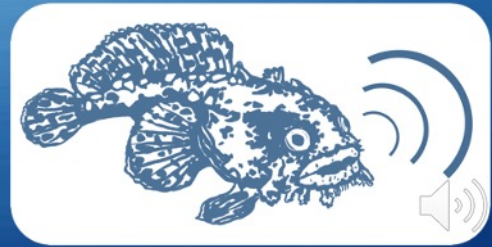


A Brief Tour of FishSounds



Hello my name is Audrey Looby and welcome to the FishSounds website! This video is meant to give you a brief overview and tour of what all our website has to offer.

Three Categories of Data Compiled



We have compiled three main types of data as part of the website work.

Three Categories of Data Compiled

Authors:	Amorim, M. C. P. Hawkins, A. D.
Publication:	Journal of Fish Biology
Year:	2000
Volume:	57
Issue:	4
Pages:	895-907
DOI:	10.1111/j.1095-8649.2000.tb02200.x
ISSN:	0022-1112
Language:	English

Description	
Detection	
<input checked="" type="checkbox"/>	Species Identified
<input checked="" type="checkbox"/>	Sound Detected
Examination Types	
<input checked="" type="checkbox"/>	Physiological
<input checked="" type="checkbox"/>	Auditory
<input checked="" type="checkbox"/>	Visual
Sound Types Detected	
<input checked="" type="checkbox"/>	Active
<input checked="" type="checkbox"/>	Passive Feeding
<input checked="" type="checkbox"/>	Other Passive

**Basic sound production and
reference information**



The first is based on a complete systematized review of published examinations of a fish species for sound production. We have the citation information for each reference and then for each fish species examined for sound production in each reference, we have basic information on the general type of examination conducted, whether the fish produced active or intentional sounds or some type of passive or incidental sound, and whether authors expressed doubt about their findings. This is the most complete type of data we have compiled, and it will be updated at least once per year to continue to add any literature published the previous year or to account for any references that are currently missing from our database.

Three Categories of Data Compiled

Authors: Amorim, M. C. P.
Hawkins, A. D.
Publication: Journal of Fish Biology
Year: 2000
Volume: 57
Issue: 4
Pages: 895-907
DOI: 10.1111/j.1095-8649.2000.tb02200.x
ISSN: 0022-1112
Language: English

Description

Detection

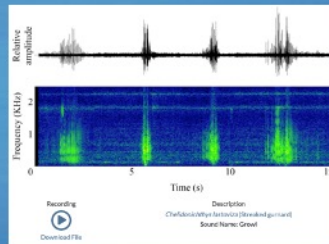
- Species Identified
- Sound Detected

Examination Types

- Physiological
- Auditory
- Visual

Sound Types Detected

- Active
- Passive Feeding
- Other Passive



Basic sound production and reference information

Sound recordings



The second category is made up of individual sound recordings generously donated to us by researchers or through connections to other sound libraries. We will be continuously working to augment our library of sound recordings as we receive donations.

Three Main Categories of Data Compiled

Authors: Amorim, M. C. P.,
Hawkins, A. D.
Publication: Journal of Fish Biology
Year: 2000
Volume: 57
Issue: 4
Pages: 895-907
DOI: 10.1111/j.1095-8649.2000.tb02200.x
ISSN: 0022-1112
Language: English

Description

Detection

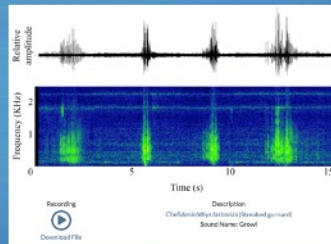
- Species Identified
- Sound Detected

Examination Types

- Physiological
- Auditory
- Visual

Sound Types Detected

- Active
- Passive Feeding
- Other Passive



View Descriptive Quotes

Observation Environments

- Captivity

Behaviour Descriptions

- Aggression/Antagonistic (tentative)
- Competitive Feeding

Sound Names

- Pulse
- Drum
- Growl

Included Diagrams

- Spectrogram
- Oscillogram
- Table

Amorim and Hawkins (2000)

Measurement	Min.	Mean	Max.	Error	Error Type	n
Sound duration (ms)	52.9	104.9	3140.9	775.6	SD	41
Pulse duration (ms)	2.9	4.7	7	0.6	SD	372
Total number of pulses	30	100.7	188	54.3	SD	9
Number of groups of pulses	3	36.5	94	25.2	SD	39

Basic sound production and reference information

Sound recordings

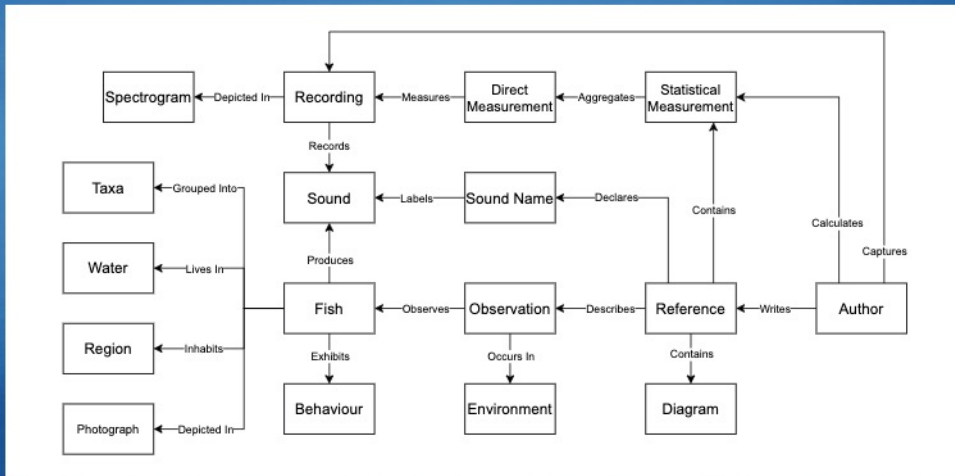
Acoustic characteristics and additional information



Finally, we are also going back through all of the references we have compiled when we have the time or resources to do so to collect acoustic characteristics of fish sounds or additional information about the sound production, such as the behavior associated with sound production or whether diagrams of the sound like a spectrogram were included in the reference.

