

Additional Records of Deep-sea Fishes from off Greater New England

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Abstract - A recent review of deep-sea fishes captured deeper than 200 m off greater New England, from the Scotian Shelf at 44°N to the southern New England Shelf at about 38°N, documented 591 species. Subsequent trawling activity and reviews of deep-sea taxa occurring in the area have revealed that an additional 40 species inhabit the deep sea off New England. Thirty-two of these new records were captured in the course of 44 bottom trawls and 94 mid-water trawls over or in the proximity of Bear Seamount (39°55'N, 67°30'W). Five of the 40 species have been described as new to science, at least in part from material taken in the study area. In addition to describing such information as specimen size and position, depth, and date of capture, errors made in the previous study of deep-sea fishes in the area are identified and corrected.

Introduction

A recent review of the deep-sea fish fauna found deeper than 200 m off greater New England documented 591 species (Moore et al. 2003). Since the Moore et al. manuscript was submitted in 2002, additional material from the area increases the knowledge of the fauna. Most of the new material is from US National Marine Fisheries Service (NMFS) cruises in the vicinity of Bear Seamount. This paper is a review of new records based largely on specimens collected during the DL03-04, DL04-08, DL04-09, DL05-06, and DL06-11 cruises of the R/V *Delaware II*. In addition, some errors in Moore et al. (2003) are corrected.

Material and Methods

We follow Moore et al. (2003) in the area of coverage, reporting on new records of species that typically reside below 200 m from the Scotian Shelf at 43°N to the Mid-Atlantic Bight at about 38°N and west of 63°W. However, nearly all of the new records presented here were taken by the R/V *Delaware II* during five exploratory cruises between 2003 and 2006, four of which concentrated activities in the vicinity of Bear Seamount (39°55'N, 67°30'W). The sampling consisted of 44 bottom trawls (0–2151 m) using

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a Yankee 36 otter trawl and 94 mid-water trawls (0–2208 m) using an International Young Gadoid Pelagic Trawl (IYGPT; Table 1). In this update, we include only those species for which there are new records captured in the study area or clarifications of earlier records published in Moore et al. (2003). Additional records of various rare species that have been previously reported are available online at <http://collections.oeb.harvard.edu/Fish/FishSearch.htm>. Common names not given in either this report or in Moore et al. (2003) are available in the Integrated Taxonomic Information System database (<http://www.itis.usda.gov>).

The majority of the studied material is deposited at the Museum of Comparative Zoology (MCZ), Harvard University, with some additional material at the National Museum of Natural History (USNM), Smithsonian Institution. Each specimen citation is followed by standard length in millimeters (unless total length [TL] is given), capture latitude and longitude, depth in meters, and date. Where specific capture depth was not available, meters of wire out (mwo) are given. Expanded specimen information such as vessel, station, and preservation status may be retrieved from corresponding museum catalogs available via the internet. Museum abbreviations follow Leviton et al. (1985).

Results and Discussion

This review shows that 631 species are now confirmed to inhabit the area at depths below 200 m: the 591 species reported by Moore et al. (2003) in addition to those 40 species reported here. The latter number excludes three species: *Apristurus melanoasper* Iglésias, Nakaya, and Stehmann, *Photostomias goodyeari* Kenaley and Hartel, and *Pseudoscopelus astronesthicens* Prokofiev and Kukuev, species recently described but reported by Moore et al. (2003) as undescribed species. Similar to the faunal analysis of Moore et al. (2003), 19 of these 40 new records are northward extensions of typically tropical species, most likely individuals following or being carried by the warm waters of the Gulf Stream. Twelve are westward extensions of species previously known only from more easterly longitudes. None of the records reported here represent species with typically more northerly ranges. Reflecting the

Table 1. Summary of trawling activity made by the NOAA ship R/V *Delaware II* since the submission in 2002 of Moore et al. (2003). mwo = meters of wire out, actual depth not recorded.

Cruise	Mid-water trawls			Benthic trawls		
	Number	Maximum depth (m)	New records	Number	Maximum depth (m)	New records
DL03-04	22	1779	8	12	2027	3
DL04-08	18	1200 mwo	0	14	2200 mwo	1
DL04-09	16	1807	10	10	2095	0
DL05-06	19	1620	6	8	2151	0
DL06-11	19	2208	4	0	—	0
Total/max	94	2208	28	44	2151	4

sampling effort at the heart of this study, 32 of the new records were captured over or in the proximity of Bear Seamount (Table 1). Additionally, eight of the species reported here have been described as new to science between 2002 and 2005. The continued description of undocumented and new species from the area is strong evidence that a considerable number of species awaits discovery in the deep waters off greater New England.

Annotated List Of New Records

Carcharhiniformes

Scyliorhinidae – Deep-water catsharks

Apristurus melanoasper Iglésias, Nakaya, and Stehmann, 2004 – Benthopelagic, 512–1520 m on the North Atlantic slope off northern United States, France, Ireland, and the British Isles (Iglésias et al. 2004). This recently described species was listed as *Apristurus* sp. by Moore et al. (2003) and was described, in part, from a mature male taken in the area (MCZ 125408, 692 mm TL, paratype, 39°17'N, 72°11'W, 512–662 m). An additional 15 specimens (200–692 mm TL) are known from the same general area (37°–40°N, 67°–74°W at 512–1830 m): MCZ 125407, 132498–499, 132509, 137071, 137073, 137078, 138052, 138754, 147899, 155425–427, and 165114.

