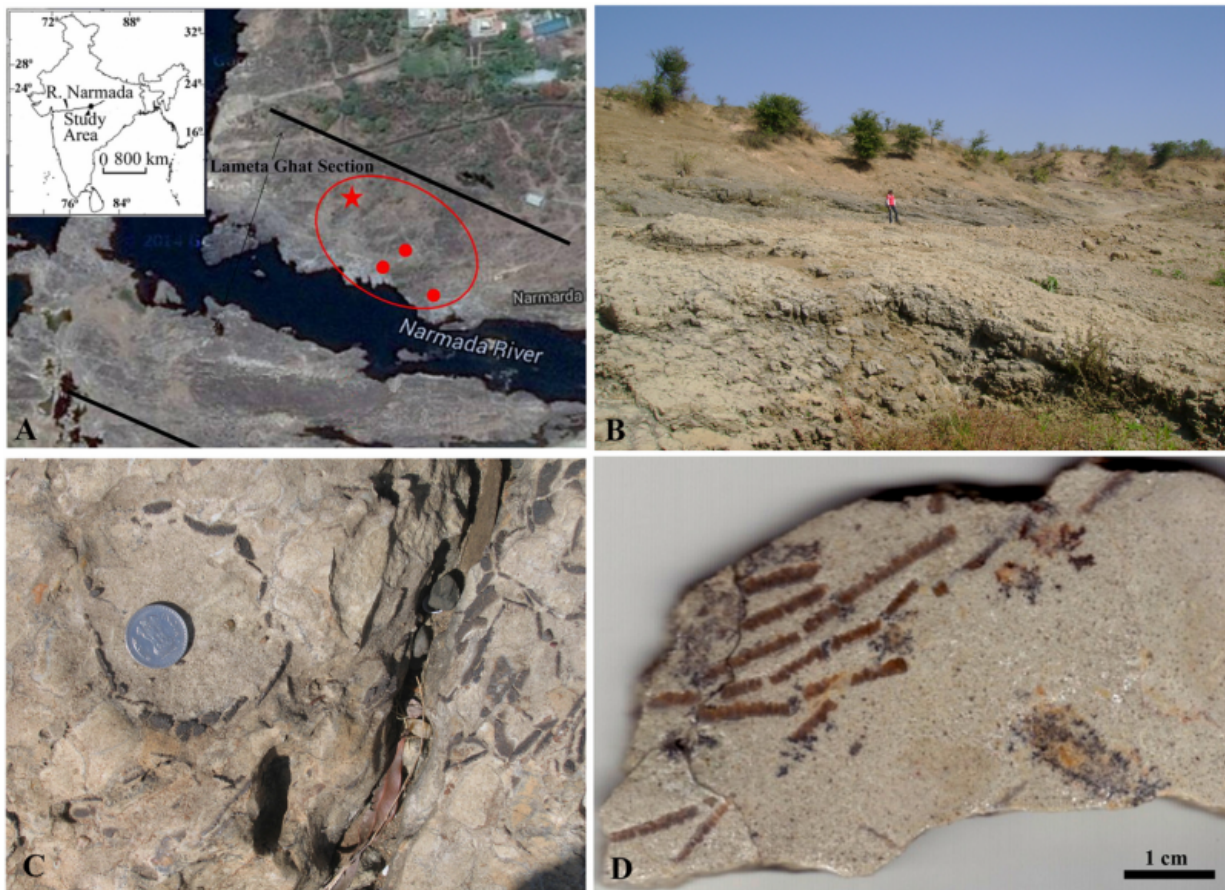


Sneaky crocodiles occupied sauropod hatcheries

January 21 2016, by Jon Tennant



Nesting site and some of the fossilised eggs. Credit: Srivastava et al. 2015

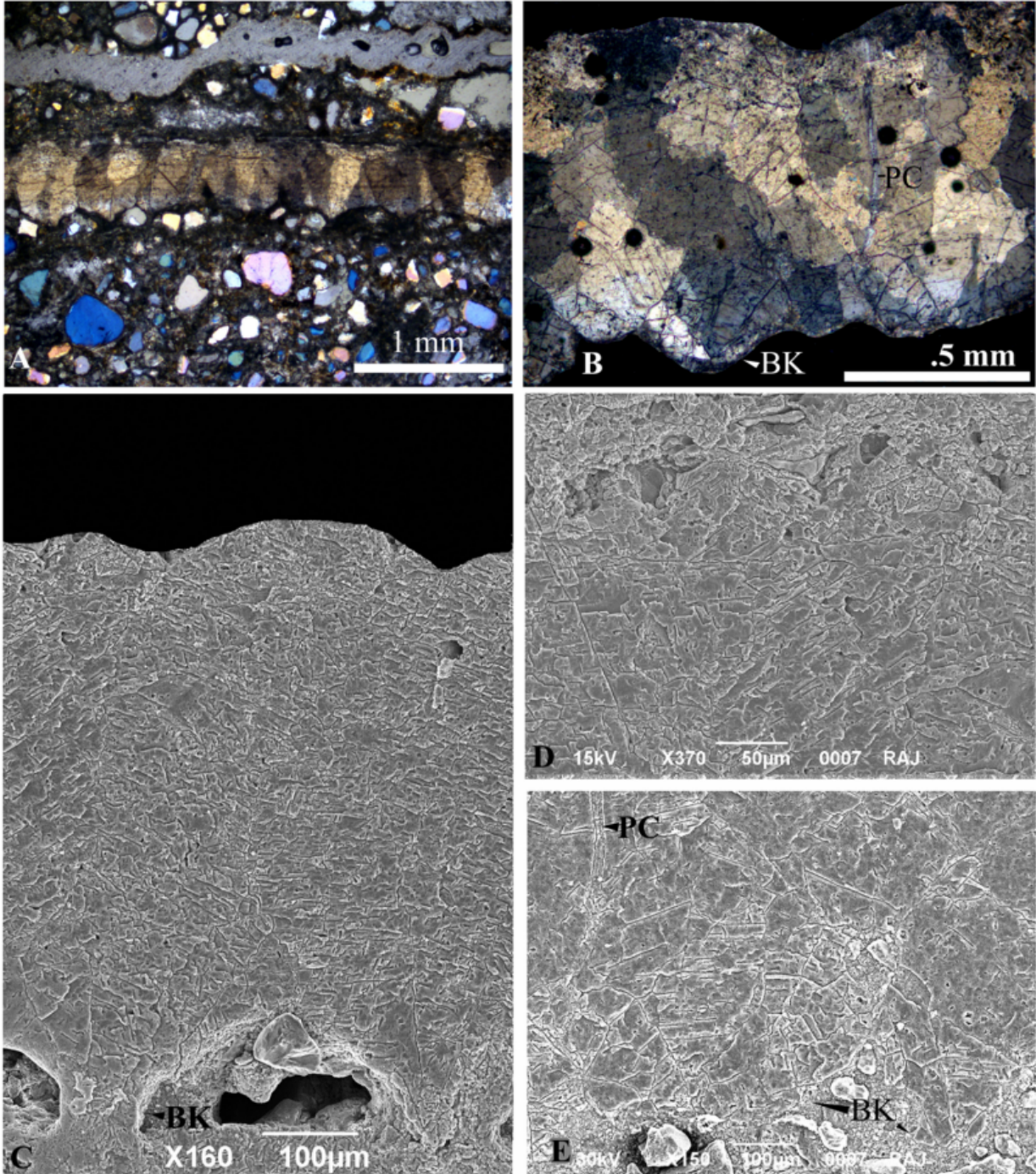
The nesting grounds of sauropod dinosaurs were absolutely astonishing, covering hundreds of square miles in cases, forming vast playgrounds to

rear their young. Some of the most exquisitely preserved sauropod hatcheries are from Jabalpur in India, and offer a unique window into investigating the reproductive and parental behaviour of these magnificent giants.

Recently, researchers have revisited old discoveries, and uncovered a mysterious stranger among the sauropod nesting sites from the Cretaceous Lameta Ghat locality.

At a superficial level, the eggs of reptiles might all appear to be quite similar to each other. However, we can actually gain a lot of insight from detailed examination of their chemistry and ultrastructure, and scientists now know that different groups of reptiles have very different egg types.

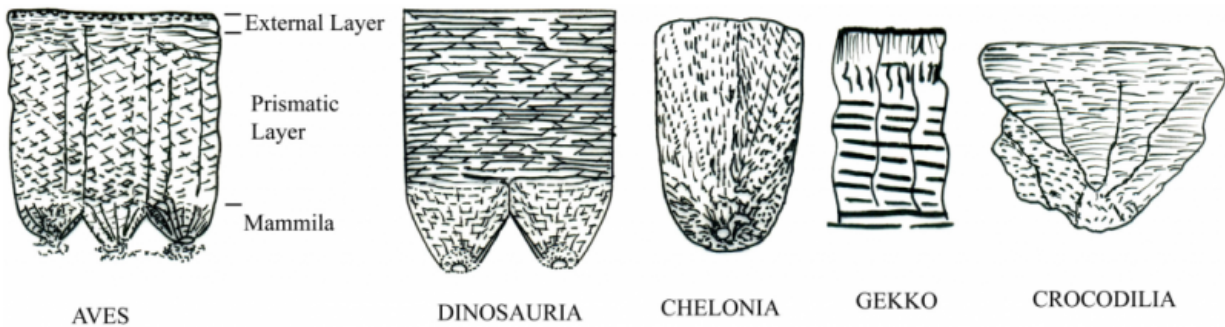
In 2013, fossilised eggs were reported from the Lameta Ghat nesting site. The eggshells were originally thought to belong to a large fossilised lizard. However, reanalysis of them shows that they more likely come from a crocodylomorph – the ancestors of modern crocodilians. This is based on several delicate details of the eggshell, including a sub-spherical to ellipsoid shape, a smooth and uneven external surface texture, and distinctly shaped shell units typically found in crocodilian eggs.



