

Session 1: Behaviour

Date: Tuesday 31 October, 2017
Time: 11:15 – 11:35
Room: Seminar Room

Adaptations of birds to tree holes: insights from long-term studies in primeval conditions

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To understand biological adaptations of organisms one has to study them in proper evolutionary context, i.e. in conditions to which the organisms have been adapted. As the hole-nesting birds have been adapting to breed in tree holes, if we wish to comprehend functional importance of different aspects of their behaviour and ecology, we should study them nesting in tree holes. Conditions for such observations are rarely met in heavily transformed European forests, but one can still find them in the Białowieża National Park (Eastern Poland), where last fragments of pristine European lowland forest have survived. All the abiotic and biotic processes leading to hole formation and decay still operate there, and diversity and abundance of tree holes is not reduced by human management. An entire assemblage of nest predators using diverse detection and attack techniques occurs there as well. Numerous studies of hole nesting birds breeding in such conditions were carried out there during the last 40 years. Here I shall summarize some results of this work, concentrating on the evolutionary (adaptive) questions. I shall introduce tree holes as a biological opportunity, follow with listing challenges of successful breeding in such places (predation, soaking, darkness, microclimate). Then, I shall show diversity of solutions used by individual bird species to cope with these problems. Finally I shall present some questions still without answers and shall stress an urgent need to preserve the last pieces of European pristine forest as indispensable evolutionary and ecological laboratories.