Fossilised dinosaur eggs found in Narmada valley

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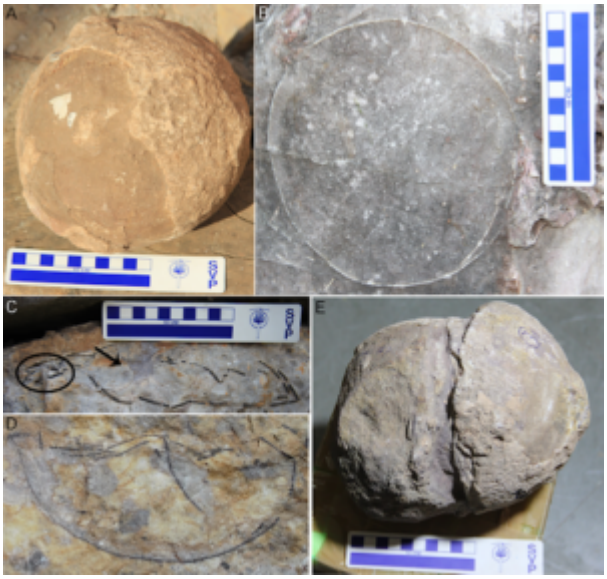
In news– A group of Indian researchers found rare cases of fossilised dinosaur eggs, an egg within an egg among 256 newly discovered eggs from the Narmada Valley.

Key findings-

- The discovery suggests that **Titanosaurs – one of the largest dinosaurs to have roamed the Earth – displayed a notable reproductive trait unique to modern-day birds.**
- The unique feature of **egg within the egg** has not been reported from any other dinosaur or even in other reptiles,
- **The egg has two yolks; this feature can be seen in birds**, suggesting they share similar reproductive traits.
- **The team discovered 92 nesting sites containing 265 fossilised eggs** measuring 15-17 centimetres in diameter **during field investigations in the Dhar district of Madhya Pradesh between 2017 and 2020.**
- The fossils were from the **Late Cretaceous period.**
- **This region falls between the easternmost Lameta exposures at Jabalpur in the upper Narmada Valley** (central India) and **Balasinor in the west in the lower Narmada Valley** (western central India).



- **Lameta exposure is a sedimentary rock formation known for its dinosaur fossils**. These sedimentary rocks are mostly exposed along the Narmada Valley.
- **The fossil records here are largely concealed by Deccan volcanic flows,** which prevents their removal by erosion.
- **The eggs belonged to six species, suggesting a higher diversity of these extinct giants in India.** Further, Titanosaurs buried their eggs in shallow pits, a behaviour seen in modern-day crocodiles.
- **They nested in colonies, a feature found in about 13 percent of modern-day birds.** They also laid eggs in sequential order like avian species.
- **Parental care was likely absent as the eggs were laid too close to each other.** The spacing did not provide room for adults, suggesting that hatchlings were forced to fend for themselves.
- However, the egg-in-egg feature did not benefit the dinosaurs. The pore canals get blocked due to the presence of two eggshell layers, one above the other. This could asphyxiate the embryo.
- **Among the fossils, the team also found unhatched eggs**. Infertility, embryo death before hatching and deep burial could have contributed to their death. Environmental factors such as floods could also be involved.

- Fossilised eggs provide clues on reproductive biology, nesting behaviour and parental care.
- Moreover, stable isotope studies of eggshells can help us understand the diet and the type of water consumed and the environment in which the eggs were deposited.