# An important global analysis of reptile conservation status



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**Publication date:**
2013-03

**Permanent link:**
https://doi.org/https://doi.org/10.3929/ethz-b-000069484



**Originally published in:**
Biological Conservation 159, https://doi.org/10.1016/j.biocon.2013.02.009

Biological Conservation 159 (2013) iii

Contents lists available at SciVerse ScienceDirect

Biological Conservation

journal homepage: www.elsevier.com/locate/biocon

Editorial

# An important global analysis of reptile conservation status

Reptiles are arguably the least studied of vertebrate groups in terms of conservation science. In a recent issue of *Biological Conservation* is a paper by Monika Böhm and colleagues entitled: *The Conservation Status of the World's Reptiles* (Böhm et al., 2013). This paper presents a global analysis of the conservation status and distribution patterns of reptiles worldwide, and the major threats to their survival. Drawing upon the expertise of over 200 co-authors and employing an innovative method to overcome data constraints, this study reveals several key insights for reptile conservation.

By analyzing a random sample of 1500 reptile species, the authors estimate that 19% of reptiles worldwide are threatened (classified as Critically Endangered, Endangered or Vulnerable under IUCN Red List Categories and Criteria). Another 7% of species are in the Near Threatened category and might be up-listed in the near future if their threat processes are not mitigated.

Freshwater and marine reptiles have significantly higher extinction risks than their terrestrial counterparts. In general, 30% of aquatic reptiles are threatened compared to 19% of terrestrial species. Notably, three of four crocodilian species and 52% of freshwater turtles are threatened, compared to 21% of lizards, 12% of snakes and 7% of worm lizards. Preserving freshwater habitats clearly is a key priority for reptile conservation.

The authors also mapped the distribution of 1497 extant species by analyzing distribution maps and point locations published in the literature, and seeking expert feedback. Additionally, they produced maps of species richness for this group of reptiles, subsets of threatened and Data Deficient species, as well as key drivers of threat.

Unsurprisingly, overall species richness is highest in tropical regions. The tropics also contain the highest proportions of threatened and Data Deficient species. Threatened reptile species are concentrated in the Caribbean, Florida and the Florida panhandle, the Ecuadorian Andes, Madagascar, the northeastern Indian subcontinent, Central Asia, Eastern China and New Caledonia. Most Data Deficient reptiles are found in India, Borneo, the Philippines and Central Africa.

Most threatened species are affected by multiple threat processes. Among terrestrial reptiles, logging and harvesting are the predominant threats. Freshwater and marine reptiles are most threatened by targeted harvesting for trade. Southeast Asia is a problematic hotspot in terms of both habitat loss and harvesting, which are driving species declines.

We know less about reptiles than we do about birds and mammals: 21% of reptiles are classified Data Deficiency compared to 1% and 15% for birds and mammals, respectively. Reptiles in tropical regions are poorly studied, of which the conservation status of fossorial (burrowing) and arboreal (tree dwelling) species are least understood. These reptilian groups warrant the highest research priority.

By highlighting the taxa and regions of conservation concern, this review provides a useful roadmap for tackling declines in reptile diversity. This study also has broader relevance for conservation as it demonstrates how biologists could work around incomplete information on species status and distribution to obtain valuable insights to a poorly studied group.

## Reference

Böhm, M. et al, 2013. The conservation status of the world's reptiles. Biol. Conser. 157, 372–385.

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0006-3207
http://dx.doi.org/10.1016/j.biocon.2013.02.009