

Researchers reveal top 10 most popular reptiles

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Scientists from Oxford University and Tel Aviv University have ranked the world's most 'popular' reptiles, revealing the species that capture the public's imagination and providing valuable quantitative data towards the debate surrounding conservation priorities.

Using data taken from Wikipedia, the research team - comprising zoologists, geographers and computer scientists - found that fearsome species such as the Komodo dragon, saltwater crocodile and king cobra were of greatest interest to website users.

The results are published in the journal *Biological Conservation*.

Co-lead author John C Mittermeier, a PhD candidate in the School of Geography and the Environment at Oxford University, said: 'There is a debate in conservation as to whether the fact that we as humans like a particular species justifies conserving it, regardless of its importance from an ecological point of view.

'But although this idea of some species being "culturally valuable" has been around for some time, it has been difficult to measure and define. Whether or not we want to take these cultural variables into account when shaping conservation policy, we need data to support those decisions.'

The researchers looked at 55.5 million page views in the year 2014 for all of the 10,002 species of reptile accessed in Wikipedia.



They found that venomous or endangered species, as well as those with higher body mass or posing a threat to humans, tended to be more interesting overall. There was also a bias towards species found in Wikipedia users' own regions - for example, the Japanese pit viper was top of the Japanese-language rankings, while the green iguana was the most-accessed species among Spanish speakers.

Top 10 reptiles accessed on the English-language version of Wikipedia in 2014:

- 1. Komodo dragon
- 2. Black mamba
- 3. Saltwater crocodile
- 4. King cobra
- 5. Gila monster
- 6. Cottonmouth (viper)
- 7. American alligator
- 8. Leatherback sea turtle
- 9. Nile crocodile
- 10. Boa constrictor

Taking all languages into account, the Komodo dragon was the most popular species overall, with 2,014,932 page views in 2014 (3.6% of total <u>page views</u>), followed by the common European adder and the <u>saltwater crocodile</u>.

Co-lead author Dr Uri Roll, from the Department of Zoology and the School of Geography and the Environment at Oxford University, said: 'In the past we could have carried out basic surveys of a few hundred or a few thousand individuals to find out where their interest lay, whereas now we can do it with millions of people for an entire class of organisms on a global scale. Obviously there are limitations to using an online tool such as Wikipedia, but there are lots of benefits too.



'One of the key questions in conservation is where to divert the limited resources we have available. Do we prioritise rare or endangered species, ecologically important species, or species that attract the most public interest? The field is definitely split, but we're putting numbers behind some of these ideas, and that's really important.'

Perhaps surprisingly, the study found that 'culturally interesting' reptile species in Wikipedia were widely distributed across the reptilian tree of life. If we only saved the top 5% of the most popular species in Wikipedia, we would cover 67% of the 88 reptile families.

John C Mittermeier added: 'Among more traditional conservationists there may be the view that we shouldn't incorporate cultural values into decisions about policy or funding. However, the fact is that whether we like it or not, we already do - how much funding do lions get compared with, for example, a species of small snail that doesn't even have an English name, even if the snail is more at risk of going extinct? The biases are already there.

'There's also an argument that the traditional thinking around conservation hasn't quite worked, so we need to reframe our approach.

'Regardless of the point of view you take, having this sort of quantitative data is critical.'

Although the study was aimed solely at gathering data, the researchers speculate at the reasons behind the huge variations in public interest between species. John C Mittermeier said: 'With notable exceptions such as the sea turtle or Galapagos giant tortoise, species that are venomous or otherwise dangerous to humans seem to capture people's imaginations more than others. The Komodo dragon is found in a geographical area probably the size of a small English county, yet it consistently attracts the most attention - possibly because the idea of the dragon is so universal in



myth and folklore.'

Gonzalo Diaz, a computer science PhD candidate at Oxford and co-lead author of the study, added: 'The network of online and cross-referenced information repositories known as Linked Data has allowed us to gather information about most known reptile species. We see potential in using data-driven approaches to study the cultural impact of global species through their online footprint. Wikipedia page-view counts are just one of many metrics that can be explored.'

The researchers plan to widen their study to include the entire animal and plant kingdoms. There may also be scope to look at mentions of species in other big data repositories, including newspaper archives or social media.

More information: Uri Roll et al, Using Wikipedia page views to explore the cultural importance of global reptiles, *Biological Conservation* (2016). DOI: 10.1016/j.biocon.2016.03.037

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