

# *Philodryas olfersii* (Squamata, Serpentes, Dipsadidae): Nocturnal mating behavior

Paulo Cesar Mattos Dourado de Mesquita<sup>1,3</sup>, Daniel Cunha Passos<sup>2</sup> and João Fabricio Mota Rodrigues<sup>2</sup>

<sup>1</sup> Laboratório de Herpetologia, Departamento de Zoologia, Universidade Federal de Santa Maria. Avenida Roraima, 1.000, CEP 97105-900, Santa Maria, RS, Brasil. E-mail: paulocmdm@gmail.com

<sup>2</sup> Núcleo Regional de Ofiologia, Universidade Federal do Ceará (NUROF-UFC), Campus do Pici, Centro de Ciências. Bloco 905, CEP 60455-760, Fortaleza, CE, Brasil.

<sup>3</sup> Author for correspondence.

The green snake, *Philodryas olfersii*, is a semi-arboreal, dietary generalist and is considered to be exclusively diurnal (Marques *et al.*, 2001). It is widely distributed in South America, occurring in Brazil, Peru, Bolivia, Paraguay, Uruguay and Argentina (Peters and Orejas-Miranda, 1970). It is probably one of the most studied species of dipsadids due to its high abundance in many snake assemblages (Vitt and Vangilder, 1983; Bernarde and Abe, 2006; França and Araújo, 2007; Pontes *et al.*, 2008).

There is a considerable amount of information available on diet, reproductive cycle, activity patterns, and frequency of snake bites caused by *Philodryas olfersii* (Vitt, 1980; Vitt and Vangilder, 1983; Fowler and Salomão, 1994; Hartmann and Marques, 2005; Leite *et al.*, 2009). However, as is the case for most Neotropical snake species, information on mating behavior in nature is scarce (Zacariotti and Valle, 2010). Herein, we present the first record of the mating behavior of *P. olfersii* in nature.

On 19 June 2009, at 20:15 h, in a Caatinga habitat in Pentecoste municipality, State of Ceará, Brazil (03°44'25.4"S, 39°18'26.0"W; GPS Datum: WGS84), we observed a pair of *Philodryas olfersii* (male: snout vent length, SVL = 561 mm, tail length, TL = 242 mm; mass = 47.9 g; female: SVL = 645 mm, TL = 259 mm, mass = 66 g) mating on the top of a spiny tree (Fabaceae, Mimosoideae) at approximately 7 m above the ground. The male was on a lower branch than the female; their tails were entwined, and this was the only body part in contact (Figures 1 and 2). Cloacal juxtaposition and hemipenial insertion were evident. Both snakes remained copulating on the top of the tree for 15 minutes, performing only slow tail movements. At the end of the process the snakes were captured, measured and released at the capture site.

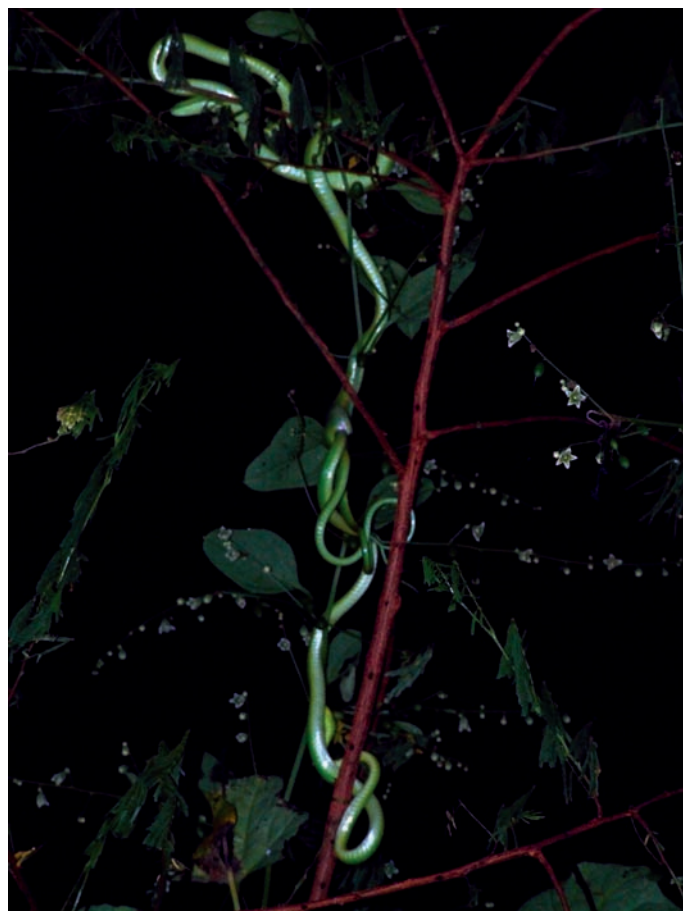
Observations of mating behavior in nature are rarely reported, even for a common and widely distributed species, such as *Philodryas olfersii*. But perhaps the most remarkable information of this record is that the mating process occurred at night, approximately two hours after sunset and beyond the expected diel activity of this species. However, we cannot disregard the possibility that the process of courtship and mating had initiated during the day because when we began our observations intercourse was already ongoing.

