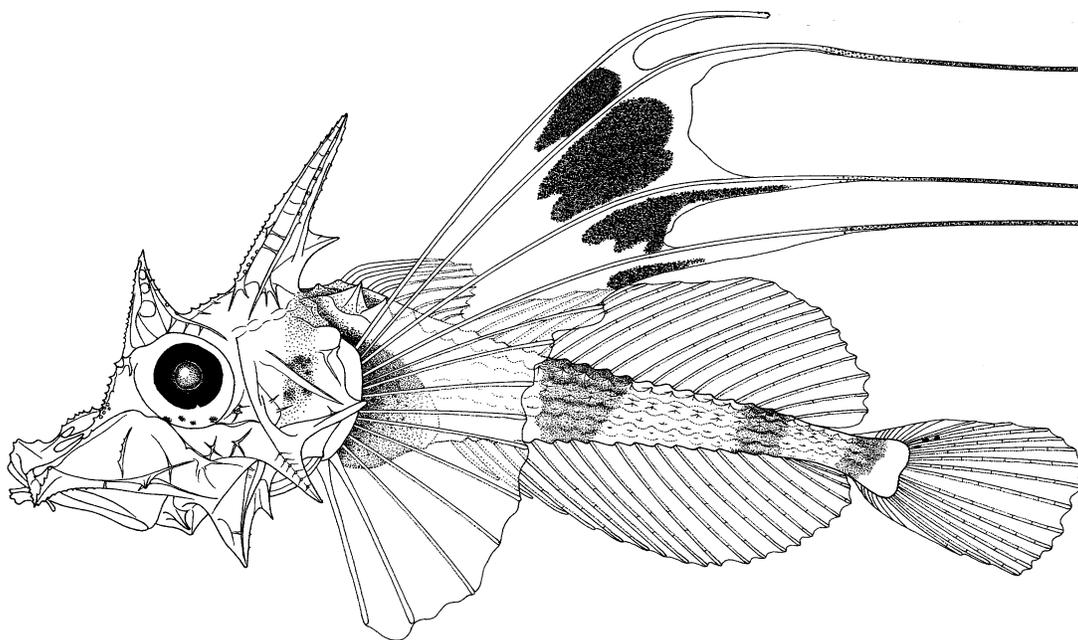




PRELIMINARY GUIDE TO THE IDENTIFICATION OF THE EARLY LIFE HISTORY STAGES OF  
PERISTEDIID FISHES OF THE WESTERN CENTRAL NORTH ATLANTIC

BY

WILLIAM J. RICHARDS



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Southeast Fisheries Science Center  
75 Virginia Beach Drive  
Miami, Florida 33149

February 2002

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This report should be cited as follows:

Richards, W. J. 2002. Preliminary guide to the identification of the early life history stages of peristediid fishes of the western central North Atlantic. NOAA Technical Memorandum NMFS-SEFSC-475, 7 p.

W. J. Richards, Editor. NOAA Fisheries, 75 Virginia Beach Drive, Miami, FL

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Author's addresses:

Dr. W. J. Richards

NOAA Fisheries

75 Virginia Beach Drive

Miami, FL 33149

E-mail: <bill.richards@noaa.gov>

Copies may be obtained by writing:

The author

or

National Technical Information Center

5825 Port Royal Road

Springfield, VA 22161

(800) 553-6847 or (703) 605-6000

<<http://www.ntis.gov/numbers.htm>>

The Family Peristediidae comprises five genera and less than fifty species inhabiting the continental slopes of the Atlantic, Pacific, and Indian oceans. For many years this family was treated as a subfamily of the Family Triglidae because both shared large, plate-like radial bones. A recent study by Imamura (1996) showed that the peristediids were allied with the Family Hoplichthyidae rather than the triglids within the Platycephaloidei of the Order Scorpaeniformes. Imamura (1996) placed them in a trigloid clade with the hoplichthyids as a sister group and the peristediids and hoplichthyids as a sister group of the triglids. Consequently the peristediids require recognition at the family level and not within the Triglidae.

