ORNITOLOGIA NEOTROPICAL 23: 299–302, 2012

DESCRIPTION OF THE NEST AND EGGS OF THE BEARDED MOUNTAINEER (*OREONYMPHA NOBILIS*) FROM PERU

Sergio Córdoba-Córdoba[1,2], María Ángela Echeverry-Galvis[1,2], Sergio Chaparro-Herrera[2], & Nathalie Morales-G.[2]

[1]Department of Ecology and Evolutionary Biology, Guyot Hall R106A, Princeton University, Princeton, NJ 08544, USA. *E-mail:* scordoba@princeton.edu

[2]Asociación Bogotana de Ornitología – ABO, Calle 33 No. 20-52, 2do Piso, Bogotá, Colombia. *E-mail:* abo@rnoa.org

Descripción del nido y huevos del colibrí Montañés Barbudo (*Oreonympha nobilis*) del Perú.

Key words: Bearded Mountaineer, *Oreonympha nobilis*, Trochilidae, eggs, nest, Peru, restricted range.

INTRODUCTION

The Bearded Mountaineer (*Oreonympha nobilis*) is a restricted-range species found in the Peruvian High Andes, with two currently recognized subspecies: *O. n. nobilis* from the Apurimac and Urubamba valleys near Cuzco (Fjeldså 1999, Schulenberg *et al.* 2010), and *O. n. albolimbata* from Huancavelica and the south basin of the Apurimac river (Fjeldså 1999). It has been considered uncommon to locally common (Fjeldså 1999, Schulenberg *et al.* 2010, BirdLife International 2011), and inhabits semi-open and dry mountain scrub with Cactaceae, often in proximity to settlements with *Nicotiana* bushes and *Eucalyptus* trees, as well as forests with *Escallonia*/*Polylepis* with dense thorny scrub in rocky terrain between 2500 and 3900 m a.s.l. (Fjeldså 1999, Schulenberg *et al.* 2010, A. Weller pers. com.). There is no information on the breeding biology of this species and no nest has previously been described, even though Morrison (1939) and Fjeldså (1999) have suggested it might nest in caves or gorges in stream ravines.

METHODS

Observations of the Bearded Mountaineer (*O. n. nobilis*) were made at the entrance to the Tipon Archeological Park (13°34'S, 71°47'W, 3560 m a.s.l.), Oropesa district, Quispicanchis province, Cuzco, Peru. All observations were done 12 November 2011 during a short afternoon visit. The area was covered with scrub

vegetation with scattered shrubs and some grass, with agricultural lands surrounding the archeological site and some *Eucalyptus* trees along the road.

RESULTS AND DISCUSSION

We observed a female Bearded Mountaineer hovering at a *Dunalia espinosa* (Solanaceae) bush (c. 1.5 m tall) with purple flowers, both alone and with Black-throated Flowerpiercer (*Diglossa brunneiventris)* on the same bush, without any behavioral interaction between them. The female Bearded Mountaineer visited several flowers at a time before flying to either a nearby cliff or to the underside of the thatched roof of a cabin nearby, where we found her nest. The individual stayed at the nest for at least 5 min at a time, and left it repeatedly for short periods (5–6 min). Each time, she visited the nearby *Dunalia espinosa* flowers, then flew towards other plants on a nearby cliff (10–15 m away from the nest) and finally returned to her nest in a straight line.

We discovered the nest 2.25 m from the ground, attached to overhanging straws, on the underside of the cabin's thatched roof at the entrance of the park. The nest was a compact open cup/lateral type (Simon & Pacheco 2005) almost suspended; made mainly of fern ramenta, rootlets, fibers, and moss; and externally with green moss, a few lichens and only traces of cobwebs (Fig. 1A). Internally, the eggcup contained mainly green moss and some loose feathers (Fig. 1B). The nest was a little asymmetrical, longer on the left side, and with some loose hanging "tail" extensions of nesting material. The external measurements of the nest were 67 mm wide, 55 mm long on the right side, and 70 mm long on the left (94 mm, including the hanging material). The inner diameter was 41 x 42 mm, with an estimated depth of c. 20 mm. The nest contained two immaculate white eggs, as typical for all hummingbirds (exceptionally three; e.g., reported for *Chalcostigma herrani* by Borrero 1952), of c. 15 x 10 mm (Fig. 1B).

The nest was similar to that of the related Bearded Helmetcrest (*Oxypogon guerinii*) and Rainbow-bearded Thornbill *Chalcostigma herrani*, being suspended and externally constructed with moss and roots, but not having the soft wooly lining plant material found in the inside cup of *Oxypogon* nests (Moore 1934, Ruschi 1961, Snow 1983), which was replaced instead by some scattered feathers. The nest also had thick (18–20 mm) walls similar to the nests of *Oxypogon* and other high elevation hummingbirds, probably for insulation purposes, since cold winds are common in the afternoons and the temperature drops at night (Ruschi 1961, Carpenter 1976, Snow 1983).

