



# First record of *Chiroderma doriae* (Chiroptera, Phyllostomidae) in the state of Bahia, northeastern Brazil

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**Abstract.** *Chiroderma doriae* Thomas, 1891 has been considered a rare and vulnerable bat. This study reports its first occurrence in the state of Bahia, northeastern Brazil. Three adults were mist netted in a urban park in the city of Salvador between November 2005 and January 2006. The fragmentation of the Atlantic Forest may have isolated populations of *C. doriae* in urban parks and other protected areas.

**Keywords:** endangered species, stenodermatinae, fragmentation

**Resumo. Primeiro registro de *Chiroderma doriae* (Chiroptera, Phyllostomidae) no Estado da Bahia, nordeste do Brasil.**

*Chiroderma doriae* Thomas, 1891 é uma espécie de morcego rara e vulnerável. Este estudo relata sua primeira ocorrência no estado da Bahia, Nordeste do Brasil. Três indivíduos adultos foram capturados com redes-de-espera em um parque urbano na cidade de Salvador entre novembro de 2005 e janeiro de 2006. O processo de fragmentação do bioma Mata Atlântica pode ter isolado populações de *C. doriae* em parques urbanos ou outras áreas protegidas.

**Palavras-chave:** espécies ameaçadas, stenodermatinae, fragmentação

## INTRODUCTION

*Chiroderma* Thomas, 1891 is distributed from Mexico to southern Brazil and Paraguay (LÓPEZ-GONZÁLEZ *et al.*, 1998; SIMMONS, 2005; OPREA & WILSON, 2008) and includes five species – *C. doriae* Thomas, 1891, *C. improvisum* Baker and Genoways, 1976, *C. salvini* Dobson, 1878, *C. trinitatum* Goodwin, 1958 and *C. villosum* Peters, 1860 (BAKER *et al.*, 1994; SIMMONS, 2005). The Brazilian Big-eyed bat, *Chiroderma doriae*, is known to occur mainly in the southeastern Brazil (TADDEI, 1979; PERACCHI *et al.*, 2006) with some records in the southern (TADDEI, 1979; MARGARIDO & BRAGA, 2004), mid-western (COIMBRA-JR *et al.*, 1982; GREGORIN, 1998) and northeastern regions (SOUZA *et*

*al.*, 2004; MIKALAIUSKAS *et al.*, 2006). It is the larger *Chiroderma* species, with 69 to 78mm of body length and 49 to 56mm of forearm length. Until recently, *C. doriae* was considered a rare and vulnerable species (BERGALLO *et al.*, 2000; MARGARIDO & BRAGA, 2004; BORDIGNON, 2005), but nowadays it was excluded from the Brazilian red list of threatened species and its current status is "data deficient" (CHIARELLO *et al.*, 2008; TAVARES & AGUIRRE, 2008).

*Chiroderma doriae* feeds mainly on fruits and seeds of *Ficus* (Moraceae) (TADDEI, 1980; NOGUEIRA & PERACCHI, 2002, 2003; NOGUEIRA *et al.*, 2005). Until the 1940's, *C. doriae* was apparently known only from its type locality in the state of Minas Gerais (VIEIRA,

1942). This situation changed in the beginning of the 1970's when this species was recorded in several inventories in southeastern Brazil. Until the 1990's, its known distribution was restricted to the Atlantic Forest, but recently *C. doriae* have been captured in other Brazilian regions (SOUZA *et al.*, 2004; MIKALAUSKAS *et al.*, 2006; PERACCHI *et al.*, 2006; OPREA & WILSON, 2008). Although several studies were done about its geographic distribution, CHIARELLO *et al.* (2008) suggested more studies on its natural history, biology and distribution. We reported here the first record of *C. doriae* in the state of Bahia, northeastern Brazil.

### MATERIAL AND METHODS

This study was carried out in the Parque Zoobotânico Getúlio Vargas – PZBGV (13°00'33"S - 38°30'17"W), an urban park in the city of Salvador, state of Bahia, northeastern Brazil. The park (25ha) includes an Atlantic Forest fragment (6.4ha). Average monthly temperatures varied between 24°C and 30°C a long the year, and the average rainfall is 2000mm. *Chiroderma doriae* bats were captured with help of two mist nets (12 x 2.5m) set at ground level, in six field expeditions between November 2005 and January 2006. Each expedition lasted three days; total sampling effort was 18 nights (108h). Nets were continuously checked from dusk 18h30 until 00h30. For each capture, time, species, sex, reproductive status, weight, and forearm length were noted, and photos were taken. Two voucher specimens were deposited in the Vertebrate Collection of the Zoological Museum of the Universidade Federal da Bahia (MZUFBA - 465 and 466).

### RESULTS AND DISCUSSION

One adult male and two adult females of *C. doriae* were collected in the PZBGV between 20h00

and 21h00 in three different nights between November 2005 and January 2006. The male was released without body measures. The forearm length of the females measured 50.3 and 52.3mm, they weighted 33.6 and 34.3g, and both were non-lactating and non-pregnant.

Our records are the first ones reporting the occurrence of *C. doriae* in the state of Bahia. Apparently, its greater populations can be found in the southeastern region, especially in Rio de Janeiro and São Paulo states, but available surveys are biased to this states. The geographic distribution of *C. doriae* is still poorly-defined as its occurrence is patchily documented. This bat was recorded in the Cerrado (COIMBRA-JR *et al.*, 1982), Pantanal (GREGORIN, 1998; BORDIGNON, 2005) and Atlantic Forest (ESBÉRARD, 2000, 2003). Fragmentation of these biomes may have isolated *C. doriae* populations in parks, reserves, and gallery forests (NOGUEIRA & PERACCHI, 2002, 2003; PASSOS *et al.*, 2003; BORDIGNON, 2005; MIKALAUSKAS *et al.*, 2006; ESBÉRARD *et al.*, 2006; present study) .

The abundance of *C. doriae* in Rio de Janeiro seems to be more dependent on the presence of wild *Ficus* species than the presence of Atlantic Forest fragments (NOGUEIRA & PERACCHI, 2002). Several authors have captured *C. doriae* in urban areas (FARIA, 1996; HAYASHI, 1996; ESBÉRARD *et al.*, 1996; ESBÉRARD, 2000, 2003; NOGUEIRA & PERACCHI, 2002, 2003; MIKALAUSKAS *et al.*, 2006; present study), which indicates that *C. doriae* are able to successfully colonize urban environments (OPREA & WILSON, 2008).

The fragmentation process of the Atlantic Forest may have isolated populations of *C. doriae* in some urban parks and other protected areas. The arborization of cities and reforestation of protected areas could significantly contribute to the conservation of *C. doriae* and other fruit-eating bats as well.

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