

Reports

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7-12-2011

## **Fishes Identification Guide for ChesMMAP and NEAMAP Diet Analysis Studies**

Chesapeake Bay Multispecies Monitoring and Assessment Program

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# Fishes Identification Guide

*for*

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## ChesMMAP and NEAMAP Diet Analysis Studies

Chesapeake Bay Multispecies Monitoring and Assessment Program  
Northeast Area Monitoring and Assessment Program



7/12/11

This book is a compilation of identification resources for fishes found in stomach samples. By no means is it a complete list of all possible prey types. It is simply what has been found in past ChesMMAP and NEAMAP diet studies. A copy of this document is stored in both the ChesMMAP and NEAMAP lab network drives in a folder called ID Guides, along with other useful identification keys, articles, documents, and photos. If you want to see a larger version of any of the images in this document you can simply open the file and zoom in on the picture, or you can open the original file for the photo by navigating to the appropriate subfolder within the Fisheries Gut Lab folder.

## Table of Contents

<u>5000 unidentified fish</u> .....	8
<u>0796 unidentified bony fish</u> .....	8
<u>1116 unidentified elasmobranch</u> .....	8
<u>1092 unidentified larval fish</u> .....	8
<u>0529 fish scales</u> .....	8
<u>0567 fish eggs</u> .....	8
<u>1098 skate eggs</u> .....	8
<b>ORDER PETROMYZONTIFORMES .....</b>	<b>8</b>
<b>Family Petromyzontidae .....</b>	<b>8</b>
<u>0100 <i>Petromyzon marinus</i>, sea lamprey</u> .....	8
<b>ORDER RAJIFORMES .....</b>	<b>8</b>
<b>Family Rajidae .....</b>	<b>8</b>
<u>0181 <i>Raja</i> spp., (i.e.—<i>R. eglanteria</i>, clearnose skate)</u> .....	8
<u>1069 <i>Leucoraja</i> spp., (i.e.—<i>L. erinacea</i>, little skate and <i>L. ocellata</i>, winter skate)</u> .....	8
<b>ORDER MYLIOBATIFORMES .....</b>	<b>9</b>
<b>Family Dasyatidae .....</b>	<b>9</b>
<u>0178 <i>Dasyatis</i> spp.</u> .....	9
<b>ORDER ANGUILLIFORMES.....</b>	<b>9</b>
<u>1062 unidentified eel</u> .....	9
<b>Family Anguillidae.....</b>	<b>9</b>
<u>0060 <i>Anguilla rostrata</i>, American eel</u> .....	9
<b>Family Ophichthidae.....</b>	<b>9</b>
<u>1082 unidentified snake eel</u> .....	9
<b>Family Congridae.....</b>	<b>10</b>
<u>0190 <i>Conger oceanicus</i>, oceanic conger eel</u> .....	10
<b>ORDER CLUPEIFORMES .....</b>	<b>10</b>

<b>Family Engraulidae .....</b>	<b>10</b>
<u>1056 unidentified anchovy .....</u>	10
<u>0399 <i>Anchoa</i> spp. ....</u>	10
<u>0103 <i>Anchoa mitchilli</i>, bay anchovy .....</u>	10
<u>0102 <i>Anchoa hepsetus</i>, striped anchovy .....</u>	10
<u>0937 <i>Engraulis eurystole</i>, silver anchovy .....</u>	10
<b>Family Clupeidae .....</b>	<b>11</b>
<u>0916 unidentified herring/shad/menhaden .....</u>	11
<u>0256 <i>Alosa</i> spp., river herrings .....</u>	11
<u>0026 <i>Alosa pseudoharengus</i>, alewife .....</u>	11
<u>0027 <i>Alosa aestivalis</i>, blueback herring .....</u>	11
<u>0028 <i>Alosa mediocris</i>, hickory shad .....</u>	11
<u>0030 <i>Alosa sapidissima</i>, American shad .....</u>	11
<u>0037 <i>Brevoortia tyrannus</i>, Atlantic menhaden .....</u>	12
<u>0029 <i>Clupea harengus</i>, Atlantic herring .....</u>	12
<u>0076 <i>Etrumeus teres</i>, round herring .....</u>	12
<u>0992 <i>Sardinella aurita</i>, Spanish sardine .....</u>	12
<u>0051 <i>Dorosoma cepedianum</i>, gizzard shad .....</u>	13
<u>0275 <i>Dorosoma petenense</i>, threadfin shad .....</u>	13
<u>0038 <i>Opisthonema oglinum</i>, .....</u>	13
 <b>ORDER AULOPIFORMES .....</b>	 <b>13</b>
<b>Family Synodontidae .....</b>	<b>13</b>
<u>0189 <i>Synodus foetens</i>, inshore lizardfish .....</u>	13
 <b>ORDER OPHIDIIFORMES .....</b>	 <b>14</b>
<b>Family Ophidiidae .....</b>	<b>14</b>
<u>1093 <i>Ophidion</i> spp. ....</u>	14
<u>0229 <i>Ophidion marginatum</i>, striped cusk eel .....</u>	14
<u>0437 <i>Ophidion grayi</i>, blotched cusk eel .....</u>	14
 <b>ORDER GADIFORMES .....</b>	 <b>15</b>
<b>Family Gadidae .....</b>	<b>15</b>
<u>0053 <i>Urophycis</i> spp. ....</u>	15
<u>0070 <i>Urophycis regia</i>, spotted hake .....</u>	15
<u>0015 <i>Urophycis chuss</i>, red hake .....</u>	15
<u>0006 <i>Merluccius bilinearis</i>, silver hake .....</u>	15
<u>0197 <i>Enchelyopus cimbrius</i>, fourbeard rockling .....</u>	15
 <b>ORDER BATRACHOIDIFORMES .....</b>	 <b>16</b>
<b>Family Batrachoididae .....</b>	<b>16</b>
<u>0154 <i>Opsanus tau</i>, oyster toadfish .....</u>	16
 <b>ORDER ATHERINIFORMES .....</b>	 <b>17</b>
<b>Family Atherinopsidae .....</b>	<b>17</b>
<u>0155 <i>Menidia</i> spp. ....</u>	17

0150 <i>Menidia menidia</i> , Atlantic silverside .....	17
0149 <i>Menidia beryllina</i> , inland silverside .....	17
0148 <i>Membras martinica</i> , rough silverside .....	17
<b>ORDER BELONIFORMES .....</b>	<b>17</b>
<b>Family Belonidae .....</b>	<b>17</b>
0924 unidentified needlefish .....	17
0196 <i>Strongylura marina</i> , Atlantic needlefish .....	17
0909 <i>Tylosurus crocodilus</i> , houndfish .....	17
<b>ORDER CYPRINODONTIFORMES .....</b>	<b>18</b>
<b>Family Fundulidae .....</b>	<b>18</b>
0560 <i>Fundulus</i> spp. ....	18
0124 <i>Fundulus majalis</i> , striped killifish .....	18
0122 <i>Fundulus heteroclitus</i> , mummichog .....	18
0121 <i>Fundulus diaphanus</i> , banded killifish .....	18
0120 <i>Cyprinodon variegatus</i> , sheepshead minnow .....	18
<b>ORDER GASTEROSTEIFORMES .....</b>	<b>19</b>
<b>Family Gasterosteidae .....</b>	<b>19</b>
0127 <i>Apeltes quadracus</i> , fourspine stickleback .....	19
<b>Family Syngnathidae .....</b>	<b>19</b>
1055 unidentified pipefish/seahorse .....	19
0156 <i>Syngnathus</i> spp. ....	19
0131 <i>Syngnathus fuscus</i> , northern pipefish .....	19
0130 <i>Syngnathus floridae</i> , dusky pipefish .....	19
0326 <i>Syngnathus louisianae</i> , chain pipefish .....	19
0129 <i>Hippocampus erectus</i> , lined seahorse .....	19
<b>ORDER GOBIESOCIFORMES .....</b>	<b>19</b>
<b>Family Gobeisocidae .....</b>	<b>19</b>
0153 <i>Gobiesox strumosus</i> , skiltefish .....	19
<b>ORDER SCORPAENIDAE .....</b>	<b>20</b>
<b>Family Triglidae .....</b>	<b>20</b>
0023 <i>Prionotus</i> spp. ....	20
0071 <i>Prionotus carolinus</i> , northern searobin .....	20
0072 <i>Prionotus evolans</i> , striped searobin .....	20
<b>ORDER PERCIFORMES .....</b>	<b>21</b>
<b>Family Serranidae .....</b>	<b>21</b>
0087 unidentified seabasses .....	21
0002 <i>Centropristis striata</i> , black seabass .....	21
0260 <i>Centropristis philadelphica</i> , rock seabass .....	21