## ACKNOWLEDGMENTS

We thank to ICMBio for license SISBIO\18596-1.

## LITERATURE CITED

- BERNARDE, P.S. AND A.S. ABE. 2006.** A snake community at Espigão do Oeste, Rondônia, Southwestern Amazon, Brazil. *South American Journal of Herpetology*, 1:102-113.
- FOWLER, I.R. AND M.G. SALOMÃO. 1994.** Activity patterns in the colubrid snake genus *Philodryas* and their relationship to reproduction and snake-bite. *Bulletin of the Chicago Herpetological Society*, 29:229-232.
- FRANÇA, F.G.R. AND A.F.B. ARAÚJO. 2007.** Are there co-occurrence patterns that structure snake communities in Central Brazil? *Brazilian Journal of Biology*, 67:33-40.
- HARTMANN, P.A. AND O.A.V. MARQUES. 2005.** Diet and habitat use of two sympatric species of *Philodryas* (Colubridae), in south Brazil. *Amphibia-Reptilia*, 26:25-32.
- LEITE, P.T., I.L. KAEFER, AND S.Z. CECHIN. 2009.** Diet of *Philodryas olfersii* (Serpentes, Colubridae) during hydroelectric dam flooding in southern Brazil. *North-Western Journal of Zoology*, 5:53-60.



**FIGURE 1:** Mating behavior of *Philodryas olfersii* at night (20:15) in Pentecoste municipality, State of Ceará, Brazil.

**MARQUES, O.A.V., A. ETEROVIC AND I. SAZIMA. 2001.** Serpentes da Mata Atlântica: Guia Ilustrado para Serra do Mar. Holos, Ribeirão Preto.

**PETERS, J.A. AND B. OREJAS-MIRANDA. 1970.** Catalogue of the Neotropical Squamata. Part I. Snakes. *U.S. National Museum Bulletin*, 297:1-347.

**PONTES, J.A.L., J.P. FIGUEIREDO, R.C. PONTES, AND C.F.D. ROCHA. 2008.** Snakes from the Atlantic Rainforest area of Serra do Mendanha, in Rio de Janeiro state, southeastern Brazil: a first approximation to the taxocenosis composition. *Brazilian Journal of Biology*, 68:601-609.

**VITT, L.J. AND L.D. VANGILDER. 1983.** Ecology of a snake community in northeastern Brazil. *Amphibia-Reptilia*, 4:273-296.

**VITT, L.J. (1980).** Ecological observations on sympatric *Philodryas* (Colubridae) in northeastern Brazil. *Papéis Avulsos de Zoologia*, 34:87-98.

**ZACARIOTTI, R.L. AND R.R. VALLE. 2010.** Observation of mating in the Calico Snake *Oxyrhopus petola* Linnaeus, 1758. *Herpetology Notes*, 3:139-140.



Macho adulto de *Ischnocnema henselii*, Pró-Mata, São Francisco de Paula, RS. (Foto: T. Grant).