Albuliformes

Notacanthidae – Spiny eels

Notacanthus bonapartei Risso, 1840 – Benthopelagic at bathyal depths and previously known only from the eastern Atlantic and the Mediterranean Sea (Sulak 1990). Two specimens (MCZ 163098, 1:304 mm; and MCZ 163360, 1:410 mm) taken at one station on Bear Seamount (39°55'N, 67°24'W, 0–1888 m, 19 May 2003) have proven to be this species and are the first records for the western Atlantic. In 2004, an additional small specimen (MCZ 164491, 1:151 mm) was taken from the same area.

Anguilliformes

Family *Incerta Sedis* – An unassigned larval eel

Ascomana eximia Castle, 1967 – Rare. Known in the eastern Atlantic from the Cape Verde Islands to South Africa and in the western North Atlantic from the Caribbean Sea (Castle 1967, Smith 1989a). This species is based on the larval form, and to date, it has not been linked to an adult. Tentatively assigned to *Coloconger* (Smith 1989a), this assignment is thought to be doubtful (D.G. Smith, USNM, Washington, DC, pers. comm. 2006). A specimen (MCZ 165874, 1:165 mm TL, 39°50'N, 67°26'W) is an area record.

Saccopharyngiformes

Cyematidae – Bobtail eels

Cyema atrum Günther, 1878 – Meso- to bathypelagic at 300–3000 m, circumglobal (Smith 1989b). Two specimens (MCZ 163291, 1:116 mm,

39°49'N, 67°27'W, 3500 mwo, 15 May 2003; and MCZ 165935, 1 gravid female:138 mm, 39°47'N, 67°33'W, 0–2205 m, 16 June 2006) taken over Bear Seamount represent the first records of this species in the study area.

Neocyema sp. (Fig. 1) – The only known species of this genus, *N. erythrosoma*, found at bathypelagic depths in the eastern central and eastern South Atlantic, is previously known from only the two type specimens captured at 2100–2300 m (Castle 1978). A single specimen assigned to this genus (MCZ 165900, 1:91 mm, 39°51'N, 67°02'W, 17 June 2006) was taken between the surface and 2284 m over Bear Seamount. MCZ 165900 represents the third known specimen of this monotypic genus and is the first record for the North Atlantic. Shannon DeVaney (KU) and the senior author continue evaluating the specific identity of this specimen.

Monognathidae – One-jawed eels

Monagnathus jespersenii (Bertin, 1936) (Fig. 2) – Bathypelagic in the eastern North Atlantic; previously known from only two specimens, one

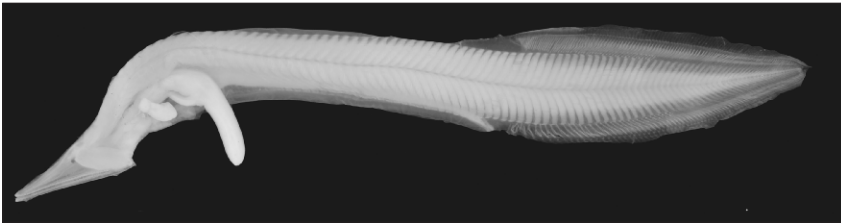


Figure 1. *Neocyema* sp., MCZ 165900, 91 mm SL, 39°51'N, 67°02'W, 0–2284 m.



Figure 2. *Monagnathus jespersenii*, MCZ 164702, 142 mm SL, 39°50'N, 67°26'W, 0–1592 m.

of which was collected at a discrete depth between 2100–2300 m at approximately 3000 m above the bottom (Bertelsen and Nielsen 1987). A single specimen (MCZ 164702, 1:142 mm) was taken near Bear Seamount (39°50'N, 67°26'W, 0–1592 m, 18 May 2005) by a NMFS cruise. This specimen represents the third known specimen of the species and the first record from the western Atlantic Ocean.

Osmeriformes

Opisthoproctidae – Barreleyes

Rhynchohyalus natalensis (Gilchrist and von Bonde, 1924) (Fig. 3) – Mesopelagic at 250 to 625 m in the North Atlantic based on MCZ records; probably circumtropical (Cohen 1984). A single specimen (MCZ 164701, 1:70 mm, 39°50'N, 67°26'W, 12 April 2005) from near Bear Seamount is the first adult taken north of Bermuda. Larval waifs (MCZ 60718, 65994), carried north on the Gulf Stream, have been taken at 39° and 36°N, respectively.

Alepocephalidae – Slickheads

Einara edentula (Alcock, 1892) – Meso- to bathypelagic, 700–2000 m, known from the North Atlantic, eastern and western tropical Pacific, and Indian oceans (Markle and Sazonov 1990). A record, recently identified and brought to our attention by D. Markle (OS, Corvallis, OR, pers. comm. 2006), adds this species to the area. The specimen (MCZ 49348, 1:136 mm) was collected by William Schroeder at 42°39'N, 63°58'W in an otter trawl fished from the surface to 935 m, 26 July 1952.

