

NOTES

FIRST RECORD OF *ACENTRONURA DENDRITICA* (BARBOUR, 1905) (GASTEROSTEIFORMES: SYNGNATHIDAE) FROM MEXICO

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The syngnathids (pipefishes and seahorses) comprise ~215 species belonging to 52 genera. Most species occur in warm temperate to tropical waters but some pipefishes inhabit relatively cool waters (Nelson, 1994). They are mainly marine forms inhabiting shallow depths (0–50 m) but some can occur in both freshwater and estuarine waters (Dawson, 1982). *Acentronura dendritica* Barbour, 1905 is one of the 27 pipefish species known in the western Atlantic. This pipefish can be easily recognized from others by a unique combination of characters: ventrally coiled tail, a small caudal fin, elevated dorsal-fin base, and an essentially unsealed brood pouch. It is considered a transitional form between pipefishes and seahorses (Dawson, 1982; Robins et al., 1986).

Acentronura dendritica is a small, rare, solitary species; the largest known specimen is 81 mm standard length, SL (Dawson, 1982). Dawson (1982) presented information on 31 specimens (21–81 mm SL) of this species caught in the western Atlantic. This pipehorse has a wide distributional range between New Brunswick, Canada, and Pernambuco, Brazil. However, most of the known specimens are from the Atlantic coast of the U.S., the northern Gulf of Mexico, Canada, Bermuda, Bahamas, and Hispaniola (Böhlke and Chaplin, 1968; McEachran and Fechtelm, 1998). It has also been recorded in coastal waters of Cuba (Claro, 1994), Colombia (Acero and Garzón, 1988), and recently (1997) Belize (Anon. 2001). Thirty-one syngnathids are known to occur in Mexico, 15 of which are from the Caribbean region (Watson and Sandknop, 1996; Castro-Aguirre et al., 1999; Schmitter-Soto et al., 2000; Froese and Pauly, 2001).

MATERIALS AND METHODS

One specimen of *A. dendritica* was collected on 18 April 2000 at Xcalak, Quintana Roo (18°6' N, 87°49' W) which represents the first record of this species in Mexican Caribbean waters. Our specimen was collected in the reef lagoon at a 1 m depth at midday (1110 hrs) using sled gear. The reef lagoon is shallow and the bottom is covered by dense beds of *Thalassia testudinum* Banks & Soland. ex Koenig. Surface temperature (31°C) and salinity (34) were recorded during sampling. The specimen was deposited in the Colección de Larvas de Peces at ECOSUR, Chetumal (ECO-CH-LP2113). Another specimen of *A. dendritica* (ECO-CH-LP1804) was collected in 1997 (7 October) at Mahahual, Quintana Roo (18°42' N, 87°49' W) by H. Alvarez-Hernández and W. A. González López, Instituto Tecnológico de Chetumal. Collection was made in the reef lagoon at 1 m depth at 1331 hrs using a standard plankton net. Both specimens were measured following Dawson (1982).

RESULTS AND DISCUSSION

Two specimens of *A. dendritica* collected from the Mexican Caribbean differ primarily in coloration and ornamentation. The Xcalak specimen has brown blotches concentrated mainly in the ventral region, including dorsal and pectoral fins; the Mahahual

Table 1. Body proportions of two Mexican Caribbean specimens (this study), the holotype from Bermuda (Dawson, 1982), the only specimen known from the eastern Atlantic (found in Sierra Leone and cited in Acero and Garzón, 1988) and a Colombian specimen (Acero and Garzón, 1988), of pipehorses.

