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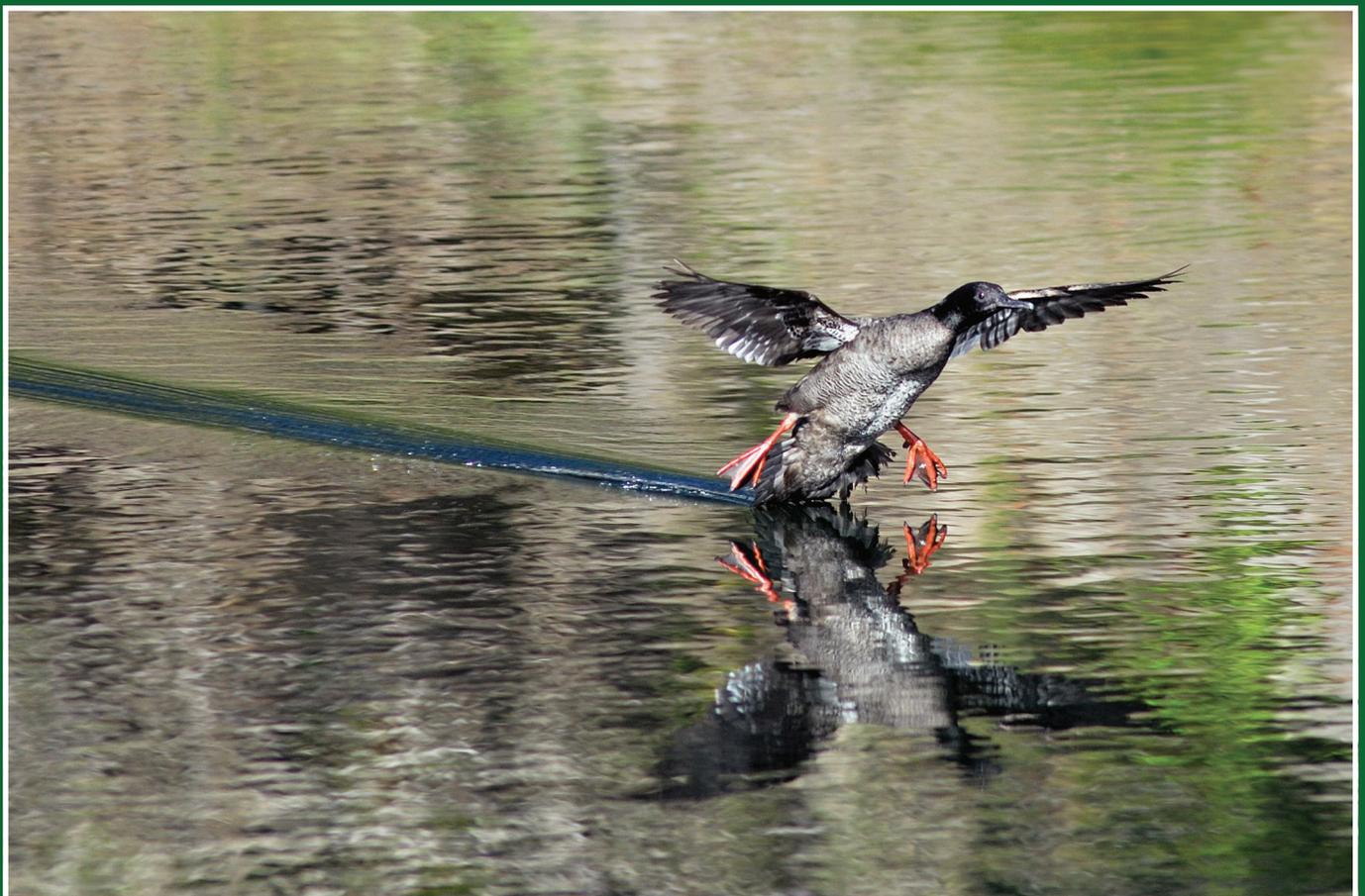
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# The Pale-breasted Thrush (*Turdus leucomelas*) preys on a gekkonid lizard and an anomalepidid snake

