

(P38) **Potential competition influence on the spatial structure of three lizard communities in Slovenia: a case of *Podarcis muralis* and *Iberolacerta horvathi***

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Life is directly influenced by space. However, how the animal communities use the space has been rarely studied, mainly due to the absence of high resolution spatial information. Nowadays, professional GPS and remote sensing images facilitate to perform these studies at local scale. The analysis of the spatial structure of a species community allows us to understand how individuals share the space and modify their home ranges when together with other species (competitors, predators, prey) or under the influence of different environmental components (light, shelters). The spatial structure of the individuals inside the community can be random, regular, or in clusters. The main aim of this work was to analyse if the presence of a species can modify the space use of another species, and consequently the community' spatial structure. When two species are living together, their distribution structure should be more clustered compared to a single species community, as a consequence of spatial segregation due to competition. If competition is asymmetrical (one species is outcompeting another), only one species should have a more clustered distribution. If the community is composed by only one species, we expect that the spatial distribution will be less clustered, i.e. more regular or random. For this, we studied three lizard communities in Northern Dinaric Mountains, southern Slovenia: two were composed by only one of the species (*Iberolacerta horvathi* or *Podarcis muralis*), and the third community was composed of both species (*I. horvathi* and *P. muralis*). We performed numerous surveys during 28 days (from May to September of 2012). Each survey was a route that we walked from an initial point of the study area and finished in the other side; after a pause of 15 minutes we began the next survey starting from the final point to the initial one. The position of each lizard was recorded with a professional GPS (Trimble GeoExplorer 2008 HX), with an accuracy around 10 cm after post-processing. We applied spatial statistical test to determine the spatial structure of species locations, namely global and local Moran's I, as well as joint pair distances. We recorded 415 *P. muralis* at Mala gora; 11 *P. muralis* and 50 *I. horvathi* at Kuzeljska stena; and 245 *I. horvathi* at Velike Bele stene. The species' records were globally and locally clustered. We present preliminary results focusing in the differences among the three lizard communities.

Lacertids, spatial statistics, GIS, GPS, spatial ecology, interactions.