

5- Presence of a third *Plecotus* bat species in the Swiss Alps confirmed by morphology and DNA

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The identification of cryptic species may significantly change the perspective on distribution, abundance, ecology and, hence, conservation status. In central Europe two sympatric sibling long-eared bat species, *Plecotus auritus* (Linnaeus, 1758) and *P. austriacus* (Fischer, 1829), were recognized since the 1960s. Recent molecular and morphological studies revealed the existence of another, cryptic species in the alpine arch. In the frame of a conservation research project we aim to unravel the ecological requirements and the conservation status of the newly discovered species *P. macrobullaris* in Switzerland. In 2006 we sampled 220 individuals from 28 roosts in the Cantons Valais, Argovia and Vaud. Morphometric characters were measured in the field and biopsy punches collected for the lab. In a preliminary step we analysed a fragment of the mitochondrial 16s rRNA gene of 74 specimens. All sequences were aligned to published sequences of European long-eared bats. Results of molecular analysis confirm the sympatric occurrence of the three cryptic species in the Swiss Alps: the specimens are found to belong to 4 haplotypes of *P. auritus*, 1 haplotype of *P. austriacus* and 1 haplotype of *P. macrobullaris*. The three species are characterized by slight morphological differences. Segregation in their altitudinal distribution might contribute to resource partitioning. Running analysis on morphometric characters can help to determine those external characters which reliably allow the discrimination of the three *Plecotus* species in the field.