
Phylogeny and diversity of multicellular organisms

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Research is focused on evolutionary aspects of plant and animal species diversity at various levels of complexity from populations to processes at the global scale. Trends in biodiversity dynamics are studied in a broader context of geological history, with a special emphasize on the Quaternary period. Phenomena such as speciation, hybridization, genome evolution, phenotypic plasticity, developmental processes, and changes of behavioural or morphological traits are investigated using modern ? omics techniques in combination with morphological, ecological and behavioural approaches. Field and laboratory experimental research is done mainly on various non ? model organisms and results in scientific publications in prestigious journals as well as practical suggestions for nature conservation and protection of endangered species.

Selected outputs

- Cardinal S, Straka J. & Danforth BN (2010): Comprehensive phylogeny of apid bees reveals the evolutionary origins and antiquity of cleptoparasitism. *Proceedings of the National Academy of Sciences* 107(37): 16207–16211.
- Nel A, Roques P, Nel P, Prokin AA, Bourgoïn T, Prokop J, Szwedó J, Azar D, Desutter-Grandcolas L, Wappler T, Garrouste R, Coty D, Huang D, Engel MS, Kirejtshuk AG (2013): The earliest known holometabolous insects. *Nature* 503: 257–261.
- Janousek V, Munclinger P, Wang LY, Teeter KC, Tucker PK (2015): Functional Organization of the Genome May Shape the Species Boundary in the House Mouse. *Molecular Biology and Evolution* 32: 1208–1220.