THOMAS HAWKINS, LORD COLE, WILLIAM SOLLAS AND ALL: CASTS OF LOWER JURASSIC MARINE REPTILES IN THE GEOLOGICAL MUSEUM, TRINITY COLLEGE, DUBLIN, IRELAND

by Patrick N. Wyse Jackson

Wyse Jackson, P.N. 2004. 'Thomas Hawkins, Lord Cole, William Sollas and all: casts of Lower Jurassic marine reptiles in the Geological Museum, Trinity College, Dublin, Ireland'. *The Geological Curator* 8(1): 11-18.

A number of casts of complete or portions of plesiosaurs from the Lower Jurassic of England are stored or displayed in the Geological Museum of Trinity College, Dublin. The historical significance of these has only relatively recently been realised. They include specimens from the collections of Thomas Hawkins, William Willoughby Cole the Earl of Enniskillen, and the Bristol City Museum. They came into the possession of Trinity College, Dublin either by donation from the Geological Society of Dublin in 1848 or from William Johnston Sollas in the late 1800s. These casts include the holotype of *Thalassiodracon hawkinsi* (Owen, 1838); a 'sternum' and 'scapula' illustrated by Thomas Hawkins and now referable to *Eurycleidus arcuatus* (Owen, 1840); a complete skeleton of *Plesiosaurus macrocephalus* Owen, 1838; the right and left side of a skull of *Eurypterygius communis* (Conybeare, 1822) the original of which was at the Birmingham Philosophical Institution; the skull and the right front flipper of *Rhomaleosaurus megacephalus* (Stutchbury, 1846); and a badly damaged cast of *Attenborosaurus conybeari* (Sollas, 1881). The latter two examples are important because the originals once in Bristol were destroyed in 1940 during the Second World War.

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Introduction

In the Geological Museum of Trinity College Dublin are stored or displayed a number of plaster casts of marine reptiles from the Jurassic of England. These are in various states of repair. While the provenance of some has been known for some time, others have recently been identified and prove to be specimens of high scientific and historical significance. A number of specimens came to Trinity College via the Geological Society of Dublin in 1848 while others were acquired later, probably in the 1880s (Wyse Jackson 1992).

Geological Society of Dublin specimens: Thomas Hawkins and the Earl of Enniskillen

The Geological Society of Dublin was founded in 1831 (Davies 1965), and, in a similar vein to its older cousin the Geological Society of London, it regularly met to discuss geological matters throughout the winter months, established a journal, and rapidly assembled a museum of Irish and foreign material (M'Coy 1841), even though good collections of geological material was available in the city at Trinity College (Wyse Jackson 1992) and at the Royal Dublin Society (Monaghan 1992). During its lifetime the Geological Society of Dublin served as a forum for most of Ireland's foremost geologists, and numbered among its Presidents, Sir Richard Griffith, Joseph Ellison Portlock, Thomas Oldham, Joseph Beete Jukes, the Rev. Samuel Haughton, and George Henry Kinahan.

In its early years it met in rented chambers in the Richmond National Institution for the Instruction of the Industrious Blind, situated on Upper Sackville Street (now O'Connell Street). However financial problems caused the Geological Society to seek an alternative venue for its activities, and in 1841 it was offered rent-free accommodation in the Custom House, a magnificent building on the north quays of the River Liffey. There its burgeoning museum was placed under the charge of Thomas Oldham. Shortly afterwards Ireland was struck by potato famine and

