

Plenary lecture

Lacertid lizards: renegades, or sticklers for rules?

Raoul Van Damme¹

¹ University of Antwerp, Universiteitsplein 1, 2610 Wilrijk, Belgium

In an attempt to understand the bewildering geographical variability among and within species, naturalists have proposed a series of ‘ecogeographical rules’, that aspire to link environmental variation to variation in organismal characteristics, such as body size, body proportions, colouration and life history traits. The validity and applicability of these rules has been debated substantially. Authors disagree on the taxa and on the taxonomical scale to which the rules should apply, and on the nature of the environmental variables that promote changes in organismal traits. The exact mechanisms causing the relationships are also rarely understood. Still, with information on climatic conditions, species distributions and phylogenetic relationships now readily available, the rules’ cogency can be put to the test more rigorously than ever before. Here, I assess the validity of several ecogeographical rules in the lizard family Lacertidae.

Despite being among the oldest and most speciose families of lizards, lacertids tend to resemble one another relatively closely in many aspects of their biology. Their morphology, behaviour, thermal physiology and life history seems evolutionarily conserved. This is surprising, since lacertid lizards have conquered a wide variety of habitats and microhabitats and are distributed over a huge latitudinal gradient. In this study, I examine whether lacertids, at the species level and as a family, follow ecogeographical patterns of body size and proportions described for other taxa (and therefore constitute ‘sticklers for rules’) – or whether they flout those laws (and thus act as ‘renegades’).

If allowed the digression, I will try to answer related questions concerning the scientists that have used lacertids as study organisms.