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**RESUMO:** O sabiá-barranco (*Turdus leucomelas*) apresa um lagarto Gekkonidae e uma serpente Anomalepididae. Aves Passeriformes apresam vertebrados ocasionalmente. Anuros e lagartos são presas mais comuns, proporcionalmente, ao passo que serpentes são mais raras. Registramos aqui o sabiá-barranco (*Turdus leucomelas*) apresando uma lagartixa-de-parede e uma cobra-cega, em ambientes urbanos no Sudeste e no Norte do Brasil. Esta ave forrageia no chão espalhando folhas, cavando com o bico e explorando frestas, comportamento que facilita o encontro deste tipo de presa, pois ambas as espécies de répteis vivem abrigadas. Comentamos sobre a aparente raridade deste tipo de presa para o sabiá-barranco e relacionamos a ingestão de vertebrados em época reprodutiva com necessidades nutricionais das aves. Além disso, validamos a hipótese de que Passeriformes apresam serpentes Anomalepididae.

**PALAVRAS-CHAVE:** Turdidae; Predação; Répteis; *Hemidactylus mabouia*; *Typhlophis squamosus*?

**KEY-WORDS:** Turdidae; Predation; Reptiles; *Hemidactylus mabouia*, *Typhlophis squamosus*?

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Perching birds seldom prey on vertebrates, albeit frogs and lizards are recorded as prey of this bird group (Lopes *et al.* 2005). Lizards are recorded in the diet of 122 (60.09%) out of 203 passerine species distributed in 16 families, including Turdidae (Lopes *et al.* 2005). Snakes are recorded in the diet of only 18 (8.86%) out of these 203 species, including *Turdus grayi* from Central America and *T. migratorius* from North America (Lopes *et al.* 2005).

Most thrushes display flexible diet and switch opportunistically between animal and plant food (Collar 2005). In urban areas the Pale-breasted Thrush (*Turdus leucomelas*) forages on the ground in orchards, parks, and other sites with fallen leaves. As most thrushes of the Turdinae, it sweeps leaves and litter aside to uncover hidden prey and also digs with its bill to unearth buried prey (Collar 2005). The Pale-breasted Thrush feeds on fruits, arthropods, and worms (Haverschmidt 1971, Collar 2005). However, small lizards are recorded as prey of this thrush in Surinam (Haverschmidt 1971).

We record herein two species of squamate reptiles, the tropical house gecko (*Hemidactylus mabouia* – Gekkonidae) and a blindsnake (*Typhlophis squamosus*? – Anomalepididae), as prey of the Pale-breasted Thrush in urban areas of Southeastern and Northern Brazil respectively. Additionally, we validate the hypothesis that passerine birds prey on anomalepidid snakes (Sazima 2007).

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## METHODS

The thrush preying on the tropical house gecko was recorded at the Parque Ecológico Prof. Hermógenes de Freitas Leitão Filho, Campinas (~ 22°54'S, 47°04'W), São Paulo, South-eastern Brazil. The bird and its prey were observed with naked eye and a 70-300 telephoto zoom lens mounted on a SLR digital camera. The bird preying on a blindsnake was recorded close to the Museu Sacaca, Macapá (~ 00°02'N, 51°04'W), Amapá, Northern Brazil (J. A. Alves *pers. comm.*). The bird and its prey were observed through a SLR digital camera as well. Both records are from urban areas. Voucher copies of digital photographs are on file at the Museu de Zoologia da Universidade Estadual de Campinas (ZUEC). We tentatively identified the blindsnake as *Typhlophis squamosus*, a widespread anomalepidid in the Amazonia (*e.g.*, Cunha and Nascimento 1978, Martins and Oliveira 1998, Ávila-Pires *et al.* 2009) including Guyana, Surinam, and French Guiana (Chippaux 1986).

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## RESULTS

While foraging on the ground, the Pale-breasted Thrush (*Turdus leucomelas*) tosses fallen leaves and other litter material aside with lateral movements of the head

and pushes its bill into the substratum in search of prey (Figure 1). Insects and earthworms (Figure 2) are the most common prey types found while the bird forages this way. On 26 January 2011 at early morning we recorded a Pale-breasted Thrush with a tropical house gecko (*Hemidactylus mabouia* – Gekkonidae) held in its bill (Figure 3), the prey being swallowed shortly after. On 06 January 2008 at midmorning, this thrush species was recorded preying on a blindsnake (*Typhlophis squamosus?* – Anomalepididae). The thrush thrashed the snake, released it, and thrashed it again until the prey was dead (Figure 4), after which the bird swallowed it whole (J. A. Alves *pers. comm.*).

