

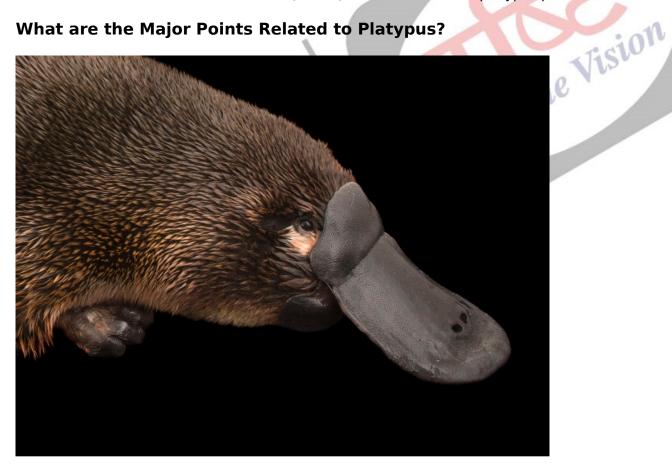
Platypus

Source: DTE

Why in News?

- Recent research sheds light on a troubling situation related to water-dwelling animal, Platypuses (Ornithorhynchus anatinus), following the 2019-20 Black Summer bushfires in eastern Australia.
- Despite their aquatic habitat, platypus populations are dwindling in the post-fire environment. This study delves into the implications for the conservation of these unique creatures. Environmental DNA (eDNA) was used to detect platypus presence in the study.

What are the Major Points Related to Platypus?



About:

- Platypuses are unique to Australia. Its streamline body and a broad, flat tail are covered with dense waterproof fur, which provides excellent thermal insulation.
 - They possess webbed feet for swimming and **electroreceptors** in their bills to find food in rivers and streams.
- Along with **echidnas**, Platypuses are grouped in a separate order of mammals known as monotremes, which are distinguished from all other mammals because they lay

eggs.

- Also, **males have a venomous spur** on their ankles, a unique feature among mammals, that they primarily used during the breeding season.
- While not **lethal**, the venom can cause severe pain and swelling in humans.

Habitat and Distribution:

- Platypuses inhabit **freshwater systems** across a wide range of Australian landscapes.
- They can be found in **tropical rainforest lowlands**, plateaus of northern Queensland,
- and even cold, high-altitude regions like Tasmania and the Australian Alps.

Seasonality and Behavior:

- Platypuses are active year-round, with a preference for twilight and nighttime activity.
- Platypuses spend much of their time in **burrows along riverbanks** or in rocky crevices and stream debris.

Feeding Habits:

- Platypuses primarily feed at night on a wide variety of aquatic invertebrates.
- They feed on insect larvae, shrimps, swimming beetles, water bugs, tadpoles, worms, and more.
- Larger prey is taken individually and consumed after floating on the water surface.
- Predators and Threats:
 - Predators include crocodiles, goannas, carpet pythons, eagles, and large native fish.
 - Land-based predators like **foxes, dogs, and dingoes** may pose a threat.
 - Ectoparasites, tick species, and fungal infections can also affect platypuses.
- Conservation Status:
 - IUCN Red List: Near Threatened.

What is Environmental DNA?

- DNA, short for <u>deoxyribonucleic acid</u>, is the hereditary material in organisms that contains the biological instructions for building and maintaining them.
 - Environmental DNA (eDNA) is nuclear or mitochondrial DNA that is released from an organism into the environment.
 - Sources of eDNA include secreted feces, mucous, and gametes, shed skin and hair.
- In aquatic environments, eDNA is diluted and distributed by currents and other hydrological processes, but it only lasts about 7–21 days, depending on environmental conditions.

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