

New *Thyroptera tricolor* Spix records in the Atlantic Forest, Brazil (Chiroptera; Thyropteridae)

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(With 1 figure)

Spix's disc-winged bat is a poorly known species that inhabits lowland Neotropical forests (Wilson and Findley, 1977). This bat roosts in young, rolled-up *Heliconia* or *Calathea* leaves, forming "behaviourally cohesive social groups of mixed sex" (Vonhof et al., 2004) that range in size from one to 14 individuals (Findley and Wilson, 1974; Wilson and Findley, 1977; Vonhof et al., 2004). Density estimates for this species reached 43 bats / ha⁻¹ in an area of 5.69 ha in Costa Rica (Vonhof and Fenton, 2004). *Thyroptera tricolor* occurs from Mexico to southeastern Brazil, being found in the Amazonian and Atlantic Forest biomes (Wilson and Findley, 1977). Except for two individuals, captured in Iguape, São Paulo State, southeastern Brazil and identified initially by Vieira (1942) as *Thyroptera albiventer juquiaensis* and later as *T. tricolor juquiaensis* (Vizotto and Taddei, 1973) and the second in Angra dos Reis, Rio de Janeiro (Vieira, 1955), nothing further has been published concerning this species in the Atlantic Forest. *Thyroptera tricolor juquiaensis* can be distinguished from *T. t. tricolor* by the yellow abdominal fur and the smaller-sized forearms (Gregorin et al., 2006). Until now, the recorded occurrence of this subspecies has been restricted to southern Brazil (Vieira, 1955).

Five new Atlantic Forest records are currently available that date from at least 50 years after the capture of the vouchers of the subspecies (Vieira, 1942).

Records from Rio de Janeiro, southeastern Brazil

- One adult male with descended testes (forearm length of 36.95 mm and weight of 7 g, 01/02/1997) was netted at 4 hours and 50 minutes, over a small stream in the Rio das Pedras Reserve, Mangaratiba, RJ (22° 59' 18,6" S and 44° 06' 42" W, 40 m a.s.l.). One male adult with abdominal testes (forearm length of 34.70 mm and weight of 4.0 g) was captured at 21:15 hours on 10/08/1998 in a mist net opened at a lake edge in the Guapiaçú Reserve, Guapiaçú, RJ (22° 23' 21,2" S and 42° 50' 51,1" W, 240 m a.s.l.). One sub-adult female (forearm length of 35.05 mm and weight of 5.6 g) was captured at 1 hour and 10 minutes on 03/03/2005 in a mist net opened on an artificial lake edge in the Ilha da Gipóia, Angra dos Reis, RJ (23° 02' 48,9" S and 44° 21' 42,4" W, 25 m a.s.l.).

Records from eastern Brazil, Bahia - One sub-adult female (forearm length of 34.90 mm and weight of 4.6 g) was netted on 17/02/1998 exiting the Pedra Suspensa Cave, Pau-Brasil, Bahia (15° 23' 34" S and 39° 44' 26" W, c. 200 m a.s.l.) (Figure 1). This cave has a 150 m long, unique cavity that is inhabited by eight other bat species and has a large bat guano deposit. One adult male (forearm length of 39.00 mm and weight of 5.0 g on 04/05/1999) was netted immediately after sunset in a mist net placed close (<2 m) to a patch of Heliconidae plants located in a cacao (*Theobroma cacao*) plantation that is shaded by remnant native canopy trees in the Una municipality, southern Bahia (15° 10' 53" S and 30° 02' 51" W, c. 100 m a.s.l.).



Figure 1. Records of *Thyroptera tricolor juquiaensis* in the Atlantic Forest. 1) Rio Iguape, Juquiá, São Paulo (Vieira, 1942); 2) Ilha da Gipóia, Angra dos Reis, Rio de Janeiro, (Vieira, 1955); 3) Reserva Rio das Pedras, Mangaratiba, Rio de Janeiro; 4) Reserva de Guapiaçú, Guapiaçú, Rio de Janeiro; 5) Gruta Pedra Suspensa, Pau-Brasil, Bahia; and 6) Una, Bahia.

These records revealed that this species makes use of caves, in addition to the known Heliconidae plants, as day roosts. We also suggest the use of water bodies as foraging habitats, since four of the five captures were recorded over streams or near lakes and we confirm all-night activity for the species, with the capture of two bats in the latter half of the night and one less than 1.5 hours prior to sunrise.

Vouchers of the species were deposited in Universidade Estadual Santa Cruz, in the reference collection of Projeto Morcegos Urbanos (UFRRJ) and in the collection Adriano Lúcio Peracchi (UFRRJ) and in the Adriano Peracchi Collection (UFRRJ).

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References

- FINDLEY, JS. and WILSON, DE. 1974. Observations on the neotropical disk-winged bat, *Thyroptera tricolor* Spix. *Journal of Mammalogy*, vol. 55, no. 3, p. 562-571.
- GREGORIN, R., GONÇALVES, E., LIM, BK and ENGSTROM, MD., 2006. New species of disk-winged bat *Thyroptera* and range extension for *T. discifera*. *Journal of Mammalogy*, vol. 87, no. 2, p. 238-246.
- VEIRA, CO. da. 1942. Ensaio monográfico sobre os quirópteros do Brasil. *Arquivos de Zoologia de São Paulo*, vol. 3, no. 8, p. 422-471.
- , 1955. Lista remissiva dos Mamíferos do Brasil. *Arquivos de Zoologia de São Paulo*, vol. 8, no. 11, p. 341-474.
- VIZOTTO, LD. and TADDEI, VA. 1973. Chave para a determinação dos quirópteros brasileiros. *Revista da Faculdade de Filosofia, Ciências e Letras (São José do Rio Preto)*, vol. 1, no. 1, p. 1-72.
- VONHOF, MJ. and FENTON, MB. 2004. Roost availability and population size of *Thyroptera tricolor*, a leaf-roosting bat, in north-eastern Costa Rica. *Journal of Tropical Ecology*, vol. 20, no. 1, p. 291-305.
- VONHOF, MJ., WHITEHEAD, H. and FENTON, MB. 2004. Analysis of Spix's disc-winged bat association patterns and roosting home ranges reveal a novel social structure among bats. *Animal Behaviour*, vol. 68, no. 3, p. 507-521.
- WILSON, DE. and FINDLEY, JS. 1977. *Thyroptera tricolor*. *Mammalian Species*, vol. 71, p. 1-3.