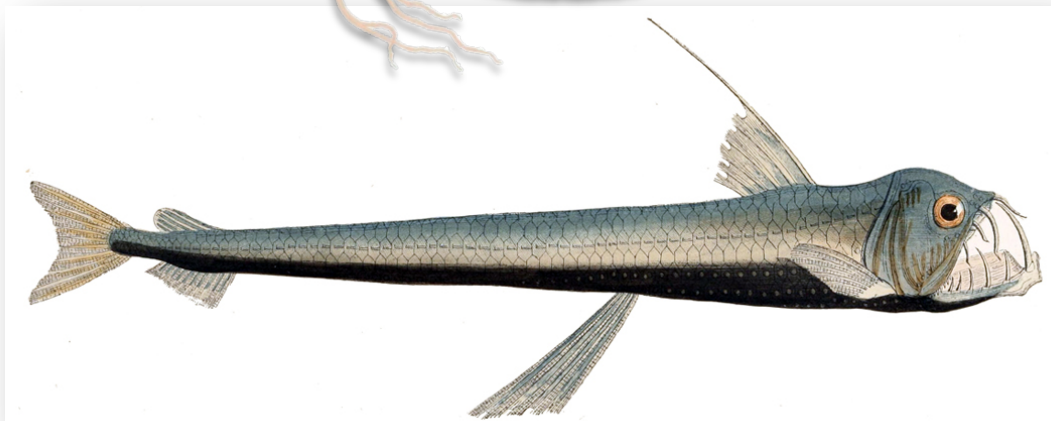
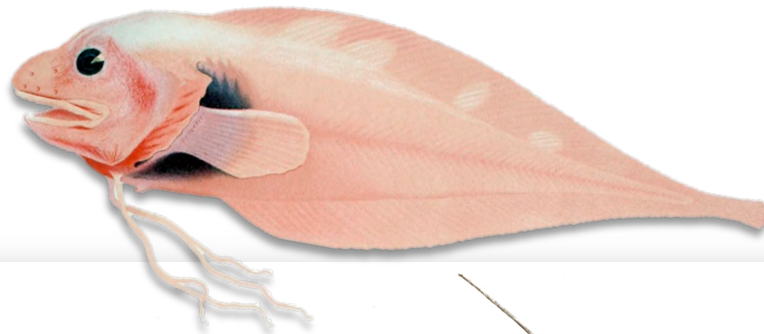


Deep Sea Fish: Anglerfish, Fangtooth, Sloane's Viperfish, Snailfish



Study Guide



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Cover images – Left: A Humpback anglerfish, right: a Common fangtooth; beneath study guide sign: a snailfish, *Rhodichthys regina* and the bottom image: Sloane's Viperfish. All images are in the public domain.

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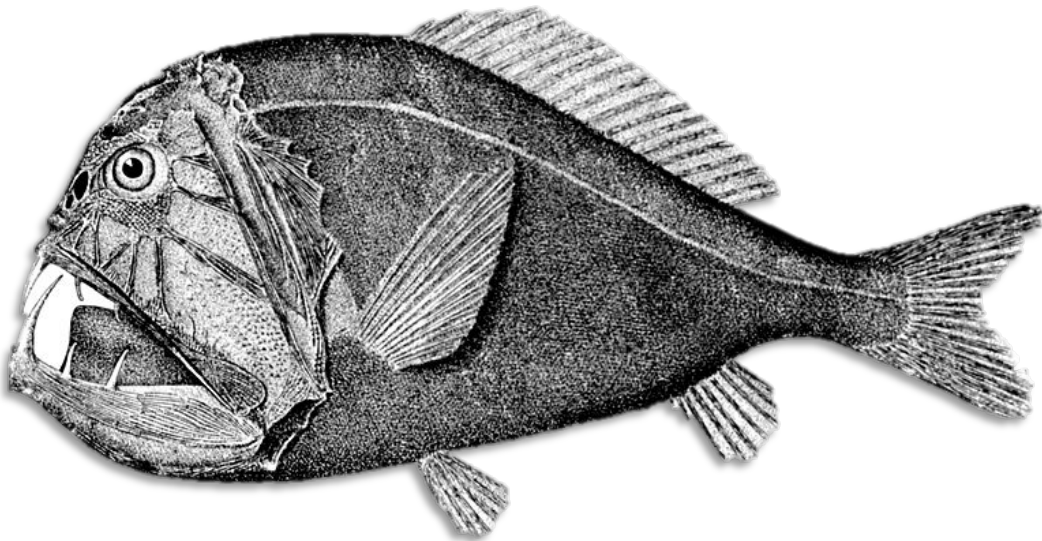
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Deep Sea Fish I Answer Key.....pgs. 10 & 11
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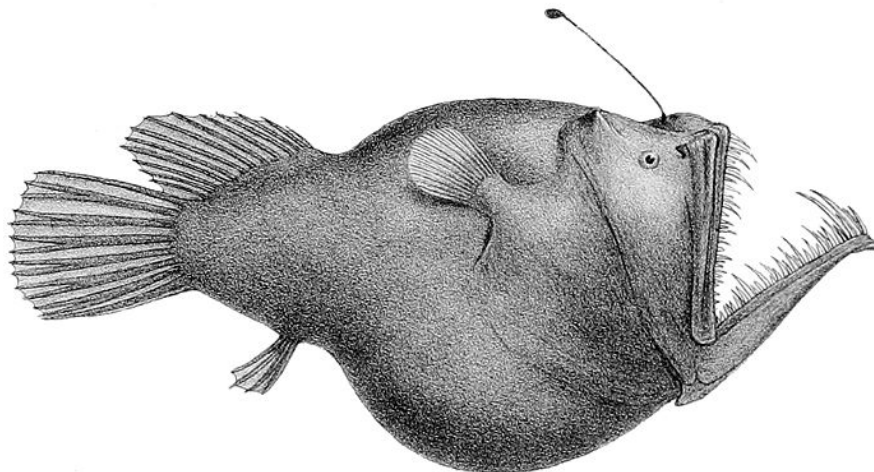


