

# First record of the Broad-winged Hawk *Buteo platypterus* in southern Brazil, with a compilation of published records for the country

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**RESUMO: Primeiro registro do gavião-de-asa-larga *Buteo platypterus* no sul do Brasil, com uma compilação dos registros publicados para o país.** Relatamos duas ocorrências recentes do gavião-de-asa-larga *Buteo platypterus* no sul do Brasil, ambas no Parque Estadual do Turvo (27°13'S, 53°51'W), Rio Grande do Sul. Também compilamos todos os registros publicados desse rapinante neártico altamente migratório no país, totalizando 15 diferentes localidades de ocorrência. Nossos registros são os mais meridionais da espécie no período não-reprodutivo e estendem latitudinalmente a sua distribuição na área de invernagem em cerca de 3,5 graus em relação ao limite previamente conhecido, no norte da Argentina. Os registros prévios mais próximos, no entanto, são para localidades a aproximadamente 1000 km de distância do Parque Estadual do Turvo. A explicação mais provável para tais ocorrências parece ser a vagância, mas discutimos brevemente a possibilidade de a espécie estar passando despercebida como um migrante estival raro nas extensas florestas da bacia do médio rio Paraná, ou expandindo sua área de invernagem no sul da América do Sul.

**PALAVRAS-CHAVE:** migração, extensão de distribuição, rapinantes, Rio Grande do Sul.

**KEY-WORDS:** migration, range extension, raptors, Rio Grande do Sul.

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The Broad-winged Hawk *Buteo platypterus* is a small, highly migratory raptor that breeds mainly in broadleaf and mixed forests of North America east and north of the Great Plains and winters primarily in Central and South America, while populations breeding in the West Indies are presumably sedentary (Goodrich *et al.* 1996, Ferguson-Lees and Christie 2005). Along with the Turkey Vulture *Cathartes aura* and the Swainson's Hawk *Buteo swainsoni*, it is one of the most abundant raptor migrants using the Mesoamerican Land Corridor during annual migrations, with flocks of up to tens of thousands of individuals and average counts of up to 1.9 million birds recorded at major watchsites during the boreal autumn (Goodrich and Smith 2008). Its winter range is given as extending from southern Mexico through Central America and into northwestern South America, where it occurs mostly from Venezuela to Ecuador but can be found regularly as far south as northern Bolivia and northwestern Brazil (Goodrich *et al.* 1996, Haines *et al.* 2003, Ferguson-Lees and Christie 2001, 2005). Small numbers winter in southern California, western Mexico, Florida and other parts of the Gulf coast, while in South America there are peripheral records south to northernmost Argentina and

east to French Guiana (Ferguson-Lees and Christie 2001, Roesler and Barnett 2004).

Although most southbound Broad-winged Hawks are thought to drop out of migrating flocks into wintering areas before reaching South America (Bildstein 2004), the high numbers of birds counted during the fall migration in Panama combined with the results of recent counts at one northern Colombian bottleneck site suggest that the species may winter in South America in significant numbers (Colorado *et al.* 2006). Yet, there is little published information on migration routes and winter distribution of the Broad-winged Hawk, particularly in South America (Goodrich *et al.* 1996, Haines *et al.* 2003). It is considered a common transient and winter resident both in Colombia (Hilty and Brown 1986) and Venezuela (Hilty 2003), but an uncommon migrant further south in Peru (Schulenberg *et al.* 2007). In Brazil, only a few records have been reported to date, mostly concentrated in central and western Amazonia (Table 1, Figure 1). However, the species is probably more widespread in the country than the records suggest, especially in the Amazon region (Stotz *et al.* 1992), and extralimital occurrences are known from Maranhão, Mato Grosso do Sul and Rio de Janeiro states (Table 1).



**FIGURE 1:** Location of records of the Broad-winged Hawk *Buteo platypterus* in Brazil, based on data from Table 1. The star indicates the location of the records reported here (Turvo State Park, Rio Grande do Sul). Also shown is the position of Parque Nacional Calilegua, in northern Argentina, which was previously the southernmost known locality for the species.

**TABLE 1:** Published records of the Broad-winged Hawk *Buteo platypterus* in Brazil (arranged from north to south). Not included is one record from an unspecified locality in the state of Acre, reported in Haines *et al.* (2003). Coordinates are from the original sources or from Paynter and Traylor (1991).

