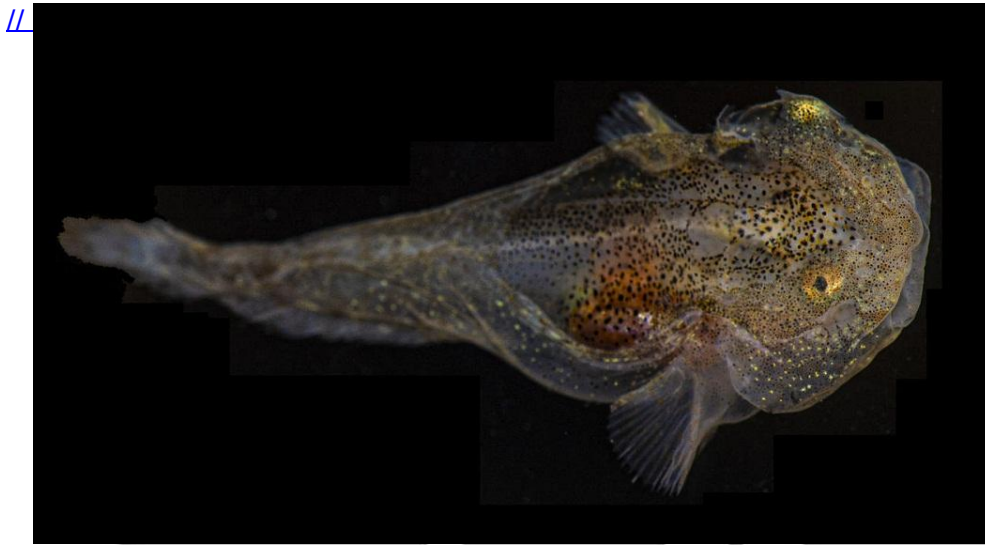




# Snailfish to Survive Sub-Zero Temperatures

## Why in News?

Recently, a study has found a **Snailfish** that lives in an [iceberg habitat in Greenland](#) can survive in icy Arctic waters due to the presence of antifreeze proteins in its bloodstream.



## What are Snailfish?

### ▪ About:

- The name **snailfish** can refer to any of the more than 400 species found in the family Liparidae.
- Sometimes they're also called **sea snails**—not to be confused with gastropod sea snails (which are the animals).
- The Snailfish releases **biofluorescence, which allows it to glow green and red in the dark arctic waters.**
  - Snailfish is the only polar fish reported to have biofluorescence.
  - Biofluorescence is the ability of an organism to convert blue light into green, red, or yellow light.
    - It is rarely found in Arctic fish due to prolonged periods of darkness in the region.

### ▪ Habitat:

- They are found all over the world, including in [Antarctica](#).
- Although they're found in shallow waters, the deep-sea species are the ones that stand out.

## What are the Key highlights of the Study?

- Snailfish found on an iceberg habitat in Greenland can survive in icy Arctic waters due to the presence of 'antifreeze' proteins in their bloodstream.
  - Further, scientists also discovered the most highly expressed genes were related to

**antifreeze proteins.**

- This extraordinary feature, which is rare among sea organisms, allows snailfish to prevent ice crystals from accumulating in their cells and body fluid.
- The **climate change** could affect its survivability, as with rising ocean temperature icebergs would melt at a faster rate.
- The increase **biodiversity** that warmer waters bring to higher latitudes can increase competition, thereby jeopardizing its position in the food chain.
- The findings demonstrate how marine life can sustain in sub-zero temperatures using their unique **adaptation** mechanisms.

**UPSC Civil Services Examination Previous Year Question (PYQ)**

**Prelims**

**Q. Which one of the following is a filter feeder?**

- (a) Catfish
- (b) Octopus
- (c) Oyster
- (d) Pelican

**Ans: (c)**

**Exp:**

- **Filter feeders are a subdivision of suspension-feeding entities which feed by straining suspended matter and food particles from water**, bypassing the water over a specialized filtering structure. Filter feeders are known to mitigate diseases by removing pathogens.
- Some animals that use this method of feeding are clams, krill, sponges, oysters, baleen whales, and many fish (including some sharks). Some birds, such as flamingos and certain species of duck, are also filter feeders. **Therefore, option (c) is the correct answer.**

**Source: DTE**

PDF Reference URL: <https://www.drishtias.com/printpdf/snailfish-to-survive-sub-zero-temperatures>