

indicate that it is an *inprincipio* impossibility.

Let us generously sidestep the overwhelming unlikelihood of ever being able to reconstruct from small fragments (without knowing what the original sequence was) a full dinosaur genome. Say we had a full set of *T. rex* genes — what then?

As pointed out in a recent insightful paper,² organisms are much more than their DNA code. The biological context in which the DNA message is deciphered is crucial. We inherit more from our parents than two sets of DNA — we also inherit a functioning cellular architecture via the maternal egg cell, which exerts a great deal of control over early embryonic development.

Experimental evidence indicates conclusively that even if one had the perfectly preserved genome of a mammoth and replaced the nucleus of an African

elephant egg with it, the result would be African elephants, not mammoths.³ The bottom line is that '*dinosaur DNA does not describe a dinosaur, it prescribes a dinosaur, within the context of another dinosaur. So to reconstruct Baby Dinosaur, all you need is Mommy Dinosaur. Tough.*'⁴

REFERENCES AND FOOTNOTES

1. Archer, M., 1994. Lazarus lizards and undead dinos. *Australian Natural History*, 24(8):60-61.
2. Cohen, J. and Stewart, I., 1994. Our genes aren't us. *Discover*, 15(4):78-84. Cohen is a senior visiting research fellow (biology) at the University of Warwick (England), where Stewart is Professor of Mathematics.
3. Mammoths and modern elephants are/were almost certainly descendants of the same created kind; mammoth DNA differs from elephants only slightly, being roughly an equal distance from that of both African and Indian elephants. We are not suggesting that, for example, wolf DNA substituted for the nucleus of an elephant

egg would give rise to elephants, or indeed, anything viable.

4. Cohen and Stewart, Ref. 2, p. 84.



A female mosquito in Caribbean amber — source of *Jurassic Park's* fictional dino DNA (photo: Dr Joachim Scheven)

QUOTABLE QUOTE: The Role of Bias in Science

'But I would also reject any claim that personal preference, the root of aesthetic judgment, does not play a key role in science. True, the world is indifferent to our hopes —and fire burns whether we like it or not. But our ways of learning about the world are strongly influenced by the social preconceptions and biased modes of thinking that each scientist must apply to any problem. The stereotype of a fully rational and objective "scientific method", with individual scientists as logical (and interchangeable) robots, is self-serving mythology.'

— Gould, S. J., 1994. In the mind of the beholder. *Natural History*, 103(2), p. 15.

QUOTABLE QUOTE: The Origin of the Genetic Code

'So it is disappointing, but not surprising, that the origin of the genetic code is still as obscure as the origin of life itself.'

— Maddox, J., 1994. The genetic code by numbers. *Nature*, 367, p. 111.