

First occurrence of *Nyctinomops macrotis* (Gray, 1839) (Chiroptera: Molossidae) in Espírito Santo, southeastern Brazil

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ABSTRACT: The first occurrence of *Nyctinomops macrotis* (Gray, 1839) in Espírito Santo state, Southeastern Brazil is reported. A specimen was registered in Vitória, capital of the state, on January 26th, 2011. Morphological aspects of this species are discussed. External and cranial measurements obtained for the specimen and a map with the current known records for the *N. macrotis* in Brazil are provided.

The genus *Nyctinomops* Miller, 1902 can be distinguished from other molossid bats by their large, medially-joined ears; face with flexible and thin hairs; deeply wrinkled upper lips, resulting in vertical grooves; lack of premaxillary region, with upper incisors separated at the base; incisors 1/2; narrow palatal emargination; higher than wide antitragus; and small, rectangular tragus (Kimurai and Jones 1990; Gregorin and Taddei 2002; Eger 2008.). The genus includes four species, one restricted to the south of United States of America and north of Mexico (*N. femorosaccus*) (Arroyo-Cabrales and Castañeda 2008), and the remaining three occurring in the Neotropical region (*N. aurispinosus*, *N. laticaudatus*, and *N. macrotis*) (Fabián and Gregorin 2007). *Nyctinomops macrotis* (Gray, 1839) is the largest member of the genus, occurring in Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Uruguay, and Venezuela (Eger 2008). The species also occurs from southern United States to the province of Chiapas, Mexico (Milner *et al.* 1990; Reid 2009), and the Greater Antilles islands of Cuba, Dominican Republic and Jamaica (GBIF: <http://data.gbif.org>). In Brazil, there are records for the Amazonian, Atlantic Forest, Caatinga and Pantanal biomes (Paglia *et al.* 2012), in the states of Pará, Maranhão, Mato Grosso do Sul, Mato Grosso, Paraná, Rio de Janeiro, São Paulo e Minas Gerais (Peracchi *et al.* 2011). The records for Santa Catarina (*e.g.* Vieira 1942; Marinho-Filho 1996) are misidentified *Tadarida brasiliensis*, *Eumops hansae*, and *Nyctinomops laticaudatus* (Eger 2008). Despite its wide distribution, the species is uncommon in surveys, mostly due to the bias of mistnet techniques that undersamples some species, particularly aerial insectivores (Sampaio *et al.* 2003).

Here, we report the first record of *Nyctinomops macrotis* in Espírito Santo, southeastern Brazil. We also

provide a map with the current known records for Brazil, including the states with confirmed occurrences, but without precise geographical information. The Instituto de Defesa Agropecuária e Florestal do Espírito Santo (IDAF) is a governmental agency that conducts rabies research in domestic and wild mammals in the state. In a joint agreement, IDAF sends bats collected in different localities of the state to Laboratório de Estudos em Quirópteros (LABEQ) at Universidade Federal do Espírito Santo. In January 26th, 2011, an adult male specimen of *Nyctinomops macrotis* was captured at the city of Vitória (20°19'09" S, 40°20'50" W). The specimen was first fixed in formaldehyde, and then preserved in alcohol 70% with the skull removed and cleaned, and is now deposited in the bat collection at LABEQ (AD 1096). With this record, *N. macrotis* is now documented in 29 localities in Brazil, as well as for three states where it is registered, but without precise locality information (Figure 1).

The specimen presents all the diagnostic features listed for *N. macrotis* (Vizotto and Taddei 1973; Lim and Engstrom 2001; Gregorin and Taddei 2002): deeply wrinkled lips resulting in vertical grooves; large, medially-joined ears; and forearm greater than 55 mm. The external and cranial measurements (in millimeters) for the specimen were taken with a caliper (precision = 0.01 mm), according to Vizotto and Taddei (1973): forearm length = 60.52; palatal length = 9.48; maxillary tooththrow length = 7.92; mandibular tooththrow length = 9.35; breadth across molars = 8.38; canine breadth = 4.46; palatal breadth = 4.12. Unfortunately, the cranium was damaged and measurements of the braincase could not be taken. With this new record, the species richness for bats in Espírito Santo reaches 70 species (Duda *et al.* 2012; Nogueira *et al.* 2012).

