

ADDITIONAL FISHES INHABITING NORTH CAROLINA’S ESTUARINE AND MARINE OCEAN WATERS TO 2,000+ m DEPTHS

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Abstract: Improved sampling by otter trawls, ships that are capable of sampling deeper waters, submersible observations, visual observations and published studies reveal 244 additional fish species inhabit estuarine to 2,000+ m ocean water depths off North Carolina.

Key Words: fishes; estuarine; deep-water; Atlantic Ocean; North Carolina.

INTRODUCTION

Schwartz (1989) listed 685 species of fishes within 149 families occurring from estuaries to 600 m water depths of the Atlantic Ocean off North Carolina by faunal composition, physical provinces, depth distribution, habitat preference, type of fish and type of movement. Since then, because of improved sampling with otter trawls, ships that are capable of sampling deep waters, submersible observations, visual observations, and published regional papers, I now report 244 additional fish species within 92 fish families inhabiting the sounds to 2,000+ m depths off North Carolina (Table 1). I do not include species that have simply been reported having a north/south or worldwide distribution unless known captured specimens exist from State waters. The Literature Cited entries have been selected to include the most important references, although many other papers may mention a particular species found in this list. These are: McEachran and Fechhelm (1998, 2005); Munroe (1998); Clarke (2000); Collette and Klein - MacPhee (2002); Carpenter (2003a,b); Moore et al. (2003); Ross and Rhode (2003); Quattrini et al. (2004) and Ross et al. (2007). Papers dealing with new descriptions are: Nakabo and Hartel (1999); Sutton and Hartel (2004); McCosker and Ross (2007); Kenaley (2007) and Fernholm and Quattrini (2008). Revisionary works are: Caruso (1989); Smith (1989); Harold (1999) and Zahuranec (2000). Papers noting species new to the area are: Schwartz (1990, 1993a,b, 2003, 2011); Schwartz et al. (1995). Pine et al. (2005) reported the introduction of the flathead catfish, *Pyliodictus olivaris*, into coastal North Carolina rivers while Hare and Whitford (2003) documented the establishment of the invasive lionfish *Pterois volitans* in coastal and deep ocean waters off North Carolina. Nelson (2006) and Nelson et al. (2004) noted that several species name changes are necessary for some species in Schwartz (1989) and this new list. Captures of additional species off North Carolina awaits additional effort and more intensive area sampling.

Table 1. Fishes frequenting estuarine and marine Atlantic ocean waters of North Carolina to 2,000+ m depths, listed by family and species. Letters in the Literature Cited refer to published papers where a species is reported. Depth (in meters); S = primarily Surface; P = pelagic.

Family /Species	Reference
MYXINIDAE (Hagfishes)	
<i>Eptatretus lopheliae</i> Fernholm and Quattrini 2008 (430–442)	F
ODONTASPIDIDAE (Sand tigers)	
<i>Odontaspis ferox</i> (Risso, 1810) (13–655)	S4
SCYLIORHINIDAE (Cat sharks)	
<i>Galeus arae</i> (Nichols, 1927) (292–732)	S4
CARCHARINIDAE (Requiem sharks)	
<i>Carcharhinus galapagensis</i> (Snodgrass and Heller, 1905) (0–230)	S4
<i>Carcharhinus perezii</i> (Poey, 1876) (0–30)	S7
ECHINORHINIDAE (Bramble sharks)	
<i>Echinorhinus brucus</i> (Bonnaterre, 1788) (400–900)	S3
SQUALIDAE (Dogfish sharks)	
<i>Cirrhigaleus asper</i> (Merrett, 1973) (3–600)	S3
CENTROPHORIDAE (Gulper sharks)	
<i>Centrophorus niaukang</i> Teng, 1959 (1,000–1,350)	Cj
ETMOPTERIDAE (Lantern sharks)	
<i>Centroscyllium fabricii</i> (Rheinhardt, 1825) (180–1,600)	C
PSEUDOCARCHARIDAE (Crocildle sharks)	
<i>Pseudocarcharias kamoharai</i> (Matsubara, 1936) (1,000–1,370)	Cj
RAJIDAE (Skates)	
<i>Breviraja cloromaculatus</i> McEachran and Matheson, 1985 (0–620)	S4
<i>Dipturus teevani</i> (Bigelow and Schroeder, 1951) (306–1,900)	S4
<i>Neoraja carolinensis</i> McEachran and Stehmann, 1984 (695–1,010)	S4
<i>Rajella bigelowi</i> (Holt and Byrne, 1908) (50–456)	S4
HALOSAURIDAE (Halosaurs)	
<i>Aldrovandia phalacra</i> (Valliant, 1888) (500–2,500)	M

Table 1. Continued.

