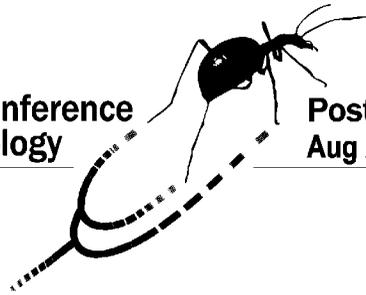


**20<sup>th</sup> International Conference  
on Subterranean Biology**

**Postojna, Slovenia  
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# ABSTRACT BOOK

20<sup>th</sup> International Conference on Subterranean Biology

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Oral presentation:

## **Regional species richness and diversity patterns of obligate cave-dwelling fauna in the Classic Karst in Italy**

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Local and regional species richness of the obligate cave-dwelling fauna of the Classic Karst in Italy (about 200 square kilometers, over 3,070 caves known up to now), a well-known subterranean biodiversity hotspot, was assessed using: (1) bibliographic data (about 410 papers published between 1819 and 2009); (2) unpublished data collected by the Authors during the last 30 years; (3) data collected during a monitoring program (carried out in 2008-2009) using standardized sampling techniques applied to 28 caves. A database including the distribution of 382 species in 223 caves was assembled; 121 species (32%) were classified as obligate subterranean (33 of them being terrestrial, 88 aquatic); 105 species were considered endemic or subendemic to the Classic Karst. Based on species accumulation curves and jackknife 1, Chao2, bootstrap, and incidence-based coverage (ICE) estimators, we concluded that 82% of all species inhabiting the karstic area have been recorded so far (94% of terrestrial troglobiotic species, 75% of stygobiotic species). During the recent monitoring program (based on 28 caves out of the 223 surveyed), 45% of the whole regional fauna was collected, including 8 stygobiotic species new to Science. Notwithstanding the difficulty in assessing species richness of obligate cave-dwelling fauna because of the highly localized distributions of several species, results allowed (1) to assess the relative contribution to total species richness of terrestrial and groundwater (vadose and phreatic) fauna, dissecting regional diversity into alpha and beta components; (2) to analyze the contribution of historical and ecological determinants in shaping spatial patterns of subterranean biodiversity across the region; and (3) to assess the conservation value of species and caves, mapping priority areas for biodiversity conservation in the Karst.