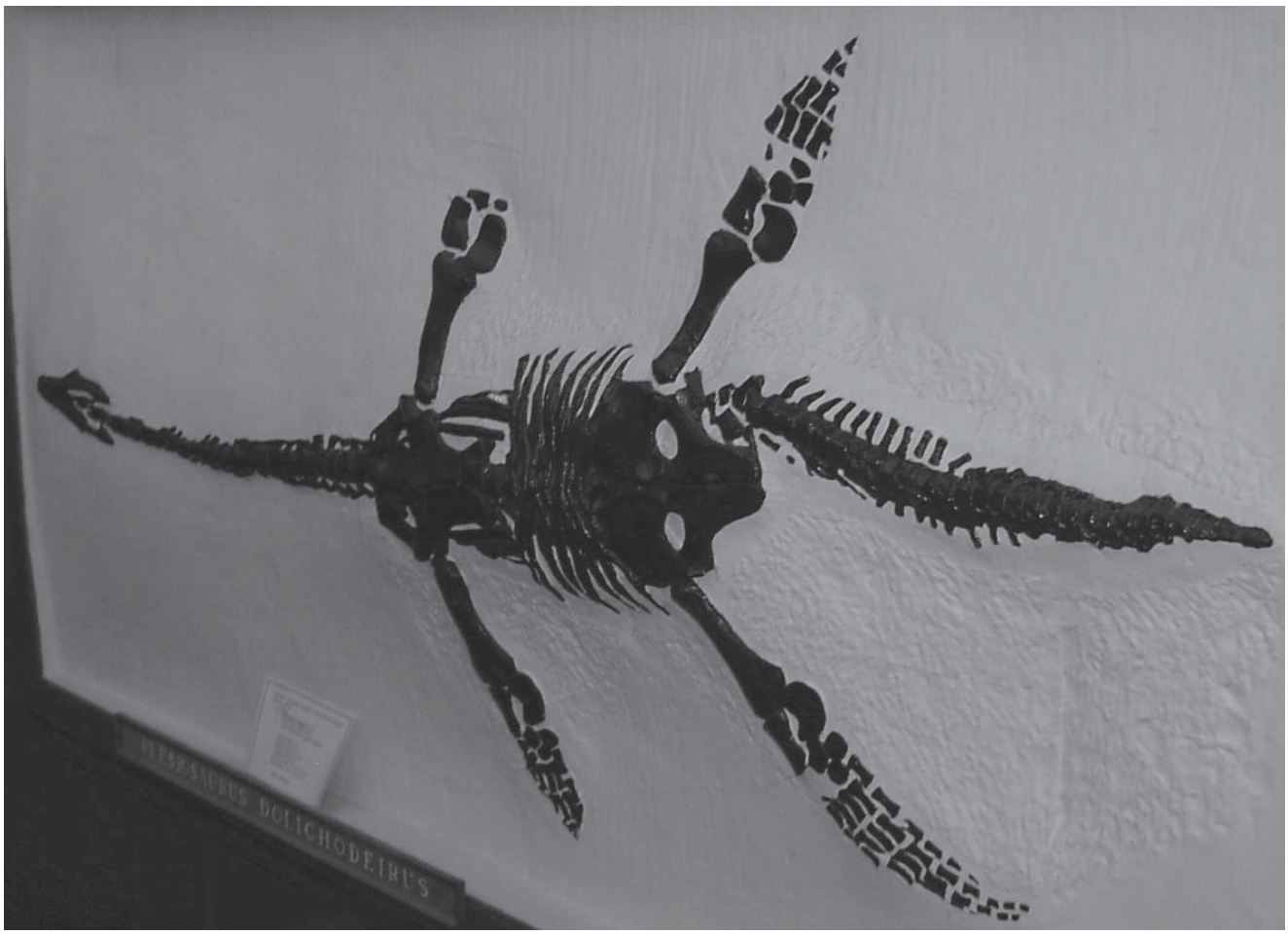

Figure 1. *Thalassiodracon hawkinsi* (Owen, 1838). TCD.22932. Cast of BMNH.2018. Width of view: 180 cm.

the accommodation occupied by the Society was requisitioned for urgent use by the Poor Law Commissioners. Fortunately a solution was close at hand: in 1848 the Museum of the Geological Society of Dublin was transferred to Trinity College, Dublin, in exchange for use of accommodation in which to carry out the business of the Society (Davies 1965). Much of this collection cannot now be recognised in the present Geological Museum in the College. The Geological Society of Dublin metamorphosed into the Royal Geological Society of Ireland on 28th March 1864, and continued to meet regularly and publish a journal. By the late 1880s however, membership declined, and the affairs of the Society were wound up in 1890.

Some time ago while reading the second volume of the *Journal of the Geological Society of Dublin*, I discovered that Thomas Hawkins (1810–1889) the noted collector and illustrator of ichthyosaurs and plesiosaurs (Taylor 1989, 2003, O'Connor 2003) had expressed a wish to present material to the Geological Society of Dublin. It is well known that Hawkins's material was distributed either by sale or donation to several institutions in England including the British Museum (now The Natural History Museum), the Cambridge Museum (now the Sedgwick Museum) and the Oxford University Museum of Natural History (Taylor 1989). What was not known, until now, was that additional material made its way across the Irish Sea to Dublin.