Family /Species	Reference
NOTACANTHIDAE (Spiny Eels)	
<i>Notacanthus chemnitzii</i> , Bloch, 1788 (128–3,285)	M
MORINGUIDAE (Spaghetti eels)	
<i>Moringua edwardsi</i> (Jordan and Bollman, 1889) (750–870)	R
<i>Neoconger mucronatus</i> Girard, 1858 (0–5)	R
CHLOPSIDAE (False Morays)	
<i>Chlopsis bicolor</i> (Rafinesque, 1810) (32–157)	R
MURAENIDAE (Moray eels)	
<i>Gymnothorax conspersus</i> Poey, 1867 (0–200)	K, R
<i>Gymnothorax hubbsi</i> Bohlke and Bohlke, 1977 (60–90)	K
<i>Gymnothorax kolpos</i> , Bohlke and Bohlke, 1980 (75–100)	K, MC
<i>Gymnothorax maderensis</i> (Johnson, 1862) (150–280)	M
<i>Gymnothorax miliaris</i> (Kaup, 1856) (0–113)	R
<i>Gymnothorax vicinus</i> (Castelnau, 1855) (0–113)	R
SYNAPHOBRANCHIDAE (Cutthroat eels)	
<i>Derichthys serpentinus</i> Gill, 1884 (1,463–1,829)	D
<i>Nessorhynchus ingolfianis</i> Schmidt, 1912 (119–2,000)	D
<i>Histrobranchus bathybius</i> Gunther, 1877 (731–4,700)	R
<i>Synaphobranchus affinis</i> Gunther, 1877 (500–1,500)	R
<i>Synaphobranchus brevidorsalis</i> Gunther, 1877 (515–1,200)	R
OPHICHTHIDAE (Snake eels)	
<i>Callechelys guineensis</i> (Osorio, 1893) (0–36)	R
<i>Callechelys muraena</i> Jordan and Evermann, 1887 (27–115)	R
<i>Echiophis punctifer</i> (Kaup, 1860) (0–100)	R
<i>Lepophidium staurspor</i> Robins, 1958 (10–720)	Q
<i>Myrichthys breviceps</i> (Richardson, 1848) (105–223)	M, R
<i>Myrichthys ocellatus</i> (Lesueur, 1825) (0–7)	R, RO
<i>Myrichthys platyrhynchus</i> Breder, 1927 (0–10)	N
<i>Ophichthus brevirostris</i> McCosker and Ross, 2003 (370–440)	MCR, RO
<i>Ophichthus melanopus</i> Kanazawa, 1963 (51–460)	R
<i>Ophichthus puncticeps</i> (Kaup, 1860) (20–200)	R, RO
NEMICHTHYIDAE (Snipe eels)	
<i>Labichthys carinatus</i> (Poey, 1867) (1,200–2,000)	M, R
CONGRIDAE (Shorttail eels)	
<i>Gnathopis bathytopos</i> (Smith and Kanazawa, 1977) (90–366)	MC, R
<i>Gnathopis bracheatopos</i> (Smith and Kanazawa, 1977) (55–1,102)	MC, R
<i>Pseudopichthys splendens</i> (Lea, 1913) (37–1,649)	MC
<i>Rhynchoconger flavus</i> (Goode and Bean, 1896) (26–183)	D
NETTASTOMATIDAE (Duckbill eels)	
<i>Hoplunnis diomediana</i> Goode and Bean, 1896 (39–103)	M
<i>Hoplunnis tenius</i> Ginsburg, 1951 (40–468)	M
<i>Nettenchelys exorius</i> Bohlke and Smith, 1981 (0–139)	R

Table 1. Continued.