A common fangtooth. Image in the public domain.

Introduction to the Deep Sea Fish

Deep sea fish are some of the most bizarre looking and behaving creatures on the planet. From the deep sea Humpback anglerfish to the scaleless abyssal snailfish, their forms and habits are as unusual as the environment they thrive in. The earth's deepest zone, the Hadopelagic zone in previous centuries was believed to be an uninhabited wasteland. However, modern science has allowed us to plumb the depths in recent decades revealing a thriving community of including many deep sea fish wonders. New species are discovered each year and feeding the web with incredible video footage and mesmerizing photographs of these creatures!

Enjoy this study as we have a look at the lives of the anglerfish, fangtooth, Sloane's Viperfish, and snailfish. Years to come will yield more enlightening information as to how these species live and their remarkable relationship in the abyssal ecosystems.



Murray's abyssal anglerfish collected by H.M.S. Challenger during the years 1873-1876.

PowerPoint Interaction – Deep Sea Fish I

Directions: Print out this study guide and handwrite the answers into it, or download and use the free Adobe Acrobat Reader to type the answers into the pdf file. Read through NatureGlo's eScience PowerPoint, Deep Sea Fish I : Anglerfish, Fangtooth, Sloane's Viperfish, Snailfish. Answer the questions below by filling in the blanks.

Slide #4 Order Lophiiformes: The Anglerfish

1. Anglerfish are named for predation with fleshy growth _____ which hangs above fish's head.
2. Benthic or deep sea forms are often extremely dorsoventrally _____ (depressed) from top to bottom, often with large upward-pointing _____.

Slide #6 Deep Sea Angler Species Spotlight: The Humpback Anglerfish *Melanocetus johnsonii*

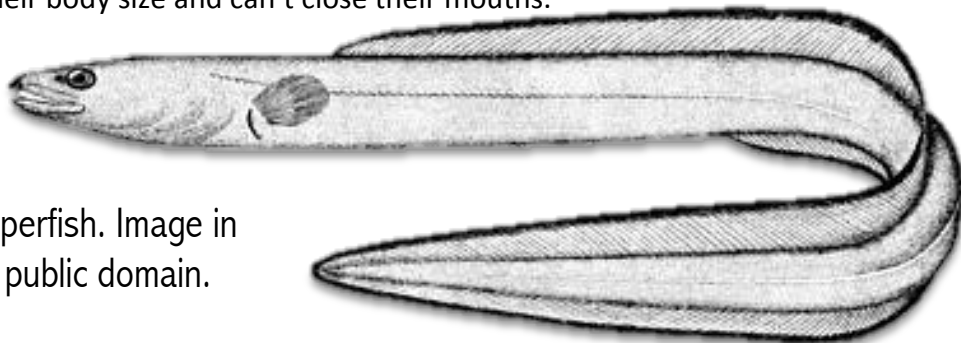
3. Most male anglerfish are smaller than the female and live only to attach to her and become a sperm donor. However, the male Humpback anglerfish are different. The males remain free-swimming into _____. They don't feed but only _____ briefly to the female.

