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## RECORDINGS VERIFY THAT VAUX'S SWIFTS VISIT FLORIDA IN WINTER

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**Abstract.**—Swifts thought to be Vaux's Swifts (*Chaetura vauxi*) have appeared during winter in Florida for decades, but up to now there has been no physical evidence such as a skin, photograph, or audio recording to confirm their identity. Recordings recently made in Gainesville, Florida, and sonograms made from them, provide the first such evidence that these wintering swifts are indeed Vaux's. The voices of the swifts recorded in Gainesville are distinctly unlike those of Chimney Swifts (*C. pelagica*), and match closely those of known Vaux's Swifts in both the form of their sounds and the sequence in which the swifts gave them. Vaux's and Chimney Swifts can occur in the state at the same time. Species of *Chaetura* other than Vaux's and Chimney swifts may also be expected to appear in Florida.

Small brownish swifts have appeared occasionally in Florida from December through February at least as early as 1930. Many observers and commentators have considered these winter visitors to be Vaux's Swifts, *Chaetura vauxi* (Muschlitz and Parenteau 1994, Stevenson and Anderson 1994). Vaux's Swifts have been positively identified in winter in Louisiana (Lowery 1974).

Identifying *Chaetura* swifts by sight alone is risky because the species in this genus look so much alike (e.g., the four species illustrated in Stiles and Skutch 1989). Bull and Collins (1993) cautioned that Chimney (*C. pelagica*) and Vaux's Swifts "are not easily separable by color in areas of overlap"; these two species are sometimes difficult to tell apart even in the hand (CTC pers. obs.). The most persuasive account of Vaux's Swifts in Florida heretofore is that of Graves (1981), who considered the calls of the wintering swifts he heard in Tallahassee, Leon County, to be the distinctive calls of Vaux's Swifts he had heard in western North America. There are no convincing reports of

Chimney Swifts in North America from December through February (Stevenson and Anderson 1994).

Vaux's Swifts' occurrence in Florida has not previously been documented by a skin, photograph, or sound recording. For that reason Robertson and Woolfenden (1992) considered this species' status in Florida to be "unverified," and Stevenson and Anderson (1994) considered the status as "uncertain." Herein, we present tangible evidence for the swift in Florida in the form of sound recordings.

In the winter of 1992-93 groups of up to six small brownish swifts appeared repeatedly in and around Gainesville, Alachua County (Stevenson and Anderson 1994; TW pers. obs.). Some observers considered the birds to be smaller and to have paler throats than Chimney Swifts. Other observers, including TW, were not certain that they could see these differences. The half-dozen observers who heard the swifts with TW agreed that they did not sound like Chimney Swifts.

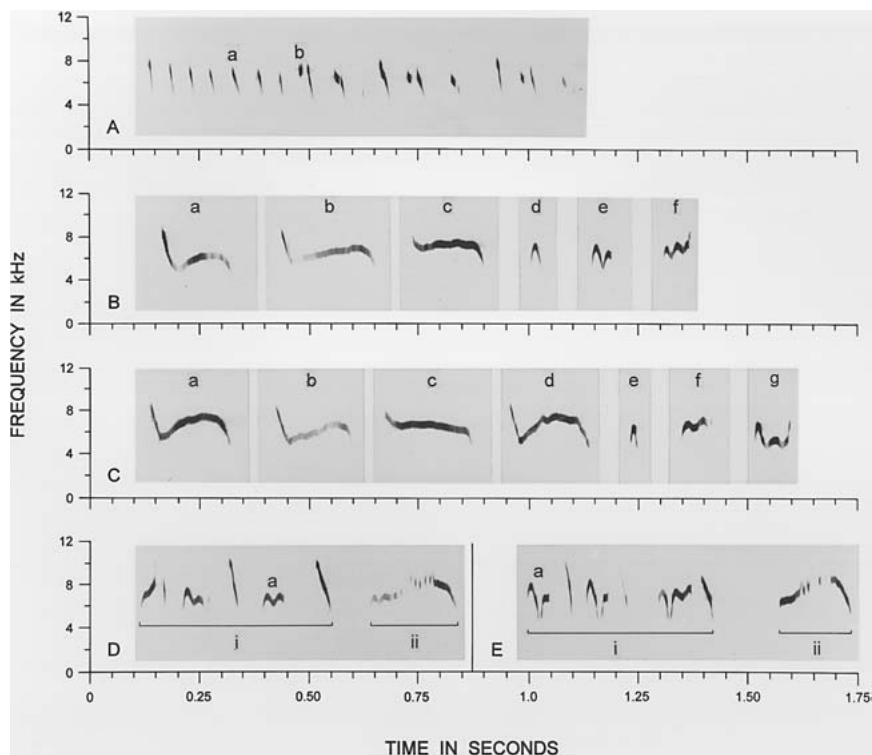
#### METHODS

TW used a Marantz PMD 221 cassette recorder and a Dan Gibson P-200 microphone to record the sounds from a group of six swifts (hereafter the "Gainesville swifts") as they flew over the University of Florida campus on the evening of 22 January 1993. TW, J. Marshall, and M. Wascher made sonograms on Kay Elemetrics 7029A Sona-Graphs, with filters set to wide-band (300 Hz) and automatic gain controls off. TW and CTC compared details of sonograms from the Gainesville swifts with those from recordings of known Chimney and Vaux's swifts.

#### RESULTS AND DISCUSSION

Most Chimney Swift sounds are simple chips (Figure 1Aa), combined in long series with a few tones that span a shorter range of pitch (e.g., Figure 1Ab).