Family /Species	Reference
<i>Saurenhelys congnita</i> Smith, 1989 (97–878)	R
<i>Venefica procera</i> Goode and Bean, 1883 (350–2,304)	M, R
ICTALURIDAE (North American catfishes)	
<i>Pyliodictus olivaris</i> (Rafinesque, 1818) (0–202)	P
ALEPOCEPHALIDAE (Slickheads)	
<i>Narctetus stomias</i> (Gilbert, 1890) (500–2,503)	C, M
SALMONIDAE (Salmonids)	
<i>Oncorhynchus mykiss</i> (Walbaum, 1792) (0–200)	S2
GONOSTOMATIDAE (Bristlemouths)	
<i>Gonostoma atlanticum</i> Norman, 1930 (300–600)	M
STERNOPTYCHIDAE (Marine hatchet fishes)	
<i>Maurolicus weitzmani</i> Parin and Kobylansky, 1993 (100–400)	C, MC
<i>Polyipnyus clarus</i> Harold, 1994 (300–417)	G, HA, MC
<i>Polyipnyus laternatus</i> Garman, 1899 (0–666)	HA
<i>Valenciennellus tripunctulatus</i> (Esmark, 1871) (351–550)	K, MC
<i>Vinciguerria nimbaria</i> (Jordan and Williams, 1895) (0–400)	C, G, M
PHOSICHTHYIDAE (Lightfishes)	
<i>Aristostomias grimaldi</i> Zugmayer, 1913 (25–800)	M
<i>Bathophilus altipinnis</i> Beebe, 1953 (402–1,464)	M
<i>Bathophilus brevis</i> Regan and Trewavas, 1930 (75–1,650)	M
<i>Chauliodus danae</i> Regan and Trewavas, 1929 (300–3,500)	M
<i>Chauliodus sloani</i> Bloch and Schneider, 1801 (1,000–1,800)	M
<i>Flagellostomias boureei</i> (Zugmayer, 1913) (75–1,825)	M
<i>Grammatostomias flagellibarba</i> Olton Byrne, 1910 (600–800)	M
<i>Pachystomias microidon</i> Kenaley, 2000 (0–250)	HT
<i>Pollichthys mauli</i> (Poll, 1953) (3–500)	R
<i>Vinciguerria attenata</i> (Cocco, 1838) (200–700)	MC
<i>Vinciguerria nimbaria</i> (Jordan and Williams, 1895) (0–150)	G, M
<i>Vinciguerria poweriae</i> (Cocco, 1838) (300–400)	M
STOMIIDAE (Barbled dragonfishes)	
<i>Bathophilus brevis</i> Regan and Trewavas, 1930 (75–1,650)	M
<i>Eustomias bigelowi</i> Welsh, 1923 (0–750)	CL
<i>Eustomias borealis</i> Clarke 2000 (0–750)	CL
<i>Eustomias contatius</i> Goman, 1985 (0–835)	HD
<i>Eustomias jimcragaddocki</i> Sutton and Hartel 2004 (0–1,930)	HT, ST
<i>Eustomias macronema</i> Regan and Trewavas, 1930 (0–630)	CL
<i>Eustomias paucifilis</i> Parr, 1927 (0–250)	CL
<i>Eustomias satterlei</i> Beeb, 1933 (0–6000)	CL
<i>Melanostomias bartonbeani</i> Parr, 1927 (300+)	M
<i>Melanostomias melapogon</i> Reagan and Trewavas, 1930 (0–250)	MC
<i>Stomias affinis</i> , Gunther, 1887 (0–2,000)	M
CLOROPHTHALMIDAE (Greeneyes)	
<i>Parasudis truculenta</i> (Goode and Bean, 1896) (183–480)	M

Table 1. Continued.

Family /Species	Reference
PARALEPIPIDAE (Barracudinas)	
<i>Arctozenis rissoi</i> (Bonaparte, 1840) (200–1,000)	C
<i>Lestidium atlanticum</i> Borodin, 1928 (0–1,200)	M
<i>Lestidium intermedia</i> (Poey, 1868) (0–1,600)	M
<i>Macroparalepus affinis</i> Ege, 1933 (400–1,000)	M
NESCOPELIDAE (Black chins)	
<i>Nescopeelus macrolepidotus</i> Johnson, 1863 (300–800)	M
MYCTOPHIDAE (Lanternfishes)	
<i>Benthoosema glaciale</i> (Rheinhardt, 1837) (275–850)	M
<i>Diaphus brachycephalus</i> Taning, 1928 (0–225)	M
<i>Diaphus dumerili</i> (Bleeker, 1856) (225–750)	M
<i>Diaphus garmani</i> Gilbert, 1906 (325–650)	M
<i>Diaphus mollis</i> Taning, 1928 (325–650)	M
<i>Myctophum selenops</i> Taning, 1928 (40–225)	M
BREGMACERAOTIDAE (Codlets)	
<i>Bregmaceros cantori</i> (Cantori Millikens and Houde, 1984) (0–60)	M
MACROURIDAE (Grenadiers)	
<i>Caelorinchcus caelorhinus</i> (Risso, 1810) (200–500)	M, K
<i>Caelorinchcus caribbaeus</i> (Goode and Bean, 1886) (200–700)	K, M
<i>Coryphanaeoides armatus</i> (Hector, 1875) (2,000–4,700)	M
<i>Coryphanaeoides carapinus</i> Goode and Bean, 1883 (1,000–3,000)	M
<i>Coryphanaeoides rupestris</i> Gunnerus, 1765 (400–1,200)	M
<i>Gadomus dispar</i> Valliant, 1888 (550–1,105)	M
MORIDAE (Deepsea cods)	
<i>Gadella imberbis</i> (Valliant, 1888) (129–905)	K, M
<i>Laemonema barbatulum</i> (Goode and Bean, 1883) (50–1,620)	K, M
<i>Laemonema goodebeanorum</i> Melendez and Markle, 1998 (80–792)	K, M
<i>Laemonema melanurum</i> (Goode and Bean, 1896) (452–644)	M
<i>Physiculus kerrerae</i> (Paulin, 1989) (381–443)	K
MELANONIDAE (Atlantic cods)	
<i>Melanomus zugmayeri</i> Norman, 1930 (0–1,291)	K, M
PHYSIDAE (Rocklings)	
<i>Enchelyopus cimbrius</i> (Linnaeus, 1766) lpar;20–900)	K, M
<i>Urophycis tenuis</i> (Mitchill, 1814) (0–1,000)	K, M
CARAPIDAE (Pearlfishes)	
<i>Carapus bermudensis</i> (James, 1874) (48–235)	K, MC
MERLUCIIDAE (Merluccid hakes)	
<i>Steindachneria argentea</i> Goode and Boen, 1896 (400–500)	HT
OPHIDIIDAE (Cusk-eels)	
<i>Brotulotaenia brevicauda</i> Cohen, 1974 (0–2,650)	K
<i>Lepophidium breviparbe</i> (Cuvier, 1829) (18–75)	K
<i>Neobythites marginatus</i> Goode and Bean, 1886 (329–549)	NE

Table 1. Continued.