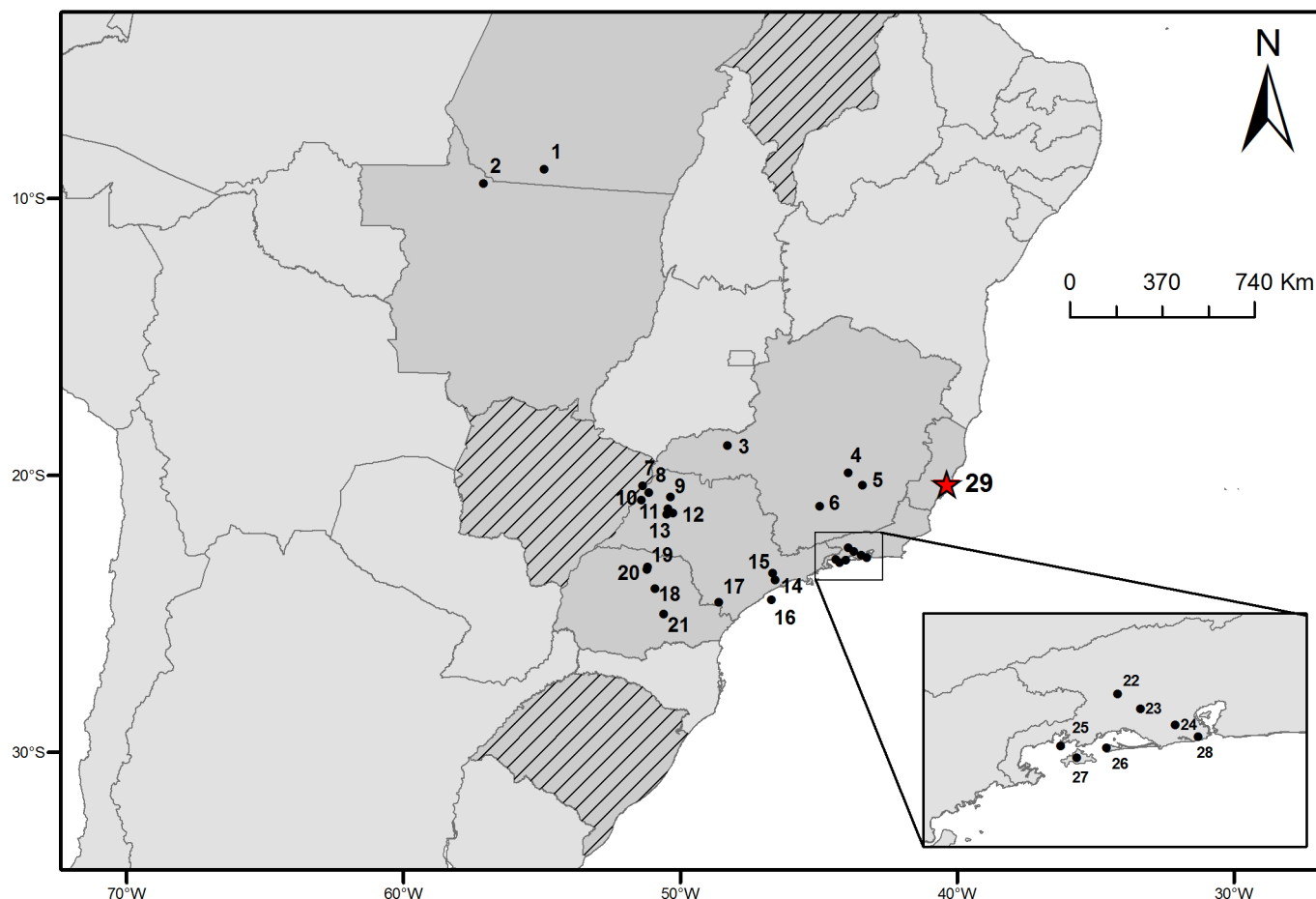


FIGURE 1. Collecting localities of *Nyctinomops macrotis* in Brazil. Empty dark grey indicates states where a locality with proper vouchers is reported in the literature. Stripped dark grey indicates states where the presence of this bat is reported, but without presenting any vouchers or specifying where the species was sighted. The specific localities are listed: 1. Pará, Cachimbo (08°57' S, 54°54' W) (Eger 2008); 2. Mato Grosso, Apiaçás, Foz do Rio Apiaçás (09°27'47" S, 57°06'00" W) (speciesLink: <http://splink.cria.org.br>); 3. Minas Gerais, Uberlândia (18°55' S, 48°17' W) (Stutz et al. 2004); 4. Minas Gerais, Belo Horizonte (19°55' S, 43°55' W) (Tavares et al. 2010); 5. Minas Gerais, Mariana (20°22' S, 43°24' W) (Tavares et al. 2010); 6. Minas Gerais, Lavras (21°07' S, 44°56' W) (Tavares et al. 2010); 7. São Paulo, Ilha Solteira (20°23' S, 51°20' W) (Tencate et al. 2012); 8. São Paulo, Pereira Barreto (20°38' S, 51°07' W) (Tencate et al. 2012); 9. São Paulo, Castilho (20°47' S, 50°20' W) (Tencate et al. 2012); 10. São Paulo, Andradina (20°54' S, 51°23' W) (Tencate et al. 2012); 11. São Paulo, Araçatuba (21°12'33" S, 50°25'57" W) (Tencate et al. 2012); 12. São Paulo, Coroados (21°22' S, 50°15' W) (Tencate et al. 2012); 13. São Paulo, Bilac (21°24' S, 50°28' W) (Tencate et al. 2012); 14. São Paulo, São Paulo (23°32' S, 46°38' W) (Uieda et al. 1995, Almeida et al. 2011); 15. São Paulo, Diadema, Represa