Einara macrolepis (Koeford, 1927) – Bathy- or benthopelagic in the eastern and western Atlantic, eastern Pacific, and Indian oceans (Markle and Sazonov 1990). Specimens taken in bottom trawls fished open on NMFS cruises in the vicinity of Bear Seamount in 2003 and 2004 represent the first records for the area (MCZ 163139, 1:65 mm, 39°49'N, 67°24'W, 3000 mwo, 16 May 2003; and MCZ 164144, 1:164 mm, 39°49'N, 67°24'W, 0–1636 m, 6 June 2004). An additional specimen (MCZ 164437, 1:105 mm, 31°20'N, 76°20'W, 10 February 1978) was collected south of the area in a mid-water trawl fished between the surface and 1480 m.



Figure 3. *Rhynchohyalus natalensis*, MCZ 164701, 70 mm SL, 39°50'N, 67°26'W.

Platyroctidae – Tubeshoulders

Platyroctes apus Günther, 1878 (Fig. 4) – Bathypelagic, 1000–2000 m, in the tropical western Atlantic, Indian, and Pacific oceans and in the eastern Atlantic from Iceland to south of the equator at the Sierra Leone Rise (Pakhorukov 1999, Quero et al. 1990). A single specimen (MCZ 163133, 1:97 mm, 39°52'N, 67°15'W, 3000 mwo, 15 May 2003) taken in a bottom trawl fished open by NMFS cruises over Bear Seamount in 2003 represents the first record in the area.

Stomiiformes**STOMIIDAE – Dragonfishes****Astronesthinae – Snaggletooth dragonfishes**

Astronesthes gudrunae Parin and Borodulina, 2002 – Mesopelagic, known only in the Atlantic from equatorial waters north to off Hudson Canyon (MCZ 101356, 1:77 mm, 38°20'N, 75°05'W, 200–0 m, 23 July 1993). This recently described species was described in a recent review of the *A. niger*-species group by Parin and Borodulina (2002).

Rhadinesthes decimus (Zugmayer, 1911) – Mesopelagic, previously known from over 30 records off Greenland to 27°S in the eastern Atlantic and elsewhere in the tropical Indian and Pacific oceans (Gibbs 1984). A single large specimen of *R. decimus* taken over Bear Seamount (MCZ 164113, 1:365 mm, 39°58'N, 67°23'W, 0–1640 m, 5 June 2004) is the first area record and the first capture of this species in the western Atlantic south of Greenland.

Melanostomiinae – Black dragonfishes

Eustomias bigelowi Welsh, 1923 – Mesopelagic, widely distributed, known from 20–35°N and 0–25°S in the Atlantic (Clarke 2000, McEachran and Fechhelm 1998). A specimen from the vicinity of Bear Seamount is a new record for the area (MCZ 165944, 1:141 mm, 39°51'N, 66°55'W, 0–653 m, 18 June 2006).

Eustomias contiguus Gomon and Gibbs, 1985 – Mesopelagic, previously known from the tropical and subtropical North Atlantic at 0–1835 m, including a single specimen (USNM 222570) taken southeast of Cape Hatteras

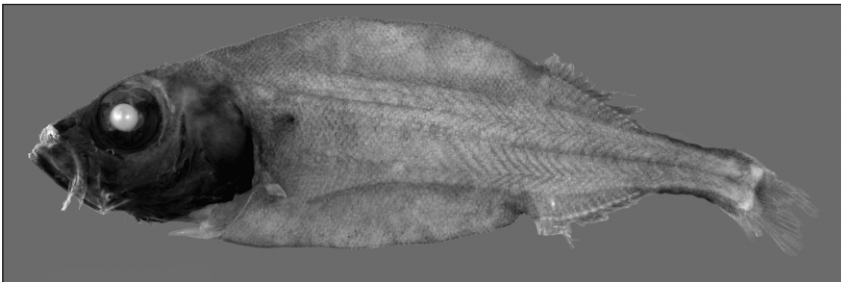


Figure 4. *Platyroctes apus*, MCZ 163133, 101 mm SL, 39°52'N, 67°15'W, 3000 mwo.

(Gomon and Gibbs 1985). MCZ 165940 (1:126 mm, 39°55'N, 67°32'W, 0–503 m, 17 June 2006) represents a northern range extension for this species and new area record.

Eustomias jimcraddocki Sutton and Hartel, 2004 (Fig. 5) – Mesopelagic, at depths of 0–1931 m in the western North Atlantic from 40°20'N, 66°41'W to the north Sargasso Sea at 26°35'N (Sutton and Hartel 2004). This recently described species is now known from 15 specimens, five of which were captured in the area: MCZ 82661 (1:126 mm), MCZ 162851 (1:141 mm), MCZ 162290 (1:143 mm), MCZ 163108 (1:161 mm), and USNM 323066 (1:124 mm).