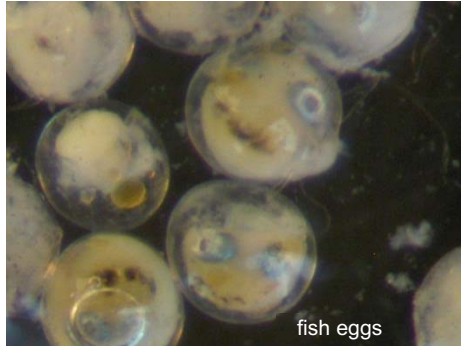
<b>Family Priacanthidae</b> .....	<b>21</b>
0339 <i>Priacanthus arenatus</i> , bigeye .....	21
0340 <i>Pristigenys alta</i> , short bigeye .....	21
<b>Family Pomatomidae</b> .....	<b>22</b>
0009 <i>Pomatomus saltatrix</i> , bluefish .....	22
<b>Family Carangidae</b> .....	<b>22</b>
0211 <i>Selene setapinnis</i> , Atlantic moonfish .....	22
0207 <i>Selene vomer</i> , lookdown .....	22
0203 <i>Caranx crysos</i> , blue runner .....	22
0204 <i>Caranx hippos</i> , crevalle jack .....	22
0061 <i>Trachinotus carolinus</i> , Florida pompano .....	22
0205 <i>Decapterus punctatus</i> , round scad.....	23
0206 <i>Selar crumenophthalmus</i> , bigeye scad.....	23
0210 <i>Trachurus lathami</i> , rough scad.....	23
<b>Family Chaetodontidae</b> .....	<b>23</b>
0217 <i>Chaetodon ocellatus</i> , spotfin butterflyfish.....	23
<b>Family Ehippidae</b> .....	<b>23</b>
0064 <i>Chaetodipterus faber</i> , Atlantic spadefish.....	23
<b>Family Gerreidae</b> .....	<b>23</b>
0285 <i>Eucinostomus argenteus</i> , spotfin mojarra .....	23
0353 <i>Eucinostomus gula</i> , silver jenny.....	23
<b>Family Gobiidae</b> .....	<b>24</b>
0281 unidentified goby .....	24
0581 <i>Gobiosoma bosc</i> , naked goby.....	24
0145 <i>Gobiosoma ginsburgi</i> , seaboard goby .....	24
0139 <i>Microgobius thalassinus</i> , green goby.....	24
<b>Family Haemulidae</b> .....	<b>24</b>
0408 <i>Haemulon bonariense</i> , black grunt.....	24
0059 <i>Orthopristis chrysoptera</i> , pigfish .....	24
<b>Family Labridae</b> .....	<b>25</b>
0218 <i>Tautoglabrus adspersus</i> , cunner .....	25
0055 <i>Tautoga onita</i> , tautog.....	25
<b>Family Mugilidae</b> .....	<b>25</b>
0232 <i>Mugil curema</i> , white mullet .....	25
<b>Family Ammodytidae</b> .....	<b>25</b>
0491 <i>Ammodytes spp.</i> , sand lances .....	25
<b>Family Blenniidae</b> .....	<b>26</b>
0146 <i>Chasmodes bosquianus</i> , striped blenny.....	26
0147 <i>Hypsoblennius hentzi</i> , feather blenny .....	26
<b>Family Moronidae</b> .....	<b>26</b>
0031 <i>Morone saxatilis</i> , striped bass .....	26
0032 <i>Morone americana</i> , white perch.....	26

<b>Family Sciaenidae .....</b>	<b>27</b>
0963 unidentified croaker/drum .....	27
0005 <i>Micropogonias undulatus</i> , Atlantic croaker .....	27
0033 <i>Leiostomus xanthurus</i> , spot.....	27
0213 <i>Bairdiella chrysoura</i> , silver perch.....	27
0214 <i>Larimus fasciatus</i> , banded drum.....	27
0007 <i>Cynoscion regalis</i> , weakfish .....	28
0058 <i>Cynoscion nebulosus</i> , spotted seatrout.....	28
0359 <i>Cynoscion nothus</i> , silver seatrout.....	28
0013 <i>Menticirrhus spp.</i> .....	28
0057 <i>Menticirrhus americanus</i> , southern kingfish.....	28
0056 <i>Menticirrhus saxatilis</i> , northern kingfish.....	28
0034 <i>Pogonias cromis</i> , black drum .....	29
0035 <i>Sciaenops ocellatus</i> , red drum.....	29
0215 <i>Stellifer lanceolatus</i> , star drum.....	29
<b>Family Mullidae .....</b>	<b>29</b>
0387 <i>Upeneus parvus</i> , dwarf goatfish .....	29
<b>Family Sparidae .....</b>	<b>30</b>
1096 unidentified sparids.....	30
0001 <i>Stenotomus chrysops</i> , scup .....	30
0216 <i>Lagodon rhomboides</i> , pinfish .....	30
0054 <i>Archosargus probatocephalus</i> , sheepshead.....	30
<b>Family Sphyraenidae .....</b>	<b>31</b>
0230 <i>Sphyraena borealis</i> , northern sennet.....	31
0365 <i>Sphyraena guachancho</i> , quaquanche.....	31
<b>Family Trichiuridae .....</b>	<b>31</b>
0219 <i>Trichiurus lepturus</i> , Atlantic cutlassfish.....	31
<b>Family Stromateidae .....</b>	<b>31</b>
0004 <i>Peprilus triacanthus</i> , butterfish.....	31
0011 <i>Peprilus alepidotus</i> , harvestfish .....	31
<b>Family Scombridae .....</b>	<b>32</b>
0043 <i>Scomber scombrus</i> , Atlantic mackerel.....	32
<b>Family Uranoscopidae .....</b>	<b>32</b>
0225 <i>Astroscopus guttatus</i> , northern stargazer .....	32
<b>ORDER PLEURONECTIFORMES .....</b>	<b>33</b>
<b>Family Paralichthyidae.....</b>	<b>33</b>
0003 <i>Paralichthys dentatus</i> , summer flounder .....	33
0236 <i>Etropus microstomus</i> , smallmouth flounder .....	33
1023 <i>Etropus spp.</i> .....	33
<b>Family Pleuronectidae.....</b>	<b>33</b>
0044 <i>Pseudopleuronectes americanus</i> , winter flounder .....	33
<b>Family Scophthalmidae .....</b>	<b>34</b>
0063 <i>Scophthalmus aquosus</i> , windowpane.....	34

<b>Family Bothidae</b> .....	<b>34</b>
<u>0247 <i>Citharichthys arctifrons</i>, gulf stream flounder</u> .....	34
<b>Family Achiridae</b> .....	<b>34</b>
<u>0151 <i>Trinectes maculatus</i>, hogchoker</u> .....	34
<b>Family Cynoglossidae</b> .....	<b>35</b>
<u>0152 <i>Symphurus plagiusa</i>, blackcheek tonguefish</u> .....	35
 <b>ORDER TETRAODONTIFORMES</b> .....	 <b>36</b>
<b>Family Balistidae</b> .....	<b>36</b>
<u>0085 <i>Balistes spp.</i></u> .....	36
<b>Family Tetraodontidae</b> .....	<b>36</b>
<u>0050 <i>Sphoeroides maculatus</i>, northern puffer</u> .....	36
<u>0079 <i>Lagocephalus laevigatus</i>, smooth puffer</u> .....	36



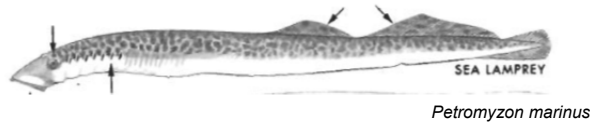
5000 unidentified fish  
0796 unidentified bony fish  
1116 unidentified elasmobranch  
1092 unidentified larval fish  
0529 fish scales  
0567 fish eggs  
1098 skate eggs



## Order Petromyzontiformes

Family Petromyzontidae

0100 *Petromyzon marinus*, sea lamprey

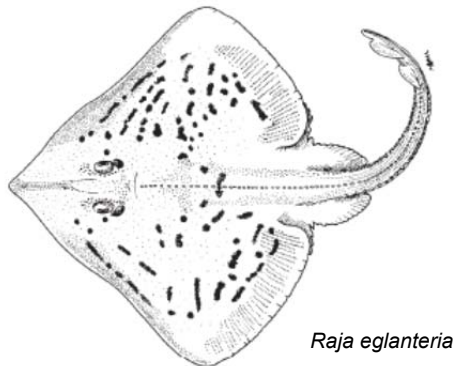


## Order Rajiformes

Family Rajidae

0181 *Raja* spp., (i.e.—*R. eglanteria*, clearnose skate)

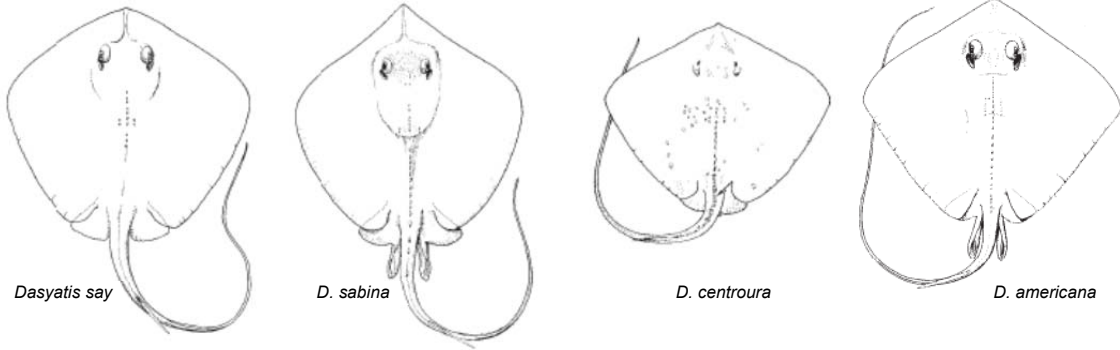
1069 *Leucoraja* spp., (i.e.—*L. erinacea*, little skate and *L. ocellata*, winter skate)



# Order Myliobatiformes

Family Dasyatidae

0178 *Dasyatis* spp.

