

## Colonization of Socorro Island (Mexico), by the tropical house gecko *Hemidactylus frenatus* (Squamata: Gekkonidae)

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*Hemidactylus frenatus* Schlegel is a nocturnal lizard widely distributed in Southern Asia, the Pacific Islands, tropical Africa, Australia and Polynesia (Smith and Taylor 1950, Bustard 1970). Introduced in México, *H. frenatus* apparently is becoming more widespread by human agency (Hardy and McDiarmid 1969, Stebbins 1985). The Revillagigedo Archipelago, Mexico, especially Socorro Island, is very important to both national and global biodiversity (Ortega *et al.* 1991). Socorro Island exhibits high incidence of endemic taxa and alarming problems caused by introduced species (Ortega *et al.* 1992). Despite the biological importance of this island, few scientific works dealing with its herpetofauna have been published (Hanna 1926, Brattstrom 1955, 1982, Richards and Brattstrom 1959). None of these works report the presence of *H. frenatus* on Socorro Island. In this article we document the first record of this successful colonizing species on Socorro Island; additionally we discuss data of the reproductive condition and diet of the specimens collected.

During February 1990 we traversed Socorro Island during seven nights looking for nocturnal lizards. During three additional

nights on the same month we collected 29 *Hemidactylus frenatus* specimens between 19:00 and 02:00 hrs at the buildings of the Navy Garrison. Stomach contents were removed and examined with a stereomicroscope. The 29 analyzed stomachs yielded 86 individual food items, which were identified to order level. Lengths and widths of prey items were obtained with an optical micrometer and their volumes were calculated assuming that prey items were cylindrically shaped. For the males, each testis was measured with an optical micrometer. For the females, the number, length and width of each oviductal egg were recorded, as well as the number and size of each ovum with vitellus and without vitellus in their ovaries.

The geographic distribution of *Hemidactylus frenatus* on Socorro Island was restricted to the human buildings of Navy Garrison at the time of our survey. Average SV length and body mass of the 14 collected males was 49.00 mm (SD= 8.95) and 3.31 g (SD= 1.04), and 45.10 mm (SD= 6.34) and 2.56 g (SD= 0.87) for the 15 collected females. Lepidoptera were the most abundant prey items consumed, both in frequency (44%) and volume (43%) respectively, followed by

Orthoptera and Aranea (15% and 9% respectively in volume). Our results on the diet of *H. frenatus* on Socorro Island are consistent with those reported in the literature for other places (Bobrov 1992), except that we found that cannibalism was occurring (21% of the total volume of prey items consisted of gecko remains).

Twenty percent of the collected females had oviductal eggs. The smallest female found with oviductal eggs had 47 mm SVL. Males also appeared to exhibit signs of reproductive activity: 28.6% showed enlarged deferent ducts and the total average size of the testes was 4.04 mm in length and 2.60 mm in width. According to our results both males and females show evidence of reproductive activity during February.

On Socorro Island there is only one other reptile, the endemic diurnal lizard *Urosaurus auriculatus* (Cope). For this reason, and because *Hemidactylus frenatus* has been demonstrated to be a successful colonizer, it is important to develop further studies on the ecology and biology of this gecko, particularly those focused with their relationships with the native vertebrate fauna, specially the endemic diurnal lizard, in order to establish the ecological significance of this exotic colonizing species in a threatened and very fragile insular ecosystem.

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