











Dietary data from surface and subterranean populations of *Speleomantes* cave salamanders

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Abstract

This dataset enriches the ongoing project “The European plethodontid salamanders’ trophic niche project,” which focuses on studying the trophic niche of the strictly protected European plethodontid species of the genus *Speleomantes*. We provide here a dataset that collects dietary data from 36 populations belonging to seven of the eight *Speleomantes* species (*S. strinatii*, *S. ambrosii*, *S. italicus*, *S. flavus*, *S. imperialis*, *S. sarrabusensis*, *S. genei*) and the natural hybrid zone *S. italicus* × *S. ambrosii*. Eleven populations were sampled in natural and artificial subterranean environments for a total surveyed area of 4667 m². Twenty-five surface populations were sampled in woodlands, garrigues, and dry-stone walls for a total surveyed area of 34,640 m². Data collection took place from 2021 to 2024. Twenty-seven populations were surveyed only once; the other nine were surveyed twice during different seasons/years. The dataset contains information on a total of 1108 captured salamanders. Captured individuals were weighed using a digital scale and photographed in a portable photo studio to obtain high-quality images used for post hoc measurements. This allows us to assess potential variation in the body condition of individuals over time (e.g., during different years or seasons) and identify potential divergences between conspecific populations. We used stomach flushing to obtain the stomach contents of the salamanders, which were assessed qualitatively and quantitatively using the stereomicroscope. In 930 salamanders, we could recognize 8899 consumed prey items belonging to 50 different prey categories (e.g., order level or lower). These data, in addition to adding new populations to the overall *Speleomantes* dataset, allow us to compare aboveground and subterranean *Speleomantes* populations to identify potential variations in trophic niche breadth that have occurred in populations that have colonized subterranean environments. Furthermore, the large number of samples performed on *S. italicus* allows for

Eleonora Cialente and Fabio Cianferoni contributed equally to this study.

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in-depth analysis of potential variability among conspecific populations. The dataset is released under the Creative Commons Attribution 4.0 International license (CC BY 4.0).

KEYWORDS

cave biology, diet, *Hydromantes*, Italy, morphology, population ecology, predator, salamander, snout-vent length, stomach contents, trophic niche, wildlife

DATA AVAILABILITY STATEMENT

The complete dataset is available as [Supporting Information](#). Data are also available in Figshare at <https://doi.org/10.6084/m9.figshare.28424282.v1>.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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