**Study Suggests Dinosaurs May have Started as Very Small Creatures**

**研究表明恐龙最初可能只是非常小的生物**

A new study adds to growing evidence that dinosaurs may have developed from very small animals.

一项新的研究为恐龙可能是由非常小的动物进化而来的这一论点增添了新的证据。

Scientists have studied the fossil of a small animal, called Kongonaphon kely, which is believed to be an ancestor of the dinosaurs. The name given the reptile means “tiny bug slayer,” or very small killer of insects.

科学家研究了一种名为Kongonaphon kely的小动物化石，而它被认为是恐龙的祖先。它的名字的含义是“小虫子杀手”或者说是非常小的昆虫杀手。

The four-legged animal is believed to have been just 10 centimeters tall and about 40 centimeters long. Researchers say it lived about 237 million years ago in what is now Madagascar.

这种四足动物据信只有10厘米高，大约40厘米长。研究人员称，它生活在2.37亿年前的马达加斯加岛。

Scientists described examinations of the fossil in a recent study published in Proceedings of the National Academy of Sciences.

科学家们在最近发表在《国家科学院院刊》上的一项研究中讲述了他们对这块化石的检验情况。

The researchers believe the animal came before dinosaurs, which developed in the Mesozoic Era. It ended about 66 million years ago. The study notes that much remains unknown about the history of dinosaurs and their winged relatives, pterosaurs.

研究人员认为，这种动物出现在恐龙之前。恐龙是在中生代发展起来的，后灭绝于6600万年前。这项研究指出，关于恐龙及其长有翅膀的近亲翼龙的历史仍有许多未解之谜。

Scientist Christian Kammerer of the North Carolina Museum of Natural Sciences, led the study. Kammerer told Reuters news agency that based on the body size suggested by the fossil, “we argue that dinosaurs and pterosaurs evolved from a miniaturized ancestor.”

北卡罗来纳州自然科学博物馆的科学家克里斯蒂安·卡默尔领导了这项研究。卡默尔告诉路透社记者，根据化石显示的体型，“我们认为恐龙和翼龙是从小型动物祖先进化而来的。”

John Flynn, of New York’s American Museum of Natural History, was a co-writer of the study. He said earlier studies have also supported the argument. “Evolution of gigantism from tiny ancestors is not uncommon in the fossil record,” Flynn said.

纽约美国自然历史博物馆的约翰·弗林是这项研究的合著者。他说，早期的研究也支持了这一论点。弗林说：“由小型祖先进化成巨型物种在化石记录中并不少见。”

The scientists said the Kongonaphon’s teeth showed signs of use in a way that suggested the small reptile ate insects.

科学家们表示，Kongonaphon的牙齿使用迹象表明这种小型爬行动物会吃昆虫。

The team examining the fossil also found evidence of “fuzzy skin coverings,” including feathers. The researchers said the feathers may have developed in the small-bodied creature to help control body temperature. This would have been especially important in the extreme climate of the early part of the Mesozoic Era. The days were hot, the nights, cold.

研究小组还发现化石上有证据显示它有“绒毛类皮肤覆盖物”，其中包括羽毛。研究人员称，这些羽毛可能是这类小型生物为控制体温进化而来的。这一点在中生代早期的极端气候中尤为重要。那时候白天很热，晚上却很冷。

“Recent discoveries like Kongonaphon have given us a much better understanding of the early evolution of ornithodirans,” Kammerer said. The ornithodiran group includes animals in the evolutionary lineage that led to dinosaurs and pterosaurs. He added that the research provides strong evidence that the creature “decreased sharply early in the history of the dinosaur-pterosaur lineage.”

卡默尔说：“最近的一些发现——比如Kongonaphon——使我们对鸟纲的早期进化有了更深入的了解。”鸟纲物种包括演化谱系中的动物们最终进化为恐龙和翼龙。他补充道，这项研究提供了有力的证据，证明这种生物“在恐龙翼龙谱系的早期就急剧减少”

On the lighter side, Kammerer told The Associated Press he thinks the tiny creatures “would have been quite cute animals.” He said an animal that looks like a dinosaur and can fit in your hand, “would probably make a great pet.”

卡默尔告诉美联社记者，另一方面他认为这些小生物“会是非常可爱的动物”，他说，一种看起来像恐龙但又能放在人手上的动物“可能会是一个很棒的宠物。”

I’m Bryan Lynn.

布莱恩·林恩报道。

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