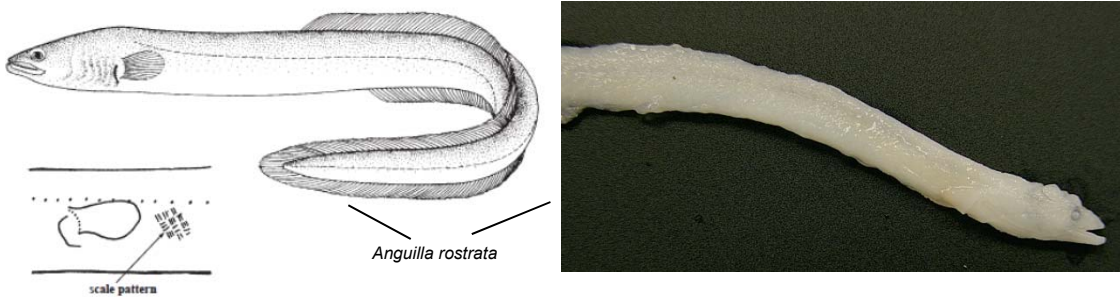


# Order Anguilliformes

1062 unidentified eel

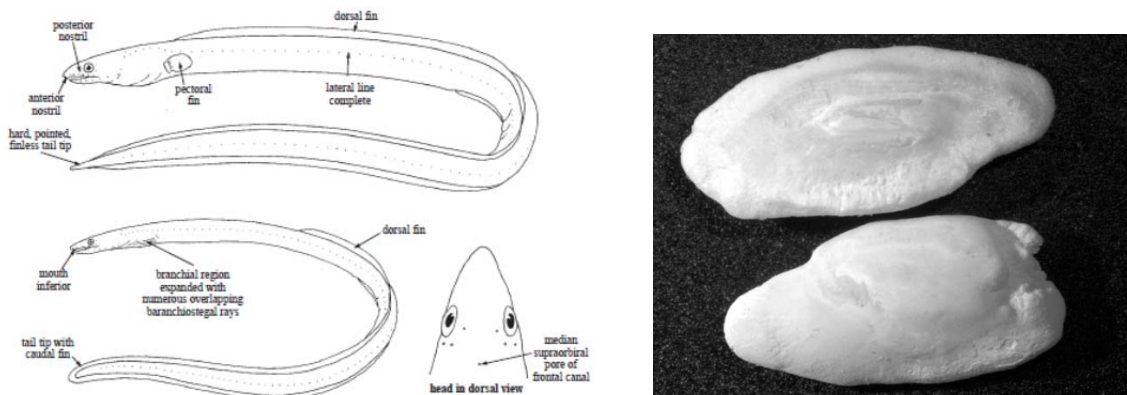
Family Anguillidae

0060 *Anguilla rostrata*, American eel



Family Ophichthidae

1082 unidentified snake eel



## Order Anguilliformes (continued)

Family Congridae

0190 *Conger oceanicus*, oceanic conger eel



## Order Clupeiformes

Family Engraulidae

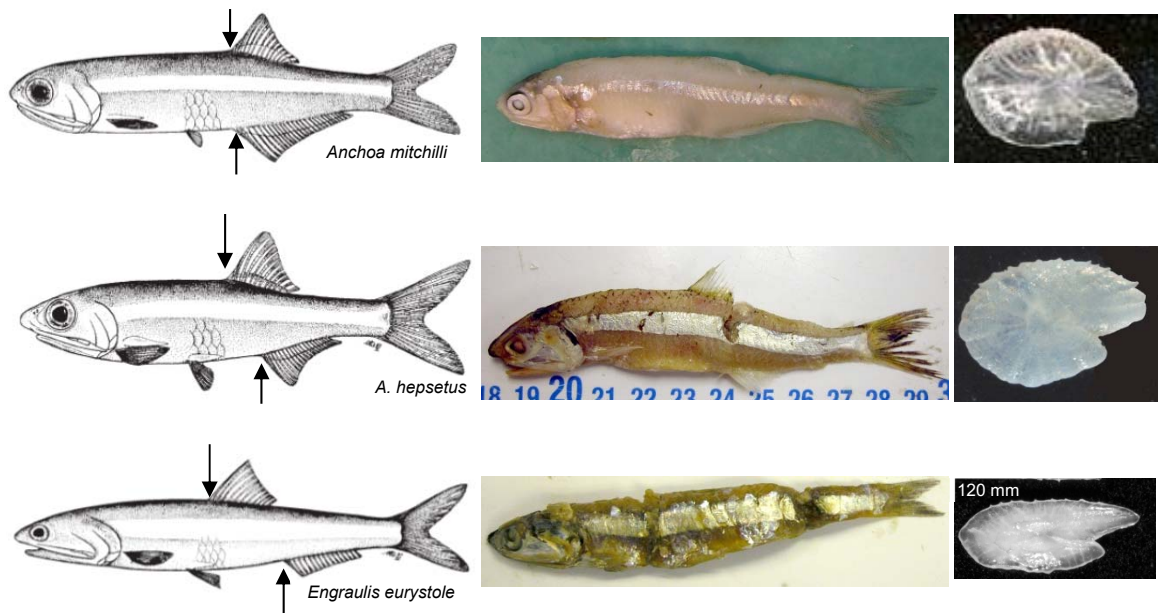
1056 unidentified anchovy

0399 *Anchoa* spp.

0103 *Anchoa mitchilli*, bay anchovy

0102 *Anchoa hepsetus*, striped anchovy

0937 *Engraulis eurystole*, silver anchovy



# Order Clupeiformes (continued)

Family Clupeidae

0916 unidentified herring/shad/menhaden

0256 *Alosa spp.*, river herrings

0026 *Alosa pseudoharengus*, alewife

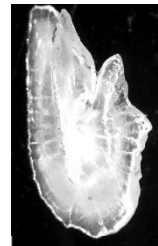
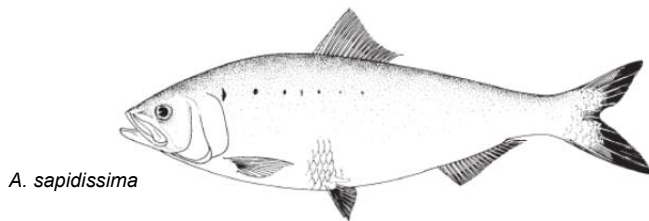
0027 *Alosa aestivalis*, blueback herring



- 14a. Peritoneum silvery to pale grey; dorsum greyish green; eye diameter greater than snout length . . . . . *Alosa pseudoharengus*
- 14b. Peritoneum sooty or black; dorsum distinctly blue; eye diameter less than snout length . . . . . *Alosa aestivalis*

0028 *Alosa mediocris*, hickory shad

0030 *Alosa sapidissima*, American shad



- 15a. Jaw teeth present; gill rakers on lower limb of anterior arch less than 25; lower jaw projecting beyond upper when mouth closed . . . . . *Alosa mediocris*
- 15b. Jaw teeth minute or absent in adults; gill rakers on lower limb of anterior arch more than 30; lower jaw not projecting beyond upper when mouth closed . . . . . *Alosa sapidissima*

## Order Clupeiformes (Clupeidae continued)

0037 *Brevoortia tyrannus*, Atlantic menhaden



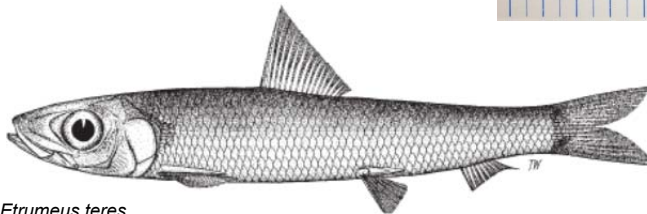
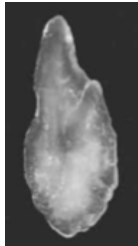
0029 *Clupea harengus*, Atlantic herring

0076 *Etrumeus teres*, round herring

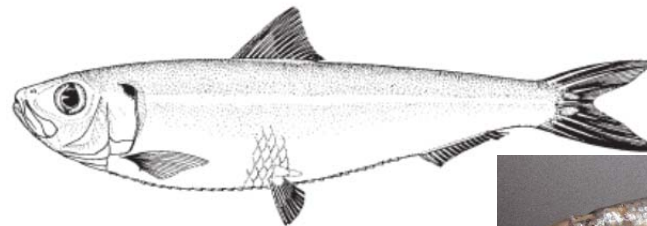
0992 *Sardinella aurita*, Spanish sardine



*Clupea harengus*



*Etrumeus teres*



*Sardinella aurita*

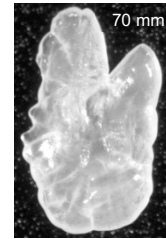
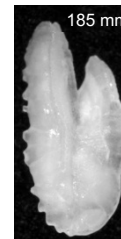
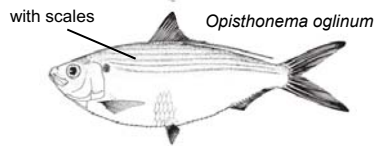
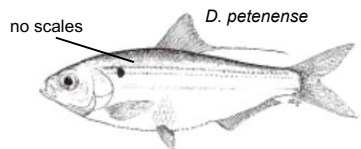
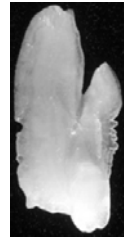
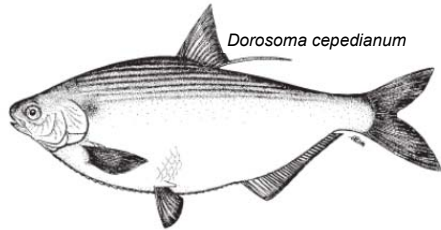


