N.E.C.C.A

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TITLE

Ecology, behavior and populations' assessment of the cryptic endemic species Podarcis peloponnesiacus and Podarcis thais

(Project ID: 14749)

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ABSTRACT

In recent years, with the development of the disciplines of molecular ecology and phylogenetics, more and more cryptic species are being discovered. Cryptic species are morphologically similar, but clearly distinct in terms of their genetic composition. However, their study often stops with their discovery and thus we have incomplete data on how their genetic differentiation is expressed in their ecology and behavior. One case of cryptic species is Podarcis peloponnesiacus and Podarcis thais, two endemic lizard species of the Peloponnese, which were recently distinguished in 2021. The former occurs in the western Peloponnese, the latter in the eastern Peloponnese, and there is a contact zone of the two species with unclear boundaries. The main objectives of the proposed research are: a) the comparative study of the ecology and behaviour of the two species, b) the clarification of their distribution with emphasis on the determination of the boundaries of the contact zone, c) the identification of new populations and d) the assessment of their populations. For data collection, extensive sampling will be carried out throughout the Peloponnese. Stations will be selected in a stratified manner, considering altitude and habitat. The fixed-time sampling method will be applied. Initially, a database will be compiled with all the information collected from the fieldwork. This will be followed by statistical analysis of the data where: a) basic statistical analyses will be performed to identify differences in ecological preferences or behavior of the two species; b) quantification and assessment of environmental suitability for the populations studied using Generalized Linear Models and Niche Modeling for the entire range of each species; and c) population assessment using Population Viability Analysis. The processed database and the results of the analyses will be made available to the scientific community and the public.