

COLLEGE OF ARTS AND SCIENCES

Department of Biology, MSC 3AF  
New Mexico State University  
P.O. Box 30001  
Las Cruces, NM 88003-8001

Telephone: (575) 646-3611  
Fax: (575) 646-5665



24 July 2023

Dear Editors,

My coauthors and I are pleased to submit our manuscript entitled 'A cultural atlas of vocal variation: yellow-naped amazon contact calls exhibit discrete call types throughout their range' for your consideration as an original research article for the special issue 'Cryptic Diversity Within Bird Species Revealed by Call Types' in *Frontiers in Bird Science*. Vocal dialects have been described in a wide range of avian species, but only rarely has variation in learned vocalizations been examined across the entire range of a species. Thus it is difficult to infer whether dialect formation is intrinsic to a species or dependent on local social and ecological processes that may vary spatially.

To address this question, we examined acoustic variation in contact calls across the Mesoamerican range of the yellow-naped amazon, a parrot species in which vocal dialects have been previously described in Costa Rica populations. We used multiple analytical approaches to confirm that the mosaic pattern of variation seen in Costa Rica is present across the entire range of this species. Calls could be classified into discrete types that were regionally specific. Although no specific call types were repeated across the range, similar structural characteristics could be detected in multiple call types, suggesting conserved paths of cultural evolution. These results support the idea that dialect formation is a general product of social dynamics that favor philopatry and the matching of local call types in this species. We feel our paper fits the goal of the special issue to document call diversity in a wide range of avian taxa.

We suggest Thomas Hahn and Matthew Young as editors, and the following reviewers:

- Karl Berg, Department of Biology, University of Texas Rio Grande Valley, [karl.berg@utrgv.edu](mailto:karl.berg@utrgv.edu)
- Paolo Laiolo, Instituto Mixto de Investigación en Biodiversidad, Universidad de Oviedo, Campus de Mieres, [paola.laiolo@csic.es](mailto:paola.laiolo@csic.es)
- Fiona Backhouse, Lab of Ornithology, Cornell University, [frb27@cornell.edu](mailto:frb27@cornell.edu)

In the manuscript we have provided links to a GitHub site that contains all of our code, and a Dryad site that hosts our primary data. The Dryad site is not currently activated for public viewing, but we are glad to do so upon request if it would be helpful for review. We thank you for your consideration of this study and look forward to your decision on our manuscript.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy F. Wright".

Timothy F. Wright  
Professor of Biology