

Arthur Smith Woodward's fossil fish type specimens

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REVISION HISTORY

This supplement was published First Online by the Geological Society on October 21st 2015 as part of the volume entitled Arthur Smith Woodward: His Life and Influence on Modern Vertebrate Palaeontology (see Bernard & Smith 2016). The intention was, and remains, to update the supplement on an annual basis with further images, taxonomy changes and any other relevant information. Principal changes will be listed in this section under the year of revision. The header date will be updated annually as will the table of contents, if only to reflect page number changes.

2018

ACKNOWLEDGEMENTS AND COPYRIGHT

Regrettably some acknowledgements were omitted from the 2016 update and these are included now.

Rob Gess (Rhodes University, Grahamstown) for providing the image of *Dictyopyge(?) draperi* and Elize Butler, the collections manager at the National Museum in Bloemfontein who photographed the specimen.

Paul Shepherd and Simon Harris of the British Geological Survey for images of *Coccolepis andrewsi* and *Coelodus arcuatus*.

2018 Update

Bernard Mannequin, Royal Belgian Institute of Natural Sciences for the image of *Cratoselache pruvosti*.

Paul Shepherd at the BGS for the three images of the *Hybodus ensis* paratypes

Benjamin Kear of the Museum of Evolution, Uppsala University for the images of *Boreosomus arcticus*, *Saurichthys wimani*, *Perleidus woodwardi* and *Sassenia ? guttata*.

Kevin Webb of the Natural History Museum Image Resources for the additional NHM specimen images.

UPDATES

Some general “tidying up” was carried out including image size reduction and re-arrangement to reduce the overall number of pages. Note that the page numbers for the 2016 update are no longer valid. Minor corrections were made to some image numbers.

Cratoselache pruvosti – image of holotype plus updated stratigraphical information added (p. 15).

Hybodus ensis – images of five paratypes added (p. 17).

Pachymylus leedsi – new images added (p. 53).
Chimaera eocenica – new image added (p. 54).
Acrolepis arctica – images added and information updated (p. 64).
Belonorhynchus wimani – images added and information updated (p. 70).
Colobodus altilepis – image added and information updated (p. 75).
Coelodus multidentis – image of holotype added from original reference (p. 79).
Lepidotus mawsoni – images of second syntype added (p. 95).
Protosphyraena ornata – information on specimen updated (p. 108).
Percichthys antiquus – new entry (p. 154).
Solea eocenica – new entry (p. 160) plus new order, Pleuronectiformes.
Coelacanthus guttatus – image added and information updated (p. 163).

2017

No update was made in 2017.

2016

ACKNOWLEDGEMENTS AND COPYRIGHT

This update could not have been achieved without assistance from many people. We hope the following list is complete but we apologise if we have inadvertently missed any person or institution.

Many of the new images of type specimens held in UK institutions have been sourced from the GB3D Type Fossils Online website:

<http://www.3d-fossils.ac.uk>.



These images and the associated information are made available under a Creative Commons Attribution-NonCommercial-Share Alike 3.0 Unported License and are © Jisc GB3D Type Fossils Online project partners. A link to the specific page on the website is included immediately below the host museum registration number. In the list of updates below those featured on the GB3D website are marked with an asterisk.

Eliza Howlett and Hilary Ketchum, Collections Managers, Earth Collections, Oxford University Museum of Natural History for images of *Scaphodus heteromorphus* and *Notidanus daviesii*.

Matt Riley of the Sedgwick Museum of Earth Sciences for providing images of *Anomoeodus confertus* and *Protosphyraena keepingi*.

Mark Evans of the New Walk Museum & Art Gallery, Leicester for providing the image and further information on *Browneichthys ornatus*.

Matt Williams of the Bath Royal Literary and Scientific Institution for the images of the series of teeth associated with *Xenacanthus (Diplodus) moorei*.

Sébastien Olive and Bernard Mottequin of the Institut royal des Sciences naturelles de Belgique for assistance in locating type specimens in Belgium and to Annelise Folie of the same institute for the images of *Athrodon tenuis*.

Paulo Brito of the Universidade do Estado do Rio de Janeiro and Martha Richter of the Natural History Museum for images of *Rhinoptera prisca*, *Paleopiquitinga brasiliensis* and *Macracara prisca*.

Thomas Mörs of the Swedish Museum of Natural History. The images of *Onychodus arcticus*, *Ganolepis gracilis*, *Holoptychius monilifer* and *Leptolepis nathorsti* are by Emma van Eelen (© 2016 Swedish Museum of Natural History).

UPDATES

- Corvaspis kingi* – image and information added (p. 7).
Birkenia kingi – image and information added, name updated (p. 9).*
Acanthaspis decipiens – information added and institution name updated (p. 10).
Acanthaspis minor – information added and institution name updated (p. 10).
Asteroplax scabra – information added and institution name updated (p. 10).
Bothriolepis antarctica – images and reference added (p. 11).
Diplodus moorei – images, information and notes added (p. 13).*
Diplodus problematicus – image and information added, name updated (p. 14).
Acrodus nitidus – tentative generic name change and information added (p. 17).
Notidanus daviesii – image and information added (p. 30).*
Odontaspis houzeau - images and information added (p. 37).
Squatina cranei - images and information added (p. 44).*
Rhinoptera prisca – images and information added (p. 49).
Edestus newtoni – image and information added (p. 50).*
Psammodus salopiensis – image added (p. 70).
Byssacanthoides debenhami – images added and information updated (p. 72).
Acanthodes nitidus – image added (p. 73).
Browneichthys ornatus – image and information added (p. 75).
Ganolepis gracilis – image added and institution name updated (p. 77).
Coccolepis andrewsi - images and information added (p. 82).
Dictyopyge(?) draperi – image added (p. 88).
Coelodus arcuatus - image and information added (p. 94).
Scaphodus heteromorphus - images and information added (p. 101).*
Anomoeodus carteri – images of holotype and two paratypes plus information added (pp. 102-103).*
Anomoeodus confertus – image and information added (p. 103).
Anomoeodus superbus – images of holotype and five paratypes plus information added (p. 104).*
Anomoeodus willetti – images of holotype and information added (p. 105).*
Athrodon tenuis – images and information added (p. 105).
Athrodon crassus – image and information added (p. 106).*
Heterostrophus phillipsi – images of holotype and information added (p. 109).*
Lepidotus mawsoni – information added (p. 114).
Lepidotus souzai – information added (p. 115).
Megalurus mawsoni – genus name updated and information added (pp. 130-131).

Protosphyraena ornata – information added and institution name updated (p. 134).
Protosphyraena depressa – image of holotype and information added (p. 135).*
Protosphyraena keepingi – image and information added (p. 136).
Protosphyraena tenuirostris – images of holotype and information added (p. 136).*
Belonostomus(?) carinatus – information added (p. 139).
Eurycormus grandis – image of holotype and information added (p. 141).*
Urenchelys anglicus – images of holotype and information added (p. 153).*
Knightia brasiliensis – additional image, name change and information added (p. 159).
Scombroclupea scutata – information updated (pp. 160-161).
Pachyrhizodus subulidens – image and information added (p. 167).*
Dercetis latiscutatus – image of holotype and information added (p. 176).*
Leptolepis nathorsti – images including lectotype added plus information updated (p. 191).
Macracara prisca – additional image and information added (p. 193).
Onychodus anglicus – image and information added (p. 207).*
Onychodus arcticus – image and information added (p. 207).
Holoptychius monilifer – image of holotype added and information updated. (p. 208).
Holoptychius antarcticus – images added and information updated (p. 209).

REFERENCES

Two references added:

Bernard & Smith 2016 (p. 218).

Brito & Richter 2016 (p. 218).

DISCLAIMER

This document is not intended to represent a comprehensive taxonomic review of the Smith Woodward type specimens but will provide some basic information and additional references that the reader may find useful.

INTRODUCTION

This supplement contains brief details of all the Smith Woodward's fossil fish type specimens that we know of. Images are provided for many of the type specimens that reside in the Natural History Museum (NHM) collection in London. These images often display:

- The specimen registration number written on a small yellow oval/circular disc.
- A small green circular disc indicating a specimen that has been described and/or figured.
- A small red circular disc indicating the specimen is a holotype.
- A speck or blob of red wax used by Smith Woodward to indicate a specimen that has been included in his catalogue of fossil fishes (Woodward 1889; 1891; 1895; 1901) .

The specimens are ordered taxonomically in the same manner they are arranged in the NHM. A list of the countries from which the specimens originate are given in Appendix A. Most of the NHM fossil fish collection has been acquired over many years from amateur collectors and some dealers. Brief details of those relevant to this supplement are presented in Appendix B.

The authors would like to particularly acknowledge the skills of Kevin Webb, Jonathan Jackson, Harry Taylor and Phil Hurst of the Natural History Museum Photographic Studio for the hundreds of images they have taken as part of this project.

TYPES

Group: Agnatha

Class: Pteraspidomorphi

Order: Pteraspidiformes



NHMUK PV P 16446 (Woodward, 1934, fig. 1)



NHMUK PV P 16447 (Woodward, 1934, figs. 2,3)

Corvaspis kingi. Woodward, 1934. Co-types. *Gen. nov.*

Shield.

Downtonian; Earnstrey Brook, Corvedale, Shropshire.

Presented by W. Wickham King Esq, March 1933.

1934. Note on a New Cyathaspidian Fish from the Upper Downtonian of Corvedale. *Quart. J. Geol. Soc.* **90**, 566-567, pl. XIX, figs. 1-3.



NHMUK PV P 4797

Cyathaspis macculloughi. Woodward, 1891. Holotype.

Imperfect dorsal shield.

Lower Old Red Sandstone ("Ledbury Shales", Pandy, Herefordshire.): Englands Hill Quarry, Bodenham.

Presented by Sir Richard Owen, K.C.B., 1884.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 172, pl. IX, fig. 4.

Group: Agnatha
Class: Cephalaspidomorpha
Order: Anaspidiformes



NHMUK PV P 6813-1 (Woodward, 1900, fig. 1)

NHMUK PV P 6813-2 (Woodward, 1900, fig. 1a)

Euphanerops longaevus. Woodward, 1900. Holotype. *Gen. nov.*

Near complete specimen.

Scaumenac Bay, Province of Quebec.

Purchased from R.F. Damon, July 1892.

1900. On a new Ostracoderm (*Euphanerops longaevus*) from the Upper Devonian of Scaumenac Bay, Province of Quebec, Canada. *Ann. Mag. Nat. Hist.* (7) 5, 416-419, pl. X, figs. 1, 1a.



OUM C.31384a-d

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=15000171>

Tahulalepis kingi (Woodward), Blom et al, 2002)

Birkenia kingi. Woodward, 1948. Holotype.

A few scales, arranged in their natural order belonging to the anterior ventral region of the trunk.

Downtonian Formation (Grey Grit, Ledbury Passage Beds): Herefordshire.

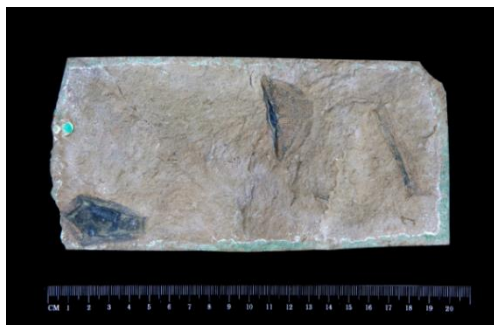
Pridoli Epoch (Silurian Period) (416 – 418.7 Ma B.P.)

Oxford University Museum of Natural History.

1948. On a new Species of *Birkenia* from the Downtonian Formation of Ledbury, Herefordshire. *Ann. Mag. Nat. Hist.* (11) 14, 876-878, 2 text figs.

2002. Blom, H., Märss, T. & Miller, C. G. Silurian and earliest Devonian birkeniid anaspids from the Northern Hemisphere, *Earth and Environmental Science Transactions of the Royal Society of Edinburgh*, Vol. 92, Issue 3, Sept. 2001, pp. 263-323.

Group: Pisces
Class: Placodermi



NHMUK PV OR 43039

Coccoosteus disjectus. Woodward, 1891. Type.

Associated median ventral plates.

Upper Old Red Sandstone: Kiltorcan, Kilkenny, Ireland.

Purchased 1871.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 292, pl. VIII, figs. 1,2.



NHMUK PV P 6755

Coccoosteus canadensis. Woodward, 1892. Holotype.

Impression of external aspect of head shield.

Upper Devonian: Scaumenac Bay, Province of Quebec, Canada.

Purchased from R.F. Damon, July 1892.

1892. Further Contributions to Knowledge of the Devonian Fish-fauna of Canada. *Geol. Mag.* (3) 9, p. 483, pl. XIII, fig. 2.

NO IMAGE CURRENTLY AVAILABLE

Acanthaspis decipiens. Woodward, 1891. Type.

Associated dorsal and ventral shields.

Lower Devonian, Red Micaceous Sandstone: Dickson Bay.

Swedish Museum of Natural History, Stockholm.

1891. The Devonian Fish-fauna of Spitzbergen. *Ann. Mag. Nat. Hist.* (6) 8, p. 4, pl. I, figs. 1-3.

NO IMAGE CURRENTLY AVAILABLE

Acanthaspis minor. Woodward, 1891. Type.

Portion of occipital plate and portion of pectoral appendage.

Lower Devonian, Red Micaceous Sandstone: Dickson Bay.

Swedish Museum of Natural History, Stockholm.

1891. The Devonian Fish-fauna of Spitzbergen. *Ann. Mag. Nat. Hist.* (6) 8, p. 6, pl. II, figs. 2-5.

NO IMAGE

Notopetalichthys hillsi. Woodward, 1941. Type. *Gen. nov.*

Head shield.

Middle Devonian: Goodravale, NSW, Australia.

Australian Museum, Sydney, Australia.

1941. The Head Shield of a New Macropetalichthyid Fish (*Notopetalichthys hillsi*, gen. et sp. nov.) from the Middle Devonian of Australia. *Ann. Mag. Nat. Hist.* (11) **8**, 91-96, pl. I, 1 text fig.

NO IMAGE CURRENTLY AVAILABLE

Asteroplax scabra. Woodward, 1891. Type. *Gen. nov.*

Cranial shield.

Upper Devonian Ironstone: Mimers Valley, Spitzbergen.

Swedish Museum of Natural History, Stockholm.

1891. The Devonian Fish-fauna of Spitzbergen. *Ann. Mag. Nat. Hist.* (6) **8**, p. 11, pl. III, figs. 1, 2.

NO IMAGE

Asterolepis incisa. Woodward, 1900. Syntypes.

Anterior median dorsal plate, left anterior dorso-lateral plate, left anterior ventro-lateral plate.

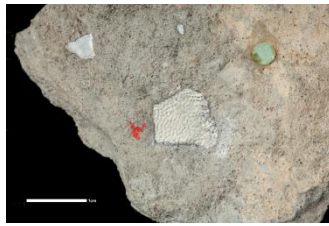
Upper Devonian: East Greenland.

?Royal State Museum, Stockholm.

1900. Notes on some Upper Devonian Fish-remains discovered by Professor A. G. Nathorst in East Greenland. *Bihang. K. Svenska Vet.-Akad. Handl.* 26, Afd. **IV**, no. 10, p. 6, plate, figs. 11-13.



NHMUK PV P 12545 Woodward 1921
fig. 4. Lectotype.



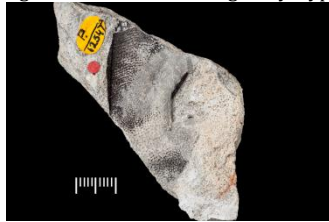
NHMUK PV P 12543 Woodward 1921
fig. 3, White 1968, text fig. 3. Syntype.



NHMUK PV P 12544 White 1968, text
fig. 4. Syntype.



NHMUK PV P 12546 Woodward 1921
fig. 5. Syntype.



NHMUK PV P 12547a counterpart of
Woodward 1921 fig. 6. Syntype.



NHMUK PV P 12549 Woodward 1921
fig. 7. Syntype.



NHMUK PV P 12550. Syntype.



NHMUK PV P 12551 Woodward 1921
fig. 8. Syntype.



NHMUK PV P 12552 Woodward 1921
fig. 9. Syntype.

Bothriolepis antarctica. Woodward, 1921. Syntypes (8) and lectotype.

Parts of the head and trunk and plates of the appendages.

Upper Devonian: Granite Harbour, Antarctica.

Terra Nova Collection.

1921. Fish-remains from the Upper Old Red Sandstone of Granite Harbour, Antarctica. British Museum (Natural History), London, *Brit. Antarctic ('Terra Nova') Exped. 1910, Nat. Hist. Rep. Geol.* 1, no. 2, p. 52, pl. 1, figs. 3-9.

White, E. I. 1968. Devonian Fishes of the Mawson-Mulock Area, Victoria Land, Antarctica. Trans-Antarctica Expedition Committee, *Trans-Antarctica Expedition 1955-1958, Scientific Reports*, 16, Geology, p. 13, text figs. 3-9.

Class: Chondrichthyes

Subclass: Elasmobranchii

Order: Xenacanthiformes

NO IMAGE

Pleuracanthus parvidens. Woodward, 1908. Type.

Nearly complete fish.

Wianamatta Shales, Triassic Hawkesbury Series: St. Peters, Sydney, NSW.

?Geological Survey, NSW.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's; with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 10, p. 2, pl. I, fig. 1.



M0003



M0003a



M0003b



M0003c



M0003d



M0003e



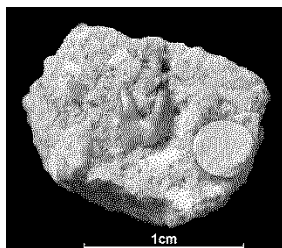
M0003f



M0004a_1



M0004a_2



BRLSI M0004

Images courtesy of the Bath Royal Literary and Scientific Institution except BRLSI M0004

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=25001578>

Xenacanthus moorei. (Woodward)

Diplodus moorei. Woodward, 1889. Syntypes (?M0004 & M0004a).

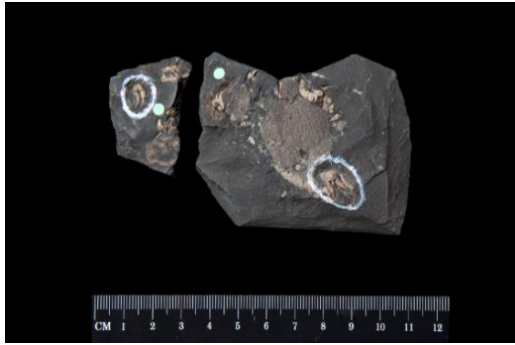
Two teeth.

Keuper, Triassic: Ruishton, near Taunton.

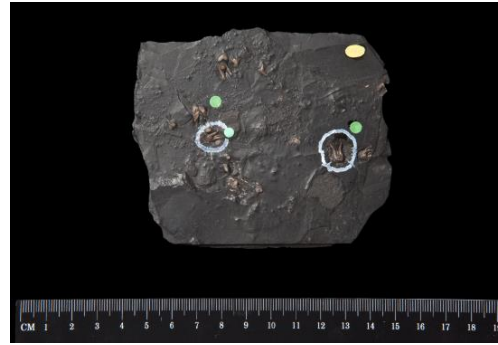
Bath Royal Literary and Scientific Institution, Charles Moore Collection.

1889. Palaeichthyological Notes. 1. On the so-called *Hybodus keuperinus*, Murch. and Strickl. 2. On *Diplodus Moorei*, sp. nov., from the Keuper of Somersetshire. 3. On a Symmetrical Hybodont Tooth from the Oxford Clay of Peterborough. 4. On a Maxilla of *Saurichthys* from the Rhaetic of Aust Cliff, near Bristol. *Ann. Mag. Nat. Hist.* (6) 3, p. 299, pl. XIV, fig. 4 and 5.

Note: It has not been possible to positively identify which of the specimens illustrated above were figured by Smith Woodward in the 1889 paper but it is believed this set of teeth includes the two figured.



NHMUK PV P 3026 (Woodward, 1889, figs. 2, 4)



NHMUK PV OR 20695 (tooth on the left,
Woodward, 1889, fig. 3)

Diplodus tenuis. Woodward, 1889. Syntypes.

Remains of associated teeth.

Coal-Measures: Carluke, Lanarkshire.

Enniskillen Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 11, pl. VI, figs. 2-4.



NHMUK PV P 6540

Doliodus problematicus. (Woodward)

Diplodus problematicus. Woodward, 1892. Type.

Single tooth.

Lower Devonian: Campbelltown, New Brunswick.

Purchased from Mr. Damon.

1892. On the Lower Devonian Fish-fauna of Campbellton, New Brunswick. *Geol. Mag.* (3) 9, 1-6, pl. 1, fig 2.

1966. Gardiner, B. G. Catalogue of Canadian fossil fishes, Contribution No. 68, Life Sciences, Royal Ontario Museum, University of Toronto.

2003. Millar, R. F., Cloutier, R. & Turner, S. *Nature* 425, p.501-504.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Ctenacanthiformes



NHMUK PV P 7608

Phoebodus brodiei. Woodward, 1893. Syntype.

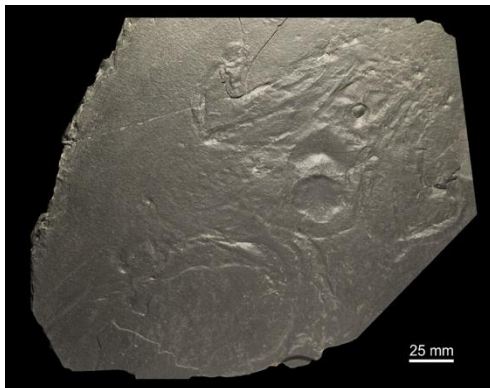
Tooth.

Lower Keuper: Pendock, Worcestershire. (label)

Upper Keuper: Shrewley, Warwickshire. (reference)

P.B. Brodie Collection, purchased Oct. 1895.

1893. Palaeoichthyological Notes, *Ann. Mag. Nat. Hist.* (6) **12**, p.283, pl. X, fig. 3.



CGF 33

Cratoselache pruvosti. Woodward, 1924. Type.

Head and imprint of part of the pectoral arch.

Molignée Formation (Viséan, Moliniacian): Denée (Les Cerisiers quarry), Belgium

L'Abbaye de Maredsous, Belgique.

1924. Un Nouvel Elasmobranchie (*Cratoselache pruvosti*, gen. et sp. nov.) du Calcaire Carbonifère Inférieur de Denée. *Soc. Géol. Belge*, Livre Jubilaire, **1**, 57-62, 1 plate.

Class: Chondrichthyes,
Subclass: Elasmobranchii,
Order: Hybodontiformes



NHMUK PV P 5873

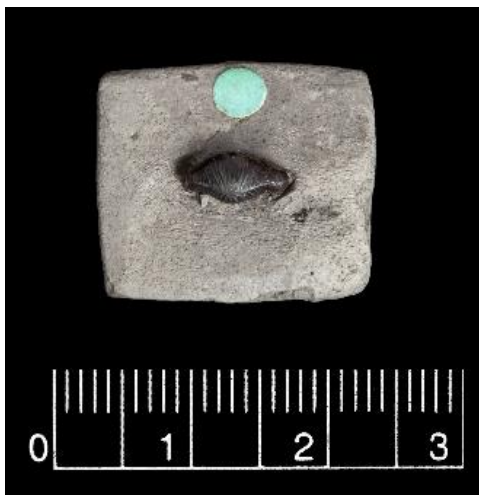
Acrodus leiodus. Woodward, 1887. Lectotype.

Lateral tooth.

Great Oolite: Minchinhampton, Gloucestershire.

Byne Collection.

1887. Notes on some Post-Liassic Species of *Acrodus*. *Geol. Mag.* (3) 4, 101-105, text fig. 1.



NHMUK PV P 11a (Woodward, 1887, text fig. 2)

Acrodus levis. Woodward, 1887. Syntypes.

Tooth.

Gault: Folkestone, Kent.

