

**ARE *Podarcis* WALL LIZARDS AN ADAPTIVE RADIATION?  
JOINING PHYLOGENETIC AND PHENOTYPIC EVIDENCE**

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Deciphering how species and phenotypic diversity emerge is a major objective of evolutionary research, with important implications for our capacity to protect biodiversity. A powerful tool to understand how historical and contemporary processes influence the evolution of biodiversity is to combine phylogenetic inferences with information on phenotypic traits which reflect ecological responses to the environment. *Podarcis* wall lizards are a symbolic element of Mediterranean ecosystems, and their evolution is representative of the complex biogeographic and climatic history of this region. Their phylogenetic relationships have long puzzled European herpetologists, due to a basal polytomy, which may point to a quick radiation early in the history of the group. We combined a phylogenetic hypothesis inferred based on mitochondrial and nuclear genes and a series of morphological and functional traits, to test whether there are signs of an adaptive radiation in this genus of Mediterranean lizards. The cladogenetic pattern is in accordance with a scenario of a fast diversification early in the history of the genus, with the emergence of new lineages slowing down through time. However, phenotypic traits provide mixed evidence: while body size seems to have evolved under random processes, relative head size and limb length, as well as sprinting capacity, bare signs of adaptive evolution. Interestingly, though, our results do not support a scenario of an early burst of phenotypic diversification under an adaptive radiation in this group. Instead, phenotypic evolution may have rather proceeded in response to other ecological factors, such as insularity or habitat use.