from a study done just off Belize and Honduras, it was ranked 17th in overall abundance. In general, gobies that reside in warm waters mature within several months. Although the lifespan of *Lythrypnus spilus* has not yet been studied, most gobies have a total lifespan that can vary from 1-10 years (Hoese, 1998).

REPRODUCTION. *Lythrypnus spilus* displays the reproductive strategy of simultaneous hermaphroditism (the ability to have both male and female reproductive organs that are functional at the same time) which allows them to adapt to changing environments and make use of any opportunity to reproduce. They are able to use this strategy due to the allocation of gonad (gamete producing organ) tissue during development (Maxfield et al., 2012). Research conducted on the structure and patterning of the gonad tissue allocation among *Lythrypnus* species shows that *L. spilus* has an intermediate allocation pattern; most individuals observed had less than 10% allocation of male tissue (female biased), with a significant amount of individuals showing intermediate allocation of 10-90% (Mary, 2000).

APPLIED ECOLOGY. *Lythrypnus spilus* is listed by the IUCN Red List as Least Concern. They belong to a coral reef environment therefore if the habitat is degraded, the species can become affected. Since *Lythrypnus spilus* is small in size, has a shallow body and usually functions just above the ocean floor, it has easily become a prey to the lionfish, an invasive species of fish in the Caribbean. Lionfish are able to consume various fish smaller than 15cm thus both adults and juveniles are at risk of being consumed (IUCN, 2017).

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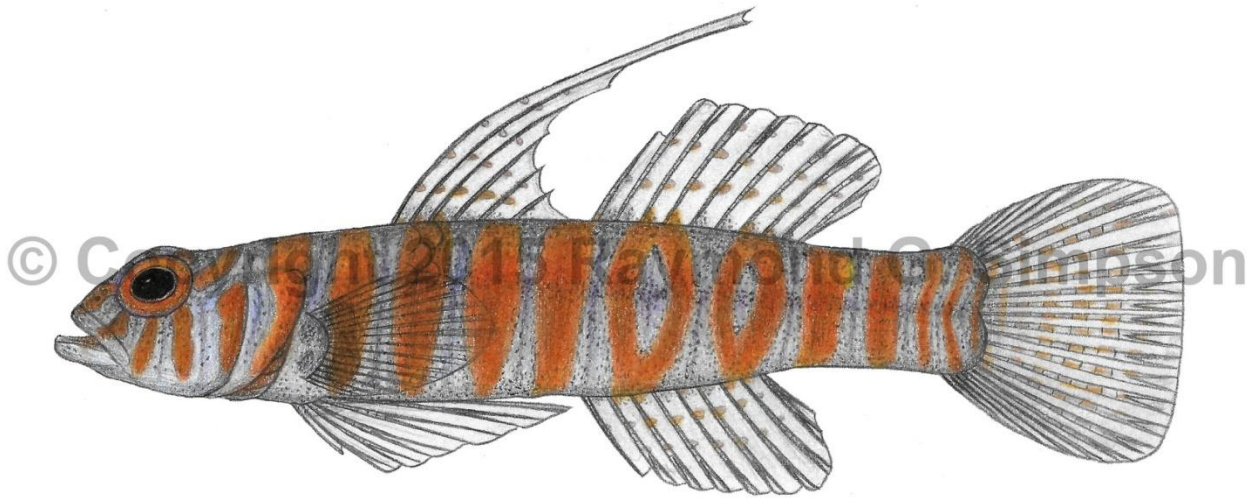


Fig. 2. Features of the spotwing goby.

[<http://watlfish.com/species/gobiidae/archives/2015/08/06/lythrypnus-spilus/>, downloaded 10 February 2017]

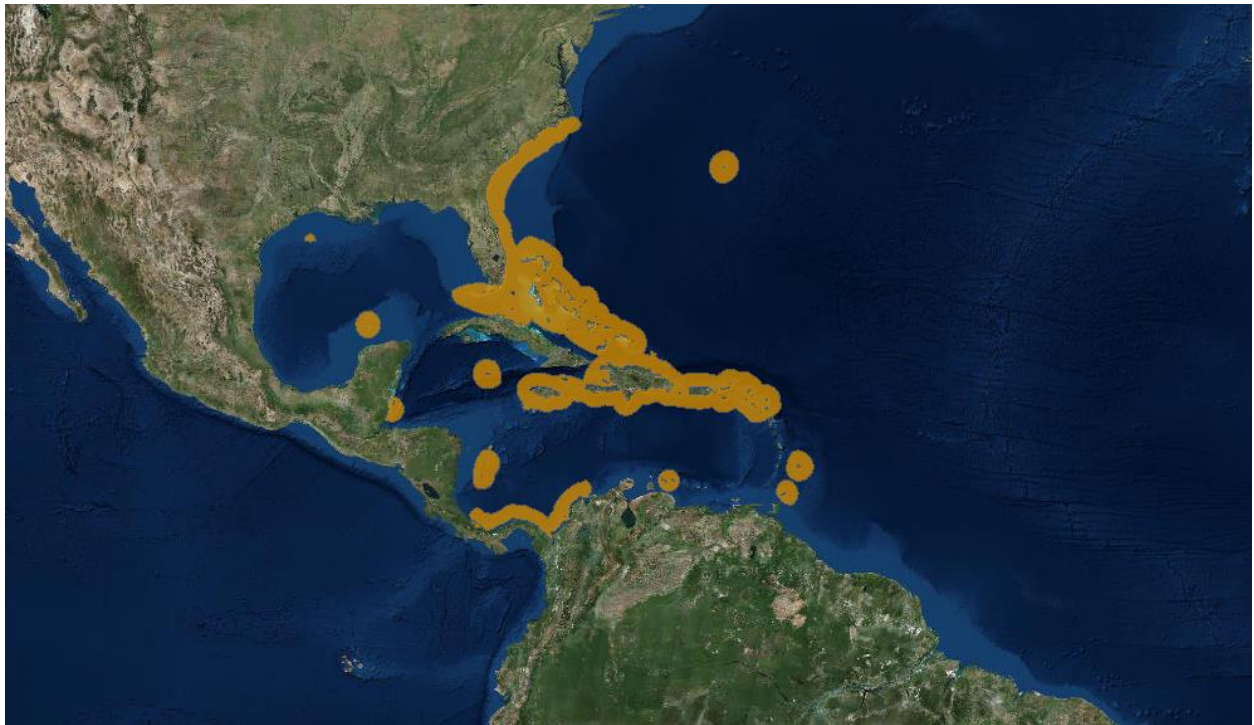


Fig. 3. Spotwing goby geographic distribution.

[<http://maps.iucnredlist.org/map.html?id=186030>, downloaded 18 February 2017]



Fig. 4. Spotwing goby in its habitat.

[<http://www.fishbase.org/summary/3888>, downloaded 18 February 2017]

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