Gardner Collection.

1887. Notes on some Post-Liassic Species of *Acrodus*. *Geol. Mag.* (3) 4, 101-105, text figs. 2, 3.



NHMUK PV OR 47293a (Woodward, 1887, text fig. 3)



NHMUK PV P 5536

?*Lissodus nitidus*. (Woodward), Brito & Richter 2016.

Acrodus nitidus. Woodward, 1888. Holotype.

Tooth.

Ilhas Group, Marfim Formation (?late Hauterivian), Recôncavo Basin, municipality of Salvador, state of Bahia, Brazil.

Presented by Joseph Mawson, Esq., 1888.

1888. Notes on some Vertebrate Fossils from the Province of Bahia, Brazil, collected by Joseph Mawson, Esq., F.G.S. *Ann. Mag. Nat. Hist.* (6) 2, 132-136.

BRITO, P. M. & RICHTER, M. 2016. The contribution of Sir Arthur Smith Woodward to the palaeoichthyology of Brazil – Smith Woodward's types from Brazil. In: JOHANSON, Z., BARRETT, P. M., RICHTER, M. & SMITH, M. (eds) *Arthur Smith Woodward: His Life and Influence on Modern Vertebrate Palaeontology*. Geological Society, London, Special Publications, 430, 201-217. First published online October 14, 2015, <http://doi.org/10.1144/SP430.12>



NHMUK PV OR 21349 (Woodward, 1916, fig. 6)

NHMUK PV P 21349 (Type) & NHMUK PV P 21349b (Paratype)

Hybodus ensis. Woodward, 1916. Type & paratype.

Teeth.

Middle Purbeck Beds: Swanage, Dorset.

Purchased from P. Doran, July 1847.

1916. The Fossil Fishes of the English Wealden and Purbeck Formations. Part I. *Palaeont. Soc. Lond.*, p. 11, pl. II, figs. 6,7.



NHMUK PV OR 21349b (Woodward, 1916, fig. 7)



(a) GSM 27979 (Woodward, 1916, fig. 2)
(Images: British Geological Survey © NERC)



(b) GSM 27976 (Woodward, 1916, fig. 3)

Hybodus ensis. Woodward, 1916. Paratypes.

Teeth.

Middle Purbeck Beds: Swanage, Dorset.

Presented by D. J. Weate Esq., 1915

1916. The Fossil Fishes of the English Wealden and Purbeck Formations. Part I. *Palaeont. Soc. Lond.*, p. 11, pl. II, figs. 2,3.



YM 459 (Woodward, 1916, Fig. 4)



GSM 27978 (Woodward, 1916, Fig. 5)

YM 459:

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=25000269>

(Image: GSM 27978 British Geological Survey © NERC)

YM 459 & GSM 27978

Hybodus ensis. Woodward, 1916. Paratypes.

Teeth.

Middle Purbeck Beds: Swanage, Dorset.

YRM 459 Collector/donor: name not available

GSM 27978 Presented by D. J. Weate Esq., 1915

1916. The Fossil Fishes of the English Wealden and Purbeck Formations. Part I. *Palaeont. Soc. Lond.*, p. 11, pl. II, figs. 4,5.



NHMUK PV P 11877

Hybodus parvidens. Woodward, 1916. Type.

Tooth.

Wealden, Wadhurst Clay: Hastings.

Presented by Revs. P. Teilhard & F. Pelletier, July 1912.

1916. The Fossil Fishes of the English Wealden and Purbeck Formations. Part I. *Palaeont. Soc. Lond.*, p. 12, pl. II, fig. 8.



NHMUK PV OR 33474

Hybodus levis. Woodward, 1889. Holotype.

Tooth.

Bathonian (Stonesfield Slate): Oxfordshire.

Purchased, 1858.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 270, pl. XI, fig. 5.



NHMUK PV P 6869-1 (hinder tooth, Woodward, 1888, fig. 4)



NHMUK PV P 6869-2 (Woodward, 1888, fig. 9)

Asteracanthus ornatissimus var. *flettonensis*. Woodward, 1888. Parts of type.

Teeth.

Oxford Clay; Fletton, near Peterborough.

Purchased from Alfred N. Leeds Esq., May 1892.

1888. On some Remains of the Extinct Selachian *Asteracanthus* from the Oxford Clay of Peterborough, preserved in the collection of Alfred N. Leeds, Esq., of Eyebury. *Ann. Mag. Nat. Hist.* (6) 2, 336-342, pl. XII, figs. 3, 9.



NHMUK PV P 6869-3 (two transversely divided teeth, Woodward, 1888, fig. 10)



NHMUK PV P 6869-4 (Woodward, 1888)

Asteracanthus ornatissimus var. *flettonensis*. Woodward, 1888. Parts of type.

Teeth.

Oxford Clay; Fletton, near Peterborough.

Purchased from Alfred N. Leeds Esq., May 1892.

1888. On some Remains of the Extinct Selachian *Asteracanthus* from the Oxford Clay of Peterborough, preserved in the collection of Alfred N. Leeds, Esq., of Eyebury. *Ann. Mag. Nat. Hist.* (6) 2, 336-342, pl. XII, fig. 10.



NHMUK PV P 6870-1 (teeth of upper jaw, Woodward, 1888, fig. 2)



NHMUK PV P 6867 (cephalic spine, Woodward, 1888, fig. 3)

Asteracanthus ornatissimus var. *flettonensis*. Woodward, 1888. Parts of type.

Teeth and cephalic spine.

Oxford Clay; Fletton, near Peterborough.

Purchased from Alfred N. Leeds Esq., May 1892.

1888. On some Remains of the Extinct Selachian *Asteracanthus* from the Oxford Clay of Peterborough, preserved in the collection of Alfred N. Leeds, Esq., of Eyebury. *Ann. Mag. Nat. Hist.* (6) 2, 336-342, pl. XII, fig. 2.



NHMUK PV P 6870-2

Asteracanthus ornatissimus var. *flettonensis*. Woodward, 1888. Parts of type.

Anterior and posterior dorsal fin spines.

Oxford Clay; Fletton, near Peterborough.

Purchased from Alfred N. Leeds Esq., May 1892.

1888. On some Remains of the Extinct Selachian *Asteracanthus* from the Oxford Clay of Peterborough, preserved in the collection of Alfred N. Leeds, Esq., of Eyebury. *Ann. Mag. Nat. Hist.* (6) 2, 336-342, pl. XII, figs 5 and 6.



NHMUK PV P 6871

Asteracanthus ornatissimus var. *flettonensis*. Woodward, 1888. Part of type.

Right ramus of mandible.

Oxford Clay; Fletton, near Peterborough.

Purchased from Alfred N. Leeds Esq., May 1892.

1888. On some Remains of the Extinct Selachian *Asteracanthus* from the Oxford Clay of Peterborough, preserved in the collection of Alfred N. Leeds, Esq., of Eyebury. *Ann. Mag. Nat. Hist.* (6) 2, 336-342, pl. XII, fig. 1.



NHMUK PV P 5275 & NHMUK PV P 5275a

Acrodus ornatus. Woodward, 1889. Holotype (P.5275) and paratype (P.5275a).

Teeth.

Wealden: Brixton, Isle of Wight.

Fox Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 296, pl. XIII, fig. 10 (holotype).

NO IMAGE

Hylaeobatis problematica. Woodward, 1916. Type.

Tooth without root.

Wealden: Brook, Isle of Wight.

York Museum.

1916. *The Fossil Fishes of the English Wealden and Purbeck Formations. Part I. Palaeont. Soc. Lond.*, p. 19, pl. V, figs. 1-5.



NHMUK PV P 51 (Woodward, 1894, fig. 6)



NHMUK PV P 6524 (Woodward, 1894, fig. 5)

Ptychodus levis. Woodward, 1894. Syntypes.

Teeth.

Chalk Marl: Dover, Kent; Lower Chalk: Blue Bell Hill, Burham, Kent.

Gardner Collection; Presented S.J. Hawkins, 1891.

1894. Notes on the Sharks' Teeth from British Cretaceous Formations. *Proc. Geol. Assoc.* **13**, 190-200, pl. V, fig 6.



NHMUK PV P 2681

Ptychodus multistriatus. Woodward, 1889. Type.

Group of naturally associated teeth of the lower jaw.

Turonian and Senonian: Kent.

Enniskillen Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 146, pl. V, figs. 4-6.

Class: Chondrichthyes
Subclass: Elasmobranchii



NHMUK PV P 1132

Palaeospinax egertoni. Woodward, 1889. Holotype.

Crushed head, teeth and vertebrae.

Lower Lias: Württemberg.

Egerton Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 324.



NHMUK PV P 1295_1 (Woodward, 1911, fig. 3)



NHMUK PV P 1295_2 (Woodward, 1911, fig. 3)



NHMUK PV P 1295_3 (Woodward, 1911, fig. 3)



NHMUK PV P 1295_4 (Woodward, 1911, fig. 3)

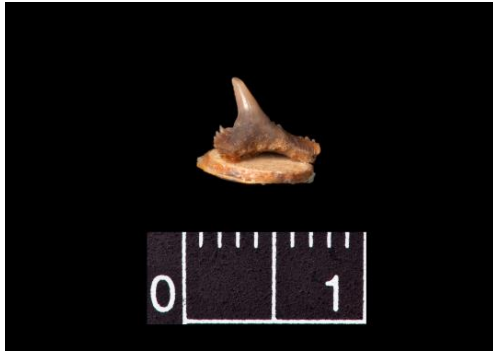


NHMUK PV P 1295_5

Synechodus nitidus. Woodward, 1911. Holotype.
Imperfect jaws.

Lower Chalk, Zone of *Holaster subglobus*: Snodland, Kent.
Egerton Collection.

1911. The Fossil Fishes of the English Chalk. Part VI. *Palaeont. Soc. Lond.*, p. 219, pl. XLVI, fig. 3.



NHMUK PV OR 9297

Synechodus tenuis. Woodward, 1889. Holotype.

Tooth.

Lower Greensand: Maidstone, Kent.

Mantell Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 329, pl. XI, fig. 21.



NHMUK PV OR 9297a



NHMUK PV OR 9297b

Synechodus tenuis. Woodward, 1889. Paratypes.

Teeth.

Lower Greensand: Maidstone, Kent.

Mantell Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 329.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Heterodontiformes
Family: Heterodontidae



NHMUK PV OR 25858 (Wood'd 1889, fig. 11)



NHMUK PV OR 25858a (Wood'd 1889, fig. 12)

Cestracion sulcatus. Woodward, 1889. Syntypes.

Teeth.

Upper Greensand: Maidstone, Kent.

Dixon Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 333, pl. XIII, figs. 11, 12.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Hexanchiformes
Family: Hexanchidae



NHMUK PV P 2303a_1 (Wood'd 1889, fig. 18)



NHMUK PV P 2303 (Wood'd 1889, fig. 17)

Notidanus dentatus. Woodward, 1889. Syntypes.

Lower tooth; Upper tooth

"Lower Greensand": Amuri Bluff, New Zealand.

By exchange, 1876.

1889. On the Palaeontology of the Selachian Genus *Notidanus*, Cuvier. *Geol. Mag.* (3) 3, p. 214, pl. VI, fig. 18.



NHMUK PV P 1227

Notidanus lanceolatus. Woodward, 1886. Holotype.

Upper tooth.

Gault: (?)Folkestone.

Egerton Collection.

1886. On the Palaeontology of the Selachian Genus *Notidanus*, Cuvier. *Geol. Mag.* (3) 3, p. 214, pl. VI, fig. 16.



OUM J.38369

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=15001534>

Notidanus daviesii. Woodward, 1886. Holotype.

Tooth.

Oxford Clay: St. Clements, near Oxford.

Oxfordian Age (Jurassic Period) (155.6 – 161.2 Ma B.P.)

Oxford University Museum of Natural History.

1871. Phillips, J. *Geology of Oxford and the Valley of the Thames*. Clarendon Press, Oxford, xxiv + 523 pp., diags I-CCVII. p. 306; ? pl. XII, fig. 18 (left)

1886. On the Palaeontology of the Selachian Genus *Notidanus*, Cuvier. *Geol. Mag.* (3) 3, p. 212, pl. VI, fig. 8.

1890. Woodward, A. S. & Sherborn, C. D. *A Catalogue of British Fossil Vertebrata*, Dulau & Co., p. 128.

Note: This specimen suffered damage in the past resulting in the partial loss of the crown of the major cusp and total loss of the minor cusps.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Carcharhiniformes
Family: Carcharhinidae

NO IMAGE

NHMUK PV OR 41706a

Galeocerdo jaekeli. Woodward, 1895. Holotype.

Tooth.

Chalk: Kent.

Toulmin Smith Collection.

1895. Note on a supposed Tooth of *Galeocerdo* from the English Chalk. *Ann. Mag. Nat. Hist.* (6) **15**, p. 3-4, pl. I, fig. 5.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Carcharhiniformes
Family: Scyliorhinidae



NHMUK PV P 5541

Palaeoscyllium minus. Woodward, 1889. Holotype.

Near complete fish.

Lower Kimmeridgian: Eichstätt, Bavaria.

By exchange, 1888.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 339, pl. XVI, fig. 4.



NHMUK PV OR 47288

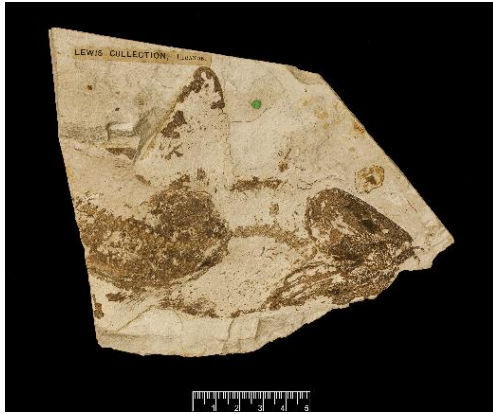
Scyllium dubium. Woodward, 1889. Holotype.

Group of teeth associated with remains of cartilage and a vertebral centrum.

Lower Chalk (Turonian): Dover, Kent.

Gardner Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 341, pl. XVI, figs. 7,8.



NHMUK PV P 4777

Scyllium (?) tumidens. Woodward, 1889. Holotype.

Skull, traces of about 30 anterior vertebrae, pectoral arch and the right pectoral fin.

Upper Cretaceous (Senonian): Sahel Alma, Lebanon.

Purchased, 1884.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 342, pl. XVI, fig. 6.

Class: Chondrichthyes

Subclass: Elasmobranchii

Order: Orectolobiformes

Family: Orectolobidae



NHMUK PV P 5890

Cantioscyllium decipiens. Woodward, 1889. Holotype.

Near complete specimen.

Lower Chalk: Burham, Kent.

Enniskillen Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 347.



NHMUK PV P 11211-1 (Wood'd 1919, fig. 1)



NHMUK PV P 11211-2

Crossorhinus jurassicus. Woodward, 1919. Holotype.

Near complete specimen, in counterpart.

Lithographic Stone: Solnhofen, Bavaria.

Purchased Oct. 1913.

1919. On two new Elasmobranch Fishes (*Crossorhinus jurassicus*, sp. nov., and *Protospinax annectans*, gen. et sp. nov.) from the Upper Jurassic Lithographic Stone of Bavaria. *Proc. Zool. Soc.*, p. 231, pl. I, fig 1.

Class: Chondrichthyes

Subclass: Elasmobranchii

Order: Lamniformes



NHMUK PV OR 43135cd_1



NHMUK PV OR 43135cd_2

Carcharias (Scoliodon) eocaenus. Woodward, 1889. Syntypes.

Two teeth.

Lower Eocene (London Clay): Highgate Archway.

Wetherell Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 436.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Lamniformes
Family: Lamnidae



NHMUK PV P 5761

Lamna serra. Woodward, 1889. Nominated syntypes.

Two teeth.

Danian. Mont Aimé, Marne, France.

Purchased, 1851.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 401.



NHMUK PV OR 48956_1

Lamna arcuata. Woodward, 1894. Holotype.

Tooth, outer view.

Upper Chalk (zone of *Belemnitella mucronata*): Norwich.

Bayfield Collection (purchased Jan. 1878).

1894. Notes on the Sharks' Teeth from British Cretaceous Formations. *Proc. Geol. Assoc.* 13, 190-200, pl. VI, fig. 10.



NHMUK PV OR 48956_2

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Lamniformes
Family: Odontaspididae



NHMUK PV OR 46362

Scapanorhynchus(?) gigas. Woodward, 1889. Syntypes.

Four teeth with imperfect roots.

Greensand: Cambridgeshire.

Purchased, 1875.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 359.



NHMUK PV P 4774

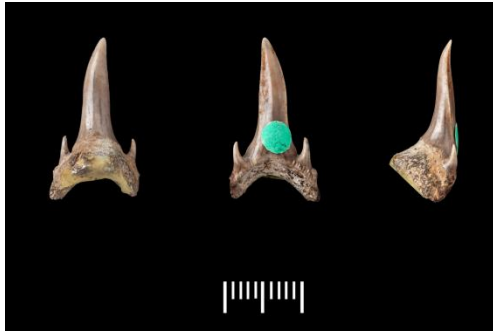
Scapanorhynchus elongatus. Woodward, 1889. Holotype.

Head and anterior portion of trunk.

Upper Cretaceous: Sahel Alma, Mt. Lebanon, Lebanon.

Purchased, 1884.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 353, Pl. XVII, fig. 8.



NHMUK PV P 5830 (Woodward, 1891, fig. 7)

NHMUK PV P 5830a (Woodward, 1891, fig. 8)

Odontaspis houzeaui. Woodward, 1891. Syntypes.

Two teeth.

Danian: Ciply, Belgium.

Houzeau Collection. Presented Nov. 1888.

1891. Notes on some Fish-remains from the Lower Tertiary and Upper Cretaceous of Belgium, Collected by Monsieur A. Houzeau de Lehaie. *Geol. Mag.* (3) **8**, 104-114, pl. III, figs. 7,8.

Class: Chondrichthyes

Subclass: Elasmobranchii

Order: Pristiophoriformes

Family: Pristiophoridae

NO IMAGE

Propristiophorus tumidens. Woodward, 1932. Type. *Gen. nov.*

Anterior half of near complete specimen.

Upper Cretaceous: Sahel Alma, Mount Lebanon.

American University Museum, Beirut.

1932. A Cretaceous Pristiophorid Shark. *Ann. Mag. Nat. Hist.* (10) **10**, 476-478, pl. XVIII.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Rajiformes



NHMUK PV P 4017

Squatina crassidens. Woodward, 1889. Holotype.

Imperfect skeleton.

Upper Cretaceous: Sahel Alma, Lebanon.

Purchased R. Damon, April 1883.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 69, pl. II, figs. 1 and 4.



NHMUK PV OR 48105

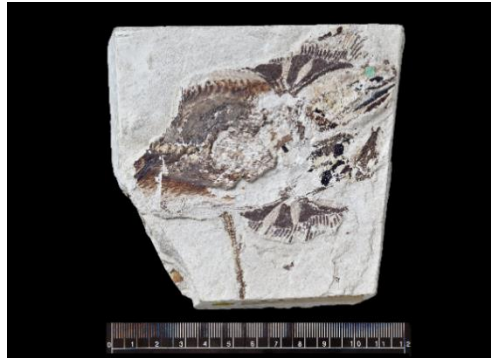
Squatina crassidens. Woodward, 1889. Paratype.

Fragment of large individual displaying a portion of the vertebral column and ribs.

Upper Cretaceous: Hakel, Lebanon.

Purchased R. Damon, 1877.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 70, pl. II, fig. 5.



NHMUK PV OR 49518 (Woodward, 1889, fig. 2)

NHMUK PV OR 49547 (Woodward, 1889, fig. 3)

Squatina crassidens. Woodward, 1889. Paratypes.

Middle portion of trunk; Basal cartilages of pectoral fin.

Upper Cretaceous: Hakel, Lebanon.

Purchased R. Damon, 1878.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, pp. 69,70, pl. II, figs. 2, 3.



NHMUK PV OR 49546_1

NHMUK PV OR 49546_2

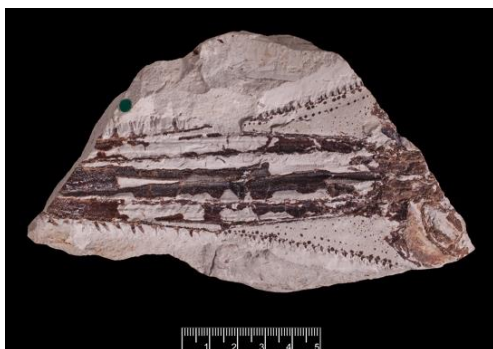
Squatina crassidens. Woodward, 1889. Paratypes.

Portion of large individual.

Upper Cretaceous: Hakel, Lebanon.

Purchased R. Damon, 1878.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 70.



NHMUK PV P 4776

Sclerorhynchus atavus. Woodward, 1889. Holotype.

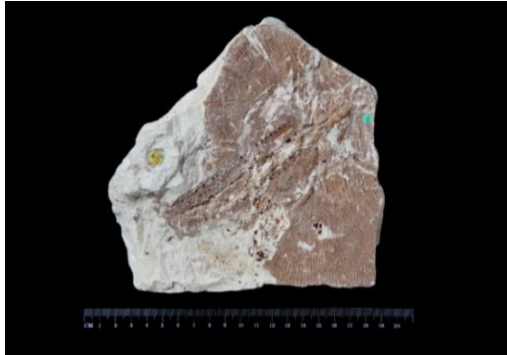
Imperfect rostrum.

Upper Cretaceous: Sahel Alma, Mt. Lebanon, Lebanon.

Purchased, 1884.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 76, pl. III, fig. 1.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Rajiformes
Family: Rajidae



NHMUK PV P 4015

Raja primarmata. Woodward, 1889. Syntype.

Partial disk.

Upper Cretaceous (Turonian): Sahel Alma, Lebanon.

Purchased, 1883.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 85, pl. IV, fig 1.



NHMUK PV P 4016 (Woodward 1889, fig. 2)

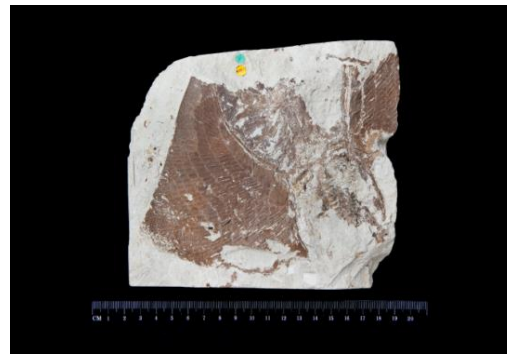
Raja primarmata. Woodward, 1889. Syntype.

Partial disk (part and counterpart).

Upper Cretaceous (Turonian): Sahel Alma, Lebanon.

Purchased, 1883; Purchased, 1878.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 85, pl. IV, fig. 2.



NHMUK PV OR 49517

NO IMAGE

Cyclobatis longicaudatus. Woodward, 1942. Type.

Caudal region.

Upper Cretaceous (Turonian): Hakel, Lebanon.

American University of Beirut No. C.413.

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) 9, p. 557, pl. VII, fig. 2.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Rajiformes
Family: Rhinobatidae



NHMUK PV P 8775-2

Protospinax annectans. Woodward, 1919. Type.

Fragmentary fish.

Lithographic limestone; Solnhofen, Bavaria.

Purchased from Dr. F. Krantz, Jan. 1898.

1919. On Two New Elasmobranch Fishes (*Crossorhinus jurassicus*, sp. nov., and *Protospinax annectans*, gen. et sp. nov.) from the Upper Jurassic Lithographic Stone of Bavaria. Proc. Zool. Soc. (1918), 231-235, pl. I, fig. 2.



NHMUK PV P 8775-3

Protospinax annectans. Woodward, 1919. Type.

Fragmentary fish.

Lithographic limestone; Solnhofen, Bavaria.

Purchased from Dr. F. Krantz, Jan. 1898.