On 14th May 1834 Thomas Hutton presented to the Geological Society of Dublin a cast of a plesiosaur (Figure 1) that had been found by Thomas Hawkins near Street, Glastonbury, Somerset. This specimen was later described and named by Richard Owen as *Plesiosaurus hawkinsii* and was designated the holotype of that species (Owen 1838, 1840) (it is now reassigned to the genus *Thalassiodracon* Storrs and Taylor (1996) and the correct species name is *hawkinsi*). On the same day as Hutton's donation, the Society received a letter from Hawkins, the author of *Memoirs on Ichthyosauri and Plesiosauri* (1834) and *The Book of the Giant Sea-Dragons* (1840), stating that he was presenting casts of a 'sternum' and 'scapula' of a plesiosaur (Figures 2 and 3) that he had illustrated in his recently published book. While it is unclear when the casts arrived in Dublin, it is probable that they were in the Dublin by the latter part of 1834 or 1835 at the latest. They are now on display in the present Geological Museum where they flank a rather

Figure 2. *Eurycleidus arcuatus* (Owen, 1840) 'sternum'. TCD.39925. Width of view: 44 cm.

Figure 3. *Eurycleidus arcuatus* (Owen, 1840) 'scapula'. TCD.39926. Width of view: 42 cm.

battered plaster cast of William Buckland's celebrated *Megalosaurus* jaw (TCD.56538) which is mounted upside down. [The Museum also holds another more recently-made cast of this jaw and some individual teeth - TCD.56539.]

On the 11th November 1840 it was announced at a general meeting of the Society that William Willoughby Cole (1807–1886), the recently elevated 3rd Earl of Enniskillen, was to present a cast of *Plesiosaurus macrocephalus* Owen, 1838 from his own collection (Figure 4). A description of the animal was given by Richard Owen in two papers published by the Geological Society of London (Owen 1838, 1840*b*). Cole also presented at the same time a copy of the first part of Owen's report on British fossil reptiles published by the British Association for the Advancement of Science (Owen, 1840*a*); the second part of Owen's work appeared two years later (Owen 1842). This plesiosaur had been discovered by Mary Anning in December 1830 at Lyme Regis, and it attracted the attention of Adam Sedgwick at Cambridge who offered to purchase it (see Taylor and Torrens 1987, p. 136). However, before Sedgwick could indicate this to Mary Anning the specimen was bought by Cole for the reputed and enormous sum of 200 guineas (James 1986, Torrens 1995). Cole kept this specimen, together with a huge collection of fossil fishes, in his own private museum at Florence Court, County Fermanagh. Eventually, just before he died, the complete collection was purchased by the British Museum (now The Natural History Museum, London) in 1883, and his specimen of *P. macrocephalus* can now be seen together with other marine reptiles, many from Hawkins of course, in the gallery off the main entrance hall that leads towards the Department of Palaeontology. In the 1860s Henry Augustus Ward (1834–1906) founder of Ward's Natural Science Establishment of Rochester, New York made moulds of many of these marine reptiles from the originals and casts were subsequently sold by him and distributed to many museums. A useful catalogue of Ward's casts was published in 1866 (Ward 1866). The Geological Society of Dublin casts are earlier than his replicas.

Thalassiodracon hawkinsi (Owen, 1838) = *Plesiosaurus hawkinsii* Owen, 1838 = *Plesiosaurus triatarsostinus* Hawkins, 1834

TCD.22932. Complete skeleton (Figure 1). Cast of BMNH.2018 (holotype). Presented to the Geological Society of Dublin by Thomas Hutton 1834. Figured Hawkins (1834, plate 24, and 1840, plate 24) as *Plesiosaurus triatarsostinus*. The original is in The Natural History Museum and was purchased from Hawkins in 1834.

Eurycleidus arcuatus (Owen, 1840) = *Plesiosaurus arcuatus* Owen, 1840 = *Plesiosaurus triatarsostinus* Hawkins, 1834

TCD.39925. 'Sternum' (Figure 2). Cast of BMNH.2028. Marshall's Elm, Street, Somerset. Presented to the Geological Society of Dublin by Thomas Hawkins 1834 or 1835. This was figured by Hawkins (1834, plate 26, and 1840, plate 26) as *Plesiosaurus triatarsostinus*. Renamed *Plesiosaurus arcuatus* by Owen (1840) and subsequently assigned to the genus *Thaumatosaurus* Meyer, 1841 (see Lydekker, 1889, p. 164), but now considered to belong to the genus *Eurycleidus* Andrews, 1922. Some authors (Storrs and Taylor 1996) have considered *Eurycleidus arcuatus* to be a probable synonym of *Rhomaleosaurus megacephalus*.