In addition to these three types of data that we have gathered, we also have access to general information on the fish species, such as their taxonomic information or the region they are found in, courtesy of FishBase.

The Data is All Connected



All of these data are connected through various relationships in the website infrastructure and database we have compiled.

Three Searches on the Website

View Entry on FishBase Website

Class: Actinopterygii
Order: Scorpaeniformes
Family: Triglidae
Genus: Chelodactylus
Species: lotozka

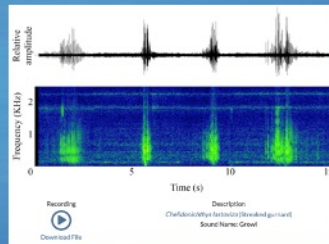
Regions: Atlantic, Eastern Central
Atlantic, Northeast
Atlantic, Southeast
Indian Ocean, Western
Mediterranean And Black Sea

Climates: Tropical
Temperate
Subtropical
Waters: Marine



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By fish species



By sound recordings

Authors: Amorim, M. C. P.
Hawkins, A. D.
Publication: Journal of Fish Biology
Year: 2000
Volume: 57
Issue: 4
Pages: 895-907
DOI: 10.1111/j.1095-8649.2000.tb02200.x
ISSN: 0022-1112
Language: English

By reference



The data are then used to create searches for users of the website based on fish species, sound recordings, and reference.

FishSounds Learn More Search Profile

Welcome!
 Welcome to the FishSounds website! We offer a comprehensive, global inventory of fish sound production research. Information can be searched by fish taxa, by sound characteristics, or by reference. Learn more about us and our data in the [About Us](#) section!
 We are still growing! If you would like to suggest an edit or contribute a reference or associated fish sound recording, please [contact us](#).
 Check out [Discovery of Sound in the Sea](#) to learn more about underwater sounds and [FishBase](#) to learn more about specific fish species.

Need some help?
 Visit the [About Our Data](#) section for an explanation of where the data comes from and definitions of terms used throughout the site.
 We encourage users to cite our website in your work! Please review our instructions on [how to cite](#) for information on referencing the website in general, as well as specific recordings and research. Also review the license information accompanying Images and recordings for clarification on their reuse.

Highlighted Species
Ophidion marginatum
 (Striped cusk-eel)

Species: Ophidion marginatum; CC BY-NC 4.0; source: Nature.com

Website Statistics
 Number of Species Observed: 1185
 Number of Sound Recordings: 240
 Number of References: 837
 Last Data Update: 2021/09/30
 Latest Fish Observed: *Prochilodus argenteus*
 Latest Recording: *Megalops atlanticus* - Grunt Thump

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With that, on to the website itself! On our Home page, you'll find...

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...some helpful links to information pages and websites...

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Highlighted Species

Ophidion marginatum
(Striped cusk-eel)






Species, license: CC BY-NC 4.0, source: Naturalist

Website Statistics

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Last Data Update: 2021/09/30
 Latest Fish Observed: *Prochilodus argenteus*
 Latest Recording: *Megalops atlanticus* - Grunt Thump

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...a randomly-generated, highlighted species...

FishSounds Learn More Search Profile

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 (Striped cusk-eel)

Species/Id: OPH-CC-BY-NC-4.0, source: Nature

Website Statistics
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 Number of References: 837
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 Latest Fish Observed: *Prochilodus argenteus*
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...and some fun numbers about the website.

FishSounds Learn More Search Profile

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Imagine tour
video here!

Highlighted Species

Ophidion marginatum
(Striped cusk-eel)

Source: iNaturalist; CC BY-NC 4.0; source: iNaturalist

Website Statistics

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 Number of References: 837

Last Data Update: 2021/09/30
 Latest Fish Observed: *Prochilodus argenteus*
 Latest Recording: *Megalops atlanticus* - Grunt Thump

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Finally, on our Home page, you will be able to find this video with the tour of the website once we have uploaded it. A PDF of the video, including all the slides and a transcript of the voiceover, will also be provided for download.

FishSounds Learn More **Search** Profile

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Highlighted Species
Ophidion marginatum
 (Striped cusk-eel)

Species: Ophidion; CC BY-NC 4.0; source: Nature

Website Statistics
 Number of Species Observed: 1185
 Number of Sound Recordings: 240
 Number of References: 837
 Last Data Update: 2021/09/30
 Latest Fish Observed: *Prochilodus argenteus*
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INNOVATION.CA How to Cite FishSounds

To begin searching the website, you will find three options if you click on the search button found at the top of every page.

FishSounds Learn More Search Profile

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Highligh
 Ophidi
 (Striped cusk-eel)

Research Summaries
 Sound Recordings

Website Statistics

Number of Species Observed:	1185
Number of Sound Recordings:	240
Number of References:	837
Last Data Update:	2021/09/30
Latest Fish Observed:	<i>Prochilodus argenteus</i>
Latest Recording:	<i>Megalops atlanticus</i> - Grunt Thump

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How to Cite FishSounds

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If you click on “Fish Species”, you will be taken to our Fish Species Search page.

