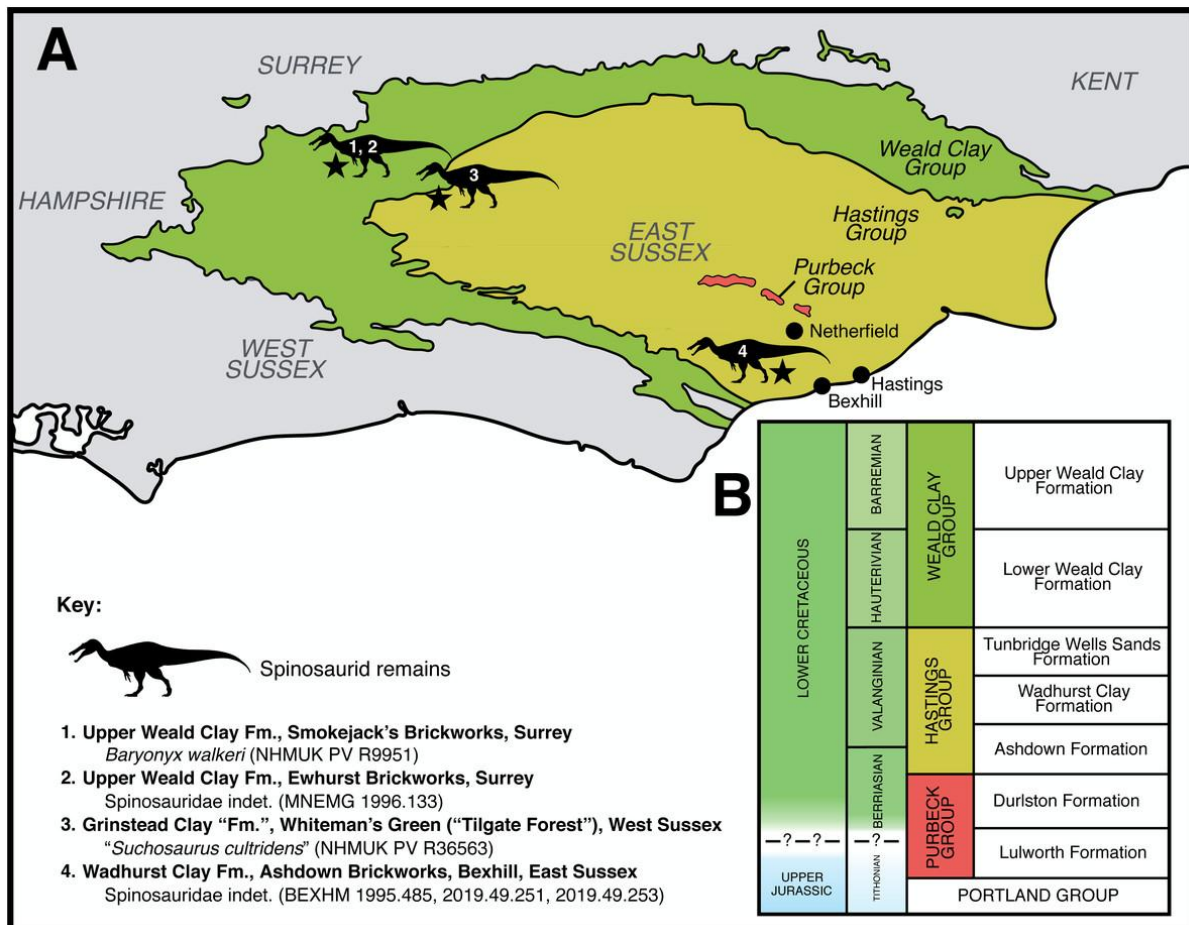




PeerJ – the Journal of Life & Environmental Sciences

PRESS RELEASE

Spinosaur Britain: multiple different species likely roamed Cretaceous Britain



Geological context of the Lower Cretaceous deposits of southeast England, focussing on the Purbeck Group and Wealden Supergroup.

Analysis of a British spinosaur tooth by palaeontologists at the EvoPalaeoLab of the University of Southampton shows that several distinct spinosaur groups inhabited Cretaceous Britain. Stored within the collections of the [Hastings Museum and Art Gallery](#) in East Sussex, the fossil that forms the basis of the new study was gifted to the museum in 1889. It was collected from the local

Lower Cretaceous rocks of the Wealden Supergroup, a thick, complicated rock sequence deposited across south-eastern England between 140 and 125 million years ago.

