动物学报 52(Supplement): 183, 2006
Acta Zoologica Sinica

Symposium 10 Demographic responses to habitat fragmentation: contrasts across space and time

Introduction

Thomas C. GRUBB Jr.[1], Mikko MÖNKKÖNEN[2]
1. Dept. of Evolution, Ecology and Organismal Biology, The Ohio State University, Columbus, Ohio 43210-1293, USA
2. Dept. Biologie, University Oulu, POB 3000, FIN-90014 Oulu, Finland

Among anthropogenic forces pressing in on the natural world of birds, none has had more drastic effects than the loss and fragmentation of habitat. This symposium steps beyond first-order descriptions of avian occurrence and abundance to examine underlying demographic responses to fragmentation, bringing together research that examines survivorship, reproductive success and/or dispersal across the globe. The first four papers addressed issues arising out of fragmentation in Southeast Asia, the tropics of Africa and South America, boreal Europe and the temperate northern hemisphere. Navjot Sohdi took a broad-brush, experimental approach to determining the effects of rainforest fragmentation and disturbance on the demographics of Southeast Asian birds. Harri Hakkarainen and co-workers (oral presentation only) focused on the effects of boreal forest fragmentation on sex ratios in the creeper *Certhia familiaris*, finding that quality of habitat and its fragmentation by changes in habitat structure biased sexes in reared broods; males suffered more than females from perturbation. Luc Lens and Erik Matthysen (oral presentation only) examined variation in survival, estimated from individual mark-recapture histories, across seven Kenyan forest species (*Zosterops sylvanus*, *Turdus belleri*, *Andropadus milanjensis*, *Phyllastrephus cabanisi*, *Pogonocichla stellata*, *Phylloscopus ruficapillus* and *Nectarinia olivacea*) that differ in their ability to disperse between isolated forest fragments. Abstracts of the two oral papers are published in the Abstract Volume of the Congress.

Shelley Hinsley and co-workers compared the consequences of habitat fragmentation for woodland birds between Europe and North America. They found that habitat fragmentation may reduce habitat quality due to changes in bird community structure, a lack of resources and increased exposure to poor conditions, resulting in reduced breeding success, increased costs of rearing young, delayed molt and reduced survival. In the concluding paper, Mikko Mönkkönen and co-workers considered demographic responses to habitat fragmentation across space and time. The underlying conclusion to be drawn from their review is that it is the population, rather than species or individual, which is affected demographically by changes in landscape and community structure arising from fragmentation, and thus focal in determining conservation strategies and resolving species management.