

# First record of *Sphaeronycteris toxophyllum* Peters, 1882 (Chiroptera: Phyllostomidae) for the Department of Boyacá, Eastern Cordillera of Colombia

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**ABSTRACT:** We provide the first record of the Visored bat *Sphaeronycteris toxophyllum* for the department of Boyacá, Colombia, in the Eastern Cordillera. This record is based on a female collected in secondary forest at an altitude of 1,100 m. External and skull measurements obtained for this specimen generally agree with those reported in the literature for other Colombian specimens. With the present record, the poorly known bat fauna of Boyacá can be recognized as including at least 34 species.

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*Sphaeronycteris* Peters, 1882 is a phyllostomid genus endemic to South America (Simmons 2005). Its only species, the Visored bat *Sphaeronycteris toxophyllum*, occurs in Venezuela (Thomas 1898), Peru (Rehn 1901), Colombia (Sanborn 1941), Ecuador (Albuja and Mena 1991), Brazil (Piccinini 1974), and Bolivia (Koopman 1976). In Colombia, this species has been recorded at the departments of Norte de Santander (Sanborn 1941), Caquetá (Montenegro and Romero 1999), Magdalena (Diaz *et al.* 1986), Vaupés, Vichada, Guainía, Cundinamarca (Alberico *et al.* 2000; Muñoz 2001), Casanare, and Meta (Rodríguez and Gonzales 2012). Despite its wide distribution in the country, *S. toxophyllum* is a rare species with few collected specimens and no records for the Pacific region and central and western mountains (Rodríguez and Gonzales 2012). Here we report the first record of this species for Boyacá, an Eastern Cordillera state with a poorly known bat fauna.

Our finding is based on an adult female collected on November 26, 2012, in the village of Cedeño, municipality of Cubará, department of Boyacá (07°02'4976" N, 72°10'0982" W; 1,100 m). This specimen was prepared as skin and skull, with tissues preserved for molecular analysis, and deposited in the Natural History Museum José Celestino Mutis, at the Universidad de Pamplona (MHNJCM-001). Its external and cranial measurements were obtained according to Simmons and Voss (1998), and its identification was based on the characters provided by Gardner (2008) and Rodríguez and Gonzales (2012).

The *S. toxophyllum* collected at Boyacá is similar in size to specimens reported by Rodríguez and Gonzales (2012) from other areas of Colombia (Table 1), and also agree with data available from Peru (Angulo *et al.* 2008) and Ecuador (Albuja and Mena 1991). Additionally, this specimen presents the typical characters of *S. toxophyllum*, including four-banded dorsal fur, unicolored ventral fur, enlarged

U-shaped nasal sheet, and front with a visor-shaped fleshy protuberance (Figure 1) (Husson 1958; Emmons and Feer 1997; Angulo *et al.* 2008; Gardner 2008).

We captured *S. toxophyllum* at 22:30 h in a ground-level mist net set in an area of secondary vegetation, consisting of shrubs and herbs. Large woodlands and some open areas with farming and cattle breeding are also present in the region, which is commonly called the Andean foothills. According to Holdridge *et al.* (1971), the vegetation in this region is the tropical wet forest (Bh-T). Data compiled by Rodríguez and González (2012) show that *S. toxophyllum* can be found not only in preserved ecosystems, but also in disturbed areas, as recorded here.



