



INTRODUCED SPECIES

Green Iguanas (*Iguana iguana*) in the Dominican Republic

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Iguana iguana has a natural distribution from México (Sinaloa and Veracruz) southward through Central America and into northeastern South America to the Tropic of Capricorn in Paraguay and southeastern Brazil. The species also occurs on numerous islands, including Cozumel, Utila, Roatán, Guanaja, the Corn Islands, Providencia, San Andrés, Aruba, Trinidad, Tobago, and others in the Lesser Antilles (Henderson and Powell 2009). It has been introduced to Anguilla, Antigua, Barbuda, British Virgin Islands, Canary Islands, Cayman Islands, Fiji, Guadeloupe, Grand Cayman, Les Îles de Saintes, Marie Galante, Martinique, Puerto Rico, Saint-Martin/Sint Maarten, St. Barthélemy, St. Croix, Turks and Caicos, U.S. Virgin Islands, and the United States (Florida, Hawaii) (Henderson and Powell 2009, Kraus 2009, Lindsay and Mussington 2009, Harlow and Thomas 2010, Powell et al. 2011).

This species was unknown from the Dominican Republic until the early 1990s when Green Iguanas began to be sold as pets. From 10 February through 9 March 2012, we conducted a series of interviews in local communities throughout the country, and visited suggested sites (including captive locations) to better understand the extent of the *I. iguana* invasion. We used an identification guide that included drawings of a variety of iguanas, native and non-native, to assure accuracy of the interviewees. In addition to identifying *I. iguana* from the guide, we asked for supplementary information including size, coloration, and the presence and size of dorsal crest scales.

We identified twelve general locations throughout the country as areas where Green Iguanas can be found (Fig. 1). In three of these areas, Green Iguanas presumably are being sold for distribution as pets throughout the country. At a hotel in Punta Rusia (19°50.280'N, 71°12.981'W) on the northern coast, we were told that they often kept Green Iguanas as pets but that they escaped and have not been recovered. In Don

Gregorio, Bahía de Maimón (19°47.976'N, 70°46.929'W), also on the northern coast, *I. iguana* is clearly being kept as a pet and possibly sold to tourists. Again on the northern coast in Playa Sosua (19°45.243'N, 70°31.249'W), Green Iguanas of all sizes were commonly described as running freely on the beaches, which is suggestive of a reproducing population. In Islabón (19°42.276'N, 70°22.904'W), we visited two informal zoos, Rugama and Jungla de Islabón. All of the Green Iguanas at Rugama had escaped during Tropical Storm Olga in 2007. In Jungla de Islabón, the owner explained that he bought three Green Iguanas from a facility in Santiago, and that he is now selling the offspring that he breeds. In an adjacent natural area, La Colonia (19°42.911'N, 70°23.974'W), a zoo closed within the past few years and six Green Iguanas were released into the wild. In another nearby zoo, Monkey Jungle (El Choco, 19°41.749'N, 70°27.720'W), Green



Figure 1. Map of the Dominican Republic. Dots represent areas where the presence of Green Iguanas (*Iguana iguana*) has been confirmed by observations or by means of interviews in local communities.

Iguanas had been purchased and were being kept in captivity with the intention of breeding them and releasing offspring into the wild. In Abreu, along the northeastern coast (19°40.506'N, 69°59.595'W), another zoo closed four to five years ago and released all of their holdings, including large Green Iguanas, into the wild. In Vietnam, a small community nearby (19°38.500'N, 70°02.541'W), we were told that people had kept Green Iguanas as pets in the past. Mention also was made of a person who had brought a Green Iguana from Puerto Rico to keep as a pet, as well as of others in the community who had had Green Iguanas as pets.

In La Lometa de Rincón, Samaná (19°15.185'N, 69°46.279'W) and Barahona, in the southwest (18°12.475'N, 71°5.969'W), people mentioned seeing military personnel with Green Iguanas. In Bayahibe, in the southeast (18°20.732'N, 68°49.232'W), Green Iguanas kept as pets were said to be coming from breeders in Barahona and Baní. We also heard one questionable account of a Green Iguana in the Boca de Yuma area (18°21.224'N, 68°36.732'W).

