FIRST CANADIAN RECORD OF YELLOWFISH BASS, ANTHIAS NICHOLSI FIRTH, TAKEN OFF NOVA SCOTIA

An unusual red and yellow fish was caught by Japanese squid fishermen on the Mikani Maru using a semipelagic bobbin trawl at 190 m, at station 140 on the Scotian Shelf at 1355 h, 3 July 1980. We identify the species as the yellowfin bass, Anthias nicholsi Firth, (Fig 1) described from off Virginia. This is the first record of the species for Canada. The specimen is catalogued as Nova Scotia Museum No. NSM-980-120-1(1).


The following account follows the format used in Leim and Scott (1966). Anthias is usually placed in the subfamily Anthiidae of the family Serranidae, for example by Heemstra (1973), although some authors such as Smith (1961) place it in its own family, Anthiidae. Disjunct lateral lines are used to characterize some serranoid families and subfamilies (Böhle 1960) yet many species of Anthias possess and some lack continuous lateral lines. Whether, in Anthias, disjunct lateral lines are evidence of parallelism in or polyphyly of the genus, is unknown. Our counts and proportions are followed in parentheses by Firth’s (1933) counts for the type specimens.

Yellowfin bass, Anthias nicholsi Firth, 1933
Barbier ligne-en-paller

Description

Body moderately elongate, deepest at level of pelvic fins, depth 2.6 (2.3) in standard length, caudal peduncle high. Head 2.7 (3.0) in standard length, blunt, profile steep; 3 opercular spines, preopercular serrated, spines enlarged at angle; mouth superior, angle oblique, upper jaw reaching just past mid-orbit. Inner teeth in jaws small, outer row enlarged, canines at front corners of jaws, those of lower jaw larger. Gill rakers 12 + 29 = 41 (8 + 27 = 35), long, length about 2/3 of orbit. Orbit 3.6 (3.3) in head length, about equal to snout length. Fins: dorsal (1), X, 14 (X,15) spinous and soft dorsal continuous, latter higher, spines provided with membranous flags, origin over pectoral base and insertion on caudal peduncle; caudal fin moderately forked; anal III,7 (III,7); first spine shorter than next 2 which are long, origin below soft dorsal; pectorals moderate, 17; most rays branched; length 1.2 (1.4) in head length; pelvics longer than pectorals, reach first soft anal ray, length 0.9 (0.9) in head length. Lateral line present, follows curve of back to an interruption just before caudal peduncle, continues on middle of side of caudal peduncle to caudal base; 22 + 7 = 29 (33) pored scales. Scales large, ciliated, covering body, sides and top of head. Vertebrae 26.

Coloration

Our specimen when received was yellow on the back, with a trace of red on some scales, becoming silvery yellow on the abdomen. Two dark yellow stripes on the sides of the head extend to the pectorals; 1 stripe below the eye extends
Fig. 1. Yellowfin bass, *Anthias nicholsi*, captured by Japanese squid fishermen using a semipelagic bobbin trawl at 190 m, at station 140 on the Scotian Shelf (42°38'N, 64°41'W) at 1355 hrs, 3 July 1980. Neg. File No. 9536.
the entire length of the head, while the other begins just behind the eye. Fins are a
darker yellow, with trailing edges of each fin red. This accords with Firth’s (1933)
type description, except there was a deep blue blotch in the middle of the back
below the first dorsal spine; this in formalin turned olive. Also, there were 3 or 4
more-or-less well-defined lengthwise stripes on the body, although a trace of 1
yellow stripe above the lateral line remains in our specimen.

Distinctive Characters
Distinguished from other Canadian serranids by the large scales, moderately
elongated body, large eyes and long pelvic fins. Distinguished from other fishes
by the 3 opercular spines, large eyes, long pelviccs and high interrupted lateral
line.

Size
Our specimen, preserved, is 125 mm in standard and 163 mm in total length
and weighs 64.8 g. Firth’s (1933) type specimen was 150 mm in standard and 191
mm in total length.

Distribution
The yellowfin bass was described from a trawl catch east by south of
Chesapeake Light Vessel and from 50 mi (80 km) east-half-north of Cape Henry,
Virginia. Subsequently it was reported off Cape May, Ocean City, New Jersey
(Fowler 1952). The Scotian Shelf specimen, probably a stray, extends the known
range northwards more than 500 km. Canadian distribution: The present speci-
men was caught south of and between Baccaro and LaHave Banks off southeast
Nova Scotia at 42°38’ N, 64°41’ W in 190 m.

Biology and Economics
The yellowfin bass is apparently a benthic shelf species inhabiting depths of 73
to 190 m. Its canine teeth suggest that it preys on small fishes or invertebrates.
Nothing else appears to be known of its life history (Hardy 1978), except that a
21.5-mm larva doubtfully of this genus and species was caught 14 August 1976 on
the Scotian Shelf (Markle et al. 1980). The species is not fished by commercial
fishermen.

Discussion
Our specimen can be distinguished from the only other American species of
Anthias, the crimson bass, Anthias asperilinguis Günther, by its 29 to 33 instead of
37 pored scales, lack of outer filamentous caudal fin rays and lack of teeth on
the tongue.

Our specimen differs modestly from the types in some body proportions (body
depth, head length, and orbit diameter) and in number of pored scales, 29 instead
of 33, and more trenchantly in 41 instead of 35 gill rakers. Without additional
specimens it seems unwise to emphasize these differences. The presence of flags
on the dorsal spines of the Scotian Shelf specimen and their absence in the types
may be due to differences in maturity or sex. Similar flags on the first dorsal
spines are portrayed for Anthias anthius (Linnaeus) by Fowler (1936, Fig 341, from
Lowe). It therefore appears wisest to identify our specimen with Anthias nicholsi
Firth.
Acknowledgements

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References


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