



FIG. 1. Adult individual of *Gymnodactylus geckoides* exhibiting the defensive display and detail of the banded ventral pattern of the tail.

Gymnodactylus geckoides exhibits terrestrial and saxicolous habits, nocturnal and crepuscular periods of activity, and is distributed in the Caatinga (thorny deciduous tropical savanna) of northeastern Brazil (Vanzolini et al. 1980. Répteis das Caatingas. Academia Brasileira de Ciências. Rio de Janeiro. 162 pp.; Vitt 1995. Occ. Pap. Oklahoma Mus. Nat. Hist. 1:1–29).

During field work from January 2008 to June 2010 we captured 22 individuals of *Gymnodactylus geckoides* by time-constrained search and pitfall-trapping. The specimens collected were deposited in the scientific collection Coleção Herpetológica da Universidade Federal do Ceará (CHUFC). In the field, all lizards (N = 22), including males, females and juveniles, displayed a tail-curling behavior after handling or simply provoked by the approach of other sympatric lizards (*Ameiva ameiva*, *Cnemidophorus ocellifer*, *Diploglossus lessonae*, *Hemidactylus agrius*, *Mabuya heathi*, *Phyllopezus pollicaris*), when confined in the same enclosure with these species. During the displays, the lizards lifted their tails and bent them over their bodies, exposing the ventral coloration of the tail consisting of contrasting light and dark bands (Fig. 1).

We observed at least three abundant scorpion species in the study area, *Bothriurus asper*, *Bothriurus rochai* (Bothriuridae), and *Rhopalurus rochae* (Buthidae). We cannot disregard the possible effectiveness of tail exposition to predators, but five components of our observations support the hypothesis that the behavior represents mimicry of scorpions by *Gymnodactylus geckoides*. First, the body shape of *G. geckoides* during the defensive display resembles that of a scorpion shape in defensive situations. Second, the geckos and scorpions are similar in body size. Third, the banded ventral color pattern of the lizard tail and the tails of sympatric scorpions are similar. Fourth, there is a high abundance of scorpions living syntopically with the lizards. Finally, *G. geckoides* shares the same activity period with the scorpions.

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HETERODACTYLUS IMBRICATUS. DIET. *Heterodactylus imbricatus* is a gymnophthalmid that occurs in southeastern Brazil (Minas Gerais, Rio de Janeiro, São Paulo, and Espírito Santo states) in high altitude areas of the Atlantic Rainforest domain (Dixo and Verdade 2006. Biot. Neotrop. 6:1–20; Rodrigues et al. 2009. J. Herpetol. 43:605–611; Von Hering 1898. Proc. Acad. Nat. Sci. Philadelphia 50:101–109) and riparian forest associated with Cerrado (Novelli et al. 2011. Check List 7:30–31). This species is terrestrial with fossorial habits and lives in leaf litter or low vegetation (Marques et al. 2009. Biot. Neotrop. 9:1–12). Data on the feeding habits of this species are scarce and the few data reported on diet indicate that this species generally feeds on arthropods (Marques et al. 2009, *op. cit.*), but do not detail which groups of arthropods that compose the diet of this lizard species. Here we report the diet of *H. imbricatus* in detail from the analysis of stomach contents of eight adult specimens (five males and three females; CRLZ 000074, 000143, 000183, 000185, 000191, 000238, 000289, 000314) that were deposited in the Coleção de Répteis do Laboratório de Zoologia, Centro Universitário de Lavras (CRLZ) – UNILAVRAS. These specimens are from the Reserva Biológica Unilavras — Boqueirão (RBUB) (21.346389°S, 44.990833°W, datum WGS84; elev. 1250 m) in riparian forest associated with Cerrado plant communities. Food items were identified according to Triplehorn and Johnson (2011. Estudo dos Insetos. Tradução da 7. Edição de Borror and DeLong's Introduction to the Study of Insects. Cengage Learning, São Paulo. 809 pp.). All food items present in the stomach contents were identified as belonging to the following arthropod orders: Coleoptera (abdomen and parts of the abdomen, parts of the thorax, antennae, elytra, legs and leg pieces, and wings); Orthoptera (legs, abdomen, mandibles, antennae); Isoptera (wings, legs, parts of the abdomen); Hymenoptera (heads); Blattodea (legs and leg pieces). As many arthropod taxa were detected only as fragments, accurate calculations for percentage by number or volume could not be made. The lack of more detailed studies, such as dietary data, reflects the low population density of *H. imbricatus*. This report is the first detailed record on the diet of *H. imbricatus* belonging to an area of Cerrado Biome in Brazil.

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IGUANA IGUANA (Green Iguana). PREDATION. The list of known *Iguana iguana* predators is extensive. It ranges from snakes, lizards, and crocodilians to mammals such as wild cats, coatis, tayras, and monkeys (e.g., Rivas et al. 1998. Herpetol. Rev. 29:238–239; Savage 2002. The Amphibians and Reptiles of Costa Rica: A Herpetofauna Between Two Continents, Between Two Seas. University of Chicago Press, Chicago, Illinois. 934 pp.). This species is also known to fall prey to domestic animals such as cats and dogs (Meshaka et al. 2004. The Exotic Amphibians and Reptiles of Florida. Krieger Publ. Co., Malabar, Florida. 166 pp.) as well as being the target of human hunting (Savage 2002, *op. cit.*). The list of known avian predators is equally extensive with



FIG. 1. A Spectacled Owl (*Pulsatrix perspicillata*) preying upon a sub-adult *Iguana iguana* at La Gamba Field Station, Costa Rica.

raptors, falcons, herons, and toucans serving as a few examples (e.g., Rivas et al. 1998, *op. cit.*; Savage 2002, *op. cit.*). In the southern part of Florida, USA, where the Green Iguana is an established exotic species (Meshaka Jr. et al. 2004, *op. cit.*), there are reports of Burrowing Owls (*Athene cunicularia*) utilizing young Green Iguanas as a prey item (Meshaka et al. 2005. Florida Field Nat. 33:125–127). Herein we report predation by the Spectacled Owl (*Pulsatrix perspicillata*), which to the best of our knowledge has not been previously recorded.

