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Grande salle de réunion

Universidad de Oviedo

COLONISATION, DIVERSIFICATION AND EXTINCTION IN MACARONESIAN BIRDS: A SYNTHESIS OF PHYLOGENETIC AND FOSSIL INFORMATION

par

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- Understanding the age, origins and extinction of oceanic island biota has captivated the interest of evolutionary biologists since Darwin and Wallace. Because oceanic islands are discrete entities of small geographical size but with considerable habitat diversity, they provide ideal templates within which to study evolutionary processes. The peripheral North Atlantic islands, collectively referred to as Macaronesia, are considered a hot spot of biodiversity due to the fact that they contain a large proportion of endemic taxa (ca 25%).
- Recent molecular studies are providing insight into the patterns of colonization and radiation within the extant avifauna, while paleontological studies have described many extinct avian species, sometimes identifying the causes and chronology of extinction. The aim of this talk is to introduce and show some of these phylogenetic and paleontological studies in order to understand the evolutionary and biogeographic history of the macaronesian avifauna. We then compare patterns for Macaronesia with those of other oceanic archipelagos to evaluate to what extent patterns may be generalized across regions.
- Phylogenetic analyses have confirmed the close relationships between endemic macaronesian avifauna and the closest mainland areas (Europe and Africa), however, in contrast to other archipelagos of a similar age, we show that most extant birds appear to have colonized macaronesian archipelagos relatively recently, within the last four million years, despite some islands being approximately 30 million years old. Fossil records support the idea that higher species richness previously existed, with recent dating on bone collagen of selected extinct species suggesting that their extinction coincided with the arrival of aboriginal people ca 2500 years ago in the Canary Islands or the arrival of Europeans across all the macaronesian islands in the 14th century. It is plausible that these human mediated extinctions may have selectively acted upon older lineages, but there is little evidence available to evaluate this.

