ACTA PALAEONTOLOGICA POLONICA

A mysterious giant ichthyosaur from the lowermost Jurassic of Wales

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Acta Palaeontologica Polonica 60 (4), 2015: 837-842 doi:http://dx.doi.org/10.4202/app.00062.2014

Ichthyosaurs rapidly diversified and colonised a wide range of ecological niches during the Early and Middle Triassic
period, but experienced a major decline in diversity near the end of the Triassic. Timing and causes of this demise and the subsequent rapid radiation of the diverse, but less disparate, parvipelvian ichthyosaurs are still unknown, notably because of inadequate sampling in strata of latest Triassic age. Here, we describe an exceptionally large radius from Lower Jurassic deposits at Penarth near Cardiff, south Wales (UK) the morphology of which places it within the giant Triassic shastasaurids. A tentative total body size estimate, based on a regression analysis of various complete ichthyosaur skeletons, yields a value of 12–15 m. The specimen is substantially younger than any previously reported last known occurrences of shastasaurids and implies a Lazarus range in the lowermost Jurassic for this ichthyosaur morphotype.

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