1919. On Two New Elasmobranch Fishes (*Crossorhinus jurassicus*, sp. nov., and *Protospinax annectans*, gen. et sp. nov.) from the Upper Jurassic Lithographic Stone of Bavaria. Proc. Zool. Soc. (1918), 231-235, pl. I, fig. 2.



NHMUK PV P 8775-1

Protospinax annectans. Woodward, 1919. Type.

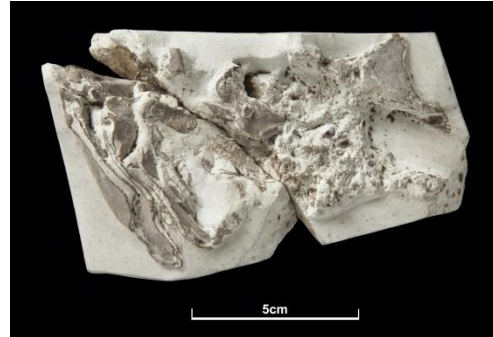
Fragmentary fish.

Lithographic limestone; Solnhofen, Bavaria.

Purchased from Dr. F. Krantz, Jan. 1898.

1919. On Two New Elasmobranch Fishes (*Crossorhinus jurassicus*, sp. nov., and *Protospinax annectans*, gen. et sp. nov.) from the Upper Jurassic Lithographic Stone of Bavaria. Proc. Zool. Soc. (1918), 231-235.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Squatiniformes
Family: Squatinidae



BMB 007330

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=25001509>

Squatina cranei. Woodward, 1888. Holotype.

Crushed skull, with the mandibular and hyoid arches, and an associated fragment of the pectoral fin, with dermal tubercles.

Lower Chalk (zone of *Holaster subglobus*): Clayton, near Brighton, Sussex.

Late Cretaceous Epoch (Cretaceous Period) (65.5 – 99.6 Ma B.P.)

Booth Museum of Natural History.

1888. On some Remains of *Squatina Cranei*, sp. nov., and the Mandible of *Belonostomus cinctus*, from the Chalk of Sussex, preserved in the Collection of Henry Willett, Esq., F.G.S., Brighton Museum. *Quart. J. Geol. Soc.* **44**, p. 144, pl. VII, figs. 1-6.

Class: Chondrichthyes
Subclass: Elasmobranchii
Order: Myliobatiformes
Family: Myliobatidae



NHMUK PV OR 25630a_2 (Woodward 1888, fig. 12)

NHMUK PV OR 25630a_2

Myliobatis latidens. Woodward, 1888. Syntype.

Lower dentition, occlusal surface; root.

Bracklesham Beds (Middle Eocene): Sussex.

Dixon Collection.

1888. Notes on the determination of the Fossil Teeth of *Myliobatis*, with a Revision of the English Eocene Species. *Ann. Mag. Nat. Hist.* (6) 1, 36-47, pl. I, fig. 12.



NHMUK PV P 1507g_1 (Woodward 1888, fig. 11)

NHMUK PV P 1507g_2

Myliobatis latidens. Woodward, 1888. Syntype.

Lower dentition, occlusal surface; root.

Bracklesham Beds (Middle Eocene): Sussex.

Egerton Collection.

1888. Notes on the determination of the Fossil Teeth of *Myliobatis*, with a Revision of the English Eocene Species. *Ann. Mag. Nat. Hist.* (6) 1, 36-47, pl. I, fig. 11.



NHMUK PV P 6856-1 (Woodward 1893, figs. 1, 1a)

NHMUK PV P 6856 -2 (Woodward 1893, figs. 2, 2a)

Myliobatis pentoni. Woodward, 1893. Type.

Dentition.

Lower Tertiary: Mokkatam Hills, Cairo.

Presented by Surgeon-Captain R.H. Penton, June 1893.

1893. On the Dentition of a Gigantic Extinct Species of *Myliobatis* from the Lower Tertiary Formation of Egypt. *Proc. Zool. Soc.*, 558-559, pl. XLVIII, figs. 1, 1a, 2, 2a



NHMUK PV P 5580_1

NHMUK PV P 5580_2

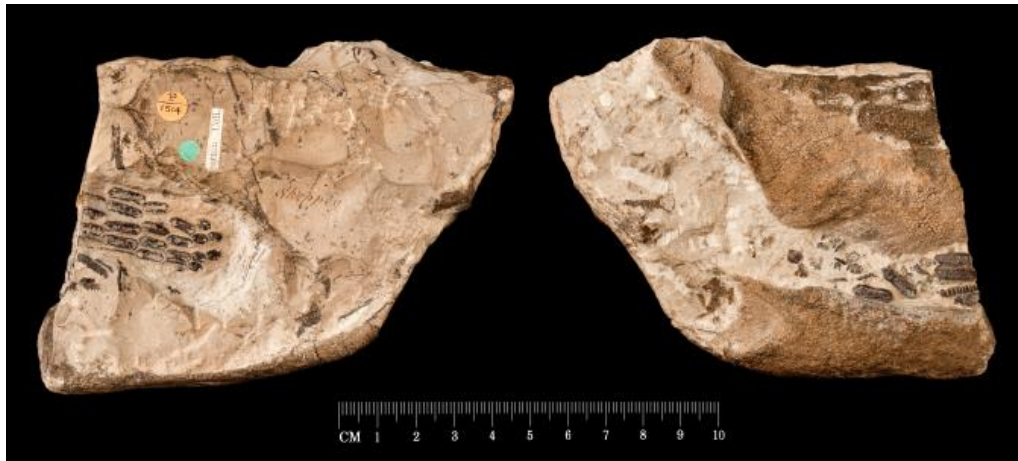
Myliobatis (?) tumidens. Woodward, 1889. Holotype.

Median tooth.

Red Crag: Suffolk.

Harford Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 119.



NHMUK PV P 1514

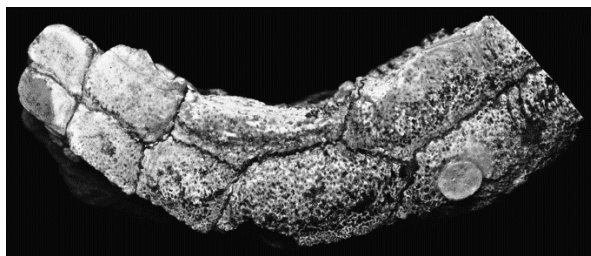
Rhinoptera daviesii. Woodward, 1889. Holotype.

Dentition.

London Clay (Lower Eocene): Isle of Sheppey.

Egerton Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 126, pl. III, figs. 6, 6a.



Occlusal view (1907, Fig 6.)



Root view (1907, Fig 7.)

MN(RJ)-2556.1 V.

Rhinoptera prisca. Woodward, 1907. Syntypes.

Portion of dentition and two median teeth.

Upper Cretaceous (yellow limestone): Maria Farinha, Province of Pernambuco, north east Brazil.

Museu Nacional, Universidade Federal do Rio de Janeiro.

1907. Notes on some Upper Cretaceous Fish-remains from the Provinces of Sergipe and Pernambuco, Brazil. *Geol. Mag.*

(5) 4, p. 195, pl. VII, Figs. 6, 7.

See also BRITO & RICHTER, 2016.

Class: Chondrichthyes
Subclass: Holocephali



NHMUK PV P 10004

Listracanthus wardi. Woodward, 1903. Type.

Multiple spines.

Middle Coal Measures: Smallthorne, N. Staffordshire.

Presented John Ward Esq., 1904.

1903. On the Carboniferous Ichthyodorulite *Listracanthus*. *Geol. Mag.* (4) **10**, 486-488, text figs. 1-8.

Class: Chondrichthyes
Subclass: Holocephali
Order: Edestiformes



BGS GSM 28346

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=87687>

Edestus newtoni. Woodward, 1917. Holotype.

Row of fused symphyseal teeth.

Upper Carboniferous Millstone Grit: Brockholes, near Huddersfield.

Namurian Stage (Carboniferous Period) (313 – 326.4 Ma B.P.)

[Closest ICS interval: Bashkirian Age – Serpukhovian Age]

British Geological Survey.

1917. On a new species of *Edestus* from the Upper Carboniferous of Yorkshire. *Quart. J. Geol. Soc.* **72**, pp. 1-6, pl. I, 1 text fig.

Class: Chondrichthyes
Subclass: Holocephali
Order: Petalodontiformes



NHMUK PV P 227a

Petalodus flabellula. Woodward, 1889. Holotype.

Detached tooth.

Carboniferous Limestone: Oretton, Shropshire.

Weaver-Jones Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 45, pl. I, fig. 8.



NHMUK PV P 2656

Petalodus davisii. Woodward, 1889. Syntypes.

Teeth.

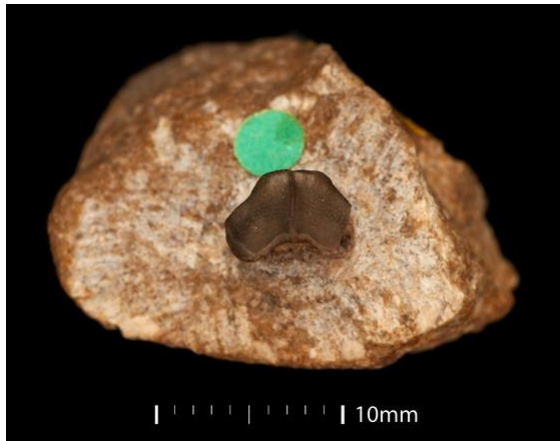
Lower Carboniferous Limestone. Armagh, Ireland.

Enniskillen Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 46.



NHMUK PV P 2656a



NHMUK PV P 2641-1 (Woodward 1889, fig. 18)



NHMUK PV P 2641-2 (Woodward 1889, fig. 19)

Mesolophodus problematicus. Woodward, 1889. Syntypes.

Detached teeth.

Lower Carboniferous Limestone. Armagh, Ireland.

Enniskillen Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 61, pl. I, figs. 18, 19.

NO IMAGE

Climaxodus wisei. Woodward, 1920. Type.

Associated upper and lower jaws.

Calciferous Sandstone: Calderside, near East Kilbride, Lanarkshire.

Royal Scottish Museum, Edinburgh.

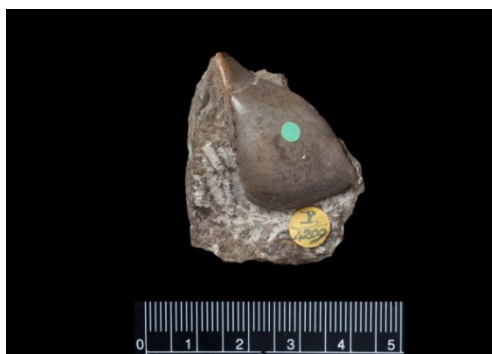
1920. On the Dentition of the Petalodont Shark *Climaxodus*, *Quart. J. Geol. Soc.* **75**, 1-6, pl. I.

Class: Chondrichthyes

Subclass: Holocephali

Order: Chimaeriformes

Family: Cochliodontidae



NHMUK PV P 4209

Psephodus dubius. Woodward, 1889. Holotype.

Dental plate.

Carboniferous Limestone: Oreton, Shropshire.

Enniskillen Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 183, pl. VI, figs. 13,13a.



NHMUK PV OR 42189

Psephodus salopiensis. Woodward, 1889. Holotype.

Dental plate.

Carboniferous Limestone: Oreton, Shropshire.

Baugh Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 182, pl. VI, fig. 14.



NHMUK PV OR 20575b & NHMUK PV P 5859

Deltodus gibbus. Woodward, 1889. Syntypes.

Dental plates.

Lower Carboniferous Limestone: Bristol.

Purchased, 1846 & history unknown.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 197, pl. VI, figs. 19 and 20.



NHMUK PV OR 36193 (Woodward 1889, fig. 22)

Deltodus rugosus. Woodward, 1889. Syntypes.

Dental plates.

Carboniferous Limestone: Oreton, Shropshire.

Purchased, 1860; Baugh Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 198, pl. VI, fig. 22.



NHMUK PV OR 42225



NHMUK PV OR 42186b-1



NHMUK PV OR 42186b-2



NHMUK PV OR 42186b-3



NHMUK PV OR 42186 (Woodward 1889, fig. 21)

Deltodus rugosus. Woodward, 1889. Syntypes.

Dental plates.

Carboniferous limestone: Oreton, Shropshire.

Baugh Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 198, pl. VI, fig. 21.

NO IMAGE

NHMUK PV OR 42186a

Deltodus rugosus. Woodward, 1889. Syntype.

Dental plate.

Carboniferous limestone: Oreton, Shropshire.

Baugh Collection.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 198.



NHMUK PV P 10335

Deltodus garwoodi. Woodward, 1912. Type.

Dental plate.

Carboniferous limestone (*Archaeocidaris* Bed): Top of Shap Abbey Cliff, Shap.

Presented by Prof. E. J. Garwood, Aug. 1906.

1912. Description of the Teeth of Two New Species of Fishes from the Lower Carboniferous Rocks of the North-Western Province. *Quart. J. Geol. Soc.* 68, p. 572, pl. LII, fig. 2.



NHMUK PV P 8697-1_1 (Woodward 1900, fig. 2)



NHMUK PV P 8697-1_2 (Woodward 1900, fig. 2a)



NHMUK PV P 8697-1_3 (Woodward 1900, fig. 2b)



NHMUK PV P 8697-2_1

Deltodus croftoni. Woodward, 1900. Syntypes.

Dental plate.

Dark coloured limestone of the Yoredale Series: on Blackthorn Farm between Long Preston and Slaidburn, North Yorkshire.

Presented by the Rev. Addison Crofton, M.A.

1900. On a new species of *Deltodus* from the Lower Carboniferous (Yoredale Rocks) of Yorkshire. *Ann. Mag. Nat. Hist.* (7) 5, 419-420, pl. X, figs. 2, 2a, 2b.



NHMUK PV P 8697-1&-2

Deltodus croftoni. Woodward, 1900. Syntypes.

Dental plate.

Dark coloured limestone of the Yoredale Series: on Blackthorn Farm between Long Preston and Slaidburn, North Yorkshire.

Presented by the Rev. Addison Crofton, M.A.

1900. On a new species of *Deltodus* from the Lower Carboniferous (Yoredale Rocks) of Yorkshire. *Ann. Mag. Nat. Hist.* (7) 5, 419-420.



NHMUK PV P 11213

Cochliodus virgatus. Woodward, 1913. Type.

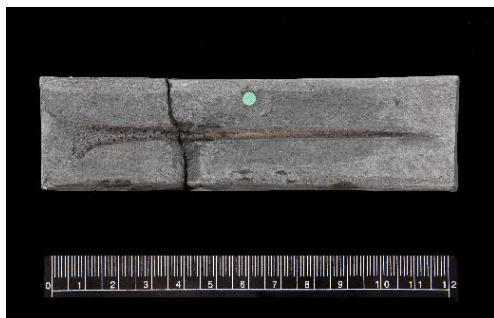
Anterior dental plate.

Carboniferous Limestone: Stone Gill, near Ravenstonedale.

Presented by Prof. E.J. Garwood, July 1913.

1913. Description of the Teeth of Two New Species of Fishes from the Lower Carboniferous Rocks of the North-Western Province. *Quart. J. Geol. Soc.*, 68, 572-573, pl. LII, fig 4a.

Class: Chondrichthyes
Subclass: Holocephali
Order: Chimaeriformes
Family: Squalorajidae



NHMUK PV P 2081

Squaloraja tenuispina. Woodward, 1887. Type.

Rostral spine.

Lower Lias; Lyme Regis, Dorsetshire.

Egerton Collection.

1887. On the Anatomy and Systematic Position of the Liassic Selachian *Squaloraja polyspondyla*, Agassiz. *Proc. Zool. Soc.* XXXV, 527-538, pl. LV, fig. 6.

Class: Chondrichthyes
Subclass: Holocephali
Order: Chimaeriformes
Family: Chimaeridae



NHMUK PV P 6891

Brachymylus altidens. Woodward, 1892. Holotype.

Mandibular tooth.

Oxford Clay; Peterborough.

Leeds Collection.

1892. On some Teeth of new Chimaeroid Fishes from the Oxford and Kimmeridge Clays of England. *Ann. Mag. Nat. Hist.* (6) 10, p. 13-16.



NHMUK PV OR 41866&7_1



NHMUK PV OR 41866&7_2



NHMUK PV OR 41866a_1



NHMUK PV OR 41866a_2

Brachymylus minor. Woodward, 1892. Syntypes.

Mandibular teeth.

Kimmeridge Clay: Weymouth.

Purchased R. J. Smith, Dec. 1869.

1892. On some Teeth of new Chimaeroid Fishes from the Oxford and Kimmeridge Clays of England. *Ann. Mag. Nat. Hist.* (6) 10, 13-16.



NHMUK PV P 6888-1&-2_1 (Woodward 1892, fig. 1)



NHMUK PV P 6888-2_5 (Woodward 1892, fig. 1b)



NHMUK PV P 6888-1_4 (Woodward 1892, fig. 1a)

Pachymylus leedsii. Woodward, 1892. Syntypes.

Palatine teeth.

Oxford Clay: Peterborough.

Leeds Collection, purchased 1892.

1892. On some Teeth of new Chimaeroid Fishes from the Oxford and Kimmeridge Clays of England. *Ann. Mag. Nat. Hist.* (6) 10, p. 13-16, pl. III, figs. 1, 1a, 1b.



NHMUK PV P 6889_4 (Woodward 1892, fig. 2)



NHMUK PV P 6889_5 (Woodward 1892, fig. 2a)

Pachymylus leedsii. Woodward, 1892. Syntype.

Mandibular tooth.

Oxford Clay: Peterborough.

Leeds Collection, purchased 1892.

1892. On some Teeth of new Chimaeroid Fishes from the Oxford and Kimmeridge Clays of England. *Ann. Mag. Nat. Hist.* (6) 10, p.14, pl. III, figs. 2, 2a



NHMUK PV P 9732_1



NHMUK PV P 9732_2



NHMUK PV P 9732_3 (Woodward & White,
1930, text fig. 3)



NHMUK PV P 9732_4

Chimaera anomala. Woodward, 1930. Holotype.

Right palatine tooth.

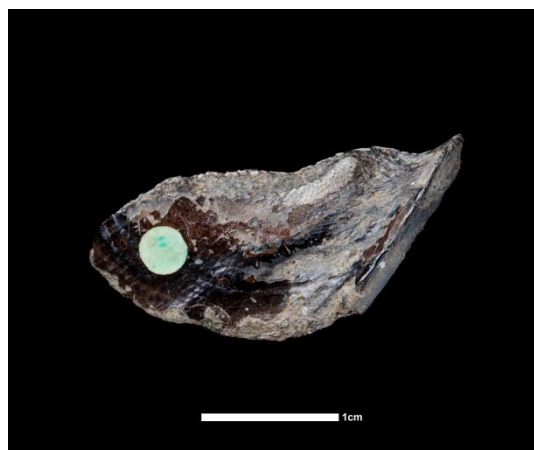
"Miocene: Victoria, Australia", probably from the Kalimnan (Pliocene) of Beaumaris Bay, near Melbourne.

Purchased W. F. H Butler, Oct. 1895.

1930. (With E. I. WHITE.) On some New Chimaeroid Fishes from the Tertiary Formations. *Ann. Mag. Nat. Hist.* (10) 6, 577-582.



NHMUK PV P 14762_1 (Woodward & White,
1930, text fig. 1)



NHMUK PV P 12345 (Woodward & White, 1930,
text fig. 2)

Chimaera eocenica. Woodward, 1930. Holotype; Paratype.

Left palatine tooth; left mandibular tooth

Oldhaven Beds: Upnor, Kent.

Collected and presented by A. G. Davies Esq., Sept. 1928; Presented by H. Eliot Walton Esq., Jan. 1919.

1930. (With E. I. WHITE.) On some New Chimaeroid Fishes from the Tertiary Formations. *Ann. Mag. Nat. Hist.* (10) 6, 577-582, text figs. 1, 2.



NHMUK PV OR 47032

Chimaera pliocenica. Woodward, 1891. Type.

Right palatine tooth.

Pliocene: Orciano, Tuscany.

Purchased 1875.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 91, pl. I, figs. 15a, b and c.

Class: Chondrichthyes

Subclass: Holocephali

Order: Chimaeriformes

Family: Rhinochimaeridae



NHMUK PV OR 43284_1 (1892, fig. 3b)



NHMUK PV OR 43284_2 (1892, fig. 3a)



NHMUK PV OR 43284_4 (1892, fig. 3b)



NHMUK PV OR 43284_3

Elasmodectes secans. Woodward, 1892. Holotype.

Left mandibular tooth.

Kimmeridge Clay: Weymouth.

Purchased R. J. Smith, Dec. 1871.

1892. On some Teeth of new Chimaeroid Fishes from the Oxford and Kimmeridge Clays of England. *Ann. Mag. Nat. Hist.* (6) 10, 13-16, pl. III, figs. 3a, b.

Class: Chondrichthyes
Subclass: Holocephali
Order: Chimaeriformes
Family: Callorhynchidae



NHMUK PV P 9093_1 (Woodward & White, 1930, text fig. 4a)



NHMUK PV P 9093_2 (Woodward & White, 1930, text fig. 4b)



NHMUK PV P 9093_3

Callorhynchus crassus. Woodward, 1930. Holotype.

Left mandibular tooth.

Patagonian Formation: Santa Cruz, Argentine Republic.

Purchased R. F. Damon, Aug. 1899.

1930. (With E. I. WHITE.) On some New Chimaeroid Fishes from the Tertiary Formations. *Ann. Mag. Nat. Hist.* (10) vi, p. 580, text figs. 4a, 4b.



NHMUK PV P 9094_1 (Woodward & White, 1930, text fig. 5)



NHMUK PV P 9094_2

Callorhynchus crassus. Woodward, 1930. Paratype.

Portion of palatine tooth.

Patagonian Formation: Santa Cruz, Argentine Republic.

Purchased R. F. Damon, Aug. 1899.

1930. (With E. I. WHITE.) On some New Chimaeroid Fishes from the Tertiary Formations. *Ann. Mag. Nat. Hist.* (10) vi, p. 580, text fig. 5.



NHMUK PV P 9094a_1



NHMUK PV P 9094a_2

Callorhynchus crassus. Woodward, 1930. Paratype.

Portion of palatine tooth.

Patagonian Formation: Santa Cruz, Argentine Republic.

Purchased R. F. Damon, Aug. 1899.

1930. (With E. I. WHITE.) On some New Chimaeroid Fishes from the Tertiary Formations. *Ann. Mag. Nat. Hist.* (10) vi, p. 580.

Class: Chondrichthyes

Subclass: Holocephali

Order: Psammodontiformes



NHMUK PV OR 36469

Psammodus salopiensis. Woodward, 1889. Type.

Associated teeth.

Carboniferous Limestone (zone of *Rhynchonella pleurodon*): Farlow, Shropshire.

Presented by G.E. Roberts Esq., May, 1862.

1889. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part I, p. 105.

Group: Pisces
Class: Acanthodii



NHMUK PV P 6538

Protodus jexi. Woodward, 1892. Syntype.

Tooth.

Lower Devonian: Campbelltown, New Brunswick.

Exchanged R. Damon, Nov. 1891.

1892. On the Lower Devonian Fish-fauna of Campbellton, New Brunswick, *Geol. Mag.* (3) 9, p. 2, pl. I, fig. 1.

NO IMAGE

Gyracanthides murrayi. Woodward, 1906. Type.

Head and abdominal region of fish.

Carboniferous: Mansfield, Victoria, Australia.

National Museum, Melbourne, Australia.

1906. On a Carboniferous Fish Fauna from the Mansfield District, Victoria. *Mem. Nat. Mus. Melbourne*, no. 1, p. 4, pl. I, fig. 1.



