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SHORT COMMUNICATION

Roosting under tree leaves in Schwartz's Myotis (Chiroptera)

Empoleiramento de *Myotis martiniquensis* (Chiroptera) sob folhas de árvore

Vladimir Dinets[1,2]
dinets@gmail.com

Abstract

Schwartz's Myotis (*Myotis martiniquensis* LaVal, 1973) is an endemic bat of Martinique; its roosting behavior is virtually unknown. I report an observation of Schwartz's Myotis roosting under a tree leaf, which is unusual for New World *Myotis*. Such roosting habits might have evolved due to the paucity of caves in the small geographic range of this species.

Keywords: behavior, *Coccoloba punescens*, Martinique, *Myotis martiniquensis*, West Indies.

Resumo

O morcego *Myotis martiniquensis* LaVal, 1973 é endêmico da Martinica, sendo seu comportamento de empoleiramento completamente desconhecido. Aqui reporta-se um episódio de empoleiramento dessa espécie sob folha de árvore, o que não é usual para espécimes de *Myotis* do Novo Mundo. Especula-se que esse tipo de empoleiramento pode ter evoluído devido à escassez de cavernas na pequena área de distribuição da espécie.

Palavras-chave: comportamento, *Coccoloba punescens*, Martinique, morcego, Índias Ocidentais.

Schwartz's Myotis (*Myotis martiniquensis*) is an uncommon endemic of the island of Martinique (Larsen *et al*., 2012; Pedersen *et al*., 2013). What little is known about its natural history remains largely unpublished (Larsen, 2016). It is often said to be a cave-roosting species (Timm and Genoways, 2003) based on records from Barbados, but the Barbados population is now known to represent a different species, the Nyctor Myotis (*M. nyctor* LaVal & Schwartz, 1974) (Larsen *et al*., 2012).

In fact, there are only three observations of roosting Schwartz's Myotis: (i) in a rocky tunnel; (ii) in a crevice of a large cliff; and (iii) in a crevice below a concrete bridge (Francois Catzeflis, pers. comm.). There is also a sight record of two small brown bats "looking exactly like the common *Myotis* bats of the Northeastern United States" roosting side by side under two huge umbrella-like leaves along Mangrove Trail in Caravelle Nature Reserve in northeastern Martinique (Wauer and Wolf, 1996, p. 178), but this observation was published in a popular book on birdwatching and remains unknown to mammalogists.

[1] Okinawa Institute of Science and Technology. 1919-1, Tancha, 904-0497, Onna-son, Okinawa, Japan.
[2] University of Tennessee, Psychology Department. 37996, Knoxville, TN, USA.

The observation was conducted opportunistically using an Olympus 118760 10 x 50 binoculars; photographic documentation was made with a Panasonic DMC-FZ200 camera. Geographic coordinates and elevation were determined *post hoc* using Google Earth. Species identification considers that Schwartz's Myotis is the only Vespertilionid bat on Martinique (Larsen *et al*., 2012). Two Vespertilionid species that occur on adjacent islands have never been recorded as vagrants outside their known ranges. Of these two species, Dominican Myotis (*M. dominicensis* Miller 1902) has lighter pelage and darker wings (LaVal, 1973), while Brown Bat (*Eptesicus fuscus* Beauvois 1796) is larger, with rounded ears and black face (Reid, 2006). There is a small possibility of vagrant *Lasiurus* bats from North America being encountered on Martinique as these species are migratory, however, all North American *Lasiurus* spp. are larger, with very distinctive coloration and rounded ears (Reid, 2006). The identification of the roosting tree was confirmed using Howard (1988).

On 12 January 2017, approximately at 12:00 (noon), I found a Schwartz's Myotis roosting ~5 m above ground under a leaf of Grandleaf Seagrape (*Coccoloba pubescens* L.) on a steep slope in dry tropical forest in southwestern Martinique near Les Trois-Îlets, at 14°31'25''N, 61°3' 31''W, 177 m a.s.l. (Figure 1). The tree was located in mostly continuous forest that covers the interior of Martinique's southwestern peninsula; it was within 20 m of a rural road, ~50 m from the nearest house and ~800 m from the nearest area of agricultural fields.