In Santiago (19°27.45'N, 70°41.60'W), we searched for the presumptive breeding facility and were referred to Zoo Gurabo (19°20.08'N, 70°47.549'W), which had been established in 2006, and found four Green Iguanas. The operators of this facility were uncooperative. Although we cannot confirm that Green Iguanas are being sold from this facility, it seems highly likely. Members of the local community near the Moca Zoo (19°23.801'N, 70°31.370'W) confirmed that they have many Green Iguanas and that individuals often escape. Green iguanas are frequently brought to ZooDom, the National Zoo in Santo Domingo (18°30.645'N, 69°55.629'W), where they are sterilized and released onto the zoo grounds. In addition, we heard numerous accounts of Green Iguanas in the capital, and we recently received a photograph of a Green Iguana that had been captured in a suburb called Cuesta Hermosa III (18°30.451'N, 69°56.620'). We also were told of three Green Iguanas brought to Pedernales (18°2.053'N, 71°44.585'W) in the southwest, two of which escaped in late 2011. Many accounts speak of Green Iguanas



Green Iguanas (*Iguana iguana*) from the Jungla de Islabón on La Catalina River near La Boca de Yasicá, east of Puerto Plata, Dominican Republic. Photograph by Víctor Hugo Reynoso.

near Baní (18°16.790'N, 70°19.884'W; SJI and Bob Powell, pers. comm.), and a recent popular publication described Green Iguanas in Hato Mayor (18°45.859'N, 69°15.429'W).

Iguana iguana is invasive in Florida, many islands in the Lesser Antilles, and Puerto Rico, where they threaten biodiversity, infrastructure, and human health (see the review in López-Torrez et al. 2012). In 2010, the Dominican Ministry of the Environment implemented a resolution (28/2010) that prohibits the importation and commercialization of Green Iguanas, showing their awareness and concern for this problem. With ample evidence of Green Iguanas in the Dominican Republic, a monitoring program should be established immediately, and efforts to stop the breeding and trade of this species through outreach and education are vital to the protection of the native flora and fauna. As Puerto Rico is now dealing with this issue (e.g., López-Torrez et al. 2012), similar feasible actions may be applicable. In addition, we strongly recommend stricter inspections of people and shipments from elsewhere, especially Puerto Rico. A separate genetic study capable

of shedding light on the origin of these Green Iguanas could enhance the capacity for efficient monitoring.

Literature Cited

- Harlow, P.S. and N. Thomas. 2010. American Iguana Eradication Project: Herpetologists' Final Report. Unpublished report to the Department of Environment, Fiji, and NatureFiji-MareqetiViti, Suva.
- Henderson, R.W. and R. Powell. 2009. *Natural History of West Indian Reptiles and Amphibians*. University Press of Florida, Gainesville.
- Kraus, F. 2009. *Alien Reptiles and Amphibians: A Scientific Compendium and Analysis*. Invading Nature – Springer Series in Invasion Ecology, Volume 4. Springer, Dordrecht, The Netherlands.
- Lindsay, K. and J. Mussington. 2009. *Iguana iguana* in Antigua and Barbuda, West Indies. *Applied Herpetology* 6:189–190.
- López-Torrez, A.L., H.J. Claudio-Hernandez, C.A. Rodriguez-Gomez, A.V. Longo, and R.L. Joglar. 2012. Green Iguanas (*Iguana iguana*) in Puerto Rico: Is it time for management? *Biological Invasions* 14:35–45.
- Powell, R., R.W. Henderson, M.C. Farmer, M. Breuil, A.C. Echternacht, G. van Buurt, C.M. Romagosa, and G. Perry. 2011. Introduced amphibians and reptiles in the greater Caribbean: Patterns and conservation implications, pp. 63–144. In: A. Hailey, B.S. Wilson, and J.A. Horrocks (eds.), *Conservation of Caribbean Island Herpetofaunas. Volume 1: Conservation Biology and the Wider Caribbean*. Brill, Leiden, The Netherlands.