

A new photographic record of Eastern Whip-poor-will *Antrostomus vociferus* from southern Central America, with notes on a threat display

Andrew C. Vallely and Mark Wainwright

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El Chotacabras Norteño *Antrostomus vociferus*, un migrante neártico de larga distancia y especie casi amenazada según la UICN, pasa el invierno boreal entre el sur de Estados Unidos y Centroamérica, pero rara vez se reporta en la parte sur de su distribución, en Costa Rica y Panamá. Repasamos reportes de esa región y presentamos un nuevo registro fotográfico de Monteverde, prov. Puntarenas, Costa Rica. Encontramos que hay poca documentación de *A. vociferus* en la parte sur de Centroamérica. De los seis especímenes conocidos de esta región, cinco son hembras, y todos los registros documentados son de elevaciones medias en la vertiente pacífica. También describimos un comportamiento defensivo interesante, consistiendo en un movimiento brusco de la cabeza con la boca abierta, el cual se asemeja al movimiento de mordida de una culebra.

Eastern Whip-poor-will *Antrostomus vociferus* is a Nearctic migrant that breeds locally from southern Canada to south-east USA and is thought to winter from south-east USA to Central America^{8,25}. The species is rarely documented during its non-breeding season and, recent technological advances notwithstanding, its winter distribution remains poorly known^{1,8}. It is classified as Near Threatened by IUCN¹⁵ and is thought to be declining in many parts of its breeding range⁸.

Most authors have considered *A. vociferus* a rare winter resident or vagrant in Central America^{11,18,23,29}. Only Dickey & van Rossem⁹ called it a “common winter visitant” in El Salvador and reported 10 specimens taken at Mt. Cacaguatique, dpto. San Miguel, in December 1925. To the south, *A. vociferus* was long known from just three specimens in Nicaragua, of which at least one was implied to correspond to nominate *vociferus*¹⁸. Carriker⁵ concluded that “they are common in winter further north, but evidently are

only stragglers in Costa Rica”. Carriker’s remarks are consistent with recent studies using geolocators that suggest the main winter range in Middle America to be the Pacific slope of southern Mexico and adjacent northern Central America^{2,12,26}.

A search of regional monographs and museum databases for records of *A. vociferus* from the southern portion of the known winter distribution in Costa Rica and Panama returned just two published sight records and six specimens (Table 1; Fig. 1). The earliest record is a specimen from San José, Costa Rica, listed by Cherrie⁶ as deposited in the Museo Nacional de Costa Rica. Slud²⁷ mentioned four specimens from Costa Rica without details, but these likely include the specimen mentioned by Cherrie, two specimens taken by Austin Paul Smith and a 1963 specimen of uncertain sex preserved in alcohol collected by Jorge Pérez (Table 1). A single specimen from prov. Chiriquí, Panama, is the southernmost documented record³¹. Published sight records include a female at Taboga,

Table 1. Specimens from Costa Rica and Panama catalogued as Eastern Whip-poor-will *Antrostomus vociferus* in bird collections of natural history museums. Collections: MNCR Museo Nacional de Costa Rica; AMNH American Museum of Natural History; UMMZ University of Michigan Museum Zoology; CUMV Cornell University Museum of Vertebrates; FMNH Field Museum Natural History; USNM United States National Museum. Sex: F female.

Collection no.	Sex	Verbatim locality	Date	Collector
MNCR 2823	F	San José, Costa Rica	24 Feb 1889	George K. Cherrie
AMNH 389419	F	El Pozo, Rio Térraba, Costa Rica	15 Dec 1923	Austin P. Smith
UMMZ 134965	F	Puntarenas, Costa Rica	18 Jan 1931	Austin P. Smith
FMNH 159700	F	Alajuela, Zarcero, Costa Rica	6 Dec 1934	[not known]
USNM 458478	F	Cerro Punta, Potrero Cuatro Mil, Chiriquí, Panama	8 Mar 1955	Alexander Wetmore
CUMV 38331	(?)	Turrialba, Cartago, Costa Rica	7 Feb 1963	Jorge Pérez