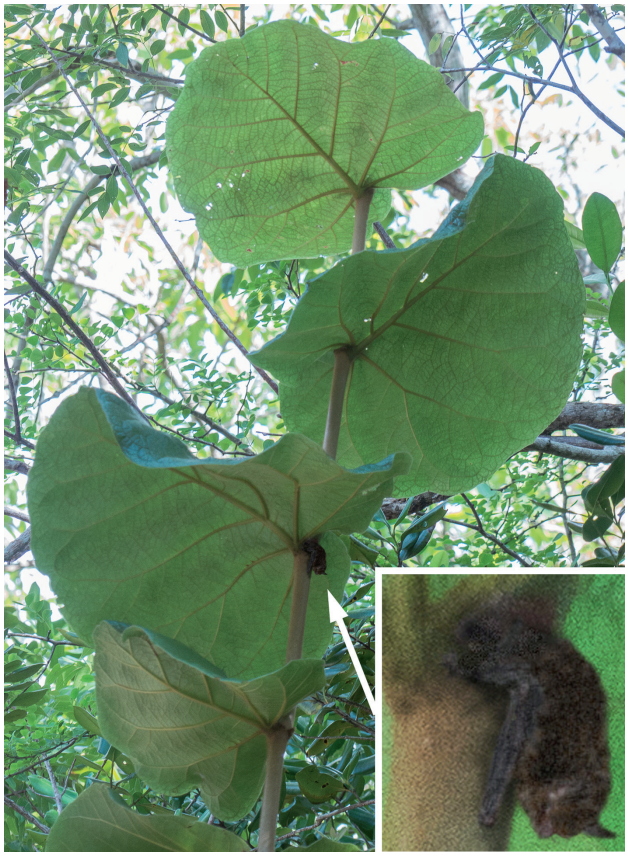

Figure 1. Schwartz's Myotis (*Myotis martiniquensis*) roosting under a leaf of Grandleaf Seagrape (*Coccoloba pubescens*) near Les Trois-Îlets, Martinique.

The habitat where the bat was found looked remarkably similar to dry tropical forest along Mangrove Trail where Wauer and Wolf (1996) observed tree-roosting bats. It is also likely that the tree species was the same, as Grandleaf Seagrape is the only tree along Mangrove Trail matching Wauer and Wolf's description (pers. obs.). This similarity suggests that leaves of Grandleaf Seagrape are regularly used for roosting by Schwartz's Myotis. The few records from crevices and other enclosed spaces listed above might actually be atypical. Only a few caves are known in Martinique, a volcanic island where limestone deposits are small and highly localized (Lindsay, 2005), and although these caves sometimes contain large bat colonies (pers. obs.). Schwartz's Myotis has never been found there, although one was captured at a cave entrance (Timm and Genoways, 2003).

Myotis bats of other species utilize a broad variety of roosting sites; some are obligatory cave roosters while others can be found in hollow trees, man-made structures, natural caves, and other shelters (Nowak, 1999). At least one Asian species, Hodgson's Myotis (*M. formosus* Hodgson 1835) roosts preferentially in tree foliage and clumps of tall grass (Nowak, 1999), but no such species are known from the Americas, although Cinnamon Myotis (*M. fortidens* Miller & Allen, 1928) was once found in a curled heliconia leaf (Reid, 1997), while Black Myotis (*M. nigricans* Schinz 1821) and Velvety Myotis (*M. simus* Thomas 1921) have been found in foliage roosts (Voss *et al*., 2016). It can be hypothesized that the rarity of caves on Martinique has caused Schwartz's myotis to independently evolve the habit of openly roosting under tree leaves.

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