
**REDISCOVERY OF AN *ICHTHYOSAURUS BREVICEPS* OWEN, 1881
SOLD BY MARY ANNING (1799-1847) TO THE SURGEON ASTLEY COOPER
(1768-1841) AND FIGURED BY WILLIAM BUCKLAND (1784-1856)
IN HIS BRIDGEWATER TREATISE**



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An extant specimen of *Ichthyosaurus breviceps* Owen, 1881 is identified as that sold by Mary Anning the younger, fossil collector of Lyme Regis, to the eminent surgeon Sir Astley Cooper in 1831. It was figured by William Buckland in the prestigious Bridgewater Treatise *Geology and mineralogy considered with reference to natural theology* of 1836, thereby becoming a widely known exemplar. Its scientific, historical and cultural significance is discussed.

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INTRODUCTION: ASTLEY COOPER MEETS MARY ANNING

The early 19th Century may be regarded as an heroic age of vertebrate palaeontology. This work was partly founded on the Mesozoic reptiles of England, and especially the ichthyosaurs and plesiosaurs, reflecting their spectacular nature and relative abundance compared to what were later called dinosaurs (Howe *et al.*, 1981; Taylor, 1997; Knell, 2000; O'Connor, 2007; Rudwick, 2008; Evans, 2010; Torrens, 2012). Scientific research today still depends substantially on these early saurian finds, because of the rarity of such fossils, and the loss of old sites with quarry closure and mechanisation, as well as, of course, the type and figured status of many old specimens (for instance, Benson *et al.*, 2012; Benton, 2012; Massare and Lomax, 2014). Locating and identifying such status specimens thus form a useful contribution to palaeontological research, as well as to museums and education more generally. This paper reports the recognition of one such ichthyosaur, and explores its provenance and significance.

Sometime around 1830, Mary Anning the younger (1799-1847), fossil collector of Lyme Regis in Dorset, wrote to the London surgeon and anatomist Sir Astley Paston Cooper (1768-1841), who was then at the peak of his profession as a fashionable London medical man (Cooper, 1843; Bynum, 2008; Burch, 2008). The letter is undated but on paper watermarked 1830, and reads in full (WL Special Collections 9/02/003):

"Mary Anning's best respects to Sir Astley Cooper would feel greatly obliged by a line to say whether the Skeleton arrived safe – with many and best thanks to Sir Astley Cooper Mary Anning begs to subscribe herself Sir Astley Cooper's obliged humble servant [signed] Mary Anning".

Anning's stock in trade was of Lower Lias fossils from the Lyme Regis area, and in that context 'skeleton' strongly suggests a reptile rather than a fish, and most likely an ichthyosaur, given

the rarity of plesiosaurs and pterosaurs. The fossil is therefore presumably the ichthyosaur which Cooper acquired at Lyme during a tour of the West Country in the autumn of 1831, in which he visited many geological and mineralogical museums:

"On his way home, when at Lyme Regis, he purchased a very fine specimen of the Ichthyosaurus, a drawing of which afterwards appeared in Professor Buckland's Treatise on Geology. He bought it from Mary Anning, well known to geologists, and whom he describes as a great genius, whose knowledge, zeal and ability are really surprising." (Cooper, 1843, vol. 2, pp. 385-386).

The ichthyosaur was indeed later illustrated by William Buckland (1784-1856), Reader in Geology at the University of Oxford, in his Bridgewater Treatise, *Geology and mineralogy ... as "a small Ichthyosaurus Intermedius, from the lias at Lyme Regis belonging to Sir Astley Cooper"* (Buckland, 1836, vol. 1, p. 170; vol. 2, p. 21, pl. 8. fig. 2, reproduced here as Figure 1a). The engraving was by 'Scharf' who must be the natural history illustrator George Johann Scharf (1788–1860) (Jackson, 2004). From the scale in the drawing, the specimen was about 0.9 m long, relatively small for an ichthyosaur, but large and inconvenient enough for it to make good sense for Cooper to have the fossil sent directly to his house, rather than taking it with him.

It is very likely that this is the ichthyosaur mentioned by the noted geologist Charles Lyell (1797-1875) in a letter of 10 April 1832 to the palaeontologist and surgeon Gideon Mantell (1790-1852), who knew Cooper professionally and was on friendly terms with him (Wennerbom, 1999; Torrens and Cooper, 1986; Cooper, 2010). At dinner the previous evening Lyell had met Cooper, who talked of Anning and of his purchase of an ichthyosaur, presumably from her (Wennerbom, 1999, letter 90). There is no known indication that Cooper ever bought more