NHMUK PV P 6756-1 (Woodward, 1892, fig. 1)



NHMUK PV P 6756-2

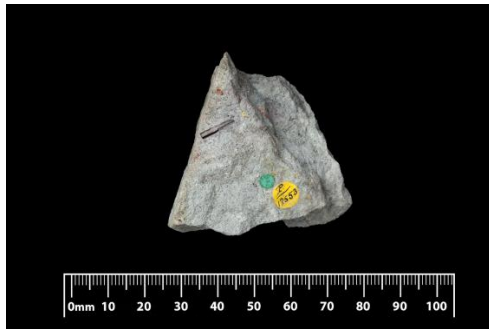
Diplacanthus horridus. Woodward, 1892. Holotype.

Imperfect fish, in counterpart.

Upper Devonian: Scaumenac Bay, Quebec, Canada.

Purchased 1892.

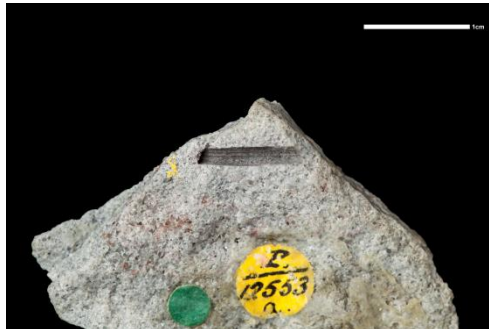
1892, Further Contributions to Knowledge of the Devonian Fish-fauna of Canada. *Geol. Mag.* (3) 9 p. 482, pl. XIII, fig. 1.



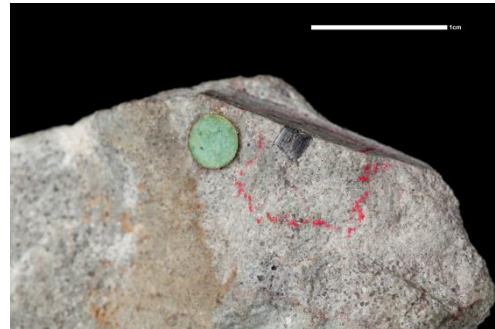
NHMUK PV P 12553-1 lectotype (part)



NHMUK PV P 12553-2 lectotype (part)



NHMUK PV P 12553a lectotype (counterpart)



NHMUK PV P 12554 paralectotype (Woodward 1921, fig. 11)

Byssacanthoides debenhami. Woodward, 1921. *Gen. nov.*

Spine in counterpart.

Upper Devonian: Granite harbour, Antarctica.
Terra Nova Collection.

1921. Fish-remains from the Upper Old Red Sandstone of Granite Harbour, Antarctica. British Museum (Natural History), London, *Brit. Antarctic ('Terra Nova') Exped. 1910, Nat. Hist. Rep. Geol.* **1**, no. 2, p. 54, pl. 1, fig. 10.

White, E. I. 1968. Devonian Fishes of the Mawson-Mulock Area, Victoria Land, Antarctica. Trans-Antarctica Expedition Committee, *Trans-Antarctica Expedition 1955-1958, Scientific Reports*, **16**, Geology, p. 12, text fig. 2.

NO IMAGE

NHMUK PV P 12554

Byssacanthoides debenhami. Woodward, 1921. Paralectotype. *Gen. nov.*

Thin section of spine.

Upper Devonian: Granite harbour, Antarctica.
Terra Nova Collection.

1921. Fish-remains from the Upper Old Red Sandstone of Granite Harbour, Antarctica. British Museum (Natural History), London, *Brit. Antarctic ('Terra Nova') Exped. 1910, Nat. Hist. Rep. Geol.* **1**, no. 2, p. 54, pl. 1, fig. 11.



NHMUK PV P 6545

Acanthodes semistriatus. Woodward, 1892. Type.

Imperfect fish.

Lower Devonian: Campbelltown, New Brunswick, Canada.

By exchange Mr R. F. Damon, Nov. 1891.

1892. On the Lower Devonian Fish-fauna of Campbellton, New Brunswick. *Geol. Mag.* (3) 9, p. 3.



NHMUK PV P 4057

Acanthodes nitidus. Woodward, 1891. Type.

Imperfectly preserved fish.

Calciferous Sandstones: Eskdale, Dumfriesshire.

Purchased, 1883.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 9.

NO IMAGE

Acanthodes australis. Woodward, 1906. Type.

Caudal region of fish.

Carboniferous: Mansfield, Victoria, Australia.

National Museum, Melbourne, Australia.

1906. On a Carboniferous Fish Fauna from the Mansfield District, Victoria. *Mem. Nat. Mus. Melbourne*, no. 1, p. 12, pl. V, fig. 3, pl. VII, fig. 1.

NO IMAGE

Machaeracanthus hendriksae. Woodward, 1937. Type.

Fragment of spine.

Lower or Middle Devonian: Gidley Well, south Cornwall.

Location unknown.

1937. Note on a New Species of *Machaeracanthus*. *Quart. J. Geol. Soc.* 93, p. 360, pl. XXI, fig. 2.

Group: Osteichthyes
Class: Actinopterygii
Order: Palaeonisciformes

NO IMAGE

NHMUK PV P 14464

Elonichthys armatus. Woodward, 1908. Type.

Imperfect distorted fish, counterpart of holotype.

Wianamatta Shales, Triassic Hawkesbury Series: St. Peters, Sydney, NSW.

?Geological Survey, NSW.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **10**, p. 11, pl. III, fig. 1.

NO IMAGE

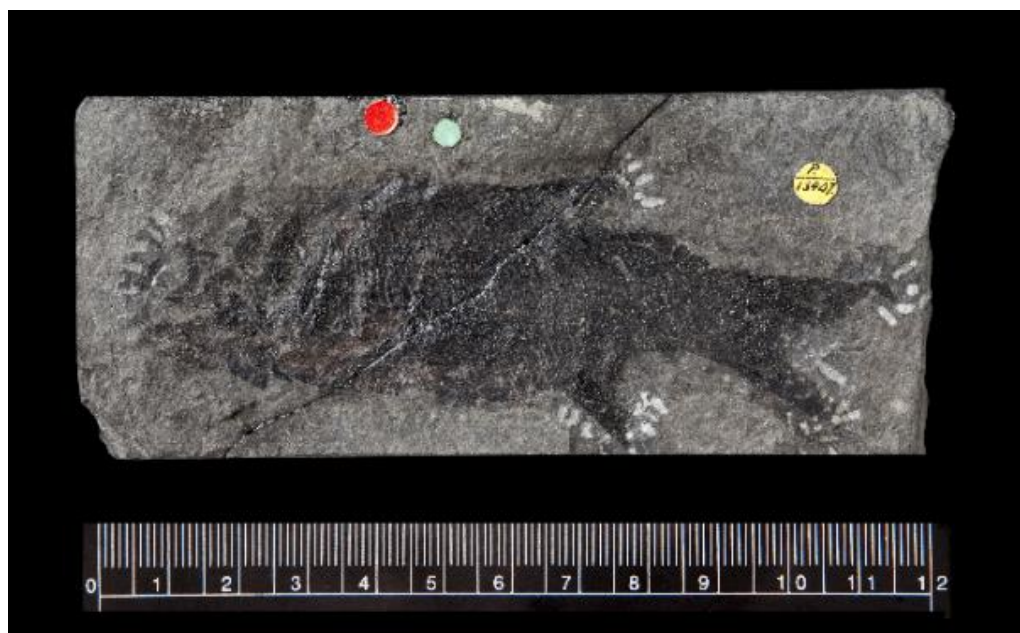
Elonichthys semilineatus. Woodward, 1908. Type.

Middle portion of small trunk.

Wianamatta Shales, Triassic Hawkesbury Series: St. Peters, Sydney, NSW.

?Geological Survey, NSW.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's; with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **10**, p. 13, pl. IV, Figs. 1, 1a.



NHMUK PV P 13407

Stegotrachelus finlayi. Woodward, 1926. Holotype.

Near complete specimen.

Old Red Sandstone: Exnaboe, Shetland Isles.

?Presented by Dr. T.M. Finlay.

1926. (With E. I. WHITE.) The Fossil Fishes of the Old Red Sandstone of the Shetland Isles. *Trans. Roy. Soc. Edinb.* **54**, 567-571, pl. III, fig. 1, 1a.



LEICT G378.1889.1 (Image © Leicester Arts and Museums Service).

Brownichthys ornatus. Woodward, 1889. Holotype.

Portions of the head and trunk.

Hettangian, Scunthorpe Mudstone Formation, ?Barnstone Member: Barrow-on-Soar, Leicestershire.
New Walk Museum & Art Gallery, Leicester.

1889. Preliminary Notes on some new and little-known British Jurassic Fishes. *Geol. Mag.* (3) 6, p. 455.

NO IMAGE

Elonichthys gibbus. Woodward, 1906. Type.

Imperfect fish lacking end of tail.

Carboniferous: Mansfield, Victoria, Australia.

National Museum, Melbourne, Australia.

1906. On a Carboniferous Fish Fauna from the Mansfield District, Victoria. *Mem. Nat. Mus. Melbourne*, no. 1, p. 22, pl. IX, fig. 4, pl. XI.

NO IMAGE

Elonichthys sweeti. Woodward, 1906. Type.

Imperfect fish, the greater part of the trunk in counterpart.

Carboniferous: Mansfield, Victoria, Australia.

National Museum, Melbourne, Australia.

1906. On a Carboniferous Fish Fauna from the Mansfield District, Victoria. *Mem. Nat. Mus. Melbourne*, no. 1, p. 19, pl. IX, fig. 1, pl. X, fig. 1.

NO IMAGE

Elonichthys davidi. Woodward, 1940. Type.

Imperfect fish wanting the pectoral fins.

Newcastle Coal Measures (Upper Permian): Tarro, Northumberland, NSW.

?New South Wales School of Mines.

1940. A Palaeoniscid Fish (*Elonichthys davidi*, sp. nov.) from the Newcastle Coal Measures, New South Wales. *Ann. Mag. Nat. Hist.* (11) 6, 462-464, pl. XI.



NHMUK PV OR 47080_2

Acrolepis (?) digitata. Woodward, 1891. Type.

Group of scales.

Karoo Formation: Graaf Reinet District, Cape Colony.

Rubidge Collection. Presented by the Hon. W. Guybon Atherstone, M.D., 1875.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 508, pl. XV, fig. 4.



P.9840

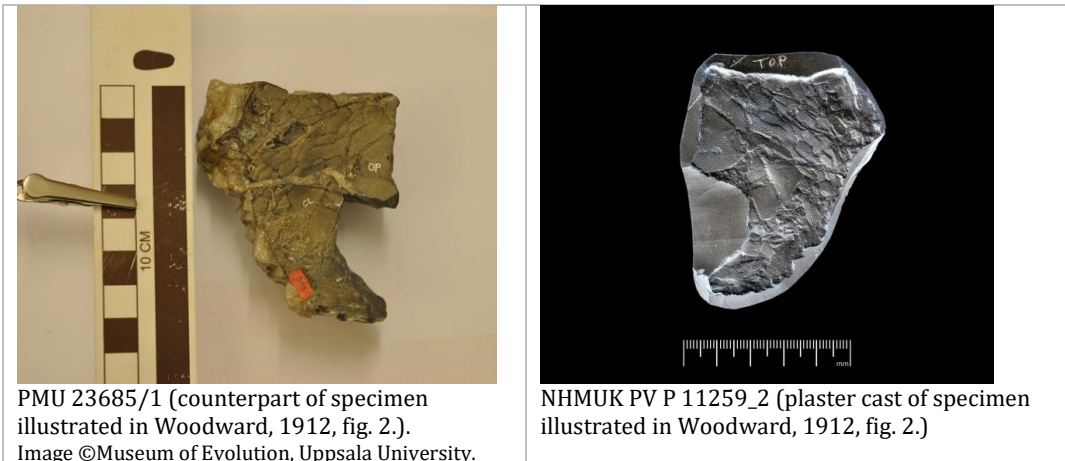
Acrolepis molyneuxi. Woodward, 1903. Type.

Fish on slab.

Permo-Carboniferous: Sengwe Coalfield, Southern Rhodesia.

Presented by A.J.C. Molyneux Esq., Feb. 1903.

1903. On a new species of *Acrolepis* obtained by Mr Molyneux from the Sengwe Coalfield. *Quart. J. Geol. Soc.* **59**, 285-286a, pl. XX.



PMU 23685/1 (counterpart of specimen illustrated in Woodward, 1912, fig. 2.).
Image ©Museum of Evolution, Uppsala University.

NHMUK PV P 11259_2 (plaster cast of specimen illustrated in Woodward, 1912, fig. 2.)

Boreosomus arcticus. (Woodward) Stensio 1921

Acrolepis arctica. Woodward, 1912. Part of holotype.

Imperfect fragmentary fish in impression.

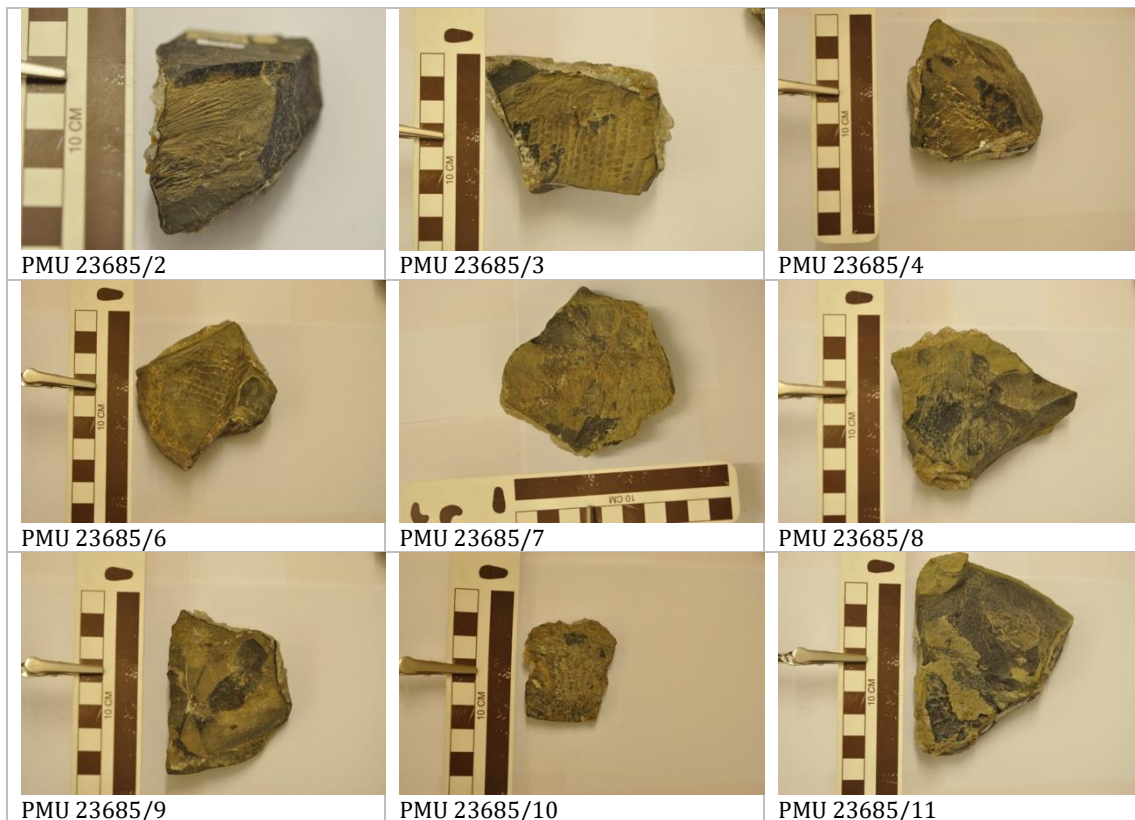
Lower Trias: Sassen Bay, Spitzbergen.

Uppsala University Museum, Uppsala, Sweden.

1912. Notes on some Fish-remains from the Lower Trias of Spitzbergen. *Bull. Geol. Inst. Univ. Upsala*, XI, p. 292, pl. XIV, fig. 2.

Stensjö, Erik A:Son, 1921. Triassic Fishes from Spitzbergen, Part I, Vienna (Adolf Holzhausen)

Note: The whereabouts of the specimen illustrated in fig. 2 is currently unknown.



Images ©Museum of Evolution, Uppsala University.

Boreosomus arcticus. (Woodward) Stensio 1921

Acrolepis arctica. Woodward, 1912. Parts of holotype.

Imperfect fragmentary fish in impression.

Lower Trias: Sassen Bay, Spitzbergen.

Uppsala University Museum, Uppsala, Sweden.

1912. Notes on some Fish-remains from the Lower Trias of Spitzbergen. *Bull. Geol. Inst. Univ. Upsala*, XI, p. 292.

Stensjö, Erik A:Son, 1921. Triassic Fishes from Spitzbergen, Part I, Vienna (Adolf Holzhausen)



NRM PZ P.7790

Ganolepis gracilis. Woodward, 1893. Type. *Gen. nov.*

Complete fish.

Permian(?): Medwiesko, near Atjinsk, Government of Jenissei, Siberia.

Swedish Museum of Natural History, Stockholm.

1893. Palaeichthyological Notes. *Ann. Mag. Nat. Hist.* (6) 12, p. 287, pl. X, figs. 7-9.

Group: Osteichthyes

Class: Actinopterygii



NHMUK PV P 4735

Atherstonia scutata. Woodward, 1889. Holotype. *Gen. nov.*

Near complete specimen.

Beaufort Beds (Lower Karoo Series), Lower Triassic: Colesberg, Cape Colony, South Africa.

Presented by the Hon. W. Gaybon Atherstone, M.D., 1884.

1889. On *Atherstonia*, a new Genus of Palaeoniscid Fishes from the Karoo Formation of South Africa. *Ann. Mag. Nat. Hist.* (6) 4, 239-242, pl. XIV, fig. 1.



NHMUK PV P 8614_2 (Woodward, 1893, fig. 2)

Atherstonia minor. Woodward, 1893. Holotype; Paratype.

Middle portion of a small fish; Greater part of the trunk.

Lower Trias, Beaufort Beds: Klip Fontein, Cape Province, South Africa.

Presented H.G. Seeley, 1897.

1893. Further Notes on Fossil Fishes from the Karoo Formation of South Africa. *Ann. Mag. Nat. Hist.* (6) 12, p. 395, pl. XVII, fig. 2.



NHMUK PV P 8615

NO IMAGE

Atherstonia australis. Woodward, 1902. Type.

Near complete specimen, left lateral aspect.

Carboniferous Hawkesbury Sandstone: Neighbourhood of Harrington, N.S.W.

Australian Museum, Sydney, Australia.

1902. On *Atherstonia australis* and *Ctenolates avus*, two new species of Fossil Fishes from New South Wales. *Rec. Geol. Surv. N.S. Wales*, 7, p. 88, pl. XXIV, figs. 1 and 1a.



NHMUK PV P 8613

Atherstonia seeleyi. Woodward, 1893. Holotype.

Portion of trunk with pelvic and anal fins.

Lower Trias, Beaufort Beds: Klip Fontein, Cape Province, South Africa.

Presented H.G. Seeley, 1897.

1893. Further Notes on Fossil Fishes from the Karoo Formation of South Africa. *Ann. Mag. Nat. Hist.* (6) 12, p. 396, pl. 17, fig. 3.

Group: Osteichthyes

Class: Actinopterygii

Order: Palaeonisciformes

NO IMAGE

Urosthene latus. Woodward, 1931. Type .

Fish lacking the head and the anterior abdominal region.

Permian (Illawarra Coal Measures): Lithgow, NSW.

Australian Museum, Sydney, Australia.

1931. On *Urosthene latus*, a Fossil Fish from the Upper Coal Measures of Lithgow, New South Wales. *Ann. Mag. Nat. Hist.* (10) 8, 365-367, pl. XIV.

NO IMAGE

Amblypterus kashmirensis. Woodward, 1905. Type.

Hind part of the tail, with traces of the dorsal and anal fins, besides the well-preserved caudal fin.

Lower Permian: Khunmu, Vihi Valley, near Srinagar, India.

Unknown.

1905. (With A. C. SEWARD.) Permo-Carboniferous Plants and Vertebrates from Kashmir. *Mem. Geol. Surv. India, Palaeont. Indica* (n.s.), 2, no. 2, p. 10, pl. IX, fig. 4.

NO IMAGE

Amblypterus symmetricus. Woodward, 1905. Type

Trunk without the head, in counterpart.

Lower Permian: Khunmu, Vihi Valley, near Srinagar, India.

Unknown.

1905. (With A. C. SEWARD.) Permo-Carboniferous Plants and Vertebrates from Kashmir. *Mem. Geol. Surv. India, Palaeont. Indica* (n.s.), 2, no. 2, p. 11, pl. X, fig. 1.



NHMUK PV P 3457 (Woodward, 1891, fig. 2)



NHMUK PV P 994

Amblypterus traquairi. Woodward, 1891. Type.

Near complete specimen, in counterpart.

Lower Permian: Lebach, Rhenish Prussia.

Enniskillen Collection; Egerton Collection.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 439, pl. XV, fig. 2.

NO IMAGE

Palaeoniscus crassus. Woodward, 1908. Holotype.

Incomplete at each end.

Wianamatta Shales, Triassic Hawkesbury Series: St. Peters, Sydney, NSW.

?Geological Survey, NSW.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's; with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 10, p. 9, pl. II, fig. 3.

NO IMAGE

Gyrolepis dubius. Woodward, 1893. Type.

Large portion of the squamation in impression, a few imperfect scales and part of the dorsal fin.

Rhaetic: Southern Scania, Sweden.

Museum of Swedish Geological Survey, Sweden.

1893. *Palaeichthyological Notes. Ann. Mag. Nat. Hist.* (6) 12, p. 285, pl. X, figs. 10-12.

NO IMAGE

Coccolepis australis. Woodward, 1895. Type.

Large head and abdominal region in counterpart, wanting the extremity of the snout.

Jurassic (Upper Hawkesbury-Wianamatta Series): Talbragar, New South Wales.

Australian Museum, Sydney, Australia.

1895. The Fossil Fishes of the Talbragar Beds (Jurassic?), *Mem. Geol. Surv. N.S. Wales, Palaeont.* 9, p. 5, pl. I, fig. 1.



NHMUK PV P 887

Coccolepis liassicus. Woodward, 1890. Holotype.

Near complete specimen.

Lower Lias: Lyme Regis, Dorsetshire.

Egerton Collection.

1890. Notes on some Ganoid Fishes from the English Lower Lias. *Ann. Mag. Nat. Hist.* (6) 5, p. 432, pl. XVI, fig. 2.



NHMUK PV P 6153 (Woodward, 1890, fig. 3)



NHMUK PV OR 39865 (Woodward, 1890,
figs. 4, 4a)

Coccolepis liassicus. Woodward, 1890. Paratypes.

Near complete specimen; Anterior trunk and caudal fin.

Lower Lias: Lyme Regis, Dorsetshire.

Enniskillen Collection; Purchased 1886.

1890. Notes on some Ganoid Fishes from the English Lower Lias. *Ann. Mag. Nat. Hist.* (6) 5, p. 432, pl. XVI, figs. 3, 4, 4a.



(a) Part (BGS GSM 419)



(b) Counterpart (BGS GSM 28002)

BGS GSM 419 & BGS GSM 28002

(Images: (a) P930886 (b) P930890 British Geological Survey © NERC)

Coccolepis andrewsi. Woodward, 1890. Type.

Fish wanting pectoral fins.

Lower Purbeck Beds: Teffont, near Salisbury.

British Geological Survey.

1890. Woodward and Sherborn. *A Catalogue of British Fossil Vertebrata*, p. 37 (name only).

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 524.



NHMUK PV P 10756 (Woodward, 1910, fig. 1)



NHMUK PV P 10758 (Woodward, 1910, fig. 2)

Ecrinesomus dixoni. Woodward, 1910. Holotype; Paratype *Gen. nov.*

Near complete specimen; Head and anterior abdominal region.

Lower Trias, Right bank of the Mahavavy River, opp. the village of Andogozo, near the extreme north-west coast of Madagascar.