Vaux's Swift sounds recorded in Oregon include some chips (Figure 1Di) like those of Chimney Swifts, but also include a variety of high-pitched squeal- or squeak-like sounds. Many of these sounds consist of a tone that drops rapidly in pitch, followed by a longer tone that may rise initially but eventually drops (Figure 1Ba-c). Other Vaux's Swift sounds include yet more types of inflected tones (e.g., Figure 1Bd-f). The recordings of the Gainesville swifts include sounds that correspond closely to most of these categories; especially close resemblances are those of Figure 1Ca-c to Figure 1Ba-c, Figure 1Ce to Figure 1Bd, Figure 1Ea to Figure 1Be, and Figure 1Da to Figure 1Cf. Some other sounds among the Gainesville swift recordings do not so closely match those in the Oregon Vaux's Swifts recordings, but still resemble them in their overall pattern of inflection (compare Figure 1Cd to Figure 1Ba, and Figure 1Cg to Figure 1Bf).



**Figure 1.** A. Chimney Swift sounds recorded by TW in Gainesville, Alachua Co., Fl., 15 May 1983; Fl. Mus. of Nat. Hist. Bioacoustics Lab. and Archives (BLA) master tape 661 cut 1. B and D. Vaux's Swift sounds recorded by David Herr 37 km W of La Grande, Union Co., Ore., 25 July 1992; Cornell Lab. of Ornithol. Lib. of Nat. Sounds (LNS) uncatalogued recording. C and E. Swifts recorded by TW in Gainesville, 22 January 1993; BLA master tape 1329 cut 7.

Vaux's Swifts recorded in Oregon and the Gainesville swifts both produced series of sounds in which there is first a segment of alternating chips and inflected tones (Figure 1Di, Figure 1Ei), followed by a distinctive combination of long and short tones in a rising-and-falling pattern (Figure 1Dii, Figure 1Eii; Figure 4 in Bull and Collins 1993).

The sounds of the Gainesville swifts are more similar to those of *C. vauxi* than to those of any other New World *Chaetura* examined so far (CTC pers. obs.). These include the widespread Gray-rumped Swift (*C. cinereiventris*; Figure 2), which Mason and Steffee (1966) reported from the Dry Tortugas (Robertson and Woolfenden 1992 cast doubt on this undocumented record). If the vocal differences between the Oregon *vauxi* and the Gainesville swifts are due to geographic variation, it may be possible to identify the originating population of the Gainesville swifts by detailed analysis of local variation in *vauxi* sounds.

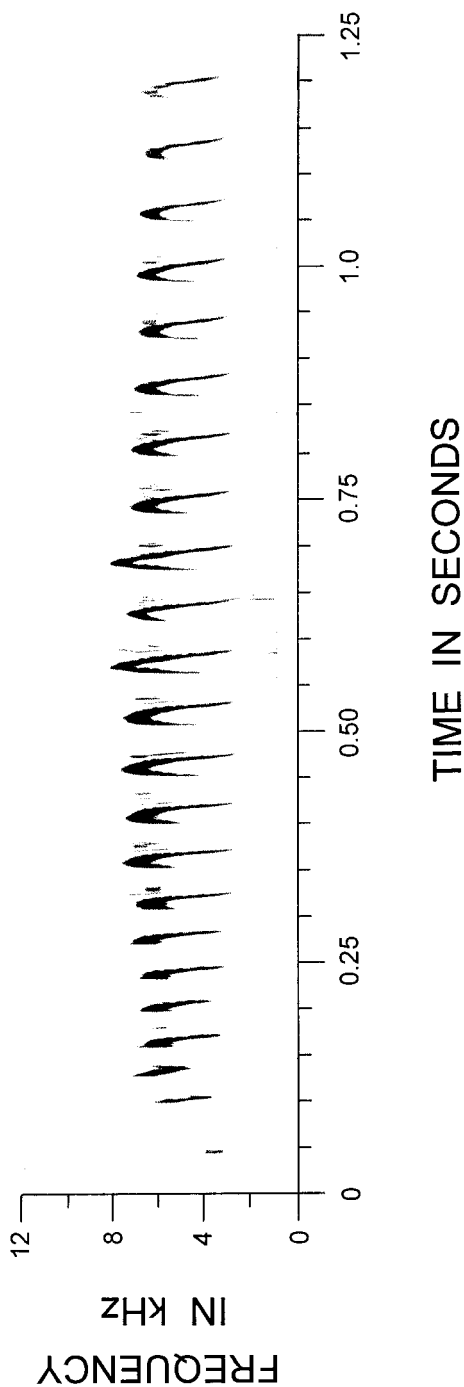


Figure 2. A continuous series of Gray-rumped Swift sounds recorded by F. Gary Stiles at Finca El Plastico, Heredia Province, Costa Rica, 25 May 1989; BLA master tape 1242 cut 7.

Date alone becomes less reliable for identifying *Chaetura* swifts in Florida the more the species' dates of occurrence overlap. TW heard unmistakable Vaux's sounds from swifts near Gainesville on 7 April 1993, well after the expected arrival of Chimney Swifts. Stevenson and Anderson (1994) accepted fall records of Chimney Swifts that are later than occurrences possibly representing Vaux's Swifts. Vaux's and Chimney swifts have also occurred at the same time in Louisiana (Lowery 1939).

*Chaetura* swifts other than *pelagica* and *vauxi* may reach Florida. Six other species in this genus occur in Mexico, Central America, and the Caribbean (A.O.U. 1983). Antillean Palm Swifts (*Tachornis phoenicobia*; Stevenson and Anderson 1994) and a White-collared Swift (*Streptoprocne zonaris*) of the Mexican race (Hardy and Clench 1982) have reached Florida, which suggests that other southerly swifts, including those in the genus *Chaetura*, may be expected as well.

#### ACKNOWLEDGMENTS

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