

New species of stegosaur is oldest found anywhere in the world

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Some of the bones from the new species of dinosaur. Credit: Natural History Museum

The remains of the new dinosaur were found in the Middle Atlas Mountains of Morocco and have since been studied by a team at London's Natural History Museum. Whilst the remains only comprise of a few vertebrae and an upper arm bone the team, led by Dr. Susannah Maidment, quickly recognized the animal due to anatomical similarities in the humerus and neck vertebrae to that of known stegosaurs.

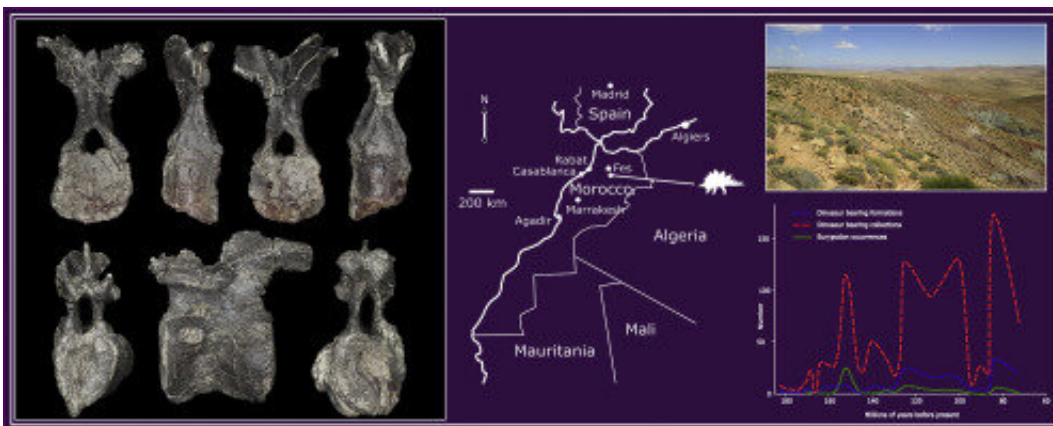
Realising this was a new species and genus the team named the dinosaur *Adratiklit boughfa*, meaning "mountain lizard" in the Berber language, and referencing *boughfa*, the locality where the specimen was found.

Dr. Maidment says, "The discovery of *Adratiklit boughfa* is particularly exciting as we have dated it to the middle Jurassic. Most known stegosaurs date from far later in the Jurassic period, making this the oldest definite stegosaur described and helping to increase our understanding of the evolution of this group of dinosaurs."

Stegosaurs were a widespread group with species of the armored, or thyreophoran, dinosaurs found in Southern Africa, North America, Asia and Europe but this 168 million year old specimen is the first of the group to hail from North Africa.

Ph.D. Student Tom Raven assisted with the [phylogenetic analysis](#) of the specimen allowing the team to understand the evolutionary relationship of this new dinosaur with known stegosaurs.

Tom explains, "Despite being from the African continent our phylogenetic analysis indicated that, surprisingly, *Adratiklit* is more closely related to European stegosaurs than it is to the two genera known from southern Africa."



Whilst remains of thyreophoran dinosaurs are found across much of the globe these finds have been mainly attributed to Laurasian rock formations. This has suggested that when the earth was divided into two supercontinents Laurasia and Gondwana, thyreophorans were more common and diverse in Laurasia. This recent discovery, however, seems to dispute that.

Dr. Maidment explains, "Most stegosaurs we know of, including the Natural History Museum's Sophie, the most complete stegosaur discovered, have been found in Laurasian rock formations. This, however may not mean that stegosaurs were not so common in Gondwana and in fact may be due to the fact that Gondwana rock formations have been subject to far fewer excavations and detailed studies."

The discovery of *Adratiklit boughfa* now adds to the theory that the Gondwanan fossil record of armored dinosaurs is significantly biased by both geological factors and collection efforts.

Dr. Maidment adds, "What is exciting about this is that there could be many more thyreophoran dinosaurs to find in places that until now have not been excavated."

The team hope that further discoveries in the region will not only provide an improved view of the distribution of this group of [dinosaurs](#) but may also result in a more complete specimen of *Adratiklit boughfa*, giving a better idea of what this new dinosaur looked like and how it differed from later stegosaurs.

The paper North Africa's first stegosaur: Implications for Gondwanan thyreophoran dinosaur diversity is published in *Gondwana Research*.

More information: Susannah C.R. Maidment et al. North Africa's first stegosaur: Implications for Gondwanan thyreophoran dinosaur diversity, *Gondwana Research* (2019). [DOI: 10.1016/j.gr.2019.07.007](https://doi.org/10.1016/j.gr.2019.07.007)

Provided by Natural History Museum

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