FishSounds Learn More Search Profile

Filter Results

Class

Order

Family

Scientific

Common

Regions

Climates

Waters

Sounds

1185 Results Found (40 Pages) Scientific, A-Z Sort

Abramis brama (Freshwater bream)
 Order Cypriniformes 1 Reference
 Family Cyprinidae 0 Recordings
 Climates: Temperate; Subtropical; Boreal
 Waters: Freshwater; Brackish water

Abudedefduf abdominalis (Green damselfish)
 Order Perciformes 4 References
 Family Pomacentridae 0 Recordings
 Climates: Tropical; Subtropical
 Waters: Marine

Abudedefduf saxatilis (Sergeant-major)
 Order Perciformes 2 References
 Family Pomacentridae 0 Recordings
 Climates: Tropical; Temperate; Subtropical
 Waters: Marine

Abudedefduf sordidus (Blackspot sergeant)
 Order Perciformes 2 References
 Family Pomacentridae 0 Recordings
 Climates: Tropical; Temperate; Subtropical
 Waters: Brackish water; Marine

Abudedefduf vaigiensis (Indo-Pacific sergeant)
 Order Perciformes 1 Reference
 Family Pomacentridae 0 Recordings
 Climates: Tropical; Temperate; Subtropical
 Waters: Marine

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Here, you'll be able to search by fish species to see if they have records in our dataset and pull records based on taxonomic or other information.

FishSounds Learn More Search Profile

1185 Results Found (40 Pages) Scientific, A-Z Sort

Filter Results

Class

Order

Family

Scientific

Common

Regions

Climates

Waters

Sounds

Abramis brama (Freshwater bream)
 Order Cypriniformes 1 Reference
 Family Cyprinidae 0 Recordings
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 Waters: Freshwater; Brackish water

Abudedefduf abdominalis (Green damselfish)
 Order Perciformes 4 References
 Family Pomacentridae 0 Recordings
 Climates: Tropical; Subtropical
 Waters: Marine

Abudedefduf saxatilis (Sergeant-major)
 Order Perciformes 2 References
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Abudedefduf vaigiensis (Indo-Pacific sergeant)
 Order Perciformes 1 Reference
 Family Pomacentridae 0 Recordings
 Climates: Tropical; Temperate; Subtropical
 Waters: Marine

INNOVATION.CA [How to Cite FishSounds](#)

The results can be also be sorted differently based on your needs.

FishSounds Learn More Search Profile

1185 Results Found (40 Pages) Scientific, A-Z Sort

Filter Results

Class

Order

Family

Scientific

Common

Regions

Climates

Waters

Sounds

Abramis brama (Freshwater bream)
 Order Cypriniformes 1 Reference
 Family Cyprinidae 0 Recordings
 Climates: Temperate; Subtropical; Boreal
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 Climates: Tropical; Subtropical
 Waters: Marine

Abudefduf saxatilis (Sergeant-major)
 Order Perciformes 2 References
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 Family Pomacentridae 0 Recordings
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Abudefduf vaigiensis (Indo-Pacific sergeant)
 Order Perciformes 1 Reference
 Family Pomacentridae 0 Recordings
 Climates: Tropical; Temperate; Subtropical
 Waters: Marine

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Once you have found a species you are interested in, you can click on it for more information.

The screenshot shows the FishSounds website interface. At the top, there is a blue header with the FishSounds logo on the left and three buttons: 'Learn More', 'Search', and 'Profile'. Below the header, there are three expandable tabs: 'Species Description', 'Sound Recordings (1 Entry)', and 'References (1 Entry)'. The main content area is currently empty. At the bottom, there is a footer with the 'INNOVATION.CA' logo, the text 'How to Cite FishSounds', a Creative Commons license icon, and a speaker icon.

This will take you to an overview of the information we have on the species, broken up into three drop-down tabs. Let's look at what we have for the streaked gurnard.

 **FishSounds** Learn More Search Profile

Species Description ▼



zibnyq, Erowid. CC BY-NC-SA 4.0, source: Nature361

[View Entry on FishBase Website](#)

<p>Class: Actinopterygii</p> <p>Order: Scorpaeniformes</p> <p>Family: Triglidae</p> <p>Genus: Chelidonichthys</p> <p>Species: lastoviza</p> <p>Climates: Tropical Temperate Subtropical</p> <p>Waters: Marine</p>	<p>Regions: Atlantic, Eastern Central Atlantic, Northeast Atlantic, Southeast Indian Ocean, Western Mediterranean And Black Sea</p>
--	--

Sound Recordings (1 Entry) ▲



References (1 Entry) ▲

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How to Cite FishSounds

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In the species description tab—which will be automatically open when you get to the species page—you will find various information on the species’ taxonomy and distribution, as listed on FishBase, with a link to its species page on FishBase.

The screenshot displays the FishSounds website interface. At the top, there is a navigation bar with the FishSounds logo, a search bar, and a profile dropdown. Below the navigation bar, the main content area is divided into sections. The first section is 'Species Description', followed by 'Sound Recordings (1 Entry)'. This section features a spectrogram of a sound recording, a play button, and a 'View Details' button. The spectrogram shows frequency in kHz on the y-axis (0 to 2) and time in seconds on the x-axis (0 to 15). The sound is identified as 'Growl' and is associated with the reference 'Amorim and Hawkins (2000)'. Below the spectrogram, there is a 'References (1 Entry)' section. The footer of the page includes the INNOVATION.CA logo, a 'How to Cite FishSounds' link, a Creative Commons Attribution-NonCommercial 4.0 International License logo, and a speaker icon.

