



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?

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▪ 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 use 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 **deoxyribonucleic acid**, 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.