## DISCUSSION

Both reptile types here recorded as prey of the Pale-breasted Thrush are able to dwell in urban habitats (*e.g.*, Cunha and Nascimento 1978, Howard *et al.* 2001, Avila-Pires 1995, Vitt 1995, Marques *et al.* 2009), which are used by this bird as well (Haverschmidt 1971, Sick 1997, Collar 2005). The thrush dislodges litter while foraging

on the ground and thus may find blindsnakes of the Anomalepididae, which are all fossorial (*e.g.*, Cunha and Nascimento 1978, Martins and Oliveira 1998, Marques *et al.* 2009). On the other hand, the tropical house gecko rests in crevices and may be found exposed while thermo-regulating on logs (Avila-Pires 1995, IS e GBD *pers. obs.*). As both the gecko and blindsnakes are common in urban areas (*e.g.* Puerto *et al.* 1991, Avila-Pires 1995, Vitt 1995, Marques *et al.* 2009), their potential as prey for urban-dwelling passerines, including thrushes, is great.

As thrushes in general forage in a similar way (Sick 1997, Collar 2005), we suggest here that additional thrush species that occur in Brazil and habitually forage on the ground may prey occasionally on small lizards and snakes while searching for prey among fallen leaves and litter (*e.g.*, French 1991, Collar 2005).

All records of squamate prey of the Pale-breasted Thrush (Collar 2005, Lopes *et al.* 2005, Gussoni and Guaraldo 2008) apparently stem from Haverschmidt (1971), who mentions small lizards of the Teiidae (*sic*) in the diet of this thrush in Surinam. The small lizards mentioned by Haverschmidt (1971) likely are species of the Gymnophthalmidae (earlier included within Teiidae, see



**FIGURES 1-4:** (1) While foraging on the ground the Pale-breasted Thrush (*Turdus leucomelas*) picks and tosses aside fallen leaves and litter; (2) Besides arthropods, the thrush unearths and picks earthworms; (3) Vertebrate prey, such as the tropical house gecko (*Hemidactylus mabouia*) is rarely caught; (4) Snakes, such as this blindsnake (*Typhlophis squamosus?*) are even more occasional prey than lizards. Photographs by Ivan Sazima (1, 2), Giulia B. D'Angelo (3) and J. Augusto Alves (4).

Peters and Donoso-Barros 1970). Several gymnophthalmids dwell in the litter in forests and similar habitats (Pianka and Vitt 2003) and likely in orchards and gardens as well, sites commonly used by the Pale-breasted Thrush in Surinam (Haverschmidt 1971). Our record adds a gekkonid species among the lizard prey of this thrush.

Due to the paucity of records of small lizards in the diet of the Pale-breasted Thrush (Haverschmidt 1971, present paper) we think that mentioning this prey type in local bird guides (e.g., Gussoni and Guaraldo 2008) is unnecessary or even inadequate. On the other hand, the Blue Rock-thrush (*Monticola solitarius*), a saxicoline turdid from the Old World, preys on small lizards to such extent that this prey type is properly mentioned in regional bird guides (e.g., Elphick and Woodward 2003, Hume 2006).

The Blue Rock-thrush preys on various small vertebrate types, from lizards to mammals (Collar 2005). During the breeding season this bird hunts for small lizards to feed them to the nestlings, which would benefit from the protein, calcium and energy contents, likely higher than those in invertebrates or fruits (Collar 2005). We think that this possibility may be extended to other passerines, an idea amenable to test looking at the diet of various species of this bird group during the breeding season. Conversely, records of vertebrate prey of passerines (e.g., Lopes *et al.* 2005) may be examined against the breeding period of the birds.

Both squamate reptiles here recorded were preyed on by the Pale-breasted Thrush during the breeding period (e.g., Haverschmidt 1959, Collar 2005, IS and GBD *pers. obs.*), which may indicate that this turdine could prey on vertebrates to complement its nutritional requirements during this period. The paucity of records of this prey type may be due to lack of natural history-oriented observations, or frogs and reptiles are actually rare in the diet of this thrush species. However, we suspect that the first alternative may prove true. We validate herein the hypothesis that passerine birds prey on anomalepidid snakes, as suggested by Sazima (2007).

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