Locality	State	Coord.	Year	Habitat	Age	Source
Serra do Navio	Amapá	00°53'N 52°00'W	2006	<i>terra firme</i> forest	Adult	Aguiar (2008)
São Gabriel [da Cachoeira], Rio Negro	Amazonas	00°08'S 67°05'W	1936	—	—	Pinto (1938)
80 km north of Manaus	Amazonas	02°20'S 59°50'W	1979-1994	primary and secondary <i>terra firme</i> forest	—	Stotz and Bierregaard Jr. (1989), Cohn-Haft <i>et al.</i> (1997)
Manaus	Amazonas	03°06'S 60°01'W	1980s	tall second growth and forest edge	—	Stotz <i>et al.</i> (1992)
Reserva Ducke, Manaus	Amazonas	03°04'S 59°52'W	1972-1974	forest edges and clearings	—	Willis (1977)
Rio Urucu, Tefé	Amazonas	04°50'S 65°16'W	Late 1980s	undisturbed high forest	—	Peres and Whittaker (1991)
Rio Javari	Amazonas	04°21'S 70°02'W	19 <sup>th</sup> century	—	—	Ihering and Ihering (1907)
Fazenda Santa Rita, Colinas	Maranhão	06°06'S 44°24'W	2009	<i>cerrado</i> , <i>cerradão</i> , semideciduous forest	—	Santos <i>et al.</i> (2010)
Serra dos Carajás	Pará	06°00'S 50°30'W	2003-2005	<i>terra firme</i> forest	—	Pacheco <i>et al.</i> (2007)
South of Envira	Amazonas	08°00'S 70°20'W	1980	—	adult	Mestre <i>et al.</i> (2010); Bird Banding Laboratory (USGS-USA) <i>per</i> CEMAVE/ICMBio ( <i>pers. comm.</i> )
Cachoeira Nazaré, Rio Jiparaná	Rondônia	09°44'S 61°53'W	1986, 1988	second growth, <i>terra firme</i> , river-bluff and seasonally-flooded forests	—	Stotz <i>et al.</i> (1992), Stotz <i>et al.</i> (1997)
Pedra Branca	Rondônia	10°02'S 62°06'W	1988	second growth, <i>terra firme</i> , river-bluff and seasonally-flooded forests	—	Stotz <i>et al.</i> (1997)
Rio do Cágado	Mato Grosso	15°20'S 59°25'W	1988	transitional forest	—	Willis and Oniki (1990)
Urucum, Corumbá	Mato Grosso do Sul	18°40'S 57°40'W	1913	—	immature	Naumburg (1930)
Parque Nacional de Itatiaia	Rio de Janeiro	22°22'S 44°39'W	1986	—	immature	Pacheco and Parrini (2000), B. M. Whitney ( <i>pers. comm.</i> )
Parque Estadual do Turvo	Rio Grande do Sul	27°11'S 53°50'W	2010	seasonal broadleaf forest	immature	this note

While searching for images of the Rufous-thighed Kite *Harpagus diodon* in the online collection of Brazilian bird photographs at the WikiAves website ([www.wikiaves.com.br](http://www.wikiaves.com.br)), G. A. B. noticed a photo of an immature Broad-winged Hawk (catalogue number WA254783) that had been incorrectly identified. This photo (Figure 2) was taken by the first author together with T. Bertaso on 25 November 2010 along the road to the Salto do Yucumã waterfall at the Turvo State Park (27°13'S, 53°51'W; 120-460 m a.s.l.), an area covering 17,500 hectares of seasonal broadleaf forest over undulating to ridged terrain located in the extreme northern part of Rio Grande do Sul, southern Brazil, on the border with Argentina. The park is connected to the forests of the Misiones province, which spread northwards almost unbroken up to 25°S in the Iguazu National Park, forming an extensive Atlantic forest corridor covering one million hectares in the middle Paraná river basin.

Several structural and plumage features clearly visible in the photograph allow the bird to be identified as

a pale-morph juvenile Broad-winged Hawk and include the following: relatively long wings, with primaries extending more than half the length of the tail; broad dusky malar streak; dark median throat stripe; fine white superciliary; grey-brown upper tail indistinctly marked with very narrow darker bars behind a broad subterminal band; breast and belly white heavily streaked and mottled with auburn-brown; flanks and thighs strongly chevroned, and crissum plain whitish (Goodrich *et al.* 1996, Ferguson-Lees and Christie 2001, 2005, Schulenberg *et al.* 2007). A second individual, also a juvenile, was photographed along the same road and on the same day as the first one. It differed mainly in having the sides marked with narrowly spaced V-shaped marks instead of irregular blotches and isolated chevrons, creating a barred effect, and in its apparently unbarred lower flanks and thighs. One of these individuals attempted unsuccessfully to catch a large insect on the foliage of a tree.

These records are not only the first for Rio Grande do Sul and southern Brazil (south of Rio de Janeiro), but



**FIGURE 2:** Immature Broad-winged Hawk *Buteo platypterus* photographed in Turvo State Park, southern Brazil, in November 2010. Photo by D. Meller.

also the southernmost for the species on its wintering grounds. Broad-winged Hawks were previously reported south to 23°42'S in Parque Nacional Calilegua, province of Jujuy, along the eastern slope of the Andes in northern Argentina (Roesler and Barnett 2004). Therefore, our records extend the known latitudinal limit of the species' winter range southward by roughly 3.5 degrees, or about 385 km. More significantly, however, the geographically closest records are from localities nearly 1000 km to the northeast and northwest of Turvo State Park (see Figure 1).

