



ORAL COMMUNICATIONS

GEOGRAPHIC VARIATION IN FEMORAL GLAND PROTEINS OF COMMON WALL LIZARD (*Podarcis muralis*): GIVE ME YOUR PROTEINS AND I WILL TELL YOU WHERE YOU COME FROM

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Femoral glands of male lacertid lizards produce waxy secretions that are involved in inter- and intraspecific chemical communication and social behaviour. The main components of these secretions are proteins (about 80%) and lipids. While the lipophilic fraction has been extensively studied and experimentally associated to male quality, the composition of the protein fraction is poorly known and its role remains hypothetical. Preliminary indications from iguanids and teiids suggest that proteins might have a communicative function, notably they could transfer information about individual identity (at the species, population, individual level). Under this scenario, the occurrence of some degree of variability in the protein patterns across populations represents a basic and necessary condition to support their communicative role. Unfortunately, data about protein variability in lacertid lizards are not available yet. We started exploring the function of proteins of femoral glands by investigating their geographic variability. Femoral secretions from 31 males of the common wall lizard (*Podarcis muralis*) were collected from six different sites of peninsular and continental Italy (Lombardy, Tuscany, Marches). After lipids removal, the protein fraction was subjected to one-dimensional electrophoresis (SDS-PAGE) and the pairwise dissimilarity matrix among individual gel patterns was analysed by a distance-based MANOVA, with site as the grouping factor and snout-to-vent length (SVL) as a control covariate to account for lizard age. At least twelve different protein clusters were observed, with high variability within and among populations. While SVL showed no effect on the structure of the distance matrix, site was highly significant and accounted for almost 43% of the observed variation. These results agree with the hypothesis of communicative function even though experimental studies are needed to definitely address this issue.