



# Swimming Behavior of *Amphisbaena bassleri* (Squamata: Amphisbaenidae) from Bolivia

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Amphisbaenids or worm lizards are a predominantly fossorial and highly specialized group (Gans 2005; Maschio et al. 2009). Within the genus *Amphisbaena*, 102 species are currently recognized (Uetz et al. 2022); with 13 present in Bolivia. Due to physiological and morphological characters adapted for a fossorial lifestyle, the dispersal capacity of amphisbaenids has been considered limited (Hembree 2006; Albert et al. 2007; Maschio et al. 2009; Longrich et al. 2015). Several studies confirmed that amphisbaenids could over-

come aquatic barriers (e.g., Señaris 1999; Torres-Ramírez et al. 2021), van der Hoek (2018) recorded swimming behavior in *A. bassleri* in Ecuador and Maschio et al. (2009) reported swimming behavior in *A. alba* and *A. amazonica* in Brazil.

*Amphisbaena bassleri* is distributed throughout Argentina, Bolivia, Ecuador, and Peru (Gans 2005; Uetz et al. 2022). In Bolivia, this species has been recorded in the departments of Chuquisaca, Cochabamba, La Paz, and Santa Cruz (Uetz et al. 2022). Despite having a wide distribution, little is known



**Figure 1.** An *Amphisbaena bassleri* swimming in a pool of water at Sindicato Aroma, Municipality of Shinaota, Cochabamba, Bolivia. Photographs by Bladimir Marca.

about the ecology or ethology of this species (Vanzolini 2002; van der Hoek and Jarrín 2017; van der Hoek 2018). Herein we document for the first time swimming behavior of *A. bassleri* in Bolivia.

At 1050 h on 6 January 2023, as part of a herpetological survey in Sindicato Aroma, Municipality of Shinaota, Cochabamba, Bolivia (17.126217 S, 65.181214 W), we observed an adult *A. bassleri* apparently foraging in a natural pool of water, in which trunks of *Ochroma pyramidale* (Balsa) and *Cecropia* sp. (Ambaibo) floated. The pool was approximately 5 x 3 m in size and 40 cm deep.

The individual swam with serpentine motion and kept its head and body level with the surface of the water, was very calm, and initially ignored our presence. Once it became aware of us, however, it left the pool and entered the adjacent secondary mature forest. We did not collect it, but documented the event with photographs (Fig. 1) and a short video (23 sec) available at <https://youtube.com/shorts/UbfSNT-9xAY>.

According to Maschio (2009), amphisbaenids swim only in extreme situations (e.g., escaping from predators). Our observation, however, suggests that amphisbaenids also might search for resources in aquatic situations.

### Literature Cited

- Albert, E.M., R. Zardoya, and M. García-Paris. 2007. Phylogeographical and speciation patterns in subterranean lizards of the genus *Blanus* (Amphisbaenia: Blanidae). *Molecular Ecology* 16: 1519–1531. <https://doi.org/10.1111/j.1365-294X.2007.03248.x>.
- Gans, C. 2005. Checklist and bibliography of the *Amphisbaenia* of the world. *Bulletin of the American Museum of Natural History* 289: 1–130.
- Hembree, D.I. 2006. Amphisbaenian paleobiogeography: Evidence of vicariance and geodispersal patterns. *Palaeogeography, Palaeoclimatology and Palaeoecology* 235: 340–354. <https://doi.org/10.1016/j.palaeo.2005.11.006>.
- Longrich, N.R., J. Vinther, R.A. Pyron, D. Pisani, and J.A. Gauthier. 2015. Biogeography of worm lizards (Amphisbaenia) driven by end-Cretaceous mass extinction. *Proceedings of the Royal Society B* 282: 20143034. <https://doi.org/10.1098/rspb.2014.3034>.
- Maschio, G.F., A.L. da C. Prudente, and T. Mott. 2009. Water dispersal of *Amphisbaena alba* and *Amphisbaena amazonica* (Squamata: Amphisbaenia: Amphisbaenidae) in Brazilian Amazonia. *Zoologia* 26: 567–570. <https://doi.org/10.1590/S1984-46702009005000007>.
- Señaris, J.C. 1999. Aportes al conocimiento taxonómico y ecológico de *Amphisbaena gracilis* Strauch 1881 (Squamata: Amphisbaenidae) en Venezuela. *Fundación La Salle de Ciencias Naturales* 152: 115–120.
- Torres-Ramírez, J.J., T. Angarita-Sierra, and M. Vargas-Ramírez. 2021. A new species of *Amphisbaena* (Squamata: Amphisbaenidae) from the Orinoquian Region of Colombia. *Vertebrate Zoology* 71: 55–74. <https://doi.org/10.3897/vertebrate-zoology.71.e59461>.
- Uetz, P., P. Freed, R. Aguilar, F. Reyes, and J. Hošek (eds.). 2022. *The Reptile Database*. <<http://www.reptile-database.org>>.
- van der Hoek, Y. and P. Jarrín. 2017. A note on the prevalence of *Amphisbaena bassleri* L. 1758 (Squamata, Amphisbaenidae) in a study of road ecology in the western Amazon, near Tena (Ecuador). *Herpetology Notes* 10: 497–498.
- van der Hoek, Y. 2018. First description of swimming behaviour of *Amphisbaena bassleri* Linnaeus, 1758 (Squamata, Amphisbaenidae). *Herpetology Notes* 11: 817–818.
- Vanzolini, P.E. 2002. A second note on the geographical differentiation of *Amphisbaena fuliginosa* L., 1758 (Squamata, Amphisbaenidae), with a consideration of the forest refuge model of speciation. *Anais da Academia Brasileira de Ciências* 74: 609–648.