Editorial

Conservation of insular herpetofaunas in the West Indies

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Introduction

This special issue series of *Applied Herpetology* assesses the status of amphibian and reptile conservation efforts in the insular West Indies. Most of the invited contributions will cover single islands or island groups, but some papers will have a thematic focus on a taxon (e.g. snakes, amphibians, sea turtles) or conservation issue (e.g., invasive species, recent extinctions). Our area of geographic coverage is the insular western Atlantic tropical coral province, a region containing all islands within the Caribbean Sea, plus the Bahamas, the Turks and Caicos islands, and Bermuda, with the aim of discussing the herpetological conservation problems of small island developing states (Griffith and Ashe, 1993; Oldfield and Sheppard, 1997; Pelling and Uitto, 2001) within this area. These islands share not only the environmental problems associated with small (or relatively small) size, but also a history (and sometimes a present) of external political control, and high population densities of largely or entirely non-indigenous peoples. They also have a similar faunal base, indeed increasingly so with species introductions – even the Bermuda islands now have more than half of their terrestrial herpetofauna being of
Antillean origin (Bacon, Gray and Kitson, this series). There is no single term for the islands in this region, although they fall within the Wider Caribbean as defined by WIDECAST (see Sea turtles, below). We will refer to this area simply as the West Indies or Caribbean, although it extends beyond the Caribbean Sea itself and does not correspond with the West Indies as used in biogeography (which excludes Trinidad and Tobago, and Aruba, Curaçao and Bonaire, apart from others mentioned above) or politics (which includes the Guianas in northern South America: Guyana, French Guiana, and Suriname). Other authors in this series may use the terms West Indies or Caribbean in more or less inclusive ways, depending on their subject matter, so these terms should always be taken in context.

Most of these islands, and certainly all of the major ones, have long histories of herpetological exploration and discovery, and even longer histories of human-mediated environmental degradation. Collectively, they constitute a major biodiversity hotspot – a region rich in endemic species that are threatened with extinction (Meyers et al., 2000; IUCN, 2004; Ricketts et al., 2005; Smith et al., 2005). Indeed, the over-riding theme of this series is that West Indian herpetofaunas have been, and will likely continue to be, subjected to extirpations and extinctions as a result of human activities – especially continued loss and degradation of habitats. And while some West Indian species have been able to sustain substantial human-induced habitat change, the majority of species have been negatively affected by habitat disturbance. Make no mistake about it, human-induced habitat degradation has, on the whole, had disastrous consequences for West Indian amphibians and reptiles. If current rates of habitat conversion persist, even in the absence of the human population growth projected, we are likely to witness many more extirpations and extinctions in the coming decades.

Encouragingly, however, and as the contributions to this series indicate, humans are also exerting a beneficial, albeit corrective, influence through directed conservation efforts. In at least a few notable examples, human interventions have perhaps even rescued some species from what otherwise would have been extirpation or extinction (e.g., Alberts, 2000), while other threatened species appear to be recovering (e.g., Dutton et al., 2005). Unfortunately, such successful conservation efforts have been rare. Moreover, not a single West Indian species listed as threatened on the IUCN Red List has been re-classified to a reduced threat status; rather, a large number of species have been either elevated to a higher threat category or have been added to the threatened list with each revision.

Globally, the frequency of amphibian and reptile declines and extirpations has increased dramatically over the last several decades (Gibbons et al., 2000; Stuart et al., 2004). The aptly termed “global amphibian crisis” has been the subject of major international concern: nearly a third (32.5%) of all amphibian species are threatened with extinction – making them the most threatened vertebrate taxon (Stuart et al., 2004; Young et al., 2004). Birds and mammals, the only other vertebrate classes to have been assessed on a global scale, contain only 12% and 23% threatened species, respectively (Stuart et al., 2004). As a region, the West