



Leucism in a Sabinal Frog, *Leptodactylus melanonotus* (Anura; Leptodactylidae), from Utila Island, Honduras

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The color of frog skin is a function of three types of pigment cells (xanthophores, iridophores and melanophores), the absence, loss, or imbalance of which cause changes in perceived skin color (Miura 2018). Typical color aberrations in frogs include albinism (Brassaloti and Bertoluci 2009; Toledo et al. 2011; Salles et al. 2013), amelanism (Pabijan et al. 2004), and variants such as leucism (Thompson and Rea 2013; Villagarcia-Olmeño and Cuevas 2014; Puente-Torres and Simonetti 2018; Hughes et al. 2019), erythrism (Kolenda et al. 2017; McAlpine and Gilhen 2018), axanthism (Jablonski et al. 2014), xanthochromism (Allain and Goodman 2017), and piebaldism (García Padrón and Bosch 2019).

Phenotypic abnormalities in which individuals show an excess or deficit of pigmentation are the result of mutations frequently attributed to exposure to certain environmental factors during development (Jablonski et al. 2014; Miura 2018). Cases are infrequent in nature and usually involve frogs in early stages of life because a loss of body pigmentation can increase exposure of affected individuals to visually orientated predators and thus dramatically reduce survival rates. However, survival rates can be higher in nocturnal and cryptic fossorial species, as they are theoretically less dependent on camouflage to survive (Sazima and Di-Bernardo 1991; Toledo et al. 2011). Although color mutations are uncommon, infrequent documentation of anomalies might also stem from inconsistent classification and recognition of those anomalies (Jablonski et al. 2014; Allain and Goodman 2017; García Padrón and Bosch 2019).

The Sabinal Frog (*Leptodactylus melanonotus*) is an adaptable species that is widely distributed throughout Central America in a variety of natural and edificarian habitats (Köhler 2011), including those on Utila Island, Honduras (McCranie and Orellana 2014). Larvae develop in foam nests within burrows, usually on the edges of temporary bodies of water (e.g., flooded pastures) (IUCN SSC Amphibian Specialist Group 2020). Albinism has been reported in tadpoles of at least three

species in the genus (Rodrigues and Oliveira 2004; Elgue et al. 2013; Martinuzzi et al. 2016); however, to our knowledge, we report the first case of leucism or indeed any pigment abnormality in *L. melanonotus*.

At ca. 2000 h on 13 July 2012, FP and SMC encountered an unvouchered subadult *L. melanonotus* in a flooded grassland at “Paco’s Farm” in the Pumpkin Hill region on Utila. This individual exhibited a leucistic variant of albinism, sometimes referred to as hypomelanism (Hughes et al. 2019), in which an individual has lost all body pigmentation, resulting in pale yellow skin, but retains normal eye coloration (Fig. 1). The individual was captured for photographs and subsequently released without collecting morphological data. No other leucistic *L. melanonotus* have been encountered despite ongoing biodiversity research on Utila from 2012–2020.

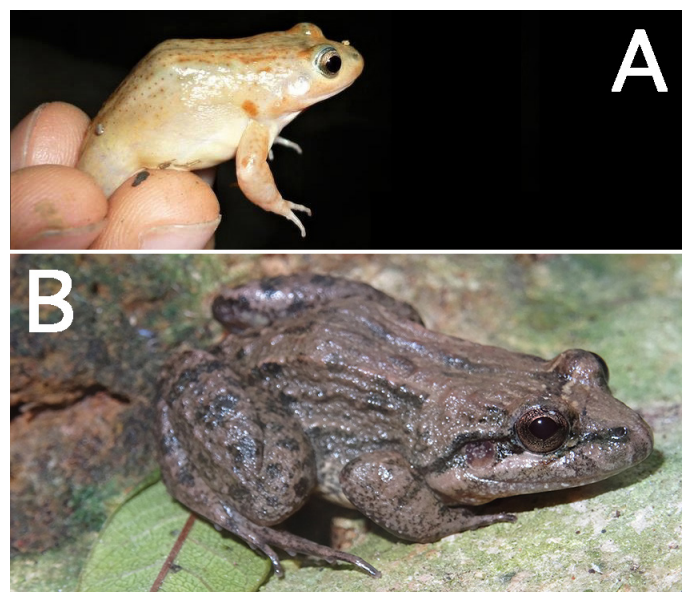


Fig 1. A leucistic subadult Sabinal Frog (*Leptodactylus melanonotus*) from Utila Island, Honduras (A) and a typical adult (B). Photographs by Steve M. Clayson (A) and Tom W. Brown (B).

Acknowledgements

We thank the Kanahau Utila Research and Conservation Facility for the opportunity to conduct research on the biodiversity of Utila. Special thanks go to José Mario Solis for confirming the identification of the frog and Steven Allain, who confirmed our suspected case of leucism.

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