Family /Species	Reference
<i>Ophidion robinsi</i> Fahay 1992 (12–45)	F A
BYTHITIIDAE (Viviporus brotulids)	
<i>Diplacanthopoma brachysoma</i> Gunther, 1887 (439–752)	M
CHAUNACIDAE (Sea toads)	
<i>Bathychaunax roseus</i> (Barbour, 1941) (1,829–1,957)	CA, K
OGOCEPHALIDAE (Batfishes)	
<i>Ogocephalus cubifrons</i> (Richardson, 1836) (5–115)	K, S7
<i>Zalieutes mcgintyi</i> (Fowler, 1952) (3–170)	K, S7
ONEIRODIDAE (Dreamers)	
<i>Dolopichthys karstoni</i> Leipertz and Pietsch, 1987 (0–1,200)	M
MUGILLIDAE (Mulletts)	
<i>Agonostomus monticloa</i> (Bancroft, 1834) (0–5)	C, K
EXOCETIDAE (Flying fishes)	
<i>Cypselurus comatus</i> (Mitchell, 1815) S	Q
<i>Exocoetus obtusirostris</i> Gunther, 1866 S	K
<i>Hirundichthys rondeletii</i> (Valenciennes, 1847) S	K
<i>Hirundichthys speculiger</i> , (Vaelenciennes, 1847) S	K
<i>Parexocoetus hillianus</i> (Gosse, 1851) S	F
<i>Prognichthys occidentalis</i> Parin, 1999 S	K
HEMIRAMPHIDAE (Halfbeaks)	
<i>Hyporhamphus meeki</i> Banford and Collette, 1993 (0–15)	K
<i>Oxyporhamphus micropterus similis</i> Bruun, 1935 (0–10)	K
STEPHANOBERYCIDAE (Pricklefishes)	
<i>Acanthokaenus lutkenii</i> Gill, 1884 (1,655–8,400)	S1
ANOLOGASTRIDAE (Fangtooths)	
<i>Anoplogaster cornuta</i> (Vaelenciennes, 1833) (640–1,900)	B
HOLOCENTRIDAE (Squirrelfishes)	
<i>Ostichthys trachypoma</i> (Gunther, 1859) (200–400)	C
TRACHICHTHYIDAE (Roughies)	
<i>Geophyroberyx darwini</i> (Johnson, 1866) (9–1,210)	K
<i>Hoplostethus mediterraneus</i> Cuvier, 1929 (180–1,466)	K
SYNGNATHIDAE (Pipefishes)	
<i>Anarchopterus criniger</i> (Bean and Dresel, 1884) (0–11)	K
<i>Cosmocampus hildebrandi</i> (Herald, 1965) (4–73)	C, M
<i>Syngnathus reedi</i> Ginsburg, 1933 (0–55)	K
SCORPAENIDAE (Scorpionfishes)	
<i>Pterios volitans</i> (Linnaeus, 1758) (80–260)	H
TRIGLIDAE (Searobins)	
<i>Prionotus alatus</i> Goode and Bean, 1883 (55–457)	C, M
PERISTIIDAE (Armored searobins)	
<i>Peristedion ecuadorensis</i> Teague, 1961 (324–910)	MC, RI
<i>Peristedion greyae</i> Miller, 1967 (183–833)	MI
<i>Peristedion miniatum</i> (Goode, 1880) (64–910)	MC
<i>Peristedion thompsoni</i> Fowler, 1952 (115–475)	K, MC

Table 1. Continued.

