

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/370410953>

First record of the Mourning Gecko, *Lepidodactylus lugubris* (Duméril and Bibron), in Martinique, French Antilles

Article · January 2023

DOI: 10.17161/randa.v30i1.18399

CITATIONS

0

READS

178

2 authors:



Alice Armand

Aix-Marseille Université

3 PUBLICATIONS 0 CITATIONS

[SEE PROFILE](#)



Benjamin Ferlay

National Botanical Conservatory of Martinique

6 PUBLICATIONS 1 CITATION

[SEE PROFILE](#)



The Mourning Gecko, *Lepidodactylus lugubris* (Duméril and Bibron), on Martinique, French Antilles

Alice Armand and Benjamin Ferlay

L'association Bivouac Naturaliste, 8B rue Martin Luther King, 97200 Fort-de-France, Martinique (alice.armand35@gmail.com)

The Mourning Gecko (*Lepidodactylus lugubris*) is among the globally most prolific gekkonid species; due to its capacity for parthenogenesis (Cuellar and Kluge 1972; Borroto-Páez 2018), even a single female can start a new population. Additionally, these geckos produce eggs that are resistant to exposure to saltwater and to desiccation (Bosch and Páez 2017; Lorvelec et al. 2017) as their rigid-shelled eggs contain the water necessary for development (Andrews 2012). Finally, due to their presence in the exotic pet trade, *L. lugubris* has increased opportunities for introductions beyond its natural distribution (Lorvelec et al. 2017). Native to coastal areas of southeastern Asia and the Indo-Pacific region (Behm

et al. 2018), Mourning Geckos have spread to multiple Pacific islands and more recently to the Caribbean (Nania et al. 2020). The first report of the species in the Caribbean region was in 1976 on Big Corn Island, Nicaragua (Henderson et al. 1976). They have since been reported in Guadeloupe in 2010 (Lorvelec et al. 2011; Gomès and Ibéné 2013; Borroto-Páez 2018) and other Caribbean islands such as Cuba and Bonaire (Alonso Bosch and Borroto-Páez 2017; Van Buurt and Smulders 2022). A previous research-grade record of the species on Martinique in December 2020 on iNaturalist (<https://www.inaturalist.org/observations/66918518>) provided a location in the southern part of the island north of Sainte-Anne.