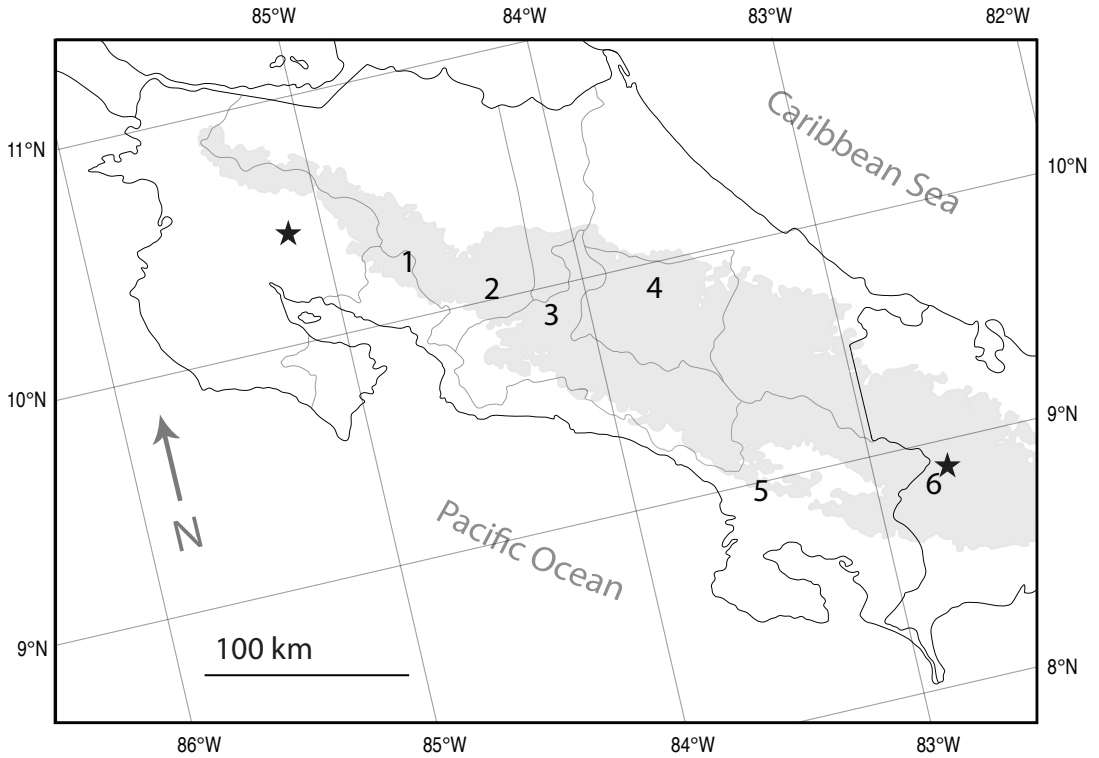


Figure 1. Eastern Whip-poor-will *Antrostomus vociferus* reports from southern Central America. Stars indicate published sight records at Taboga, Guanacaste Prov., Costa Rica and Lagunas de Volcán, Chiriquí Prov., Panama. Numbered localities ($n = 6$) for documented records are: (1) Monteverde, Prov. Puntarenas, Costa Rica: photographic record, this note; (2) Zarcero, Alajuela, Costa Rica: FMNH 159700; (3) San José, San José, Costa Rica: MNCR 2823; (4) Turrialba, Cartago: CUMV 38331; (5) El Pozo, Río Térraba, Puntarenas, Costa Rica: AMNH 389419; (6) Volcán Baru, Chiriquí, Panama: USNM 458478. Shading indicates areas above 700 m elevation. For museum acronyms see Table 1.

Guanacaste, Costa Rica, on 9–12 February 1967²⁰ and one seen on 15 January 1974 at Lagunas de Volcán, Chiriquí, Panama²³ (Fig. 1). Additional sight reports can be seen on eBird¹⁰.

New photographic record

On the night of 11 March 2018, MW observed an apparently exhausted nightjar as it made short flights around a garden (10°19'44"N 84°49'42"W) at c.1,400 m elevation at Monteverde, Puntarenas, Costa Rica, on the upper Pacific slope. The bird remained present on the morning of 13 March, and MW obtained photographs (Figs. 2–3). It was identified as *A. vociferus* based on its overall pale greyish coloration, dark central crown stripe and lack of white in the wing. It was determined as a female by the blunt-shaped and buff (not white) tips of the rectrices (Fig. 2).

Defensive behaviour

When approached closely (to within about 1 m), the bird suddenly lunged its head towards



Figure 2. Female Eastern Whip-poor-will *Antrostomus vociferus*, Monteverde, Puntarenas, Costa Rica, 13 March 2018 (M. D. Wainwright).

the observer, simultaneously gaping its mouth (Fig. 3). This effect was startling because the behaviour was unexpected and, perhaps, because the lunging motion together with the shape and



Figure 3. Female Eastern Whip-poor-will *Antrostomus vociferus* performing threat display, Monteverde, Puntarenas, Costa Rica, 13 March 2018 (M. D. Wainwright).

pale pink interior of the gaping mouth collectively resembled the strike of a (large) snake. This action was repeated numerous times, whenever the bird was approached to this distance. The bird never attempted to fly away, never moved any part of its body other than the head and bill, and did not accompany the threat display with any sort of vocalisation.

Discussion

Taken together, collection dates of museum specimens and dates of published sight records ($n = 8$) from Costa Rica and Panama span the period 6 December to 13 March. All specimens are from middle elevations (most on the Pacific slope; Fig. 1), and all records of sexed birds from Costa Rica and Panama are female.

Antrostomus vociferus was formerly considered conspecific with Mexican Whip-poor-will *A. arizonae*¹, but is now treated as a separate species based on differences in voice and morphology⁷. *Antrostomus arizonae* is thought to be a sedentary resident of pine-oak woodlands from south USA to northern Nicaragua¹⁴. Although male specimens of *A. vociferus* and *A. arizonae* are readily separated, no characters are known to distinguish female *A. vociferus* from female *A. arizonae*^{8,13,21}. While the six historical specimens and the photographic record presented here all likely refer to the long-distance migrant form breeding in eastern North America, *A. vociferus*, we note that all documented records from Costa Rica and Panama

for which the sex is known are female (Table 1) and none has associated recordings or notes on voice. While the potential for confusion with the sedentary *A. arizonae* may be remote, the southern extent of the non-breeding distribution of *A. vociferus* remains poorly documented. A photograph or specimen of a male *A. vociferus* is desirable to definitely establish the presence of the species in southern Central America, but such confirmation may prove elusive since both studies using geolocators¹², as well as the few available specimens, suggest that *A. vociferus* exhibits a pattern of differential migration with the southernmost wintering population composed mainly or entirely of females.

Regarding the threat display, we note that while gaping as a defensive behaviour has been reported in other animals⁴, including Caprimulgidae species^{28,30}, we are not aware of any published accounts for *A. vociferus*. Moreover, we speculate that, in this case, the lunging motion combined with the sudden and simultaneous opening of the mouth, together with the shape, colour and size of the gape, might specifically mimic the appearance of a striking snake (e.g., Viperidae).

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Andrew C. Valley

Dept. Ornithology, American Museum of Natural History, CPW at 79th Street, New York, NY 10024, USA. E-mail: andrewvalley@gmail.com.

Mark Wainwright

Monteverde, Costa Rica, E-mail: markwainwrighter@gmail.com.