

*Avian Biodiversity in Two Zapotec
Communities in Oaxaca: The Role of
Community-Based Conservation in San
Miguel Tiltepec and San Juan Mixtepec,
Mexico*

**G. Alcántara-Salinas, E. S. Hunn &
J. E. Rivera-Hernández**


Human Ecology
An Interdisciplinary Journal

ISSN 0300-7839

Hum Ecol
DOI 10.1007/s10745-015-9777-6



Avian Biodiversity in Two Zapotec Communities in Oaxaca: The Role of Community-Based Conservation in San Miguel Tiltepec and San Juan Mixtepec, Mexico

G. Alcántara-Salinas^{1,2}  · E. S. Hunn³ · J. E. Rivera-Hernández²

© Springer Science+Business Media New York 2015

Abstract Oaxaca is one of the most biologically and culturally diverse states in Mexico, which is in turn a world region of megadiversity. We document the rich avifauna of two indigenous Zapotec communities, San Miguel Tiltepec of the Sierra Norte and San Juan Mixtepec of the Sierra Sur. During several years of periodic ethnobiological field research in these communities, we have recorded a total of 313 species: 208 in San Miguel and 191 in San Juan (just 26.5 % of the total for both communities are shared), a list that includes approximately 40 % of endemic species and approximately 29 % of species of special concern known from the state of Oaxaca. The two communities contrast notably in their habitats but share deep roots in their local landscapes and traditions of conservative management of biological resources within their municipal boundaries. We also recorded data on Zapotec names and cultural beliefs and practices regarding birds and noted community attitudes and administrative practices that for centuries have sustained a rich mosaic of critical

avian habitats. We suggest that indigenous communities in Mexico and elsewhere, given certain preconditions, may provide critical human resources for biodiversity conservation in the future.

Keywords Traditional resource management · Biocultural conservation · Avian diversity · Traditional ornithological knowledge · Zapotec · Mexico

Introduction

Mexico ranks third worldwide in biodiversity though fourteenth in land area (Ramamoorthy *et al.* 1993:xxxi). Within Mexico, the state of Oaxaca is exceptional. Oaxaca ranks first in bird diversity with 736 confirmed species plus 60 likely additional species not yet confirmed (Navarro-Sigüenza *et al.* 2014:486), over 70 % of the 1,100 species so far recorded for Mexico in just 95,364 km², 4.8 % of the national territory, approximately the size of the state of Indiana. This is almost as many species as recorded for all of North America north of Mexico.

Biodiversity is measured not only in terms of total species richness but also in terms of the proportion of species endemic with respect to various regional limits. Following González-García and Gómez-de Silva (2002), we count as endemics bird species that are restricted to within the borders of Mexico (61 such species occur in Oaxaca, of which 26 occur within our two communities). Of these, we recognize some as “regional endemics,” which are species restricted to south-central Mexico, north of the Isthmus of Tehuantepec and south of the Trans-Volcanic Axis (10 species within our two communities). Finally, we note “quasi-endemics,” which are species that are limited to Mexico except for highly restricted intrusions across Mexico’s northern or southern borders (14 such

✉ G. Alcántara-Salinas
galcantars@uv.mx

E. S. Hunn
enhunn323@comcast.net

J. E. Rivera-Hernández
jriverah@geobicom.org

¹ Facultad de Ciencias Biológicas y Agropecuarias, Universidad Veracruzana, Peñuela Municipio de Amatlán de los Reyes, Veracruz, México C.P. 62210

² Centro de Estudios Geográficos, Biológicos y Comunitarios, Sociedad Civil (GEOBICOM S.C.) Córdoba, Veracruz, México C.P. 94542

³ Department of Anthropology, University of Washington, Seattle, WA, USA