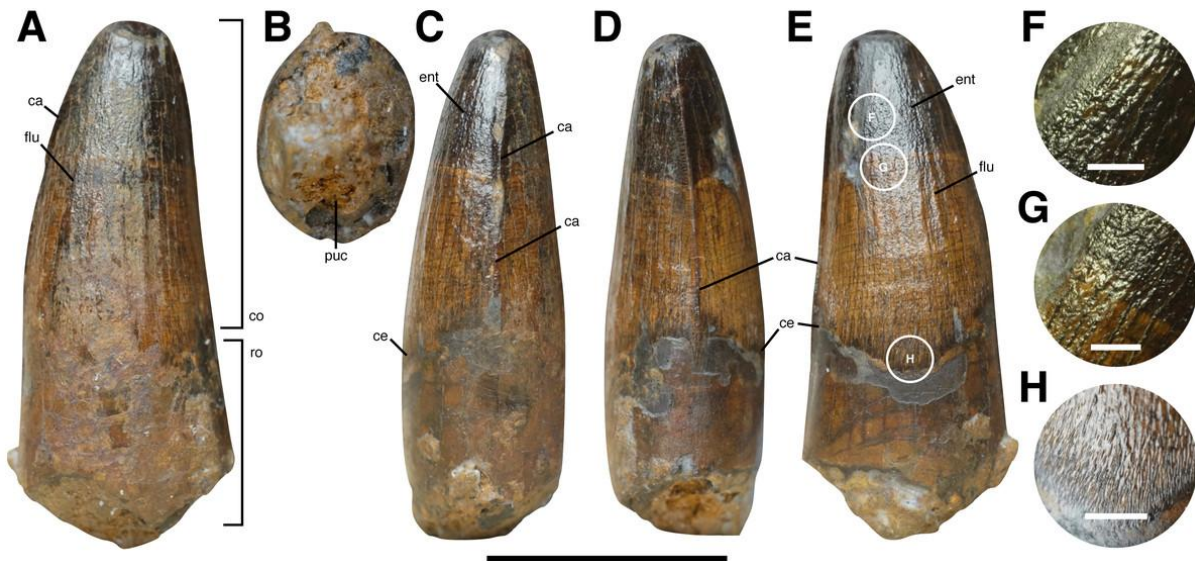
The Wealden is famous for its spinosaur fossils. *Baryonyx* – discovered in the Wealden of Surrey in 1983 – is one of the world’s most significant spinosaur specimens, since it was the first to reveal the true appearance of this crocodile-headed, fish-eating group. Less impressive spinosaur remains – isolated teeth – are common throughout the Wealden, and have often been identified as belonging to *Baryonyx*. However, some experts have long suspected that this is incorrect, and such is confirmed by the new study published in *PeerJ Life & Environment*.

“We used a variety of techniques to identify this specimen, in order to test whether isolated spinosaur teeth could be referred to *Baryonyx*”, said lead author Chris Barker, whose PhD focuses on the spinosaurs of southern Britain. “The tooth did not group with *Baryonyx* in any of our data runs. It must belong to a different type of spinosaur”.

The results show that distinct and distantly related spinosaur types lived in the region during Early Cretaceous times. This backs up research by the EvoPalaeoLab team, who argued in previous studies that the spinosaurs of southern England are more diverse than previously thought. In 2021, they named the ‘hell heron’ *Ceratosuchops* from the Isle of Wight, and in 2022 announced the discovery of what might be Europe’s [largest ever land predator](#), a giant known only as the White Rock spinosaur. These several spinosaurs did not all live at the same time, but inhabited the region over the course of more than 15 million years.

“Museums themselves are places to make exciting discoveries as our understanding of specimens changes from the time they were deposited. What this work highlights is the importance of keeping collections alive, and developing our understanding of them. Curators are essential to help us navigate the cupboards and displays, helping us to unpick the often-incomplete records- either never fully written, or lost to time. The diversity of palaeoenvironments is not always hidden in rocks, it is often waiting in a museum, its importance waiting to be rediscovered!” - Dr. Neil Gostling

“Dinosaur teeth preserve numerous anatomical details, and we can use various analytical techniques to see how similar, or different, they are to other teeth. Our new study shows that previously unrecognised spinosaur species exist in poorly known sections of the Wealden’s history, and we hope that better remains will be discovered that improves our knowledge. Here’s another reminder that even well-studied places like southern England have the potential to yield new dinosaur species”. - Dr. Darren Naish



Isolated tooth HASMG G369a.

Full Media Pack of article PDF, images

<https://drive.google.com/drive/folders/1sue6GZ5hltR3QIAOFXgmEcMR0JzOA5-v?usp=sharing>

All media is CC BY 4.0. Photo/video credits are included in the filename.

EMBARGOED - Embargoed until: 31 May: 7am EST / 12pm UK / 1pm CET

LINK TO THE PUBLISHED VERSION OF THIS ARTICLE: <https://peerj.com/articles/15453/> The link will ONLY work after the embargo lifts. Your readers will be able to freely access this article via this URL.

Cite this article

Barker CT, Naish D, Gostling NJ. 2023. Isolated tooth reveals hidden spinosaurid dinosaur diversity in the British Wealden Supergroup (Lower Cretaceous) *PeerJ* 11:e15453

<https://doi.org/10.7717/peerj.15453>

###

About:

[PeerJ](https://peerj.com/) is an Open Access publisher of seven peer-reviewed journals. PeerJ's mission is to give researchers the publishing tools and services they want with a unique and exciting experience. All works published by PeerJ are Open Access and published using a Creative Commons license (CC-BY 4.0). PeerJ is based in San Diego, CA and the UK and can be accessed at peerj.com.

In 2022 PeerJ is celebrating its first decade of publishing and innovation.

PeerJ is the peer-reviewed journal for Biology, Medicine and Environmental Sciences. *PeerJ* has an Editorial Board of over 2,000 respected academics. PeerJ Media Resources (including logos) can be found at: peerj.com/about/press

###

Media Contacts

For the authors:

Chris T Barker ctb1g14@soton.ac.uk

Dr. Neil J Gostling n.j.gostling@soton.ac.uk

For PeerJ:

Euan Lockie: press@peerj.com

Note: If you would like to join the PeerJ Press Release list, please email your details to:
press@peerj.com