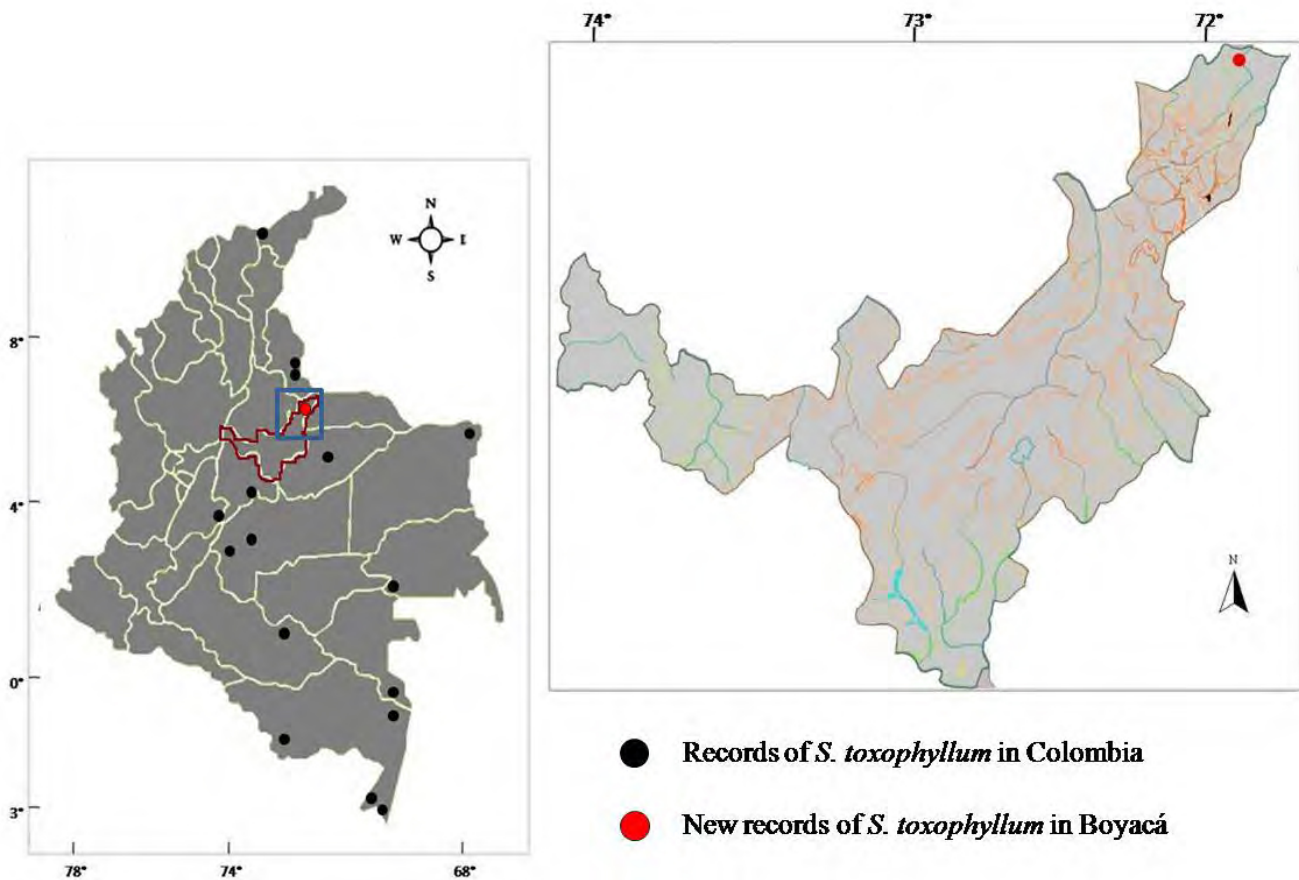
**FIGURE 1.** Female *Sphaeronycteris toxophyllum* (MHNJCM-001) collected at Village Cedeño, Boyacá, Colombia. Photo: Arley Gallardo.

The population status of *S. toxophyllum* is unknown because it is rarely captured and few specimens have been collected, despite its wide geographical distribution (Rodríguez and Gonzales 2012). With the present record, the distribution of *S. toxophyllum* is extended to the department of Boyacá (Figure 2), which is now known to harbor at least 34 species of bats (Alberico et al. 2000; Muñoz 2001; Mantilla-Meluk et al. 2009; Solari et al. 2013). This number represents 38% of

the bat diversity reported for the Colombian Andean region, contiguous to Boyacá (Alberico et al. 2000; Castaño et al. 2003; Mantilla Meluk et al. 2009; Solari et al. 2013), and only 17 % of the diversity recorded in the whole country (198 spp.; Solari et al. 2013). Local bat inventories are still lacking for Boyacá, and their implementation will be important to improve our knowledge on the distribution and diversity of Chiroptera in this department.

**TABLE 1.** Measurements of the female *Sphaeronycteris toxophyllum* from Village Cedeño, Boyacá, Colombia, and data (min. – max.) from other Colombian specimens provided by Rodríguez and Gonzales (2012).

Variables	Boyacá specimen (MHNJCM-001)	Rodríguez and Gonzales (2012)
Forearm length	38	37–38.07
Tibia length	16.8	16.9–18.76
Length of ear	11.2	8.85–15
Total length	54	47.7– 54
Greatest skull length	16.5	15.8–16.14
Condylolincisive length	14.46	14.16–14.47
Condyllocanine length	14.12	13.59–14.22
Postorbital constriction	5.94	5.29–5.78
Zygomatic breadth	11.4	11.74–12.07
Depth of skull	9.6	8.76–9.19
Mastoid breadth	10.2	9.94–10.12
Length of maxillary toothrow	4.45	4.37–4.56
Breadth across molars	6.95	7.41–7.62
Breadth across canines	4.91	4.35–4.55



**FIGURE 2.** Records of *Sphaeronycteris toxophyllum* in Colombia. Black circles represent localities assigned by Rodríguez and Gonzales (2012). The red circle represents the new record from Boyacá Department.

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