Presented George G. Dixon Esq., Nov. 1909.

1910. On some Permo-Carboniferous Fishes from Madagascar. *Ann. Mag. Nat. Hist.* (8) 5, p. 2, pl. 1, figs. 1, 2.



NHMUK PV P 10759-1 (Woodward, 1910, fig. 3)



NHMUK PV P 10759-2 (Woodward, 1910, fig. 3)

Ecrinesomus dixoni. Woodward, 1910. Paratypes. *Gen. nov.*

Fragment showing pectoral fin, in counterpart.

Lower Trias, Right bank of the Mahavavy River, opp. the village of Andogozo, near the extreme north-west coast of Madagascar.

Presented George G. Dixon Esq., Nov. 1909.

1910. On some Permo-Carboniferous Fishes from Madagascar. *Ann. Mag. Nat. Hist.* (8) 5, p. 2, pl. 1, fig. 3.

Group: Osteichthyes
Class: Actinopterygii
Order: Saurichthyiformes



NHMUK PV OR 40726

Belonorhynchus brevirostris. Woodward, 1895. Type.

Cranium and mandible wanting the extremity of the snout.

Lower Lias: Lyme Regis, Dorsetshire.

Purchased, 1867.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 17, Pl. II, fig. 2.



PMU 23690a (Woodward, 1912, fig. 3)



PMU 23690a (Woodward, 1912, fig. 4)



PMU 23691/2 (Woodward, 1912, fig. 5)



PMU 23691/1 (Woodward, 1912, fig. 6)

Images ©Museum of Evolution, Uppsala University.

Saurichthys wimani. (Woodward) Stensjö 1925

Belonorhynchus wimani. Woodward, 1912. Syntypes.

Two imperfect skulls and jaws.

Lower Trias: Sassen Bay, Spitzbergen.

Uppsala University Museum, Uppsala, Sweden.

1912. Notes on some Fish-remains from the Lower Trias of Spitzbergen. *Bull. Geol. Inst. Univ. Upsala*, XI, p. 293, Pl. XIV, figs. 3-6.

Stensjö, Erik A:Son, 1925. *Triassic Fishes from Spitzbergen*, Part II, Stockholm.

NO IMAGE

Belonorhynchus gracilis. Woodward, 1890. Type.

A nearly complete head and trunk, seen from the ventral aspect, wanting all the fins except portions of the anal and caudal.

Triassic: Gosford, NSW, Australia.

Geological Survey Museum, Sydney.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p.27, Pl. VIII, fig. 5.

NO IMAGE

Belonorhynchus gigas. Woodward, 1890. Type.

Nearly complete fish with imperfect fins, the pectorals being absent, the anal much broken, and the dorsal destroyed.

Triassic: Gosford, NSW, Australia.

Geological Survey Museum, Sydney.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p. 23, Pl. IX, fig. 1.

Group: Osteichthyes

Class: Actinopterygii

Order: Scorpaeniformes

Family: Anoplopomatidae

NO IMAGE

Myriolepis pectinata. Woodward, 1908. Holotype.

Greater part of the trunk with traces of the head and fins.

Wianamatta Shales, Triassic Hawkesbury Series: St. Peters, Sydney, NSW.

?Geological Survey, NSW.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's; with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 10, p. 15, Pl. III, fig. 2.

NO IMAGE

Myriolepis latus. Woodward, 1890. Type.

Complete head and trunk wanting all fins except the anal and caudal.

Lower Triassic: Gosford, NSW, Australia.

Australian Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p. 10, Pl. III, fig. 2.

Group: Osteichthyes
Class: Actinopterygii
Order: Acipenseriformes
Family: Polyodontidae

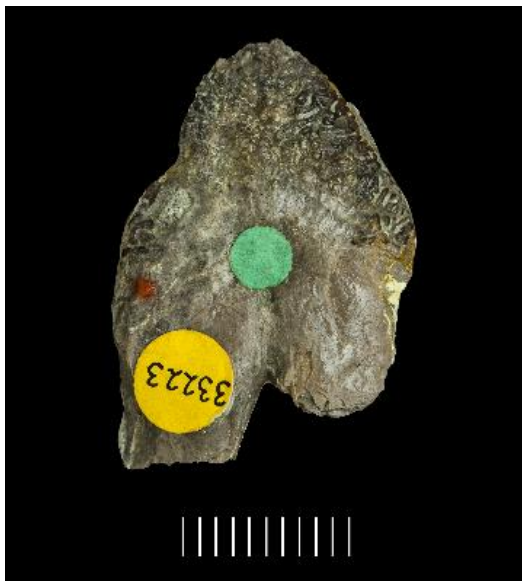


NHMUK PV OR 33221



NHMUK PV OR 33222

Pholidurus disjectus. Woodward, 1889. Parts of type. *Gen. nov.*
Fulcral scales and caudal fin rays.
Upper Chalk: Gravesend, Kent.
Taylor Collection.
1889. On the Palaeontology of Sturgeons. *Proc. Geol. Assoc.* **11**, p. 30-31.



NHMUK PV OR 33223_1 (Woodward, 1889, fig. 4)



NHMUK PV OR 33224_1 (Woodward, 1889, fig. 5)

Pholidurus disjectus. Woodward, 1889. Parts of type. *Gen. nov.*
Fulcral scale; Caudal fin rays.
Upper Chalk: Gravesend, Kent.
Taylor Collection.
1889. On the Palaeontology of Sturgeons. *Proc. Geol. Assoc.* **11**, p. 30-31, pl. 1, figs. 4 (labelled 33221 in error), 5.

Group: Osteichthyes
Class: Actinopterygii
Order: Peltopleuriformes



NHMUK PV P 1099a

Peltopleurus kneri. Woodward, 1895. Type.

Imperfect fish.

Middle Trias: Raibl, Carinthia, Austria.

Egerton Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 481.

NO IMAGE

Peltopleurus (?) dubius. Woodward, 1890. Type.

Specimen wanting the pectoral fins.

Triassic: Gosford, NSW, Australia.

Geological Survey Museum, Sydney.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p. 47, pl. VI, fig. 4.

Group: Osteichthyes
Class: Actinopterygii
Order: Redfieldiiformes

NO IMAGE

Dictyopyge illustrans. Woodward, 1890. Type.

Complete fish.

Lower Triassic: Gosford, NSW, Australia.

Mining Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p. 18, pl. IV, fig. 7.

NO IMAGE

Dictyopyge robusta. Woodward, 1890. Type.

Imperfectly preserved specimen.

Lower Triassic: Gosford, NSW, Australia.

Australian Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p. 20, pl. III, fig. 4.

NO IMAGE

Dictyopyge symmetrica. Woodward, 1890. Type.

Complete fish.

Lower Triassic: Gosford, NSW, Australia.

Australian Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p. 17, pl. IV, fig. 5.



QR 1507

Dictyopyge(?) draperi. Woodward, 1893. Type.

Fish wanting the caudal fin.

Stormberg Beds (Upper Karoo): Rouxville, Orange Free State.

National Museum, Bloemfontein, Orange Free State, South Africa.

1893. Further Notes on Fossil Fishes from the Karoo Formation of South Africa. *Ann. Mag. Nat. Hist.* (6) **12**, p. 393, pl. XVII, fig. 1.

Group: Osteichthyes

Class: Actinopterygii

Order: Perleidiformes

NO IMAGE

Pristisomus crassus. Woodward, 1890. Type.

Specimen wanting the dorsal fin and the upper lobe of the tail.

Lower Triassic: Gosford, NSW, Australia.

Australian Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **4**, p. 36, pl. V, fig. 5.

NO IMAGE

Pristisomus gracilis. Woodward, 1890. Type.

Complete trunk.

Lower Triassic: Gosford, NSW, Australia.

Australian Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **4**, p. 33, pl. V, fig. 1.

NO IMAGE

Pristisomus latus. Woodward, 1890. Type.

Specimen wanting the caudal pedicle and fin.

Lower Triassic: Gosford, NSW, Australia.

Mining Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **4**, p. 35, pl. V, fig. 2.



PMU 23693 (counterpart of specimen illustrated in fig. 7)

Image ©Museum of Evolution, Uppsala University.

Perleidus woodwardia nom. nov Stensio 1921

Colobodus altilepis. Woodward, 1912. Type.

Part of the head and trunk, lacking the jaws and fins.

Lower Trias: Sassen Bay, Spitzbergen.

Uppsala University Museum, Uppsala, Sweden.

1912. Notes on some Fish-remains from the Lower Trias of Spitzbergen. *Bull. Geol. Inst. Univ. Upsala*, XI, p. 296, pl. XIV, figs. 7, 7a-c.

Stensio, Erik A:Son, 1921. Triassic Fishes from Spitzbergen, Part I, Vienna (Adolf Holzhausen)

Note: The whereabouts of the specimen illustrated in fig. 7 is currently unknown.

NO IMAGE

Cleithrolepis(?) altus. Woodward, 1890. Type.

Nearly complete fish.

Triassic: Gosford, NSW, Australia.

Mining Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p. 42, pl. VIII, fig. 4.



NHMUK PV P 5455_1

Cleithrolepis extoni. Woodward, 1888. Types.

Imperfect fishes.

Upper Karoo Formation (Stormberg Beds): Rouxville, Orange Free State.

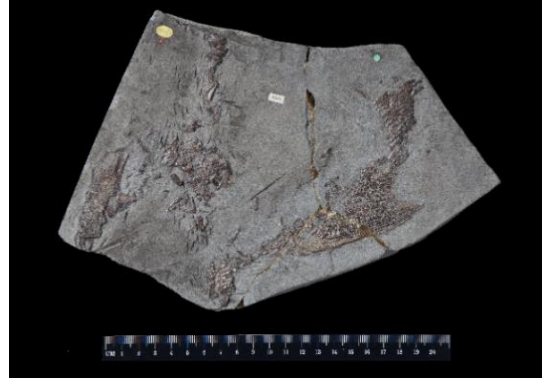
Presented by Hugh Exton, Esq., M.D., 1888.

1888. On Two New Lepidotoid Ganoids from the early Mesozoic Deposits of Orange Free State, South Africa. *Quart J. Geol. Soc.* 44, pp. 141-143, pl. VI, figs. 6,7.

Group: Osteichthyes
Class: Actinopterygii
Order: Gonoryhnchiformes
Family: Chanidae



NHMUK PV OR 39868-1



NHMUK PV OR 39868-2 (Woodward, 1895, figs. 3, 4)

Ptycholepis monilifer. Woodward, 1895. Parts of holotype.

Caudal fin; Dorsal fin and dorsal flank scales.

Lower Lias: Lyme Regis, Dorsetshire.

Purchased 1866.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 322, pl. X, figs. 3, 4.



NHMUK PV OR 39868-3 (Woodward, 1895, fig. 2)



NHMUK PV OR 39868-4

Ptycholepis monilifer. Woodward, 1895. Parts of holotype.

Right mandibular ramus, outer aspect.

Lower Lias: Lyme Regis, Dorsetshire.

Purchased 1866.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 322, pl. X, fig. 2.

Group: Osteichthyes
Class: Actinopterygii
Order: Lepisosteiformes
Family: Lepisosteidae

Currently on loan to Lance Grande, Field Museum

NHMUK PV P 12178

Belonostomus(?) indicus. Woodward, 1890. Type.

Lepisosteus indicus

Skull.

Infratrappean Lameta Beds (Upper Cretaceous): Dongargaon, near Warora, India

Presented by the Geological Society of London, 1911.

1890. Description of a Fish-skull. In R. LYDEKKER. Note on certain Vertebrate Remains from the Nagpur District. *Rec. Geol. Surv. India*, **23**, p. 23.

Group: Osteichthyes
Class: Actinopterygii

NO IMAGE

Apateolepis australis. Woodward, 1890. Type.

Nearly complete fish, wanting the paired fins.

Triassic: Gosford, NSW, Australia.

Australian Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **4**, p. 13, pl. IV, fig. 1.

NO IMAGE

Elpisopholis dunstani. Woodward, 1908. Type.

Imperfect fish.

Wianamatta Shales, Triassic Hawkesbury Series: St. Peters, Sydney, NSW.

?Geological Survey, NSW.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's; with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **10**, p. 18, pl. IV, fig. 2.

Group: Osteichthyes
Class: Actinopterygii
Order: Pycnodontiformes



P.6166a

Gyrodus planidens. Woodward, 1895. Holotype.

Vomer.

Kimmeridgian: Kimmeridge Clay, Weymouth.

Purchased, R. F. Damon, April 1890.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 244.



NHMUK PV P 10679_1

Coelodus laevidens. Woodward, 1918. Holotype.

Splenial bone.

Middle Purbeck Beds: Swanage, Dorset.

Presented Frederick Hovenden Esq., April 1909.

1918. The Fossil Fishes of the English Wealden and Purbeck Formations. Part II. *Palaeont. Soc. Lond.*, p. 69, pl. XV, fig. 19.



BGS GSM 28353

(Image: British Geological Survey © NERC)

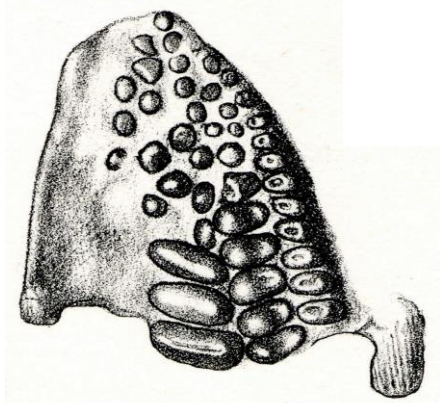
Coelodus arcuatus. Woodward, 1918. Type.

Vomerine dentition.

Middle Purbeck Beds: Swanage, Dorset.

British Geological Survey

1918. The Fossil Fishes of the English Wealden and Purbeck Formations. Part II. *Palaeont. Soc. Lond.*, p. 70, pl. XIII, fig. 5.



MPG No. 7492 (Woodward, 1918, fig. 12)

NHMUK PV OR 39215 (Woodward, 1918, fig. 13)

Coelodus multidens. Woodward, 1918. Type; Paratype

Right splenial; Portion of right splenial dentition

Wealden: Sevenoaks, Kent.

Museum of Practical Geology, London. No. 7492; NHM, Bowerbank Collection, purchased 1865.

1918. The Fossil Fishes of the English Wealden and Purbeck Formations. Part II. *Palaeont. Soc. Lond.* p. 67, pl. XV, figs. 12, 13.

The image of the type specimen is extracted from above reference.



NHMUK PV P 7236_1

Coelodus cantabrigiensis. Woodward, 1895. Holotype.

Right splenial dentition.

Cenomanian (Cambridge Greensand): Cambridge.

Jesson Collection (obtained by purchase 1894).

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 208, pl. VIII, fig. 2.



NHMUK PV OR 43090_1

Coelodus fimbriatus. Woodward, 1893. Holotype.

Imperfect right splenial dentition.

Lower Chalk (zone of *Holaster subglobus*): Halling, Kent.

Wetherell Collection (purchased 1871).

1893. Some Cretaceous Pycnodont Fishes. *Geol. Mag.* (3) 10, p. 491, pl. XVII, fig. 6.



NHMUK PV OR 36157_1

Coelodus inaequidens. Woodward, 1893. Holotype.

Left splenial, with dentition.

Cenomanian (Cambridge Greensand): Cambridge.

Purchased, 1861.

1893. Some Cretaceous Pycnodont Fishes. *Geol. Mag.* (3) 10, p. 491, pl. XVII, fig. 5.



NHMUK PV P 12511

Eomesodon barnesi. Woodward, 1906. Type.

Nearly complete fish.

Portland Stone: Isle of Portland.

Presented by the Family of the late F. J. Barnes, Esq., 1920.

1906. On a Pycnodont Fish of the Genus *Mesodon* from the Portland Stone, *Proc. Dorset Nat. Hist. and Antiquarian Field Club*, vol. xxvii (1906), p. 183, pl. B, figs. 1-4.



NHMUK PV P 10583

Eomesodon depressus. Woodward, 1918. Holotype.

Fragment of head and trunk.

Middle Purbeck Beds: Swanage, Dorset.

Presented Frederick Hovenden, May 1908.

1918. The Fossil Fishes of the English Wealden and Purbeck Formations. Part II. *Palaeont. Soc. Lond.*, p. 57, pl. XIII, fig. 2.



NHMUK PV P 6165

Mesodon damoni. Woodward, 1890. Holotype.

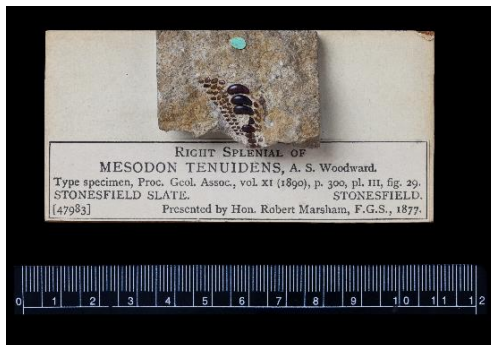
Left splenial bone.

Portlandian: Isle of Portland, Dorset.

Purchased R. F. Damon, April 1890.

1890. On a new species of Pycnodont Fish (*Mesodon Damonii*) from the Portland Oolite. *Geol. Mag.* (3) 7, p. 158-159.

(Figured Robert Damon, A Supplement to the Handbook to the Geology of Weymouth and the Isle of Portland, pl. VIII, fig. 9 as *Pycnodus bucklandi*).



NHMUK PV OR 47983

Mesodon tenuidens. Woodward, 1890. Type.

Right splenial.

Stonesfield Slate: Stonesfield, near Oxford.

Presented by Hon. Robert Marsham, F.G.S., 1877.

1890. A Synopsis of the Fossil Fishes of the English Lower Oolites. *Proc. Geol. Assoc.* XI, p. 300, pl. iii, fig. 29.



NHMUK PV OR 41387 (Woodward, 1890, fig. 5)



NHMUK PV P 6381

Mesodon daviesi. Woodward, 1890. Holotype.

Nearly complete fish in counterpart.

Purbeck Beds, Swanage, Dorset.

Purchased 1869; Beckles Collection (purchased 1891).

1890. On some new Fishes from the English Wealden and Purbeck Beds, referable to the Genera *Oligopleurus*, *Strobilodus* and *Mesodon*. *Proc. Zool. Soc.*, p. 351, pl. XXVIII, fig. 5.



NHMUK PV P 9845-1 (Woodward, 1895, fig. 2, 1902, fig. 3)



NHMUK PV P 9845-2_1

Mesodon macropterus var. *parvus*. Woodward, 1895. Holotype.

Mesodon parvus. Woodward 1902.

Nearly complete fish, wanting the anterior portion of the head, in counterpart.

Middle Purbeck: Lime Kiln Quarry, Teffont, Wiltshire.

Presented by Rev. W.R. Andrews, March 1903.

1895. A Contribution to Knowledge of the Fossil Fish Fauna of the English Purbeck Beds. *Geol. Mag.* (4) 2, p. 147, pl. VII, fig. 2.

1902. The Fossil Fishes of the English Chalk. Part I. *Palaeont. Soc. Lond.*, p. 52, pl. XII, fig. 3.



NHMUK PV P 523_1

Mesodon biserialis. Woodward, 1890. Holotype.

Left splenial dentition.

Bathonian (Stonesfield Slate): Stonesfield, Oxfordshire.

Egerton Collection.

1890. A Synopsis of the Fossil Fishes of the English Lower Oolites. *Proc. Geol. Assoc.*, **11**, p. 300, pl. III, fig. 28.



NHMUK PV P 524

Mesodon (?) discoides. Woodward, 1890. Holotype.

Imperfect upper dentition.

Great Oolite: Little Gibraltar, near Oxford.

Egerton Collection.

1890. A Synopsis of the Fossil Fishes of the English Lower Oolites. *Proc. Geol. Assoc.* **11**, p. 300, pl. III, fig. 32.

Group: Osteichthyes
Class: Actinopterygii



SM J 5822 (Woodward, 1890, fig. 33)

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20006101>

OUM J 12063 Image © Oxford University Museum of Natural History

Scaphodus heteromorphus. Woodward, 1890. Syntypes.

Portion of right lower dentition; Three unabraded teeth of two inner series of lower dentition.

Stonesfield Slate: Stonesfield, Oxfordshire.

SM J 5822, Sedgwick Museum of Earth Sciences; OUM J 12063, Oxford University Museum of Natural History.

1890. A Synopsis of the Fossil Fishes of the English Lower Oolites. *Proc. Geol. Assoc.* **11**, p. 300, pl. III, figs. 33, 34.



OUM J 12063 (Woodward, 1890, fig. 34)

Group: Osteichthyes
Class: Actinopterygii
Order: Pycnodontiformes

NO IMAGE

NHMUK PV P 6834_1

Mesturus leedsii. Woodward, 1895. Type.

Greater portion of head and squamation of abdominal region, with remains of paired fins.

Oxford Clay: Near Peterborough.

Leeds Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p 221.

NO IMAGE

Pycnodus lametae. Woodward, 1908. Type.

Skull.

Danian Cretaceous/Upper Eocene: Lameta Beds, Dongargaon, Central Provinces, India.

?Collection of Rev'd Stephen Hislop.

1908. On some Fish-remains from the Lameta Beds at Dongargaon, Central Provinces. *Mem. Geol. Surv. India, Palaeont. Indica* (n.s.), **3**, no. 3, p. 1, pl. I, fig. 1.



SM B 8978 (Woodward, 1895, fig. 4)

SM B 8979

YORM YM 436 (Woodward, 1895, fig. 5)

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20002483>

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20002484>

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=25000252>

Anomoeodus carteri. Woodward, 1895. Holotype; Paratype; Paratype

Right splenial; Splenial; Splenial

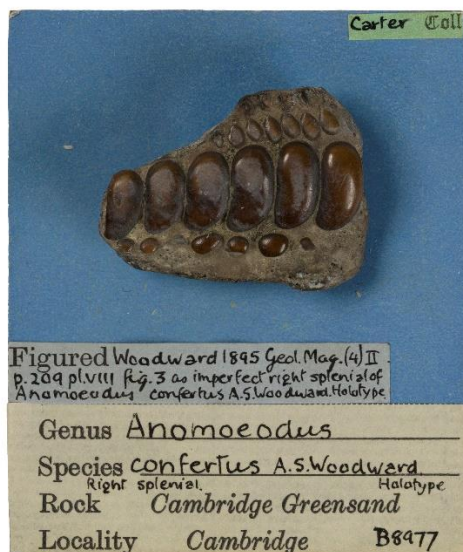
Cretaceous (Cambridge Greensand): Cambridgeshire.

Albian Age (Cretaceous Period) (99.6 – 112 Ma B.P.)

SM B 8978,9; Sedgwick Museum of Earth Sciences, James Carter Collection.

YORM YM 436 Yorkshire Museum, Reed Collection

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 209, pl. VIII, figs. 4, 5.



SM B 8977

Image © Sedgwick Museum of Earth Sciences

Anomoeodus confertus. Woodward, 1895. Holotype.

Imperfect right splenial.

Cretaceous (Cambridge Greensand): Cambridgeshire.

Sedgwick Museum of Earth Sciences, James Carter Collection.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 209, pl. VIII, fig. 3.



SM B 8970 (Woodward, 1893, fig. 5)

SM B 39751-SM B 39755

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20002480>

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20003814>

Anomoedus superbus. Woodward, 1893. Holotype; Paratypes

Left splenia dentition; Splenia dentitions.

Cenomanian: Cambridgeshire; Cambridge Greensand.

Albian Age (Cretaceous Period) (99.6 – 112 Ma B.P.)

Sedgwick Museum of Earth Sciences.

1893. Some Cretaceous Pycnodont Fishes. *Geol. Mag.* (3) 10, p. 489, pl. XVI, figs. 5 and 5a.



BMB 007270

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=25000962>

Anomoedus willetti. Woodward, 1893. Holotype.

Imperfect skull with dentition.

Lower Chalk: Glynde, Sussex.