Eustomias furcifer Regan and Trewavas, 1930 (Fig. 6) – Rare at mesopelagic depths, but widely distributed in the Atlantic and also known from the Indian and Pacific oceans (Gibbs and Barnett 1990, Morrow and Gibbs 1964). A single specimen (MCZ 164706, 1:120 mm, 39°50'N, 67°26'W, 18 April 2005) taken near Bear Seamount is the first area record.

Eustomias polyaster Parr, 1927 – Mesopelagic, at depths of 0–1500 m in the tropical and subtropical western Atlantic (Gomon and Gibbs 1985, McEachran and Fechhelm 1998). A single specimen (MCZ 163116, 1:185 mm, 39°54'N, 67°26'W, 1000 mwo, 16 May 2003) captured near Bear Seamount is the first area record.

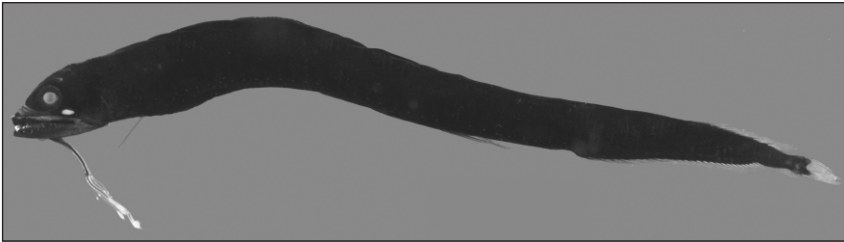
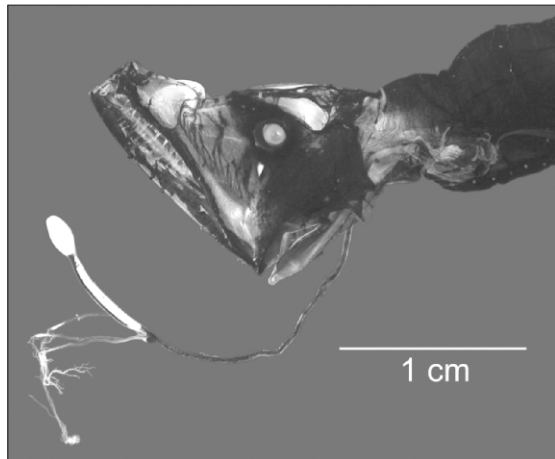


Figure 5. *Eustomias jimcraddocki*, MCZ 162290, 144 mm SL, 40°22'N, 66°44'W, 0–809 m.

Figure 6. *Eustomias furcifer*, MCZ 164706, 120 mm SL, 39°50'N, 67°26'W, 0–1592 m.



Melanostomias margaritifer Regan and Trewavas, 1930 – Mesopelagic, previously known from the tropical western Atlantic off Puerto Rico, and Jamaica, and in the Gulf of Mexico (McEachran and Fechhelm 1998). A single specimen captured during cruise DL03-04 (MCZ 163251, 1:90 mm, 39°54'N, 67°26'W, 1000 mwo, 16 May 2003) is the first record of this species for the area.

Malacosteinae – Loosejaw dragonfishes

Photostomias atrox (Alcock, 1890) – Mesopelagic, previously considered endemic to the Indian Ocean, now understood to be cosmopolitan in subtropical and tropical waters (Kenaley and Hartel 2005). A single specimen (MCZ 131425, 1:96 mm, 38°58'N, 68°18'W, 400–299 m, 15 October 1982) was taken in the area.

Photostomias goodyeari Kenaley and Hartel, 2005 (Fig. 7) – Mesopelagic, from 60 m during the day to greater than 1050 m at night in the western North Atlantic (Kenaley, in press); restricted to the temperate and tropical North Atlantic (Kenaley and Hartel 2005). This recently described species is now known from over 50 specimens in the study area.

Aulopiformes

Giganturidae – Telescopefishes

Gigantura chuni Brauer, 1901 – Meso- to bathypelagic (usually 500–1300 m) in tropical waters worldwide (Johnson and Bertelsen 1991). Two specimens (MCZ 164306, 1:110 mm, 39°55'N, 67°19'W, 0–1082 m, 5 June 2004; and MCZ 165926, 1:119 mm, 40°05'N, 67°57'W, 0–1011 m, 14 June 2006) taken at Bear Seamount are the first known records north of about 30°N and are new area records.

Scopelarchidae – Pearleyes

Benthallbella infans Zugmayer, 1911 – Meso- to bathypelagic, 300–600 m in tropical and subtropical waters of the Atlantic, Pacific, and Indian oceans; absent from the tropical eastern Atlantic (Johnson 1974). A single specimen (MCZ 164233, 1:86 mm, 39°55'N, 67°19'W, 0–1082 m, 5 June 2004) taken over Bear Seamount extends the range north and west into the study area.

