

Object of the Month

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Ben Slater from the University of Birmingham talks about his choice of object of the month. [Video transcript here \(/accessibility/transcripts/les/lapworth-object-pinus-yorkshirensis.aspx\)](#)

Pinus yorkshirensis - the oldest fossil pine cone in the world

Early Cretaceous
Speeton Clay, Yorkshire Coast

A fossil discovered amongst the Lapworth Museum collections has been identified as the oldest known fossil pine cone. Until recently, little was known about the specimen which was found many years ago during an undergraduate geology fieldtrip to the Yorkshire Coast.

A palaeobotanist from the School of Geography, Earth & Environmental Sciences, working with colleagues at the British Geological Survey and the Universities of Kansas, Oregon, Ohio and Alberta, has confirmed that the specimen of *Pinus yorkshirensis* is 131-129 million years old. This is one of only four fossil pine cones described from the Cretaceous period and only the second to be found within the Early Cretaceous deposits of Europe. Apart from the old museum label stating that the fossil was from the Yorkshire Coast, no further locality details were known. Therefore a study of the microfossils (spores and dinoflagellate cysts) in the rock matrix around the fossil was carried out which helped to provide details of the age of the specimen, and identify the only area of the Yorkshire Coast from which it could have originated. This rare fossil specimen closely resembles the seed cones of modern *Pinus* and although around 130 million years old, it still displays exceptionally well-preserved anatomical detail. The research work on the fossil indicated that it originates from the Speeton Clay on the Yorkshire Coast, north of the town of Speeton, and is over 5 million years older than *Pinus belgica* the previously oldest known example of a pine cone.

The specimen has been described in the *International Journal of Plant Sciences* and has provided valuable information regarding our understanding of the early evolution of conifers and has extended the record of the genus *Pinus* further back into the Early Cretaceous period.

