

THE FOUR WINGED DINOSAUR

1 x 60 HD



International

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In 2002, the discovery of a beautiful and bizarre fossil astonished scientists and reignited the debate over the origin of flight. With four wings and superbly preserved feathers, the creature was like nothing paleontologists had ever seen before. Now, NOVA travels to the Chinese stone quarry where the fossil was discovered—a famed dinosaur treasure-trove—and teams up with the world’s leading figures in paleontology, biomechanics, aerodynamics, animation and scientific reconstruction to perform an unorthodox experiment: a wind tunnel flight test of a scientific replica of the ancient oddity.

Dubbed *Microraptor*, the crow-sized fossil is one of the smallest dinosaurs ever found and one of the most controversial, challenging conventional theories and assumptions about the evolution of flight. To answer the questions surrounding the discovery, two completely different reconstructions were created based on different specimens and different techniques.

The different reconstructions play into a long-running scientific controversy over the origin of flight in birds. For years the debate has been a stand-off between two camps — those who believe dinosaurs were the ancestors of birds and those who don’t.

Believers in the dinosaur-bird connection have generally assumed that flight must have begun from the ground up, with fast-running dinosaurs that eventually went airborne as feathered arms evolved into wings and running leaps evolved into powered flight.

Skeptics of the dinosaur-bird link say it would have been physically impossible for running dinosaurs to overcome gravity and get off the ground. It made more sense for flight to evolve from the trees down, with small, arboreal reptiles that glided from the treetops on their way to becoming full-fledged fliers. And that seemed to rule out dinosaurs, which, presumably, couldn’t climb trees.

On NOVA, Mark Norell of the American Museum of Natural History is one of the proponents of the “birds-are-dinosaurs” hypothesis, which is the predominant view among most paleontologists, while Larry Martin of the University of Kansas speaks out for the minority view that birds descended from non-dinosaur tree dwellers.

Tantalizingly, *Microraptor* is the unexpected missing link that has reignited the debate and just might settle the issue—or at the very least deepen our understanding of the long-ago era when the ancestors of birds first took to the air.

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CREDITS

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