In the sound recordings tab, you will find any recordings we have for the species along with associated references, a generated spectrogram image of the recording, and a link to additional details about the recording and the acoustic characteristics of the sound.

FishSounds Learn More Search Profile

Species Description ^

Sound Recordings (1 Entry) ^

References (1 Entry) v

Citation	Detection	Sound Types Detected	Examination Types
Amorim, M. C. P., Hawkins, A. D. 2000. Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard. <i>Journal of Fish Biology</i> , 57(4): 895-907.	<input checked="" type="checkbox"/> Species Identified <input checked="" type="checkbox"/> Sound Detected	<input checked="" type="checkbox"/> Active <input checked="" type="checkbox"/> Passive Feeding <input checked="" type="checkbox"/> Other Passive	<input checked="" type="checkbox"/> Physiological <input checked="" type="checkbox"/> Auditory <input checked="" type="checkbox"/> Visual

INNOVATION.CA FORUMS FOR INNOVATION | FORUMS FOR INNOVATION | FORUMS FOR INNOVATION

How to Cite FishSounds

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In the references tab, you can see any records in the literature where the species was studied specifically and some basic information that was reported in the reference. A question mark in one of these means that there was doubt or uncertainty reported by the authors about that data category. For example, if the authors only tentatively ID-ed the species that made the sound, then there would be a question mark next to "Species Identified" instead of a check mark.

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Highlights
 Ophidiid
 (Striped cusk-eel)
 Research Summaries
 Sound Recordings

Website Statistics
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How to Cite FishSounds

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In addition to searching by species, you can search through the literature by clicking on the “Research Summaries” search button at the top of every page.

FishSounds Learn More Search Profile

834 Results Found (28 Pages) 1 2 3 4 5 Last Added Sort

Filter Results

Title

Author

Year of Publication

Languages

Gray Literature Exclude Include

Fish Species

View All Search

Reference	Details
Courtenay, W. R. J. 1971. Sexual Dimorphism of the Sound Producing Mechanism of the Striped Cusk-Eel, <i>Rissola marginata</i> (Pisces: Ophidiidae). <i>Copeia</i> , 1971(2): 259-268.	1 Species Examined <i>Ophidion marginatum</i> (Striped cusk-ee)
Zhang, X., Guo, H., Zhang, S., Song, J. 2015. Sound Production in Marbled Rockfish (<i>Sebastes marmoratus</i>) and Implications for Fisheries. <i>Integrative Zoology</i> , 10(1): 152-158.	1 Species Examined <i>Sebastes marmoratus</i> (False kelpfish)
Zhang, X., Guo, H., Wang, Z., Pan, Y., Song, J. 2016. Noise-Dependent Fish Distribution in Kelp Beds. Effects of Noise on Aquatic Life II (A. N. Popper and A. Hawkins, eds.), 1259-1264. Springer, New York, NY.	1 Species Examined <i>Sebastes marmoratus</i> (False kelpfish)
Zhang, M., Shi, X., Huang, X., Li, W. 1987. [Marine Animal Noise Observed in Zhoushan Islands Waters]. <i>Journal of Oceanography in Taiwan Strait</i> , 6(2): 127-131.	8 Species Examined
Zhang, G., Takemura, A. 1989. [Acoustical Behavior of Brown Goby, <i>Bathygobius fuscus</i>]. <i>Nagasaki Daigaku Suisan Gakubu Kenkyu Hokoku</i> , 66: 21-30.	1 Species Examined <i>Bathygobius fuscus</i> (Dusky frillgoby)
Zeyl, J. N., Malavasi, S., Holt, D. E., Noel, P., Lugli, M., Johnston, C. E. 2016. Convergent Aspects of Acoustic Communication in Darters, Sculpins, and Gobies. <i>Fish Hearing and Bioacoustics</i> (J. A. Sisneros, ed.), 93-120. Springer, Cham, Switzerland.	14 Species Examined

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Here, you'll be able to search and sort all of the references that we have available on our website.

FishSounds Learn More Search Profile

834 Results Found (28 Pages) [Navigation icons] Last Added Sort


Filter Results

Title: Enter Value
 Author: Enter Value
 Year of Publication: 1874 2020
 Languages: Select Some Options
 Gray Literature: Exclude Include
 Fish Species: Enter Value
 View All Search

Reference	Details
Courtenay, W. R. J. 1971. Sexual Dimorphism of the Sound Producing Mechanism of the Striped Cusk-Eel, <i>Rissola marginata</i> (Pisces: Ophidiidae). <i>Copeia</i> , 1971(2): 259-268.	1 Species Examined <i>Ophidion marginatum</i> (Striped cusk-cc)
Zhang, X., Guo, H., Zhang, S., Song, J. 2015. Sound Production in Marbled Rockfish (<i>Sebastes marmoratus</i>) and Implications for Fisheries. <i>Integrative Zoology</i> , 10(1): 152-158.	1 Species Examined <i>Sebastes marmoratus</i> (False kelpfish)
Zhang, X., Guo, H., Wang, Z., Pan, Y., Song, J. 2016. Noise-Dependent Fish Distribution in Kelp Beds. Effects of Noise on Aquatic Life II (A. N. Popper and A. Hawkins, eds.), 1259-1264. Springer, New York, NY.	1 Species Examined <i>Sebastes marmoratus</i> (False kelpfish)
Zhang, M., Shi, X., Huang, X., Li, W. 1987. [Marine Animal Noise Observed in Zhoushan Islands Waters]. <i>Journal of Oceanography in Taiwan Strait</i> , 6(2): 127-131.	8 Species Examined
Zhang, G., Takemura, A. 1989. [Acoustical Behavior of Brown Goby, <i>Bathygobius fuscus</i>]. <i>Nagasaki Daigaku Suisan Gakubu Kenkyu Hokoku</i> , 66: 21-30.	1 Species Examined <i>Bathygobius fuscus</i> (Dusky frillgoby)
Zeyl, J. N., Malavasi, S., Holt, D. E., Noel, P., Lugli, M., Johnston, C. E. 2016. Convergent Aspects of Acoustic Communication in Darters, Sculpins, and Gobies. <i>Fish Hearing and Bioacoustics</i> (J. A. Sisneros, ed.), 93-120. Springer, Cham, Switzerland.	14 Species Examined

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If you click on one, then that will take you to more details about the reference and the examinations that were published in it.