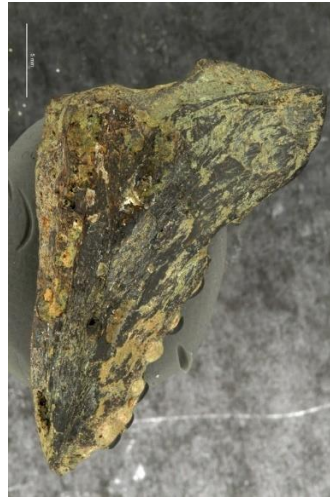
Late Cretaceous Epoch (Cretaceous Period) (65.5 – 99.6 Ma B.P.)

Booth Museum of Natural History, Willett Collection.

1893. Some Cretaceous Pycnodont Fishes. *Geol. Mag.* (3) 10, p. 489, pl. XVII, figs. 1, a-c.



Woodward, 1893, Fig 2.



Woodward, 1893, Fig 2b



IRSNB P 01196

Athrodon tenuis. Woodward, 1893. Holotype.

Right splenial bone.

Santonian, Upper Cretaceous: Glauconie de Lonzée Lonzée, near Gembloux, Namur Province, Belgium.
Institut royal des Sciences naturelles de Belgique.

1893. Some Cretaceous Pycnodont Fishes. *Geol. Mag.* (3) 10, p. 435, pl. XVI, fig. 2, 2a, 2b.



CM B 8971

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20002481>

Athrodon crassus. Woodward, 1893. Holotype.

Right splenial bone with abraded dentition.

Cambridge Greensand: Cambridge.

Sedgwick Museum of Earth Sciences.

Albian Age (Cretaceous Period) (99.6 – 112 Ma B.P.)

1893. Some Cretaceous Pycnodont Fishes. *Geol. Mag.* (3) 10, p. 435, pl. XVI, figs. 3, 3a, 3b.



NHMUK PV OR 40314_2

Athrodon intermedius. Woodward, 1893. Holotype.

Left splenial dentition.

Purbeckian: Aylesbury, Buckinghamshire.

Purchased, 1867.

1893. Some Cretaceous Pycnodont Fishes. *Geol. Mag.* (3) 10, p. 434, pl. XVI, fig. 1.



NHMUK PV P 7238

Athrodon jessoni. Woodward, 1895. Holotype.

Right splenial.

Cenomanian: Cambridge.

Jesson Collection.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 208, pl. VIII, figs. 1, 1a.

Group: Osteichthyes

Class: Actinopterygii

Order: Semionotiformes

NO IMAGE

Aetheolepis mirabilis. Woodward, 1895. Type.

Nearly complete fish, partly preserved in counterpart.

Jurassic (Upper Hawkesbury-Wiannamatta Series): Talbragar, New South Wales.

Australian Museum, Sydney, Australia.

1895. The Fossil Fishes of the Talbragar Beds (Jurassic?), *Mem. Geol. Surv. N.S. Wales, Palaeont.* 9, p. 12, pl. IV, fig. 1.

NO IMAGE

Semionotus australis. Woodward, 1890. Type.

A single imperfect specimen, wanting the head and the anterior portion of the trunk.

Lower Triassic: Gosford, NSW, Australia.

Australian Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* 4, p. 31, pl. VI, fig. 2.



NHMUK PV P 4089

Semionotus capensis. Woodward, 1888. Syntypes.

Portions of four imperfect fishes on a sandstone slab.

Upper Karoo: Orange Free State, S. Africa.

Presented by the Orange Free State National Museum, through Hugh Exton, Esq., M.D., 1883.

1888. On Two New Lepidotoid Ganoids from the early Mesozoic Deposits of Orange Free State, South Africa. *Quart J. Geol. Soc.* **44**, p. 138, pl. VI, figs. 1-5.

NO IMAGE

Semionotus formosus. Woodward, 1908. Type.

Fish lacking the pectoral fins and the greater part of the caudal fin.

Upper Triassic (Wianamatta Shales-Hawkesbury Series): Brickpits at St. Peter's and McDonaldtown, near Sydney, NSW.

Australian Museum, Sydney, Australia.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's; with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **10**, p. 23, pl. IV, fig. 8.

NO IMAGE

Semionotus tenuis. Woodward, 1890. Type.

Imperfectly preserved specimen.

Lower Triassic: Gosford, NSW, Australia.

Mining Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.* **4**, p. 31, pl. VI, fig. 3.

NO IMAGE

Semionotus joassi. Woodward, 1887. Type.

Nearly complete fish.

Lower Oolite: Brora, Sutherlandshire.

Collection of Rev'd. J. M. Joass.

1887. On a new Species of *Semionotus*, from the Lower Oolite of Brora, Sutherlandshire. *Ann. Mag. Nat. Hist.* (5) **20**, 175-179, pl. VIII.



BGS GSM 113113a



BGS GSM 113113b



BGS GSM 113113c

BGS GSM 113113a, b, c

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=579664>

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=579665>

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=579666>

Heterostrophus phillipsi. Woodward, 1928. Holotype.

Broken pieces comprising the greater part of the fish.

Oxford Clay: King's Dyke, Peterborough.

Oxfordian Age (Jurassic Period) – Callovian Age (Jurassic Period) (155.6 – 164.7 Ma B.P.)

British Geological Survey (from Peterborough City Museum, 1969).

1928. A New Ganoid Fish (*Heterostrophus phillipsi*, sp. nov.) related to *Dapedius* from the Oxford Clay of Peterborough, *Precis of the Fifty-sixth Annual Report for the Year 1927 of the Peterborough Natural History, Scientific and Archaeological Society*, 59-60, 5 plates.



NHMUK PV P 6837-1_1



NHMUK PV P 6837-1_2

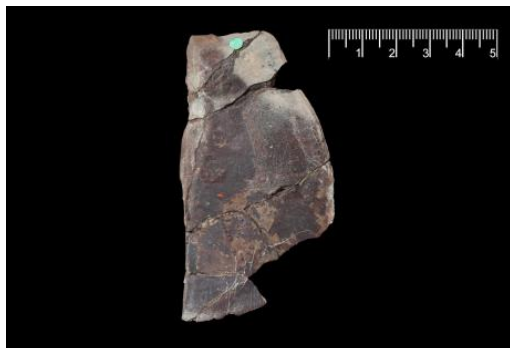
Lepidotus leedsi. Woodward, 1895. Part of type.

Scales.

Oxford Clay: Peterborough.

Leeds Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 100.



NHMUK PV P 6837-2_1 (Woodward, 1895, text fig. 20)



NHMUK PV P 6837-2_2

Lepidotus leedsi. Woodward, 1895. Part of type.

Left operculum, outer aspect; inner aspect.

Oxford Clay: Peterborough.

Leeds Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 100, text fig. 20.



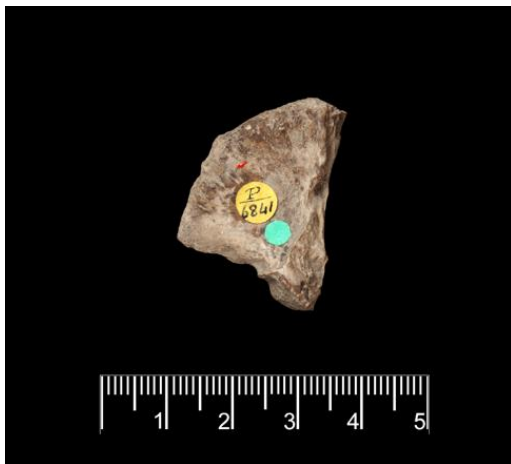
NHMUK PV P 6837-3_1

Lepidotus leedsii. Woodward, 1895. Part of type.
Imperfect right mandibular ramus, outer aspect.

Oxford Clay: Peterborough.

Leeds Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 100, text fig. 20a.



NHMUK PV P 6841-3_1 (Woodward, 1893, text fig. 4)

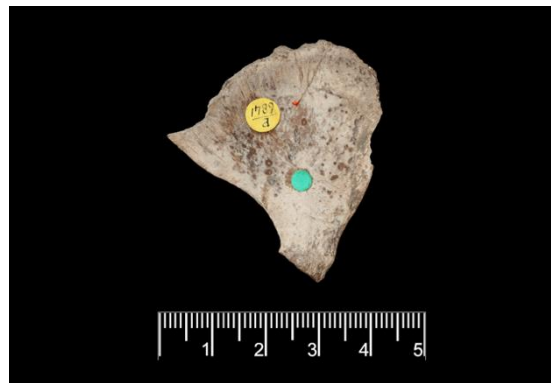
Lepidotus latifrons. Woodward, 1893. Parts of type.

Right quadrate, inner aspect; Left quadrate, outer aspect.

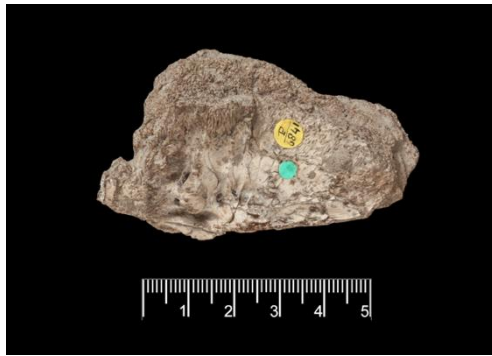
Oxford Clay: Peterborough.

Leeds Collection.

1893. On the Cranial Osteology of the Mesozoic Ganoid Fishes, *Lepidotus* and *Dapedius*. *Proc. Zool. Soc.*, p. 560, text figs. 4, 5.



NHMUK PV P 6841-4_1 (Woodward, 1893, text fig. 5)



NHMUK PV P 6841-5_1 (Woodward, 1893, fig. 1a)



NHMUK PV P 6841-5_2 (Woodward, 1893, fig. 1b)

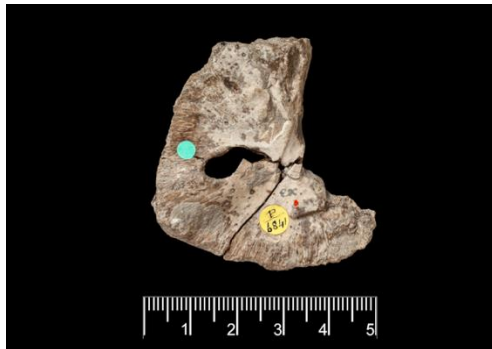
Lepidotus latifrons. Woodward, 1893. Part of type.

Basioccipital, lateral aspect; posterior aspect.

Oxford Clay: Peterborough.

Leeds Collection.

1893. On the Cranial Osteology of the Mesozoic Ganoid Fishes, *Lepidotus* and *Dapedius*. *Proc. Zool. Soc.*, 559-565, pl. XLIX, figs. 1a, 1b.



NHMUK PV P 6841-1_1 (Woodward, 1893, text fig. 1)



NHMUK PV P 6841-6_1 (Woodward, 1893, fig. 1e)

Lepidotus latifrons. Woodward, 1893. Parts of type.

Exoccipital; Ceratohyal.

Oxford Clay: Peterborough.

Leeds Collection.

1893. On the Cranial Osteology of the Mesozoic Ganoid Fishes, *Lepidotus* and *Dapedius*. *Proc. Zool. Soc.*, p. 560, text fig. 1, pl. XLIX, fig. 1e.



NHMUK PV P 5534a_1 (outer surface)



NHMUK PV P 5534b_1 (outer surface)



NHMUK PV P 5534a_2 (inner surface)



NHMUK PV P 5534b_2 (inner surface)

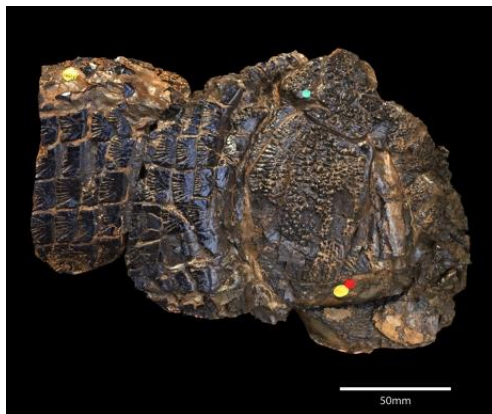
Lepidotus mawsoni. Woodward, 1888. Syntypes.

Detached scales.

Ilhas Group, Marfim Formation (?late Hauterivian), Recôncavo Basin, Montserrat, municipality of Salvador, state of Bahia, Brazil.

Presented by J. Mawson, Esq.

1888. Notes on some Vertebrate Fossils from the Province of Bahia, Brazil, collected by Joseph Mawson, Esq., F.G.S. *Ann. Mag. Nat. Hist.* (6) 2, p. 135.



NHMUK PV P 10601

Lepidotus souzai. Woodward, 1908. Holotype.

Opercular apparatus, anterior scales etc., right side.

Ilhas Group, (?late Hauterivian), Almada Basin, Lagoa do Itaipée, municipality of Ilhéus, state of Bahia, Brazil.

Presented by Dr. Ennes de Souza, Dec. 1907.

1908. On some Fossil Fishes discovered by Professor Ennes de Souza in the Cretaceous Formation at Ilhéos, State of Bahia (Brazil). *Quart. J. Geol. Soc.* 64, p. 359, pl. XLIII, fig. 1.



NHMUK PV P 10566

Lepidotus souzai. Woodward, 1908. Type.

Crushed and partially-scattered remains of a complete fish.

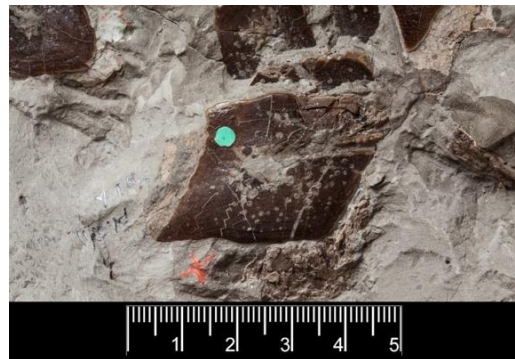
Ilhas Group, (?late Hauterivian), Almada Basin, Lagoa do Itaipée, municipality of Ilhéus, state of Bahia, Brazil.

Presented by Dr. Ennes de Souza, Dec. 1907.

1908. On some Fossil Fishes discovered by Professor Ennes de Souza in the Cretaceous Formation at Ilhéos, State of Bahia (Brazil). *Quart. J. Geol. Soc.* **64**, p. 359.



NHMUK PV P 21-1_1 (Woodward, 1895, fig. 1a)



NHMUK PV P 6201a-1_4 (Woodward, 1895, fig. 1b)

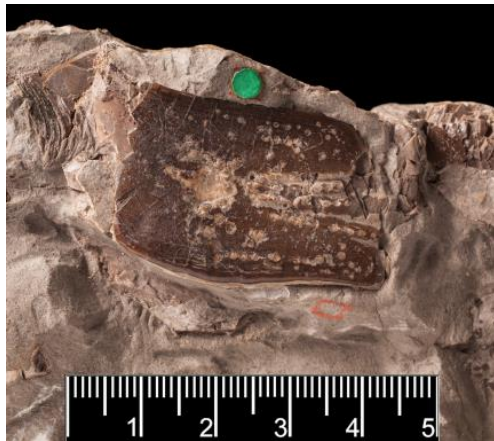
Lepidotus(?) pustulatus. Woodward, 1895. Parts of holotype.

Associated scales.

Grey Chalk (zone of *Schloenbachia varians*): Folkestone, Kent.

Gardner Collection; Purchased J. Griffiths.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p 122, pl. VIII, figs. 1a, b.



NHMUK PV P 6201-3_1

Lepidotus(?) pustulatus. Woodward, 1895. Part of holotype.

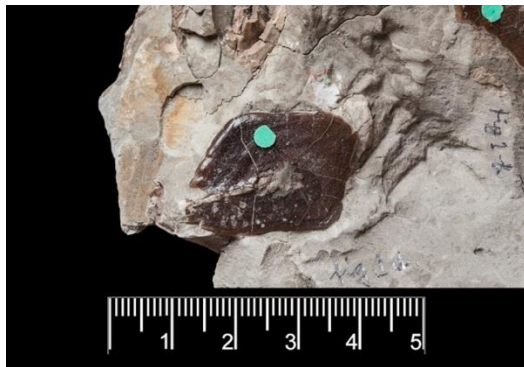
Associated scales.

Grey Chalk (zone of *Schloenbachia varians*): Folkestone, Kent.

Purchased F.H. Butler, May 1890.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p 122, pl. VIII, fig. 1c.

1909. *The Fossil Fishes of the English Chalk. Part V. Palaeont. Soc. Lond.* p. 161, pl. XXXV, fig. 2.



NHMUK PV P 6201a-1_5 (Woodward, 1895, fig. 1d)



NHMUK PV P 6201a-3_2 (Woodward, 1895, fig. 1e)

Lepidotus(?) pustulatus. Woodward, 1895. Parts of holotype.

Associated scales.

Grey Chalk (zone of *Schloenbachia varians*): Folkestone, Kent.

Purchased J. Griffiths, 1890.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p 122, pl. VIII, figs. 1d, e.



NHMUK PV P 6201-2_1 (Woodward, 1895, fig. 1f)



NHMUK PV P 6201a-2_1 (Woodward, 1895, fig. 1g)

Lepidotus(?) pustulatus. Woodward, 1895. Parts of holotype.

Associated scales.

Grey Chalk (zone of *Schloenbachia varians*): Folkestone, Kent.

Purchased F.H. Butler, May 1890; Purchased J. Griffiths, 1890.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p 122, pl. VIII, figs. 1f, g.



NHMUK PV P 6201a-3_3 (Woodward, 1895, fig. 1h)



NHMUK PV P 6201a-1_2 (Woodward, 1909, fig. 1)

Lepidotus(?) pustulatus. Woodward, 1895. Parts of holotype.

Associated scales.

Grey Chalk (zone of *Schloenbachia varians*): Folkestone, Kent.

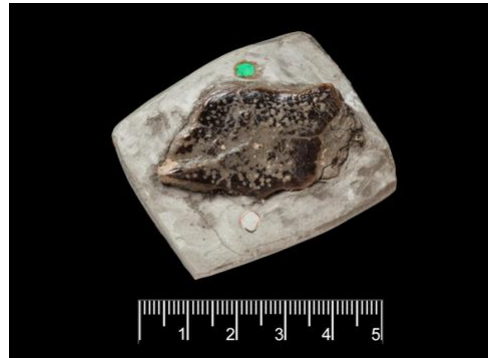
Purchased J. Griffiths, 1890.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p 122, pl. VIII, fig. 1h.

1909. *The Fossil Fishes of the English Chalk. Part V. Palaeont. Soc. Lond.* p. 161, pl. XXXV, fig. 1.



NHMUK PV P 6201-1_3 (Woodward, 1909, fig. 3)



NHMUK PV P 6201c (Woodward, 1909, fig. 4)

Lepidotus(?) pustulatus. Woodward, 1909. Parts of holotype.

Associated scales.

Grey Chalk (zone of *Schloenbachia varians*): Folkestone, Kent.

Purchased F.H. Butler, May 1890; Presented by F.G. Hilton Price, 1899.

1909. *The Fossil Fishes of the English Chalk. Part V. Palaeont. Soc. Lond.* p. 161, pl. XXXV, figs. 3, 4.

Group: Osteichthyes
Class: Actinopterygii
Order: Macrosemiiformes



NHMUK PV P 6303 (Woodward, 1895, fig. 3)



NHMUK PV P 6303a

Macrosemius andrewsi. Woodward, 1895. Holotype.

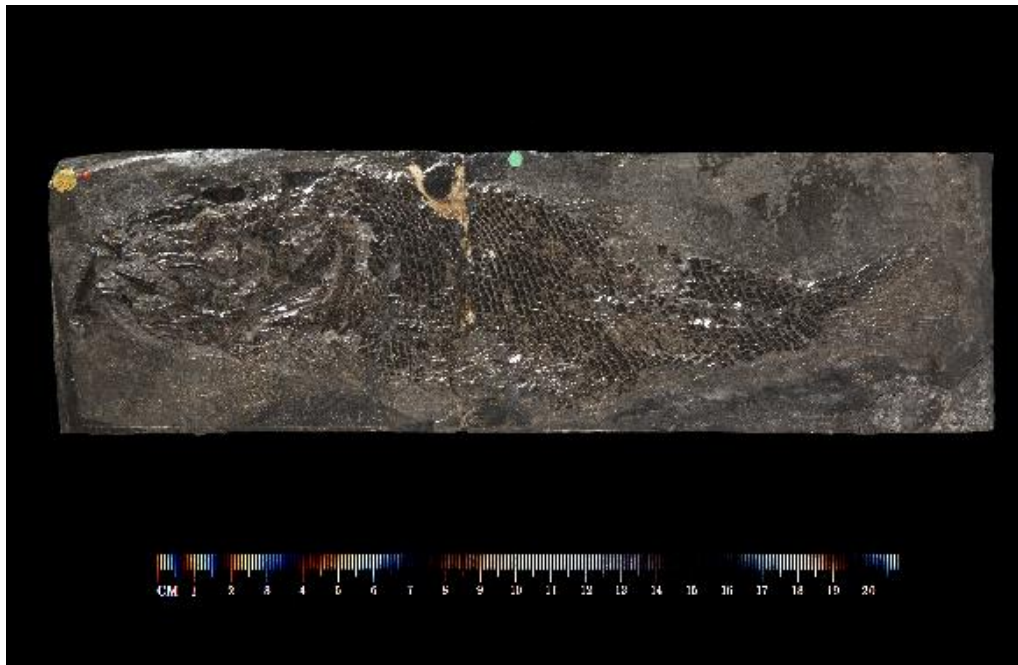
Nearly complete fish in counterpart.

Middle Purbeck: Teffont, Wiltshire.

Presented by Rev. W.R. Andrews, 1890.

1895. A Contribution to Knowledge of the Fossil Fish Fauna of the English Purbeck Beds. *Geol. Mag.* (4) 2, p. 148, pl. VII, fig. 3.

Group: Osteichthyes
Class: Actinopterygii
Order: Amiiformes
Family: Caturidae



NHMUK PV P 2029

Eugnathus altus. Woodward, 1895. Holotype.

Imperfect fish.

Lower Lias: Lyme Regis, Dorsetshire.

Egerton Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 299, pl. VI, fig. 2.



NHMUK PV P 8388-1_1

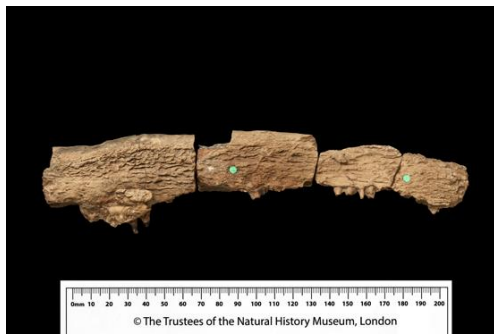
Osteorachis leedsii. Woodward, 1897. Part of holotype.

Hyomandibular, inner aspect.

Oxford Clay, Peterborough.

Leeds Collection.

1897. A Contribution to the Osteology of the Mesozoic Amioid Fishes *Caturus* and *Osteorachis*. *Geol. Mag.* (6) **19**, p. 379, pl. XI, fig. 1.



NHMUK PV P 8388-2_1

Osteorachis leedsii. Woodward, 1897. Part of holotype.

Right maxilla, outer aspect.

Oxford Clay, Peterborough.

Leeds Collection.

1897. A Contribution to the Osteology of the Mesozoic Amioid Fishes *Caturus* and *Osteorachis*. *Geol. Mag.* (6) **19**, p. 379, pl. XI, fig. 2.



NHMUK PV P 8388-3_1 (Woodward, 1897, fig. 3)

NHMUK PV P 8388-3_2 (Woodward, 1897, fig. 3a)

Osteorachis leedsi. Woodward, 1897. Part of holotype.

Portion of left mandibular ramus, outer aspect; oral aspect.

Oxford Clay, Peterborough.

Leeds Collection.

1897. A Contribution to the Osteology of the Mesozoic Amioid Fishes *Caturus* and *Osteorachis*. *Geol. Mag.* (6) 19, p. 379, pl. XI, figs. 3, 3a.



