

***Ahlia egmontis* (Jordan, 1884)**
Ophichthidae (s.f. Myrophinae)
 Key worm eel



- Range:** Western North Atlantic Ocean from North Carolina and Bermuda, through the Caribbean Sea to Brazil
- Habitat:** Sandy shores, bays, tidal creeks, eelgrass beds and edges of coral reefs; also documented at surface at night off North Carolina
- Spawning:** Undescribed; larvae collected as far north as Scotian Shelf
- Eggs:** – Undescribed
- Larvae:**
- 3 swellings along anterior part of gut; 3–5 swellings posterior to these
 - Nephros ends 3–4 myomeres before anus; twin-peaked swelling at end
 - Dorsal fin origin posterior to myomere 60, above level of anus
 - Almost all myosepta have streak of pigment near midline
 - 1–5 subcutaneous pigment patches on tail, just below notochord
 - Gut pigment present dorsally on each loop and swelling, sometimes a few spots between
 - Pigment occurs on almost every anal fin ray base
 - Head pigment includes small spots near base of teeth on mid-upper jaw
 - Dorsal pigment may be present in older larvae, from head to dorsal fin origin
 - Maximum leptocephalus size 97 mm; transformation usually occurs at sizes of 70–85 mm

Meristic Characters

Myomeres:	152–168
Vertebrae:	155–167
Dorsal fin rays:	264–370
Anal fin rays:	291–372
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	–

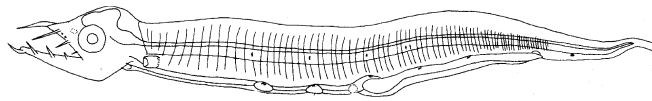
- Note:**
1. Leptocephali in the subfamily Myrophinae have 3 prominent bulges in the anterior part of the gut, corresponding to lobes of the liver, with the gall bladder sharing the third swelling. In the 3 species found in the study area, the nephros ends over the last, low gut swelling and is a twin-peaked structure. They have well developed fin rays and pterygiophores in their dorsal and anal fins before transformation begins. They also retain fin rays in their caudal fins at transformation. Leptocephali in the other subfamily, Ophichthinae, lose caudal fins at transformation and replace them with a hardened tip in later stages.
 2. During transformation, the dorsal and anal fins migrate forward 4–6 and 3–15 myomeres, respectively:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Ahlia egmontis</i>			
Leptocephali	152–168	67–75	65–76
Adults	155–167	60–66	65–72
<i>Myrophis punctatus</i>			
Leptocephali	137–152	53–62	30–38
Adults	141–154	51–54	29–35
<i>Myrophis platyrhynchus</i>			
Leptocephali	140–149	51–58	21–27
Adults	140–146	44–48	17–21

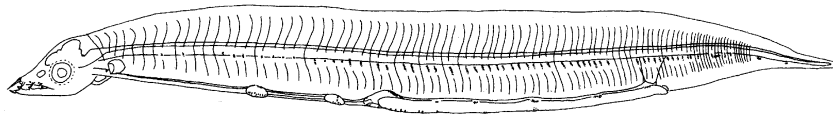
Figures: Adult: Steven Gigliotti (M^cCosker *et al.*, 1989); A–F: Leiby, 1989

References: Dean, 1968; Fahay and Obenchain, 1978; Leiby, 1989; Ross and Rohde, 2003

Ahlia egmontis



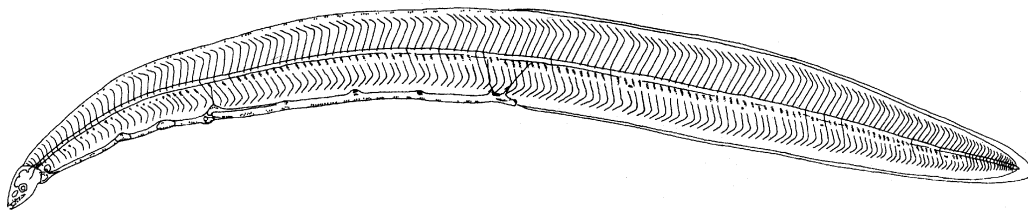
A. 8.0 mmSL



B. 16 mmSL

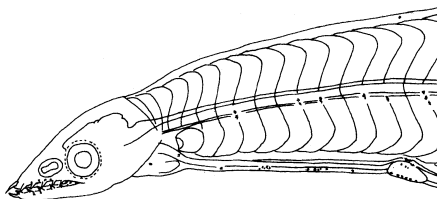
Predorsal myomeres 65-76

Total myomeres 152-168

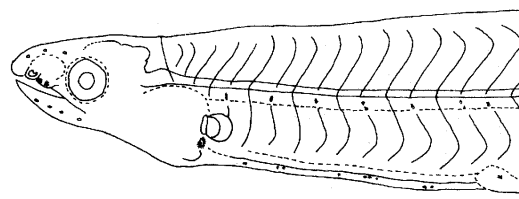


Preanal myomeres 67-75

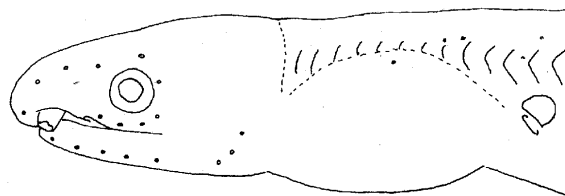
C. 73 mmSL



**D. 78 mmSL
(Head Detail)**

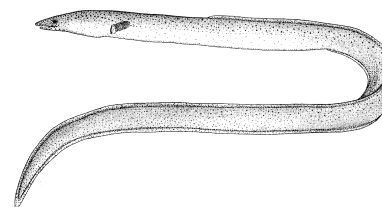


**E. 80 mmSL
(Head Detail)**



**F. 51 mmSL, Glass eel
(Head Detail)**

***Myrophis punctatus* Lütken, 1851**
Ophichthidae (s.f. Myrophinae)
 Speckled worm eel



Range: Western North Atlantic Ocean from North Carolina through the Gulf of Mexico to Brazil; most abundant member of subfamily

Habitat: Usually shallow water, often in brackish, tidal creeks and bays to a depth of 7 m; also in surface waters at night

Spawning: Undescribed; larvae commonly collected in study area (at least as far north and east as Scotian Shelf), mostly Jul–Jan

Eggs: – Undescribed

Larvae: – 3 pronounced swellings along anterior part of gut; 2 weak swellings between these and last large swelling

– Nephros ends at anus; twin-peaked swelling at end

– Dorsal fin origin just behind level of 3rd gut swelling (at myomere 30–38)

– Pigment on less than half of myosepta along midline (develops in larger larvae)

– No subcutaneous pigment patches on tail below notochord

– Pigment occurs on a few anal fin ray bases

– Scattered pigment occurs on ventral surface of gut swellings, dorsal surface of gut near anus

– Few spots develop near tip of lower jaw

– Largest leptocephalus size 88 mm; transformation usually occurs 60–75 mm

Meristic Characters

Myomeres: 137–152

Vertebrae: 141–154

Dorsal fin rays: 261–393

Anal fin rays: 226–297

Pectoral fin rays: –

Pelvic fin rays: none

Caudal fin rays: –

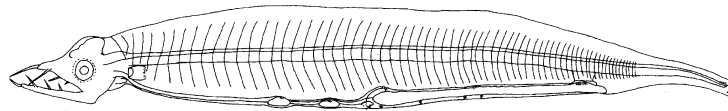
- Note:**
1. Leptocephali in the subfamily Myrophinae have 3 prominent bulges in the anterior part of the gut, corresponding to lobes of the liver, with the gall bladder also occupying the third swelling. In the 3 species found in the study area, the nephros ends over the last, low gut swelling and is a twin-peaked structure. They have well developed fin rays and pterygiophores in their dorsal and anal fins before transformation begins. They also retain fin rays in their caudal fins at transformation. Leptocephali in the other subfamily, Ophichthinae, lose caudal fins at transformation and replace them with a hardened tip in later stages.
 2. During transformation, the dorsal and anal fins migrate forward 4–6 and 3–15 myomeres, respectively:

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Adults	155–167	60–66	65–72
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Leptocephali	137–152	53–62	30–38
Adults	141–154	51–54	29–35
<i>Myrophis platyrhynchus</i>			
Leptocephali	140–149	51–58	21–27
Adults	140–146	44–48	17–21

Figures: Adult: Steven Gigliotti (M^cCosker *et al.*, 1989); A–F: Leiby, 1989

References: Eldred, 1966; Fahay and Obenchain, 1978; Leiby, 1989

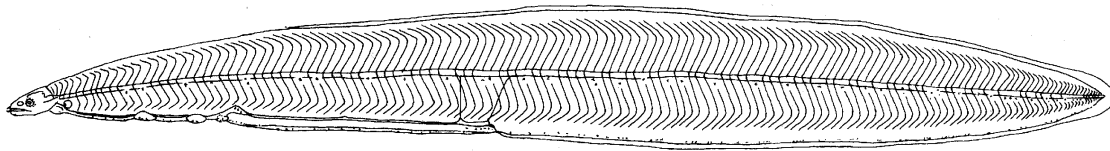
Myrophis punctatus



A. 8.0 mmSL

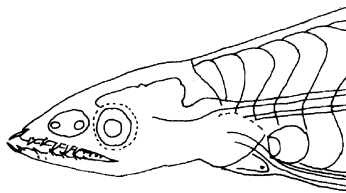
Predorsal myomeres 30-38

Total myomeres 137-152

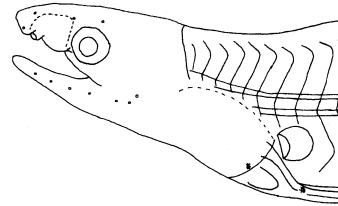


B. 70 mmSL

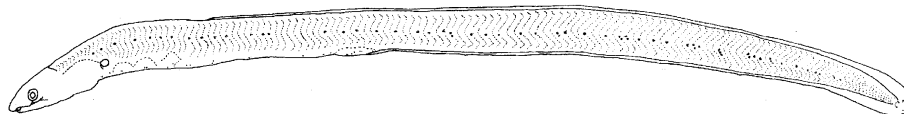
Preanal myomeres 53-62



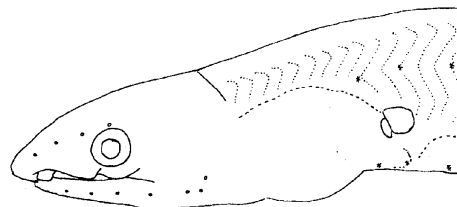
**C. 70 mmSL
(Head Detail)**



**D. 74 mmSL
(Head Detail)**



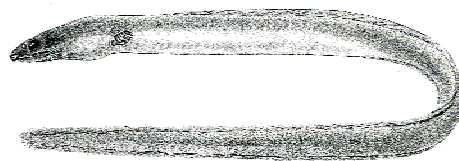
E. 48 mmSL Glass eel



**F. 48 mmSL, Glass eel
Head detail**

Myrophis platyrhynchus* Breder, 1927*Ophichthidae (s.f. Myrophinae)**

Broadnose worm eel



Range: Western North Atlantic Ocean from Bermuda and the Bahamas through Antilles and Central America to Brazil

Habitat: Usually shallow water (<10 m), rarely to 220 m; semi-protected bays and sandy beaches with vegetation

Spawning: Undescribed; larvae commonly collected in study area (at least as far north and east as Scotian Shelf), mostly Jul–Oct

Eggs: – Undescribed

Larvae:

- 5 low but distinct gut swellings, the first 3 associated with liver and gall bladder
- Nephros ends near anus, at myomere 49–54; twin-peaked swelling at end
- Dorsal fin origin near level of 2nd and 3rd gut swellings
- Midline pigment consists of a patch on every 2–10 myosepta, sometimes as streaks
- 4–6 subcutaneous pigment patches on tail just below notochord
- Few spots at base of teeth, mid-upper jaw
- Each gut swelling has a pigment patch on dorsal surface
- Small pigment spot on base of most anal fin rays
- Maximum leptocephalus size 85 mm; transforming specimens 62–85 mm

Meristic Characters

Myomeres:	140–149
Vertebrae:	140–146
Dorsal fin rays:	286–335
Anal fin rays:	221–255
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	–

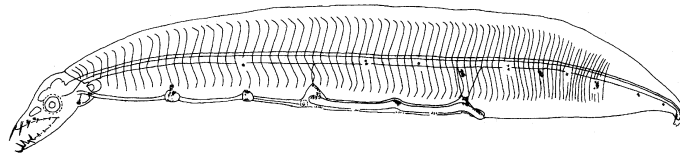
- Note:**
1. Leptocephali in the subfamily Myrophinae have 3 prominent bulges in the anterior part of the gut, corresponding to lobes of the liver, with the gall bladder also occupying the third swelling. In the 3 species found in the study area, the nephros ends over the last, low gut swelling and is a twin-peaked structure. They have well developed fin rays and pterygiophores in their dorsal and anal fins before transformation begins. They also retain fin rays in their caudal fins at transformation. Leptocephali in the other subfamily, Ophichthinae, lose caudal fins at transformation and replace them with a hardened tip in later stages.
 2. During transformation, the dorsal and anal fins migrate forward 4–6 and 3–15 myomeres, respectively:

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Leptocephali	140–149	51–58	21–27
Adults	140–146	44–48	17–21

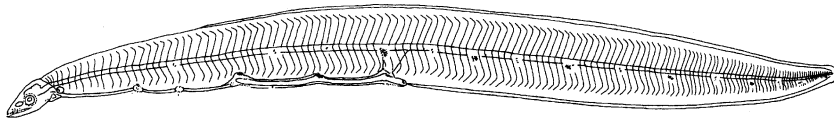
Figures: Adult: Steven Gigliotti (McCosker *et al.*, 1989); A–G: Leiby, 1989

References: Fahay and Obenchain, 1978; Leiby, 1989

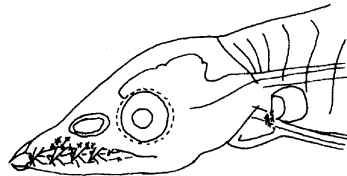
Myrophis platyrhynchus



A. 18 mmSL



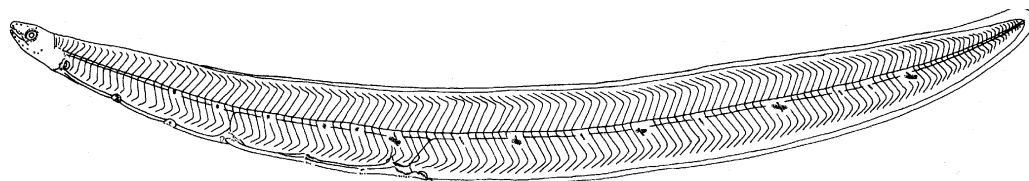
B. 47 mmSL



**C. 47 mmSL
(Head Detail)**

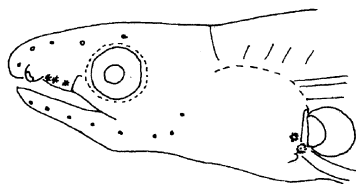
Predorsal myomeres 21-27

Total myomeres 140-149

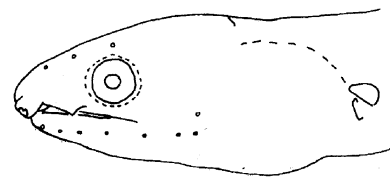


D. 78mmSL

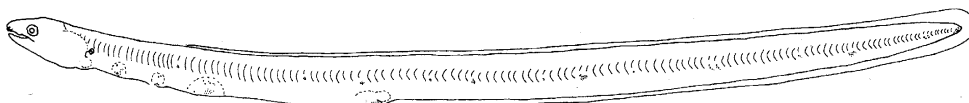
Preanal myomeres 51-58



E. 78 mmSL (Head Detail)



F. 54 mmSL, Glass eel (Head Detail)



G. 54 mmSL, Glass eel

***Ophichthus cruentifer* (Goode and Bean, 1896)**
Ophichthidae (s.f. Ophichthinae: Tribe Ophichthini)
 Margined snake eel



Range: Western North Atlantic Ocean; common from Georges Bank and Gulf of Maine, along the east coast of the United States to Florida

Habitat: Sandy and muddy bottoms in depths from 36 to 1,350 m; burrow into substrate with heads exposed; most abundant in depths of 250–350 m

Spawning: Primarily summer

Eggs:

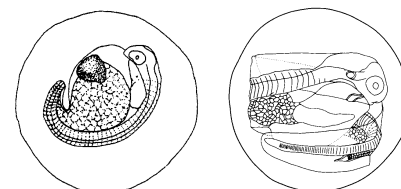
- Pelagic, spherical, diameter 1.62–2.89 mm
- Shell: smooth
- Yolk: segmented
- Oil globule: 1 or more; diameter of single or largest: 0.26–0.65 mm
- Perivitelline space: wide
- Embryo unpigmented

Larvae:

- Gut with 9 moderately pronounced swellings
- Nephros ends at myomere 62–69, on next-to-last gut swelling
- Pigment spots occur along midline at every 1–6 myosepta and at upper and lower angles of myosepta
- 5–7 subcutaneous pigment patches on tail just below notochord
- Row of pigment spots along dorsal edge of body, about every 2–8 myomeres
- Pigment spot usually on each gut swelling and, in larger larvae, between each swelling
- Maximum leptocephalus size 71–89 mm

Meristic Characters

Myomeres:	145–154
Vertebrae:	144–155
Dorsal fin rays:	271–296
Anal fin rays:	179–196
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none



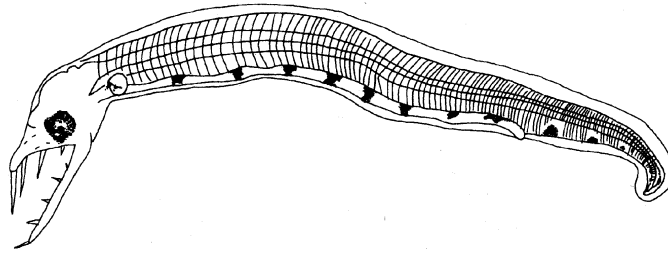
Note: 1. Leptocephali in the tribe Ophichthini have relatively short guts and nephros lengths. In the species occurring north of 35°N, the nephros ends 4–14 myomeres anterior to the anus, near the next-to-last gut swelling (except in *Myrichthys*). Gut loops in this tribe range from low and barely discernible to fairly well pronounced; some of this variation occurs within genera. Pigmentation also ranges from weak to pronounced. The dorsal and anal fins migrate anteriorly at transformation. The table below describes these positions in leptocephali of the 8 species occurring in the study area:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Ophichthus cruentifer</i>	145–154	70–76	47–56
<i>Ophichthus gomesii</i>	138–152	67–76	60–73
<i>Ophichthus melanoporus</i>	176–193	69–76	42–53
<i>Ophichthus menezesi</i>	150–156	66–70	60–65
<i>Ophichthus puncticeps</i>	129–140	69–77	49–58
<i>Myrichthys breviceps</i>	166–181	67–72	11–17
<i>Aplatophis chauliodus</i>	108–116	63–69	50–56
<i>Quassiremum ascensionis</i>	135–138	68–70	56–58

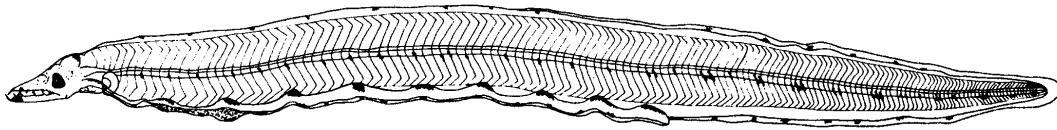
Figures: Adult: Mary Fuges (McCosker *et al.*, 1989); Egg 1 and A–B: Richardson, 1974; Egg 2: Naplin and Obenchain, 1980; C–F: Leiby, 1989

References: Richardson, 1974; Wenner, 1976; Naplin and Obenchain, 1980; Fahay and Obenchain, 1978; Leiby, 1989

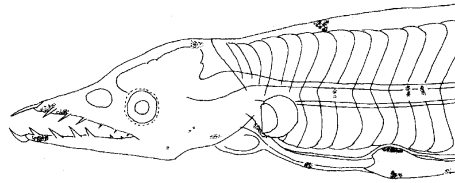
Ophichthus cruentifer



A. 6.9 mmSL



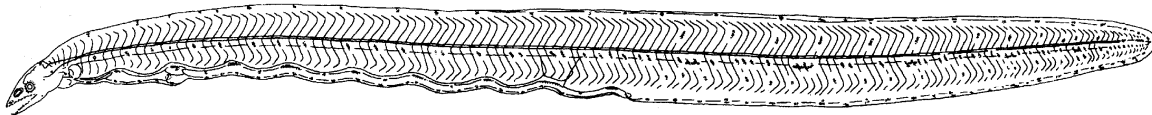
B. 32.1 mmSL



**C. 34 mmSL
(Head Detail)**

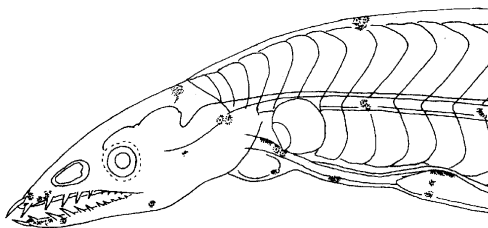
Predorsal myomeres 47-56

Total myomeres 145-154

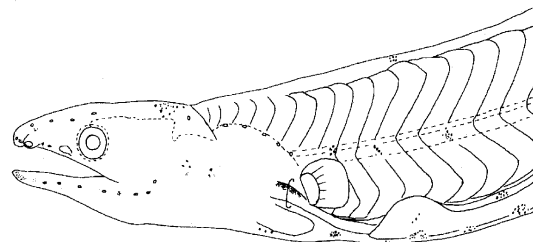


Preanal myomeres 70-76

D. 72 mmSL

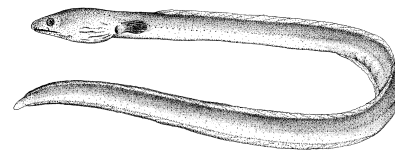


**E. 72 mmSL
(Head Detail)**



**F. 81 mmSL
(Head Detail)**

***Ophichthus gomesii* (Castelnau, 1855)**
Ophichthidae (s.f. Ophichthinae: Tribe Ophichthini)
 Shrimp eel



Range: Western North Atlantic Ocean from South Carolina to Florida, through the Gulf of Mexico (where it is abundant) to Brazil

Habitat: Bays, estuaries and oceanic waters to depths of 90 m, rarely deeper

Spawning: Undescribed; larvae are abundant constituents of collections as far north as Scotian Shelf; most of those in study area occur Jul–Nov

Eggs: – Undescribed

Larvae:

- Gut with 8 low to moderate swellings
- Nephros ends at myomere 56–64, on next-to-last gut swelling
- Pigment spots occur along midline on nearly every myoseptum
- 4–5 subcutaneous pigment patches on tail just below notochord
- Gut pigment includes spots on dorsal (sometimes ventral) surface of each swelling
- A single melanophore usually present on the base of each anal fin ray
- Pigment at tip of lower jaw in small larvae, lost in larger larvae
- Maximum leptocephalus size 110 mmSL; transformation usually occurs 70–90 mm

Meristic Characters

Myomeres:	138–152
Vertebrae:	138–153
Dorsal fin rays:	225–285
Anal fin rays:	159–217
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

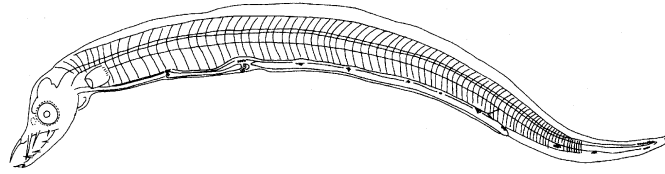
Note: 1. Leptocephali in the tribe Ophichthini have relatively short guts and nephros lengths. In the species occurring north of 35°N, the nephros ends 4–14 myomeres anterior to the anus, near the next-to-last gut swelling (except in *Myrichthys*). Gut loops in this tribe range from low and barely discernible to fairly well pronounced; some of this variation occurs within genera. Pigmentation also ranges from weak to pronounced. The dorsal and anal fins migrate anteriorly at transformation. The table below describes these positions in leptocephali of the 8 species occurring in the study area:

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<i>Ophichthus mealnopus</i>	176–193	69–76	42–53
<i>Ophichthus menezesi</i>	150–156	66–70	60–65
<i>Ophichthus puncticeps</i>	129–140	69–77	49–58
<i>Myrichthys breviceps</i>	166–181	67–72	11–17
<i>Aplatophis chauliodus</i>	108–116	63–69	50–56
<i>Quassiremus ascensionis</i>	135–138	68–70	56–58

Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); A–F: Leiby, 1989

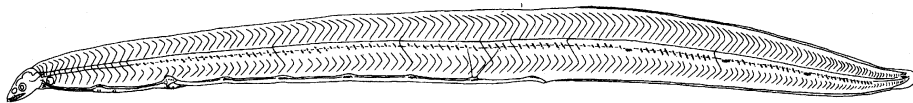
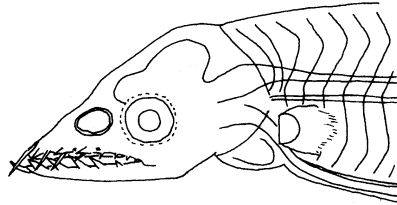
References: Fahay and Obenchain, 1978; Leiby, 1979a; Leiby, 1989