## Order Clupeiformes (Clupeidae continued)

0051 *Dorosoma cepedianum*, gizzard shad

0275 *Dorosoma petenense*, threadfin shad

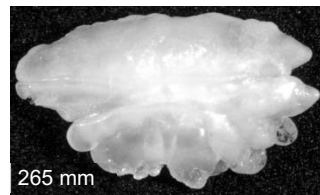
0038 *Opisthonema oglinum*, Atlantic thread herring



## Order Aulopiformes

Family Synodontidae

0189 *Synodus foetens*, inshore lizardfish



# Order Ophidiiformes

Family Ophidiidae

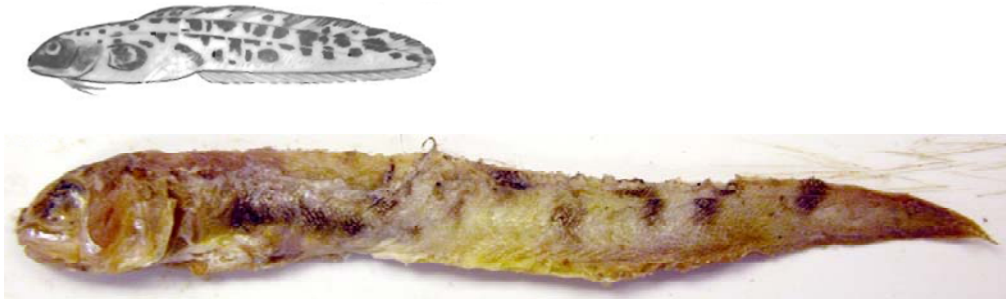
1093 *Ophidion* spp.

0229 *Ophidion marginatum*, striped cusk eel

0437 *Ophidion grayi*, blotched cusk eel



*O. grayi*



# Order Gadiformes

## Family Gadidae

0053 *Urophycis* spp.

0070 *Urophycis regia*, spotted hake

0015 *Urophycis chuss*, red hake

0006 *Merluccius bilinearis*, silver hake

0197 *Enchelyopus cimbrius*, fourbeard rockling



*Urophycis regia*



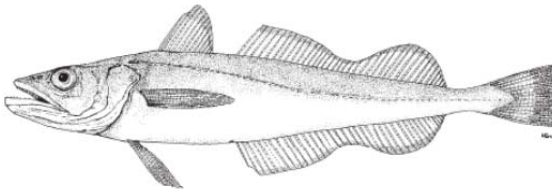
*Urophycis chuss*



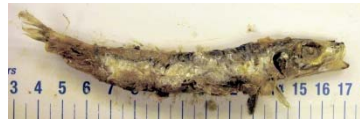
240mm



120 mm



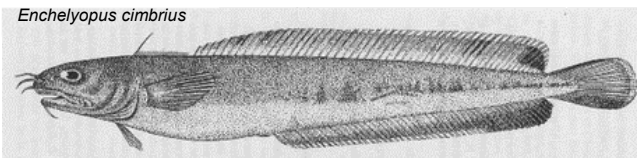
*Merluccius bilinearis*



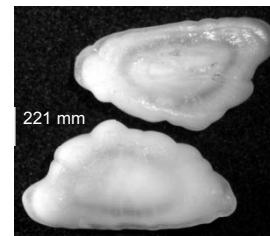
230 mm



117 mm



*Enchelyopus cimbrius*



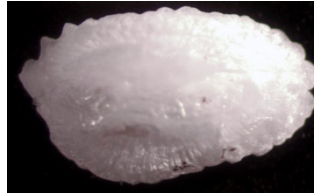
221 mm



## Order Batrachoidiformes

Family Batrachoididae

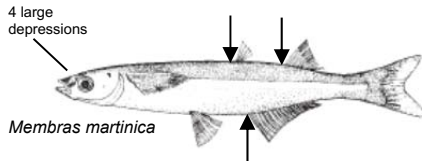
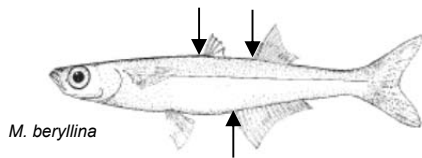
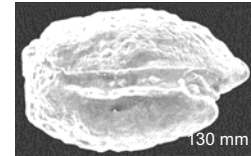
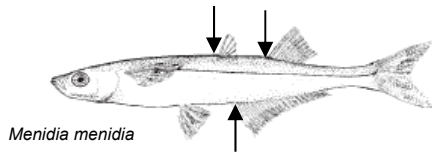
0154 *Opsanus tau*, oyster toadfish



## Order Atheriniformes

Family Atherinopsidae

- 0155 *Menidia spp.*
- 0150 *Menidia menidia*, Atlantic silverside
- 0149 *Menidia beryllina*, inland silverside
- 0148 *Membras martinica*, rough silverside



## Order Beloniformes

Family Belonidae

- 0924 unidentified needlefish
- 0196 *Strongylura marina*, Atlantic needlefish
- 0909 *Tylosurus crocodilus*, houndfish

*Strongylura marina*



relatively short snout length

*Tylosurus crocodilus*



# Order Cyprinodontiformes

## Family Fundulidae

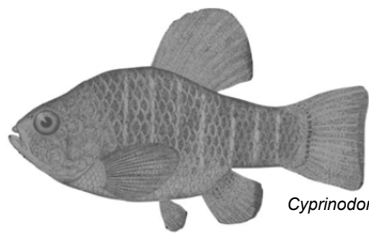
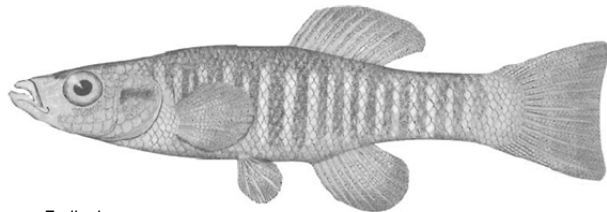
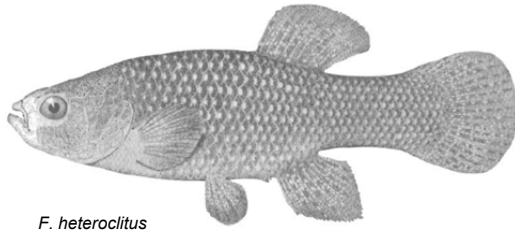
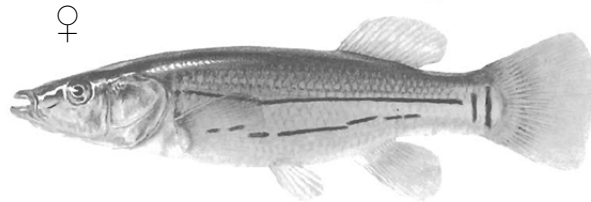
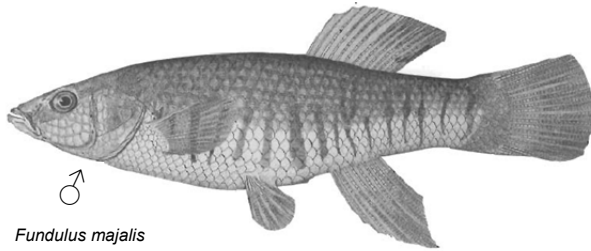
0560 *Fundulus spp.*

