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First record on the roosting behaviour of Montane myotis *Myotis oxyotus* (Chiroptera: Vespertilionidae)

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Short communication

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Abstract. Montane myotis is an Andean bat species whose ecology and roosting behavior is poorly known. Three females were discovered and caught roosting in a crevice in a home's roof located in Sibundoy Valley (SW Colombia). This is the first roost of Montane myotis ever recorded and evidence that this species, usually caught in forests, may use anthropogenic shelters.

Key words: Bats, anthropogenic shelters, roosting ecology, neotropics.

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The Montane myotis *Myotis oxyotus* (PETERS 1867) is a medium-sized insectivorous bat (forearm length 37-47 mm), which inhabits the humid forests of the Andean slopes between 1100 and 3320 m a.s.l. (MORATELLI et al. 2013). The subspecies *M. o. gardneri* occurs quite commonly in the mountains of Costa Rica and Panama and molecular studies suggest it is a distinct species (CHAVERRI et al. 2016). The Montane myotis's conservation status is considered to be Least Concern by the IUCN, but its population trends are currently unknown (SOLARI 2018). For both populations, Central and South American, there is no data about the ecology of this species; their breeding, activity patterns, home range, social organizations, roosting behaviour, etc. (MORATELLI & BURGIN 2019). Based on the external morphological similarities to other well-known *Myotis* species, it was classified as an aerial forager (FENTON & BOGDANOWICZ 2002), yet there are no empirical data to prove that statement. In the following paper, we provide the first description of a Montane myotis roost and evidence that the species can use anthropogenic shelters.

The house in which the roost was found is located in the outskirts of Sibundoy, Nariño department, Southwestern Colombia (1°11´11.72´´N, 76°53´16.72´´W; WGS-84; Fig. 1). The elevation of the town is ca. 2100 m a.s.l. Sibundoy is surrounded by pastures and fields with small patches of trees. However, the house in question lays close (ca. 140 m) to the main forest and less than 100 m from a stream, which might be a commuting route and the foraging site itself, as in the case of other *Myotis* species (SMITH & RACEY 2008; CIECHANOWSKI 2015). The roost was in a crevice between the roof and the ceiling beam of the plastered, brick porch, which faces the open space of the garden (Fig. 2).

Fig. 1. The location of Sibundoy, the town with the roost of Montane myotis *Myotis oxyotus*.

On 12.03.2019 we discovered the roost due to the bat's social calls, that we could hear before sunset, even though the group amounted to just three individuals. They flew out at 18:54 local time (UTC-5) and we managed to catch all of them, all adult females with no signs of lactation or pregnancy (Fig. 3). We identified them as Montane myotis using identification keys by TIRIRA (2017) and DÍAZ et al. (2016). All individuals had longer forearms than a similar species that inhabits Andean highlands and slopes (*M. keaysi* ALLEN 1914) and other *Myotis* species from lower elevations (*M. riparius* HANDLEY 1960, *M. albescens* GEOFFROY 1806, *M. caucensis* ALLEN 1914, *M. nigricans* SCHINZ 1821) (the forearm lengths of the caught bats were 40.7, 40.4, 40.6 mm; body mass 6.5, 7.0, 7.0 g, respectively). Their dorsal fur was bicolored, with a blackish base and pale tips, their ventral fur was also bicolored and slightly lighter with yellowish tips. The caudal membrane was mostly naked with sparse hairs not reaching the level of the knees (that also excluded *M. keaysi*). The amount and age of droppings suggested that the roost was used frequently and that it might be inhabited by more individuals. We also found some old, bigger droppings, but we neither caught, nor recorded any other bat species with an ultrasound detector.

Fig. 2. The house with the roost of three Montane myotis individuals; arrow indicates their position (photo by M. KOLANOWSKA).

Fig. 3. The Montane myotis *Myotis oxyotus* caught in a mist net (photo by Z. WIKAR).

Because of the lack of knowledge about Montane myotis, usually caught with mist nets in forests, we do not know whether this observation of roosting in buildings was just occasional, or if it is a common behavior of this species which can fly through open spaces to their foraging sites. As the introduction indicates, it is much needed to conduct more studies on this species, including basic, descriptive ecology.

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