TCD.39926. 'Scapula' (Figure 3). Cast of BMNH.2029. Marshall's Elm, Street, Somerset. Presented to the Geological Society of Dublin by Thomas Hawkins 1834 or 1835. This was figured by Hawkins (1834, plate 26, and 1840, plate 26) as *Plesiosaurus triatarsostinus*. Renamed *Thaumatosaurus arcuatus* by Owen (1840) and subsequently assigned to the genus *Thaumatosaurus* Meyer, 1841 (see Lydekker, 1889, p. 164), but now considered to belong to the genus *Eurycleidus* Andrews, 1922 (see above).

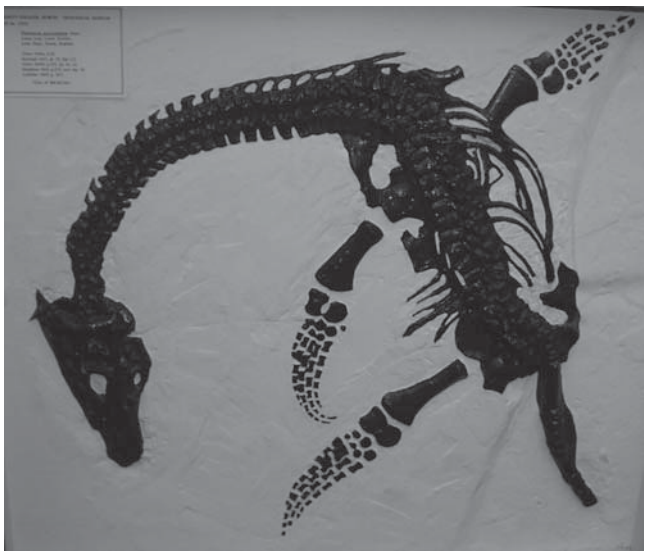

Figure 4. *Plesiosaurus macrocephalus* Owen, 1838. TCD.22931. Cast of BMNH.R1336. Width of view: 90 cm.

Plesiosaurus macrocephalus Owen, 1840

TCD.22931. Complete skeleton of a juvenile (Figure 4). Cast of BMNH.R1336 (holotype). Presented to the Geological Society of Dublin by the Earl of Enniskillen (Figured Owen, 1840*b*). The original is in The Natural History Museum and was purchased from the Earl of Enniskillen in 1883 – this is displayed rotated 90° clockwise relative to the TCD specimen.

Eurypterygius communis (Conybeare, 1822) skull

TCD.39927 and 39928. Right and left side of a skull of *Eurypterygius communis* (Conybeare, 1822) (Figure 5). An identical cast is at the Oxford University Museum of Natural History, and is labelled "*Ichthyosaurus communis* from the Lias of Barrow-on-Soar, Leicestershire, 1841 in the Museum of the Birmingham Philosophical Institution". The Trinity specimens are contained within the same wall mount as that of the casts presented to the Geological Society of Dublin in the 1830s and 1840s discussed above and so are assumed to be part of the same collection and of the same vintage. The originals of these casts cannot be found.

Figure 5. *Eurypterygius communis* (Conybeare, 1822) skull - right and left side. TCD.39927 and 39928. Width of view: 78 cm.

Bristol Institution and Bristol City Museum specimens

The Bristol Institution for the Advancement of Science, Literature and the Arts was established in 1823. It has rightly been described as the "plesiosaur's birthplace" (Taylor 1994) as it was there that the Rev. William Daniel Conybeare (1787–1857) and Henry De la Beche (1796–1855) carried out their collaborative research on plesiosaurs and ichthyosaurs from the Lower Jurassic of Dorset and Somerset. In 1821 they coined the term 'Plesiosaurus'. Many years later the Institution passed its collection of fossil marine reptiles to the Bristol City Museum, where in 1940 most were destroyed during the blitz. Fortunately casts had been made of a number of the specimens, and two of these have been identified in the collections in Trinity College, Dublin.

