

## Eureka! Dinos hand off to birds

by Scott\_LaFee

Almost 200 million years ago, a theropod tromping across a muddy lake-shore in what is now part of Utah stopped and briefly sat down to rest, leaving behind tracks that indicate at least some dinosaur species became birdlike far earlier in their history than previously supposed.

Fossilized prints of a theropod depicted inward-facing palms. This means the theropod didn't use its forelimbs when walking. Being able to bend its palms back against its arms is similar to a bird folding its wings. Mainly space debris, there are about 150 million artificial objects in Earth orbit — they are 1 millimeter in diameter or more. Found in the Western Ghats of India, purple or pignose frogs spend most of their lives underground. They only come up to mate a few weeks per year. Pressed into the ancient mud were the fossilized prints of the theropod's hind feet, pelvis and, most profoundly, forelimbs and palms. The palm prints did not face down, contrary to popular depictions of dinosaurs like T. rex and velociraptors. Instead, the palms faced inward, almost as if the theropod had been clutching a ball.

That suggests the theropod no longer used its forelimbs for walking. The unidentified species couldn't turn its palms face down or up like humans, but could bend them back against its arms, a movement similar to a bird folding its wings.

The tired theropod sat down much like its modern descendants — the ostrich and emu.

VERBATIM

"The words Darwin used are identical to those used by Tibetan Buddhists."

— Psychologist Paul Ekman on similarities between Charles Darwin's observations on human compassion and morality and Buddhist writings. Ekman says, though, it's probably just a coincidence.

## BRAIN SWEAT

What is the highest four-digit number, with no zeros, in which the first digit is one-quarter of the third digit, the second digit is three times the first digit, and the third and last digits are the same?

## PRIME NUMBERS

150 million “ Estimated number of artificial objects in Earth orbit with diameters of 1 millimeter (0.039 inch) or more. The vast majority of objects are space debris.

Source: Institute of Aerospace Systems

## BRAIN SWEAT ANSWER

2,688

## JUST ASKING

Why is the third hand on a clock called a second hand?

WHAT IS IT ANSWER

A purple or pignose frog (*Nasikabatrachus sahyadrensis*). Endemic to the Western Ghats region of India, pignose frogs were only discovered in 2003, largely because they spend most of their lives underground, coming to the surface for just a couple of weeks each year to mate during monsoons.

Adults are usually dark purple and feed on subterranean termites. Their croak sounds like a chicken's cluck.

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