



# 10<sup>th</sup> Conference of the European Ornithologist's Union 24-28 August 2015, Badajoz

## Programme and Abstracts





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## Ecological behaviour of birds in post-breeding migration through the alps using a multi isotope ratio technique

### Abstract

Stable isotopes ratios have been increasingly applied in the last years in ornithological studies in order to infer animal movements or ecological animal behaviour in general. In the present study an extensive sampling effort of individuals of different European Passerine species (more than 700 individuals of 21 species) has been realized since 2010. Juvenile feathers were collected from yearlings captured during post-breeding migration on Italian Alps. For the first time all together, the analyses of the stable isotope ratios of carbon, nitrogen, oxygen, hydrogen and sulphur ( $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$ ,  $\delta^{18}\text{O}$ ,  $\delta^2\text{H}$ ,  $\delta^{34}\text{S}$ ) by Isotope Ratio Mass Spectrometry (IRMS) were carried out on the collected feathers. The aim of the study was to deepen into ecological habits of different European Passerine species, focusing on mean trophic level for each species. We tried to clarify if it could be possible to group different species on an ecological basis, considering inter and intra-specific isotopic variability, breeding seasonality and feeding habits of the different species. Results suggest how important is understanding ecological behaviour of specimens within the species, especially in studies aiming to track animal movements by stable isotope ratios analysis. This work essays to lay the groundwork to build a purposeful discussion about the opportunity to develop isotopic maps related to Passerines feathers, useful to better figure out western Palearctic migration flyways

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