NHMUK PV P 8388-4_1 (Woodward, 1897, figs. 4, 5)

NHMUK PV P 8388-5_5 (Woodward, 1897, figs. 4b, 5b)

Osteorachis leedsi. Woodward, 1897. Parts of holotype.

Pleurocentrum and hypocentrum; lateral aspect.

Oxford Clay, Peterborough.

Leeds Collection.

1897. A Contribution to the Osteology of the Mesozoic Amioid Fishes *Caturus* and *Osteorachis*. *Geol. Mag.* (6) 19, p. 379, pl. XI, figs. 4, 5.



NHMUK PV P 8388-4_2 (Woodward, 1897, fig. 5a)

NHMUK PV P 8388-4_4 (Woodward, 1897, fig. 4a)

Osteorachis leedsi. Woodward, 1897. Parts of holotype.

Hypocentrum, inferior aspect; Pleurocentrum, superior aspect.

Oxford Clay, Peterborough.

Leeds Collection.

1897. A Contribution to the Osteology of the Mesozoic Amioid Fishes *Caturus* and *Osteorachis*. *Geol. Mag.* (6) 19, p. 379, pl. XI, figs. 4a, 5a.



NHMUK PV P 8388-5_1 (Woodward, 1897, fig. 6)

NHMUK PV P 8388-5_2 (Woodward, 1897, fig. 6a)

Osteorachis leedsi. Woodward, 1897. Part of holotype.

Right half of neural arch, anterior aspect; externo-lateral aspect.

Oxford Clay, Peterborough.

Leeds Collection.

1897. A Contribution to the Osteology of the Mesozoic Amioiod Fishes *Caturus* and *Osteorachis*. *Geol. Mag.* (6) **19**, p. 379, pl. XI, figs. 6, 6a.



NHMUK PV P 6035

Caturus cliftoni. Woodward, 1895. Type.

Imperfect right maxilla, outer aspect.

Portland Stone: Isle of Portland.

Presented by George Clifton Esq., 1890.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p 346, pl. VII, fig. 4.

Group: Osteichthyes
Class: Actinopterygii
Order: Amiiformes
Family: Caturidae



NHMUK PV OR 46911

Strobilodus purbeckensis. Woodward, 1890. Holotype.

Imperfect head.

Purbeckian: Swanage, Dorset.

Purchased, Mr Charlesworth, 1875.

1890. On some new Fishes from the English Wealden and Purbeck Beds, referable to the Genera *Oligopleurus*, *Strobilodus* and *Mesodon*. *Proc. Zool. Soc.*, p. 350, pl. XXIX, fig. 4.



NHMUK PV OR 40657 (Woodward, 1895, fig. 7)

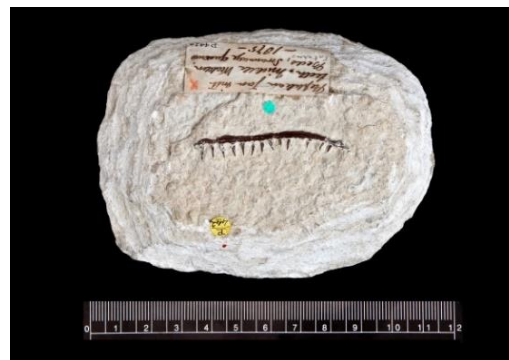
Caturus tenuidens. Woodward, 1895. Syntypes.

Right dentary; Left maxilla, outer aspect

Purbeck; Middle Purbeck: Swanage, Dorset.

Purchased B.M. Wright, Sept. 1867; Purchased 1882.

1895. A Contribution to Knowledge of the Fossil Fish Fauna of the English Purbeck Beds. *Geol. Mag.* (4) 2, p. 151, pl. VII, figs. 7, 8.



NHMUK PV P 442a (Woodward, 1895, fig. 8)



NHMUK PV P 6360_1 (Woodward, 1918, text fig. 28B)



NHMUK PV P 6360_4 (Woodward, 1918, text fig. 28B)

Caturus (Callopterus?) latidens. Woodward, 1918. Holotype.

Imperfect head, left side; Imperfect skull.

Wealden: Hastings, Sussex.

S.H. Beckles Collection, April 1891.

1918. *The Fossil Fishes of the English Wealden and Purbeck Formations. Part II. Palaeont. Soc. Lond.*, p. 83, text figs. 28B, 28C.



NHMUK PV P 6364_1

Neorhombolepis valdensis. Woodward, 1895. Holotype.

Imperfect coiled up fish.

Wealden: Sussex.

Beckles Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 356, pl. VIII, fig. 5.



NHMUK PV OR 43077-1 (Woodward, 1888, fig. 1)

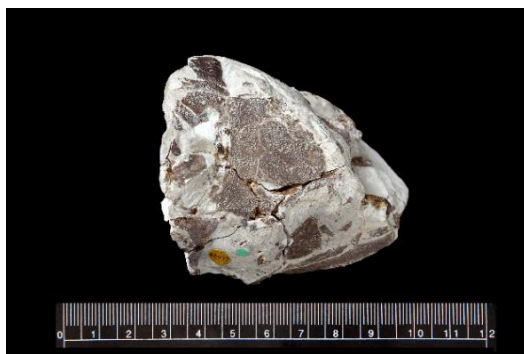
NHMUK PV OR 43077-3

Neorhombolepis excelsus. Woodward, 1888. Parts of holotype. *Gen. nov.*
Right lateral aspect: anterior part of skull, pectoral fin and scales; Head.

Grey Chalk (Turonian): Upper Halling, Kent.

Purchased J. Simmons, 1871.

1888. A Synopsis of the Vertebrate Fossils of the English Chalk. *Proc. Geol. Assoc.* **10**, p. 304, pl. 1, fig. 1.



NHMUK PV OR 43077-2

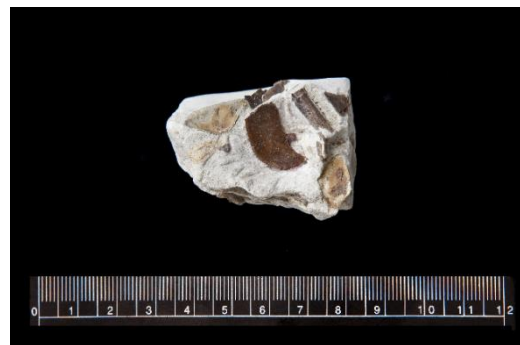
NHMUK PV OR 43077-5

Neorhombolepis excelsus. Woodward, 1888. Parts of holotype. *Gen. nov.*
Hinder portion of cranial roof; Counterpart of head.

Grey Chalk (Turonian): Upper Halling, Kent.

Purchased J. Simmons, Aug. 1871.

1888. A Synopsis of the Vertebrate Fossils of the English Chalk, *Proc. Geol. Ass.* **10**, 304.



NHMUK PV P 4705-1

NHMUK PV P 4705-2

Neorhombolepis(?) punctatus. Woodward, 1895. Parts of holotype.
Detached scales.

Lower Chalk (zone of *Holaster subglobus*): Burham, Kent.

Enniskillen Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 357.

Group: Osteichthyes
Class: Actinopterygii
Order: Amiiformes



NHMUK PV P 9620-1 (Woodward, 1902, pl. II)

NHMUK PV P 9620-2

Calamopleurus mawsoni (Woodward) Grande & Bemis 1998.

Megalurus mawsoni. Woodward, 1902. Holotype.

Fish wanting head shown in right lateral aspect; partial counterpart

Ilhas Group, Marfim Formation (?late Hauterivian), Recôncavo Basin, km 4 of the Calçada station, municipality of Salvador, state of Bahia, Brazil.

Presented by Joseph Mawson Esq., F.G.S., 1901.

1902. On an Amioid Fish (*Megalurus Mawsoni*, sp. n.) from the Cretaceous of Bahia, Brazil, *Ann. Mag. Nat. Hist.* (7) 9, 87-89, pl. II.

1998. Grande, L & Bemis, W. E. A comprehensive phylogenetic study of amiid fishes (Amiidae) based on comparative skeletal anatomy. An Empirical Search for Interconnected Patterns of Natural History. *Journal of Vertebrate Paleontology*, 18(suppl. 1), Memoir 4.

Group: Osteichthyes
Class: Actinopterygii
Order: Pachycormiformes

NO IMAGE

NHMUK PV P 10000

Leedsichthys problematicus. Woodward, 1889. Type. *Gen. nov.*

Associated series of bones described in the reference below.

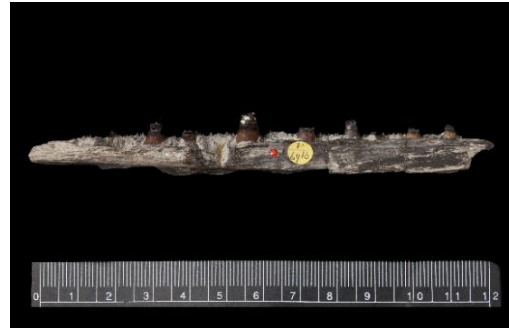
Oxford Clay: Peterborough.

Leeds Collection.

1889. Preliminary Notes on some new and little-known British Jurassic Fishes. *Geol. Mag.* (3) 6, p. 451.



NHMUK PV P 6916-1_1



NHMUK PV P 6916-1_2

Hypsocormus tenuirostris. Woodward, 1889. Part of holotype.

Portion of dentary, oral aspect; inner aspect.

Oxford Clay: Peterborough.

Leeds Collection.

1889. Preliminary Notes on some new and little-known British Jurassic Fishes. *Geol. Mag.* (3) 6, p. 451.



NHMUK PV P 6916-2_1



NHMUK PV P 6916-3_2

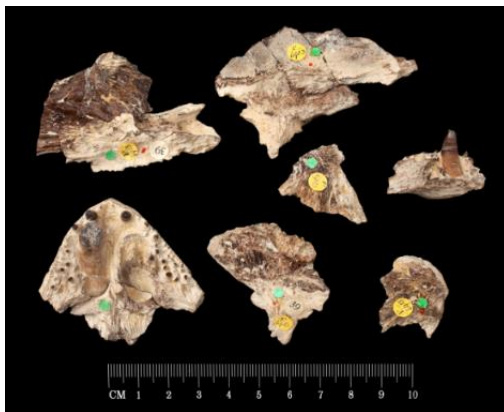
Hypsocormus tenuirostris. Woodward, 1889. Parts of holotype.

Maxilla and premaxilla, outer aspect; Rostrum, inferior aspect.

Oxford Clay: Peterborough.

Leeds Collection.

1889. Preliminary Notes on some new and little-known British Jurassic Fishes. *Geol. Mag.* (3) 6, p. 451.



NHMUK PV P 6913_1



NHMUK PV P 6913_2

Hypsocormus leedsii. Woodward, 1889. Holotype.

Rostrum, portion of splenial, the two post-frontals and other fragments of the cranium.

Oxfordian: Huntingdonshire.

Leeds Collection (obtained by purchase 1890-95).

1889. Preliminary Notes on some new and little-known British Jurassic Fishes. *Geol. Mag.* (3) 6, p. 450.



NHMUK PV P 7253_2

Protosphyraena brevirostris. Woodward, 1895. Holotype.

Rostrum, upper aspect.

Cenomanian (Cambridge Greensand): Cambridgeshire.

Jesson Collection.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 212, pl. VIII, fig. 9.

NO IMAGE CURRENTLY AVAILABLE , specimen whereabouts currently unknown
CM B 8986

Protosphyraena ornata. Woodward, 1895. Holotype.

Imperfect rostrum.

Cretaceous (Cambridge Greensand): Cambridgeshire.

Sedgwick Museum of Earth Sciences.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 212, pl. VIII, fig. 7.



CM 8988

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20002758>

Protosphyraena depressa. Woodward, 1895. Holotype.

Rostrum.

Cretaceous (Cambridge Greensand): Cambridgeshire.

Albian Age (Cretaceous Period) (99.6 – 112 Ma B.P.)

Sedgwick Museum of Earth Sciences.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 212, pl. VIII, fig. 8.



SM B 8985

Image © Sedgwick Museum of Earth Sciences

Protosphyraena keepingi. Woodward, 1895. Type.

Imperfect rostrum.

Cretaceous (Cambridge Greensand): Cambridgeshire.

Sedgwick Museum of Earth Sciences.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 212, woodcut, fig. 4.



CM B 8984

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20002756>

Protosphyraena tenuirostris. Woodward, 1895. Holotype.

Rostrum.

Cretaceous (Cambridge Greensand): Cambridgeshire.

Albian Age (Cretaceous Period) (99.6 – 112 Ma B.P.)

Sedgwick Museum of Earth Sciences.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 211, woodcut, fig. 1.



NHMUK PV P 5631_2

Protosphyraena compressirostris. Woodward, 1895. Type.

Rostrum.

Chalk, Senonian: Kent.

Harford Collection.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) 2, p. 213, woodcut, fig. 2.



NHMUK PV P 11216-1 (Woodward, 1909, fig. 3)

Protosphyraena stebbingi. Woodward, 1909. Type.

Portions of rostrum.

Lower Chalk: Betchworth, Surrey.

Presented by W.P.D. Stebbing Esq., 1913.

1909. The Fossil Fishes of the English Chalk. Part V. *Palaeont. Soc. Lond.*, p. 153, pl. XXXIII, figs. 3, 3a.



NHMUK PV P 11216-2 (Woodward, 1909, fig. 3a)

Group: Osteichthyes

Class: Actinopterygii

Order: Aspidorhynchiformes



NHMUK PV P 6175

Belonostomus dorsetensis. Woodward, 1895. Type.

Cranium, inferior aspect (top), associated left ectopterygoid (middle), dentary (bottom right) and presymphysial bone (bottom left).

Kimmeridge Clay: Weymouth.

Purchased 1890.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 433, pl. XIV, fig. 2.



NHMUK PV P 13265

Belonostomus hooleyi. Woodward, 1918. Holotype.

Imperfect principal scale of flank.

Wealden: Atherfield, Isle of Wight.

Collection of Reginald Hooley, Esq.

1918. The Fossil Fishes of the English Wealden and Purbeck Formations. *Palaeont. Soc. Lond.*, Part II, p. 100, pl. XXI, fig. 1.

NO IMAGE

Belonostomus sweeti. Woodward, 1892. Syntypes.

Imperfect fish wanting the greater part of the head plus four fragments.

Cretaceous Rolling Downs Formation: Central Queensland, Australia.

Geological Survey of NSW (Sweet Collection), Melbourne.

1892. (With R. ETHERIDGE, jun.) On the Occurrence of the Genus *Belonostomus* in the Rolling Downs Formation (Cretaceous) of Central Queensland. *Trans. Roy. Soc. Victoria*, 2, Part 2, 1-7, pl. 1.



NHMUK PV P 10062

Belonostomus(?) carinatus. Woodward, 1907. Holotype.

Naturally associated scales.

Ilhas Group, Marfim Formation, (?late Hauterivian), Recôncavo Basin, municipality of Itacaranha, state of Bahia, Brazil.

Presented by J. Mawson Esq., 1904.

1907. (With J. MAWSON.) On the Cretaceous Formation of Bahia (Brazil), and on the Vertebrate Fossils contained therein, *Quart. J. Geol. Soc.*, 63, 133, pl. VI, figs. 4, 5.



NHMUK PV OR 39199 (Woodward, 1890, fig. 11)



NHMUK PV OR 39200 (Wood'd, 1890, fig. 12)

Aspiorhyncus crassus. Woodward, 1890. Syntypes.

Skull, dorso-lateral aspect.

Stonesfield Slate: Stonesfield, near Oxford.

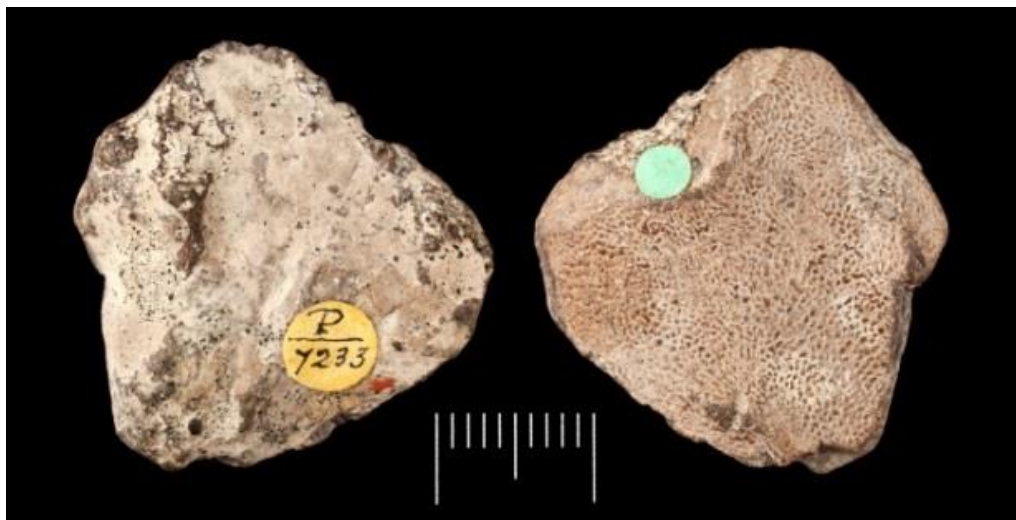
Bowerbank Collection, purchased 1865.

1890. A Synopsis of the Fossil Fishes of the English Lower Oolites. *Proc. Geol. Ass.* **11**, p. 295, pl. III, fig. 11.

Group: Osteichthyes

Class: Actinopterygii

Order: Pholidophoriformes



NHMUK PV P 7233

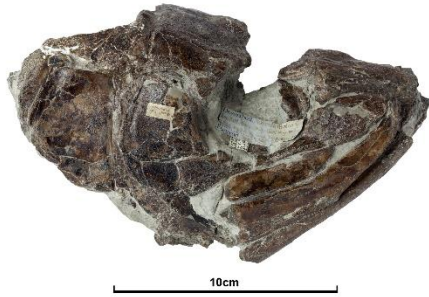
Lophiostomus affinis. Woodward, 1895. Holotype.

Occipital half of cranial roof, upper aspect (image on right).

Cenomanian (Cambridge Greensand): Cambridge.

Jesson Collection.

1895. A Synopsis of the Remains of Ganoid Fishes from the Cambridge Greensand. *Geol. Mag.* (4) **2**, p. 210, pl. VIII, fig. 6.



SM J 23021

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20006772>

Eurycormus grandis. Woodward, 1889. Holotype.

Head.

Kimmeridge Clay: Ely, Cambridgeshire

Kimmeridgian Age (Jurassic Period) (150.8 – 155.6 Ma B.P.)

Sedgwick Museum of Natural Sciences. Collected by Henry Keeping

1889. Preliminary Notes on some new and little-known British Jurassic Fishes. *Geol. Mag.* (3) 6, p. 449.



NHMUK PV P 10986-2 (Woodward, 1919, fig. 8)



NHMUK PV P 10986-1

Pleuropholis formosa. Woodward, 1919. Holotype.

Nearly complete fish in counterpart.

Lower Purbeck Beds: Teffont, Vale of Wardour, Wiltshire.

Purchased E. Penny, 1911.

1919. The Fossil Fishes of the English Wealden and Purbeck Formations. Part III. *Palaeont. Soc. Lond.*, p. 115, pl. XXIII, fig. 8.



NHMUK PV P 3664 (Woodward, 1895, fig. 1)



NHMUK PV P 3664a (Woodward, 1895, fig. 2)

Pholidophorus caudalis. Woodward, 1895. Holotype; Paratype

Nearly complete fish; Imperfect specimen.

Lower Lias: Dorsetshire.

Enniskillen Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 457, pl. XVIII, figs. 1, 2.



NHMUK PV P 1083

Pholidophorus similis. Woodward, 1895. Holotype.

Nearly complete fish.

Lower Kimmeridgian (Lithographic Stone): Cirin, Ain, France.

Egerton Collection.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 470, pl. XIII, fig. 2.

NO IMAGE

Pholidophorus australis. Woodward, 1908. Type.

Complete fish.

Wianamatta Shales, Triassic Hawkesbury Series: St. Peters, Sydney, NSW.

?Geological Survey, NSW.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's; with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.*, **10**, p. 26, pl. IV, fig. 9.

NO IMAGE

Pholidophorus gregarius. Woodward, 1890. Lectotype.

Complete fish, the trunk preserved in counterpart.

Lower Triassic: Gosford, NSW, Australia.

?Mining Museum, Sydney, Australia.

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.*, **4**, p. 44, pl. VI, fig. 6.

NO IMAGE

Aphnelepis australis. Woodward, 1895. Type. *Gen. nov.*

Cearly complete fish, much fractured.

Upper Hawkesbury-Wiannamatta Series: Talbragar, New South Wales.

?Geological Survey, NSW.

1895. The Fossil Fishes of the Talbragar Beds (Jurassic?), *Mem. Geol. Surv. N.S. Wales, Palaeont.*, **9**, p. 9, pl. III, fig. 1.



NHMUK PV OR 42013

Oligopleurus vectensis. Woodward, 1890. Holotype.

Skull, left and right lateral views.

Wealden: Isle of Wight.

Purchased B. Wright, 1870.

1890. On some new Fishes from the English Wealden and Purbeck Beds, referable to the Genera *Oligopleurus*, *Strobilodus* and *Mesodon*. *Proc. Zool. Soc.*, p. 346, pl. XXVIII, fig. 1.

NO IMAGE

Archaeomaene robustus. Woodward, 1895. Type. *Gen. nov.*

Fish, imperfect in the caudal region and ventrally.

Upper Hawkesbury-Wiannamatta Series: Talbragar, New South Wales.

?Geological Survey, NSW.

1895. The Fossil Fishes of the Talbragar Beds (Jurassic?), *Mem. Geol. Surv. N.S. Wales, Palaeont.*, 9, p. 18, pl. V, fig. 2.

NO IMAGE

Archaeomaene tenuis. Woodward, 1895. Type. *Gen. nov.*

Nearly complete fish.

Upper Hawkesbury-Wiannamatta Series: Talbragar, New South Wales.

Mining Museum, Sydney, Australia.

1895. The Fossil Fishes of the Talbragar Beds (Jurassic?), *Mem. Geol. Surv. N.S. Wales, Palaeont.*, 9, p. 16, pl. II, fig. 5.

Group: Osteichthyes

Class: Actinopterygii

Order: Ichthyodectiformes

NO IMAGE

Anogmius ornatus. Woodward, 1923. Type.

Greater part of the head and trunk as far back as the pelvic fins.

Lower Chalk (zone of *Holaster subglobus*): South Ferriby, Lincolnshire.

Municipal Museum, Hull.

1923. On a new Fossil Fish (*Anogmius ornatus*, sp. nov.) from the Lower Chalk of South Ferriby, Lincolnshire. *Naturalist, Lond.*, 297-300, 1 text fig.

NO IMAGE

Portheus australis. Woodward, 1894. Type.

Anterior two thirds of the jaws with part of the base of the cranium exposed on both sides.

Lower Cretaceous: Clutha Station, near Hughenden, Gidgerly Creek, Queensland, Australia.
Museum of Queensland Geological Survey.

1894. On some Fish-remains of the Genera *Portheus* and *Cladocyclus*, from the Rolling Downs Formation (Lower Cretaceous) of Queensland. *Ann. Mag. Nat. Hist.* (6) **14**, p. 444, pl. X, figs. 1.



NHMUK PV P 417a

Thrissops molossus. Woodward, 1919. Type.

Imperfect fish.

Middle Purbeck Beds: Swanage, Dorset.

Purchased from the executors of Rev'd. W. Fox.

1919. The Fossil Fishes of the English Wealden and Purbeck Formations. Part III. *Palaeont. Soc. Lond.*, p. 138, pl. XXVI, fig. 2.



NHMUK PV P 5538 (Woodward, 1895, fig. 4)



NHMUK PV P 5538a

Thrissops portlandicus. Woodward, 1895. Type.