FishSounds Learn More ▾ Search ▾ Profile ▾

Growling for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

Copy Reference

Authors: Amorim, M. C. P.
Hawkins, A. D.

Publication: Journal of Fish Biology

Year: 2000

Volume: 57

Issue: 4

Pages: 895-907

DOI: 10.1111/j.1095-8649.2000.tb02200.x

ISSN: 0022-1112

Language: English

Associated Recordings

Select an Option ▾

[View](#)

Chelidonichthys lastoviza (Streaked gurnard)

Description

Detection

- Species Identified
- Sound Detected

Examination Types

- Physiological
- Auditory
- Visual

Sound Types Detected

- Active
- Passive Feeding
- Other Passive

Additional Details

[View Descriptive Quotes](#)

Observation Environments

- Captivity

Behaviour Descriptions


- Aggression/Antagonistic (tentative)
- Competitive Feeding

Sound Names

- Pulse
- Drum
- Growl


Included Diagrams

- Spectrogram
- Oscillogram
- Table




FORWARD THE RESEARCH FOR INNOVATION | FOSTER GREAT COLLABORATION FOR INNOVATION

How to Cite FishSounds



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Here is the reference details for this wonderfully titled journal article on the streaked gurnard.

FishSounds Learn More Search Profile

Growling for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

Chelidonichthys lastoviza (Streaked gurnard)

Copy Reference

Authors: Amorim, M. C. P.
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Associated Recordings

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On the left, there is all of the citation information of that reference that was available as well as a button to copy the information.

FishSounds Learn More Search Profile

Growling for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

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[View](#)

Description

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- Sound Detected

Examination Types

- Physiological
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Observation Environments

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Sound Names

Pulse

Drum

Growl

Included Diagrams

Spectrogram

Oscillogram

Table

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Here is all of the basic information that was available on the streaked gurnard species page.

FishSounds Learn More Search Profile

Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

Chelidonichthys lastoviza (Streaked gurnard)

Copy Reference

Authors: Amorim, M. C. P.
Hawkins, A. D.
Publication: Journal of Fish Biology
Year: 2000
Volume: 57
Issue: 4
Pages: 895-907
DOI: 10.1111/j.1095-8649.2000.tb02200.x
ISSN: 0022-1112
Language: English

Associated Recordings

Select an Option

[View](#)

Description

Detection

- Species Identified
- Sound Detected

Examination Types

- Physiological
- Auditory
- Visual

Sound Types Detected

- Active
- Passive Feeding
- Other Passive

Additional Details

[View Descriptive Quotes](#)

Observation Environments

- Captivity

Behaviour Descriptions

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Sound Names

- Pulse
- Drum
- Growl

Included Diagrams

- Spectrogram
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- Table

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Then, when available, there will also be additional information on the sound production reported in the reference.

FishSounds Learn More Search Profile

Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

Chelidonichthys lastoviza (Streaked gurnard)

Copy Reference

Authors: Amorim, M. C. P.
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Select an Option

[View](#)

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Included Diagrams

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- Table

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You can also view what recordings might be associated with the reference when applicable.

FishSounds Learn More Search Profile

Welcome!
 Welcome to the FishSounds website! We offer a comprehensive, global inventory of fish sound production research. Information can be searched by fish taxa, by sound characteristics, or by reference. Learn more about us and our data in the [About Us](#) section!

We are still growing! If you would like to suggest an edit or contribute a reference or associated fish sound recording, please [contact us](#).

Check out [Discovery of Sound in the Sea](#) to learn more about underwater sounds and [FishBase](#) to learn more about specific fish species.

Need some help?
 Visit the [About Our Data](#) section for an explanation of where the data comes from and definitions of terms used throughout the site.

We encourage users to cite our website in your work! Please review our instructions on [how to cite](#) for information on referencing the website in general, as well as specific recordings and research. Also review the license information accompanying images and recordings for clarification on their reuse.

Highlighted
 Ophidic
 (Striped cusk-eel)

Website Statistics

- Number of Species Observed: 1185
- Number of Sound Recordings: 240
- Number of References: 837
- Last Data Update: 2021/09/30
- Latest Fish Observed: *Prochilodus argenteus*
- Latest Recording: *Megalops atlanticus* - Grunt Thump

INNOVATION.CA
 CANADA'S LEADING INNOVATION HUB FOR IMMIGRANTS AND ENTREPRENEURS

How to Cite FishSounds

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Finally, in addition to searching by species and research summary, you can search through the recordings by clicking on the “Sound Recordings” search button at the top of every page.