Ophichthus gomesii



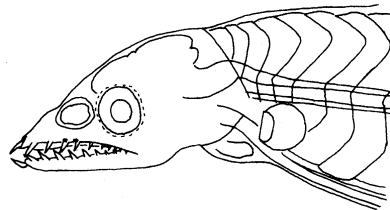
A. 9.0 mmSL

**B. 35 mmSL
(Head Detail)**



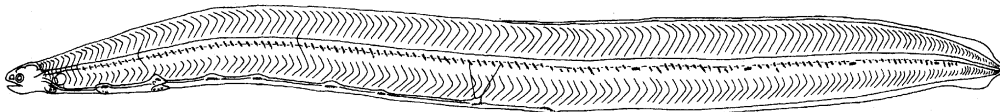
C. 61 mmSL

**D. 61 mmSL
(Head Detail)**



Predorsal myomeres 60-73

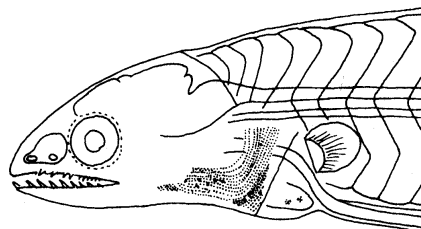
Total myomeres 138-152



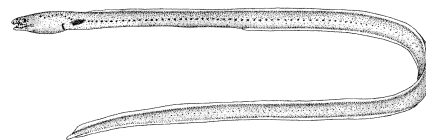
E. 87 mmSL

Preanal myomeres 67-76

**F. 87 mmSL
(Head Detail)**



***Ophichthus melanoporus* Kanazawa, 1963**
Ophichthidae (s.f. Ophichthinae: Tribe Ophichthini)
 Blackpored eel



Range: Western North Atlantic Ocean from North Carolina to Florida Straits and northern Gulf of Mexico west to Texas

Habitat: Occurs at depths of 51–460 m

Spawning: Undescribed; larvae uncommonly collected in study area, usually during Jul–Sep

Eggs: – Undescribed

Larvae:

- Gut with 9 moderate to pronounced loops
- Nephros ends at myomere 63–70, on next-to-last swelling, or between swelling no. 8 and 9
- Dorsal fin origin over level of gut swelling 6
- Midline pigment consists of a melanophore on every 1–12 myosepta
- Gut pigment includes a patch on dorsal surface of each swelling
- 9–11 subcutaneous pigment patches on tail just below notochord
- Bases of anal fin rays in groups of 2–5 pigmented alternating with 10–20 unpigmented
- Other pigment includes ephemeral melanophores on head and lower jaw
- Maximum leptocephalus size 106 mm

Meristic Characters

Myomeres:	177–186
Vertebrae:	177–186
Dorsal fin rays:	–
Anal fin rays:	–
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	–

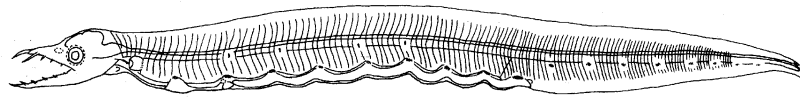
Note: 1. Leptocephali in the tribe Ophichthini have relatively short guts and nephros lengths. In the species occurring north of 35°N, the nephros ends 4–14 myomeres anterior to the anus, near the next-to-last gut swelling (except in *Myrichthys*). Gut loops in this tribe range from low and barely discernible to fairly well pronounced; some of this variation occurs within genera. Pigmentation also ranges from weak to pronounced. The dorsal and anal fins migrate anteriorly at transformation. The table below describes these positions in leptocephali of the 8 species occurring in the study area:

Species	Total Myomeres	Prealanal Myomeres	Predorsal Myomeres
<i>Ophichthus cruentifer</i>	145–154	70–76	47–56
<i>Ophichthus gomesii</i>	138–152	67–76	60–73
<i>Ophichthus melanoporus</i>	176–193	69–76	42–53
<i>Ophichthus menezesi</i>	150–156	66–70	60–65
<i>Ophichthus puncticeps</i>	129–140	69–77	49–58
<i>Myrichthys breviceps</i>	166–181	67–72	11–17
<i>Aplatophis chauliodus</i>	108–116	63–69	50–56
<i>Quassiremus ascensionis</i>	135–138	68–70	56–58

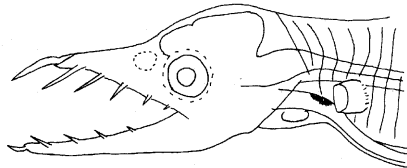
Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); A–E: Leiby, 1989

References: Leiby, 1981; Leiby, 1989

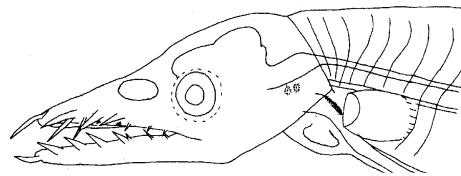
Ophichthus melanoporus



A. 18 mmSL



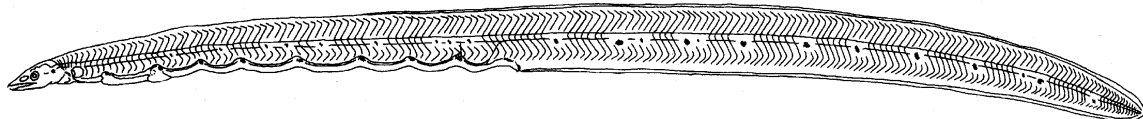
**B. 18 mmSL
(Head Detail)**



**C. 37 mmSL
(Head Detail)**

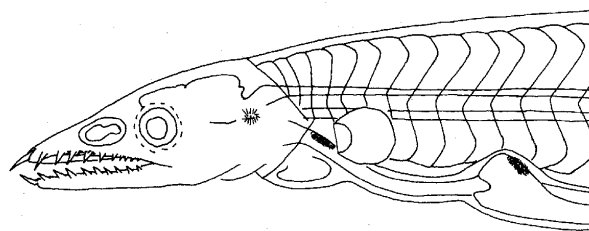
Predorsal myomeres 42-53

Total myomeres 176-193



D. 86 mmSL

Preanal myomeres 69-76



**E. 86 mmSL
(Head Detail)**

***Ophichthus menezesi* McCosker and Böhlke, 1984**
Ophichthidae (s.f. Ophichthinae: Tribe Ophichthini)
 Blotchside snake eel



Range: Western North Atlantic ocean; known from the Gulf of Mexico off Florida and off Brazil

Habitat: Collected by trawl between 169 and 209 m (Brazil) or 1,200–1,400 m off Florida on a sand-rubble bottom

Spawning: Undescribed; larvae (2) collected as far north as 40°21'N Aug–Sep

Eggs: – Undescribed

Larvae:

- Gut with 7 moderate to pronounced loops
- Nephros ends just anterior to the 7th gut loop
- Dorsal fin origin over 6th to 7th gut loop
- Midline pigment includes a stellate melanophore over each gap between the gut loops; this series continues with a melanophore lateral to each subcutaneous pigment patch (below)
- 6–7 subcutaneous pigment patches on tail just below notochord
- Pigment on most myosepta posterior to last subcutaneous spot; pigment on dorsum of notochord near tail tip
- Gut pigment on dorsal surface of each gut loop; dorsal surface of esophagus pigmented
- A patch of ventrolateral pigment just above each of the 1st six gut loops
- Pigment sometimes present on ventral surface of some liver lobes and gut loops
- Most anal fin ray bases pigmented on pterygiophores
- Other pigment includes few spots at base of teeth, mid-upper jaw
- Maximum leptocephalus size 77 mm

Meristic Characters

Myomeres:	150–156
Vertebrae:	150–156
Dorsal fin rays:	250 (n = 1)
Anal fin rays:	186–207 (n = 3)
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

Note: 1. Leptocephali in the tribe Ophichthini have relatively short guts and nephros lengths. In the species occurring north of 35°N, the nephros ends 4–14 myomeres anterior to the anus, near the next-to-last gut swelling (except in *Myrichthys*). Gut loops in this tribe range from low and barely discernible to fairly well pronounced; some of this variation occurs within genera. Pigmentation also ranges from weak to pronounced. The dorsal and anal fins migrate anteriorly at transformation. The table below describes these positions in leptocephali of the 8 species occurring in the study area:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Ophichthus cruentifer</i>	145–154	70–76	47–56
<i>Ophichthus gomesii</i>	138–152	67–76	60–73
<i>Ophichthus melanopus</i>	176–193	69–76	42–53
<i>Ophichthus menezesi</i>	150–156	66–70	60–65
<i>Ophichthus puncticeps</i>	129–140	69–77	49–58
<i>Myrichthys breviceps</i>	166–181	67–72	11–17
<i>Aplatophis chauliodus</i>	108–116	63–69	50–56
<i>Quassiremus ascensionis</i>	135–138	68–70	56–58

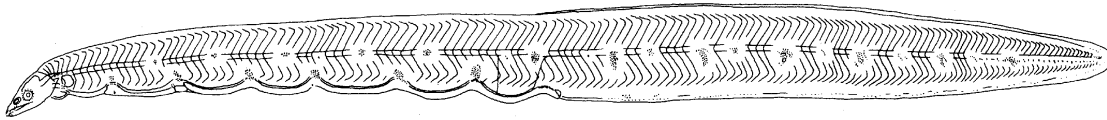
Figures: Adult: Mary Fuges (McCosker *et al.*, 1989); A–B: Leiby, 1989

References: Leiby, 1989

Ophichthus menezesi

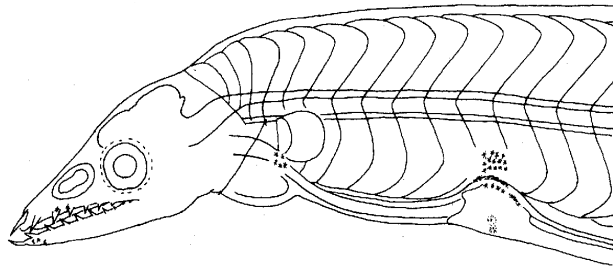
Predorsal myomeres 60-65

Total myomeres 150-156



A. 71 mmSL

Preanal myomeres 66-70



**B. 71 mmSL
(Head Detail)**

***Ophichthus puncticeps* (Kaup, 1860)**
Ophichthidae (s.f. Ophichthinae: Tribe Ophichthini)
 Palespotted eel



Range: Western North Atlantic Ocean from North Carolina to Florida and northern Gulf of Mexico; also uncommonly through West Indies as far south as Suriname

Habitat: Surface (at night) to 219 m, mostly in depths of 20–200 m

Spawning: Undescribed; larvae have been collected in study area, as far as Scotian Shelf, Apr–May; they are most common South of 35°N during winter and spring

Eggs: – Undescribed

Larvae:

- Gut with 9 low to moderate swellings
- Nephros ends on (or just posterior to) the 8th gut swelling
- Dorsal fin origin near level of space between 6th and 7th gut swelling
- Midline pigment includes a spot or streak on most myosepta
- 4–5 subcutaneous pigment patches on tail just below notochord
- Line of pigment spots develops along dorsal edge (on dorsal fin pterygiophores) in larger larvae
- Gut pigment includes spots on dorsum of esophagus and dorsum of each gut swelling
- Larger larvae also have row of pigment along ventral surface of gut to anus
- Most anal fin ray bases have a single pigment spot; few pigment spots at base of teeth on mid-upper jaw
- Maximum leptocephalus size 89 mmSL; transformation occurs in most between 75 and 82 mm

Meristic Characters

Myomeres:	129–140
Vertebrae:	127–141
Dorsal fin rays:	247–283
Anal fin rays:	147–180
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

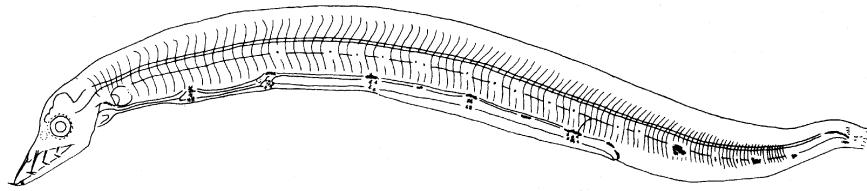
Note: 1. Leptocephali in the tribe Ophichthini have relatively short guts and nephros lengths. In the species occurring north of 35°N, the nephros ends 4–14 myomeres anterior to the anus, near the next-to-last gut swelling (except in *Myrichthys*). Gut loops in this tribe range from low and barely discernible to fairly well pronounced; some of this variation occurs within genera. Pigmentation also ranges from weak to pronounced. The dorsal and anal fins migrate anteriorly at transformation. The table below describes these positions in leptocephali of the 8 species occurring in the study area:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Ophichthus cruentifer</i>	145–154	70–76	47–56
<i>Ophichthus gomesii</i>	138–152	67–76	60–73
<i>Ophichthus melanoporus</i>	176–193	69–76	42–53
<i>Ophichthus menezesi</i>	150–156	66–70	60–65
<i>Ophichthus puncticeps</i>	129–140	69–77	49–58
<i>Myrichthys breviceps</i>	166–181	67–72	11–17
<i>Aplatophis chauliodus</i>	108–116	63–69	50–56
<i>Quassiremus ascensionis</i>	135–138	68–70	56–58

Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); A–C: Leiby, 1989

References: Fahay and Obenchain, 1978; Leiby, 1981; 1989

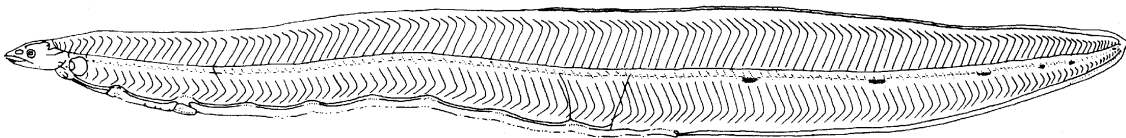
Ophichthus puncticeps



A. 15 mmSL

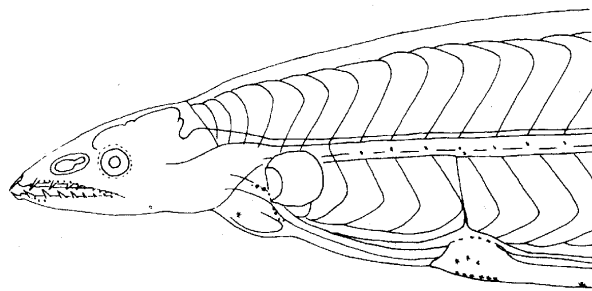
Predorsal myomeres 49-58

Total myomeres 129-140



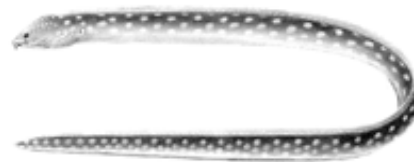
B. 85 mmSL

Preanal myomeres 69-77



**C. 85 mmSL
(Head Detail)**

***Myrichthys breviceps* (Richardson, 1848)**
Ophichthidae (s.f. Ophichthinae: Tribe Ophichthini)
 Sharptail eel



Range: Western North Atlantic Ocean from Bermuda and the Bahamas to Florida Keys, West Indies and Brazil

Habitat: Sand and turtle grass beds to depths of 9 m (usually <3 m); also documented at surface at night off North Carolina

Spawning: Undescribed; larvae rarely collected in study area

Eggs: – Undescribed

Larvae:

- Gut with 7 pronounced loops
- Nephros ends over the 7th gut loop (unusual for tribe)
- Dorsal fin origin anterior to myomere 20 (anterior position unusual for tribe)
- Midline pigment includes a spot on fewer than 35% of myosepta
- 8–9 subcutaneous pigment patches on tail just below notochord
- Internal pigment on notochord near tail tip
- Gut pigment includes prominent patch on dorsal surface of each loop
- Most anal fin ray pterygiophores pigmented
- Maximum leptocephalus size 103 mm; transforming specimens 71–111 mm

Meristic Characters

Myomeres:	166–181
Vertebrae:	165–175
Dorsal fin rays:	485–497
Anal fin rays:	303–375
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

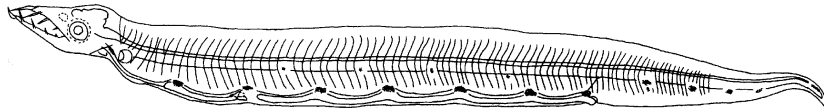
Note: 1. Leptocephali in the tribe Ophichthini have relatively short guts and nephros lengths. In the species occurring north of 35°N, the nephros ends 4–14 myomeres anterior to the anus, near the next-to-last gut swelling (except in *Myrichthys*). Gut loops in this tribe range from low and barely discernible to fairly well pronounced; some of this variation occurs within genera. Pigmentation also ranges from weak to pronounced. The dorsal and anal fins migrate anteriorly at transformation. The table below describes these positions in leptocephali of the 8 species occurring in the study area:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Ophichthus cruentifer</i>	145–154	70–76	47–56
<i>Ophichthus gomesii</i>	138–152	67–76	60–73
<i>Ophichthus melanoporus</i>	176–193	69–76	42–53
<i>Ophichthus menezesi</i>	150–156	66–70	60–65
<i>Ophichthus puncticeps</i>	129–140	69–77	49–58
<i>Myrichthys breviceps</i>	166–181	67–72	11–17
<i>Aplatophis chauliodus</i>	108–116	63–69	50–56
<i>Quassiremus ascensionis</i>	135–138	68–70	56–58

Figures: Adult: Steven Gigliotti (M^cCosker *et al.*, 1989); **A–D:** Leiby, 1989

References: Strömman, 1896; Leiby, 1989; Ross and Rohde, 2003

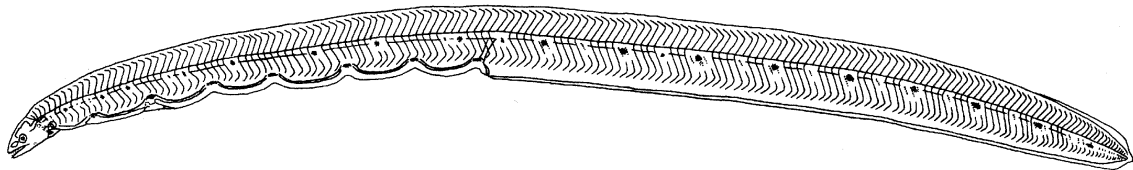
Myrichthys breviceps



A. 14 mmSL

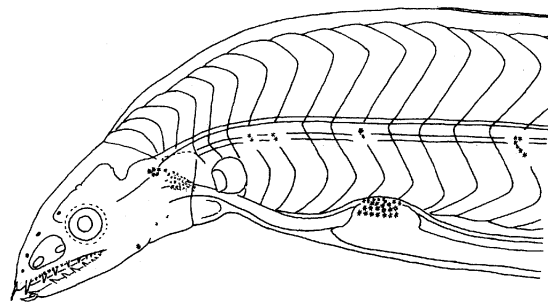
Predorsal myomeres 11-17

Total myomeres 166-181

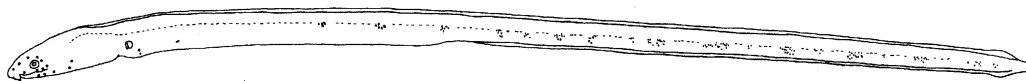


B. 108 mmSL

Preanal myomeres 67-72



**C. 111 mmSL
(Head Detail)**



D. 66 mmSL, Glass eel

***Aplatophis chauliodus* Böhlke, 1956**
Ophichthidae (s.f. Ophichthinae: Tribe Ophichthini)
 Tusky eel



Range: Western North Atlantic Ocean from northern Gulf of Mexico, Puerto Rico, Panama and northern South America (Suriname)

Habitat: Mud bottoms in depths of 33 to 91 m; uncommon

Spawning: Undescribed; included here based on 1 leptocephalus (MCZ 72687) collected in study area (Aug)

Eggs: – Undescribed

Larvae:

- Gut with 9 moderate to pronounced loops
- Nephros ends on 8th gut loop
- Dorsal fin origin over level of 7th–8th gut loop
- Midline pigment includes streaks on <50% of preanal myosepta; >50% of postanal myosepta
- 4 subcutaneous pigment patches on tail just below notochord
- Gut pigment includes melanophores on dorsal surface of each loop, ventral surface of a few loops
- >50% of anal fin ray pterygiophores are pigmented
- Lowest number of total myomeres in family (western North Atlantic species)
- Maximum leptocephalus size 67 mmSL

Meristic Characters

Myomeres:	108–116
Vertebrae:	110–115
Dorsal fin rays:	261–263
Anal fin rays:	142–167
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

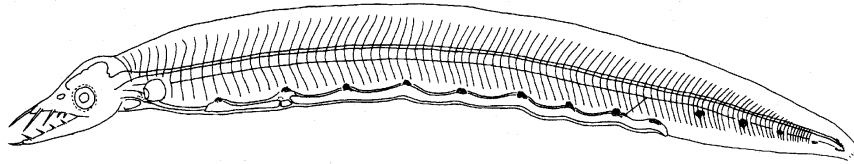
Note: 1. Leptocephali in the tribe Ophichthini have relatively short guts and nephros lengths. In the species occurring north of 35°N, the nephros ends 4–14 myomeres anterior to the anus, near the next-to-last gut swelling (except in *Myrichthys*). Gut loops in this tribe range from low and barely discernible to fairly well pronounced; some of this variation occurs within genera. Pigmentation also ranges from weak to pronounced. The dorsal and anal fins migrate anteriorly at transformation. The table below describes these positions in leptocephali of the 8 species occurring in the study area:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Ophichthus cruentifer</i>	145–154	70–76	47–56
<i>Ophichthus gomesii</i>	138–152	67–76	60–73
<i>Ophichthus melanoporus</i>	176–193	69–76	42–53
<i>Ophichthus menezesi</i>	150–156	66–70	60–65
<i>Ophichthus puncticeps</i>	129–140	69–77	49–58
<i>Myrichthys breviceps</i>	166–181	67–72	11–17
<i>Aplatophis chauliodus</i>	108–116	63–69	50–56
<i>Quassiremus ascensionis</i>	135–138	68–70	56–58

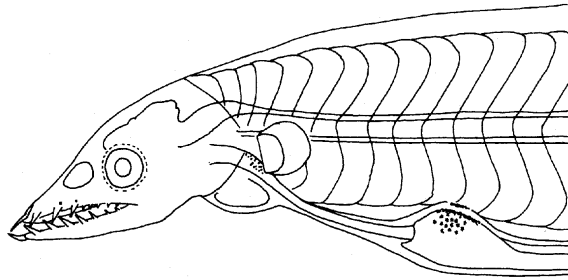
Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); A–C: Leiby, 1989

References: Leiby, 1989

Aplatophis chauliodus



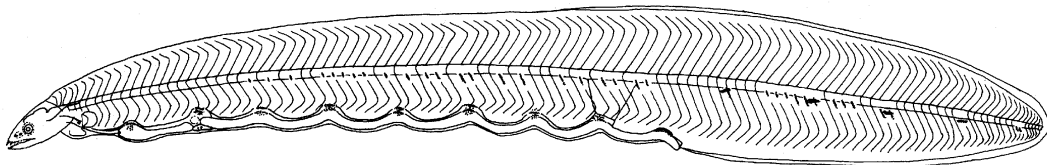
A. 15 mmSL



**B. 39 mmSL
(Head Detail)**

Predorsal myomeres 50-56

Total myomeres 108-116



C. 67 mmSL

Preanal myomeres 63-69

***Quassiremus ascensionis* (Studer, 1889)**
Ophichthidae (s.f. Ophichthinae: Tribe Ophichthini)
 Blackspotted snake eel



Range: Western North Atlantic Ocean from Bermuda and the Bahamas, through the Lesser Antilles to Brazil and Ascension Island

Habitat: Mixed sand and turtle grass beds; fossorial in depths to 12 m; rare

Spawning: Undescribed; larvae rarely collected in study area (Aug)

Eggs: – Undescribed

Larvae:

- Gut with 6 moderate gut swellings
- Nephros ends just anterior to 6th gut swelling
- Dorsal fin origin anterior to myomere 65
- Midline pigment includes a streak on almost every myoseptum
- 4 subcutaneous pigment patches on tail just below notochord
- Gut pigment includes spots on dorsal surface of each swelling, ventral surface of liver lobes
- Most anal fin ray pterygiophores pigmented
- Some internal pigment on notochord
- Maximum leptocephalus size 59 mm
- Tentative identification based on few specimens of larvae and adults. See discussion in Leiby (1989)

Meristic Characters

Myomeres:	135–138
Vertebrae:	129–136
Dorsal fin rays:	–
Anal fin rays:	–
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

Note: 1. Leptocephali in the tribe Ophichthini have relatively short guts and nephros lengths. In the species occurring north of 35°N, the nephros ends 4–14 myomeres anterior to the anus, near the next-to-last gut swelling (except in *Myrichthys*). Gut loops in this tribe range from low and barely discernible to fairly well pronounced; some of this variation occurs within genera. Pigmentation also ranges from weak to pronounced. The dorsal and anal fins migrate anteriorly at transformation. The table below describes these positions in leptocephali of the 8 species occurring in the study area

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Ophichthus cruentifer</i>	145–154	70–76	47–56
<i>Ophichthus gomesii</i>	138–152	67–76	60–73
<i>Ophichthus melanopus</i>	176–193	69–76	42–53
<i>Ophichthus menezesi</i>	150–156	66–70	60–65
<i>Ophichthus puncticeps</i>	129–140	69–77	49–58
<i>Myrichthys breviceps</i>	166–181	67–72	11–17
<i>Aplatophis chauliodus</i>	108–116	63–69	50–56
<i>Quassiremus ascensionis</i>	135–138	68–70	56–58

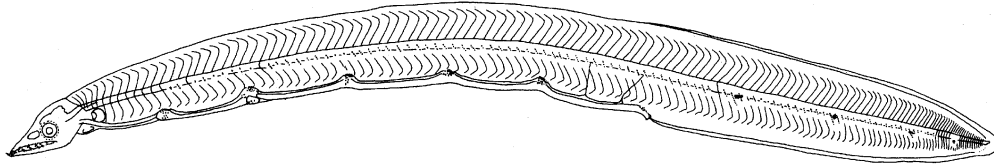
Figures: Adult: Steven Gigliotti (McCosker *et al.*, 1989); **A–D:** Leiby, 1989

References: Leiby, 1989

Quassiremus ascensionis

Predorsal myomeres 56-58

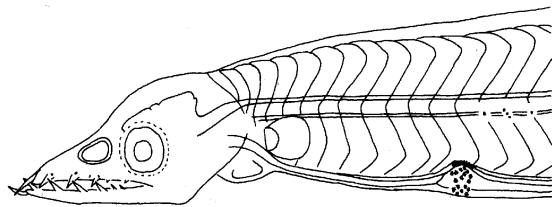
Total myomeres 135-138



A. 36 mmSL

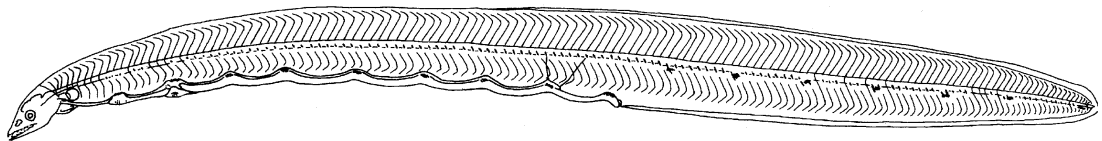
Preanal myomeres 68-70

B. Head detail 36 mmSL



Predorsal myomeres 53-62

Total myomeres 137-147



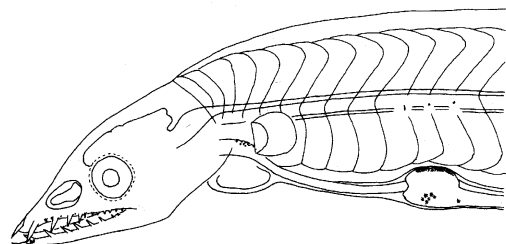
C. 60 mmSL

Preanal myomeres 70-76

This unidentified leptocephalus (“Ophichthini Species 2” of Leiby, 1989) can not be assigned to a genus or species with certainty. It has occurred as far north as Scotian Shelf and is characterized by:

- 9 moderately pronounced gut loops
- nephros ending over the 8th loop
- a pigment streak on most myosepta
- 6-7 subcutaneous pigment patches on tail just below notochord
- a patch of pigment on the dorsal surface of each gut loop.

