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Relationships between head morphology and diet in island and mainland populations of the Balkan green lizard (*Lacerta trilineata*) from Greece

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Head morphology and head size in lizards have been traditionally associated with ecological and behavioral features such as feeding, mate success and aggressive performance. The relation between head size and bite performance is adequately direct, and individuals with larger head exert higher maximal bite force. On the other hand, bite force is a valuable indicator of prey choice and feeding strategies of animals. In the present study we examined the head morphology and feeding ecology between island and mainland Greek populations of the Balkan Green Lizard, *Lacerta trilineata*. We investigated how natural and sexual selection can affect head traits. We applied geometric morphometrics for a total of 154 adult *L. trilineata* individuals (20 females and 48 males from the islands and 30 females and 56 males from the mainland). For each individual, stomach content was also analysed. Apart from taxonomic classification, preys were also classified based on hardness measurements obtained from previous prey-crushing studies. All the examined animals were deposited to the Herpetological Collection of the Natural History Museum of



Crete. Analyses of morphology indicated significant morphological differences both between sexes and between mainland and island populations. Males had, in general, larger heads than females. Moreover, insular and mainland lizards of the same sex differed in head size but not in body size. The analysis of stomach content revealed a significant difference on the diet between sexes and between mainland and island populations. Our findings suggest that the observed differences in head traits may partly reflect the trophic ecology of different *L. trilineata* populations.

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