For many years filthy casts of a large plesiosaur skull and flipper (Figures 6 and 7) were stored in the basement of the Geological Museum of Trinity College, Dublin. These were identified in May 1995 by Dr Peter Crowther (Ulster Museum) as casts of the original type of *Plesiosaurus megacephalus* Stutchbury, 1846 (now *Rhomaleosaurus megacephalus* (Stutchbury, 1846)) (Figure 8) once in the Bristol Institution. Because this specimen was destroyed Cruickshank (1994) designated a neotype from Barrow-upon-Soar. The Bristol specimen measured 496 cm in length with a skull 83 cm long. Found in the Lower Lias at Street on the Fosse, Somerset (often confused with the small town of Street some 14 km away - see Storrs and Taylor 1996, p. 405 - the area around which is the main provenance for Lias marine reptiles thereabouts), it was acquired by the Bristol Institution in 1835, and first described by Samuel Stutchbury (1798–1859) the second Curator of the Bristol Institution eleven years later (Taylor 1994).

Another cast, unfortunately in very bad condition having been broken into several pieces in the early 1950s, was also in the basement store, and this has been identified as being a cast of the type specimen of *Plesiosaurus conybeari* Sollas, 1881 also from the collection of the City Museum, Bristol (Figure 9). This species was selected as the type of the new genus *Attenborosaurus* by Bakker (1993). Another cast is in The Natural History Museum, London and a third in the Oxford University Museum of Natural History. The original had been collected in 1880 from the Lower Lias of Blackven Water, half a mile west of the River Char, Charmouth, Dorset, by Samuel Clarke of Charmouth (Swinton 1948, p. 344).

Figure 6 (left). *Rhomaleosaurus megacephalus* (Stutchbury, 1846). TCD.47762a. Cast of skull. Width of view: 90 cm.

Figure 7 (above). *Rhomaleosaurus megacephalus* (Stutchbury, 1846). TCD.47762b. Cast of right fore limb. Width of view: 90 cm.