Maximum leptocephalus size 72 mmSL



**D. 60 mmSL
(Head Detail)**

Apterichtus ansp (Böhlke, 1968)
Ophichthidae (s.f. Ophichthinae: Tribe Sphagebranchini)
 Academy eel



- Range:** Western North Atlantic Ocean from Bermuda and the east coast of the United States from North Carolina to the Bahamas and Florida Keys; also Lesser Antilles to Brazil
- Habitat:** Along shorelines on bare sand bottoms, typically in depths to 15 m, rarely to 38 m; uncommon
- Spawning:** Undescribed; leptocephali have been collected as far north as Scotian Shelf, Jun–Nov (few Apr–May)
- Eggs:** – Undescribed
- Larvae:** – Gut with 9 low swellings
 – Dorsal fin confined to area near tail tip; fin origin difficult to determine
 – Nephros ends on, or just anterior to, last gut swelling
 – Midline pigment includes streaks on most myosepta
 – 4–5 subcutaneous pigment patches on tail just below notochord
 – Gut pigment includes a patch on dorsal surface of each swelling
 – Most anal fin ray pterygiophores pigmented
 – Notochord near tail tip pigmented on dorsal and ventral surfaces
 – Maximum leptocephalus size 70 mmSL; transforming specimens 51–71 mmSL

Meristic Characters

Myomeres:	127–136
Vertebrae:	123–132
Dorsal fin rays:	none
Anal fin rays:	none
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

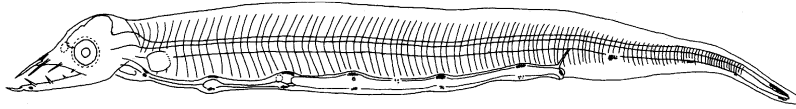
- Note:**
1. Leptocephali in the tribe Sphagebranchini have relatively short guts and nephros lengths. The nephros ends on, or just anterior to, the last gut loop. In the species covered here, adults lack dorsal and anal fins. A rudimentary dorsal fin occurs in the larvae, but this is resorbed before the glass eel stage. Dorsal fin origin must be determined with care; a remnant dorsal finfold might be interpreted as a dorsal fin. (See discussion in Leiby, 1989). Gut loops are low to moderate, at most, and pigment is weakly developed in these 3 species.
 2. The anus migrates forward 7–12 myomeres at transformation:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Apterichtus ansp</i>			
Leptocephali	127–136	64–70	114–125
Adults	123–132	52–56	none
<i>Apterichtus kendalli</i>			
Leptocephali	137–148	69–74	121–135
Adults	137–145	61–63	none
<i>Ichthyapus ophioneus</i>			
Leptocephali	130–139	50–54	117–130
Adults	123–139	43–51	none

Figures: Adult: Steven Gigliotti (M^cCosker *et al.*, 1989); A–C: Leiby, 1989

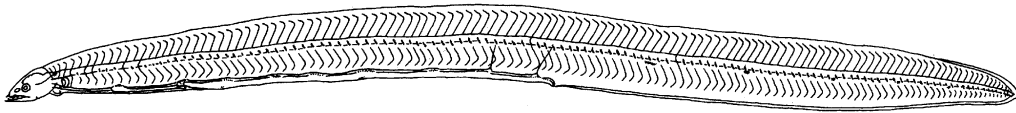
References: Leiby 1981; 1989

Apterichtus ansp



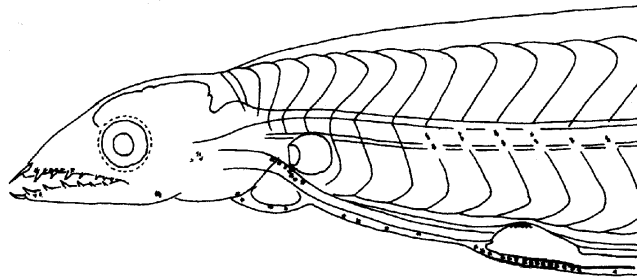
A. 10 mmSL

Predorsal myomeres 114-125
Total myomeres 127-136



B. 57 mmSL

Preanal myomeres 64-70



**C. 66 mmSL
(Head Detail)**

***Apterichtus kendalli* (Gilbert, 1891)**
Ophichthidae (s.f. Ophichthinae: Tribe Sphagebranchini)
 Finless eel



Range: Western North Atlantic Ocean from Florida, the Bahamas and Venezuela; also from the eastern Atlantic (St. Helena)

Habitat: Burrows in sandy bottoms, mostly at depths 30–80 m, rarely to 401 m; uncommon

Spawning: Undescribed; leptocephali uncommonly collected in study area, as far as Scotian Shelf, May, Jun, and Sep

Eggs: – Undescribed

Larvae:

- 6–9 low to moderate gut swellings
- Dorsal fin confined to area near tail tip; fin origin difficult to determine
- Nephros ends on last gut loop, 1–2 myomeres anterior to anus
- Midline pigment includes prominent patches on every 6th to 10th myoseptum
- 4–5 subcutaneous pigment patches on tail just below notochord
- Gut pigment includes patch on dorsal surface of each swelling
- A saddle-shaped group of spots every 7–12 myomeres along ventral edge of tail; anal fin ray bases below these saddles also pigmented
- Some internal pigment on tip of notochord
- Maximum leptocephalus size 90 mmSL; transforming specimens 77–85 mm, heavily peppered with pigment

Meristic Characters

Myomeres:	137–148
Vertebrae:	137–145
Dorsal fin rays:	none
Anal fin rays:	none
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

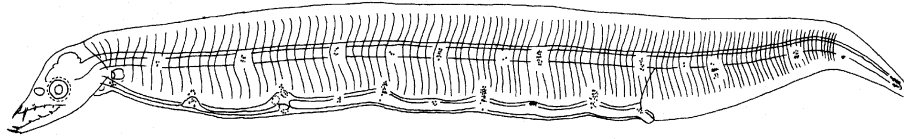
- Note:**
1. Leptocephali in the tribe Sphagebranchini have relatively short guts and nephros lengths. The nephros ends on, or just anterior to, the last gut loop. In the species covered here, adults lack dorsal and anal fins. A rudimentary dorsal fin occurs in the larvae, but this is resorbed before the glass eel stage. Dorsal fin origin must be determined with care; a remnant dorsal finfold might be interpreted as a dorsal fin. (See discussion in Leiby, 1989.) Gut loops are low to moderate, at most, and pigment is weakly developed in these 3 species.
 2. The anus migrates forward 7–12 myomeres at transformation:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Apterichtus ansp</i>			
Leptocephali	127–136	64–70	114–125
Adults	123–132	52–56	none
<i>Apterichtus kendalli</i>			
Leptocephali	137–148	69–74	121–135
Adults	137–145	61–63	none
<i>Ichthyapus ophioneus</i>			
Leptocephali	130–139	50–54	117–130
Adults	123–139	43–51	none

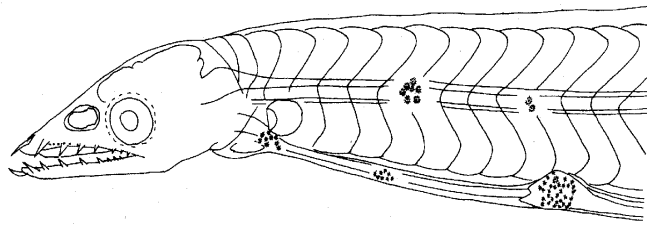
Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); A–D: Leiby, 1989

References: Leiby, 1982; 1989

Apterichtus kendalli

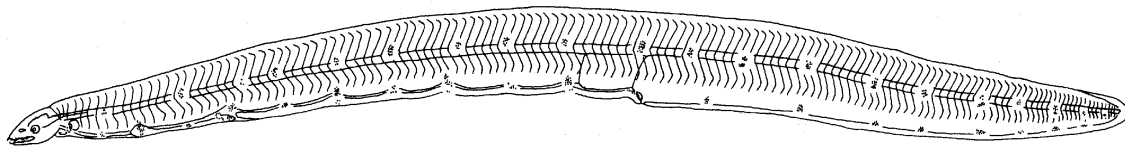


A. 19 mmSL



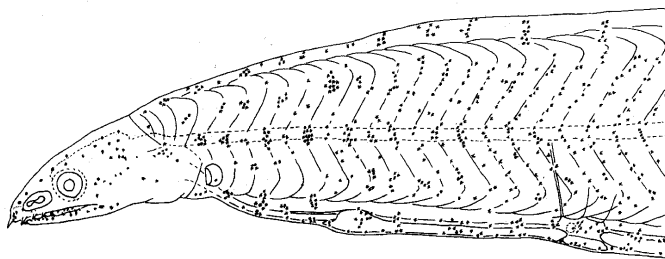
**B. 52 mmSL
(Head Detail)**

Predorsal myomeres 121-135
Total myomeres 137-148



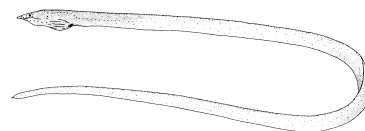
C. 59 mmSL

Preanal myomeres 69-74



**D. 85 mmSL, Transforming
(Head Detail)**

***Ichthyapus ophioneus* (Evermann and Marsh, 1902)**
Ophichthidae (s.f. Ophichthinae: Tribe Sphagebranchini)
 Surf eel



Range: Western North Atlantic Ocean from Bermuda, the Bahamas and Florida, throughout the Greater Antilles; also eastern Atlantic (St. Helena)

Habitat: Sandy bottoms in bays and surf zone in depths usually <3 m, as deep as 11 m

Spawning: Undescribed; leptocephali rarely collected in study area, as far north as 37°46'N, Jul–Sep

Eggs: – Undescribed

Larvae:

- Gut with 5–8 low to moderate swellings
- Dorsal fin confined to area near tail tip; fin origin difficult to determine
- Fewer than 55 nephric myomeres, with nephros ending on last gut swelling
- Midline pigment includes streaks on most myosepta posterior to level of second liver lobe
- 3–4 subcutaneous pigment patches on tail just below notochord
- Gut pigment includes variable number of patches, some on swellings, some between
- Most anal fin rays have pigment on pterygiophores
- Pigment occurs on dorsal surface of notochord near tail tip
- Maximum leptocephalus size 84 mmSL; transforming specimens 49–84 mmSL

Meristic Characters

Myomeres:	130–139
Vertebrae:	125–139
Dorsal fin rays:	none
Anal fin rays:	none
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

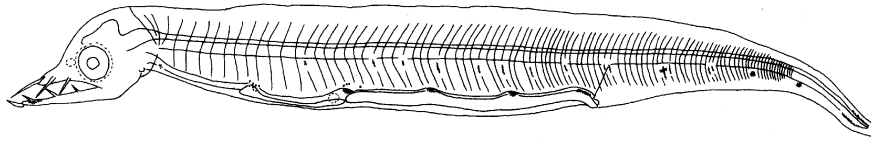
- Note:**
1. Leptocephali in the tribe Sphagebranchini have relatively short guts and nephros lengths. The nephros ends on, or just anterior to, the last gut loop. In the species covered here, adults lack dorsal and anal fins. A rudimentary dorsal fin occurs in the larvae, but this is resorbed before the glass eel stage. Dorsal fin origin must be determined with care; a remnant dorsal finfold might be interpreted as a dorsal fin. (See discussion in Leiby, 1989.) Gut loops are low to moderate, at most, and pigment is weakly developed in these 3 species.
 2. The anus migrates forward 7–12 myomeres at transformation:

Species	Total Myomeres	Myomeres Predorsal	Preanal Myomeres
<i>Apterichtus ansp</i>			
Leptocephali	127–136	64–70	114–125
Adults	123–132	52–56	none
<i>Apterichtus kendalli</i>			
Leptocephali	137–148	69–74	121–135
Adults	137–145	61–63	none
<i>Ichthyapus ophioneus</i>			
Leptocephali	130–139	50–54	117–130
Adults	123–139	43–51	none

