

## Notes on the nest and breeding biology of the Spectacled Thrush *Turdus nudigenis*

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With 66 species, *Turdus* is the most diverse genus within the Turdidae family, and also the most widespread, found in all continents except Australia (Perrins 2006). Particular features of the genus include complex and developed voices, and a peculiar plumage with the first primary extremely small, being the third to fifth the longest (Clement 2000). Like other members in the family, *Turdus* thrushes are also characterized by its open cup-shaped nests, a feature even used to separate them from other birds closely related such as Troglodytidae (Aleixo and Pacheco 2006). Nests usually consist in a platform of dead leaves, twigs and other plant material, on which they build the outer walls by weaving stem, rootlets, and sometimes living moss, mud, animal hair, feathers, and occasionally snake skin (Collar 2005). Thrushes that breed close to the humans, frequently incorporated cellophane, paper, cotton wool and bit of string, among other things (Collar 2005). Some species build nests in tree-

holes, on the ground, or in unusual places such as an abandoned wagon, a boot, a pulpit, a human skull, and a letter box, among others (Collar 2005). Spectacled thrushes' nests have been reported to be built with mud, twigs, fine roots, and other plants materials in a cup shape (Clement 2000). Its breeding period takes place between February and July in Venezuela (Hilty 2003, Vereá *et al* 2009).

Nest construction is part of the breeding activities, a period with high demand of energy and other resources. Breeding with molt, represent the most important seasonal activities in the life of birds. These processes frequently overlap in Neotropical birds and tend to be more irregular and less limited in time than in temperate birds (Foster 1974). Some factors affecting breeding and molt in certain birds include precipitation, circadian cycles (Dawson *et al* 2001, Wikelski *et al* 2008, Repenning and Suertegaray 2011), and resource availability (Poulin *et al* 1992),



FIGURE 1. Nest of a Spectacled Thrush found in a garden of Simón Bolívar University, Miranda state, Venezuela. a) External aspect of the nest (July 01, 2014) with the three nestling, naked (no feathers); b) Ten days later (July 11, 2014) the nestling appear completed feathered. Photos: V. Moron-Zambrano (a) and C. Sainz-Borgo (b).

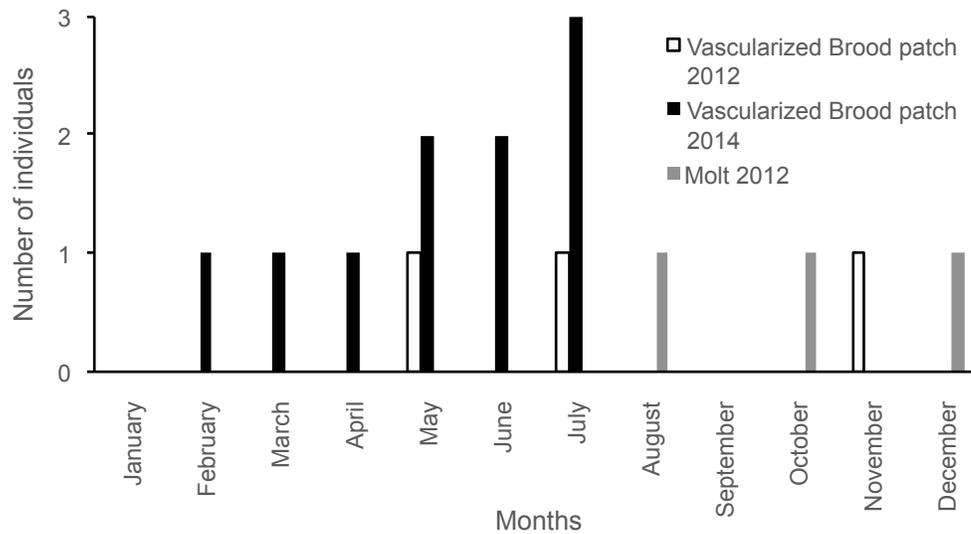


FIGURE 2. Number of Spectacled Thrushes with vascularized brood patch and molt between April 2012 to March 2013, and September 2013 to July 2014 in the Arboretum Experimental Station, Caracas, Venezuela.

but knowledge about breeding and molt in Neotropical thrushes is still very poor (Haverschmidt 1959, Snow and Snow 1963, Clement 2000). For Venezuela, there are few reports for molting between June and November in several *Turdus* species (Verea *et al* 2009), including the Spectacled Thrush.

This note intends to improve the knowledge about the Spectacled Thrush nest, providing data about construction materials and measurements, as well as to describe its breeding and molting periods in an urban environment.

On July 11, 2014 I found a Spectacled Thrush nest with three nestlings in a garden of Universidad Simón Bolívar, Organisms Biology Department, Miranda state, Venezuela (1024'24"N-6653'12"W), at 1,250 m asl. The nest was a cup-shaped structure made of vegetal fiber, moss, and roots, placed on epiphyte vegetation of *Tradescantia pendula* (Comelinaceae) that growing over the stump of a *Hura crepitans* (Euphorbiaceae) tree, approximately 2.5 m over the ground (Fig 1a). The nest had a total height of 40.0 mm, and its diameter was 132.0 mm. The incubation chamber was 36.0 mm deep, and the internal diameter was 86.0 mm. Although this nest resembled those previously reported, I do not found mud on it. There are no previous reports of Spectacled Thrush nest measurements, so the present note improves the knowledge about this topic. Nestlings were weighted (19.5, 22.4, and 27.8 g) and their total length was measured (100.3, 105.0, and 132.0 mm length) but I had no knowledge of their exact age (days). When I took these data, the nestlings were completely feathered (Fig 1b), probably 13–15 days after hatch. Even though the parents came near the nest and emitted alarm calls while I manipulate the chicks,

they started feeding their siblings few minutes after I finished, with no visible signs of distress. Like other studies (Snow and Snow 1963), both parents provided parental care, feeding the nestlings in approximately 10 minutes intervals, with worms (circa 50 mm).