Family /Species	Reference
<i>Peristedion truncatum</i> (Gunther, 1880) (440–670)	MC
LIPARIDAE (Cyclopteridae) (Snailfishes)	
<i>Paraliparis copei</i> Goode and Bean, 1896 (260–1,008)	M
<i>Paraliparis garmani</i> (Burke, 1912) (550–1,000)	M
<i>Paraliparis hystrix</i> Merritt, 1893 (82–1,008)	HT
ACROPOMATIDAE (Lantern bellies)	
<i>Synacrops bellus</i> (Goode and Bean, 1896) (60–90)	M
<i>Synacrops spinosus</i> Schultz, 1940 (100–400)	M
SYMPHYSANODONTIDAE (Slopefishes)	
<i>Epegonus</i> sp. Anderson and Springer, 2005 (220–476)	HT
POLYPRIONIDAE (Threadfins)	
<i>Polyprion americanus</i> (Bloch and Schneider, 1801) (448–740)	C
POMACENTRIDAE (Damselselfishes)	
<i>Stegastes diaenocoelus</i> (Jordan and Rutter, 1897) (16–150)	S5
SERRANIDAE (Sea basses)	
<i>Anthias tenuis</i> Nichols, 1920 (55–915)	MC
<i>Anthias woodsi</i> Anderson and Haemstra, 1980 (55–915)	NE
<i>Cephanopholis cruentatus</i> (Lacepede, 1802) (21–50)	MC
<i>Cephalopholis fulva</i> (Linnaeus, 1758) (0–40)	MC
<i>Dermatolepis inermis</i> (Vaelenciennes, 1833) (21–250)	MC
<i>Epinephelus itajara</i> (Lichtenstein, 1882) (0–30)	MC
<i>Epinephelus mystacinus</i> (Poey, 1852) (30–500)	MC
<i>Gonioplectrus hispanus</i> (Cuvier, 1828) (66–365)	MC
<i>Hemanthias aureorubens</i> (Longley, 1935) (120–610)	MC
<i>Hemanthias leptus</i> (Ginsburg, 1952) (35–640)	MC
<i>Liopropoma eukrines</i> (Stark and Courtney, 1962) (89–91)	K
<i>Liopropoma mowbrayi</i> Woods and Kanazawa, 1951 (30–100)	Q
<i>Plectranthias garrupellus</i> Robins and Stark, 1961 (10–375)	K
<i>Prognathus aculeatus</i> (Poey, 1868) (0–91)	Q
<i>Prontogrammus martinicensis</i> (Guichenet, 1868) (55–230)	K
<i>Rypticus maculatus</i> Holbrook, 1855 (0–140)	K
<i>Rypticus saponaceus</i> (Bloch and Schneider, 1801) (0–140)	Q
<i>Serranus annularis</i> (Gunther, 1880) (930–68)	MC
OPISTOGNATHIDAE (jawfishes)	
<i>Opistognathus melachasme</i> Smith - Vaniz, 1972 (146–205)	MC
<i>Opistognathus nothus</i> Smith - Vaniz, 1997 (92–100)	K
PRIACANTHIDAE (Bigeyes)	
<i>Cookeolus japonicus</i> (Cuvier, 1929) (60–400)	B, N
APOGONIDAE (Cardinalfishes)	
<i>Apogon gouldi</i> Smith-Vaniz, 1977 (151–262)	Q

Table 1. Continued.

Family /Species	Reference
<i>Apogon maculatus</i> (Poey, 1860) (0–100)	K
<i>Astrogobon alutus</i> (Jordan and Gilbert, 1882) (0–100)	K
CARANGIDAE (Jacks)	
<i>Caranx dentex</i> (Bloch and Schneider, 1801) (20–50)	K
<i>Caranx lugubris</i> Poey, 1860 (24–65)	K
BRAMIDAE (Pomfrets)	
<i>Brama carribea</i> Mead, 1972 (0–50)	MC
<i>Brama dussumieri</i> Cuvier, 1831 (0–100)	MC
LUTJANIDAE (Snappers)	
<i>Lutjanus campechanus</i> (Poey, 1860) (10–90)	K
<i>Pristipomoides aquilonaris</i> (Goode and Bean, 1896) (24–488)	K
GERRIDAE (Mojarras)	
<i>Eucinostomus argenteus</i> Baird and Girard, 1855 (0–100)	MC
<i>Eucinostomus harengulus</i> (Goode and Bean, 1879) (0–20)	K
<i>Eugerres plumieri</i> (Cuvier, 1830) (0–25)	K
HAEMULIDAE (Grunts)	
<i>Haemulon melanurum</i> (Linnaeus, 1758) (0–402)	MC
INERMIIDAE (Bonnetmouths)	
<i>Inermia vittata</i> Poey, 1860 (0–91)	MC
SPARIDAE (Porgies)	
<i>Archosargus rhomboidalis</i> (Linnaeus, 1758) (0–25)	K
<i>Calamus leucosteus</i> Jordan and Gilbert, 1885 (0–100)	K
POLYNEMIDAE (Threadfins)	
<i>Polydactylus octonemus</i> (Girard, 1858) (2–736)	K
<i>Polydactylus virginicus</i> (Linnaeus, 1758) (0–55)	K
CHAETODONTIDAE (Butterflyfishes)	
<i>Centropyge argi</i> Woods and Kanazawa, 1951 (287–370)	Q, K
<i>Prognathodes aya</i> (Jordan, 1886) (20–200)	Q
LABRIDAE (Wrasses)	
<i>Halichoeres bathyphilus</i> (Beebe and Tee-Van, 1932) (27–105)	
<i>Halichoeres caudalis</i> (Poey, 1860) (18–73)	K
<i>Halichoeres cyanocephalus</i> (Bloch, 1791) (27–91)	K
<i>Halichoeres maculipinna</i> (Muller and Troschel, 1848) (0–25)	K
<i>Halichoeres radiatus</i> (Linnaeus, 1758) (0–46)	M
ZOARCIDAE (Eelpouts)	
<i>Lycenchelys paxsillus</i> (Goode and Bean, 1879) (375–1,500+)	M
<i>Lycodon atlanticum</i> (Moeller, 2000) (828–3,321)	M
<i>Melanostigma atlanticum</i> Koefoed, 1952 (275–2,000)	M
CHAENOPSIDAE (Tube blennies)	
<i>Chaenopsis roseola</i> Hastings and Shipp, 1981 (33–64)	MC

Table 1. Continued.