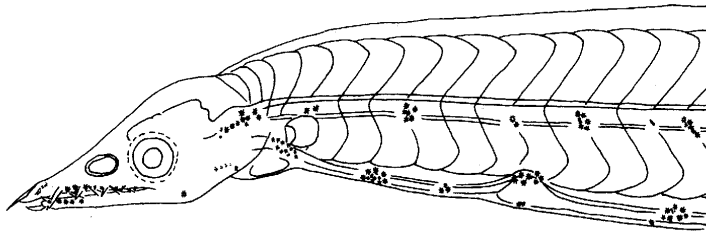
Figures: Adult: Steven Gigliotti (M^cCosker *et al.*, 1989); A–C: Leiby, 1989

References: Leiby, 1982; 1989

Ichthyapus ophioneus

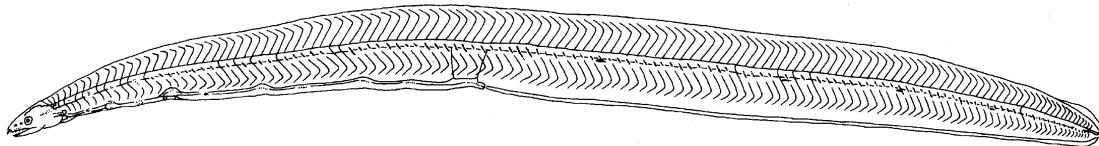


A. 8.0 mmSL



**B. 44 mmSL
(Head Detail)**

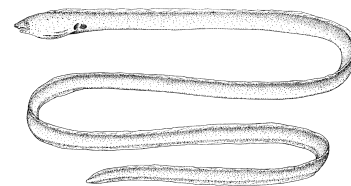
Predorsal myomeres 117-130
Total myomeres 130-139



C. 72 mmSL

Preanal myomeres 50-54

***Bascanichthys bascanium* (Jordan, 1884)**
Ophichthidae (s.f. Ophichthinae: Tribe Bascanichthyini)
 Sooty eel



Range: Western North Atlantic Ocean; along coastal United States from North Carolina to Florida and northern Gulf of Mexico; also Mexico and Puerto Rico

Habitat: Shallow, sandy beaches, rarely as deep as 24 m

Spawning: Undescribed; leptocephali rarely collected in study area, Jul–Aug.

Eggs: – Undescribed

Larvae:

- Gut long and straight, with barely noticeable swellings, except 2 at liver
- Dorsal fin origin anterior to myomere 20
- Nephros ends at myomere 100–112
- Midline pigment includes spots or streaks on nearly every myoseptum
- 1–6 (irregular) subcutaneous pigment spots on tail just below notochord
- Gut pigment includes numerous irregular pigment patches along dorsal surface of gut
- Most anal fin ray pterygiophores pigmented
- Last 2 (major) vertical blood vessels widely separated (10–15 myomeres apart)
- Numerous pigment spots along ventral surface of entire length of gut
- Maximum leptocephalus size 86 mmSL

Meristic Characters

Myomeres:	174–194
Vertebrae:	182–189
Dorsal fin rays:	537–621
Anal fin rays:	216–268
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

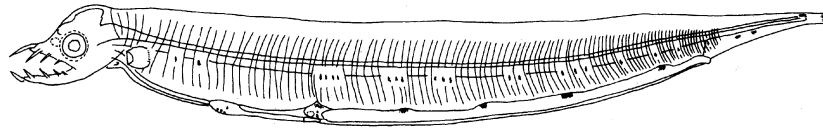
Note: 1. Leptocephali in the tribe Bascanichthyini have relatively long guts and nephros lengths. Nephric myomeres account for 53–70% of total myomeres. Most species in this tribe have low to moderate gut swellings, and the nephros ends on the last swelling. The dorsal fin origin is anterior to myomere 25. Most species have indistinct pigment patterns. The anus and dorsal fin origin migrate forward at transformation.

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Bascanichthys bascanium</i>			
Leptocephali	179–194	101–114	11–18
Adults	177–190	95–102	1–2
<i>Bascanichthys scuticaris</i>			
Leptocephali	161–169	87–99	12–16
Adults	155–171	79–90	1–3
<i>Gordiichthys irretitus</i>			
Leptocephali	192–214	112–128	13–21
Adults	193–206	105–111	2
<i>Gordiichthys leiby</i>			
Leptocephali	167–175	102–107	13–18
Adults	168–176	92–98	2
<i>Phaenomonas longissima</i>			
Leptocephali	208–219	141–149	11–17
Adults	206–216	135–140	2

Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); A–C: Leiby, 1989

References: Leiby, 1981; 1989

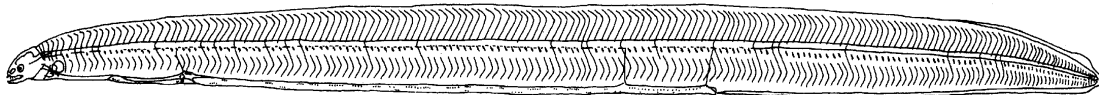
Bascanichthys bascanium



A. 10 mmSL

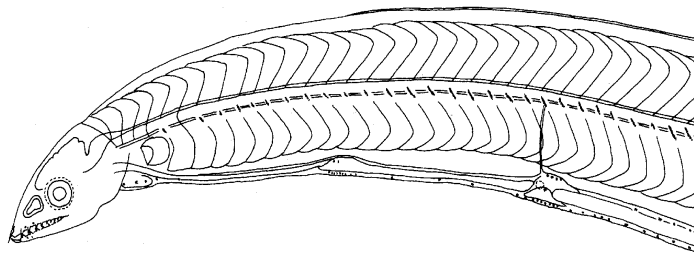
Predorsal myomeres 11-18

Total myomeres 174-194



B. 79 mmSL

Preanal myomeres 101-114



**C. 70 mmSL
(Head Detail)**

***Bascanichthys scuticaris* (Goode and Bean, 1880)**
Ophichthidae (s.f. Ophichthinae: Tribe Bascanichthyini)
 Whip eel



Range: Western North Atlantic Ocean; along coastal United States from North Carolina to northern Gulf of Mexico; also off Mexico

Habitat: Exposed low tidal flats and sandy beaches; sand bottoms near grass beds, usually in shallow depths, rarely to 46 m

Spawning: Undescribed; leptocephali rarely collected in study area, Sep

Eggs: – Undescribed

Larvae:

- Gut with 7 low, barely discernible swellings
- Dorsal fin origin anterior to myomere 20 (over 1st gut swelling)
- Nephros ends on last gut swelling, at myomere 85–96 (0–4 myomeres anterior to anus)
- Midline pigment includes a streak on nearly every myoseptum
- 3–5 subcutaneous pigment patches on tail just below notochord
- Gut pigment includes a patch on dorsal surface of each swelling, each larger than those between swellings
- Most anal fin ray pterygiophores pigmented
- Ventral gut pigment not as extensive as in *Bascanichthys bascanium* leptocephali
- Maximum leptocephalus size 78 mmSL

Meristic Characters

Myomeres:	161–169
Vertebrae:	159–167
Dorsal fin rays:	–
Anal fin rays:	184–221
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

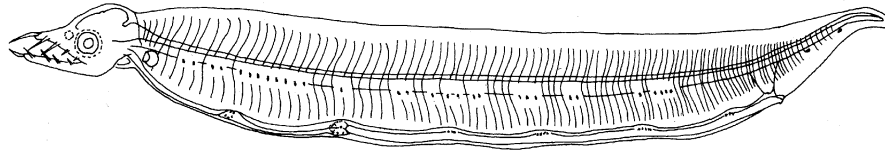
Note: 1. Leptocephali in the tribe Bascanichthyini have relatively long guts and nephros lengths. Nephric myomeres account for 53–70% of total myomeres. Most species in this tribe have low to moderate gut swellings, and the nephros ends on the last swelling. The dorsal fin origin is anterior to myomere 25. Most species have indistinct pigment patterns. The anus and dorsal fin origin migrate forward at transformation:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Bascanichthys bascanium</i>			
Leptocephali	179–194	101–114	11–18
Adults	177–190	95–102	1–2
<i>Bascanichthys scuticaris</i>			
Leptocephali	161–169	87–99	12–16
Adults	155–171	79–90	1–3
<i>Gordiichthys irretitus</i>			
Leptocephali	192–214	112–128	13–21
Adults	193–206	105–111	2
<i>Gordiichthys leiby</i>			
Leptocephali	167–175	102–107	13–18
Adults	168–176	92–98	2
<i>Phaenomonas longissima</i>			
Leptocephali	208–219	141–149	11–17
Adults	206–216	135–140	2

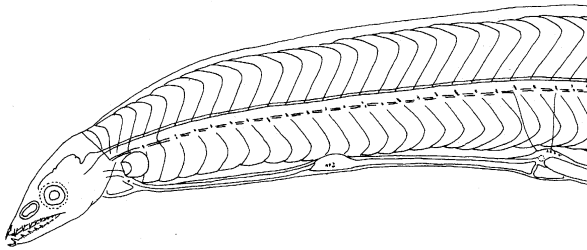
Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); A–C: Leiby, 1989

References: Leiby, 1981; 1989

Bascanichthys scuticaris



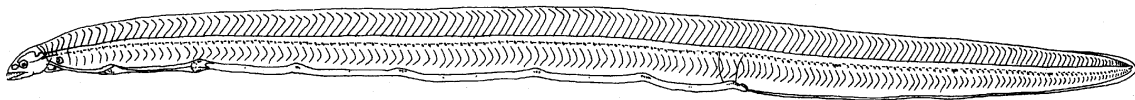
A. 13 mmSL



**B. 67 mmSL
(Head Detail)**

Predorsal myomeres 12-16

Total myomeres 161-169



C. 73 mmSL

Preanal myomeres 87-99

***Gordiichthys irretitus* Jordan and Davis, 1891**
Ophichthidae (s.f. Ophichthinae: Tribe Bascanichthyini)
 Horsehair eel



Range: Western North Atlantic Ocean; known only from Gulf of Mexico and Puerto Rico

Habitat: Sand and mud bottoms, at depths of 90–200 m; rarely collected, but leptocephali may be expected to drift into study area *via* Gulf Stream

Spawning: Undescribed; one leptocephalus collected in study area north of Bermuda, (38°28'N, 66°31'W), Jul (MCZ 61600)

Eggs: – Undescribed

Larvae:

- As many as 11 low gut swellings
- Dorsal fin origin anterior to myomere 23, over first liver lobe
- Nephros ends on last gut swelling
- Midline pigment includes spots or streaks on nearly every myoseptum
- 4–5 subcutaneous pigment patches on tail just below notochord
- Gut pigment includes a patch on dorsal surface of each swelling
- Sporadic pigment on anal fin ray bases
- Ventral gut pigment usually only occurs under first 2 swellings (liver lobes)
- Last 2 (major) vertical blood vessels widely separated
- Maximum leptocephalus size 84 mmSL

Meristic Characters

Myomeres:	192–214
Vertebrae:	193–206
Dorsal fin rays:	819 (n = 1)
Anal fin rays:	290–341
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

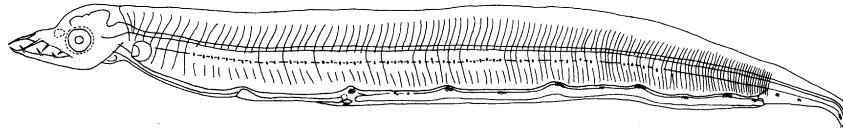
Note: 1. Leptocephali in the tribe Bascanichthyini have relatively long guts and nephros lengths. Nephric myomeres account for 53–70% of total myomeres. Most species in this tribe have low to moderate gut swellings, and the nephros ends on the last swelling. The dorsal fin origin is anterior to myomere 25. Most species have indistinct pigment patterns. The anus and dorsal fin origin migrate forward at transformation:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Bascanichthys bascanium</i>			
Leptocephali	179–194	101–114	11–18
Adults	177–190	95–102	1–2
<i>Bascanichthys scuticaris</i>			
Leptocephali	161–169	87–99	12–16
Adults	155–171	79–90	1–3
<i>Gordiichthys irretitus</i>			
Leptocephali	192–214	112–128	13–21
Adults	193–206	105–111	2
<i>Gordiichthys leiby</i>			
Leptocephali	167–175	102–107	13–18
Adults	168–176	92–98	2
<i>Phaenomonas longissima</i>			
Leptocephali	208–219	141–149	11–17
Adults	206–216	135–140	2

Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); **A–D:** Leiby, 1989

References: Leiby, 1989

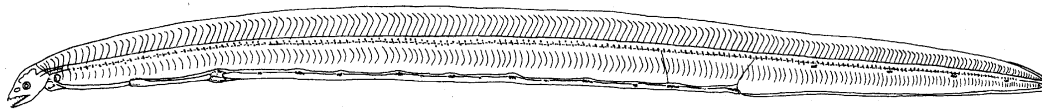
Gordiichthys irretitus



A. 14 mmSL

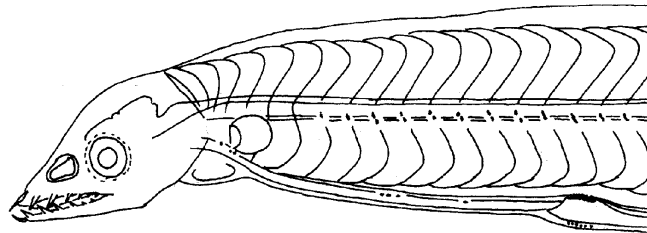
Predorsal myomeres 13-21

Total myomeres 192-214

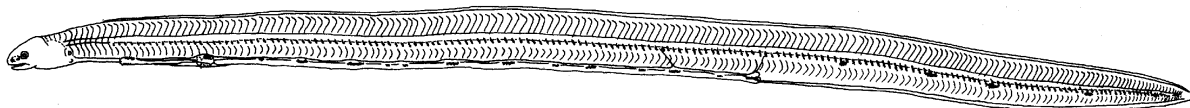


B. 62 mmSL

Preanal myomeres 112-128



**C. 62 mmSL
(Head Detail)**



D. 78 mmSL, Transforming

***Gordiichthys leiby* McCosker and Böhlke, 1984**
Ophichthidae (s.f. Ophichthinae: Tribe Bascanichthyini)
 String eel



- Range:** Western North Atlantic Ocean along the Atlantic coast of Florida and Gulf of Mexico
- Habitat:** Sand and mud bottoms, 37–72 m; rarely collected
- Spawning:** Undescribed; one leptocephalus collected on Scotian Shelf, Oct (Leiby, 1989)
- Eggs:** – Undescribed
- Larvae:**
- Gut swellings very low, nearly indistinguishable, except anterior 2
 - Dorsal fin origin anterior to myomere 21
 - Nephros ends at level of anus or 0–3 myomeres anterior to it
 - Midline pigment includes a streak on nearly every myoseptum
 - 3–4 subcutaneous pigment patches on tail below notochord (weak)
 - Gut pigment includes numerous small patches on dorsal surface
 - Series of small spots along dorsal edge of body, head to mid-tail
 - Sporadic pigment on most anal fin ray bases
 - Ventral gut pigment restricted to few spots along esophagus and under liver lobes
 - Last 2 (major) vertical blood vessels widely separated (8–14 myomeres apart)
 - Maximum leptocephalus size 81 mmSL

Meristic Characters

Myomeres:	167–175
Vertebrae:	168–176
Dorsal fin rays:	650 (n = 1)
Anal fin rays:	277 (n = 1)
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

- Note:** 1. Leptocephali in the tribe Bascanichthyini have relatively long guts and nephros lengths. Nephric myomeres account for 53–70% of total myomeres. Most species in this tribe have low to moderate gut swellings, and the nephros ends on the last swelling. The dorsal fin origin is anterior to myomere 25. Most species have indistinct pigment patterns. The anus and dorsal fin origin migrate forward at transformation:

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Bascanichthys bascanium</i>			
Leptocephali	179–194	101–114	11–18
Adults	177–190	95–102	1–2
<i>Bascanichthys scuticaris</i>			
Leptocephali	161–169	87–99	12–16
Adults	155–171	79–90	1–3
<i>Gordiichthys irretitus</i>			
Leptocephali	192–214	112–128	13–21
Adults	193–206	105–111	2
<i>Gordiichthys leiby</i>			
Leptocephali	167–175	102–107	13–18
Adults	168–176	92–98	2
<i>Phaenomonas longissima</i>			
Leptocephali	208–219	141–149	11–17
Adults	206–216	135–140	2

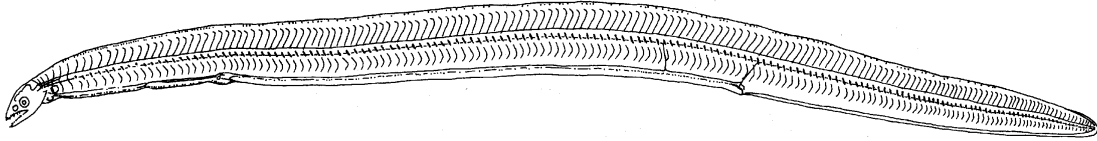
Figures: Adult: Mary Fuges (McCosker *et al.*, 1989); **A–B:** Leiby, 1989

References: Leiby, 1989

Gordiichthys leiby

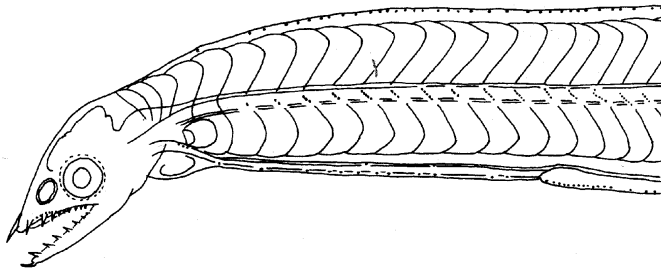
Predorsal myomeres 13-18

Total myomeres 167-175



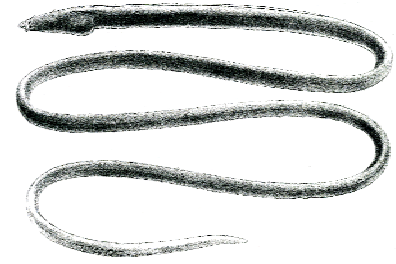
A. 57 mmSL

Preanal myomeres 102-107



**B. 57 mmSL
(Head Detail)**

***Phaenomonas longissima* (Cadenat and Marchal, 1963)**
Ophichthidae (s.f. Ophichthinae: Tribe Bascanichthyini)
 Short-maned sand eel



Range: Western North Atlantic Ocean (Brazil) and eastern North Atlantic Ocean (St. Helena and Ascension Island)

Habitat: Tidepool and beach to maximum depth of 60 m; rarely collected

Spawning: Undescribed; included here based on 2 leptocephali collected in study area: (38°15'N, 66°32'W, Jul (Leiby, 1989); 36°50'N, 67°45'W, Sep (MCZ 61604)

Eggs: – Undescribed

Larvae: – Gut swellings very low, indistinguishable except at liver lobes
 – Dorsal fin origin anterior to myomere 20
 – Nephros ends at anus or 1 myomere anterior to it
 – Midline pigment includes a streak on nearly every myoseptum
 – 4 small subcutaneous pigment patches on tail just below notochord
 – Gut pigment includes numerous patches on dorsal surface
 – Most anal fin ray pterygiophores pigmented
 – Maximum leptocephalus size 94 mmSL

Meristic Characters

Myomeres:	208–219
Vertebrae:	206–216
Dorsal fin rays:	–
Anal fin rays:	–
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

Note: 1. Leptocephali in the tribe Bascanichthyini have relatively long guts and nephros lengths. Nephric myomeres account for 53–70% of total myomeres. Most species in this tribe have low to moderate gut swellings, and the nephros ends on the last swelling. The dorsal fin origin is anterior to myomere 25. Most species have indistinct pigment patterns. The anus and dorsal fin origin migrate forward at transformation:

Species	Total Myomeres	Preal anal Myomeres	Predorsal Myomeres
<i>Bascanichthys bascanium</i>			
Leptocephali	179–194	101–114	11–18
Adults	177–190	95–102	1–2
<i>Bascanichthys scuticaris</i>			
Leptocephali	161–169	87–99	12–16
Adults	155–171	79–90	1–3
<i>Gordiichthys irretitus</i>			
Leptocephali	192–214	112–128	13–21
Adults	193–206	105–111	2
<i>Gordiichthys leiby</i>			
Leptocephali	167–175	102–107	13–18
Adults	168–176	92–98	2
<i>Phaenomonas longissima</i>			
Leptocephali	208–219	141–149	11–17
Adults	206–216	135–140	2

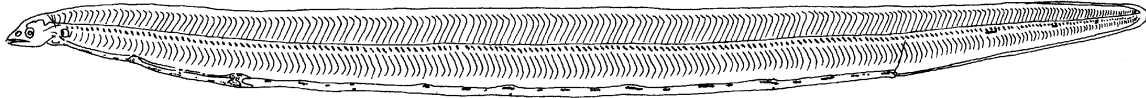
Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); **A–B:** Leiby, 1989

References: Leiby, 1989

Phaenomonas longissima

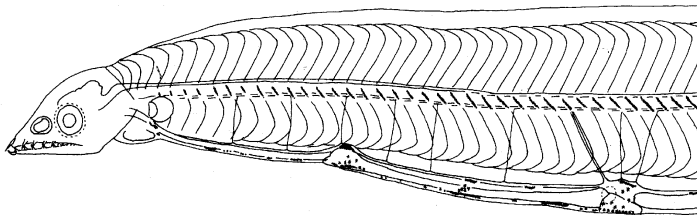
Predorsal myomeres 11-17

Total myomeres 208-219



A. 65 mmSL

Preanal myomeres 141-149



**B. 65 mmSL
(Head Detail)**

Tentative identification based on extreme posterior position of nephros end.
See discussion in Leiby (1989).

***Callechelys guineensis* (Osorio, 1894)**
Ophichthidae (s.f. Ophichthinae: Tribe Callechelyini)
 Shorttail snake eel



Range: Widely distributed in North Atlantic Ocean; in the western North Atlantic known from both coasts of Florida, the Bahamas, Puerto Rico and St. Barthelemy; also eastern North Atlantic

Habitat: Sand or mix of sand, turtle grass and rock at depths to 15 m, rarely 36 m

Spawning: Undescribed; a single leptocephalus collected in study area (38°16'N, 66°32'W), Jul, (MCZ 61615)

Eggs: – Undescribed

Larvae:

- Gut with 11 moderate loops
- Dorsal fin origin anterior to myomere 13
- Nephros ends on last gut loop, at myomere 111–120, 0–3 myomeres anterior to anus
- Midline pigment characterized by a streak or cluster of spots on every 5th to 11th myoseptum
- 4 subcutaneous pigment patches on tail just below notochord (only 1 such spot in early larvae)
- Gut pigment includes prominent patch on each gut loop; smaller patch between each loop
- Patches of pigment on ventral margin of tail; a few anal fin ray pterygiophores pigmented
- Pigment cluster on side of head
- Maximum leptocephalus size 82 mmSL (possibly to 90 mm)

Meristic Characters

Myomeres:	174–184
Vertebrae:	172–182
Dorsal fin rays:	641 (n = 1)
Anal fin rays:	231–240
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

Note: 1. Leptocephali in the tribe Callechelyini have relatively long guts and nephros lengths. Nephric myomeres account for 56–73% of total myomeres. Gut loops range from moderate to pronounced and the nephros ends on the last gut loop. The dorsal fin origin is anterior to myomere 19. Pigment patterns are generally bold and distinctive. There is an anterior migration of the dorsal fin origin and anus (slight in 1 genus) at transformation.

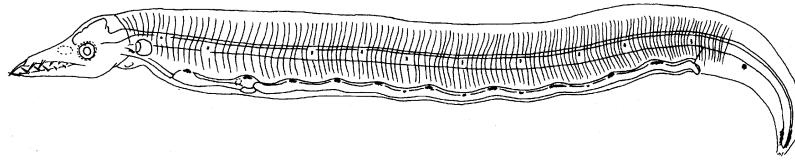
Species	Total Myomers	Preanal Myomers	Predorsal Myomeres
<i>Letharchus aliculatus</i>			
Leptocephali	153–163	100–109	7–11
Adults	155–164	96–103	H–1
<i>Letharchus velifer</i>			
Leptocephali	133–145	85–95	8–13
Adults	136–144	80–87	1–2
<i>Callechelys guineensis</i>			
Leptocephali	174–184	112–121	6–10
Adults	172–182	111–120	H
<i>Callechelys muraena</i>			
Leptocephali	138–148	82–89	9–16
Adults	139–144	80–85	H

H = Fin origin on Head

Figures: Adult: Steven Gigliotti (M^cCosker *et al.*, 1989); A–C: Leiby, 1989

References: Leiby, 1984b, 1989

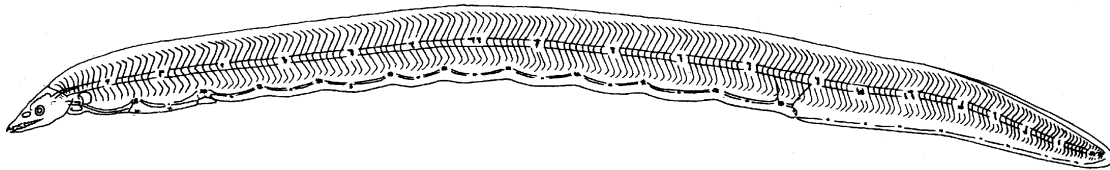
Callechelys guineensis



A. 19 mmSL

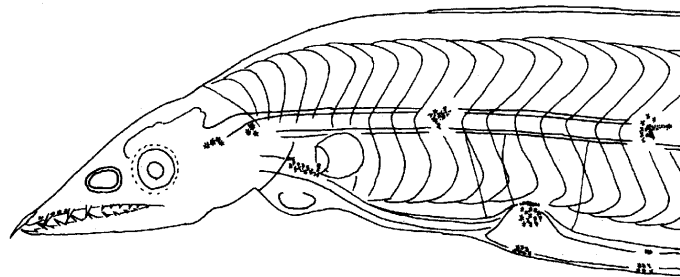
Predorsal myomeres 6-10

Total myomeres 174-184



B. 66 mmSL

Preanal myomeres 112-121



**C. 66 mmSL
(Head Detail)**

***Callechelys muraena* Jordan and Evermann, 1887**
Ophichthidae (s.f. Ophichthinae: Tribe Callechelyini)
 Blotched snake eel



Range: Western North Atlantic Ocean; along east coast of United States from North Carolina to Florida, NE Gulf of Mexico, northern Yucatan Peninsula

Habitat: Demersal in depths of 27–115 m; rarely collected

Spawning: Undescribed; several leptocephali have been collected in study area, as far north and east as Scotian Shelf, Jul–Sep

Eggs: – Undescribed

Larvae:

- Gut with 7 pronounced loops
- Dorsal fin origin over level of 1st gut loop
- Nephros ends on last gut loop, at myomere 81–88, 0–3 myomeres anterior to anus
- Midline pigment absent anterior to level of anus
- Three round patches of pigment on tail just below notochord
- Gut pigment includes a round cluster of spots over each gut loop
- Few, if any, anal fin ray bases are pigmented
- Maximum leptocephalus size 68 mmSL; transforming specimens 55–72 mmSL

Meristic Characters

Myomeres:	138–148
Vertebrae:	139–144
Dorsal fin rays:	468 (n = 1)
Anal fin rays:	147–203
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

Note: 1. Leptocephali in the tribe Callechelyini have relatively long guts and nephros lengths. Nephric myomeres account for 56–73% of total myomeres. Gut loops range from moderate to pronounced and the nephros ends on the last gut loop. The dorsal fin origin is anterior to myomere 19. Pigment patterns are generally bold and distinctive. There is an anterior migration of the dorsal fin origin and anus (slight in 1 genus) at transformation.