0124 *Fundulus majalis*, striped killifish

0122 *Fundulus heteroclitus*, mummichog

0121 *Fundulus diaphanus*, banded killifish

0120 *Cyprinodon variegatus*, sheepshead minnow



## Order Gasterosteiformes

Family Gasterosteidae

0127 *Apeltes quadracus*, fourspine stickleback



Family Syngnathidae

1055 unidentified pipefish/seahorse

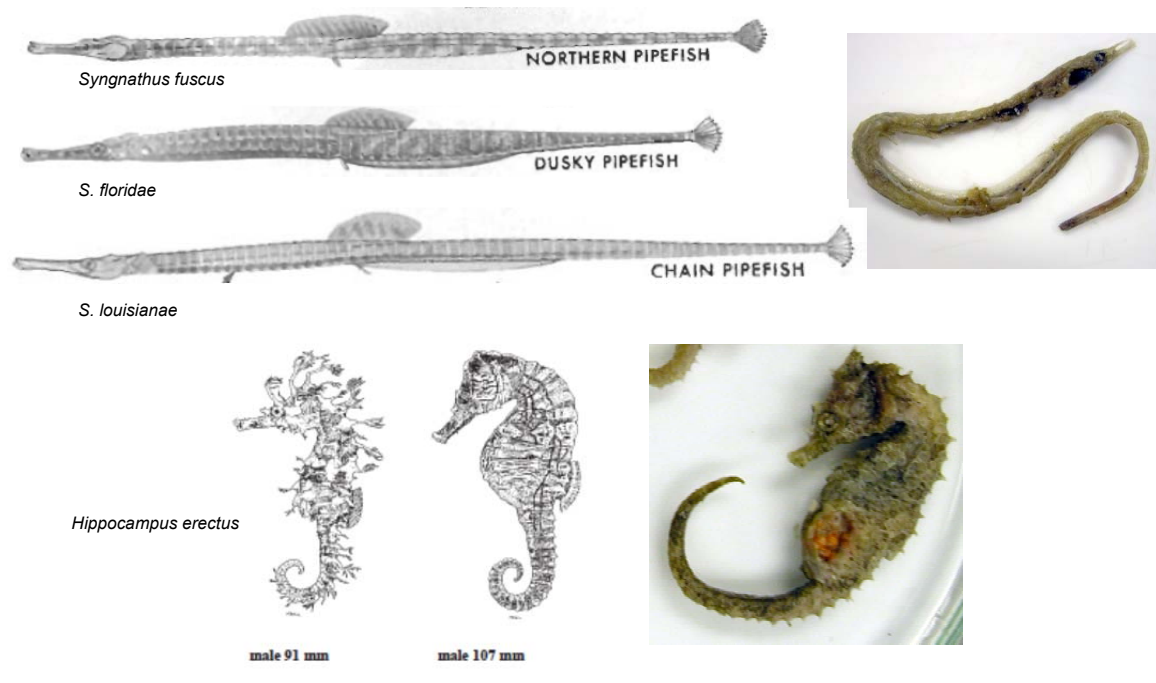
0156 *Syngnathus spp.*

0131 *Syngnathus fuscus*, northern pipefish

0130 *Syngnathus floridae*, dusky pipefish

0326 *Syngnathus louisianae*, chain pipefish

0129 *Hippocampus erectus*, lined seahorse



## Order Gobiesociformes

Family Gobiesocidae

0153 *Gobiesox strumosus*, skilletfish



# Order Scorpaenidae

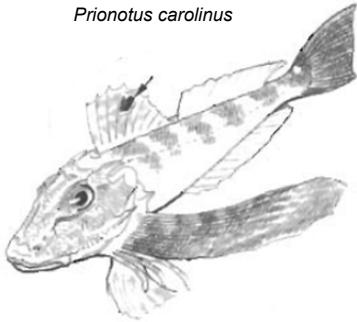
Family Triglidae

0023 *Prionotus* spp.

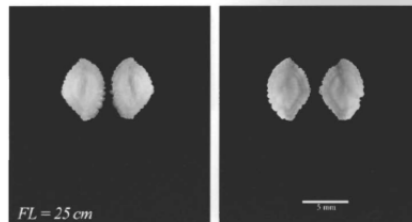
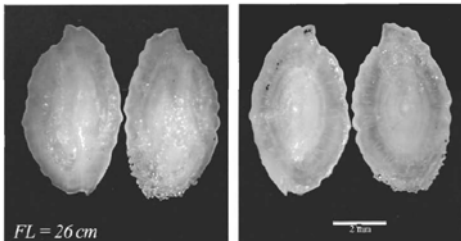
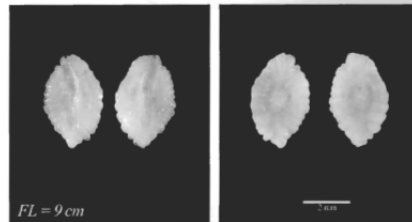
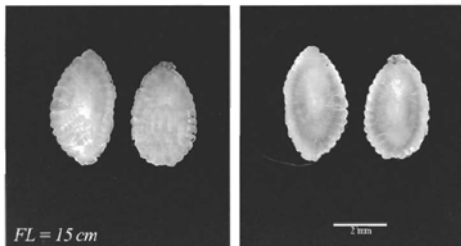
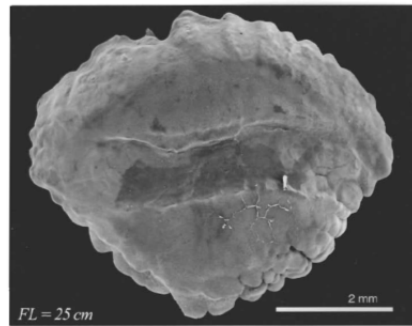
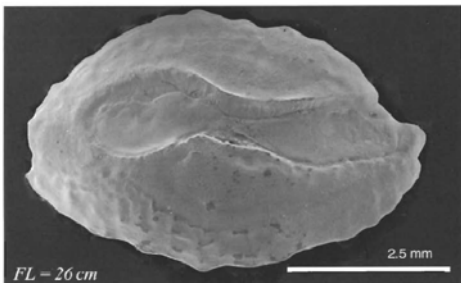
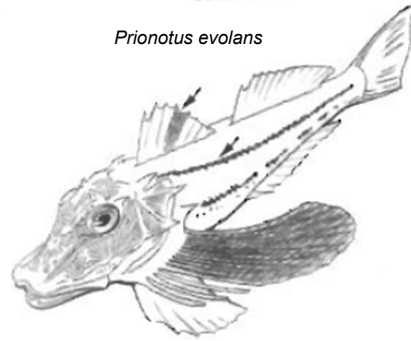
0071 *Prionotus carolinus*, northern searobin

0072 *Prionotus evolans*, striped searobin

*Prionotus carolinus*



*Prionotus evolans*



# Order Perciformes

## Family Serranidae

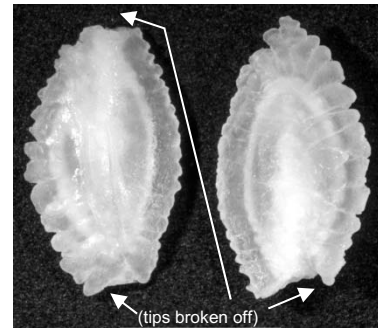
0087 unidentified seabasses

0002 *Centropristis striata*, black seabass

0260 *Centropristis philadelphica*, rock seabass



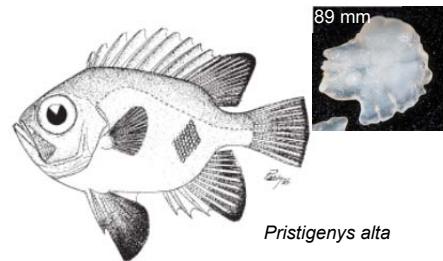
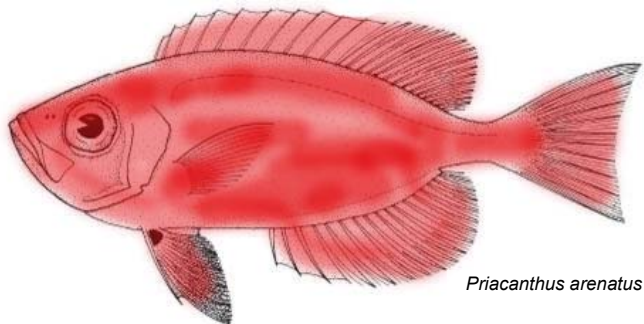
*C. philadelphica*



## Family Priacanthidae

0339 *Priacanthus arenatus*, bigeye

0340 *Pristigenys alta*, short bigeye



## Order Perciformes (continued)

Family Pomatomidae

0009 *Pomatomus saltatrix*, bluefish



Family Carangidae

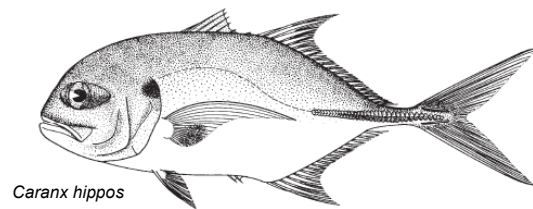
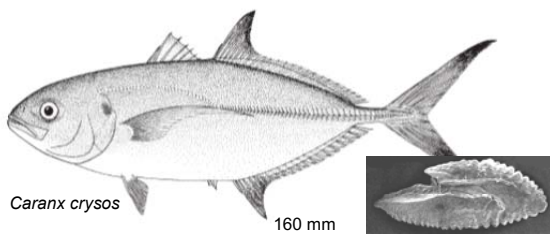
0211 *Selene setapinnis*, Atlantic moonfish

0207 *Selene vomer*, lookdown

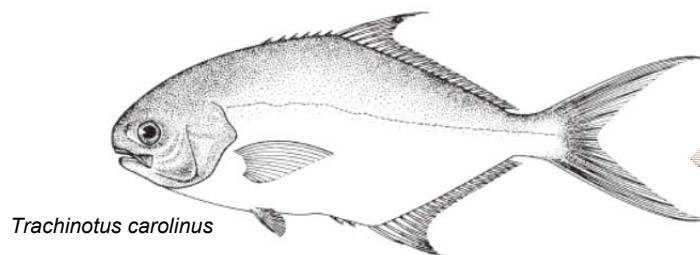


0203 *Caranx crysos*, blue runner

0204 *Caranx hippos*, crevalle jack



0061 *Trachinotus carolinus*, Florida pompano

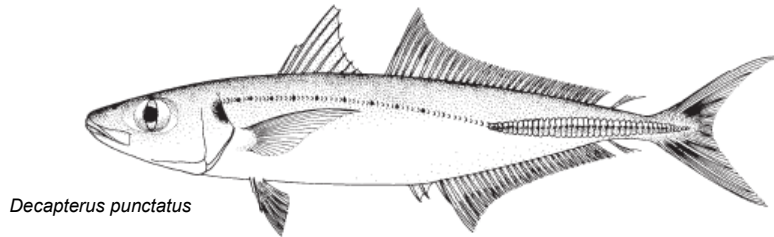


## Order Perciformes (Carangidae continued)

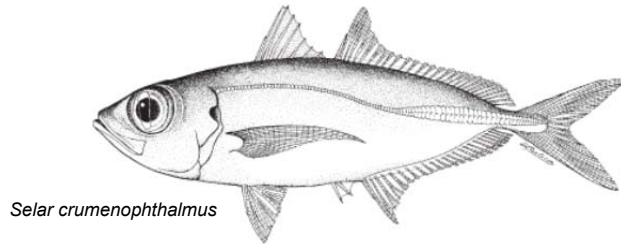
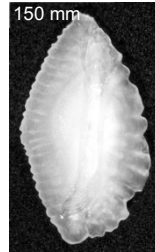
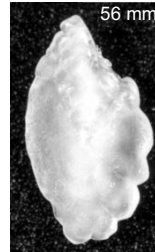
0205 *Decapterus punctatus*, round scad