Family /Species	Reference
<i>Emblemaria piratica</i> Ginsburg, 1942 (34–64)	MC
CALLIONYEMIDAE (Dragonets)	
<i>Diplogrammus pauciradiatus</i> (Gill, 1865) (0–25)	MC
<i>Foetrepus agassii</i> (Goode and Bean, 1888) (98–650)	MC
<i>Foetrepus goodenbeani</i> Nakabo and Hartel 1999 (180–243)	NA
ELEOTRIDAE (Sleepers)	
<i>Eleotris amblyopsis</i> (Cope, 1871) (0–25)	K
GOBIIDAE (Gobies)	
<i>Ctenogobius schufeldti</i> (Jordan and Eigenmann, 1887) (0–15)	K
<i>Ctenogobius smaragdus</i> (Valenciennes, 1837) (0–10)	K
<i>Gobionellus oceanicus</i> (Pallas, 1770) (0–10)	MC
<i>Microgobius carri</i> Fowler, 1945 (6–21)	MC
ACANTHURIDAE (Surgeonfishes)	
<i>Acanthurus bahianus</i> Castelnau, 1855 (0–55)	
<i>Acanthurus chirurgus</i> (Bloch, 1787) (0–20)	K
<i>Acanthurus coeruleus</i> (Bloch and Schneider, 1801) (0–10)	K
SCOMBRIDAE (Mackerels and Tunas)	
<i>Auxis thazard</i> (Lacepede, 1880) P	MC, K
<i>Katsuwonus pelamis</i> (Linnaeus, 1758) P	MC, K
<i>Scomber colias</i> Gmelin, 1789 (0–300) P	MC, K
GEMPYLIDAE (Snake mackerels)	
<i>Nesiachus nasutus</i> Johnson, 1862 (200–1, 200)	MC
TRICHIURIDAE (Cutlassfishes)	
<i>Benthodesmus tenuis</i> (Gunther, 1877) (210–850)	K
<i>Evoxymetopon taeniatus</i> Poey, 1863 (140–350)	N
CENTROLOPHIDAE (Medusa fishes)	
<i>Schedchophilus medusophagus</i> (Cocco, 1829) (0–450)	M
ARIOMMATIDAE (Ariomatids)	
<i>Ariomma bondi</i> Fowler, 1930 (40–450)	K
<i>Ariomma melanum</i> (Ginsburg, 1854) (140–750)	K
STROMATEIDAE (Butterfishes)	
<i>Peprilus paru</i> (Linnaeus, 1758) (50–70)	K
<i>Peprilus triacanthus</i> (Peck, 1804) (50–250)	K
CAPROIDAE (Boarfishes)	
<i>Antigonia capros</i> Lowe, 1843 (40–60)	C
PARALICHTHYIDAE (Sand flounders)	
<i>Ancyclopsetta dilecta</i> (Goode and Bean, 1883) (50–370)	K
<i>Etopus cyclosquamus</i> Leslie and Stewart, 1986 (10–30)	MC
<i>Paralichthys oblongus</i> (Mitchill, 1815) (0–275)	K, MC
PLEURNONECTIDAE (Right-eye flounders)	
<i>Poecilopsetta beanie</i> (Goode, 1881) (155–1,636)	M
<i>Rhinhardtius hippoglossoides</i> (Walbaum, 1792) (6–65)	M
BOTHIDAE (Left-eyed flounders)	

Table 1. Continued.

Family /Species	Reference
<i>Chascopsetta danae</i> Bruun, 1951 (160–460)	K
<i>Engyrophyops senta</i> Ginsburg, 1933 (30–185)	MC
ACHIRIDAE (American soles)	
<i>Achirus lineatus</i> (Linnaeus, 1758) (0–15)	K
<i>Gymnachirus melas</i> Nichols, 1801 (2–185)	K
<i>Trinectes maculatus</i> (Bloch and Schneider, 1901) (0–75)	K
CYNOGLOSSIDAE (Tonguefishes)	
<i>Symphurus billykrietei</i> Munroe, 1998 (20–380)	MU
<i>Symphurus marginatus</i> (Goode and Bean, 1886) (37–832)	MU
<i>Symphurus minor</i> Ginsburg, 1951 (78–150)	MU
<i>Symphurus nebulosus</i> (Goode and Bean, 1883) (239–810)	MU
<i>Symphurus urospilus</i> Ginsburg, 1951 (5–40)	MU
MONOCANTHIDAE (Filefishes)	
<i>Monacanthus ciliatus</i> (Mitchill, 1818) (0–50)	K
TETRADONTIDAE (Puffers)	
<i>Canthigaster jamestyeri</i> Moura and Castro, 2002 (38–98)	Q
DIODONTIDAE (Porcupine fishes)	
<i>Diodon eydouxii</i> Brissout de Barneville, 1846 (100+)	NE

LITERATURE CITED

BURGESS, G. H., AND G. W. LINK, JR. 1979. Additional Marine Fishes New to Carolina Waters. NE. Gulf Sci. 8(2):74–87.

