

## Using diet overlaps for testing competition between *Podarcis bocagei* and *P. carbonelli* in NW Portugal: the influence of seasons

A. MARQUES & M.A. CARRETERO

*Campus Agrário de Vairão, Centro de Investigação em Biodiversidade e Recursos Genéticos (CIBIO/UP), Vairão, 4485-661, Portugal; a.marques@mail.icav.up.pt*

*Podarcis bocagei* and *P. carbonelli* are two ground-dwelling lizard species that meet in a narrow area in NW Portugal. As they occupy a similar microhabitat, diet overlaps may provide information on possible niche segregation in their contact area.

For this study we collected data on diet and trophic availability in three different sites: one where both species live together (Espinho) and two sites of allopatry for each of the species (Mindelo and Torreira). The overlaps in diet were calculated using OTU (Operational Taxonomic Units) and prey size as variables.

To be able to compare the effects of sympatry, we created a “pseudo-sympatry” area joining the diet data of the two allopatric sites and compared the obtained overlaps with the observed overlaps in sympatry. If competition for trophic resources was important we should expect lower interspecific overlaps in the real, sympatric community than in the “pseudo-community”. If competition was negligible, the overlaps between the same pairs should be higher in the real community. The effect of seasons also had to be considered since there is significant variation of prey throughout the year in the three sites. This effect could mask the real overlaps.

Results discard the hypothesis of competition between both species throughout the year. On the contrary, both inter- and intraspecific overlaps were higher in the real community in spring (but not during the rest of the year). These results are discussed in the light of the climate constraints and ecological trends in lacertids.