All the western North Atlantic species are in the genus *Peristedion* and comprise 12 species, one of which is still undescribed (Miller & Richards, in press). Another species occurs to the south of our area. *Peristedion* also occurs in the Indian and Pacific oceans together with *Heminodus*, *Paraheminodus*, *Gargariscus*, and *Satyrichthys* (Richards 1999). Only the genus *Peristedion* (3 species) occurs in the eastern Pacific. The Atlantic peristediids comprise two species groups: those with narrow heads and those with broad heads. Meristic characters are very similar and larvae are rare in collections thus no progress has been made on specific identifications. Meristic data are provided in Peristediidae Table 1 and distribution data in Peristediidae Table 2. Illustrations are presented for a small size series of five specimens collected in our area. Pigment is limited to the eyes and tail with dark blotches on the trunk

or tail. Also shown is an *in situ* photo of a specimen collected in the North Sargasso Sea by Richard Harbison and kindly provided to me. This specimen is spectacular with extremely long filaments trailing from the upper four rays of the pectoral fins. The filaments have a dotted pattern of dark pigment (except the first which is light and reaches to the caudal rays while the other three are extremely long), dark pigment in the membranes of the upper pectoral rays, pigment spots over the mid-brain, and three blotches of dark pigment on the tail above the anal fin, midway along the tail, and on the caudal peduncle. A few small spots are on the upper longest secondary caudal fin ray. The gut area is dark after preservation, but was pink in life. The tips of the first two dorsal spines are darkly pigmented. The lower two pectoral fin rays are connected by membranes to the other rays whereas in adults the lower two rays are separate. The head is broad and features highly elevated supraocular spines and very highly elevated nuchal spines. Large spines are present on the lachrymal (first infraorbital) with one directed downward and one upward, a spiny ridge on the mesethmoid, three large spines on the preopercular – one lateral that curves dorsal, one directed posteriad, and one directed ventrally. The filamentous barbel is just developing and is 0.4 mm long. Scales are developed but are impossible to count accurately. The web version of this chapter includes the *in situ* color photos. The length of the elongated pectoral rays were not possible to measure as they are extremely fragile and tangled. From the *in situ* photos they

are several times the standard length of the specimen.

The only other peristediid illustration appears in Okiyama (1988 ) showing a 12.4 mm specimen with the similar head spines, similar color pattern, and filamentous pectoral rays that are not as elongated as the Atlantic specimen. The Okiyama specimen has separate lower 2 pectoral rays and no indication of barbel development.

Color patterns show differences that may indicate separate species, but with limited specimens nothing definitive may be said. Peristediid larvae are very unique and it is unlikely that they may be confused with other families. Epinepheline serranids have elongated rays fin spines and a distinctive ventral pigment spot, but lack the head armature and have very different meristic characters. Triglid larvae are deeper bodied, lack extensive head armature, and have different meristic characters.

Meristic characters are given in Table Peristediidae 1 and geographic ranges are given in Table Peristediidae 2.

The illustrated specimens are as follows:

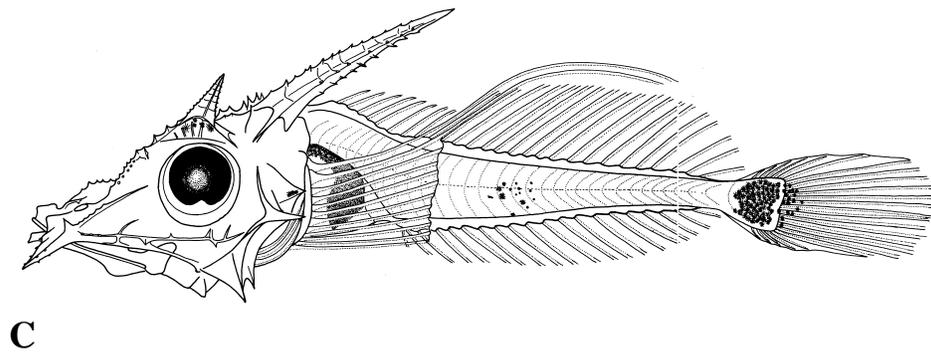
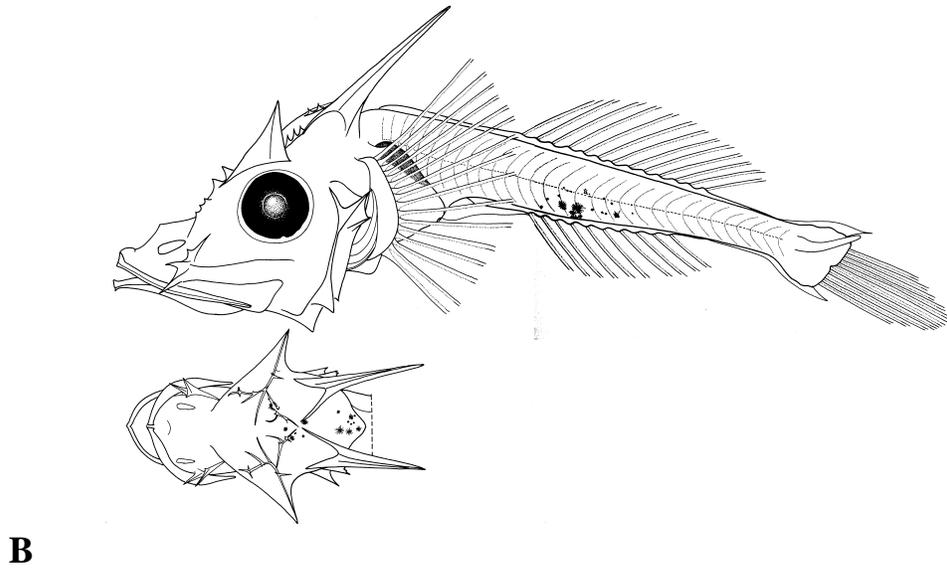
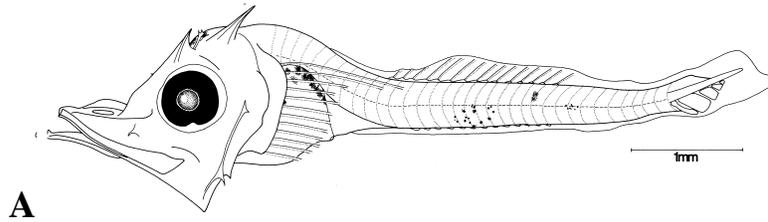
- A) 6.2 mm NL, lateral view, *OREGON II* , Cr. 166, Sta. 45404, Gulf of Mexico.
- B) 8.0 mm SL, lateral view & dorsal view of head, *OREGON II*, Cr. 166, Sta. 45402, Gulf of Mexico
- C) 11.7 mm SL, lateral view, *OREGON II*, Cr. 166, Sta. 45404, Gulf of Mexico.
- D) 12.5 mm SL, lateral view & dorsal view of head, *OREGON II*, SEAMAP #4016B3820420, Gulf of Mexico.
- E) 14.8 mm SL, SEFCAR Cruise CH9403, St. CCRG7, MOC 1, Net 7, 75-50 m depth, Straits of Florida.
- F) 19.8 mm SL, lateral view & dorsal view of head, MCZ 101677, North Sargasso Sea

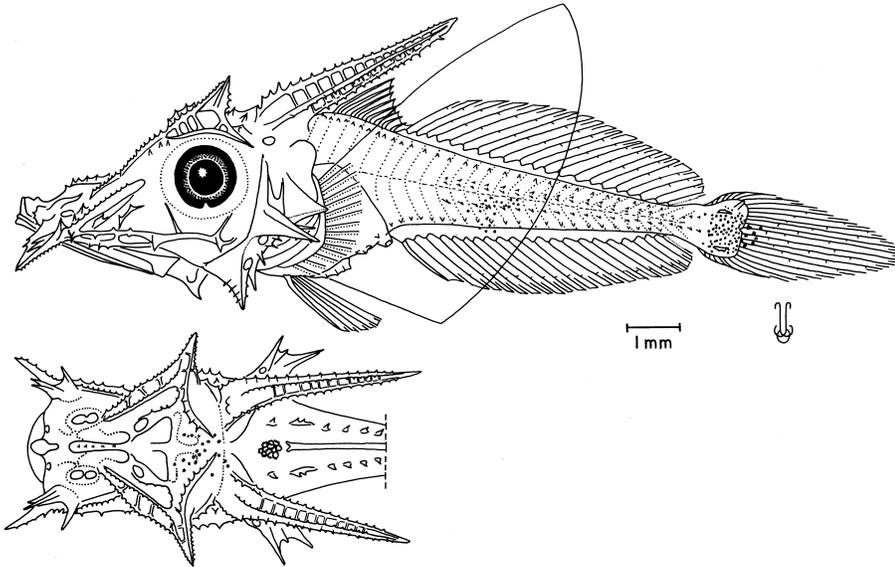
Table Peristediidae 1. Meristic characters of the species of the Family Peristediidae

