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# Almost one in five reptiles are struggling to survive

Gland, Switzerland, 15 February 2013 – Nineteen percent of the world's reptiles are estimated to be threatened with extinction, states a paper published today by the Zoological Society of London (ZSL) in conjunction with experts from the IUCN Species Survival Commission (SSC).

The study, printed in the journal of *Biological Conservation*, is the first of its kind summarising the global conservation status of reptiles. More than 200 world renowned experts assessed the extinction risk of 1,500 randomly selected reptiles from across the globe.

Out of the 19% of reptiles threatened with extinction, 12% classified as Critically Endangered, 41% Endangered and 47% Vulnerable.

"This is a very important step towards assessing the conservation status of reptiles globally," says Philip Bowles, Coordinator of the Snake and Lizard Red List Authority of the IUCN Species Survival Commission. "The findings sound alarm bells about the state of these species and the growing threats that they face. Tackling the identified threats, which include habitat loss and overharvesting, are key conservation priorities in order to reverse the declines in these reptiles."

Three Critically Endangered species were highlighted as possibly extinct. One of these, a jungle runner lizard *Ameiva vittata*, has only ever been recorded in one part of Bolivia. Levels of threat remain particularly high in tropical regions, mainly as a result of habitat conversion for agriculture and logging. With the lizard's habitat virtually destroyed, two recent searches for the species have been unsuccessful.

"Reptiles are often associated with extreme habitats and tough environmental conditions, so it is easy to assume that they will be fine in our changing world," says **Dr Monika Böhm, lead author on the paper**. "However, many species are very highly specialised in terms of habitat use and the climatic conditions they require for day to day functioning. This makes them particularly sensitive to environmental changes."

Extinction risk is not evenly spread throughout this highly diverse group: freshwater turtles are at particularly high risk, mirroring greater levels of threat in freshwater biodiversity around the world. Overall, the study estimated 30% of freshwater reptiles to be close to extinction, a percentage which rises to 50% when considering freshwater turtles alone, as they are also affected by national and international trade.

Although threat remains lower in terrestrial reptiles, the often restricted ranges, specific biological and environmental requirements, and low mobility make them particularly susceptible to human pressures. In Haiti, six of the nine species of *Anolis* lizard included in the study have an elevated risk of extinction, due to extensive deforestation affecting the country.

Collectively referred to as 'reptiles', snakes, lizards, amphisbaenians (also known as worm lizards), crocodiles, turtles, tortoises and tuataras – lizard-like reptiles endemic to New Zealand – have had a long and complex history, having first appeared on the planet around 300 million years ago. They play a number of vital roles in the proper functioning of the world's ecosystems, as predator as well as prey.

"Gaps in knowledge and shortcomings in effective conservation actions need to be addressed to ensure that reptiles continue to thrive around the world," says **Dr Ben Collen, Head of ZSL's Indicators and Assessment Unit**. "These findings provide a shortcut to allow important conservation decisions to be made as soon as possible and firmly place reptiles on the conservation map."

Information from this study will form part of the global assessment of reptiles which is being undertaken by IUCN.

The IUCN Red List of Threatened Species™



# Copies of the full paper are available on request

High resolution images are available here: https://zslondon.sharefile.com/d/s1cd538d64f54ee6a

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# Editor's notes

## **Reptiles**

## **Turtles and Tortoises**

Turtles are reptiles that are characterised by a bony shell which incorporates their ribs and acts as a shield. Most turtles spend large amounts of their time underwater, yet breathe air, and must surface regularly to refill their lungs. The largest living chelonian is the Leatherback Sea Turtle (*Dermochelys coriacea*), which in exceptional cases can grow to a shell length of two meters (6.6 ft) and can reach a weight of over 900 kg (2,000 lb). Freshwater turtles are generally smaller, but in the case of the largest species, the Southeast Asian Narrow-headed Softshell Turtle (*Chitra chitra*) some can grow to a carapace length of 1.4 meters (4.7ft) and over 250 kg body weight (511 lb).

Tortoises are a family of land-dwelling turtles, and are protected by their usually highly domed shell. The carapace (the top part of the shell), and the plastron (the underside of the shell) are connected by a bridge. Adult tortoises can vary in size from 11 centimeters to a little over one meter. They are generally reclusive animals.