The screenshot displays the FishSounds website interface. At the top left is the FishSounds logo. To the right are navigation links: "Learn More", "Search", and "Profile". Below the header is a "Filter Results" sidebar on the left with fields for "Sound Names", "Fish Scientific", "Fish Common", "Fish Regions", and "Related Author", along with toggle switches for "Must Have Spectrogram" and "Must Have Measurements". The main content area shows "240 Results Found (24 Pages)" with a pagination control and a "Sort" dropdown. Three spectrograms are displayed, each with a "View Details" button. The first spectrogram shows frequency (0 to 1 kHz) over time (0 to 2 seconds). The second shows frequency (0 to 1 kHz) over time (0 to 0.28 seconds). The third shows frequency (0 to 1.5 kHz) over time (0 to 0.28 seconds). Below the spectrograms is the footer with "INNOVATION.CA" logo, "How to Cite FishSounds" link, Creative Commons license icons, and a speaker icon.

Here, you'll be able to search and sort recordings that we have available on our website.

The screenshot displays the FishSounds website interface. At the top left is the FishSounds logo. To the right are navigation buttons for 'Learn More', 'Search', and 'Profile'. Below the header is a 'Filter Results' sidebar on the left with fields for 'Sound Names', 'Fish Scientific', 'Fish Common', 'Fish Regions', and 'Related Author', along with toggle switches for 'Must Have Spectrogram' and 'Must Have Measurements'. The main content area shows '240 Results Found (24 Pages)' with a pagination control and a 'Sort' dropdown. Three spectrograms are displayed, each with a 'View Details' button. The top spectrogram is highlighted with a pink border. The bottom spectrogram is labeled '2Hz' on the y-axis. The footer contains the 'INNOVATION.CA' logo, a 'How to Cite FishSounds' link, a Creative Commons license icon, and a speaker icon.

Where possible, we will provide a spectrogram of the recording, though we do not have permission to do so for every recording and it may also take us extra time to create one after a recording has been donated to us.

The screenshot displays the FishSounds website interface. At the top left is the FishSounds logo. To the right are navigation buttons for 'Learn More', 'Search', and 'Profile'. Below the header is a 'Filter Results' sidebar on the left with fields for 'Sound Names', 'Fish Scientific', 'Fish Common', 'Fish Regions', and 'Related Author', along with toggle switches for 'Must Have Spectrogram' and 'Must Have Measurements'. The main content area shows '240 Results Found (24 Pages)' with a pagination control and a 'Sort' dropdown. Three spectrograms are displayed, each with a 'View Details' button and a play button icon. The top spectrogram has a red box around its play button. The spectrograms show frequency (kHz) on the y-axis and time (s) on the x-axis. The bottom spectrogram has a y-axis labeled 'Hz' ranging from 0 to 1.5. At the bottom of the page, there is a footer with 'INNOVATION.CA' logo, 'How to Cite FishSounds' text, a Creative Commons license icon, and a speaker icon.

You can listen to the recordings provided by clicking on the play button.

The screenshot displays the FishSounds website interface. At the top left is the FishSounds logo. To the right are navigation buttons for 'Learn More', 'Search', and 'Profile'. Below the header is a 'Filter Results' sidebar on the left with fields for 'Sound Names', 'Fish Scientific', 'Fish Common', 'Fish Regions', and 'Related Author', along with toggle switches for 'Must Have Spectrogram' and 'Must Have Measurements'. The main content area shows '240 Results Found (24 Pages)' with a pagination control. Three spectrograms are displayed, each with a 'View Details' button. The first spectrogram has a 'View Details' button highlighted with a red box. The details for the first sound include: Description: Unknown (Unknown), Sound Name: Unnamed, and Citable References: Carriço et al. (2019). The bottom of the page features the 'INNOVATION.CA' logo, a 'How to Cite FishSounds' link, a Creative Commons license icon, and a speaker icon.

Clicking on the view details button will take you to a page with additional details on the sound produced by the species.

FishSounds Learn More Search Profile

Recording
 Description: *Chelidonichthys lastoviza* (Streaked gurnard)
 Sound Name: Growl

Citable References
 Amorim and Hawkins (2000)
[Copy Recording Citations](#)

Related Measurements
 These are sets of aggregate measurements which included either this specific recording or very similar recordings as part of the sample. Click between tabs (if present) to view measurements from different publications. Hover over underlined measurements to see additional notes or clarifications.

Amorim and Hawkins (2000)

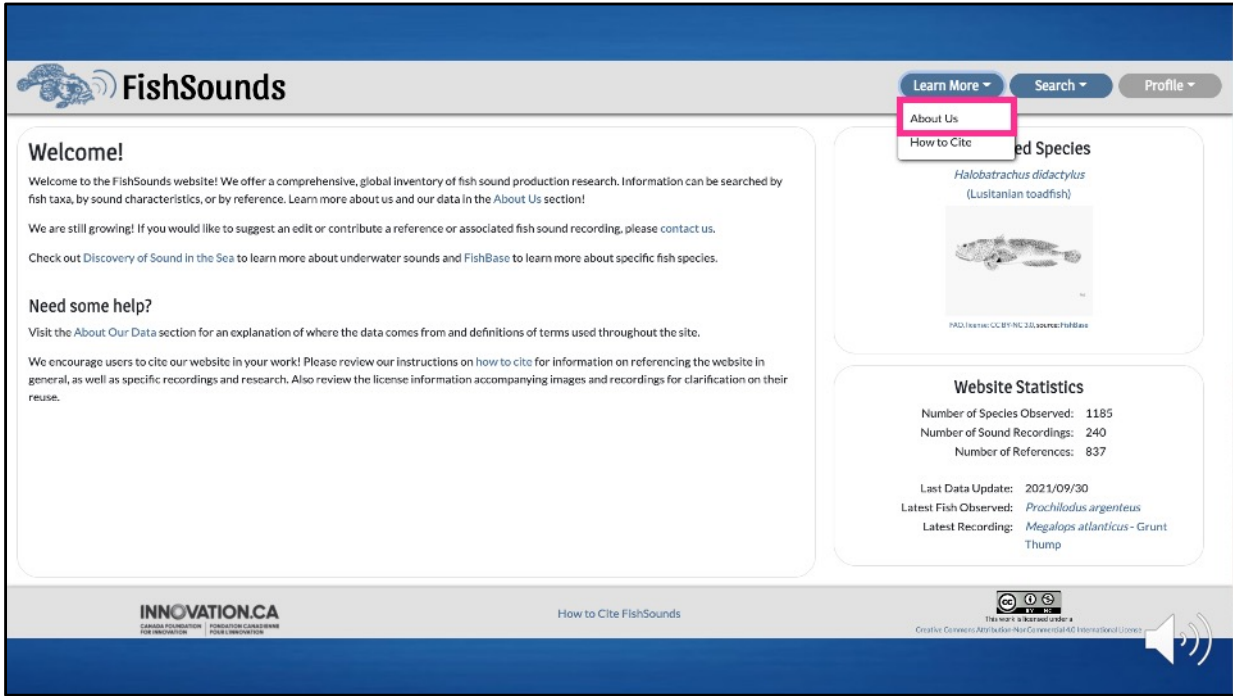
Measurement	Cite Measurements					n
	Min.	Mean	Max.	Error	Error Type	
Sound duration (ms)	52.9	1069	3149.9	775.6	SD	41
Pulse duration (ms)	2.9	4.7	7	0.6	SD	372
Total number of pulses	30	100.7	188	54.5	SD	9

