

# First record of *Histiotus laephotis* Thomas (Chiroptera, Vespertilionidae) from Brazil <sup>1</sup>

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**ABSTRACT.** The first record of *Histiotus laephotis* Thomas, 1916 from Brazil is reported here. An adult male was caught with a mist net in a barn located within an Araucaria pine forest in the municipality of Passos Maia, State of Santa Catarina, Southern Brazil (26°46'48"S and 52°03'34"W). This record extends the distribution of this species in South America. Morphological and taxonomic notes of this species are described as well.

**KEY WORDS.** Atlantic Forest; geographic distribution; *Histiotus macrotus laephotis*.

**RESUMO.** Primeiro registro de *Histiotus laephotis* Thomas (Chiroptera, Vespertilionidae) no Brasil. O primeiro registro de *Histiotus laephotis* Thomas, 1916 o Brasil é aqui reportado. Um macho adulto foi coletado com rede de neblina (em abrigo artificial) nos domínios da Floresta com Araucária, no Município de Passos Maia, Estado de Santa Catarina, Sul do Brasil (26°46'48"S e 52°03'34"W). Este registro amplia a distribuição da própria espécie na América do Sul. Aspectos morfológicos e taxonômicos desta espécie são também descritos.

**PALAVRAS-CHAVE.** Distribuição geográfica; Floresta Atlântica; *Histiotus macrotus laephotis*.

The genus *Histiotus* Gervais, 1856 is composed by medium-sized bats (ACOSTA Y LARA 1950, NOWAK 1994) characterized by an inflated muzzle and very developed ears (BARQUEZ *et al.* 1999). *Histiotus* has an exclusively neotropical distribution (CABRERA 1957, BARQUEZ 2006), and its species tend to be rare (NOWAK 1994, MIRANDA *et al.* 2006). According to the latest review (SIMMONS 2005), seven valid species are recognized for this genus: *Histiotus alienus* Thomas, 1916, *H. humboldti* Handley, 1996, *H. laephotis*, *H. macrotus*, *H. magelanicus* (Philippi, 1866), *H. montanus* (Philippi & Landbeck, 1861) and *H. velatus* (L. Geoffroy, 1824). Since *H. laephotis* was first described by THOMAS (1916), its taxonomic status is quite confusing (BARQUEZ *et al.* 1999, BARQUEZ & DÍAZ 2001, BARQUEZ 2006). Although this taxon has already been placed as a subspecies of *H. montanus* (ANDERSON 1997), it has been most commonly considered as a *H. macrotus* subspecies (CABRERA 1957, KOOPMAN 1993, BARQUEZ *et al.* 1991, 1999). Recent studies have considered *H. laephotis* as a full species (BARQUEZ & DÍAZ 2001, SIMMONS 2005, BARQUEZ 2006).

*Histiotus laephotis* ranges from south of Bolivia and Peru to northwestern Argentina, Chile and Paraguay (CABRERA 1957, KOOPMAN 1993, ANDERSON 1997, LÓPEZ-GONZÁLEZ *et al.* 1998, BARQUEZ *et al.* 1999, SIMMONS 2005, ACOSTA & VENEGAS 2006, BARQUEZ 2006), although the extent of the distribution is still unclear (ANDERSON 1997, BARQUEZ *et al.* 1999) (Fig. 1). It appears to be restricted to mountainous or temperate regions (EMMONS

& FEER 1997), occurring in altitudes from 240 to 3686 meters above sea level (LÓPEZ-GONZÁLEZ *et al.* 1998, ACOSTA & VENEGAS 2006). No published record of *H. laephotis* in Brazil is currently available in the literature (PERACCHI *et al.* 2006).

The present record was obtained during a survey of the mastofauna of the Municipality of Passos Maia, northwest of the State of Santa Catarina, Southern Brazil (26°46'48"S and 52°03'34"W) (Fig. 1). The region belongs to the domain of the *lato sensu* Atlantic Forest, more specifically in Araucaria Pine Forest (= Mixed Ombrophilous Forest) (KLEIN 1978). According to Köppen's classification, the climate in the region is *Cfb* (temperate) (CHEREM *et al.* 2004), with an altitude ranging from 850 to 1062 m above sea level.

This study is the first record of *H. laephotis* in Brazil, extending the distribution of the species eastward by more than 800 km (Fig. 1). In addition, the record of this species in the domain of the Atlantic Rainforest (in an Araucaria pine forest) had not previously been reported (MARINHO-FILHO 1996, EMMONS & FEER 1997, BARQUEZ *et al.* 1999).

The taxonomic determination of the specimen in question was aided using the key for bat identification of BARQUEZ *et al.* (1999) (morphometric traits). The specimen had ovoid ears that were connected by a narrow band, distinguishing it from *H. velatus*. The ratio between head and body length and ear length was 1.7, and the length of the tympanic bulla is smaller

Table I. External and cranial dimensions (mm) of the *Histiopus laephotis*.