Slide #8 The Fangtooth Fish

4. The two known fangtooth species are:

Slide #9 Fangtooth Species & Characteristics

5. Fangtooth fish have some of largest fish _____ in the ocean, proportionate to their body size and can't close their mouths.



A viperfish. Image in the public domain.

PowerPoint Interaction – Deep Sea Fish I

Slide #10 Fangtooth Ecology

6. List two potential predators of fangtooth fish below.

Slide #12 Genus Chauliodus - The Viperfish

7. Viperfish use a lure & photophores along their ventral line to attract _____ & communicate to potential _____.

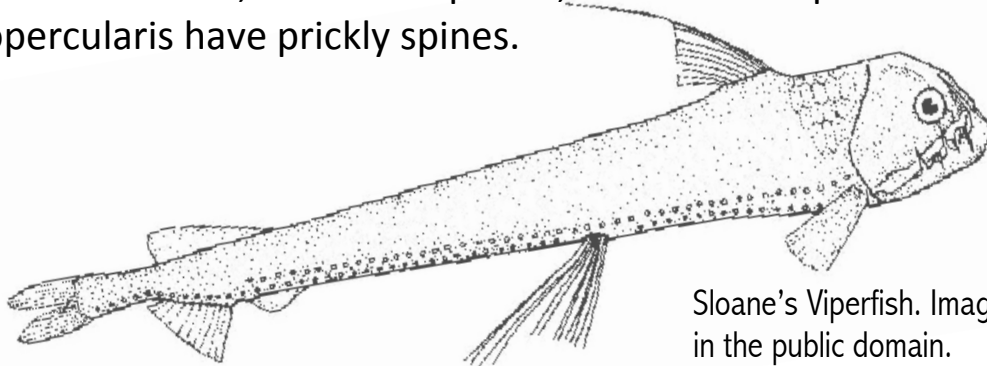
8. Viperfish fold & curve _____ behind their head.

Slide #15 Family Liparidae – The Snailfish

9. Closely related to _____ of the family Cottidae and the _____ of family Cyclopteridae.

Slide #16 Snailfish Characteristics

10. Snailfish are _____ with thin, loose gelatinous skin, but some species, like *Acantholiparis opercularis* have prickly spines.

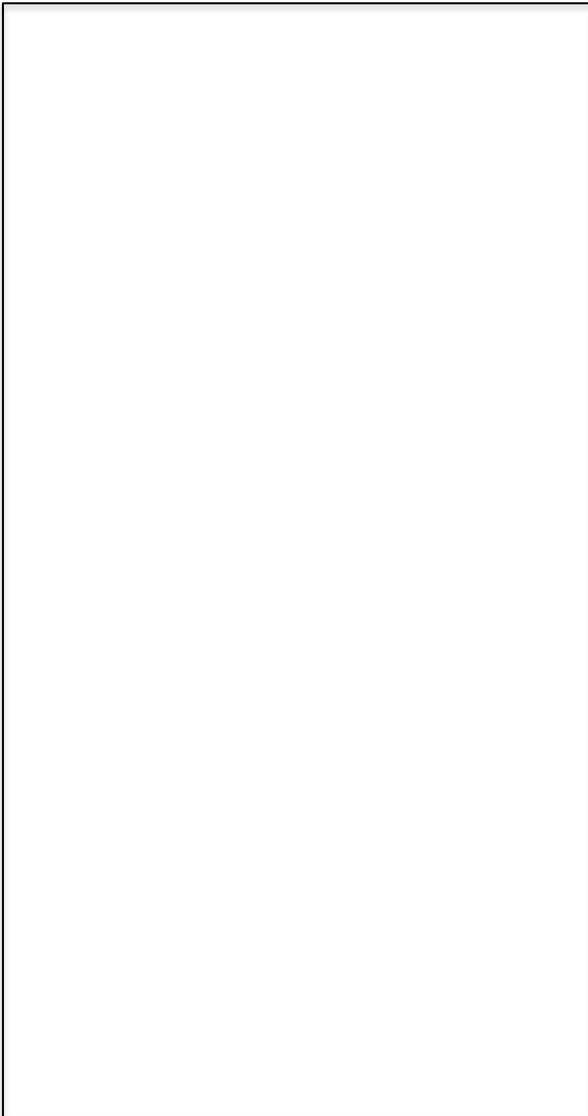


Sloane's Viperfish. Image in the public domain.