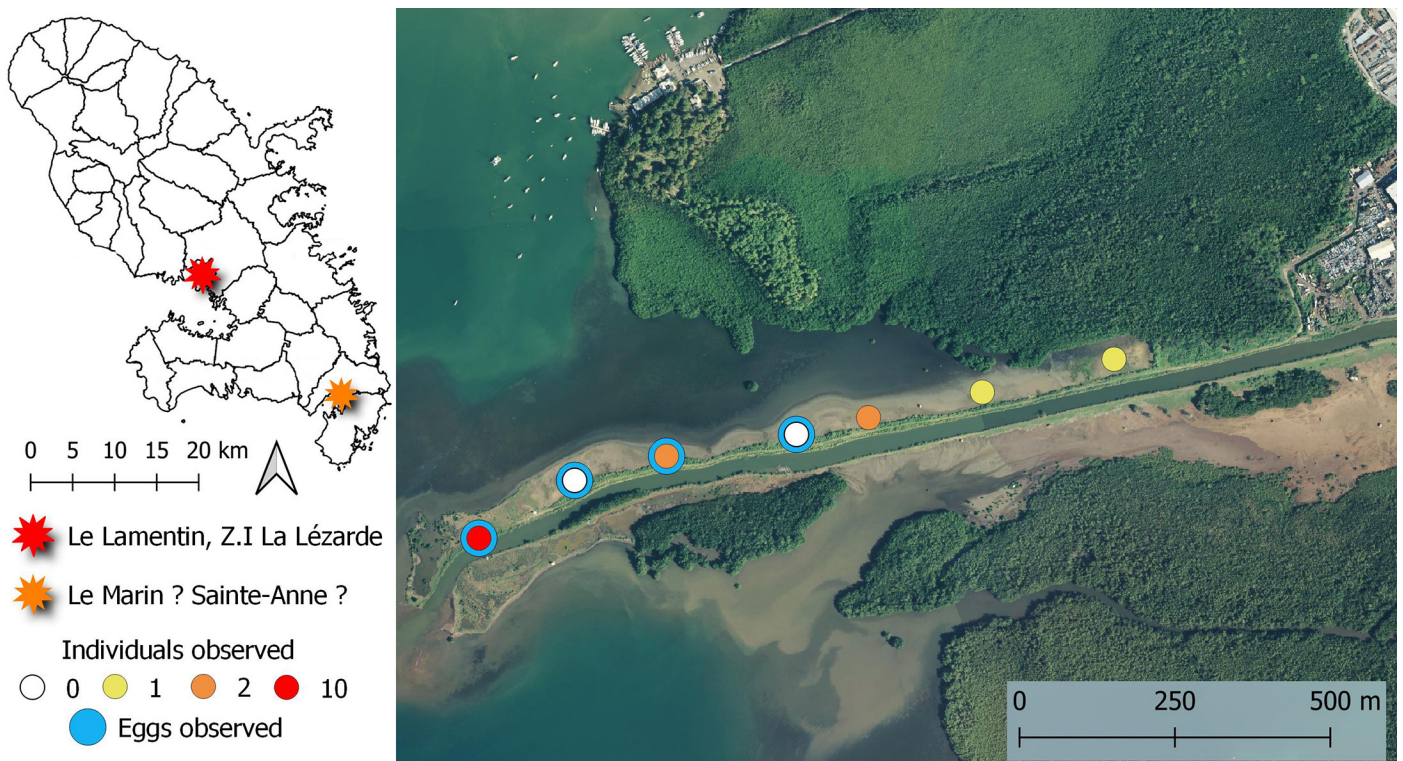


Fig. 1. Map showing locations of observations of Mourning Geckos (*Lepidodactylus lugubris*) and number of individuals observed per hunting shed near the mouth of the Lézarde River on Martinique.

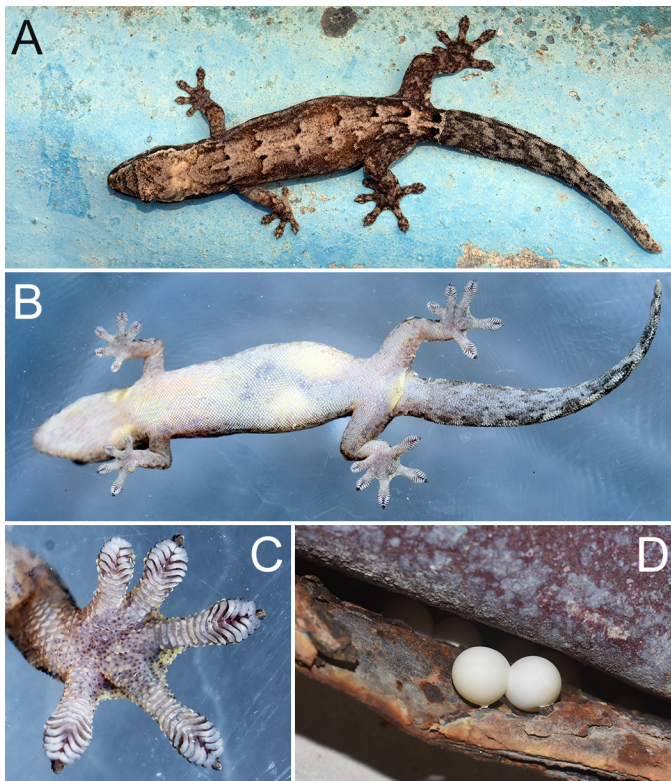


Fig. 2. Mourning Geckos (*Lepidodactylus lugubris*) observed near the mouth of the Lézarde River on Martinique (A – KUDA 013796; B – 013797). Note the lack of a claw on the thumb (C – KUDA 013798). The presence of eggs suggests that this population is firmly established at this site (D – 013799). Photographs by Benjamin Ferlay.

We observed and photographed Mourning Geckos on 8 July 2022 on Martinique at the mouth of the Lézarde River (-61.01826, 14.60125; Fig. 1). Maël Dewynter (pers. comm.) confirmed the identity of our records based on the presence of brown stripes that extend from the snout to the ears, a series of dorsal brown V- and W-shaped marks, five fingers with the thumb missing a claw, and a thick flat tail (Bosch and Páez 2017; Dewynter et al. 2020; Fig. 2). Photographic vouchers have been deposited in the University of Kansas Biodiversity Institute & Natural History Museum (KUDA 013796–013799).

