

Parasitism, island size and populations density, as interfering factors in tail regeneration in Aegean wall lizard (*Podarcis erhardii*)

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Tail autotomy is one of the most efficient antipredator mechanisms in lizards. Tail condition is crucial to the overall fitness of a lizard and has important impacts on many seminal life history functions (energy storage, locomotion, social status). Regrowth of an autotomised tail is a complex and energy-consuming mechanism that deprives resources from other substantial processes such as reproduction or immune response. It has been established that regeneration rate and effectiveness may be influenced by many different factors. In the present study we tried to assess the impact of haemoparasites (*Hepatozoon* sp.) and intraspecific competition on regeneration performance. We conducted this study on the Aegean wall lizard deriving from Naxos complex biotopes (main island and surrounding islets) where population densities vary significantly and parasite loads may be different (*Haemophysalis* sp. ticks introduced on some islands by goats). In order to simulate these diverse densities lizards were housed in individual and group (8 animals per each) terraria. The length of the tail was measured weekly, *Hepatozoon* parasitemia was quantified by examining thin blood smears under the microscope whereas corticosterone levels, the main stress hormone, were recorded in all cases. We failed to detect any difference regarding parasite load in the regeneration rate among studied populations. In contrast, regeneration rate was lower in the case of lizards that were housed in group terraria. This suggests that though infection status has a minor impact on tail regrowth, population density affects thoroughly the feature under study.

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