In order to know the breeding and molting periods of the Spectacled Thrush in an urban environment, I carried out mist-netting sessions of avifauna twice a month, throughout two years, from April 2012 to March 2013 and September 2013 to July 2014. Sampling was conducted in a patch of a semi-deciduous forest in the Arboretum Experimental Station, Experimental Biology Institute, Central University of Venezuela (10°30'36"N-66°53'92"W), at 1,100 m asl. These nets operated from 06:30 h to 15:30 h, and they were visited every 15 minutes to check for birds captured. Once captured, each Spectacled Thrush was checked for breeding and molting signs. For breeding, I took note of those individuals who presented breeding patches in phases two and three according to Pyle (1997), where phase two was characterized by an increase in size of the blood vessels in the abdomen area, and the skin was thicker and fluid filled; and phase three, when the skin of the abdomen appear grayish and wrinkled. For molting, I took note of those individuals who presented a collagenous shield at the base of the feathers throughout all the body, including flying (primaries, secondaries, rectrices) and body feathers (head, chest, abdomen and back coverts). For flying feathers, only a symmetric molting was considered as real molt.

Spectacled thrushes captured ( $n=22$ ) were characterized as reproductive (brood patch in phase two and three), non-reproductive (brood patch absent), and molting individuals. A total of 13

individuals were reproductive, six non-reproductive, and only three showed molt activity. Breeding activity was registered in May, July, and November 2012, and from February to July 2014. These results (Fig 2) indicate that the breeding period for the Spectacled Thrush in this urban environment occurs from February to July, with a peak between May and July (higher number of individuals captured in phases two and three). Also, a second peak could occur at the end of the year (November). Similar results were reported by Vereá *et al* (2009) in natural environments from northern Venezuela. From December 2012 to March 2013, and September 2013 to January 2014, there were no captures of Spectacled thrushes, probably because of a lower sampling effort. These results and observations complement the findings of other authors (Snow and Snow 1963, Clement 2000), providing useful information to further understand the reproductive biology of Spectacled Thrush and other *Turdus* species.

Few Spectacled thrushes ( $n=3$ ) showed molt only in their body feathers, without records of individuals molting their flight feathers. Molt records occurred in July, September, and November 2012. Although this data are not enough to make conclusion about the Spectacled Thrush molt, all records occurred after breeding season. Same results have been obtained in natural environments by different authors (Snow and Snow 1963, Lentino 2009, Vereá *et al* 2009).

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#### REFERENCE LIST

ALEIXO A AND JF PACHECO. 2006. A family name for the monotypic Oscine Passerine genus *Donacobius*. *Revista Brasileira de Ornitología* 14: 172–173

- CLEMENT P. 2000. Thrushes. Princeton University Press, Princeton, USA
- COLLAR N. 2005. Family Turdidae (Thrushes). Pp. 514–619 in J del Hoyo, A Elliot, and DA Christie (eds). Handbook of the Birds of the World. Lynx Editions, Barcelona, Spain
- DAWSON A, VM KING, G BENTLEY AND G BALL. 2001. Photoperiodic control of seasonality in birds. *Journal of Biological Rhythms* 16: 365–380
- FOSTER MS. 1974. Model to explain molt-breeding overlap and clutch size in some tropical birds. *Evolution* 28: 182–190
- HAVERSCHMIDT F. 1959. Notes on the nesting of *Turdus leucomelas* in Surinam. *The Wilson Bulletin* 71: 175–177
- HILTY SL. 2003. A Guide to the Birds of Venezuela. Princeton University Press, Princeton, USA
- LENTINO, M. 2009. Manual de Anillado para el Paso Portachuelo, Parque Nacional Henri Pittier, Venezuela. Sociedad Conservacionista Audubon de Venezuela, Caracas, Venezuela
- SNOW DW AND BK SNOW. 1963. Breeding and the annual cycle in three Trinidad thrushes. *The Wilson Bulletin* 75: 27–41
- PERRINS C. 2006. The New Encyclopedia of Birds. Oxford University Press, Oxford, UK
- POULIN B, G LEFEBVRE AND R McNEIL. 1992. Tropical avian phenology in relation to abundance and exploitation of food resources. *Ecology* 73: 2295–2309
- PYLE P. 1997. Identification Guide to North American Birds. Part I: Columbidae to Ploceidae. Slate Creek Press, California, USA
- REPENNING M AND C SUERTEGARAY FONTANA. 2011. Seasonality of breeding, molt and fat deposition of birds in subtropical lowlands of southern Brazil. *Emu* 111: 268–280
- RESTALL R, C RODNER AND M LENTINO. 2006. Birds of Northern South America. Volume 2: An Identification Guide. Christopher Helm, London, UK
- VEREA C, A SOLÓRZANO, M DÍAZ, L PARRA, MA ARAUJO, F ANTÓN, O NAVAS, O RUIZ AND A FERNÁNDEZ-BADILLO. 2009. Registros de actividad reproductora y muda en algunas aves del norte de Venezuela. *Ornitología Neotropical* 20: 181–201
- WIKELSKI M, M HAU AND J WHINGFIELD. 2000. Seasonality of reproduction in a Neotropical rainforest bird. *Ecology* 81: 2458–2472

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