The mouth of the river is surrounded by mangrove areas and is close to an industrial zone. A dirt road follows the river until it flows into Fort-de-France Bay, where seven wooden sheds with sheet metal roofs were built by hunters (Fig. 1). Our first observations of several Mourning Geckos were in one of these structures (Fig. 3). We ultimately found 16 individuals during daytime hours, along with indicators such as feces and eggs, which were found in four sheds. We were unable to visit additional hunting huts on the other side of the river because they were on private property.

These records from different sites suggest that the species is established on Martinique. Any effects on native species are unknown but we strongly encourage further studies of this species on Martinique to better understand its potential impact on local ecosystems.

Acknowledgements

We thank Maël Dewynter for confirming the identity of the species and for his interest in this discovery. We also thank DEAL Martinique for their support.

Literature Cited

- Alonso Bosch, R.A. and R. Borroto-Páez. 2017. First record from Cuba of the introduced mourning gecko, *Lepidodactylus lugubris* (Duméril and Bibron, 1836). *BioInvasions Records* 6: 297–300. <https://doi.org/10.3391/bir.2017.6.3.16>.
- Andrews, R.M. 2012. Water vapor permeability of the rigid-shelled gecko egg. *Journal of Experimental Zoology Part A: Ecological and Integrative Physiology* 317: 395–400. <https://doi.org/10.1002/jez.1732>.
- Behm, J.E., G. van Buurt, B.M. DiMarco, J. Ellers, C.G. Irian, K.E. Langhans, K.E. McGrath, K. Tran, T. Helmus, and M. Helmus. 2018. First records of the mourning gecko (*Lepidodactylus lugubris* Duméril and Bibron, 1836), common house gecko (*Hemidactylus frenatus* in Duméril, 1836), and Tokay gecko (*Gekko gecko* Linnaeus, 1758) on Curaçao, Dutch Antilles, and remarks on their Caribbean distributions. *BioInvasions Records* 8: 34–44. <https://doi.org/10.3391/bir.2019.8.1.04>.
- Borroto-Páez, R. 2018. High abundance of the introduced Mourning Gecko (*Lepidodactylus lugubris*) in southwestern Grande Terre, Guadeloupe, French West Indies. *Reptiles & Amphibians* 25: 184–187. <https://doi.org/10.17161/randa.v25i3.14297>.
- Cuellar, O. and A.G. Kluge. 1972. Natural parthenogenesis in the gekkonid lizard *Lepidodactylus lugubris*. *Journal of Genetics* 61: 14–26. <https://doi.org/10.1007/BF02984098>.
- Dewynter, M., T. Frétey, E.A. Courtois, and J.-C. de Massary. 2020. Les Geckos indigènes et introduits de Guyane : identification et répartition. *Herp me!* 1: 1–23.



Fig. 3. A hunting shed near the mouth of the Lézarde River on Martinique where Mourning Geckos (*Lepidodactylus lugubris*) were observed. Photographs by Benjamin Ferlay.

- Gomès, R. and B. Ibéné. 2013. *Lepidodactylus lugubris* (Mourning Gecko). Distribution. *Caribbean Herpetology* 44: 1.
- Henderson, R.W., J. Villa, and J.R. Dixon. 1976. *Lepidodactylus lugubris* (Reptilia: Gekkonidae). A recent addition to the herpetofauna of Nicaragua. *Herpetological Review* 7: 173.
- Lorvelec, O., N. Barré, and A.M. Bauer. 2017. The status of the introduced Mourning Gecko (*Lepidodactylus lugubris*) in Guadeloupe (French Antilles) and the high probability of introduction of other species with the same pattern of distribution. *Caribbean Herpetology* 57: 1–7.
- Lorvelec, O., A. Levesque, and A.M. Bauer. 2011. First record of the mourning gecko (*Lepidodactylus lugubris*) on Guadeloupe, French West Indies. *Herpetology Notes* 4: 291–294.
- Nania, D., M. Flecks, and D. Rödder. 2020. Continuous expansion of the geographic range linked to realized niche expansion in the invasive Mourning gecko *Lepidodactylus lugubris* (Duméril & Bibron, 1836). *PLoS One* 15: e0235060. <https://doi.org/10.1371/journal.pone.0235060>.
- Van Buurt, G. and J.C.G.I. Smulders. 2022. First record of the Mourning Gecko, *Lepidodactylus lugubris* (Duméril & Bibron), from Bonaire. *Caribbean Herpetology* 82: 1. <https://doi.org/10.31611/ch.82>.