The nest was placed in a protected overhanging, and thus sheltered from rain and direct sunlight, and somewhat from wind, not far away from the running water of Tipon's canal system and waterfalls. This is similar to the nest locations (in rocky walls, cliffs, or caves) reported for other Andean trochilids (Moore 1934, Ruschi 1961, Snow 1983, Züchner 1998). In general, nest architecture and placement support the systematic position of the monotypic genus *Oreonympha* to be the closest relative of *Chalcostigma* and *Oxypogon* within the Andean clade of the coquettes as indicated by recent phylogenetic studies (McGuire *et al.* 2007, 2009).

Most likely, the Bearded Mountaineer breeds during the rainy season as has been proposed for the Andean Hillstar (*Oreotrochilus estella*) and other hummingbird species also found at high altitudes in this area (Carpenter 1976, del Hoyo *et al.* 1999). November corresponds to the onset of the rainy season around Cuzco, which continues until May with an annual average of c. 732 mm (Ministerio de Agricultura 2010).

FIG. 1. *Oreonympha nobilis* nest found at the Tipon Archeological Site in Cuzco, Peru. A) Attached to straw and hanging from a thatched roof. B) Details of the eggs and egg cup with some feather linings.

ACKNOWLEDGMENTS

SCC and MAEG want to thank the Department of Ecology and Evolutionary Biology at Princeton University for financial support to attend the Neotropical Ornithological Congress in Cuzco, Peru. Special thanks to Daniel Stanton for help with plant identification, and to Allison K. Shaw for help with the manuscript. We thank A. Weller and an anonymous reviewer for suggestions and comments on earlier versions of the manuscript.

REFERENCES

BirdLife International. 2011. Species factsheet: *Oreonympha nobilis*. *In* IUCN Red List for birds. Downloaded on 15 December 2011 from http://www.birdlife.org.

Borrero, J. I. 1952. Apuntes sobre aves colombianas. Lozania 3: 1–12.

Carpenter, F. L. 1976. Ecology and evolution of an Andean Hummingbird (*Oreotrochilus estella*). Univ. Calif. Pub. Zool. 106: 1–75.

Fjeldså, J. 1999. Bearded Mountaineer *Oreonympha nobilis*. Pp. 759 *in* del Hoyo, J., A. Elliott, & J. Sargatal. (eds). 1999. Handbook of the birds of the world. Volume 5: Barn-owls to hummingbirds. Lynx Edicions, Barcelona, Spain.

del Hoyo, J., A. Elliott, & J. Sargatal. 1999. Handbook of the birds of the world. Volume 5: Barn-owls to hummingbirds. Lynx Edicions, Barcelona, Spain.

McGuire, J. A., C. C. Witt, D. L. Altshuler, & J. V. Remsen Jr. 2007. Phylogenetic systematics and biogeography of hummingbirds: Bayesian and Maximum Likelihood analyses of partitioned data and selection of an appropriate partitioning strategy. Syst. Biol. 56: 837–856.

McGuire, J. A., C. C. Witt, J. V. Remsen Jr., R. Duddley, & D. L. Altshuler. 2009. A higher-level taxonomy for hummingbirds. J. Ornithol. 150: 155–165.

Ministerio de Agricultura. 2010. El clima en el Perú. Cuzco. Downloaded on 18 December 2011 from http://www.minag.gob.pe/el-clima/el-clima-en-el-peru.html#.

Moore, R. T. 1934. The Mt. Sangay Labyrinth and its fauna. Auk 51: 141–156.

Morrison, A. 1939. The birds of the department of Huancavelica, Peru. Ibis 14: 453–486.

Ruschi, A. 1961. Algumas observações sobre *Oxypogon guerinii lindenii* (Parzudaki) (Aves). Bol. Mus. Biol. Mello Leitao 29: 1–9.

Schulenberg, T. S., D. F. Stotz, D. F. Lane, J. P. O'Neill, & T. A. Parker III. 2010. Birds of Peru. Revised ed. Princeton Univ. Press, Princeton, New Jersey, USA.

Simon, J. E., & S. Pacheco. 2005 On the standardization of nest descriptions of Neotropical birds. Rev. Bras. Ornitol. 13: 143–154.

Snow, D. W. 1983. The use of *Espeletia* by paramo hummingbirds in the Eastern Andes of Colombia. Bull. Br. Ornithol. Club 103: 89–94.

Züchner, T. 1998. Reproductive patterns of two hummingbird species at high elevation in the Venezuelan Andes. Pp. 341 *in* Adams, N. J., & R. H. Slotow (eds). Proc. 22 Int. Ornithol. Congr., Durban. Ostrich 69.

Accepted 5 June 2012.