

## **P9.**

### **Comparison of femoral gland secretion's chemical composition between male colour morphs in common wall lizard (*Podarcis muralis*)**

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Colour polymorphism has been described in many animal taxa, with two or more different morphs coexisting within the same population and often associated to different life history and behavioural traits such as alternative reproductive or social strategies. Reptiles offer an excellent model to investigate the evolution and maintenance of colour polymorphism since it's quite common and is frequently associated in both sexes with the evolution of alternative behavioural strategies (competitive and/or reproductive) related to social context. The presence of alternative colour morphs has also been observed in the common wall lizard (*Podarcis muralis*), in which both sexes show three main distinct colour morphs in the throat and ventral region. Chemical senses have an important role in intraspecific communication and social organization of lizards, which use chemical cues for different purposes, such as advertising residence or informing on dominance status or male's characteristics, which females may use to select mates or take residence in a male's territory. In this study, we used gas chromatography–mass spectrometry (GC-MS) to explore whether there is chemical polymorphism in the lipophilic fraction of femoral gland secretions between male colour morphs. All compounds were shared by most males but there were differences in proportion of compounds between



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morphs. Pairwise comparisons showed that white morph lizards had significantly different chemical profiles than both yellow and red ones, but differences between yellow and red morphs did not reach significance. A CAP analysis classified on average 67.2 % of the chemical profiles into the correct morph (white: 85.0 %, red: 60.9 %, yellow: 57.1 %). Finally, there were significant differences between morphs with respect to the proportions of tocopherols and furanones, but morphs did not differ significantly in proportions of other classes of compounds.

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