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 CANADA'S PREMIER FISH RESEARCH ORGANIZATION | FISH RESEARCH CHALLENGER FUND | LINKS AND CONTACT

How to Cite FishSounds

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Here's the Recording page for the growl of the streaked gurnard. The recording can be seen as a representative example of the sound produced. When possible, we will also provide acoustic measurements taken as part of studies documenting the type of fish sound to aid in identification. The acoustic characteristics will usually be measured from multiple sounds, depending on the study, and are not solely the acoustic characteristics of the recording provided.



Please also be sure to check out our About Us page, found under the “Learn More” button at the top of every page.

FishSounds Learn More Search Profile

About Us

FishSounds presents a compilation of acoustic recordings and published information on sound production across all extant fish species globally. We hope this information can be used to advance research into fish behavior, passive acoustic monitoring, and human impacts on underwater soundscapes as well as serve as a public resource for anyone interested in learning more about fish sounds.

Our next major data update will be in January 2022 to update the base dataset of references and examined species to include anything published in the year 2021 and any additional references we have discovered from prior years.

We have also started planning Phase 2 of the website, which will be focused on creating a form system to input data and accept recording donations as well as incorporating a website plugin to automatically generate spectrograms and oscillograms from recordings. The form system and plugin will vastly improve the ease and speed with which we can update the website with new information or recordings. For Phase 3, we hope to incorporate more interactive features into the website, such as an interactable fish taxonomic tree and world map for search functions.

We are also planning to publish a scientific article detailing the website, its functions, and potential applications similar to other website or research tool efforts.

Who We Are

This work is the product of an international collaboration between researchers and developers from five organizations. We have taken a cross-disciplinary approach, combining expertise in fish ecology, bioacoustics, and data management to produce a website that we hope will serve the wider marine research community.

On the About Us page, you can find more information about our team, data, publications, and other contributors.

FishSounds Learn More Search Profile

About Our Data

Our dataset includes information published up until December 31, 2020 in peer-reviewed articles, reports, conference proceedings, books, theses, and dissertations, among other materials. Our fish sounds information was collected using systematized methodology, with in-depth descriptions of our data collection methods available through Dataverse. Sound recordings were acquired through generous donations from researchers. Definitions of the terms used on the website can be found in the table below.

Data Definitions

Search for term...

Type	Term	Definition
General Definition	Active sounds	active sounds, often referred to as intentional sounds, are commonly defined as being produced deliberately in association with a particular behavior or situation, frequently with specialized sonic organs or structures, and are generally used for communication; the definitions of active and passive sounds are fluid; the data collected were based on the reviewer's interpretation of the authors' determinations
General Definition	Passive sounds	passive sounds, sometimes referred to as incidental sounds, may not be associated with specialized sound-producing physiological structures nor with specific behaviors or situations, though they may still serve some signal function ;

All the fish sounds data that is published on the website can be accessed in the form of Excel spreadsheets and individual sound files in Dataverse. Picture files can be located at their original source based on the attribution information and URL links provided near each image or in the Excel spreadsheet in Dataverse. Information on the fish species provided by FishBase can be found on their website or through their R package, rfishbase.

How to Cite FishSounds

Further down the About Us page, you will find a table of various definitions for terms we use on the website.

FishSounds Learn More Search Profile

About Our Data

Our dataset includes information published up until December 31, 2020 in peer-reviewed articles, reports, conference proceedings, books, theses, and dissertations, among other materials. Our fish sounds information was collected using systematized methodology, with in-depth descriptions of our data collection methods available through Dataverse. Sound recordings were acquired through generous donations from researchers. Definitions of the terms used on the website can be found in the table below.

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INNOVATION.CA How to Cite FishSounds

We also provide a link to our Dataverse permanent data repository where all the versions of our dataset and more detailed data collection methodology can be found.

FishSounds

Learn More Search Profile

Welcome!

Welcome to the FishSounds website! We offer a comprehensive, global inventory of fish sound production research. Information can be searched by fish taxa, by sound characteristics, or by reference. Learn more about us and our data in the About Us section!

We are still growing! If you would like to suggest an edit or contribute a reference or associated fish sound recording, please [contact us](#).

