Diversity and natural history of birds in green urban areas of the city of Quito, Ecuador (America)

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Abstract

The diversity and ecology of urban bird communities have been extensively studied in Neartic and Paleartic areas, however, little is known about urban Neotropical areas. Quito, capital city of Ecuador, is located on a highland valley in the megadiverse tropical Andes. Founded in 1534, Quito did not increase significantly its urban area until the late 19th century, growing at an accelerated and unplanned rate during the 20th century. More than 100 species were known to inhabit in Quito at the end of the 19th century. Currently, most authors estimated that no more than 40 species occur in Quito, although no systematic bird studies have been conducted. Our research is a first approach to the avifauna of Quito, surveying the diversity living in green urban areas within the city borders. We used two field methodologies, i.e. line transects and point counts, to survey 16 green urban areas over 12 months. We recorded 65 species of birds, belonging to 20 families and 9 orders. Three species were the most common and frequent: Eared Dove *Zenaida auriculata*, Rufous-collared Sparrow *Zonotrichia capensis*, and Great Thrush *Turdus fuscater*, being omnivores and granivores adapted to anthropic habitats with low ecological complexity. Six species were equally common but not as frequent: American Kestrel *Falco sparverius*, Sparkling Violetear *Colibri coruscans*, Black-tailed Trainbearer *Lesbia victoriae*, Brown-bellied Swallow *Oreochelidon murina*, Black Flowerpiercer *Diglossa humeralis*, and Cinereous Conebill *Conirostrum cinereum*, being nectarivores or small predators. All other species were either uncommon or rare, mainly insectivores and frugivores that prefer wildlife habitats with mid/high ecological complexity, and restricted to large urban parks with patches of native vegetation. We found a negative correlation between human impact and bird richness in all studied areas. These data provide important information to encourage better urban practices and to promote conservation and recovery of Quito's native wildlife.

Diego F. Cisneros-Heredia is a zoologist studying the diversity and natural history of species, the factors underlying their distribution patterns, and the effects of human activities on species and habitats, in order to support its long-term conservation. Currently, he is full-time professor at Universidad San Francisco de Quito USFQ, where he is director of the Laboratory of Terrestrial Zoology. **Eliana Montenegro** studied her BS in Biology at USFQ. She conducted part of this research as her undergraduate research project.

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