

Notes on the Fish *Synagrops trispinosus* (Perciformes: Acropomatidae) from the Colombian Caribbean

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(Received August 23, 1985)

Johnson (1983, 1984), based on synapomorphies and on the distribution of fish major habitats, redistributed the numerous genera of the family Percichthyidae into four families and left some as *incertae sedis*. The seven oceanic genera were placed in the family Acropomatidae (Johnson, 1984), the most speciose of them being *Synagrops* with more than 10 species. Mochizuki and Sano (1984) described *S. trispinosus* as a new species from the Caribbean Sea and adjacent waters, from museum specimens fished on 10 collections at different times and sites in bottom trawls between 180 and 540 m depth. The species had been described and illustrated previously as *Synagrops* sp. (Uyeno *et al.*, 1983), from individuals collected off Suriname at 224 m. Unfortunately, the descriptions of this species are incomplete, there are no detailed illustrations, and the authors presented almost no biological information.

In May 1985 during a fisheries evaluation cruise on board ARC B/O *Malpelo*, organized by INVEMAR-COLCIENCIAS-CIID, seven specimens of *S. trispinosus* were collected on the 23rd from a nocturnal pelagic trawl off the Caribbean coast of Colombia at 11°07'–05'N and 74°22'–32'W. The trawling time was 2.2 hours, the surface temperature varied between 26.2–26.5°C and the surface salinity varied between 36.0–36.5‰ (J. Blanco Racedo, INVEMAR, personal communication). The maximum trawling depth was 36 m and the bottom depth was 80–140 m. The fish fauna collected with *S. trispinosus* included pelagic forms, both coastal dwelling (*Caranx latus*, *Decapterus macarellus*, *Selar crumenophthalmus*, Carangidae; *Opisthonema oglinum*, Clupeidae; *Trichiurus lepturus*, Trichiuridae) and oceanic (*Lestrolepis intermedia*, Paralepididae; *Diaphus garmani*, Myctophidae). The specimens of *S. trispinosus* are deposited in the fish collection of the Instituto de Investigaciones Marinas de Punta de Betín with the number INVEMAR-P 0875. The purpose of

this note is to register and discuss the collection of the species in midwater rather than from the bottom as previously recorded, to complement the color description and provide biological information on the species.

The meristic and morphometric characters of the seven specimens are given in Table 1. We used the methods of Randall (1968) and Allen and Fischer (1978). In general these data agree with those of Mochizuki and Sano (1984), although prepelvic length and eye diameter tend to be smaller in our specimens. The main diagnostic characters of the species are the numbers of anal fin spines (3), first dorsal fin spines (8), and pored scales on lateral line (46–51) (Mochizuki and Sano, 1984).

Uyeno *et al.* (1983) did not describe the coloration of *S. trispinosus*, and Mochizuki and Sano (1984) only indicated that the fish is "uniformly dark purplish brown (sometimes yellowish brown). Throat blackish". Our specimens show several previously undescribed characteristics in their color pattern that may be of diagnostic value for species identification (Figs. 1, 2). After one week

Table 1. Summary of the examined meristic and morphometric characters of seven specimens (74.5–100.0 mm standard length) of *Synagrops trispinosus* from the Colombian Caribbean. The number between parentheses after each count indicates the number of specimens with such value. The measurements are expressed as percentages of standard length, indicating each average between parentheses.

Meristic characters	
Dorsal fin rays	VIII–I, 10(7)
Anal fin rays	III, 9(7)
Pectoral fin rays	16(1), 17(6)
Lateral line scales	47(2), 48(2), 49(3)
Gill rakers	4(2), 5(5) + 1(7) + 12(1), 13(5), 15(1)
Morphometric characters:	
Head length	34.8–37.4 (35.8)
Snout length	9.6–11.7 (10.4)
Predorsal length	38.4–41.6 (40.0)
Prepectoral length	34.0–36.6 (34.9)
Prepelvic length	32.5–36.9 (33.8)
Preanal length	64.5–69.5 (67.0)
Body depth	22.2–26.0 (23.9)
Eye diameter	9.0–10.0 (9.5)

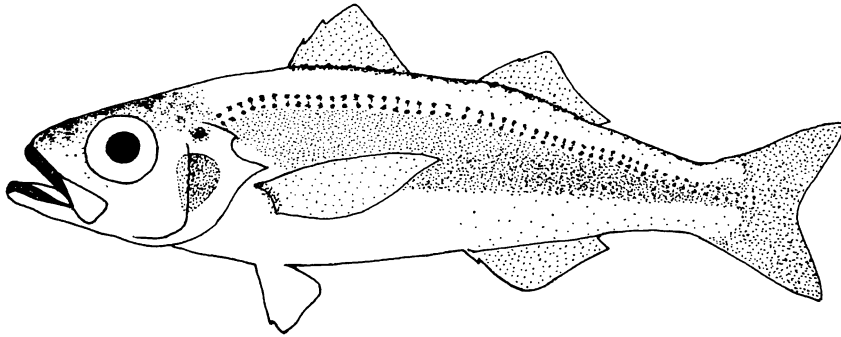


Fig. 1. General sketch of *Synagrops trispinosus*, showing the principal color characteristics observed in Colombian Caribbean specimens of both sexes.

