A female Lucifer Hummingbird (*Calothorax lucifer*) with iridescent chin feathers

Raúl Ortiz-Pulido¹ and Vanessa Martínez-García

Laboratorio de Ecología de Poblaciones, Centro de Investigaciones Biológicas, Universidad Autónoma del Estado de Hidalgo, A.P. 69, Pachuca, Hidalgo, 42001, México

Received 27 January 2005; accepted 8 June 2005

ABSTRACT. We report an observation of a female Lucifer Hummingbird (*Calothorax lucifer*) with iridescent feathers on the chin, resembling the plumage of the juvenile male. The female and nest were found in a xeric shrubland in Barranca de Metztitlán Biosphere Reserve, Hidalgo State, Mexico. This is the first definitive report of a breeding female with such plumage, supporting a previous observation in which sex was not confirmed by behavior. Although this condition appears to be rare in female Lucifer Hummingbirds, females in other species of hummingbirds exhibit much variation in the amount of iridescent plumage on the chin and in some, such as Costa’s Hummingbirds (*Calypte costae*), females commonly exhibit colored feathers on the chin.

SINOPSIS. *Hembra adulta de Calothorax lucifer con plumas iridiscentes en la barbilla*

Reportamos una observación de una hembra de colibrí Lucifer (*Calothorax lucifer*) con plumas iridiscentes en el babero, parecidas al plumaje de un macho juvenil. La hembra, la cual estaba incubando, fue encontrada en un área arbustiva xerófita en la Reserva Biosférica Barranca de Metztitlán, en Hidalgo, México. Este es el primer informe definitivo de una hembra reproductora con este tipo de plumaje, en apoyo a una observación previa en donde el sexo no fue confirmado. Esta condición parece ser rara en estas aves en contraste con otras especies dimórficas de México y de los Estados Unidos.

Key words: Barranca de Metztitlán Biosphere Reserve, *Calothorax lucifer*, Hidalgo, hummingbird coloration, Lucifer Hummingbird, Trochilinae

Among hummingbird species that exhibit sexual differences, many males have iridescent feathers on the gorget that reflect metallic colors such as red, orange, green, and blue. Females typically lack these colored feathers (Johnsgard, 1997, del Hoyo et al. 1999). Lucifer Hummingbirds (*Calothorax lucifer*) range from the southwestern United States to central Mexico (Howell and Webb 1995, AOU 1998). Only adult males have an iridescent gorget that reflects purple, red, or magenta, and a long, dark, deeply forked tail. Females have a short, double-lobed tail with green undertail coverts and rectrices with three colors: cinnamon (proximal section), black (middle), and white (terminal). Immature males resemble females in plumage, but first-year males have an elongated, forked tail and some iridescent feathers in the gorget (Peterson and Chalif 1989, Russell et al. 1994, Scott 1994, Howell and Webb 1995, Johnsgard 1997, del Hoyo et al. 1999, Scott 1999, Williamson 2001, National Geographic Society 2002). Pyle (1997) indicated that some females may have a few iridescent feathers on the chin, but noted the need for more data. Here we report an observation of a nesting individual with this rare plumage.

Our observation was made in the Barranca de Metztitlán Biosphere Reserve (BMBR; 96,043 ha) in Hidalgo, Mexico (19°35′–21°25′N, 97°57′–99°51′E, 1000–2300 m asl). BMBR has a mean annual temperature between 18 and 22°C and mean annual precipitation of 500–700 mm (INEGI 1999). The reserve consists primarily of xeric shrubland, dry forest, *Juniperus* forest, *Quercus* forest, and *Pinus* forest (SEMARNAT 2001). Lucifer Hummingbirds are migratory at the BMBR, and are present from February to November.

On 13 May 2004, while walking along a transect in xeric shrub, we discovered a nesting female Lucifer Hummingbird. It exhibited all the characteristics of female Lucifer Hummingbirds (Peterson and Chalif 1989, Williamson 2001, National Geographic Society 2002) except for the presence of some iridescent feathers on the chin that reflected purple, red, and magenta...
Fig. 1. Female Lucifer Hummingbird with iridescent feathers on the chin. Photograph taken on 13 May 2004 in a xeric shrubland located in Reserva de la Biosfera Barranca de Metztitlán, Hidalgo, México.

(Fig. 1). The nest had two eggs. During all subsequent visits, the female flew from the nest and returned after a few minutes. We last observed the female on the nest on 31 May.

Although most references (Peterson and Chalif 1989, Howell and Webb 1995, Johnsgard 1997, Scott 1999, Williamson 2001, National Geographic Society 2002) do not report female Lucifer Hummingbirds with iridescent feathers on the chin, this characteristic has been reported for immature males. However, general plumage coloration, tail shape and color, and the incubation behavior all indicate that this bird was a female. Among hummingbirds, only females are known to tend the nest (del Hoyo et al. 1999).

Iridescent plumage seems to be rare in female Lucifer Hummingbirds. At four locations (two in the BMBR, one 50 km from the BMBR near Pachuca, and one 100 km from the BMBR near Nopala Town) over a 3-yr period (2002–2004), we observed 194 individuals (nearly 50% females) and only two or, possibly, three had any iridescence on the chin. Further study is needed to determine how often such plumage occurs. We urge those who study hummingbirds to record the presence or absence of such plumage in females.

ACKNOWLEDGMENTS

We thank P. E. Scott, W. H. Baltosser, C. Lara, A. Córdoba-Aguilar, G. Carmona, and M. Angel Martínez for kind suggestions on previous versions of this manuscript, and the staff of Barranca de Metztitlán Biosphere Reserve, especially G. Jorge, A. Rodriguez, and S. Montes for making fieldwork possible. We appreciate the improvements in our use of English made by D. S. Germant and, especially, P. Lowther through the Association of Field Ornithologists' program of editorial assistance. CONACyT-SEMARNAT (project 2002-C01-0248), CONABIO (project ASO10) and SEP (through its program PROMEP) financially supported our fieldwork.
LITERATURE CITED


