ORNITHOLOGICAL EXPLORATION AND CONSERVATION OF AN ISOLATED MOUNTAIN RANGE IN NORTHERN PERU

Blake-Nuttall Fund Preliminary Report

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INTRODUCTION

Although ornithological exploration has a long history in the Neotropics, the sheer diversity and remoteness of much of the region have limited the study of its avifauna. To this end, many areas and species remain poorly or completely unknown. This is particularly true for the Amazonian and Andean regions of South America where ornithologists are still in the process of defining species distributions and discovering new taxa. For example, within the country of Peru alone new species are still frequently discovered [1, 3-5, 7, 12, 13] and species distributions are constantly being refined. Many of these discoveries were made in the Andean region of northern Peru where complex topography and climate have given rise to a hotspot of avian diversity. Specifically, across northern Peru a pattern is observed where deep, dry river valleys isolate patches of humid forest and promote speciation. As a result, many species have isolated distributions in humid forests and grasslands on single ridges or mountain ranges. Although this pattern is well established, several isolated ridges with humid forest habitat are still poorly known and warrant exploration. One such ridge, hereafter Cerro Mishahuanga, occurs in the western Andes of northern Peru (Figure 1).

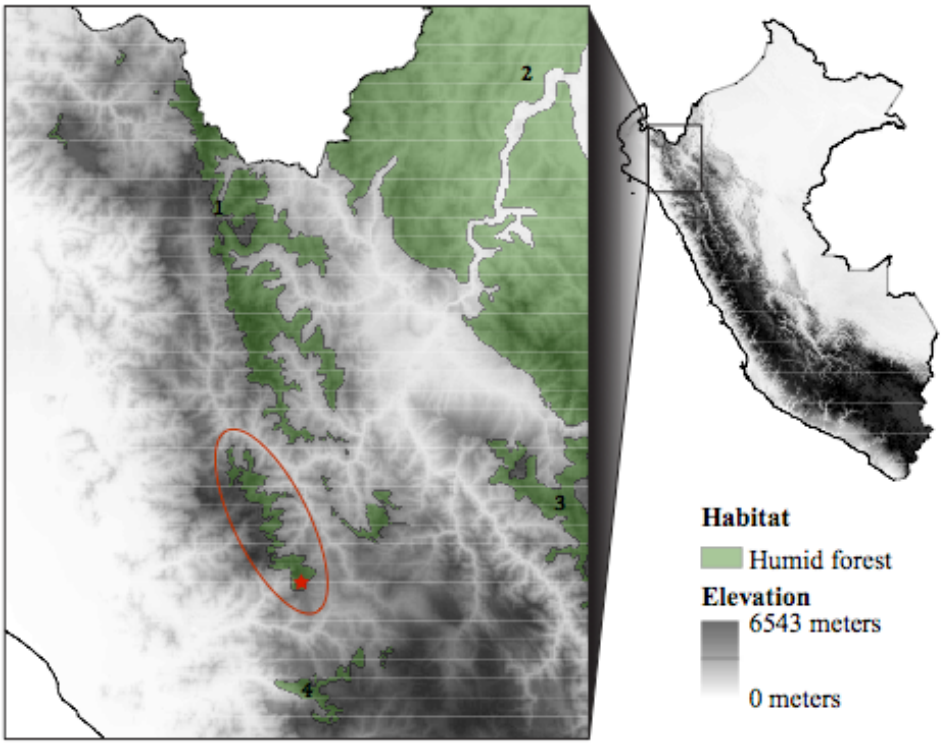

Figure 1. Map of northern Peru illustrating the distribution of humid montane forest (green shading) and the location of Cerro Mishahuanga (red oval). The site visited 15-20 August 2017 is indicated with a star. Published avifaunal surveys are indicted by numbers: (1) Parker et al. 1985, (2) Brooks et al. 2009, (3) Mark et al. 2007, (4) Schmitt et al. 2013.