Variable	<i>H.laephotis</i>	<i>H. laephotis</i>	<i>H. laephotis</i>	<i>H. laephotis</i>
Country	Bolivia	Argentina	Paraguay	Brazil
Reference	ACOSTA S. & VENEGAS (2006)	BARQUEZ <i>et al.</i> (1999)	LÓPEZ-GONZÁLEZ <i>et al.</i> (1998)	Present study
Sample (N)	3	20 – 26	6	1
Total length	104.3 102.00 – 107.00	111.8 ± 5.72 100.0 – 127.00	–	104.00
Tail length	49.60 43 – 55	52.9 ± 3.67 45.0 – 59.20	–	47.50
Hindfoot length	–	8.9 ± 1.19 7.0 – 12.00	–	8.55
Ear length	32.40 30.00 – 34.40	33.3 ± 3.42 27.0 – 39.50	–	30.45
Forearm length	48.80 47.50 – 50.10	47.8 ± 1.21 45.0 – 49.00	45.80 44.00 – 48.70	46.35
Condylbasal length	16.70 16.60 – 6.80	16.8 ± 0.37 16.2 ± 17.40	16.90 16.60 – 17.60	16.65
Least interorbital breadth	–	5.8 ± 0.30 5.3 – 6.40	–	6.30
Zygomatic breadth	10.70 10.60 – 10.80	10.4 ± 0.38 9.6 – 11.20	10.3 10.10 – 10.70	–
Greatest length of skull	17.90 17.60 – 18.10	17.8 ± 0.39 17.0 – 18.40	17.90 17.70 – 18.20	17.70
Postorbital constriction	4.30	4.1 ± 0.18 3.6 – 4.50	–	4.50
Braincase breadth	8.70 8.48 – 8.92	7.9 ± 0.25 7.4 – 8.40	–	8.15
Bullae length	4.30	–	–	3.85
Length of maxillary toothrow	7.08 7.06 – 7.10	6.1 ± 0.19 5.9 – 6.70	–	6.40
Palatal length	–	8.1 ± 0.23 7.7 – 8.60	–	8.55
Mastoidal breadth	–	9.0 ± 0.20 8.6 – 9.50	9.05 9.02 – 9.19	9.40
Length of mandibular toothrow	7.10	6.5 ± 0.22 6.2 – 7.20	6.30 6.20 – 6.60	6.80
Length of mandible	11.50 11.30-11.80	12.5 ± 0.44 11.6 – 13.30	–	12.35
C-C	4.40 4.380 – 4.40	4.8 ± 0.20 4.6 – 5.30	–	4.95
M-M	–	6.6 ± 0.25 6.2 – 7.10	6.60 6.50 – 6.70	7.00



Figure 1. Localities with records of *Histiotus laeophotis*. Closed circles show the localities of occurrence of *H. laeophotis* in Bolivia, Argentina and Paraguay. Closed square shows the locality of Passos Maia, Santa Catarina State, Brazil described in the present study.

than 4 mm, separating it from *H. montanus* and *H. magellanicus*. The length between molars was smaller than 7 mm, separating it from *H. macrotus*. These combinations of traits classify the specimen as *H. laeophotis* (BARQUEZ *et al.* 1999). The cranial and external measurements of the specimens are shown in table I and are within the morphometric variation available in the literature for this species (LÓPEZ-GONZÁLEZ *et al.* 1998, BARQUEZ *et al.* 1999, ACOSTA & VENEGAS 2006). The specimen was deposited in the Coleção Científica de Mastozoologia da Universidade Federal do Paraná (DZUP), under the record number DZUP 0272.

Although *H. laeophotis* had not hitherto been recorded in Brazil, there is a record of *H. macrotus* for the State of Goiás (POL *et al.* 1998) that could in fact represent a record of *H. m. laeophotis*. However the poor description of this specimen based only on non-morphometric qualitative traits and the lack of a registration number in the museum does not allow the discrimination between the two actual species (*H. macrotus* or *H. laeophotis*). The presence of *H. laeophotis* in Santa Catarina State aid the ideia presented by CABRERA (1957: 108): “Es possible que este *Histiotus* (*H. alienus*) sea un representante oriental de *H. macrotus* (*H. m. laeophotis*)...”.

On March 14, 2006 an adult male of *H. laeophotis* was caught using a mist net inside a wood storage barn that was used as the diurnal roost for this species. In addition to *H. laeophotis*, four specimens of *H. velatus* and eight specimens of *Tadarida brasiliensis* (I. Geoffroy, 1824) were also caught in the same night and site. BARQUEZ *et al.* (1999) also recorded the use of an artificial diurnal roost by *H. laeophotis*, as well as the cohabitation of this species with another bat species (*Tadarida brasiliensis* and *Myotis* sp). This type of behavior (sharing roost) tends to occur among all the species in the genus (ACOSTA Y LARA 1950, PEARSON & PEARSON 1989, BARQUEZ *et al.* 1999, ACHAVAL *et al.* 2004, MIRANDA *et al.* 2006).

Given the natural rarity of *H. laeophotis* (NOWAK 1994, BARQUEZ *et al.* 1999) and the still poor mastofaunistic sampling of the State of Santa Catarina (CHEREM *et al.* 2004), it is possible to suppose the occurrence of other populations in Southern Brazil, even in low frequency, as has been observed in *H. montanus* in the same region (FABIÁN *et al.* 2006, MIRANDA *et al.* 2006). This single record suggests that new field collection efforts in the region are necessary, both to determine its distribution and to assess its status in nature. Only then would it be possible to assess its conservation status.

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