

THOMAS' GESCHICHTE ANSCHAUEN

Evolution: dragons breathe like birds and crocodiles



Getty Images

African savannah monitor (Varanus Exanthematicus): Similar A similar breathing Researchers have also found for alligators

In birds and crocodiles oxygen flows in a kind of loop through the lungs. Now biologists have demonstrated such a breathing in lizards. The technique could have originated 270 million years ago, the researchers suggest.

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The special breathing patterns of birds and crocodiles is more widespread in the animal kingdom than previously thought - and therefore possibly earlier origin. U.S. biologists have for the first time shown this form of oxygen exchange in lizards. The breathing pattern in one direction could therefore go back to a common ancestor of all these animals and be 270 million years old, they write in the [journal "Nature"](#) .

In humans and most animals, the air flows through the air tube into the lungs and by branching to the alveoli. In these alveoli, oxygen is absorbed into the blood while carbon dioxide is released and leaves the body in the same way again.

In [birds](#) , however, the air flows in one direction through the lungs and passes through the body virtually in a loop. A similar breathing had found a few years ago when alligators researchers. This indicated that the phenomenon is typical of so-called Archosauria - which in addition to the extinct dinosaurs and the modern-day birds and crocodiles are.

Breathing pattern before about 270 million years ago

Now biologists reported to Emma Schachner and CG Farmer of the University of Utah in Salt Lake City such a breathing even with African Steppenwaranen (Varanus Exanthematicus) after that do not belong to the Archosauria. To this end, they pumped air and water through the lungs of dead animals. The air flowed through the trachea into the lungs, but was mostly not on the same way back. Instead, they flowed from the rear end of the lung through small openings in the walls towards the head.

The researchers suggest that this breathing could be due to the so-called

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Diapsida. Thus, it could be originated about 270 million years 100 million years before the first birds. "That seems to be much more widespread and older than anyone would have thought," Farmer is quoted in a press release his college.

But is also possible that these breathing arose in the ancestors of lizards in the Archosauria and regardless of 30 million years ago 250 million years ago. To clarify this, one must examine the respiration of other reptiles, Farmer said.

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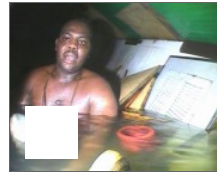
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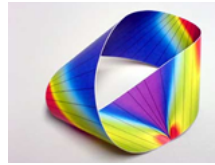
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