

Are endemic snakes with a narrow distribution more specialist than their wide-ranging counterparts? Evidence from the prey composition and morphometric correlates of the diet in *Zamenis lineatus*, a rat snake endemic to southern Italy

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Massimo Capula¹, Luca Luiselli², Sophia Valenti¹, Arianna Ceccarelli¹, Lorenzo Rugiero³, Gaetano Aloise

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¹ - Museo Civico di Zoologia, Via U. Aldrovandi 18, I-00197 Roma (Italy), e-mail: m.capula@comune.roma.it

² - Demetra Studi Ambientali s.r.l. and F.I.Z.V. (Ecology), via Olona 7, I-00198 Rome, Italy, e-mail: lucamlu@tin.it

³ - F.I.Z.V. (Herpetology), via Cimarosa 13, I-00198 Roma, Italy, e-mail: lrugiero@hotmail.com

⁴ - Dipartimento di Ecologia, Università della Calabria, 87036 Arcavacata di Rende (Cosenza), Italy

Abstract

The snakes of the Mediterranean regions are in general characterised as wide ranging with relatively unspecialised ecological traits (e.g., feeding ecology and diet composition). The few endemic snake species with a narrow range can be of great interest to control whether the relative ecological non-specialization is truly general for Mediterranean snakes or if, on the contrary, those species with a small range are so because of their more specialised ecology. Here, we study the case of the Italian Aesulapian snake, *Zamenis lineatus*, which is endemic to southern Italy and the island of Sicily, and that has been for long time considered merely as a subspecies of the widespread

Zamenis longissimus

. We studied the diet of this species in the wild, and also examined snout-vent length and head length in several museum vouchers in order to highlight the eventual morphometric correlates of diet composition. Our results showed (i) a diet based on small mammals and birds, (ii) an evident ontogenetic shift in diet composition (from ectotherms to endotherms), and (iii) a lack of significant intersexual difference in diet composition. In addition, morphometric data revealed no intersexual differences in average snout-vent-length or head length. The general implications of

these results are discussed. We conclude that, based on this study case, *Zamenis lineatus* feeding ecology was very similar to that of the widespread and ecological generalist *Zamenis longissimus*, and this is contrary to the hypothesis that endemic, narrowly distributed Mediterranean snakes may be more specialist than their widespread counterparts.

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