Long-distance migratory raptors are particularly prone to get lost or misoriented during migration and hence to turn up in areas well outside their traditional wintering grounds, as many soar on migration and may be displaced from their normal flyways by unfavorable weather (Bildstein 2004). Juveniles are particularly vulnerable to wind drift and so are most likely to constitute the majority of the off-course or displaced individuals (Thorup *et al.* 2003, Bildstein 2004). There is also a tendency for juvenile raptors to winter farther south than adults (Newton 1979, Goodrich and Smith 2008). Considering these aspects, our records of two immature Broad-winged Hawks as far to the south as southern Brazil and so far from any other known wintering locality would seem to be most parsimoniously interpreted as cases of vagrancy, especially taking into account the existence of other outlying records in Brazil (Figure 1). Inexperienced birds could easily end up in such southern latitudes, for example, by following migrating flocks of other Nearctic species of raptors that commonly migrate to southern South America, such as the Swainson's Hawk and the Mississippi Kite *Ictinia mississippiensis*. It is also relevant to note here that the previous southernmost records for the country both involved immature birds (Table 1).

Another possibility is that the species has always wintered in the forests of the middle Paraná river basin, though at very low densities, and has so far gone undetected due to its close similarity to other species of small buteos and poor observer's coverage in the region. In spite of being often described as preferring forest edges, second growth woodlands and clearings rather than large, undisturbed forest tracts in the non-breeding season (*e.g.*, Hilty and Brown 1986, Fjeldså and Krabbe 1990, Ferguson-Lees and Christie 2001, Bildstein 2004), Broad-winged Hawks have frequently been reported from areas of continuous forest in Amazonian Brazil, where a considerable proportion of the available records is associated with *terra firme* forests (see Table 1). Our own records from the Turvo State Park were inside dense primary forest. Thus, it seems reasonable to suppose that the extensive forest corridor across the Misiones Province could be an attractive destination for migrating Broad-winged Hawks seeking large stretches of forest away from the Andes in south-central South America (again, juveniles would be expected to predominate among these birds). If this holds true, scanty and unexpected occurrences of *B. platypterus* in this region might be going unnoticed, as the species can be easily mistaken for certain small species of resident raptors, especially immature Roadside Hawk *Rupornis magnirostris* (see Hilty and Brown 1986, Hilty 2003, Ferguson-Lees and Christie 2001, 2005, and Roesler and Barnett 2004 for accounts on similar species in wintering range). Also, knowledge on many aspects of raptor biology – including distribution – is still scarce in this part of the Neotropics (Seipke and Cabanne 2002) and undoubtedly most resident field ornithologists are not familiar with the species.

It is also possible that the Broad-winged Hawk is expanding its winter distribution in South America. In this case, our records would represent the discovery of a recently established and previously undocumented wintering area for the species, a situation termed "pseudo-vagrancy" by Gilroy and Lees (2003). In fact, there is some evidence that the continental population of the Broad-winged Hawk has increased over the last decade (Farmer *et al.* 2008). This could be leading to a corresponding increase in the species' winter range. An inspection of out-of-range records in Brazil, however, does not seem to support this hypothesis, as they are all widely scattered in both space and time, with no apparent tendency to become more frequent in recent times (Figure 1). On the other hand, because records are too scarce to allow any conclusion, it could be argued that the range expansion of the species is taking place mainly outside the Brazilian territory and in one particular direction (*e.g.*, southward) rather than in multiple directions.

It has also been suggested that forest loss on migration routes and in wintering areas may be affecting the species (Farmer *et al.* 2008), thereby causing shifts in

its winter distribution because deforestation could force some individuals to go further south in search of new available wintering sites (Aguiar 2008). We believe, however, that changes in distribution caused by habitat loss would occur at a more local scale, *i.e.*, migrating birds encountering recently deforested areas – especially inexperienced juveniles – would not be compelled to venture as far south as southern Brazil to find suitable wintering areas.

In conclusion, it is presently unclear whether the occurrence of the Broad-winged Hawk in southern Brazil is the result of vagrancy or if it may be attributed to other reasons. Vagrancy seems the most plausible explanation, but observers should be aware of the possible regular occurrence of the species in the forests of the middle Paraná river basin, either as a previously overlooked summer visitor or as a migrant that is expanding its winter range into the region. To help address this issue, the search for misidentified specimens of *B. platypterus* in museum collections from northeastern Argentina and surrounding areas may prove worthwhile, as the discovery of such specimens would indicate that the species has been present in the region for a longer time.

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