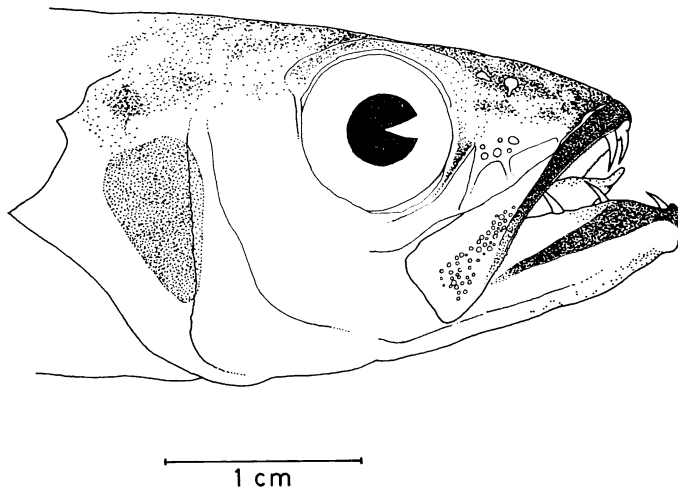


Fig. 2. Head region of female *Synagrops trispinosus* from the Colombian Caribbean.

in ethanol and with the skin devoid of scales, the body is pale yellow and has a lateromedial dark band that begins behind the head and extends until the base of the caudal fin, becoming narrower posteriorly. The band is limited dorsally by the lateral line, and is composed of densely packed melanophores. There is a silvery brown blotch on the opercle, and below it a silvery white blotch, which extends back to the pectoral fin base. The lateral line is delimited by two parallel rows of black dots; the lips are blackish, and there are many melanophores scattered over the dorsal region of head and in the dorsal, anal, caudal and pectoral fins. The pelvic fins are unpigmented.

All our specimens were sexually mature; the largest five were females in stages II to IV and probably V, and the smallest two were males in stages III and IV, following the scale of ripeness

of Nikolsky (1978). Since the majority of specimens were in poor state of preservation, gonads of only one female (98 mm standard length, 10.5 g wet weight in ethanol, state III of ripeness) could be examined in detail. Preserved gonads were 21 mm in length, 0.18 g in wet weight, and contained eggs in several stages of development. There were only nine ripe eggs of spherical shape, with a mean diameter of 0.76 mm, a perivitelline space and one oil droplet (only one had several small droplets). The rest of the ovaries was composed of numerous unripe eggs, with diameter varying between 0.03–0.42 mm; these eggs lacked perivitelline space and oil droplets.

The condition of sexual maturity and the fact that the specimens were captured at midwater, in a shallow depth far from their normal habitat, may suggest that *S. trispinosus* makes temporary

spawning migrations to shallower shelf waters and also that it may be a pelagic spawner. This kind of strategy which may be oriented to give suitable conditions for egg and larval development and to enhance their dispersion, is known in several deep water fishes (Nikolsky, 1978; Moyle and Cech, 1982). On the other hand, it also may be that these specimens were transported to such an unusual place by strong currents. In addition all of our specimens had the stomach and intestine empty, a fact that may be related to the unusual place of collection.

Synagrops trispinosus seems to be a carnivorous fish, as it is suggested by the habitat occupied, large eye and mouth and teeth structure (Fig. 2). The majority of the specimens of the species have been collected over soft bottoms, in many cases with shrimp nets. The structure of its mouth is very similar to that of other fishes that feed on soft bottoms, on shrimps and fish basically, such as the Caribbean sciaenids *Isopisthus parvipinnis*, *Macrodon ancylodon*, and the species of *Cynoscion* (Chao, 1978), which have large and oblique mouths, armed with two large canine teeth at the front of the upper jaw and at least one row of enlarged canines on each side of the lower jaw.

Acknowledgments

We thank the crew of the ARC B/O *Malpelo*, of the Armada Nacional de Colombia, for their efficiency and constant collaboration during the fishery cruise (INVEMAR 01585) which was founded by the Fondo Colombiano de Investigaciones Científicas y Proyectos Especiales "Francisco Jose de Caldas" (COLCIENCIAS), and the International Development Research Centre (IDRC), Canada. The English text was corrected by Dr. D. R. Robertson.

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カリブ海のコロンビア海岸より得られた *Synagrops trispinosus*

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カリブ海のコロンビア海岸沖の 36 m 以浅 (底深 80-140 m) から *Synagrops trispinosus* 7 個体 (体長 74.5-100.0 mm) が得られた。いずれも成熟しており、体長 98 mm 体重 10.5 g の雌は長さ 21 mm 重さ 0.18 g の卵巣を持っていた。その中に 9 個の球形の熟卵が見られ、直径の平均は 0.76 mm で、ほとんどは 1 個の油球を持っていた。本種の習性について考察した。