Journal Entry: Deep Sea Fish I

Name: _____ Date: _____

Make a sketch in the box below of any deep sea fish species of your choice including any from NatureGlo's eScience PowerPoint, *Deep Sea Fish I* : Anglerfish, Fangtooth, Sloane's Viperfish, Snailfish. Fill in the information on the right about your sketch.



Description – Describe what kind of deep sea fish you drew (size, color, shape etc.) _____

Geographic range – Where it lives?

Diet – What it eats.

Habitat – What marine zone it lives in and such places as coral reef, Mariana trench etc.

Deep Sea Fish I Quiz

Directions: After completing the PowerPoint review questions, study them. When you're ready, take the quiz below.

Slide #4 Order Lophiiformes: The Anglerfish

1. Anglerfish are named for predation with fleshy growth _____ which hangs above fish's head.
2. Benthic or deep sea forms are often extremely dorsoventrally _____ (depressed) from top to bottom, often with large upward-pointing _____.

Slide #6 Deep Sea Angler Species Spotlight: The Humpback Anglerfish *Melanocetus johnsonii*

3. Most male anglerfish are smaller than the female and live only to attach to her and become a sperm donor. However, the male Humpback anglerfish are different. The males remain free-swimming into _____. They don't feed but only _____ briefly to the female.

Slide #8 The Fangtooth Fish

4. The two known fangtooth species are:

Slide #9 Fangtooth Species & Characteristics

5. Fangtooth fish have some of the largest fish _____ in the ocean, proportionate to their body size and can't close their mouths.

Deep Sea Fish I Quiz

Slide #10 Fangtooth Ecology

6. List two potential predators of fangtooth fish below.

Slide #12 Genus Chauliodus - The Viperfish

7. Viperfish use a lure & photophores along their ventral line to attract _____ & communicate to potential _____.

8. Viperfish Fold & curve _____ behind their head.

Slide #15 Family Liparidae – The Snailfish

9. Closely related to _____ of the family Cottidae and the _____ of family Cyclopteridae.

Slide #16 Snailfish Characteristics

10. Snailfish are _____ with thin, loose gelatinous skin, but some species, like *Acantholiparis opercularis* have prickly spines.

Deep Sea Fish I Answer Key

This answer key is to be used to grade both the PowerPoint review questions (used as a review for the quiz) and the quiz. Each question is worth 10 points and each question that has two answers, are worth 5 points each.

Slide #4 Order Lophiiformes: The Anglerfish

1. Anglerfish are named for predation with fleshy growth **lure** which hangs above fish's head.
2. Benthic or deep sea forms are often extremely dorsoventrally **compressed** (depressed) from top to bottom, often with large upward-pointing **mouths**.

Slide #6 Deep Sea Angler Species Spotlight: The Humpback Anglerfish *Melanocetus johnsonii*

3. Most male anglerfish are smaller than the female and live only to attach to her and become a sperm donor. However, the male Humpback anglerfish are different. The males remain free-swimming into **adulthood**. They don't feed but only **attach** briefly to the female.

Slide #8 The Fangtooth Fish

4. The two known fangtooth species are:
 - **Shorthorn fangtooth**
 - **Common fangtooth**

Slide #9 Fangtooth Species & Characteristics

5. Fangtooth fish have some of the largest fish **teeth** in the ocean, proportionate to their body size and can't close their mouths.

Deep Sea Fish I Answer Key

Slide #10 Fangtooth Ecology

6. List two potential predators of fangtooth fish below.

Answers will vary but any of the following two: **other large pelagic fish, tuna and marlin, & some sharks.**

Slide #12 Genus Chauliodus - The Viperfish

7. Viperfish use a lure & photophores along their ventral line to attract **prey** & communicate to potential **mates**.

8. Viperfish Fold & curve **teeth** behind their head.

Slide #15 Family Liparidae – The Snailfish

9. Closely related to **sculpins** of the family Cottidae and the **lumpfish** of family Cyclopteridae.

Slide #16 Snailfish Characteristics

10. Snailfish are **scaleless** with thin, loose gelatinous skin, but some species, like *Acantholiparis opercularis* have prickly spines.