PUGHEADED SPOTTED SEA TROUT IN NORTH CAROLINA

FRANK J. SCHWARTZ and DUSTIN JONES

University of North Carolina
Institute of Marine Sciences
Morehead City, North Carolina 28557-3209

Pugheadedness was first reported in the fresh water fish, carp (*Cyprinus carpio* Linnaeus, 1758, family Cyprinidae) in 1554 (Fig. 1) (Gudger 1928). Other species have exhibited pugheadedness (Gudger 1930), most notably the marine fish, Striped Bass (*Morone saxatilis* Walbaum, 1796, family Moronidae) Gudger 1930; Manuseti 1960; Lyman 1960; Cheek 1966).

Pugheadedness, to date, has been reported for two female spotted Sea Trout (*Cynoscion nebulosus* Linnaeus, 1830, family Sciaenidae) caught by hook and line in Louisiana (Rose and Harris 1968; Hine and Shepard

1980; Overstreet 1983). Sizes were: 392 mm SL caught by Rose and Harris (1968) 396 mm SL, 841 g. caught by Hine and Shepard 1980).

Cheek (1966) reported the only pugheaded fish caught in North Carolina, a Striped Bass. A Spotted Sea Trout (NCMS 74131), that ranges from New York south to the Gulf of Mexico (McEachran and Fechhelm 1989) exhibiting pugheadedness was caught 14 January 2013 on an artificial lure while fishing unpolluted Smyrna creek, a short tributary that enters Core Sound, Carteret County, North Carolina. It was 323 mm SL, 358 mm TL, weight 569 g.

FIG. 1. 1554 Pug-headed Carp in Gudger (1928).

FIG. 2. Pugheaded Spotted Sea Trout caught in Smyrna Creek, N.C.

Table 1. Morphologic and meristic comparisons between "normal" and pugheaded Spotted Sea Trout in North Carolina, expressed in % SL.

Normal	Pugheadedness
Head 30–33	28
Snout 8–9	8
Eye diameter 5–7	4.8
Interorbital distance 5–6	7.2
Upper jaw 12–15	10.5
Body Depth 21–26	24.9
Pectoral fin length 15	14.1
Pectoral fin rays 15–18	15
Dorsal 1 spines 1–8	1–9
D 1 rays 25–28	24
Anal rays 10–11	8
SL	333
TL	390
Weight	529 g

External and x-ray examination (Fig. 2) of the pugheaded Spotted Sea Trout found extreme shortening of the head, snout, small eyes, shortened upper jaws and greater inter-orbital distances (Table 1). Other features of the pugheaded Spotted Sea Trout were similar to "normal specimens" except for dorsal and ray fin counts (Table 1).

Mansueti (1960) postulated that pugheadedness was the result of environmental conditions and heredity, not physical injury. Thus, the reasons pugheadedness occurred in the Spotted Sea Trout in North Carolina remains a mystery.

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