Species	Fin Rays				Gill Rakers	Vertebrae
	First Dorsal	Second Dorsal	Anal	Pectoral		
<i>Peristedion</i>						
<i>altipinnis</i>	8	17	16	11+2	2+15	
<i>antillarum</i>	7-8	16-17	15-18	12-13+2	25-29	
<i>brevirostre</i>	7	17	17	12+2	2-4+10-13	
<i>ecuadorensis</i>	8	16-19	17-19	13-14+2	3-4+24-25	
<i>gracile</i>	8	19-20	19-21	12+2	2-3+19-27	10+25=35
<i>greyae</i>	8	18-20	18-21	11-13+2	5-7+16-21+3-5	9+25=34(33-35)
<i>imberbe</i>	8	18-19	19	11-12+2	4-5+20-25	9+24=33
<i>longispatha</i>	8	17	17	12+2	4+17-19	
<i>miniatum</i>	7-8	17-18	17-19	12-13+2	2-3+18-22	
<i>thompsoni</i>	7	15	16	12+2	2+18-22	
<i>truncatum</i>	8	21	18	12+2	3-4+21-25	
<i>unicuspis</i>	8	19-20	20	12+2	4+17+4	33
n. sp. "t"	8	20-21	21-22	11-12+2	3-5+17-26	

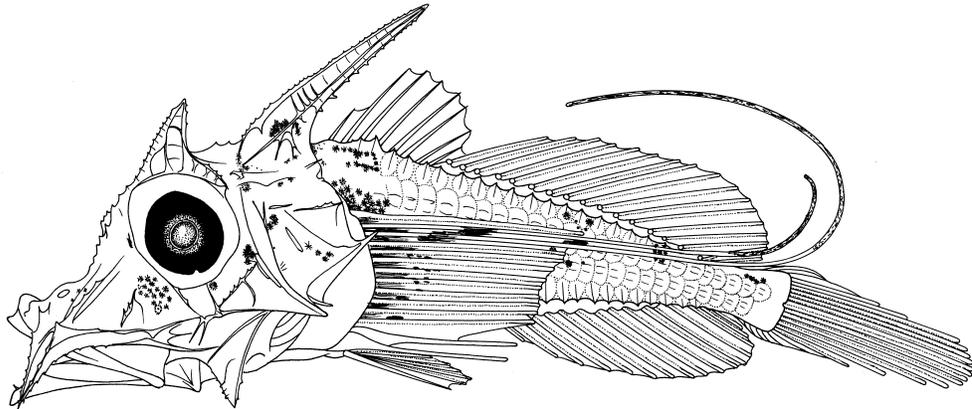
Table Peristediidae 2. Geographic ranges of the species of the Family Peristediidae

