Snail Fish that can survive Sub-zero temperature

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In news– **A study has revealed that Snailfish found in an iceberg habitat in Greenland can survive in icy Arctic waters** due to the presence of '**antifreeze' proteins** in its bloodstream.

Key findings-

- Museum researchers diving in the icy waters surrounding Greenland in 2019 discovered the small fish glowing in green and red.
- They were initially attracted to its **biofluorescence, which allows it to glow green and red in the dark Arctic waters**.
- **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.
- **Snailfish is the only polar fish reported to have biofluorescence**.
- Upon further investigation of the biofluorescent properties of snailfish, the researchers **discovered the presence of 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.
- **Antifreeze proteins (AFPs) are specific proteins, glycopeptides, and peptides** made by different organisms to allow cells to survive in sub-zero conditions.
- **AFPs function by reducing the water's freezing point and avoiding ice crystals'** growth in the frozen stage.
- Fish cannot survive being partially frozen, unlike certain other reptile and insect species.

- The findings demonstrate how marine life can sustain in sub-zero temperatures using their unique adaptation mechanisms.

About Snailfish-

- The Liparidae, commonly known as snailfish or sea snails, **are a family of marine scorpaeniformes fishes.**
- **It is widely distributed from the Arctic to Antarctic Oceans,** including the oceans in between.
- The snailfish family contains more than 30 genera and about 410 described species, but there are also many undescribed species.
- They are closely related to the sculpins (family Cottidae) and lumpfish (family Cyclopteridae).