CARPENTER, K. E., ed. 2003a. Living Marine Resources of the Western Central Atlantic, Vol. 2. Bony Fishes. Pt 1. Acipenseridae to Grammatidae. FAO species identification for Fishery Purposes and Amer. Soc. Ichthyol. Herpetol. FAO, Rome. pp. 601–1373.

CARPENTER, K. E., ed. 2003b. Living Marine Resources of the Western Central Atlantic, Vol. 3 Bony Fishes. Pt. 2. Opistognathidae to Molidae. Sea turtles and Marine Mammals. FAO spec. Identification guide for fishery purposes and Amer. Soc. Ichthyol. Herpetol. Spec. Suppl. 5. FAO, Rome. pp. 1375–2127.

CARUSO, J. H. 1989. Systematics and Distributions of the Atlantic Chaunacid Anglerfishes (Pisces: Lophiiformes). Copeia 1989(1): 153–165.

CASTRO, J. 2011. The Sharks of North America. Oxford Univ. Press, New York. 613 p.

CLARKE, T. A. 2000. Review of nine species of North Atlantic *Eustomias*, subgenus *Dinematochirus*, Stomiidae, with the description of two new species. Copeia 2000(1):96–111.

COLLETTE, D., AND G. KLEIN-MACPHEE. 2002. Bigelow and Schroeder's Fishes of the Gulf of Maine. Smiths. Inst. Press, Washington, DC. 748 p.

FAHAY, M. P. 1992. Development of Cusk Eel eggs and larvae in the Middle Atlantic Bight: with description of *Ophidion robinsi* a new species (Teleostii: Ophidiidae). Copeia 1992:799–819.

FERNHOLM, B., AND M. QUATTRINI. 2008. A new species of Hagfish (Myxinidae: *Epratrapterus*) associated with deep – coral habitation in the Western North Atlantic. Copeia 2008(1):126–132.

GARTNER, J. V., JR., K. J. SHULAK, AND S. W. ROSS. 2008. Persistent near – bottom aggregations of Mesopelagic animals along the North Carolina and Virginia intertidal slopes. Mar. Biol. 153:825–841.

