

Consistency in trophic strategies between populations of the Sardinian endemic salamander *Speleomantes imperialis*

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Supplementary Material

Sampling sites description

The overall distribution and the localities where the two *Speleomantes imperialis* populations were sampled are shown in fig. S1.



Figure S1. Sampling localities of *Speleomantes imperialis*: white circle = Lago Omodeo; white triangle = Villasalto. The yellow area is the species' distribution as obtained from IUCN Redlist website (<http://www.iucnredlist.org>).

Abiotic features characterising the two sampling sites were obtained from the dataset WorldClim (Hijmans et al., 2005; <http://www.worldclim.org/>) at the maximum resolution (30 arcseconds = about 1 km²). We used the following variables assuming a relationship with salamander ecology and physiology: mean annual temperature (BIO1), temperature annual range (BIO7), mean temperature of wettest quarter (BIO8), mean temperature of driest quarter (BIO9), annual precipitation (BIO12), precipitation of wettest quarter (BIO16), precipitation of driest quarter (BIO17), average monthly mean temperature (TMEAN), average monthly precipitation (PREC). Mean values were calculated for the period 1950-2000 (fig. S2). Furthermore, as other variables to describe the sites we used the data from the Corine Land Cover-2006, and geological information obtained by the Italian Geoportale Nazionale (<http://www.pcn.minambiente.it/GN/>).

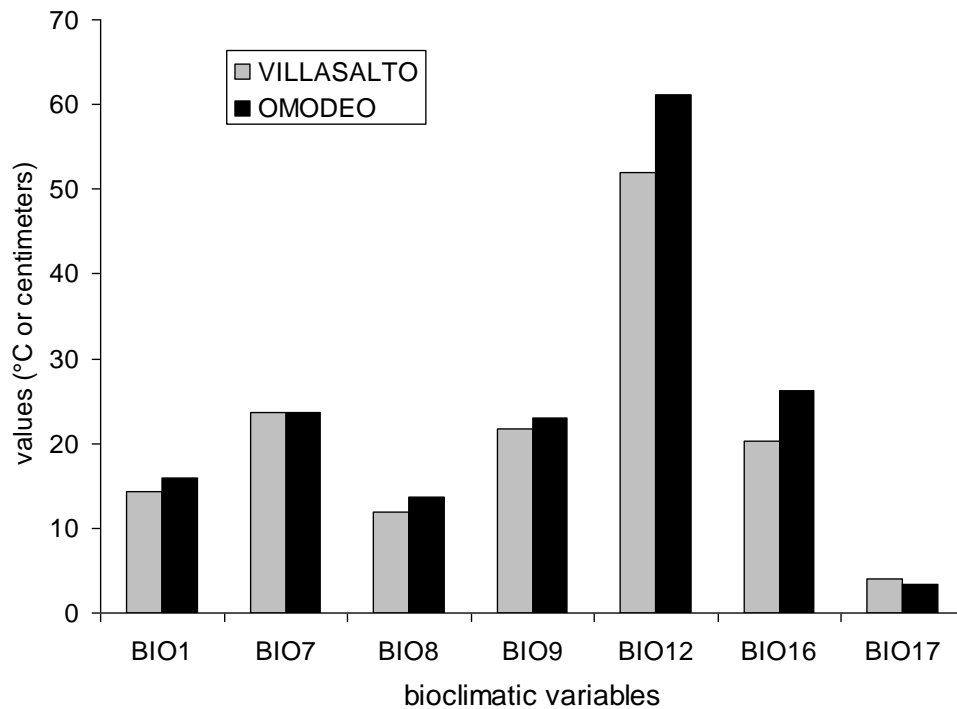


Figure S2. Histograms of climatic variables of the two Sardinian sites where *S. imperialis* populations were sampled: mean annual temperature (BIO1), temperature annual range (BIO7), mean temperature of wettest quarter (BIO8), mean temperature of driest quarter (BIO9), annual precipitation (BIO12), precipitation of wettest quarter (BIO16), precipitation of driest quarter (BIO17).

Dietary analyses

The dietary habits of the two adult subsamples from Villasalto did not show significant differences in taxonomic composition (ANOSIM $R = 0.178$, $P = 0.076$), and were pooled in subsequent analyses.

The NMDS plot describing the overall diets based on prey taxa categories for the two salamander populations is shown in fig. S3. Although there is a relatively large area of overlap, the two diets are significantly different according to ANOSIM ($R = 0.186$, $P = 0.0001$). Moreover, a wider intraspecific variability in the Lago Omodeo population in comparison to Villasalto is observed.