Billings (23°32' S, 46°37' W) (Passos et al. 1998); 16. São Paulo, Itanhém, Ilha da Queimada Grande (24°29'46" S, 46°40'30" W) (speciesLink); 17. São Paulo, Iporanga (24°35'10" S, 48°35'35" W) (speciesLink); 18. Paraná, Londrina (23°18'30" S, 51°09'30" W) (Reis et al. 2002a); 19. Paraná, Londrina (23°23'30" S, 51°11'05" W) (Reis et al. 1998); 20. Paraná, Bacia do Rio Tibagi (24°06' S, 50°53' W) (Reis et al. 2002b); 21. Paraná, Ipiranga (25°00' S, 50°35' W) (GBIF: <http://data.gbif.org>); 22. Rio de Janeiro, Piraí, Cacaria (22°37'40" S, 43°54'07" W) (Dias et al. 2010); 23. Rio de Janeiro, Seropédica (22°44'49" S, 43°43'00" W) (Bolzan et al. 2010); 24. Rio de Janeiro, Mangaratiba (22°52'52" S, 43°25'55" W) (Bolzan et al. 2012); 25. Rio de Janeiro, Angra dos Reis (23°03' S, 44°22' W) (Bolzan et al. 2010); 26. Rio de Janeiro, Mangaratiba, Ilha de Marambaia (23°04' S, 43°53' W) (Costa et al. 2011); 27. Rio de Janeiro, Angra dos Reis, Ilha Grande (23°10'33" S, 44°12'28" W) (Esbérard et al. 2006); 28. Rio de Janeiro, Rio de Janeiro, Parque da Gávea (23°59'10" S, 43°14'53" W) (Esbérard and Bergallo 2008); 29. The new record for Espírito Santo is Vitória (20°19'09" S, 40°20'50" W). States with no vouchers and no specified locality are: Maranhão (Bernard et al. 2011), Mato Grosso do Sul (Cáceres et al. 2008, Alho et al. 2011), and Rio Grande do Sul (Pacheco and Marques 2006, Passos et al. 2010).

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