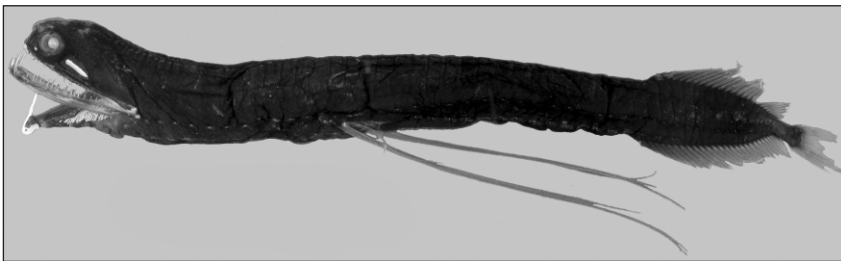


Figure 7. *Photostomias goodyeari*, MCZ 100833, 174 mm SL, 32°04'N, 64°03'W, 978–800m.

Lophiiformes

Himantolophidae – Footballfishes

Himantolophus brevirostris-species group – Mesopelagic, previously known from specimens taken in the tropical and eastern North Atlantic and from scattered records in the eastern Indian Ocean, South Pacific, and Indonesian waters (Bertelsen and Krefft 1988). Males of the Himantolophidae can be identified to species groups only; those of the *H. brevirostris*-species group most likely represent male counterparts of the female *H. groenlandicus*-species group (Bertelsen and Krefft 1988). MCZ 164737 (1 male:29 mm, 39°54'N, 67°19'W, 0–1595 m, 14 April 2006) represents the first record of this species group in the study area. However, because this group likely represents males of the *H. groenlandicus* group, this specimen may represent *H. groenlandicus*, the most common and widely distributed member of the group (Bertelsen and Krefft 1988).

Oneirodidae – Dreamers

Dolopichthys danae Regan, 1926 (Fig. 8) – Meso- to bathypelagic, tropical to temperate eastern North Atlantic (Pietsch 1972). A single female (MCZ 164089, 1:109 mm, 39°50'N, 67°26'W, 0–1648 m, 6 June 2004) taken over Bear Seamount is the first record for the western North Atlantic.

Dolopichthys longicornis Parr, 1927 – Meso- to bathypelagic, sparsely distributed in tropical and subtropical waters of all oceans (Pietsch 1972). Although several specimens have been captured off Bermuda, a single female taken during the DL03-04 cruise is the first area record (MCZ 162989, 1:52 mm, 39°54'N, 67°33'W, 3500 mwo, 16 May 2003).

Oneirodes epithales Orr, 1991 – This species, first described in 1991 from a single specimen taken 720 km south of Newfoundland (41°06'N,

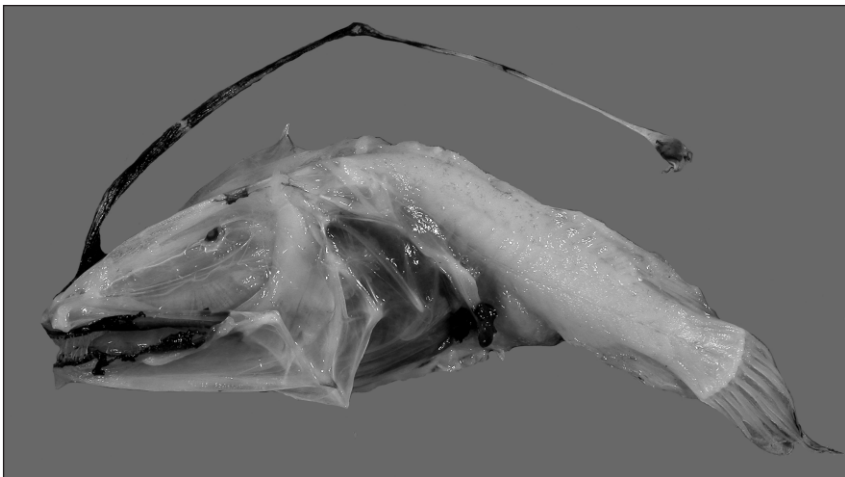


Figure 8. *Dolopichthys danae*, MCZ 164089, 109 mm SL, 39°50'N, 67°26'W, 0–1648m.

56°26"W, 0–1829 m), was not included in Moore et al. (2003). A second specimen from the area was collected near Bear Seamount on 12 April 2005 (MCZ 164733, 1:46 mm, 39°50'N, 67°26'W, depth unknown).

Oneirodes posti Bertelsen and Grobecker, 1980 – Meso- to bathypelagic, 0–1800 m, previously known from only two type specimens captured off the Azores and in the subarctic Atlantic (Bertelsen and Grobecker 1980). A third female, and largest known specimen, collected in the area extends the range considerably west (MCZ 162998, 1:135 mm, 39°56'N, 67°36'W, 4000 mwo, 18 May 2003).

Phyllorhinichthys balushkini Pietsch, 2004 – Meso-to bathypelagic, 0–3200 m, known previously from six specimens captured in the eastern and western Atlantic between 64°N and 33°S (Pietsch 2004). The seventh known specimen (MCZ 164228, 1:125 mm, 39°50'N, 67°28'W, 0–1636 m, 6 June 2004) was captured over Bear Seamount while the description of this species was in press.