0206 *Selar crumenophthalmus*, bigeye scad

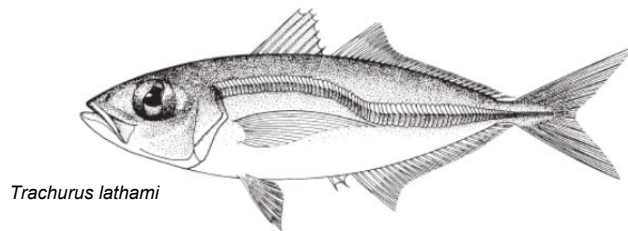
0210 *Trachurus lathami*, rough scad



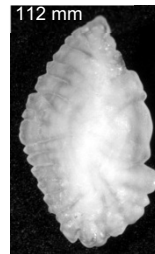
*Decapterus punctatus*



*Selar crumenophthalmus*



*Trachurus lathami*



### Family Chaetodontidae

0217 *Chaetodon ocellatus*, spotfin butterflyfish

### Family Ephippidae

0064 *Chaetodipterus faber*, Atlantic spadefish

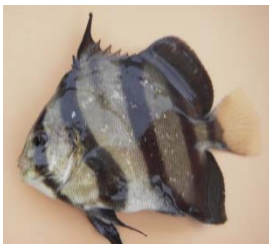
### Family Gerreidae

0285 *Eucinostomus argenteus*, spotfin mojarra

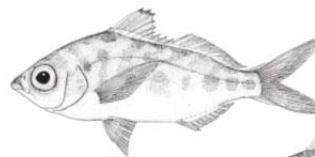
0353 *Eucinostomus gula*, silver jenny



*Chaetodon ocellatus*



*Chaetodipterus faber*



*Eucinostomus argenteus*



*Eucinostomus gula*



91 mm



## Order Perciformes (continued)

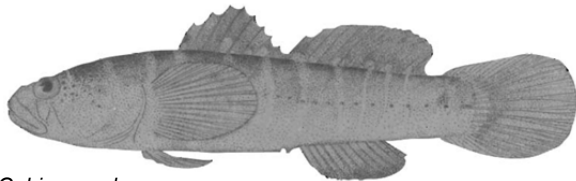
### Family Gobiidae

0281 unidentified goby

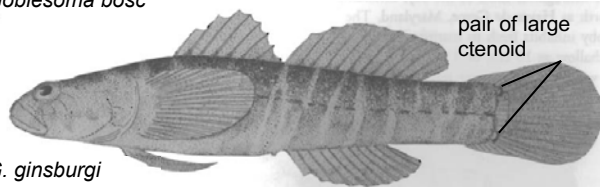
0581 *Gobiosoma bosc*, naked goby

0145 *Gobiosoma ginsburgi*, seaboard goby

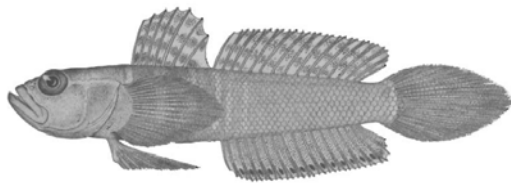
0139 *Microgobius thalassinus*, green goby



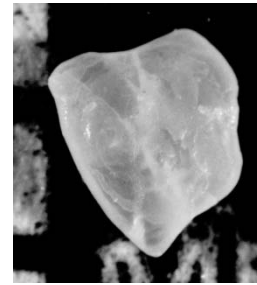
*Gobiosoma bosc*



*G. ginsburgi*



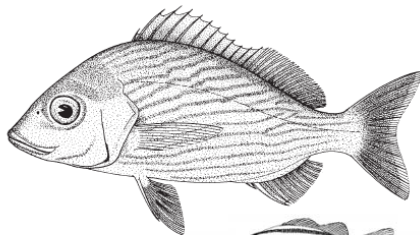
*Microgobius thalassinus*



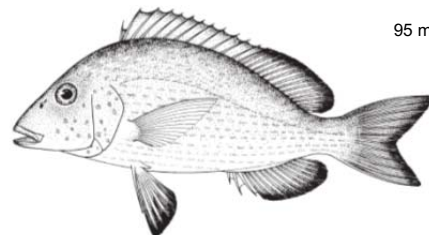
### Family Haemulidae

0408 *Haemulon bonariense*, black grunt

0059 *Orthopristis chrysoptera*, pigfish



*Haemulon bonariense*



*Orthopristis chrysoptera*

95 mm

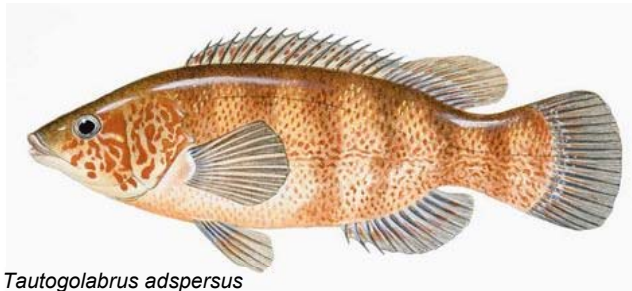


## Order Perciformes (continued)

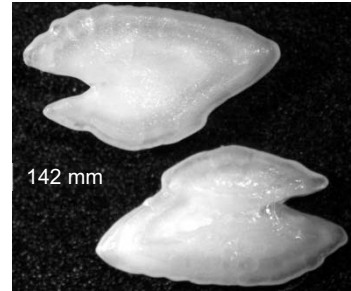
### Family Labridae

0218 *Tautoglabrus adspersus*, cunner

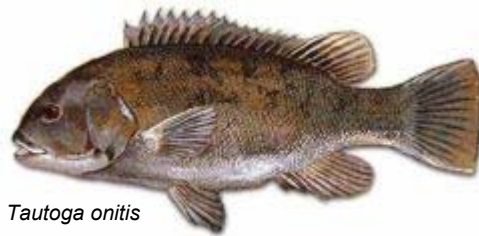
0055 *Tautoga onita*, tautog



*Tautoglabrus adspersus*



142 mm



*Tautoga onita*



### Family Mugilidae

0232 *Mugil curema*, white mullet



*Mugil curema*

### Family Ammodytidae

0491 *Ammodytes* spp., sand lances



*Ammodytes* spp.



## Order Perciformes (continued)

### Family Blenniidae

0146 *Chasmodes bosquianus*, striped blenny

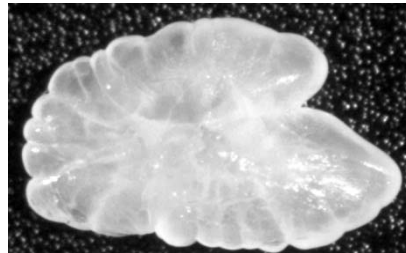
0147 *Hypsoblennius hentzi*, feather blenny



*Chasmodes bosquianus*



*Hypsoblennius hentzi*



### Family Moronidae

0031 *Morone saxatilis*, striped bass

0032 *Morone americana*, white perch

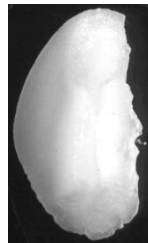


*Morone saxatilis*



*M. americana*

M. Gautreau



## Order Perciformes (continued)

Family Sciaenidae

0963 unidentified croaker/drum

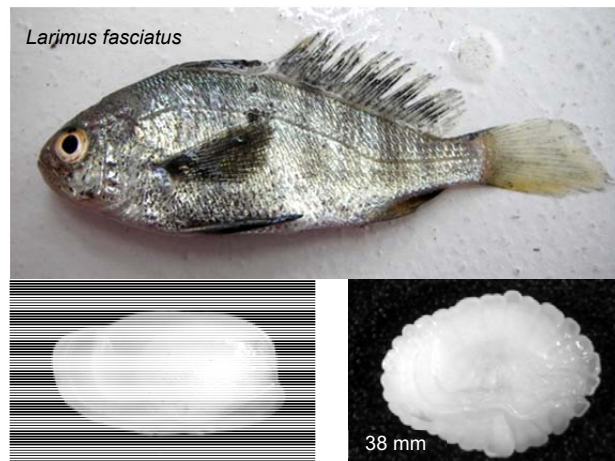
0005 *Micropogonias undulatus*, Atlantic croaker