Character	Bermuda	Sierra Leone	Colombia	Xcalak, Mexico	Mahahual, Mexico
Standard length (mm)	72.5	35.0	30.0	29.5	31.0
Standard length / Head length	7.2	6.8	6.0	6.3	6.2
Head length / Snout length	3.1	2.1	2.9	2.6	2.5
Snout length / Snout depth	3.0	4.8	2.1	2.0	2.5
Head length / Length dorsal-fin base	2.1	2.2	2.2	2.2	2.3
Head length / Depth at anal ring	2.7	6.4	3.3	3.9	4.5
Head length / Trunk depth	1.9	3.6	2.9	3.4	3.8
Head length / Length pectoral-fin	4.4	5.1	3.8	4.7	5.0
Pectoral-fin length / Length pectoral-fin base	1.2	1.7	1.6	1.3	1.3

specimen is pale, with unpigmented dorsal and pectoral fins. These differences could be related to fixation and preservation. The Xcalak specimen is more ornamented and stout than the Mahahual specimen (Table 1). In both specimens the dorsal fin is inserted between the anterior margin of the last trunk ring and the anterior fourth of the first tail ring. This characteristic agrees with the description of the western Atlantic population (Dawson, 1982).

The body proportions of our specimens are very similar to those of the Colombian form (Acero and Garzón, 1988; Table 1). The Mexican and Colombian specimens (Table 1) differ from the Sierra Leone (eastern Atlantic) form in having relatively lower proportions of snout length depth, and head length/depth at anal ring. These differences in body proportions as well as the higher number of tail rings (43 in the eastern Atlantic specimen vs. 37–41 in the western Atlantic populations) noted by Acero and Garzón (1988) and confirmed by our data, support Dawson's (1982) hypothesis that the Sierra Leone specimen could be a separate species, but additional material must be examined in order to determine its taxonomic status.

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LITERATURE CITED

- Acero, P. and J. Garzón. 1988. First record of the pipefish *Acentronura* (*Amphelikturus*) *dendritica* (Syngnathidae) from the Caribbean. *Northeast. Gulf. Sci.* 10: 60–61.
- Anon. 2001. Fish collection database of the National Museum of Natural History (Smithsonian Institution) <www.mnh.si.edu>. Washington DC.
- Böhlke, J. E. and C. C. G. Chaplin. 1968. Fishes of the Bahamas and adjacent tropical waters. Livingston Pub. Co., Wynnewood. 771 p.

- Castro-Aguirre, J. L., H. S. Espinoza-Pérez, and J. J. Schmitter-Soto. 1999. Ictiofauna estuarino-lagunar y vicaria de México. Colección de Textos Politécnicos. Series Biotecnológicas. Limusa. 777 p.
- Claro, R. 1994. Características generales de la ictiofauna. Pages 55–70 *in* R. Claro, ed. Ecología de los peces marinos de Cuba. Instituto de Oceanología Academia de Ciencias de Cuba and Centro de Investigaciones de Quintana Roo. CIQRO, Chetumal, Quintana Roo.
- Dawson, C. E. 1982. The pipefishes (subfamilies Doryrhamphinae and Syngnathinae). Pages 10–13 *in* C.E. Dawson and R.P. Vari, eds. Fishes of the Western North Atlantic. Part eight: Order Gasterosteiformes, suborder Syngnathoidei, Syngnathidae. Sears Found. Mar. Res., Mem. 1, New Haven.
- Froese, R. and D. Pauly (Eds). 2001. Fishbase. World Wide Web electronic publication. <www.fishbase.org>, version 03/2004.
- McEachran, J. D. and J. D. Fechhelm. 1998. Fishes of the Gulf of Mexico. Vol. 1. Myxiniformes to Gasterosteiformes. University of Texas Press, Austin. 1112 p.
- Nelson, J. S. 1994. Fishes of the world. Wiley, New York. 600 p.
- Robins, C. R., G. C. Ray, and J. Douglass. 1986. A field guide to Atlantic coast fishes of North America. Houghton Mifflin Co., Boston. 354 p.
- Schmitter-Soto, J. J., L. Vásquez-Yeomans, A. Aguilar-Perera, C. Curiel-Mondragón, and J. A. Caballero-Vázquez. 2000. Lista de peces marinos del Caribe mexicano. Anales del Instituto de Biología. Universidad Nacional Autónoma de México. Serie Zoológica 71: 143–177.
- Watson, W. and E. M. Sandknop. 1996. Syngnathidae: pipefishes and seahorses. Pages 728–731 *in* H.G. Moser, ed. The early stages of fishes in the California Current region. CalCOFI Atlas 33. AllenPress, Inc., Lawrence.

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