Gigantactinidae – Whipnose anglerfishes

Gigantactis gibbsi Bertelsen, Pietsch and Lavenberg, 1981 – Meso- to bathypelagic, 465–1000 m, previously known from only two specimens from the Gulf of Guinea and off Bermuda (Bertelsen et al. 1981). One female (MCZ 164218, 1:114 mm, 39°58'N, 67°23'W, 0–1640 m, 5 June 2004) taken over Bear Seamount is the first record for the area.

Gigantactis ios Bertelsen, Pietsch and Lavenberg, 1981 (Fig. 9) – Meso- to bathypelagic, previously know from only four females captured in the eastern Atlantic (T.W. Pietsch, University of Washington, Seattle, WA, pers. comm. 2004). This new area record is based on a single female (MCZ 163303, 1:225 mm, 39°55'N, 67°24'W, 0–1888 m, 19 May 2003) taken over Bear Seamount.

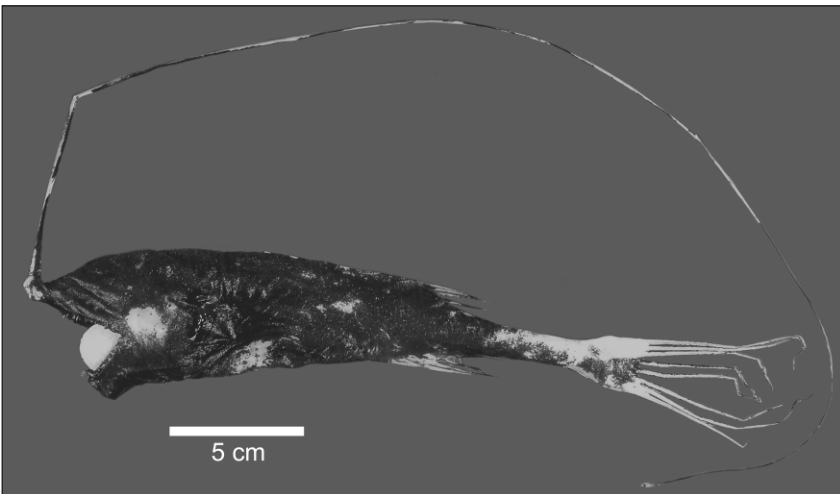


Figure 9. *Gigantactis ios*, MCZ 163303, 225 mm SL, 39°55'N, 67°24'W, 0–1888 m.

Linophryniidae – Leftvent seadevils

Linophryne brevibarbata Beebe, 1932 – Bathypelagic, previously known from only five females and two parasitic males from the tropical and subtropical North Atlantic at 0–1700 m (Bertelsen 1980). Two additional specimens and new records for the area were captured during the DL04-09 cruise over Bear Seamount (MCZ 164211, 1:33 mm, 39°52'N, 67°27'W, 0–1324m, 3 June 2004; MCZ 164212, 1:30 mm, 39°55'N, 67°23'W, 0–779 m, 4 June 2004).

Linophryne coronata Parr, 1927 – Bathypelagic, known from 12 females and two parasitic males in the western North Atlantic and eastern North Pacific from 0–3000 m (Bertelsen 1982). A single female of this species is the first capture for the area (MCZ 162991, 1:35 mm, 39°57'N, 67°47'W, depth unknown, 14 May 2003).

Linophryne macrodon Regan, 1925 – Bathypelagic, 300–1300 m, previously known from only six females and one attached male from the western North Atlantic and the Gulf of Panama (Bertelsen 1982). A seventh specimen, taken over Bear Seamount, is the first record of this species for the area (MCZ 164217, 1:39 mm, 39°52'N, 67°27'W, 0–1324 m, 3 June 2003).

Gadiformes**MERLUCCIIDAE – Merlucciid hakes****Steindachneriinae – Luminous hakes**

Steindachneria argentea Goode and Bean, 1896 (Fig. 10) – Bathydemersal at 400–500 m, previously known in the western Atlantic from 9–30°N (Cohen et al. 1990). This species was omitted from Moore et al. (2003) having been caught just south of the study area at 35°51'N, 74°51'W; however, a single specimen (MCZ 166402, 1:283 mm) captured by F/V *Perception* in southern Hudson Canyon in 2006 confirms the occurrence of this species in deep water off the New England region.

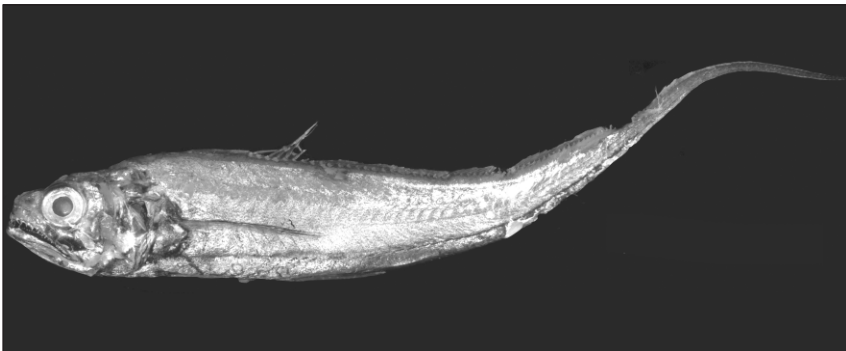


Figure 10. *Steindachneria argentea*. MCZ 166402, 283 mm TL, southern Hudson Canyon, 0–183 m.

