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Flesh fly myiasis (Diptera: Sarcophagidae) in *Pristimantis thectopternus* (Anura: Strabomantidae) from Colombia

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Parasitism of adult frogs and toads by dipteran larvae has been described in the families Sarcophagidae, Calliphoridae and Chloropidae (Crump and Pounds, 1985; Kraus, 2007), but remains a poorly studied subject of amphibian biology (Hagman et al., 2005). In the Neotropics, only Sarcophagidae is known to cause myiasis in anurans (Travers and Townsend, 2010) including twelve species (seven anuran families) from Panama, Brazil, Peru, Costa Rica and Venezuela (Table 1). Here, we report a new record of myiasis caused by Sarcophagidae in *Pristimantis thectopternus* (Lynch, 1975) from Colombia.

La Patasola Natural Reserve is located in the Salento municipality (Quindío), on the western slope of the Central Andes of Colombia (04°41'33.2''N, 075°33'12,8''W; between 2200 and 2400 m). On October 14th 2007 we found an apparently healthy adult *Pristimantis thectopternus*, which was kept in a plastic bag with humid leaf litter for six hours. After that time, a lesion on the right flank appeared (Fig. 1) containing nine larvae, which were preserved in 70% ethanol for later determination. The frog was fixed in 10% formalin solution, preserved in 70% ethanol and deposited in the amphibian laboratory of the Instituto de Ciencias Naturales (ICN 55452), Universidad Nacional de Colombia.

The collected larvae were identified as third instar Sarcophagid (Fig. 2), but a lower taxonomic identification was not possible because rearing the larvae is necessary in order to obtain adult flies for species identification (Mello-Patiu and Luna-Dias, 2010). After dissecting the frog we determined that it was a gravid female. The frog's abdominal musculature was partially eaten but there appeared to be no signs of damage to the visceral organs. Crump and Pounds (1985) found that females of *Atelopus varius* were significantly more parasitized than males, probably as a consequence of fat bodies and eggs which could represent a higher energy source for the fly larva. Nevertheless, both fat bodies and eggs of the *P. thectopternus* showed no sign damage by the larvae. Myiasis causing flies are diurnal (Hagman et al., 2005) which forces a temporal overlap with its hosts. Although frogs of the family Strabomantidae are nocturnal and remain hidden in the leaf litter during the day (Lynch, 1999), *P. thectopternus* is easily seen during the day, which could facilitate parasitism in this species.

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Figure 1. Right lateral lesion in *P. thectopternus* caused by sarcophagid larvae.

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Table 1. Known instances of Sarcophagid parasitism in Neotropical Anurans.

Anuran		Sarcophagid	Country	References
Family	**Species**			
Centrolenidae	*Hyalinobatrachium fleischmanni*	Undetermined	Panama	Medina et al. (2009)
Dendrobatidae	*Ameerega bassleri*	Undetermined	Peru	Hagman et al. (2005)
	Ameerega cainarachi	Undetermined	Peru	Hagman et al. (2005)
	Ameerega trivittata	*Sarcodexia lambens*	Peru	Hagman et al. (2005)
Hylidae	*Hypsiboas beckeri*	*Lepidodexia centenaria*	Brazil	Mello-Patiu and Luna-Dias (2010)
	Aplastodiscus arildae	*Lepidodexia bufonivora*	Brazil	Eizemberg et al. (2008)
Bufonidae	*Atelopus varius*	*Lepidodexia bufonivora*	Costa Rica	Crump and Pounds (1985), Pounds and Crump (1987)
	Rhinella granulosa	*Lepidodexia bufonivora*	Venezuela	Lopes and Vogelsang (1953)
	Rhinella margaritifera	Undetermined	Brazil	Carvalho-Filho et al. (2010)
Ranidae	*Lithobates catesbeianus*	*Lepidodexia* sp.	Brazil	Souza et al. (1989)
Cycloramphidae	*Proceratophrys* sp.	*Lepidodexia* sp.	Brazil	Lopes (1981)
Strabomantidae	*Eleutherodactylus* sp.	*Lepidodexia* sp.	Panama	Dodge (1968)
	Pristimantis thectopternus	Undetermined	Colombia	Current study

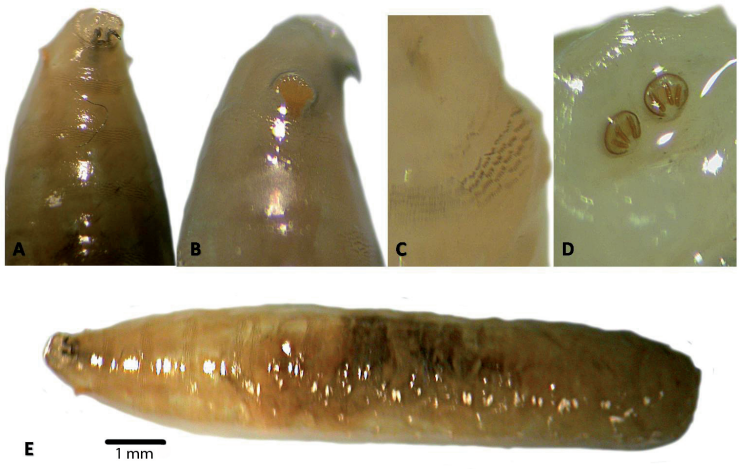

Figure 2. Sarcophagid larva removed from the frog *P. thectopternus*. A. detail of anterior region (ventral view); B. detail of anterior spiracle (lateral view); C. detail of spines (ventro-lateral view); D. detail of posterior spiracle; E. ventral view to sarcophagid larva.

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