

Birds may not have clawed their way up the evolutionary tree

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University of Queensland researchers have clipped the wings of the idea that the ancestors of modern birds were tree dwellers.

Exhaustive work by PhD student Chris Glen and Associate Professor Mike Bennett from UQ's School of Biomedical Sciences, saw them study the claws of thousands of bird feet to come to the conclusion the dinosaur ancestors of modern birds were mostly ground foragers.

“This is a really interesting and important piece of the puzzle in terms of the evolution of birds,” Mr Glen said.

“We have shown that the shape of a bird's claw can clearly indicate whether they are tree dwellers or ground foragers.

Mr Glen said though there are some birds that only forage on the ground and those that only forage in trees, there's actually an entire spectrum of birds that do both in differing amounts between these two extremes.

“Interestingly, we have found a clear pattern that shows species that spend more time foraging in trees will have claws that are more curved as you track along this spectrum,” Mr Glen said.

“The upshot being you can tell whether a bird species spends more time in trees or on the ground by seeing if they have more hooked claws (tree dwellers) or straight claws (ground foragers).”

The research compared the feet of modern birds with those from the fossil record of “fuzzy dinosaurs” and early birds, the most famous of those being the Archaeopteryx, to gain a better picture of how these animals developed.

“For a large part of the 20th century the favoured argument in bird evolution was that their ancestors went into trees to carve out a niche looking for food,” Dr Bennett said.

Mr Glen said their findings contradicted those arguments.

“We were very surprised by our findings as we expected to see some may have been tree dwellers, as there is some reasonable logic to the idea that flight would have evolved in a tree dweller, but what we saw was such a clear signal to the contrary,” Mr Glen said.

The researchers said their work adds another part of the puzzle that, along with other lines of evidence, helps build the modern view of how birds evolved from their early feathered dinosaur beginnings to the many species today.

Their research was recently published in the scientific journal *Current Biology*.

Source: UQ

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