Ophidiiformes

Ophidiidae – Cusk eels

Lamprogrammus shcherbachevi Cohen and Rohr, 1933 (Fig. 11) – Benthopelagic, to about 1000 m; previously known from scattered records off Chile, the northwest coast of Australia, Angola, the northeast coast of South America, and the Faroe Islands (Nielsen et al. 1999). A large exterilium larva was collected near Bear Seamount in 2006. Meristic data suggest that it is this species (J.G. Nielsen, Zoological Museum, University of Copenhagen [ZMUC], Copenhagen, Denmark, pers. comm. 2006). MCZ 165928 (1:110 mm, 39°55'N, 67°32'W, 0–503, 17 June 2006) is the first record of this species in the study area.

Stephanoberyciformes

Cetomimidae – Whalefishes

Rhamphocetichthys cf. *savagei* Paxton, 1898 (Fig. 12) – Probably bathypelagic, previously known from four specimens captured in open nets fished between 1000 and 2100 m in the Coral Sea, Gulf of California, and central Atlantic (Paxton 1989). A single specimen (MCZ 163187, 1:111 mm, 39°48'N,



Figure 11. *Lamprogrammus shcherbachevi*, MCZ 165928, 110 mm SL, 39°55'N, 67°32'W, 0–503 m.

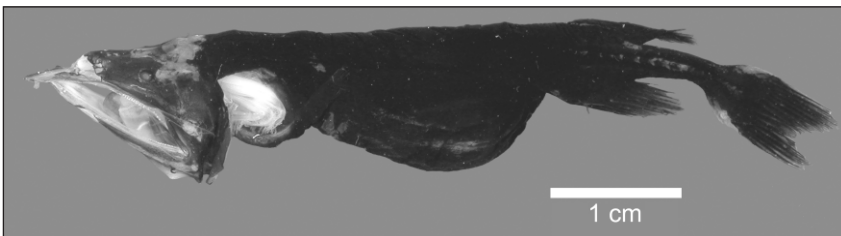


Figure 12. *Rhamphocetichthys* cf. *savagei*, MCZ 163187, 111 mm SL, 39°48'N, 67°22'W, 0–1324 m.

67°22'W, 4000 mwo, 18 May 2003) collected near Bear Seamount belongs to *Rhamphocetichthys* and is the second known Atlantic specimen of the genus. Its specific status, however, is uncertain due to the poor condition of comparative material (J. Paxton, Australian Museum [AMS], Sydney, NSW, Australia, pers. comm. 2003).

Scorpaeniformes

Liparidae – Snailfishes

Paraliparis hystrix Merrett, 1893 (Fig. 13) – Meso- or bathypelagic, previously known only from the eastern Atlantic (N. Chernova, Zoological Institute [ZIN], St. Petersburg, Russia, pers. comm. 2004). Several specimens (MCZ 155473, 1:137 mm, 38°11'N, 73°38'W, 0–682 m, 16 Feb 1999; ISH 3430-1979, 1:104 mm, 39°50'N, 70°55'W, 1004–1008 m; and ISH 3487-1979, 1: 125 mm, 36°24'N, 74°43'W, 820–800 m), identified by Chernova, are new western North Atlantic records.

Paraliparis vaillanti Chernova, 2004 – Mesopelagic, 423 m over a bottom depth of 1150 m. Known from a single specimen (MNHN 2000-5391, 1:118 mm, 46°39'N, 58°41'N) taken from the Laurentian Channel (Chernova 2004). This rare, recently described species is included because it was found just outside the area.

Caristiidae – Manefishes

Paracaristius maderensis (Maul, 1949) – Epi- to bathypelagic, in subtropical waters, probably worldwide (Trunov and Kukuev 2004, Trunov et al. 2006). As noted by Moore et al. (2003), the family Caristiidae is in need of revision, and identifications are often questionable. Trunov and Kukuev (2004) described in detail a specimen (1:135 mm) of this species under the name *Caristius maderensis* taken off Nova Scotia (42°05'N, 63°35'W, 500 m, 29 April 1983) that confirms its capture in the area. Trunov et al. (2006) erected the genus *Paracaristius* for this and another species, *P. heemstrai*.

Chiasmodontidae – Black swallows

Kali parri Johnson and Cohen, 1974 – Meso- to bathypelagic in the South and western Central Atlantic (Johnson and Cohen 1974). Two specimens

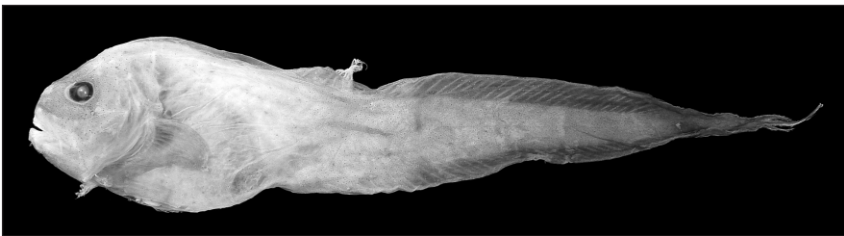


Figure 13. *Paraliparis hystrix*, MCZ 155473, 140 mm SL, 38°11'N, 73°38'W, 667–682 m.

identified as *K. macrodon* in Moore et al. (2003) were redetermined as *K. parri* by M. Melo (Auburn University Museum [AUM], Auburn, AL, pers. comm. 2006). An additional specimen (MCZ 164284, 1:97 mm, 39°52'N, 67°21'W, 01400 m, 5 June 2004) collected over Bear Seamount has been tentatively identified by Melo as *K. parri*. These specimens represent the only known records of this species in the western North Atlantic.