On 22 Aug 2011 at 2150 h at La Gamba Field Station (La Gamba, Puntarenas Province, Costa Rica), we observed a Spectacled Owl consuming a sub-adult *Iguana iguana*. The iguana appeared to be decapitated, though we did not perform a closer inspection to see if the head had been completely removed (Fig. 1). Notably, although *Iguana iguana* utilize arboreal perches for sleeping (Savage 2002, *op. cit.*), the location of consumption was on the ground next to a lagoon. This leads us to believe that either the iguana was captured on its perch and then consumed on the ground, or the lizard made an attempt to escape and dove from its perch, where it was then subdued by the owl. Another interesting observation is the condition of the bird. The owl appears to be wet, however, the 11.5 mm of rain that fell on La Gamba Field Station that day ended before 1800 h. This might suggest that the iguana dove from its perch attempting to escape into the nearby lagoon, causing the owl to pursue its prey into the water. Upon returning to the site 30 minutes later, the owl was in the same location, still consuming the iguana.

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OLIGOSOMA CHLORONOTON (Green Skink). LONGEVITY, SITE FIDELITY. Ecologically, the reptile fauna of New Zealand is characterized by extended longevity and generally low reproductive rates, which make many species vulnerable to human disturbance and introduced mammalian predators (Cree 1994. New Zealand J. Zool. 21:351–372; Daugherty et al. 1993. TREE 8:437–442). Reptiles of New Zealand can also show extreme site-fidelity (e.g., Lettink and Whitaker 2006. Herpetol. Rev. 37:223–224).

Such knowledge of species biology and longevity is important for effective conservation management (Townsend and Ferreira 2001. Biol. Cons. 98:211–222). However, general conclusions about the extended longevity and site fidelity in New Zealand lizards (currently estimated at ~100 known taxa and undescribed entities; Hitchmough et al. 2010. New Zealand J. Zool. 37[3]:203–224) are limited as few studies have followed individually identified lizards in the wild for the time required to trace individuals throughout their natural life span. Among those that have, considerable longevity and site fidelity are evident. For example, the gecko *Woodworthia brunneus* (as *Hoplodactylus maculatus* in Lettink and Whitaker, *op. cit.*) on Motonau Island can live for at least 42 years within 20 m² (Lettink and Whitaker, *op. cit.*), and the diurnal skink *O. lineoocellatum* on North Brother Island can live for at least eight years, but probably no more than 14 years, and all without moving more than 15–60 m (Hoare et al. 2005. Herpetol. Rev. 36:181). Here I augment longevity and site fidelity information on New Zealand reptiles with a report for the rarely observed Green Skink (*O. chloronoton*).

During mark-resight monitoring of critically threatened grand (*O. grande*) and Otago (*O. otagensis*) skinks from a mainland site at Macraes Flat, New Zealand (45.4400°S, 170.4300°E; elev. 520 m), sightings of *O. chloronoton* were also recorded. From 2006 to 2011 in January and February (austral summer) a 0.5 km² area was visually searched on five fine-weather days spaced over 2–3 wks. The area searched consists of ~70 rock outcrops within native tussock grassland, and includes some native scrub. All lizards of interest (those that are not common) were photographed from the nose to the foreleg region to provide high quality digital images of both lateral sides. The digital photographs can be compared accurately over long time frames to provide individual identification (much like fingerprints in humans) and this technique has been used successfully in many *Oligosoma* species (e.g., Gebauer 1999. Trapping and identification techniques for small-scaled skinks (*Oligosoma microlepis*), Department of Conservation, Wellington, New Zealand. 24 pp.). Four adult-sized (max. 108 mm SVL; Gill and Whitaker 2001. New Zealand Frogs and Reptiles, David Bateman Ltd., Auckland, New Zealand. 112 pp.) *O. chloronoton* were seen during the five year survey and three were resighted at least once. All resighted *O. chloronoton* were within 20–40 m of their original location indicating limited dispersal. One *O. chloronoton* was observed five years after first being sighted as an adult. As New Zealand skinks take at least three years to reach sexual maturity (Whitaker 1976. Forest and Bird 202:8–11), the most conservative estimate for longevity in the wild is eight years. The four *O. chloronoton* were all found on north facing slopes; none were observed on south-facing slopes. All four individuals were seen on low rocks surrounded by vegetation with two present on rocks occupied by both *O. grande* and *O. otagensis*.

Oligosoma chloronoton is part of a species complex (Greaves et al. 2007. Mol. Phylogen. Evol. 45:729–739), and is classed as “in decline” under the New Zealand Threat Classification system (Hitchmough et al. 2010, *op. cit.*). Yet, few data are available on its general biology, probably due to its cryptic nature and low capture/sighting rate. The finding that *O. chloronoton* live for at least eight years and have relatively high site fidelity in the wild agrees with data for other New Zealand skinks (e.g., *O. lineoocellatum* can live for 8–14 years within a 15–60 m area; Hoare et al., *op. cit.*), and further supports the suggestion that New Zealand lizards are relatively long-lived in comparison with other lizards (e.g., Read 1998. Aust. J. Zool. 46:617–629). The vulnerability of