0033 *Leiostomus xanthurus*, spot



0213 *Bairdiella chrysoura*, silver perch

0214 *Larimus fasciatus*, banded drum

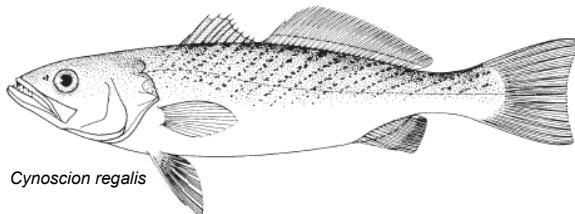


## Order Perciformes (Sciaenids continued)

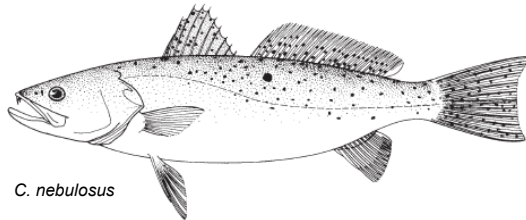
0007 *Cynoscion regalis*, weakfish

0058 *Cynoscion nebulosus*, spotted seatrout

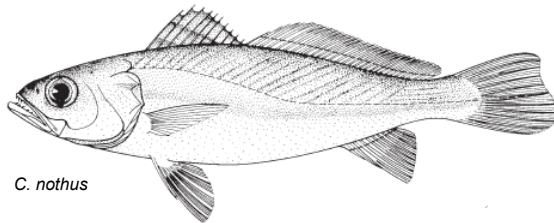
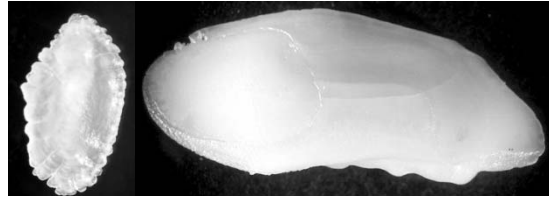
0359 *Cynoscion nothus*, silver seatrout



*Cynoscion regalis*



*C. nebulosus*



*C. nothus*

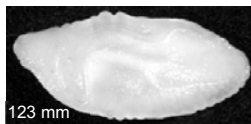
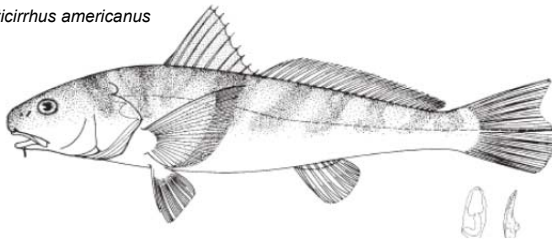


0013 *Menticirrhus* spp.

0057 *Menticirrhus americanus*, southern kingfish

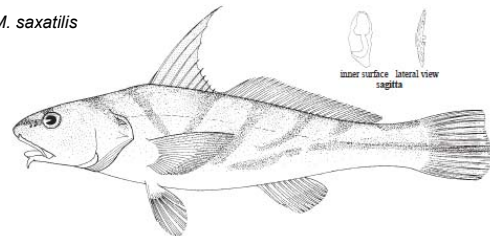
0056 *Menticirrhus saxatilis*, northern kingfish

*Menticirrhus americanus*

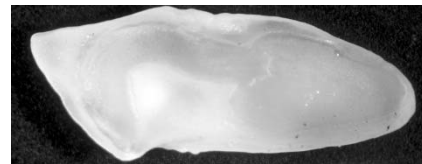


123 mm

*M. saxatilis*



inner surface lateral view  
sagitta

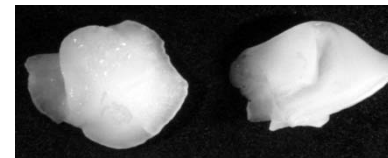
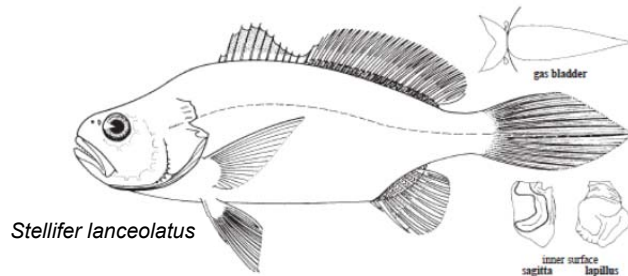
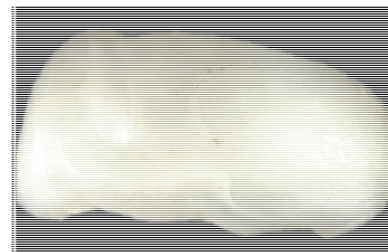
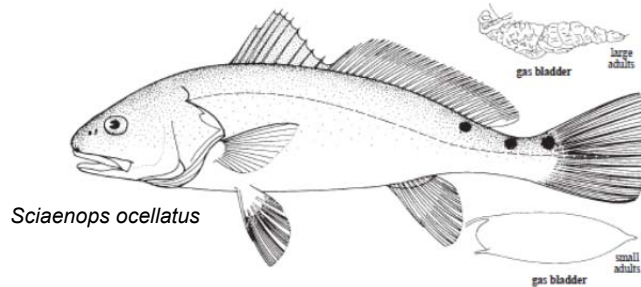
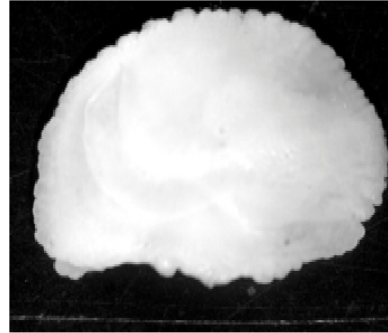
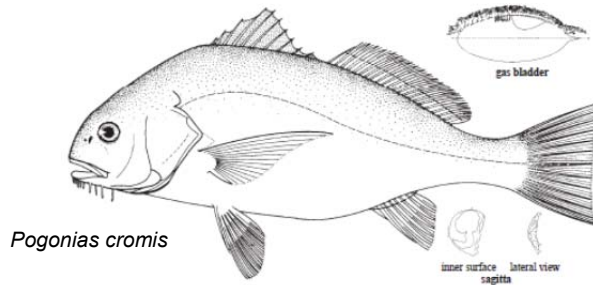


## Order Perciformes (Sciaenids continued)

0034 *Pogonias cromis*, black drum

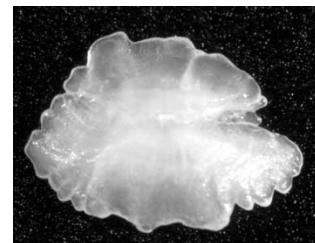
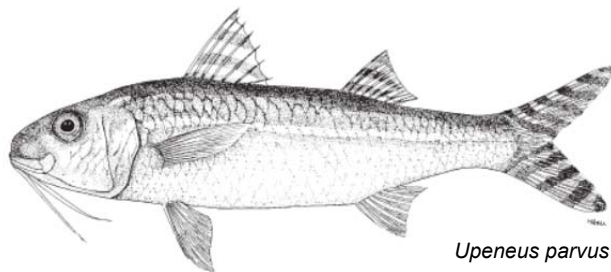
0035 *Sciaenops ocellatus*, red drum

0215 *Stellifer lanceolatus*, star drum



### Family Mullidae

0387 *Upeneus parvus*, dwarf goatfish



## Order Perciformes (continued)

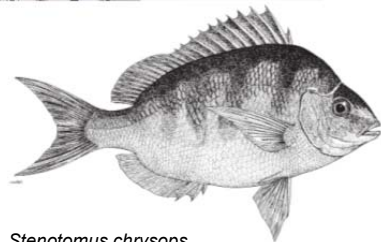
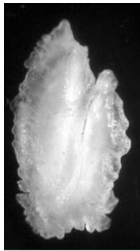
Family Sparidae

1096 unidentified sparids

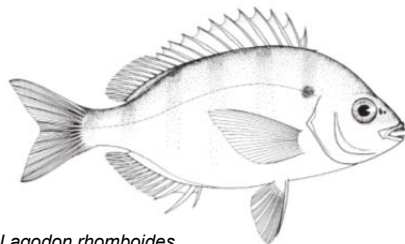
0001 *Stenotomus chrysops*, scup

0216 *Lagodon rhomboides*, pinfish

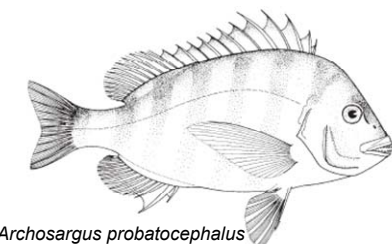
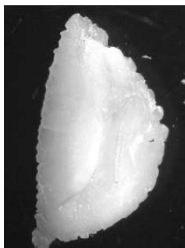
0054 *Archosargus probatocephalus*, sheepshead



*Stenotomus chrysops*



*Lagodon rhomboides*



*Archosargus probatocephalus*

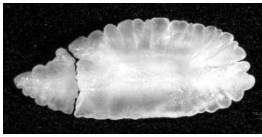
## Order Perciformes (continued)

### Family Sphyraenidae

0230 *Sphyraena borealis*, northern sennet  
0365 *Sphyraena guachancho*, quaquanche