Pseudoscopelus aphos Prokofiev and Kukuev, 2005 – Meso- to bathypelagic. Previously known from only the holotype, M. Melo identified two specimens of this recently described species while reviewing the MCZ specimens of *Pseudoscopelus*. One of these specimens (MCZ 68461, 1: 61 mm, 38°53'N, 70°48'W, 340 m, 17 August 1977) is from the area, and the second (MCZ 160792, 1:27 mm, 25°56'N, 77°28'W, 0400 m, 23 October 1984) is from south of the area.

Pseudoscopelus astronesthicens Prokofiev and Kukuev, 2005 – Meso- to bathypelagic. In the recent description of this species, Prokofiev and Kukuev (2006) reported specimens listed by Moore et al. (2003) as an undescribed species (MCZ 41443 and 68420). Additional specimens have been captured from the area (MCZ 164170; 1:78 mm, 39°55'N, 67°19'W, 1082 m, 5 June 2004; MCZ 164171, 1:124, 39°55'N, 67°24'W, 870 m, 6 June 2004).

Tetraodontiformes

Triacanthodidae – Spikefishes

Parahollardia lineata (Longley, 1935) (Fig. 14) – Benthic, 119–396 m, from northern Gulf of Mexico to Florida and north to Virginia (Robins et al. 1986). A specimen (MCZ 162936, 1:390 mm, 38°22'N, 73°42'W, 90 m) taken by the F/V *Jason & Danielle* near Baltimore Canyon extends the range of the species north into the area.

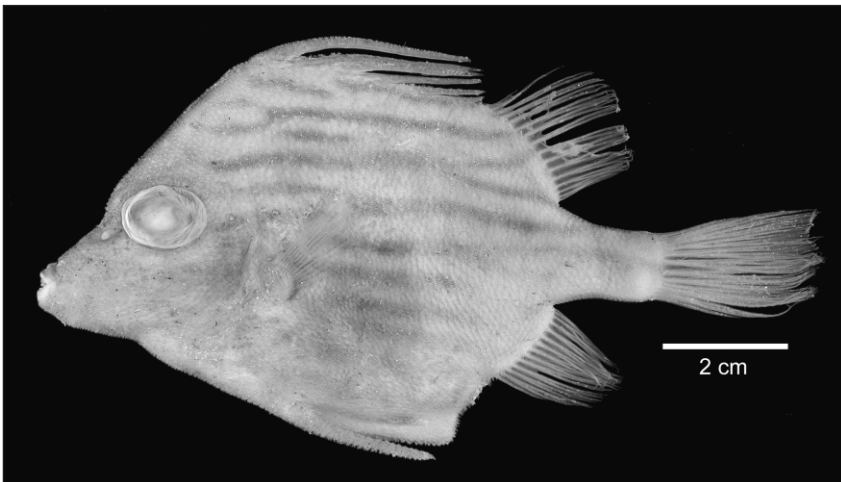


Figure 14. *Parahollardia lineata*, MCZ 162936, 390 mm SL, 38°22'N, 73°42'W, 99 m.

Errata To Moore et al. (2003)

Table 1: 7th line from bottom, “Polymixiiformes—brardfishes” should be “Polymixiiformes—beardfishes”.

Page 169: MCZ 91550 is listed as a 150-mm TL *Centroscymnus*, but the specimen is a 1500-mm TL specimen of *Centrophorus niaukang* (Anna Verissimo, Virginia Institute of Marine Science [VIMS], Gloucester Point, VA, pers. comm. 2007).

Page 192: MCZ 162258, listed under *Aristostomias lunifer*, was re-identified by C. Kenaley as *Pachystomias microdon* in a recent review of *Aristostomias* species held by the MCZ.

Pages 207–08: Under *Spectrunculus grandis*, MCZ 146882 and 146883 are in fact specimens of *Barathrites parri*. See page 205 for the species account.

Page 223: Liparidae is the preferred family name for the snailfishes (N. Chernova, ZIN, St. Petersburg, Russia, pers. comm. 2005); the family Liparidae was formerly lumped with the family Cyclopteridae.

Page 224: *Synagrops bellus* is inseparable from its senior synonym *S. japonicus* (Döderlein in Steindachner and Döderlein), and *Howella brodiei* is now considered *H. atlantica* Post and Quéro (P.C. Heemstra, unpubl. data)

Page 225: MCZ 150975 listed as *Symphysanodon berryi* is in fact a post-larval *Epigonus* sp. (Anderson and Springer 2005).

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