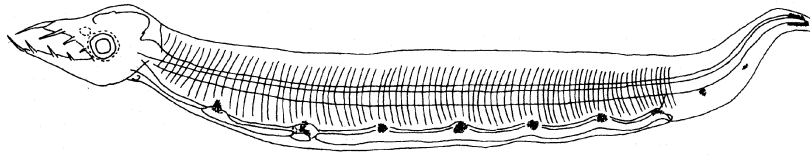
Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Letharchus aliculatus</i>			
Leptocephali	153–163	100–109	7–11
Adults	155–164	96–103	H–1
<i>Letharchus velifer</i>			
Leptocephali	133–145	85–95	8–13
Adults	136–144	80–87	1–2
<i>Callechelys guineensis</i>			
Leptocephali	174–184	112–121	6–10
Adults	172–182	111–120	H
<i>Callechelys muraena</i>			
Leptocephali	138–148	82–89	9–16
Adults	139–144	80–85	H

H = Fin origin on Head

Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); A–C: Leiby, 1989

References: Leiby, 1989

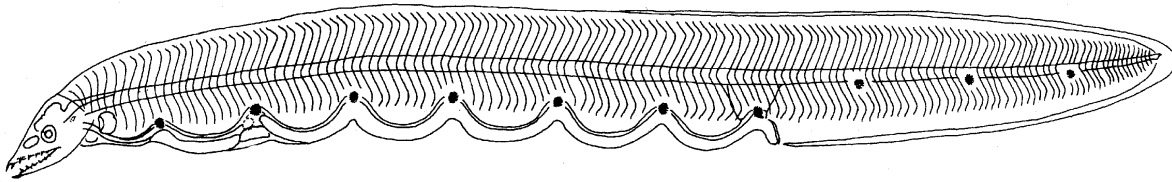
Callechelys muraena



A. 10 mmSL

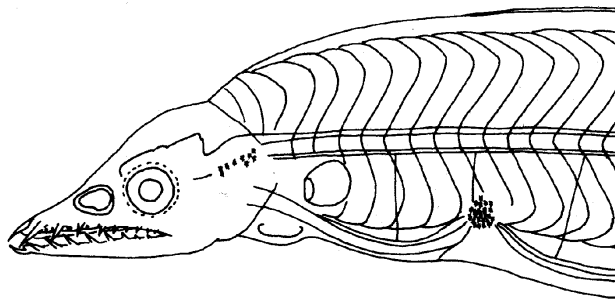
Predorsal myomeres 9-16

Total myomeres 138-148



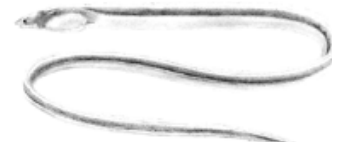
B. 40 mmSL

Preanal myomeres 82-89



**C. 50 mmSL
(Head Detail)**

***Letharchus aliculatus* McCosker, 1974**
Ophichthidae (s.f. Ophichthinae: Tribe Callechelyini)
 Striped sailfin eel



- Range:** Western North Atlantic Ocean; known only from Bahia, Brazil
- Habitat:** Sand, rock tidepools, to a depth of 1 m.
- Spawning:** Undescribed; several leptocephali have been collected in study area as far north as Georges Bank and Scotian Shelf, Jun–Aug
- Eggs:** – Undescribed
- Larvae:**
- Gut with 10 pronounced loops
 - Dorsal fin origin anterior to myomere 14
 - Nephros ends on last gut loop, 0–2 myomeres anterior to anus
 - Midline pigment includes streaks on very few (<25%) myosepta
 - 5 subcutaneous pigment patches on tail just below notochord
 - Gut pigment includes pronounced, round clusters of spots on each gut loop
 - Pigment on every 5th anal fin ray base, along posterior half of anal fin
 - Maximum leptocephalus size 71 mmSL; transforming specimens 63–69 mmSL

Meristic Characters

Myomeres:	153–163
Vertebrae:	155–164
Dorsal fin rays:	489 (n = 1)
Anal fin rays:	172–207
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

- Note:**
1. Leptocephali in the tribe Callechelyini have relatively long guts and nephros lengths. Nephric myomeres account for 56–73% of total myomeres. Gut loops range from moderate to pronounced and the nephros ends on the last gut loop. The dorsal fin origin is anterior to myomere 19. Pigment patterns are generally bold and distinctive. There is an anterior migration of the dorsal fin origin and anus (slight in 1 genus) at transformation.

Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Letharchus aliculatus</i>			
Leptocephali	153–163	100–109	7–11
Adults	155–164	96–103	H–1
<i>Letharchus velifer</i>			
Leptocephali	133–145	85–95	8–13
Adults	136–144	80–87	1–2
<i>Callechelys guineensis</i>			
Leptocephali	174–184	112–121	6–10
Adults	172–182	111–120	H
<i>Callechelys muraena</i>			
Leptocephali	138–148	82–89	9–16
Adults	139–144	80–85	H

H = Fin origin on Head

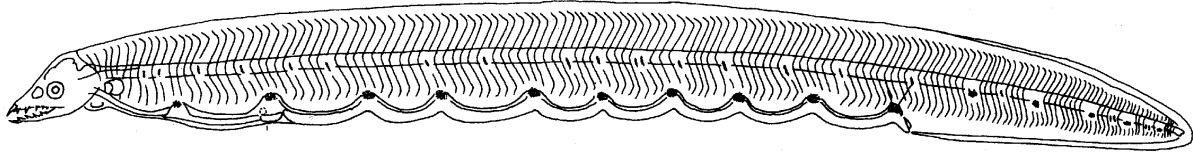
Figures: Adult: Mary Fuges (McCosker *et al.*, 1989); **A–B:** Leiby, 1989

References: Leiby 1984b; 1989

Letharchus aliculatus

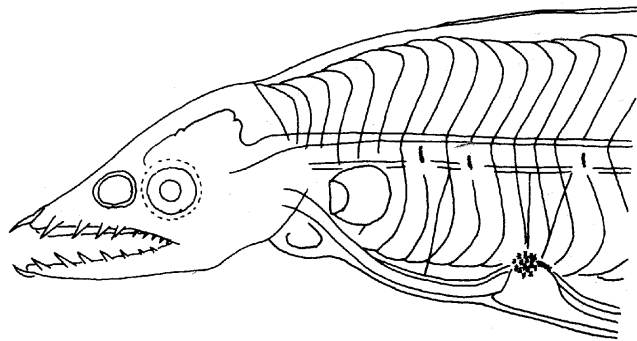
Predorsal myomeres 7-11

Total myomeres 153-163



A. 33 mmSL

Preanal myomeres 100-109



**B. 39 mmSL
(Head Detail)**

- Tentative identification based on relatively few specimens. See Leiby (1989)

***Letharchus velifer* Goode and Bean, 1882**
Ophichthidae (s.f. Ophichthinae: Tribe Callechelyini)
 Sailfin eel



Range: Western North Atlantic Ocean; coastal United States from North Carolina to northern Gulf of Mexico

Habitat: Collected from depths of 5–90 m, usually deeper than 20 m

Spawning: Undescribed; leptocephali rarely collected in study area, Aug

Eggs: – Undescribed

Larvae:

- Gut with 8–10 (usually 8) moderate loops
- Nephros ends on last gut loop, 0–4 myomeres anterior to anus
- Dorsal fin origin anterior to myomere 14; above or anterior to 1st gut loop
- Midline pigment includes spots on every 2nd to 5th myoseptum anterior to anus
- 3–4 subcutaneous pigment patches on tail just below notochord
- Gut pigment includes patch on dorsal surface of each gut loop, and small patches between each loop; no pigment along ventral surface of gut
- Series of spots on 2–6 anal fin ray bases alternate with 2–5 unpigmented bases
- Maximum leptocephalus size 78 mmSL; transforming specimens 67–78 mmSL

Meristic Characters

Myomeres:	133–145
Vertebrae:	136–144
Dorsal fin rays:	435–495
Anal fin rays:	165–227
Pectoral fin rays:	–
Pelvic fin rays:	none
Caudal fin rays:	none

Note: 1. Leptocephali in the tribe Callechelyini have relatively long guts and nephros lengths. Nephric myomeres account for 56–73% of total myomeres. Gut loops range from moderate to pronounced and the nephros ends on the last gut loop. The dorsal fin origin is anterior to myomere 19. Pigment patterns are generally bold and distinctive. There is an anterior migration of the dorsal fin origin and anus (slight in 1 genus) at transformation.

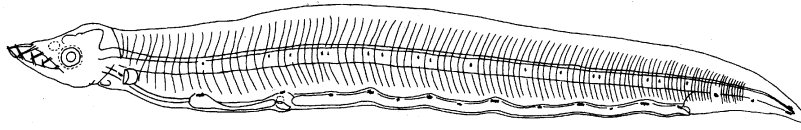
Species	Total Myomeres	Preanal Myomeres	Predorsal Myomeres
<i>Letharchus aliculatus</i>			
Leptocephali	153–163	100–109	7–11
Adults	155–164	96–103	H–1
<i>Letharchus velifer</i>			
Leptocephali	133–145	85–95	8–13
Adults	136–144	80–87	1–2
<i>Callechelys guineensis</i>			
Leptocephali	174–184	112–121	6–10
Adults	172–182	111–120	H
<i>Callechelys muraena</i>			
Leptocephali	138–148	82–89	9–16
Adults	139–144	80–85	H

H = Fin origin on Head

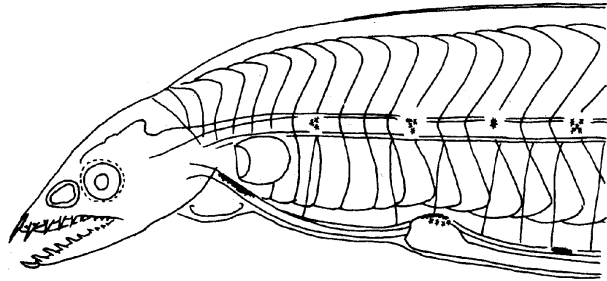
Figures: Adult: Mary Fuges (M^cCosker *et al.*, 1989); **A–D:** Leiby, 1989

References: Fahay and Obenchain, 1978; Leiby 1984b; 1989

Letharchus velifer



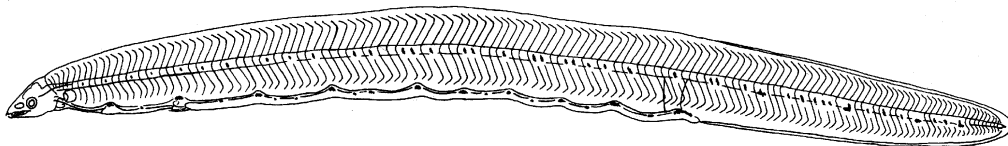
A. 13 mmSL



**B. 56 mmSL
(Head Detail)**

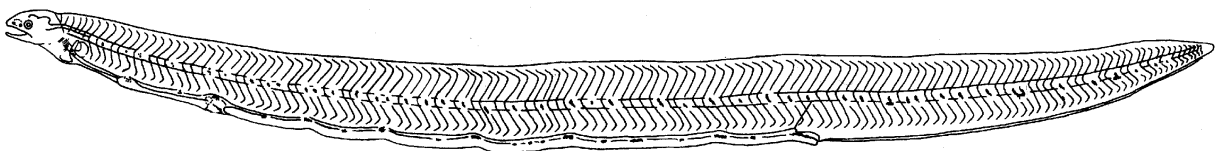
Predorsal myomeres 8-13

Total myomeres 133-145



C. 58 mmSL

Preanal myomeres 85-95



D. 67 mmSL, Transforming