

# Rapid diversification despite morphological stasis: A snail's pace in a snail's place?

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Evolutionary biologists at the National Museum of Natural History of the Smithsonian Institution and Ghent University (Belgium) have found an unusual system that allows narrowing the gap in the study of evolutionary processes, working on living African freshwater snails and their fossil ancestors.

Species diversification regularly occurs too fast to be accurately recorded in the fossil record but usually too slowly to be readily observed in [living organisms](#). The study of evolutionary radiations is thereby confronted with a gap between the timescales and approaches used by biologists and paleontologists. Although they are difficult to study some of these processes influence our daily lives in various ways. The emergence of pesticide or antibiotic-[resistant strains](#) of organisms are examples of rapid evolution, whereas the endangered status of species like the [bluefin tuna](#) result from the inability of these species to adapt sufficiently rapid to changing conditions.

Evolutionary biologists at the National Museum of Natural History of the Smithsonian Institution and Ghent University (Belgium) have found an unusual system that allows narrowing the gap in the study of evolutionary processes. Working on living African freshwater snails and their fossil ancestors, they document rapid diversification since massive lake level fluctuations that occurred during the Ice Ages. Despite the ever changing environment in which these snails live, morphological characters studied within a lineage of fossils did not change much over five thousand years.

Different morphological characters appear to have behaved differently, with some hardly changing over thousands of years, and others, like body size, changing a lot (the smallest species is less than 1/3 of the size of the largest one). It appears that morphological stasis is a dominant evolutionary pattern, even in young and diversifying clades.

Provided by Ghent University

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