- HARE, J. N., AND P. E. WHITFIELD. 2003. An integrated assessment of the introduction of Lionfish (*Pterois volitans miles* (complex) in the Western Atlantic Ocean. NOAA Tech. Memo. NOS NCNOS 2, 20 p.
- HAROLD, A. S. 1999. A Taxonomic revision of the Sternoptychid genus *Polyipnis* (Teleostei: Stomiiformes.) with an analysis of the phylogenetic relationships. Bull. Mar. Sci. 154(2):428–434.
- HARTEL, K. E., C. P. KENALEY, J. K. GALBRAITH, AND T. T. SUTTON. 2008. Additional record of deep sea fishes from off Greater New England. NE Nat. 15(3):371–334.
- KENALEY, C. P. 2007. Provision of the spotlight loosejaw genus *Melacosteus* (Teleostei: Stomiidae: Melacosteinae), With a description of a new species from the temperate Southern Hemisphere and Indian Ocean. Copeia 2007(4):886–900.
- MCCOSKER, J. E., AND S. W. ROSS. 2007. A New deepwater species of snake eel genus *Ophichthus* (Anguilliformes, Ophichthidae) from North Carolina. Copeia 2007(4):783–787.
- MCEACHRAN, J. D., AND J. D. FECHHELM. 1998. Fishes of the Gulf of Mexico, Vol. 1. Mxyiniiformes to Gasterosteiformes. Univ. Texas Press, Austin, TX. 1112 p.
- MCEACHRAN, J. D., AND J. D. FECHHELM. 2005. Fishes of the Gulf of Mexico, Vol. 2. Scorpaeniformes to Tetraodontiformes. Univ. Texas Press, Austin, TX. 1304 p.
- MOORE, J. A., K. E. HARTEL, A. CRADDOCK, AND J. K. GALBRIATH. 2003. An Annotated list of Deepwater Fishes From the New England Region with new area records. NE Nat. 10(2):159–248.
- MUNORE, T. A. 1998. Systematics and Ecology of Tonguefishes of the genus *Symphurus* (Cynoglossidae, Pleuronectiformes) from the Western Atlantic Ocean. Fish. Bull. 96(1):1–182.
- NAKABO, T., AND K. E. HARTEL. 1999. *Foatorepus goodenbeanii*: A new species of dragonet (Teleostei: Callionymidae) from the Western Atlantic Ocean. Copeia 1999(1):114–121.
- NELSON, J. S. 2006. Fishes of the World. (4th ed.). J. Wiley and Sons, Hoboken, NJ. 601 p.
- NELSON, J. S., E. J. CROSSMAN, H. ESPINOSA – PEREZ, L. T. FINDLEY, C. R. GILBERT, A. M. LEA, AND J. D. WILLIAMS. 2004. Common and Scientific Names of Fishes from the United States, Canada and New Mexico (6th ed.) Amer. Fish. Soc. Spec. Pub. 29, Bethesda, MD. 601 p.
- PINE, U. S. E., III, T. J. KWAK, D. S. WATERS, AND A. E. RICE. 2005. Diet Selection of the introduced Flathead Catfish in Coastal Waters. Trans. Amer. Fish. Soc. 134(4):901–909.
- QUATTIRINI, A., S. W. ROSS, K. J. SHULAK, A. N. NEAISE, T. L. CASAZZA, AND G. D. DENNIS. 2004. Marine Fishes new to Continental United States waters, North Carolina and Gulf of Mexico. SE Nat. 3(1):155–172.
- RICHARDS, W. J. 2003 (2002). Armored Sea robins (Armored Gurnards). Pp. 1278–1285 in C. E. Carpenter (ed.), The Living Resources of the Western Central Atlantic, Vol. 2. Bony Fishes Part 1. (Acipenseridae to Grammistidae) FAO Rome, pp. 601–1373 Special publ. 5. Amer. Soc. Ichthyol. Herpetol.
- ROSS, S. W., AND F. C. ROHDE. 2003. Collections of Ophichthid eels on the surface at night off North Carolina. Bull. Mar. Sci. 72(1):241–246.
- ROSS, S. W., T. L. CASAZZA, A. M. QUATTIRINI, AND K. SULAK. 2007. Anguilliform Larvae collected off North Carolina. Mar. Biol. 150:681–695.
- SCHWARTZ, F. J. 1989. Zoogeography and Ecology of Fishes inhabiting North Carolinian waters to depths of 600 m. NOAA-NURP Rept. 89-2:335–374.
- SCHWARTZ, F. J. 1990. *Acanthochaenus lutkinii*; from off North Carolina with additional meristic and morphometric comparisons of Western Atlantic specimens. J. Elisha Mitchell Sci. Soc. 106(2):251–255.
- SCHWARTZ, F. J. 1993a. A steelhead trout *Oncorhynchus mykiss* from coastal estuarine Pettiford Creek, Carteret County, North Carolina. J. Elisha Mitchell Sci. Soc. 109(2):115–118.
- SCHWARTZ, F. J. 1993b. A North Carolina capture of the Bramble Shark, *Echinorhinus brucus* Echinorhinidae, the Fourth in the Western Atlantic. J. Elisha Mitchell Sci. Soc. 109(3):158–193.
- SCHWARTZ, F. J. 2003a. SHARKS, Skates and Rays of the Carolinas. Univ. No. Car. Press, Chapel Hill. 161 p.
- SCHWARTZ, F. J., C. BARNES, AND J. BOYLAN. 2003b. Distribution and biological aspects of seven species of batfishes lophiiformes: Ogocephalidae) in the Western North Atlantic off North Carolina. J. NC. Acad. Sci. 119(93–102).
- SCHWARTZ, F. J. 2011. Long fin Damselfish new to North Carolina. J. No. Car. Acad. Sci. 127(2):194–198.
- SCHWARTZ, F. J., C. JENSEN, AND G. HOPKINS. 1995. Occurrence of a male reef shark, *Carcharhinus prezei* (Carcharhinidae) off North Carolina. J. Elisha Mitchell Sci. Soc. 112(2):121–125.
- SMITH, D. G. 1987. Congridae. Pp. 460–567 in E. Bohlke (ed.), Fishes of the Western North Atlantic. Mem. Sears Found. Mar. Res. Yale Univ, Harvard, MA.
- SUTTON, T. T., AND K. E. HARTEL. 2004. New species of *Eustomias* (Teleostei: Stomiidae) from the Western North Atlantic with a review of the subgenus *Neostomius*. Copeia 2004(1):116–121.
- ZAHURANEC, B. J. 2000. Zoogeography and Systematics of the Lanternfishes of the Genus *Nannobrachium* (Myctophidae: Lampanyctini) Smiths. Inst. Zool. 607:1–65.

Addendum: A 9.8 kg (21.75lb.) Blackfin tuna, *Thunnus atlanticus*, Lesson (1831), was caught fishing off the Bogue Inlet pier, 21 April 2012, in water 4 m deep, Emerald Isle, North Carolina, Carteret county.

Schwartz 2012 reported two *Bathyraja richardsoni* caught off North Carolina in 2,000–2,427 m waters. J. No. Car. Acad. Sci. 128(1):21–22.