

# An Important Plesiosaur Discovery from the Oxford Clay: How Cooperation between Science and Industry is Benefitting Palaeontology

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## Abstract

The Peterborough Member of the Oxford Clay Formation is renowned for its abundant and well preserved marine reptile fossils. In recent years, however, the primary source of these fossils, the brick making industry, has gone into serious decline – so much so that there is only one remaining working quarry in the Lower Oxford Clay and, with the future of UK brick manufacturing unclear, the importance of this quarry to vertebrate palaeontology should not be underestimated.

The Oxford Clay Working Group (OCWG) was set up in 2011, in collaboration with the quarry owners, to collect, protect and document vertebrate fossils from this very important resource. Despite collecting unassociated fossils, particularly teeth and isolated bones, efforts to secure articulated or disarticulated skeletons have been hampered by modern quarrying techniques and a change of practice in excavating to the most productive levels.

Here we report on a newly recovered, partially articulated plesiosaur skeleton representing a fully mature individual, which was saved because of the combined efforts of the OCWG in conjunction with both the quarry owners and employees.

The specimen, which has been safely conserved and secured by the group, will be deposited into an accredited institution and so made available for scientific study and, perhaps, public display. It is planned that the skull block is CT scanned which may not only provide hitherto unknown data relative to Plesiosauroidea but may help, together with other skeletal elements, to solve anatomical and taxonomic problems within Cryptoclididae and, perhaps, Elasmosauridae.