

# New species of diving beetle found living in isolation in Africa

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*Capelatus prykei* is so different from any of the world's other diving beetles that it has been placed in a new genus all of its own. Credit: David Bilton/Plymouth University

A striking new species of beetle with no direct relatives has been identified by a scientist from Plymouth University living in wetlands on the outskirts of Cape Town.

*Capelatus prykei* is so different from any of the world's other [diving beetles](#) that it has been placed in a new genus all of its own, with its

nearest relations to be found around the Mediterranean and in New Guinea.

In a study, published in the journal *Systematic Entomology*, scientists used a combination of morphological and molecular data to study *Capelatus*, and establish it as a highly distinctive, and apparently endangered, member of the world fauna.

*Capelatus prykei* measures between 8-10mm, large in comparison to most copelatine diving beetles, and was discovered in areas of relatively dense vegetation within the Noordhoek Wetlands.

Dr David Bilton, Reader in Aquatic Biology at Plymouth University, said: "*Capelatus prykei* immediately looks odd, quite unlike any previously known diving beetle. It's fairly common to find new species of beetle, but it's much less usual to find things which are so different they have to be put in their own genus. Our study of DNA sequences shows that the closest [relatives](#) of *Capelatus* live thousands of miles away, and that they last shared a common ancestor around 30-40 million years ago.

"This beetle's a real evolutionary relic, which only seems to have survived in a very small area close to Cape Town, probably because this region has had a relatively stable climate over the last few million years. Today *Capelatus* is extremely rare though - in fact we know of only one population, fortunately located inside Table Mountain National Park. We've also found old, unnamed specimens in the Natural History Museum in London, but the area where these were caught in the 1950s is now under the suburbs of the city."

Dr Bilton first began sampling water beetles in the area as a result of annual field trips to South Africa by undergraduates on the BSc (Hons) in Marine Biology and Coastal Ecology, and has found dozens of [new](#)

[species](#) in the area in the last five years. This study, written in conjunction with Plymouth entomologist Clive Turner and colleagues from the Museum of Zoology in Munich, really highlights the unique biological diversity of the region.

The Western Cape of South Africa hosts one of the world's hottest biodiversity hotspots, and supports around 20 per cent of the plant species found in the whole of sub-Saharan Africa - most of which are restricted to the region.

The region is also home to a significant number of endemic reptiles, amphibians, freshwater fishes and insects and some of these, like *Capelatus*, lack close living relatives outside the region, making it one of the most biologically unique places on the planet.

The current study suggests that among such isolated species, *Capelatus prykei* is particularly under threat and that, as such, immediate action should be taken by conservation agencies.

"On the basis of available data, it is suggested that *Capelatus prykei* be afforded a provisional IUCN conservation status of Critically Endangered," the authors say. "If the phylogenetic uniqueness of *Capelatus prykei* is also taken into consideration, it is clear that a better understanding of the range and requirements of this newly discovered taxon represents a priority for conservation, in both a regional and global context."

**More information:** *Systematic Entomology*,  
[onlinelibrary.wiley.com/doi/10 ... /syen.12128/abstract](http://onlinelibrary.wiley.com/doi/10.1111/syen.12128/abstract)

Provided by University of Plymouth

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