The eastern slopes of Cerro Mishahuanga contain a band of humid forest between 2400-3000 meters above sea level, as well as a mosaic of elfin forest, paramo, and puna grassland above 3000 meters (Figure 2). These humid forests and grasslands represent the largest tract of

humid habitat in the western Peruvian Andes and are isolated from similar patches of humid habitat by three dry river valleys; the Huancabamba River separates Cerro Mishahuanga from humid habitats to the northeast, while the Chotano and Chancay rivers separate Cerro Mishahuanga from humid habitats to the east and south. Although the avifaunas of several nearby humid habitats have been thoroughly surveyed by ornithologists[2, 6, 8, 11], no detailed survey of Cerro Mishahuanga has been conducted. As a result, little is known about the composition of the area's avifauna. Considering Cerro Mishahuanga's complete isolation from other humid habitats in northern Peru (Figure 1), the potential to discover range extensions and even new taxa is high. Furthermore, continued habitat destruction due to mining, livestock grazing, and coffee plantations threaten local bird populations, making the area a high conservation priority. Accordingly, myself and 4 colleagues conducted a preliminary avifaunal survey of Cerro Mishahuanga in order to better understand the region's avian diversity.

Figure 2. Typical habitat at treeline on Cerro Mishahuanga. Photos by C. Jonathan Schmitt.

OBJECTIVES

1. Survey and document the avifauna in humid puna grassland and treeline habitats of Cerro Mishahuanga.
2. Evaluate the taxonomic distinctiveness of a likely new species of *Scytalopus* tapaculo.
3. Search for other undescribed bird taxa.
4. Publish a detailed description of the avifauna of Cerro Mishahuanga.

METHODS

Donna C. Schmitt, Gustavo A. Bravo, Paloma Ordoñez, Walter Vargas Campos, and myself visited a locality at the southern end of Cerro Mishahuanga during the period 15-20 August 2017 (Figure 1). The habitat consisted primarily of humid puna grassland, humid treeline shrubbery, and elfin forest patches around 3200 m elevation; however, we briefly visited taller humid temperate forest and remnant *Polylepis sp.* woodland (Figure 2). During the visit we used mist-nets and daily surveys[9] of birds to estimate relative species abundance. These methods were used in combination because each is associated with different detection biases[10]. Up to 12 mist-nets (12 x 2 m; 32–36 mm mesh diameter) were opened before daylight (usually by 0500h) and closed after dusk (usually after 1800h) daily. While open, mist-nets were checked every 20 minutes. We documented each species caught in mist-nets using digital photographs or a specimen for species known to be present at high density in the Cachil Valley. Specimens were deposited at the Centro de Ornitologia y Biodiversidad (CORBIDI) and Museum of Comparative Zoology, Harvard University. Daily surveys using the area-search method[9] were conducted individually or by groups of 2–3 observers familiar with the regional avifauna. The majority of surveys were conducted during periods of peak bird activity at 0530–0800h and 1700–1830h. Birds were counted by visually and aurally with the aid of binoculars and a Sony PCM-D50 recorder with Sennheiser ME-66 microphone. All efforts were made to avoid double-counting individual birds and observers attempted to survey the area as systematically as possible.

PRELIMINARY RESULTS

We detected a total of 49 species during our preliminary surveys (Appendix 1). In general, the avifauna was characteristic of humid montane forests and puna grasslands north of the Marañón River. One notable exception was an undescribed species of tapaculo belonging to the genus *Scytalopus* (Figure 3). Although this undescribed species was originally discovered on a previous

Figure 3. An individual of the new species of *Scytalopus* discovered at Cerro Mishahuanga. Photograph taken by C. Jonathan Schmitt.

expedition to the northern Cerro Mishahuanga by myself and colleagues from the University of New Mexico, Louisiana State University, and CORBIDI, the taxonomic status of the species remained unresolved owing to extreme phenotypic similarity with other sympatric and parapatric *Scytalopus* species. During our August 2018 visit we were able to acquire a small series of specimens with associated voice recordings needed to clarify the validity of the new species. Genetic and vocal analyses are already underway, and we are delighted to report that the new species is both genetically and vocally distinct. We hope that the discovery of a new species from Cerro Mishahuanga will eventually help convince local and national governments to conserve the humid grasslands and forests of the area.