Sections of the crocodylomorph eggs, including under-crossed polars to give some funky colours! Credit: Srivastava et al. 2015

The eggshells might have belonged to dyrosaurid crocodyliforms. These are typically regarded as having lived out to sea, but like modern saltwater crocodiles, might have been able to come out onto land for short spells. Dyrosaurids were quite common in South-East Asia towards the closing of the Cretaceous, and even survived the mass extinction that saw the demise of the non-avian dinosaurs. The nesting site is fossilised in rocks that represent an ancient estuarine environment, not too far from the shoreline, so perhaps young dyrosaurids were born on land, taking to the waters only at a later age when they had levelled up their swimming abilities.

Fossilised crocodile nests are remarkably rare in the fossil record, with only around 20 known to date. What this new finding tells us is that sauropod hatchery sites were also used by other large reptiles, including crocodylomorphs, for laying their eggs. How cool is that?



Different types of reptilian eggs in cross section. Credit: Srivastava et al. 2015

More information: Rahul Srivastava et al. Crocodylian Nest in a Late Cretaceous Sauropod Hatchery from the Type Lameta Ghat Locality, Jabalpur, India, *PLOS ONE* (2015). [DOI: 10.1371/journal.pone.0144369](https://doi.org/10.1371/journal.pone.0144369)

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