*Sphyraena borealis*



*Sphyraena guachancho*

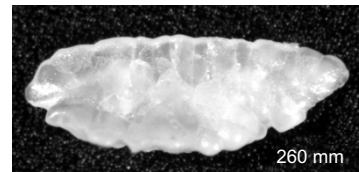


### Family Trichiuridae

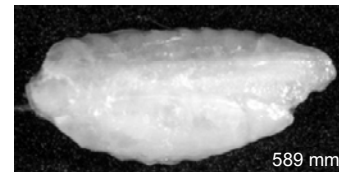
0219 *Trichiurus lepturus*, Atlantic cutlassfish



*Trichiurus lepturus*



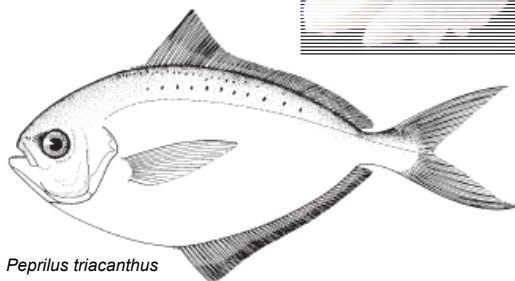
260 mm



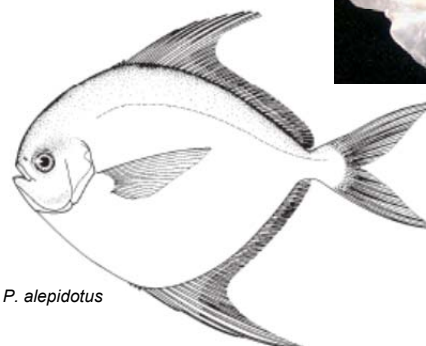
589 mm

### Family Stromateidae

0004 *Peprilus triacanthus*, butterfish  
0011 *Peprilus alepidotus*, harvestfish



*Peprilus triacanthus*



*P. alepidotus*

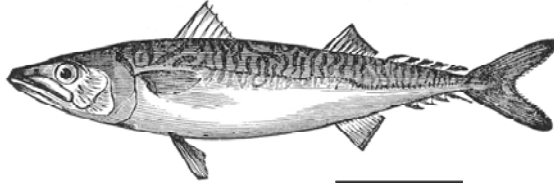




## Order Perciformes (continued)

Family Scombridae

0043 *Scomber scombrus*, Atlantic mackerel



*Scomber scombrus*



Family Uranoscopidae

0225 *Astroscopus guttatus*, northern stargazer



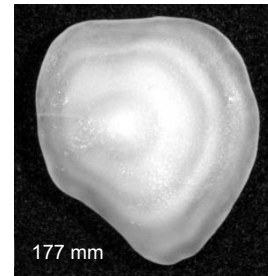
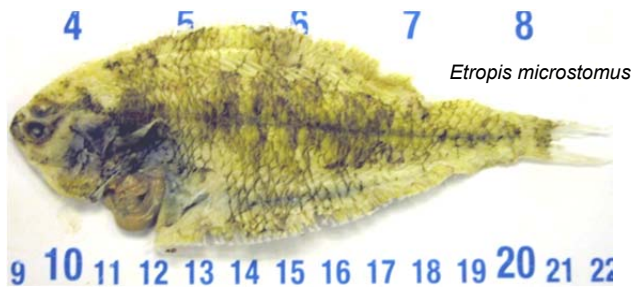
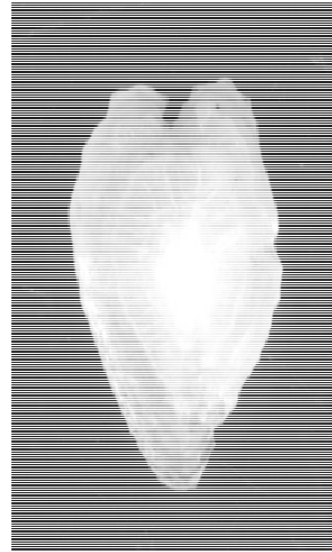
*Astroscopus guttatus*



## Order Pleuronectiformes

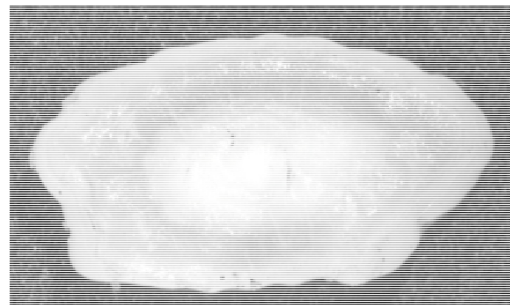
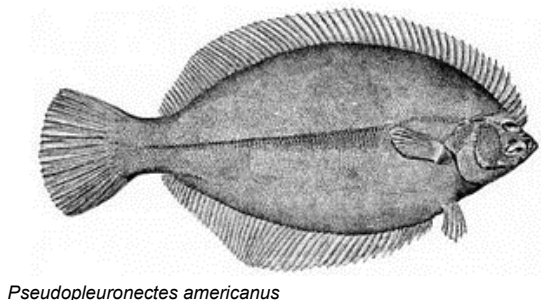
Family Paralichthyidae

0003 *Paralichthys dentatus*, summer flounder  
0236 *Etropus microstomus*, smallmouth flounder  
1023 *Etropus* spp.



Family Pleuronectidae

0044 *Pseudopleuronectes americanus*, winter flounder



## Order Pleuronectiformes (continued)

Family Scophthalmidae

0063 *Scophthalmus aquosus*, windowpane



Family Bothidae

0247 *Citharichthys arctifrons*, gulf stream flounder

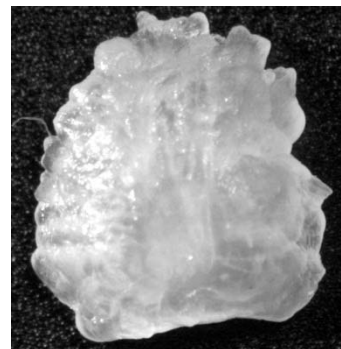
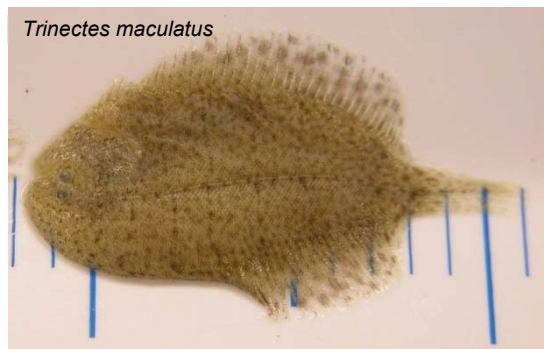


*Citharichthys arctifrons*



Family Achiridae

0151 *Trinectes maculatus*, hogchoker



## Order Pleuronectiformes (continued)

Family Cynoglossidae

0152 *Symphurus plagiusa*, blackcheek tonguefish

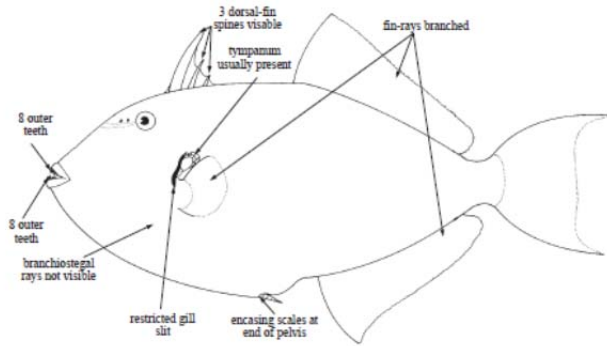


## Order Tetraodontiformes

### Family Balistidae

0085 *Balistes* spp.

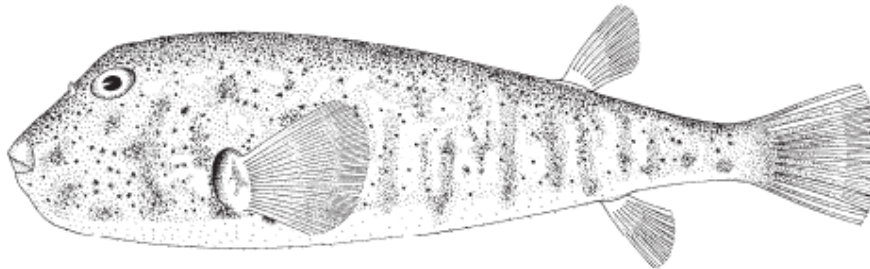
0239 *Balistes capriscus*, gray triggerfish



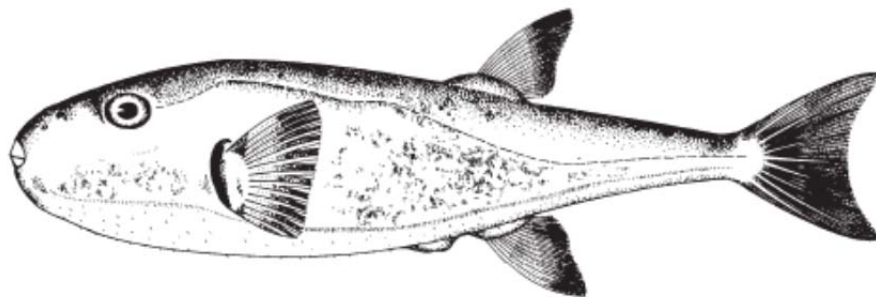
### Family Tetraodontidae

0050 *Sphoeroides maculatus*, northern puffer

0079 *Lagocephalus laevigatus*, smooth puffer



*Sphoeroides maculatus*



*Lagocephalus laevigatus*