

Evolution of postcranial skeleton in worm lizards inferred from its status in the Cretaceous stem-amphisbaenian *Slavoia darevskii*

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Amphisbaenians are one of the most derived fossorial groups among Squamata. Studies of their evolution were hampered by their specialized limbless morphology and unrecognized early fossil record. This study presents a detailed description of the postcranial anatomy of the oldest known stem-amphisbaenian *Slavoia darevskii*. The skeleton shows an incipient adaptation to the fossorial mode of life, expressed in the early stages of limb reduction and elongation of the trunk, typical aspects of modern worm lizards. The forelimbs show a hyperphalangy of the first digit. They were probably strengthened this way to support the head in burrowing. Such an anatomy of the most ancient amphisbaenians implies that the forelimbs were lost multiple times in the amphisbaenians to be retained only in the Bipedidae. The hindlimb reduction was initiated early (before the split into modern families) but may have been completed independently. Despite these changes, *S. darevskii* still had the plesiomorphic 26 presacral vertebrae but the neck region was shorter, as shown by the ribs morphology and position.

Key words: Amphisbaenia, limb loss, hyperphalangy, parallel evolution, Cretaceous.

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