

**DESCRIPTION OF INVASIVE EXOTIC REPTILE SPECIES
FROM THE LESSER ANTILLES**



Lepidodactylus lugubris

(Duméril et Bibron, 1836)

Common name: Mourning gecko, Common Smooth-scaled gecko

Local name: Gecko nain, Gecko demi-deuil

Order: Squamata, Family: Gekkonidae

Description

Morphology. The Mourning gecko is a small sized, light-coloured gecko characterised by the presence of claws on four out of five fingers (absent on the thumb), a smooth-looking body without tubercles, with a dorsal pattern consisting of black symmetrical spots, sometimes discrete, « V » or « W » shaped, or in the form of dots. The base of the tail is slightly enlarged (HerpMe, Société Herpétologique de France).

Standard body size (snout-vent length). 33 to 48 mm (Ineich and Ota, 1993; Hoogmoed and Avila-pires, 2015; Sakai, 2016).

Sexual dimorphism. No significant sexual dimorphism. Males have two hemipenes, femoral pores, and external testes (Brown and Murphy-Walker, 1996; Saiko and Ota, 1998; Röhl and Düring, 2008).

Variations. The body colour of the same individual can vary from light to dark, depending on its physiological condition.

Possible confusions with other species. In the Lesser Antilles, confusion is possible with another exotic gecko species, the House Gecko *Hemidactylus mabouia*. However, the House Gecko is characterised by the presence of claws on each finger, a body covered with tubercles, and six longitudinal rows of thorny tubercles on the tail (HerpMe, Société Herpétologique de France).

Distribution

Native. Asia: Taiwan, China, Chagos archipelago, Sri Lanka, India (and Adaman islands), Seychelles, Myanmar, Western Malaysia (Pulau Pinang, Pulau Tioman), Vietnam, Japan (Ryukyu, Bonin, Ogasawara, Okinawa, Miyako, Yaeyama and Daito), Indonesia (Borneo, Lombok, Sulawesi, Halmahera, Ambon, Kei, Komodo, Flores, Morotai), Philippines (Panay, Luzon, Cebu), Palau, New Guinea, Bismarck archipelago, Nauru, Salomon Islands, Micronesia (Lukunor Atoll), Fiji, Rotuma, New Caledonia, Loyauté island, Vanuatu, Toga, Tegua, Hiu, Marianna islands (Hileman et al., 2020), Cook island (Roratonga), Tonga, Australia, Maldive islands, Samoa, Guam, Société archipelago, Mascarenes (Rodrigues) (Nania et al., 2020).

Introduced. Hawaii, Florida (Hoomgoed and Avila-Pires, 2015), Mexico (Ahumada-Carillo and Weatherman, 2018), Nicaragua (Sunyer et al., 2013), Costa-Rica, Panama, Brazil, Ecuador (including Galapagos), Colombia (including San Andres, Providencia, Islas del Rosario, Bolivar) (Hoomgoed and Avila-Pires, 2015; Señaris et al., 2017), Chile (Urta et al., 2020), Surinam, Venezuela (Señaris et al., 2017).

Caribbean: Bahamas (Paradise Island) (Krysko and MacKenzie-Krysko 2016; Liebgold et al., 2019), Cuba (Bosch and Paez, 2017), Cayman islands (Goetz and Burton 2018), Turks and Caicos (Ruhe and Ruhe, 2019), Guadeloupe (Lorvelec et al., 2017; Borroto-Paez, 2018), Trinidad, Tobago (Auguste and Fifi, 2020), Curaçao (Behm et al., 2019).

Biology and ecology

Habitat. The global distribution of the species reflects its preference for a tropical to sub-tropical climate. The Mourning Gecko is able to cope with a great variety of natural and anthropized habitats. The species is found in mangroves and coastal environments, in humid forests, but also in urban and in peri-urban areas where artificial lighting, through attracting insects, provides an easily accessible and abundant source of food (Hoogmoed and Avila-Pires, 2015).

Diet. Nectarivore, frugivore and insectivore (Perry and Ritter, 1999; Nafus, 2012).

Reproduction. The Mourning gecko is a parthenogenetic species (Griffing et al., 2019), meaning that females lay eggs that develop without the need to be fertilised. Males are rare, and all the studied specimens have been found to be sterile (Brown and Murphy-Walker, 1996; Saiko and Ota, 1998; Röhl and Düring, 2008). Several clonal lineages have been identified and described. At least two of these lineages arose from hybridisation events with *Lepidodactylus moestus* (Radtkey et al., 1995) and *L. pantai* (Karin et al., 2021).

Females can reproduce after five to nine months, and then breed throughout the year (Brown and O'Brien 1993; Griffing et al. 2018 2019). Two eggs are laid and hatching occur after approximately two months of incubation (65 days at 25.5° C to 103 days at 22° C; Brown and Duffy, 1992). Griffing et al. (2018) indicate an average number of 50 eggs produced each month from a pool of 60 individuals.

Behaviour. Females are more aggressive than males (Brown and Murphy-Walker, 1996). This aggressiveness, like the propensity to interact with other individuals (of the same or closely related species), is variable among lineages (Short and Petren, 2008; Murakami and Hayashi, 2018). Individual personality traits (such as shyness vs. boldness) are also variable depending on the habitat (Sakai, 2019).

Impact and management of introduced populations

Impact. Little is known about the impact of the Mourning Gecko on native ecosystems in introduced regions.

Management. To date, no targeted control measures have been established in the different regions where the species has been introduced.

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