Species	Distribution
<i>Peristedion</i>	
<i>altipinnis</i>	Southern Brazil
<i>antillarum</i>	Antillean including Straits of Florida, offshore banks from Honduras to Panama, depth range 329-649 m
<i>brevirostre</i>	Primarily Antillean but offshore from Honduras to Nicaragua; depth range 220-527 m
<i>ecuadorensis</i>	Coastal from Virginia south into Gulf of Mexico & from Honduras south to Brazil & Lesser Antilles; depth range 324-910 m
<i>gracile</i>	Virginia south to Florida Keys, into Gulf of Mexico; depth range 29-475 m
<i>greyae</i>	Continental Shelf Virginia south through Gulf of Mexico to Campeche Bank, Honduras to Tobago & one record from Brazil, also found at Cay Sal Bank & Tongue of the Ocean, Bahamas; depth range 179-914 m
<i>imberbe</i>	Honduras south to Brazil, & insular in lower Lesser Antilles; depth range 137-457 m
<i>longispatha</i>	Antillean & Gulf of Mexico off Mississippi Delta; depth range 101-780 m
<i>miniatum</i>	Canada & Georges Bank south through Gulf of Mexico, & from Honduras to Brazil, excluding Antilles; depth range 64-914 m
<i>thompsoni</i>	North Carolina south around Florida Keys & northern Gulf of Mexico & from Honduras to Brazil along the coast; depth range 115-475 m
<i>truncatum</i>	New Jersey south to Brazil including the gulf of Mexico, Caribbean Sea, & Lesser Antilles; depth range 155-910 m
<i>unicuspis</i>	Cay Sal Bank, Straits of Florida, known from 2 specimens; depth of 530 m
n. sp. "t"	Antillean, including Florida Keys, Antilles & Belize and Nicaragua; depth range 219-549 m

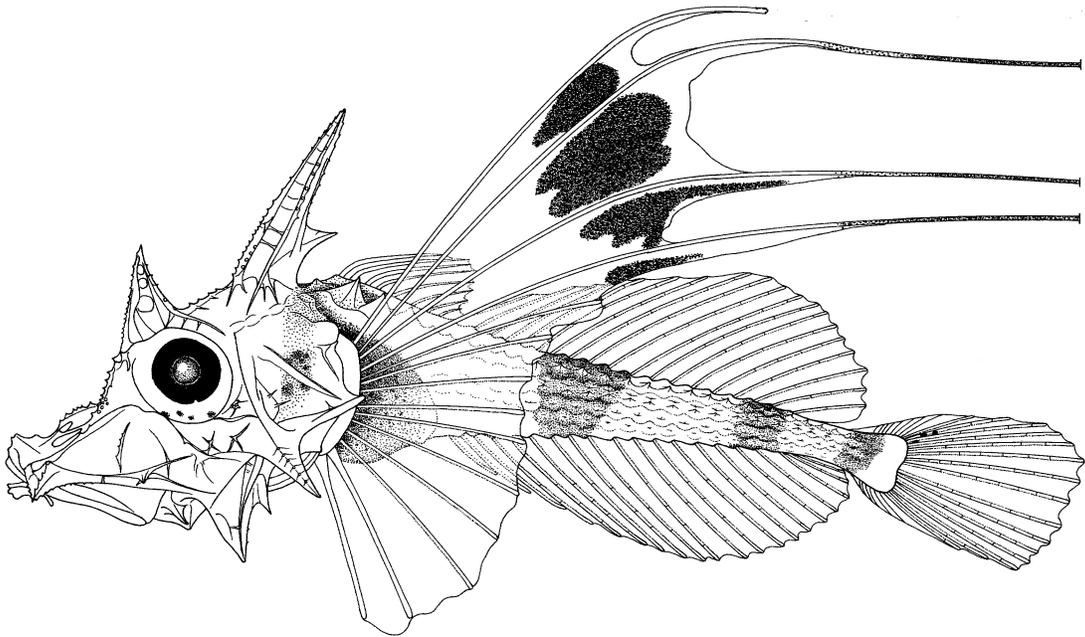
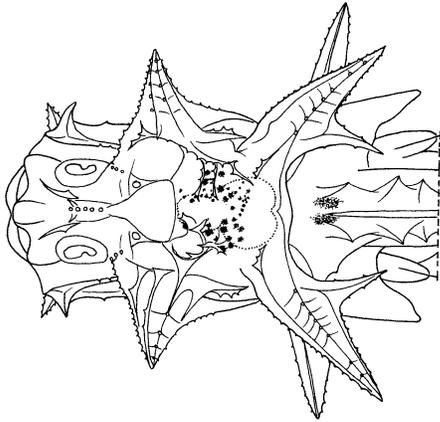




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