

附录1 鸟类功能特征及其对应的生态学意义

Appendix 1 Bird functional traits and their related ecological significance

生态特征 Ecological characteristics	分类 Classification	与生态功能的联系 Connection with ecological function
觅食位置 Foraging position	林冠、林下(包括第二冠层和灌木层)、地面 Canopy, understory (including second canopy and shrub layer), ground	林下觅食的鸟类大多是食虫类, 对虫害的控制有着积极的贡献; 林冠觅食的鸟类为食虫类和食蜜类, 对授粉和种子传播有着重要作用 Most of the birds foraging under the forest are insectivorous, which have a positive contribution to pest control; canopy foraging birds are insectivorous and nectar-eating birds, which play an important role in pollination and seed transmission
食物类型 Food type	动物源性食物(无脊椎动物和脊椎动物等)、植物源性食物(植物种子、果实等)、杂食 Food of animal origin (i.e. invertebrates and vertebrates, etc.), plant food (i.e. plant seeds, fruits, etc.), omnivores	以动物源性为食的鸟类对害虫控制有着积极的作用; 杂食性鸟类能提高物质循环效率, 以植物源性为食的鸟类可能有利于种子传播 Birds that feed on animals play a positive role in pest control, omnivorous birds can improve the efficiency of material circulation, and birds that feed on plants may be conducive to seed transmission
筑巢类型 Nesting type	开放巢(如: 松鸦、黄雀、白鹡鸰等)、洞穴(如: 啄木鸟、普通鸫、戴胜等) Open nests (e.g. <i>Garrulus glandarius</i> , <i>Spinus spinus</i> , <i>Motacilla alba</i> , etc.), caves (e.g. <i>Picidae</i> , <i>Sitta europaea</i> , <i>Upupa epops</i> , etc.)	不同类型的巢能反映鸟类对环境资源利用程度(比如以洞穴为巢的鸟类能充分利用树木由于自然灾害或虫害等原因形成的树洞) Different types of nests can reflect the degree of utilization of environmental resources by birds (e.g. cave-nesting birds can make full use of tree holes formed by natural disasters or insect pests)
筑巢位置 Nesting position	树干(在树枝、树冠等位置)、灌丛、地面 Trunk (on branches, crowns, etc.), shrub, ground	筑巢位置能反映鸟类对空间的利用程度 The nesting position can reflect the degree of space utilization by birds
迁徙状态 Migratory state	夏候鸟、留鸟、旅鸟 Summer migratory birds, resident birds, traveling birds	迁徙鸟类能影响大范围内的营养循环(比如授粉、虫害控制和种子传播) Migratory birds can affect a wide range of nutrient cycles (e.g. pollination, pest control and seed transmission)
体重 Weight	6.1–523.3 g	体重与鸟类的生活史特征相联系, 进而影响鸟类对生态系统的作用(比如生物量更大的鸟类有更高的新陈代谢率, 能控制更多害虫) Weight is linked to the life history characteristics of birds, which in turn influence their role in the ecosystem (e.g. birds with higher biomass have higher metabolic rates and control more pests)