PUBLICATIONS IN PROGRESS

At present, my colleagues and I are working on two publications supported by the Blake-Nuttall fund. The first is the scientific description of the new species of *Scytalopus* which we anticipate being published in early 2019. The second publication in progress is a formal description of the avifauna of Cerro Mishahuanga and will include data from our visit funded by the Blake-Nuttall fund, many previous visits by myself and others, and at least one future visit to the area. The anticipated publication of this late 2019.

ACKNOWLEDGEMENTS

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APPENDIX 1. List of birds detected on 15-20 August 2017.

Species	Relative Abundance
Black Vulture (*Coragyps atratus*)	Common
Turkey Vulture (*Cathartes aura*)	Common
White-throated Hawk (*Buteo albigula*)	Rare
Variable Hawk (*Geranoaetus polyosoma*)	Uncommon
White-tipped Dove (*Leptotila verreauxi decolor*)	Common
Andean Pygmy-Owl (*Glaucidium jardinii*)	Uncommon
Sparkling Violetear (*Colibri coruscans*)	Common
Little Sunangel (*Heliangelus micraster*)	Common
Purple-backed Thornbill (*Ramphomicron microrhynchum*)	Uncommon
Tyrian Metaltail (*Metallura tyrianthina*)	Common
Shining Sunbeam (*Aglaeactis cupripennis*)	Common
Rainbow Starfrontlet (*Coeligena iris*)	Common
Great Sapphirewing (*Pterophanes cyanopterus*)	Common
Andean Flicker (*Colaptes rupicola*)	Common
Rufous-capped Antshrike (*Thamnophilus ruficapillus*)	Uncommon
Chestnut-crowned Antpitta (*Grallaria ruficapilla*)	Common
Rufous Antpitta (*Grallaria rufula cajamarcae*)	Common
Ash-colored Tapaculo (*Myornis senilis*)	Uncommon
Blackish Tapaculo (*Scytalopus latrans subcinereus*)	Common
Undescribed Tapaculo species (*Scytalopus sp. nov*)	Common
Line-cheeked Spinetail (*Cranioleuca antisiensis*)	Common
Streaked Tuftedcheek (*Pseudocolaptes boissonneautii*)	Uncommon
Pearled Treerunner (*Margarornis squamiger*)	Uncommon
Many-striped Canastero (*Asthenes flammulata*)	Common
Rufous Spinetail (*Synallaxis unirufa*)	Uncommon
Azara's Spinetail (*Synallaxis azarae*)	Common
White-throated Tyrannulet (*Mecocerculus leucophrys*)	Common
Tufted Tit-Tyrant (*Anairetes parulus*)	Common
White-crested Elaenia (*Elaenia albiceps*)	Common
Black-capped Tyrannulet (*Phyllomyias nigrocapillus*)	Uncommon

Species	Relative Abundance
Tawny-rumped Tyrannulet (*Phyllomyias uropygialis*)	Common
Yellow-bellied Chat-Tyrant (*Ochthoeca diadema*)	Uncommon
Rufous-breasted Chat-Tyrant (*Ochthoeca rufipectoralis*)	Common
Red-crested Cotinga (*Ampelion rubrocristatus*)	Common
Rufous-browed Peppershrike (*Cyclarhis gujanensis*)	Common
House Wren (*Troglodytes aedon*)	Uncommon
Sedge Wren (*Cistothorus platensis aequatorialis*)	Common
Great Thrush (*Turdus fuscater*)	Common
Russet-crowned Warbler (*Myiothlypis coronata*)	Common
Spectacled Redstart (*Myioborus melanocephalus*)	Common
Superciliaried Hemispingus (*Thlypopsis superciliaris*)	Common
Lacrimose Mountain-Tanager (*Anisognathus lacrymosus*)	Common
Buff-breasted Mountain-Tanager (*Dubusia taeniata*)	Uncommon
Blue-backed Conebill (*Conirostrum sitticolor*)	Common
Black Flowerpiercer (*Diglossa humeralis*)	Common
Masked Flowerpiercer (*Diglossa cyanea*)	Common
Rufous-collared Sparrow (*Zonotrichia capensis*)	Common
Yellow-breasted Brushfinch (*Atlapetes latinuchus*)	Common
Golden Grosbeak (*Pheucticus chrysogaster*)	Uncommon