## Crocodiles

Crocodiles are genetically closer to birds than to other reptiles. There are around 25 species found in Americas, Asia, Africa and Australia. The largest extant reptile of all is the saltwater crocodile.

#### **Tuatara**

The Tuatara is a reptile endemic to New Zealand which, though it resembles most lizards, is actually part of a distinct lineage, order Rhynchocephalia. The Tuatara is the only surviving member of its order, which flourished around 200 million years ago. There were previously thought to be two living species of tuatara, but recent evidence suggests only a single species, *Sphenodon punctatus*, exists. The recent discovery of a Tuatara hatchling on the mainland indicates attempts to re-establish a breeding population on the New Zealand mainland have had some success. The total population of tuatara of all species and subspecies is estimated to be greater than 60,000, but less than 100,000.

## **Amphisbaenia**

The Amphisbaenia (called amphisbaenians or worm lizards) are a usually legless suborder of squamates closely related to lizards and snakes, comprising more than 150 species. They are very poorly understood, due to their burrowing lifestyle and general rarity. Most species are found in Africa and South America, with a few in other parts of the world.

## Lizards & Snakes

Lizards are a widespread group of squamate reptiles, with more than 5,600 species, ranging across all continents except Antarctica, as well as most oceanic island chains. Lizards typically have feet and external ears, while snakes lack both of these characteristics.

There are over 3,000 species of snakes ranging as far northward as the Arctic Circle in Scandinavia and southward through Australia. Snakes can be found on every continent (with the exception of Antarctica), in the sea, and as high as 16,000 feet (4,900 m) in the Himalayan Mountains of Asia.

## **About IUCN**

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges. IUCN supports scientific research, manages field projects all over the world, and brings governments, NGOs, the UN and companies together to develop policy, laws and best practice. IUCN is the world's oldest and largest global environmental organization, with more than 1,000 government and NGO members and almost 11,000 volunteer experts in some 160 countries. IUCN's work is supported by over 1,000 staff in 60 offices and hundreds of partners in public, NGO and private sectors around the world. <a href="www.iucn.org">www.iucn.org</a>; <a href="IUCN on Facebook">IUCN on Facebook</a>; <a href="IUCN on Facebook">IUCN on Twitter</a>

# **About the Species Survival Commission**

The Species Survival Commission (SSC) is the largest of IUCN's six volunteer commissions with a global membership of around 8,000 experts. SSC advises IUCN and its members on the wide range of technical and scientific aspects of species conservation, and is dedicated to securing a future for biodiversity. SSC has significant input into the international agreements dealing with biodiversity conservation.

## The IUCN Red List of Threatened Species™

The IUCN Red List of Threatened Species<sup>™</sup> (or The IUCN Red List) is the world's most comprehensive information source on the global conservation status of plant and animal species. It is based on an objective system for assessing the risk of extinction of a species should no conservation action be taken.

Species are assigned to one of eight categories of threat based on whether they meet criteria linked to population trend, population size and structure and geographic range. Species listed as Critically Endangered, Endangered or Vulnerable are collectively described as 'Threatened'.

The IUCN Red List is not just a register of names and associated threat categories. It is a rich compendium of information on the threats to the species, their ecological requirements, where they live, and information on conservation actions that can be used to reduce or prevent extinctions.

The IUCN Red List is a joint effort between IUCN and its Species Survival Commission, working with its Red List partners BirdLife International; Botanic Gardens Conservation International; Conservation International; Microsoft, NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; Wildscreen; and Zoological Society of London (ZSL). <a href="www.iucnredlist.org">www.iucnredlist.org</a> <a href="www.iucnredlist.org">www.facebook.com/iucn.red.list</a> <a href="@amazingspecies">@amazingspecies</a>

# About the Zoological Society of London (ZSL)

Founded in 1826, the Zoological Society of London (ZSL) is an international scientific, conservation and educational charity: the key role is the conservation of animals and their habitats. The Society runs ZSL London Zoo and ZSL Whipsnade Zoo, carries out scientific research at the Institute of Zoology and is actively involved in field conservation in over 50 countries worldwide. <a href="https://www.zsl.org">www.zsl.org</a>