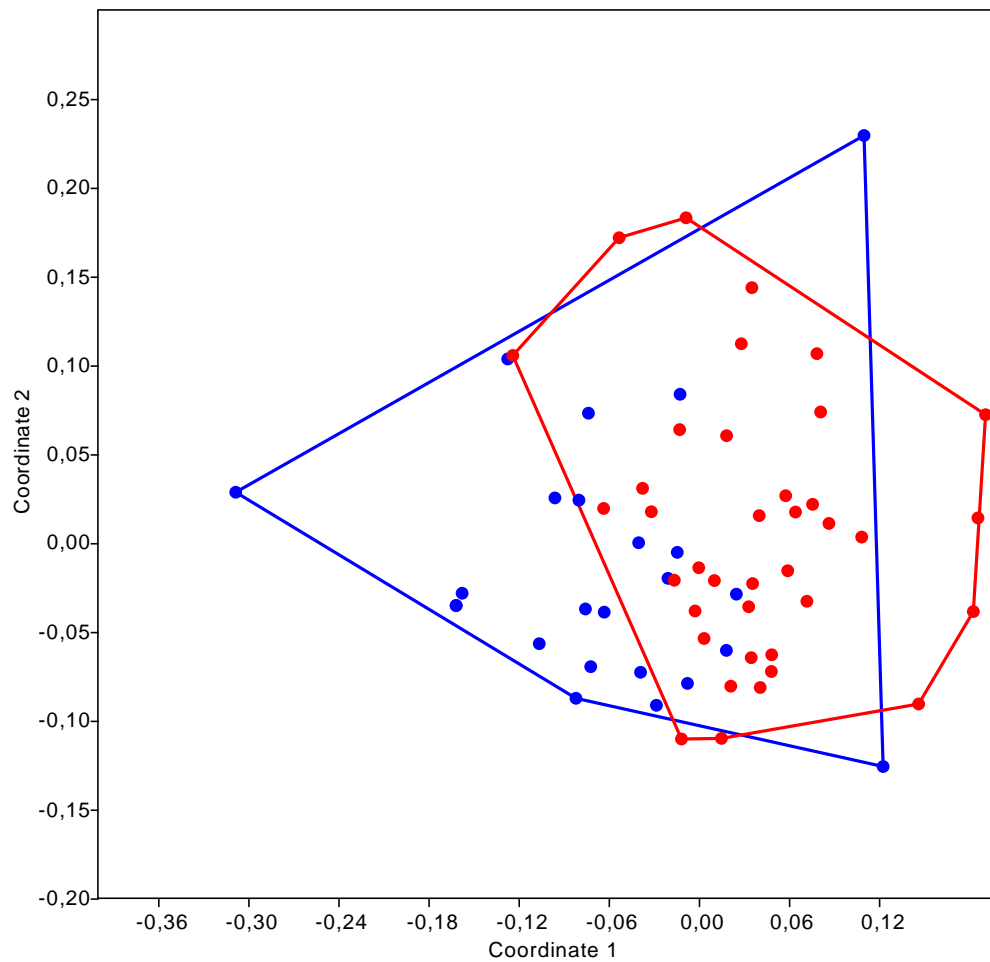


Figure S3. NMDS plot based on the prey taxa categories of the two populations of *S. imperialis*: blue spots = Lago Omodeo, red spots = Villasalto. Stress = 0.30.

The distributions of individual trophic proportional similarity indice (PS_i) for the two populations of *Speleomantes imperialis* were similar (Kolmogorov-Smirnov test: $D = 0.229$, $P = 0.447$; fig. S4).

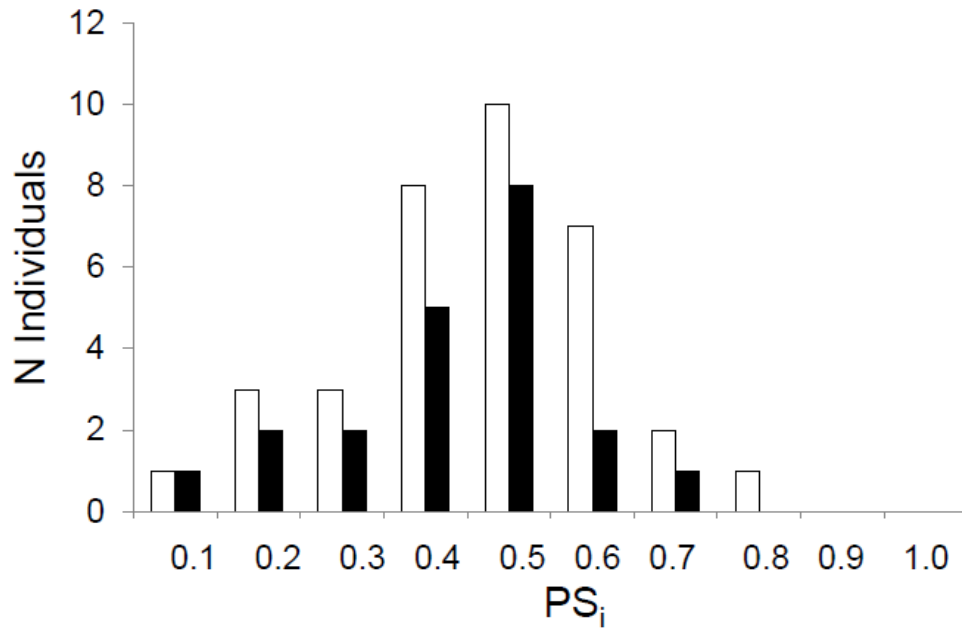


Figure S4. Distributions of individual trophic proportional similarity indices (PS_i) in *Speleomantes imperialis* population from Villasalto (open bars) and Lago Omodeo (solid bars). Lower values of PS_i indicate a higher level of individual specialization.

References

Hijmans, R.J., Cameron, S.E., Parra, J.L., Jones, P.G. & Jarvis, A. (2005): High resolution interpolated climate surfaces for global land areas. *Int. J. Climatol.* 25, 1965-1978.