

## O-2

### EFFECT OF BIOTIC AND ABIOTIC FACTORS ON ASYMMETRY OF PHYSICAL CHARACTERISTICS IN COMMON WALL LIZARD (*Podarcis muralis*) AND HORVATH'S ROCK LIZARD (*Iberolacerta horvathi*)

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We analysed asymmetry in the common wall lizard (*Podarcis muralis*) and the Horvath's rock lizard (*Iberolacerta horvathi*) from 16 populations in Slovenia and Croatia to understand their connection with potential stress factors: altitude, urbanization and the presence of another species (interspecific competition). We also compared morphological body characteristics between the two species. We used geometric morphometric methods to create landmark coordinates in the photographs of lizards' heads. Modified ANOVAs and an asymmetry index were used to find the differences in four physical characteristics: shape and size of the head, body size and the number of supraciliar scales. We found fluctuating asymmetry in the number of supraciliar scales and the shape of the head in all of our samples. Both species had more asymmetric heads in the intermediate altitudes, which might be connected with lower availability of suitable habitats. Common wall lizards from urban environment did not have more asymmetries compared to those living in natural environments. Contrary to our expectations, we found more asymmetries in allotopic than syntopic populations, indicating limited effect of interspecific interactions. Horvath's rock lizards had more asymmetric heads, which suggests they might be exposed to greater environmental stress, although genetic effects are also possible, since directional asymmetry was also detected.

Keywords: lizards, *Podarcis muralis*, *Iberolacerta horvathi*, stress, asymmetry