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Featured Species

Halobatrachus didactylus
(Lusitanian toadfish)

Website Statistics

- Number of Species Observed: 1185
- Number of Sound Recordings: 240
- Number of References: 837

Last Data Update: 2021/09/30
 Latest Fish Observed: *Prochilodus argenteus*
 Latest Recording: *Megalops atlanticus* - Grunt Thump

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How to Cite FishSounds

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Proper citing of any of the information included on the website is very important to us, so at the bottom of any page or under the "Learn More" button, you will find a link to a How to Cite page.

FishSounds Learn More Search Profile

Citing FishSounds Data


Last updated: 2019-12-31

This website combines information from several sources, in addition to providing its own metadata. Be sure to cite both the website itself, and the appropriate original source of the information as outlined below.

Disclaimer: FishSounds presents information as accurately as possible, but errors and omissions may still exist, and we cannot be held responsible for any that may arise. Please contact us if you notice any potential issues so that they may be corrected.

Copyright

The website itself and all audio recordings it hosts are subject to following the copyright:


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See the Images section below for copyright information specific to images.



General Website

FishSounds itself should be cited for any information taken from the website with the citation below.

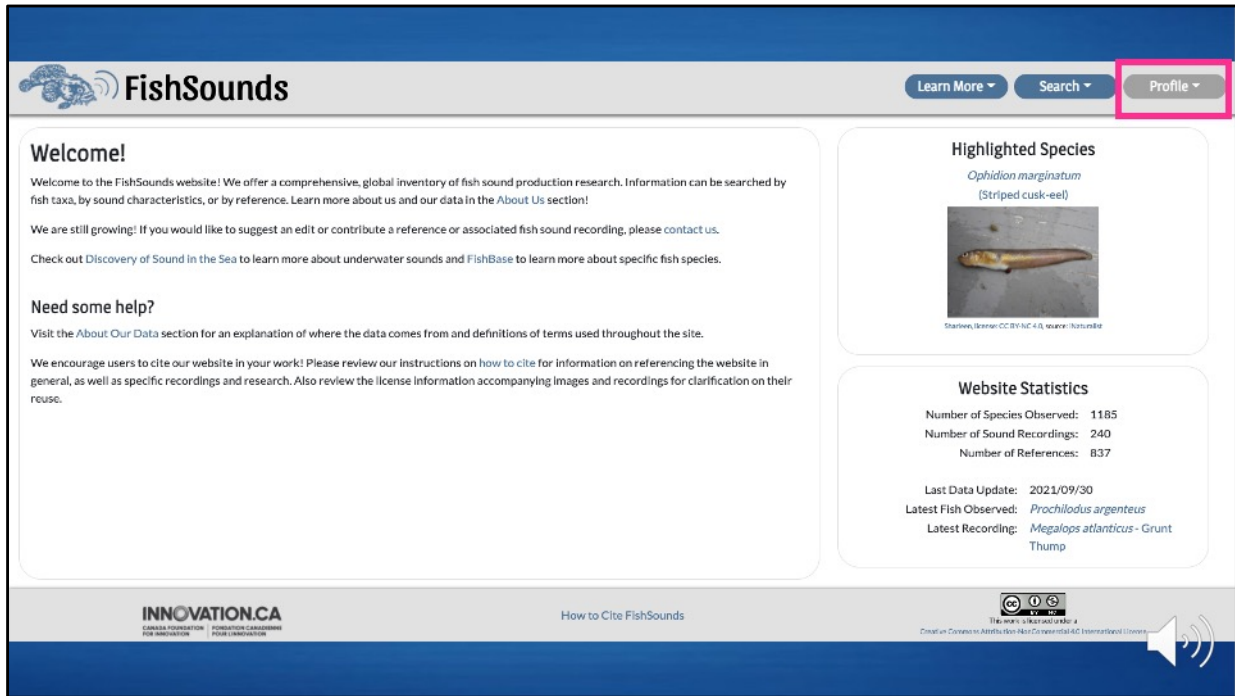
Looby A, Riera A, Vela S, Cox K, Bravo S, Rountree R, Juanes F, Reynolds LK, Martin CW (2021) FishSounds. <http://www.fishsounds.net>, version 1.0. Accessed on October 4, 2021.

Species Description Information

Cite FishBase for any information about the fish species (e.g., taxon distribution) following the directions on their homepage as well as the Benthic and Pelagic FishBase that use

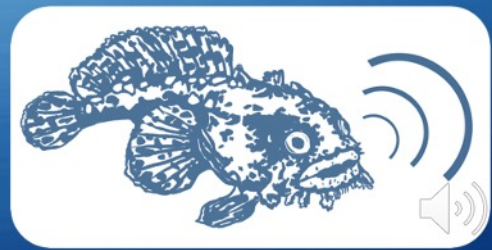
INNOVATION.CA SCIENCE INNOVATION FOR SUSTAINABILITY | FOSTERING CANADIAN POLICE INNOVATION How to Cite FishSounds  

Here you will find instructions on how to cite the different types of information available on the website.



Finally, we are already beginning work on the next version, or phase 2, of our website where users will be able to create profiles and submit data or recordings through a form system. We're hoping to have this completed by the summer of 2022. For now, though, this "Profile" button at the top of every page is just a non-functional placeholder while we work on that profile and form system.

Please contact us at:
fishsoundscontact@gmail.com



And that concludes our brief tour of the FishSounds website. We will be continually working to improve and update the website and our data offerings, so if you have any questions, suggestions, or would like to donate fish sound recordings to our library, please feel free to contact us at fishsoundscontact@gmail.com. We truly hope you will find our website helpful for your fish-sound-related endeavors!