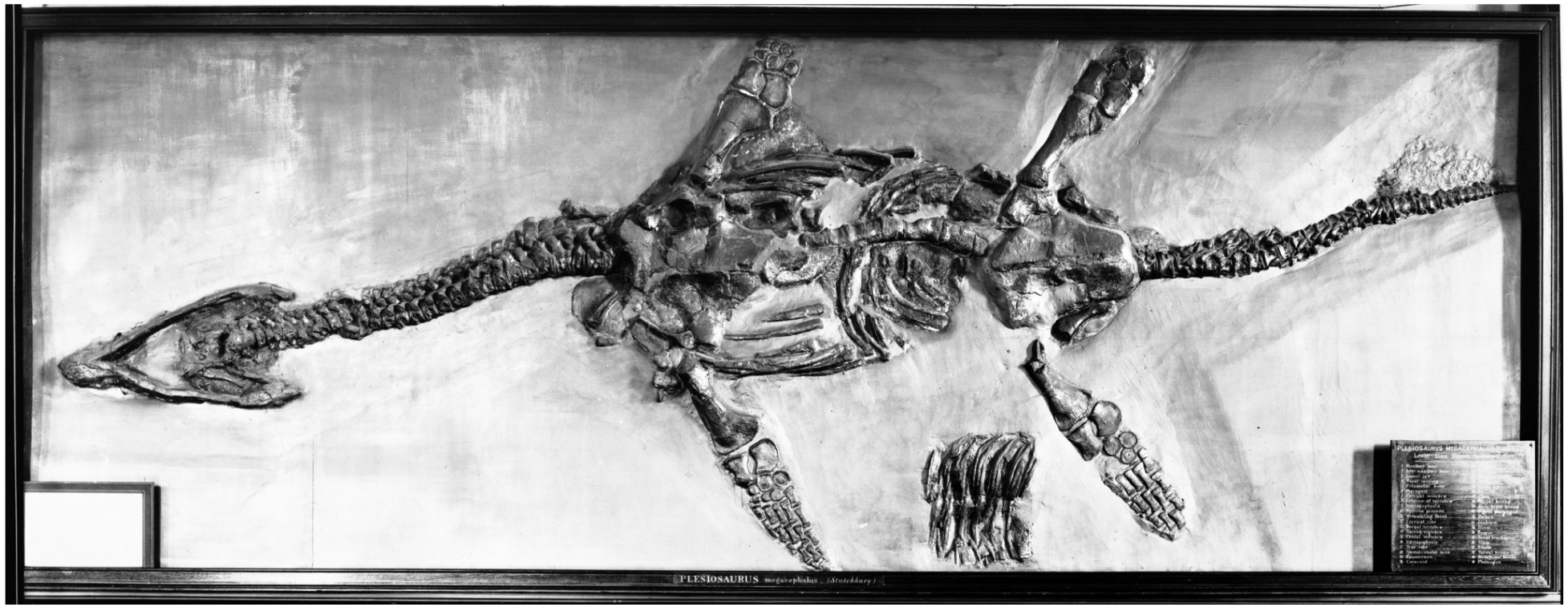

Figure 8. *Rhomaleosaurus megacephalus* (Stutchbury, 1846). Original in Bristol City Museum. Destroyed 1940. Width of view: *c*. 496 cm. [Photograph taken from glass plate negative used for Swinton's 1948 paper. © Bristol City Museum & Art Gallery. Courtesy of Roger Clark.]

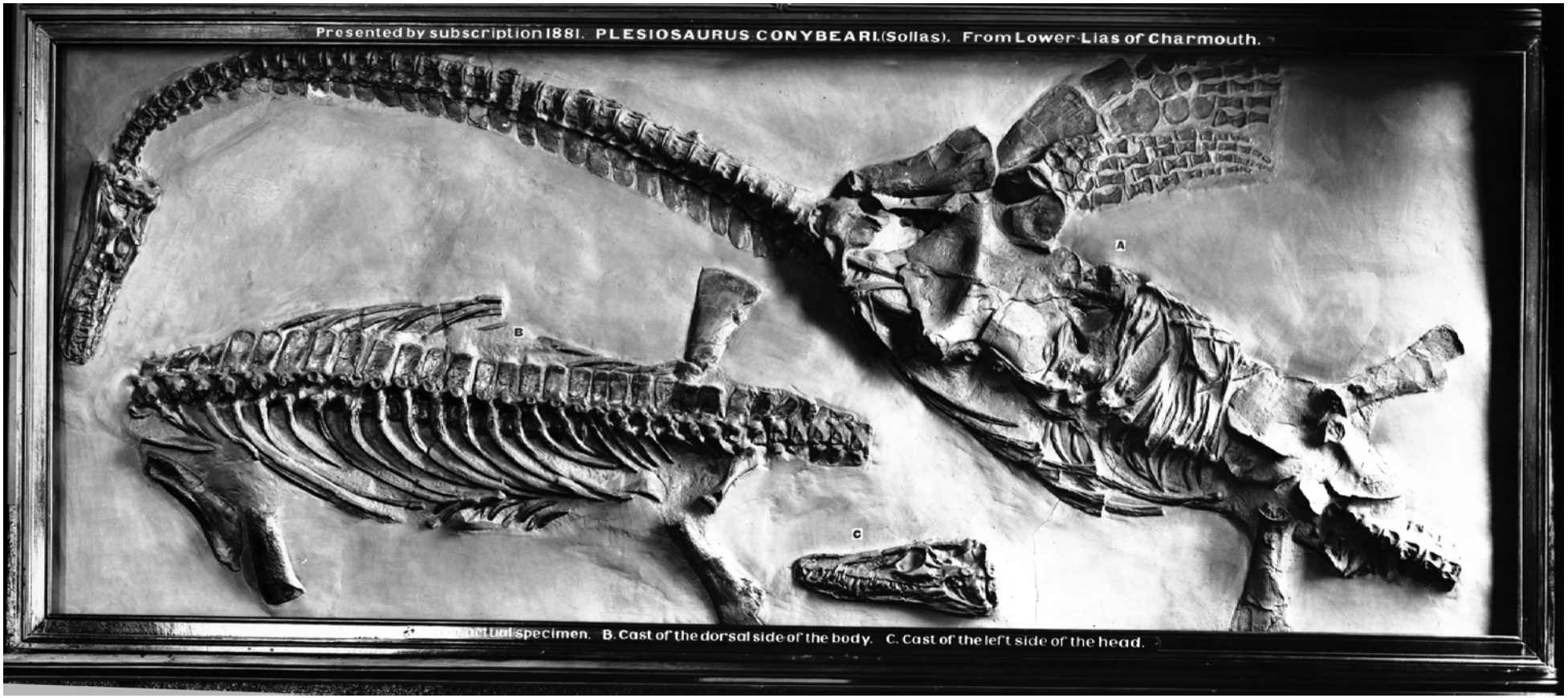

Figure 9. *Attenborosaurus conybeari* (Sollas, 1881). Original in Bristol City Museum. Destroyed 1940. Width of view: *c*. 356 cm. [Photograph taken from glass plate negative used for Swinton's 1948 paper. © Bristol City Museum & Art Gallery. Courtesy of Roger Clark.]

