Poster Session 1 – Phylogeography

39 Aquatic and terrestrial water voles: phylogeography and morphometrics

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Water voles from the genus *Arvicola* display an amazing ecological versality, with aquatic and terrestrial populations. Their taxonomic status and evolutionary relationships have caused a long-standing dispute. Two aquatic (*Arvicola sapidus*, *Arvicola amphibius*) and one fossorial species (*Arvicola scherman*) are currently described. We used mitochondrial cytochrome b (cytb) gene sequences to reconstruct the phylogenetic relationships among fossorial and aquatic water voles belonging to *Arvicola amphibius* (formely *terrestris*) collected in various regions of Europe. We combined 147 new sequences collected mostly in France, Germany and Great Britain, with available datasets from the entire range to provide an up-to-date phylogeny of this species. Phylogenetic and network reconstructions retrieved 4 major lineages all containing fossorial and aquatic morphotypes, discarding the view of each ecotype corresponding to a distinct species. Morphometric analyses of skull shape were performed on a set of aquatic and fossorial populations documenting the main lineages. Fossorial and aquatic populations tend to display convergent morphological features related to their ecology, blurring a part of the phylogenetic signal. Different allometric trajectories related to the constraints of the aquatic vs. subterranean habitats may contribute to this morphological convergence.

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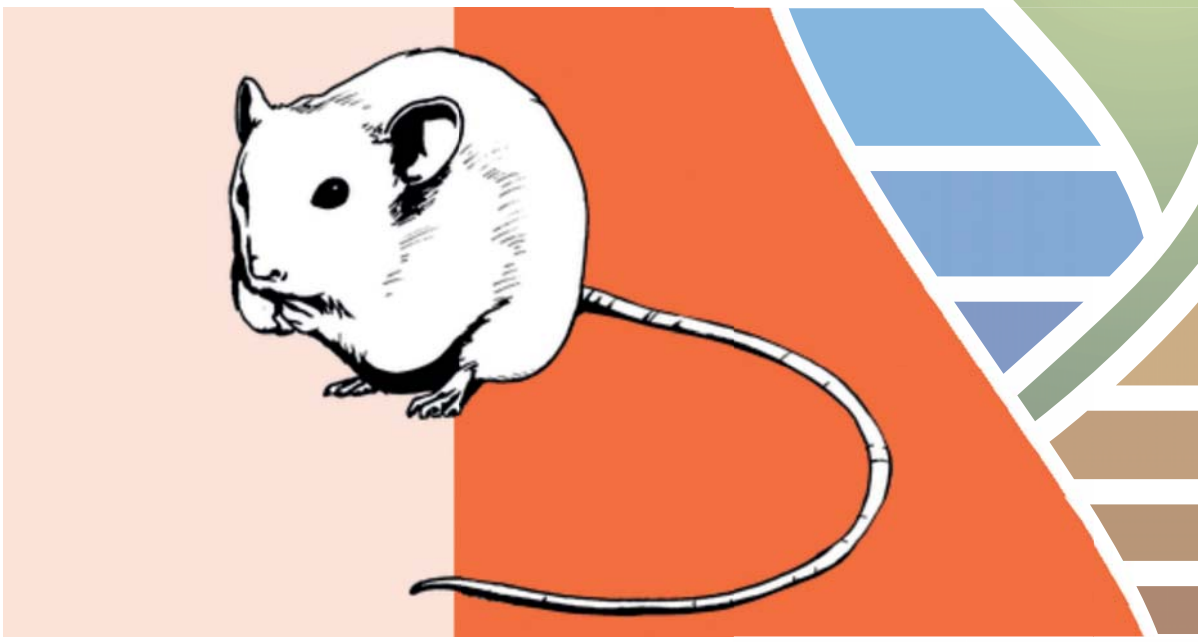

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