William Johnston Sollas (1849–1936) was Professor of Geology and Zoology at Bristol until his translation to Dublin where he took up the Chair of Geology and Mineralogy in the university in 1884; he later moved to Oxford where his major claim to fame was his and his daughter's translation of Eduard Suess' influential work *Das Antlitz der Erde* [*The Face of the Earth*], and his longevity (Wyse Jackson 1994). It is highly probable that he arranged for Trinity College, Dublin and Oxford to receive casts of his Bristol plesiosaur. He was certainly proud of the specimen, and had overcome difficulties in persuading the Bristol City Museum of which he was Curator to purchase the specimen in the first place. Undaunted he raised the finance through public subscription (Peter Crowther, pers. comm. 7th June 1995). It is therefore not surprising that he should have wanted the specimen or at least copies of it to follow him around to the various universities in which he worked - one can imagine he viewed *Attenborosaurus conybeari* as a friend.

Although the Trinity cast of *Attenborosaurus conybeari* is no longer complete (part of the body is missing as are the front limbs and flippers), it and the other casts of the two Bristol plesiosaurs are now valuable scientifically as both of the originals were destroyed on 24th November 1940 during the Second World War. The Trinity casts of *Rhomaleosaurus megacephalus* have now been cleaned and are now on display in the main museum gallery, while that of *Attenborosaurus conybeari* remains to be restored.

Rhomaleosaurus megacephalus (Stutchbury, 1846) = *Plesiosaurus megacephalus* Stutchbury, 1846.

TCD.47762a. Cast of skull (ventral side) (Figure 6).
TCD.47762b. Cast of right fore limb (Figure 7).

Original (Cb 2335) in Bristol City Museum destroyed in blitz in 1940 (Figured by Swinton 1948, plate 11; reproduced here as Figure 8). Subsequently assigned to the genus *Thaumatosaurus* Meyer, 1841 (see Lydekker, 1889, p. 166) and then to *Rhomaleosaurus* Seeley 1874. Identical casts to those in TCD are also in The Natural History Museum, London [BMNH R.1310] and in the British Geological Survey at Keyworth, Nottingham.

Attenborosaurus conybeari (Sollas, 1881) = *Plesiosaurus conybeari* Sollas, 1881.

TCD.47763. Original (Cb2479) in Bristol City Museum destroyed in blitz in 1940 (Figured by Swinton 1948, plate 9a; reproduced here as Figure 9). Casts are also in The Natural History Museum, London [BMNH R.1338, R.1339 (presented by Sollas in 1881)] and in the Oxford University Museum of Natural History [OUM. J10335].

Endnote

I regret, and am somewhat embarrassed, that it has taken me nearly nine years to write up the short story of these specimens. Unfortunately like many curators who are subjected to ever increasing reviews and bureaucracy, and who therefore cannot find the time to do this type of necessary and rewarding collections research, I kept on putting this work on the long-finger. Collections research should be a fundamental part of the work of geological curators and should, in my opinion, become more of a priority.

Acknowledgements

I am grateful to Peter Crowther who first recognised the casts of *Rhomaleosaurus megacephalus* and *Attenborosaurus conybeari* for what they were, and to him and Mike Taylor who kindly provided me with considerable information on the history of these Bristol plesiosaurs. Sandra Chapman and Derek Siveter looked for originals in the collections of The Natural History Museum, London and the Oxford University Museum of Natural History respectively. Ryosuke Motani kindly commented on the identification of the ichthyosaur skull illustrated in Figure 5, while Paul Jeffrey supplied the critical information relating to the Oxford casts of the same specimen and their provenance. Roger Clark supplied digital copies of Figures 8 and 9 at short notice, for which I am most grateful. Arthur Cruickshank and Michael Taylor generously reviewed the paper and helped improve it significantly.

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