Nearly complete fish, in counterpart.

Portlandian, Dorset.

Presented by F. Harford, Esq., 1888.

1895. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part III, p. 525, pl. XVIII, fig. 4.



NHMUK PV P 10612

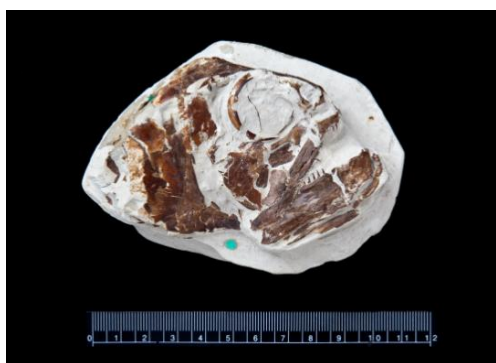
Thrissops curtus. Woodward, 1919. Holotype.

Imperfect fish.

Lower Purbeck Beds: Isle of Portland.

Purchased from J. J. R. Short, Aug. 1908.

1919. *The Fossil Fishes of the English Wealden and Purbeck Formations. Part III. Palaeont. Soc. Lond.*, p. 137, pl. XXVI, fig. 1.



NHMUK PV OR 49054

Ichthyodectes tenuidens. Woodward, 1901. Holotype.

Imperfect head.

Lower Chalk (zone of *Holaster subglobus*): Burham, Kent.

Mrs Smith's Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 104, pl. IX, fig. 6.



NHMUK PV P 8633

Ichthyodectes serridens. Woodward, 1901. Holotype.

Head and part of abdominal region.

Gault: Folkestone, Kent.

Purchased, 1897.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 101, pl. VIII.

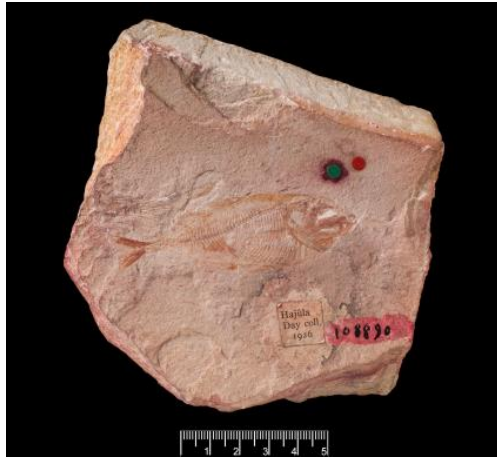
NO IMAGE

Cladocyclus sweeti. Woodward, 1894. Type.
Detached scale.

Lower Cretaceous: Queensland, Australia.

Collection of George Sweet, Esq., F.G.S., The Close, Brunswick, Melbourne.

1894. On some Fish-remains of the Genera *Portheus* and *Cladocyclus*, from the Rolling Downs Formation (Lower Cretaceous) of Queensland. *Ann. Mag. Nat. Hist.* (6) 14, p. 445, pl. X, fig. 2.



AUB.108890 (Woodward, 1942, fig. 1, text fig. 3) AUB.108891

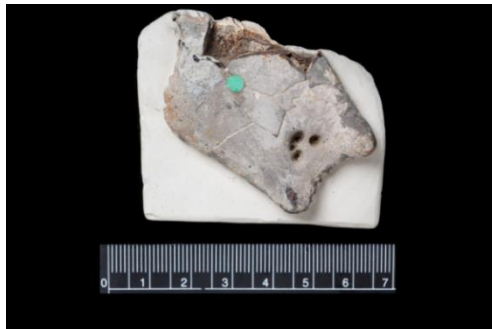
Protobrama avus. Woodward, 1942. Type. *Gen. nov.*

Nearly complete fish, in counterpart.

Upper Cretaceous: Hajula, Lebanon.

A.E. Day Collection. American University of Beirut No. 108890.

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) 9, p. 550, pl. VI, fig. 1, text fig.3.



NHMUK PV OR 41716a

Plethodus pentagon. Woodward, 1899. Type.

Lower dental plate.

Lower Chalk (zone of *Holaster subglobus*): Burham, Kent.

Toulmin Smith Collection.

1899. On the Cretaceous Fish *Plethodus*. *Ann. Mag. Nat. Hist.* (7) 3, p. 356, pl. XIII, fig. 5.

Group: Osteichthyes
Class: Actinopterygii
Order: Gonorynchiformes
Family: Gonorynchidae



NHMUK PV P 9173

Charitosomus major. Woodward, 1901. Holotype.

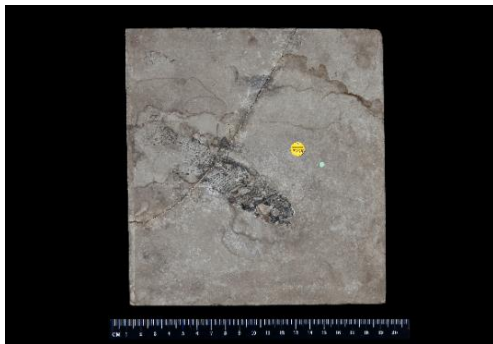
Imperfect fish.

Upper Cretaceous: Sahel Alma, Mt. Lebanon, Lebanon.

Lewis Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 273, pl. XV, fig. 3.

Group: Osteichthyes
Class: Actinopterygii
Order: Osteoglossiformes
Family: Lycopteridae



NHMUK PV P 7358

Lycoptera sinensis. Woodward, 1901. Holotype.

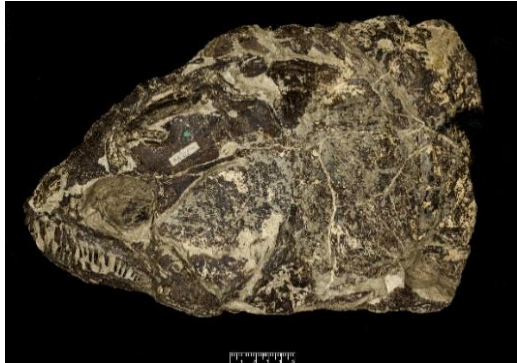
Imperfect fish.

Lower Jurassic (?): Poh-tse, near Layang Nsien, Province of Shantung, China.

Purchased 1894. Collected by H. M. Becher.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 3.

Group: Osteichthyes
Class: Actinopterygii
Order: Osteoglossiformes
Family: Osteoglossidae



NHMUK PV P 3893_1 (Woodward, 1901, fig. 1)

NHMUK PV P 3893_2

Brychaetus muelleri. Woodward, 1901. Holotype.

Left lateral aspect; Right lateral aspect.

Lower Eocene (London Clay): Sheppey, Kent.

Enniskillen Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 76, pl. I, fig 1.

Group: Osteichthyes
Class: Actinopterygii
Order: Albuliformes
Family: Osmerodidae



NHMUK PV P 5681_1

Osmeroides levis. Woodward, 1901. Type.

Imperfect fish.

Lower Chalk (zone of *Holaster subglobus*): Burham, Kent.

Harford Collection.

1895. A Description of the so-called Salmonoid Fishes of the English Chalk. *Proc. Zool. Soc.*, p. 660, pl. XLIII, fig. 2. (as *Aulolepis typus* Agassiz).

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 15.



NHMUK PV P 10465

Osmeroides latifrons. Woodward, 1907. Type.
Skull etc.

Upper Chalk, Zone of *Holaster subglobus*: Wouldham, Kent.
Dibley Collection.

1907. The Fossil Fishes of the English Chalk. Part III. *Palaeont. Soc. Lond.*, p. 119, pl. XXIV, fig. 1.



NHMUK PV OR 39432_2 (Woodward, 1907, fig. 4)



NHMUK PV OR 39432_1 (Woodward, 1907, fig. 4)



NHMUK PV OR 49091 (Woodward, 1907, fig. 6)

Dinelops ornatus. Woodward, 1907. Parts of holotype. *Gen. nov.*
Snout; Head and trunk.

Probably zone of *Holaster subglobus*: Kent.
Bowerbank Collection.

1907. The Fossil Fishes of the English Chalk. Part III. *Palaeont. Soc. Lond.*, p. 121, pl. XXIV, fig. 4.

NHMUK PV OR 49091

Dinelops ornatus. Woodward, 1907. Paratypes. *Gen. nov.*
Portion of left dentary, outer aspect.

Chalk: Kent.
Mrs Smith's Collection.

1907. The Fossil Fishes of the English Chalk. Part III. *Palaeont. Soc. Lond.*, p. 122, pl. XXIV, fig. 6.

Group: Osteichthyes
Class: Actinopterygii
Order: Albuliformes
Family: Albulidae

NO IMAGE

Hajulia multicens. Woodward, 1942. Type. *Gen. nov.*

Nearly complete fish.

Upper Cretaceous (Turonian): Hakel, Lebanon.

American University of Beirut No. 100509.

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) 9, p. 557, pl. VI, fig. 3.

Group: Osteichthyes
Class: Actinopterygii
Order: Anguilliformes



NHMUK PV P 14484

Mylomyrus frangens. Woodward, 1910. Holotype. *Gen. nov.*

Almost complete fish.

Eocene limestone: Tura, near Cairo, Egypt.

Presented by Cecil Crawley, 1928.

1910. On a Fossil Sole and a Fossil Eel from the Eocene of Egypt. *Geol. Mag.* (5) 7, p. 404, pl. XXXIII, fig. 2.

Group: Osteichthyes
Class: Actinopterygii
Order: Anguilliformes
Family: Urenchelyidae



BMB 007246

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=25000975>

Urenchelys anglicus. Woodward, 1900. Holotype. *Gen. nov.*

Well preserved skull.

Middle Chalk: Houghton, West Sussex.

Late Cretaceous Epoch (Cretaceous Period) (65.5 – 99.6 Ma B.P.)

Booth Museum of Natural History.

1900. Evidence of an Extinct Eel (*Urenchelys anglicus*, sp. n.) from the English Chalk. *Ann. Mag. Nat. Hist.* (7) 5, 321-323, pl. IX, figs. 1, 1a.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 339.

1902. The Fossil Fishes of the English Chalk. Part I. *Palaeont. Soc. Lond.*, p. 31, pl. IX, figs. 1, 1a.



NHMUK PV P 4860

Urenchelys avus. Woodward, 1901. Type.

Distorted fish, right lateral aspect.

Upper Cretaceous: Sahel Alma, Lebanon.

Lewis Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 337, pl. XVIII, fig. 1.

Group: Osteichthyes
Class: Actinopterygii
Order: Anguilliformes
Family: Ophichthidae



NHMUK PV P 633_1

NHMUK PV P 633_2

NHMUK PV P 633_3

Rhynchorhinus branchialis. Woodward, 1901. Holotype. *Gen. nov.*

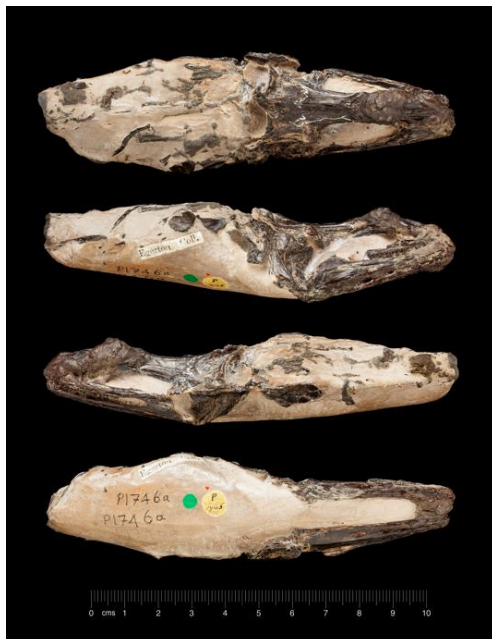
Abraded hinder portion of skull and mandible, ventral view; left lateral view; right lateral view.

London Clay: Sheppey.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 342.

Group: Osteichthyes
Class: Actinopterygii
Order: Anguilliformes
Family: Chlopsidae



NHMUK PV P 1746a

Rhynchorhinus major. Woodward, 1901. Holotype.

Imperfect head in nodule. Views (from top): dorsal; right lateral; left lateral; ventral.

London Clay: Sheppey.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 343.

Group: Osteichthyes
Class: Actinopterygii
Order: Notacanthiformes
Family: Halosauridae



NHMUK PV P 5998

Enchelurus syriacus (specimen on the left). Woodward, 1901. Holotype.

Distorted fish.

Upper Cretaceous: Sahel Alma, Mt. Lebanon, Syria.

Lewis Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 165, pl. XII, fig. 1.



NHMUK PV P 4249

Enchelurus anglicus. Woodward, 1901. Holotype.

Imperfect anterior half of fish.

Lower Chalk: probably Kent.

Enniskillen Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 167, pl. XII, fig. 3.

Group: Osteichthyes
Class: Actinopterygii
Order: Ellimmichthyiformes



NHMUK PV P 96

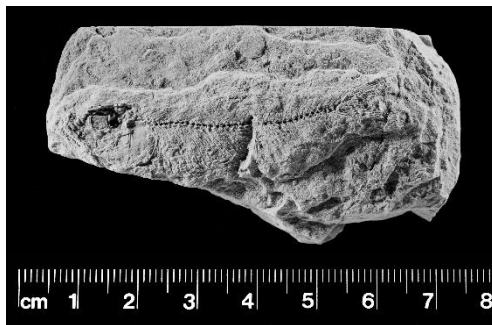
Diplomystus birdi. Woodward, 1895. Type.

Nearly complete fish.

Upper Cretaceous: Hakel, Mt. Lebanon.

Lewis Collection.

1895. On two Deep-bodied Species of the Clupeoid Genus *Diplomystus*. *Ann. Mag. Nat. Hist.* (6) **15**, p. 3, pl. I, fig. 3.



NHMUK PV P 10015

Diplomystus marmorensis. Woodward, 1904. Holotype.

Impression of imperfect fish.

Miocene (lacustrine Sarmatian): Gorgona Deré, near Sarkeui, Sea of Marmora, Turkey.

Presented Col. Thomas English, June 1904.

1904. Pisces. In T. ENGLISH. Eocene and Later Formations surrounding the Dardanelles. *Quart. J. Geol. Soc.* **60**, p. 284, pl. XXIV, fig. 28.

Group: Osteichthyes
Class: Actinopterygii
Order: Clupeiformes



NHMUK PV P 63873a (Woodward, 1942, text fig. 2)

NHMUK PV P 63873a

Pateroperca libanica. Woodward, 1942. Holotype. *Gen. nov.*

Nearly complete fish in counterpart.

Upper Cretaceous: Hajula, Lebanon.

A.E Day Collection, American University of Beirut No. 108906.

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) **9**, p. 546, text fig. 2.

Group: Osteichthyes
Class: Actinopterygii
Order: Clupeiformes
Family: Clupeidae



NHMUK PV P 25259-66 – Paralectotypes



DGM 33 – Lectotype. Scale bar: 10mm.

Paleopiquitinga brasiliensis. (Woodward) Figueiredo, 2010.

Knightsia brasiliensis. Woodward, 1939.

Small, immature fishes.

Tertiary: Nova Iorque beds (Pliocene), left bank of the Parnaíba River, municipality of Nova Iorque, state of Maranhão, Brazil.

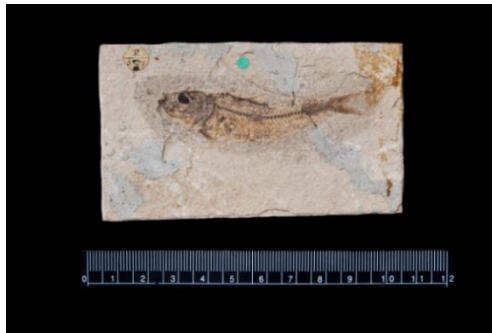
NHMUK PV P 25259-66 - Presented Director General of the Geological and Mineralogical Service of Brazil through Sir Arthur Smith Woodward, May 1939.

DGM 33 – Departamento de Geologia e Mineralogia, Serviço Geológica Nacional do Brasil – old acronym for palaeontological collections currently held by CPRM – Companhia de Pesquisa de Recursos Minerais, Rio de Janeiro.

1939. Tertiary Fossil Fishes from the Maranhão, Brazil. *Ann. Mag. Nat. Hist.* (11) 3, 450-453, pl. XVI, figs. 1,2.

Figueiredo, F. J. 2010. Morphological and systematic reassessment of †*Knightsia brasiliensis* Woodward, 1939 (Teleostei, Clupeiformes) from the Pliocene of Parnaíba Basin, northeastern Brazil. *Zootaxa*, 2440, 1-17.

See also Brito & Richter 2016.



NHMUK PV P 3829a

Clupea catopygoptera. Woodward, 1901. Holotype.

Nearly complete fish.

Upper Eocene: Monte Bolca, near Verona, N. Italy.

Enniskillen Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 148, pl. VI, fig. 2.



NHMUK PV P 10570-2 (Woodward, 1908, fig. 3)

Scombroclupeoides scutata. Woodward, 1942. Holotype.

Scombroclupea scutata. Woodward, 1908. Holotype.

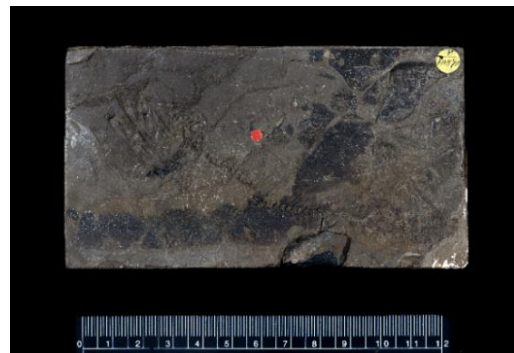
Imperfect fish in counterpart.

Lower Cretaceous: Ilhéos, State of Bahia (Brazil).

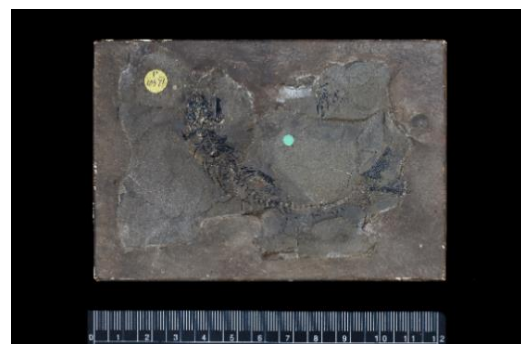
Presented by Dr Ennes de Souza, Dec. 1907.

1908. On some Fossil Fishes discovered by Professor Ennes de Souza in the Cretaceous Formation at Ilhéos, State of Bahia (Brazil). *Quart. J. Geol. Soc.* **64**, p. 360, pl. XLIII, fig. 3.

1942. The beginning of the teleostean fishes. *Ann. Mag. Nat. Hist., Series 11*, **9**, p. 909.



NHMUK PV P 10570-1



NHMUK PV P 10571 (Woodward, 1908, fig. 4)

Scombroclupeoides scutata. Woodward, 1942.

Scombroclupea scutata. Woodward, 1908. Paratype.

Imperfect fish.

Lower Cretaceous: Ilhéos, State of Bahia (Brazil).

Presented by Dr Ennes de Souza, Dec. 1907.

1908. On some Fossil Fishes discovered by Professor Ennes de Souza in the Cretaceous Formation at Ilhéos, State of Bahia (Brazil). *Quart. J. Geol. Soc.* **64**, p. 360, pl. XLIII, fig. 4.

1942. The beginning of the teleostean fishes. *Ann. Mag. Nat. Hist., Series 11*, **9**, p. 909.

Group: Osteichthyes
Class: Actinopterygii
Order: Characiformes
Family: Characidae



NHMUK PV P 9222

Tetragonopterus avus. Woodward, 1898. Holotype.

Tertiary Lignite: Taubaté, Province of São Paulo, Brazil.

Presented by John Gordon Esq., 1900.

1898. Considerações sobre alguns peixes Terciarios dos schistos de Taubaté, Estrado de S. Paulo, Brazil. *Rev. Mus. Paulista*, Sao Paulo, 3, p. 66, pl. IV, fig. 3.



NHMUK PV P 9012

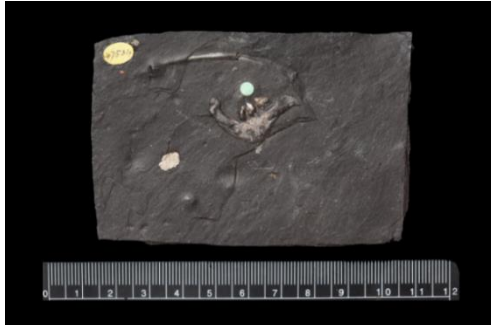
Tetragonopterus ligniticus. Woodward, 1898. Holotype.

Tertiary Lignite: Taubaté, Province of São Paulo, Brazil.

By exchange, 1898.

1898. Considerações sobre alguns peixes Terciarios dos schistos de Taubaté, Estrado de S. Paulo, Brazil. *Rev. Mus. Paulista*, Sao Paulo, 3, p. 67, pl. IV, fig. 4.

Group: Osteichthyes
Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae



NHMUK PV OR 47534

Hexapsephus guentheri. Woodward, 1901. Holotype.

Pharangeal with dentition.

Tertiary (freshwater) Formation: Padang, Sumatra.

Presented Herr R.D.M. Verbeek, Oct. 1876.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 322.

Group: Osteichthyes
Class: Actinopterygii
Order: Siluriformes
Family: Ariidae



NHMUK PV OR 40280

Arius(?) bartonensis. Woodward, 1887. Syntypes.

Small spine.

Upper Eocene: High Cliff, Barton, Hampshire.

Edwards Collection.

1887. On some Remains of Siluroid Fishes from British Eocene Formations. *Geol. Mag.* (3) 4, 303-307, text fig. 3.



NHMUK PV P 9220

Arius iheringi. Woodward, 1898. Type.

Impression of skull.

Tertiary lignite: Taubaté, Province of São Paulo, Brazil.

Presented by John Gordon, Esq., 1900.

1898. Considerações sobre alguns peixes Terciarios dos schistos de Taubaté, Estrado de S. Paulo, Brazil. *Rev. Mus. Paulista, Sao Paulo*, 3, p. 64, pl. II, fig. 1.

Group: Osteichthyes

Class: Actinopterygii

Order: Elopiformes

Family: Megalopidae



NHMUK PV OR 40333

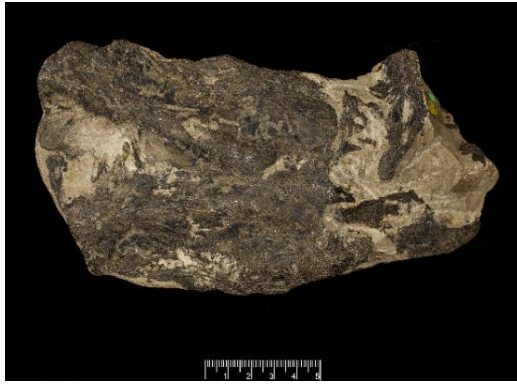
Pachythrissops laevis. Woodward, 1919. Holotype. *Gen. nov.*

Immature fish.

Middle Purbeck Beds: Swanage, Dorset.

Purchased Mr. J. Tennant, Feb. 1867.

1919. The Fossil Fishes of the English Wealden and Purbeck Formations. Part III. *Palaeont. Soc. Lond.*, p. 129, pl. XXV, fig. 1.



NHMUK PV P 634_1



NHMUK PV P 634_2

Megalops oblongus. Woodward, 1901. Holotype.

Much abraded imperfect cranium, view from above; view from below

Lower Eocene (London Clay): Sheppey.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 26.



NHMUK PV P 634_3

Megalops oblongus. Woodward, 1901. Holotype.

Much abraded imperfect cranium, views from above and below.

Lower Eocene (London Clay): Sheppey.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 26.

Group: Osteichthyes
Class: Actinopterygii
Order: Elopiformes
Family: Pachyrhizodontidae



NHMUK PV OR 49826

Thrissopater(?) megalops. Woodward, 1901. Holotype.

Imperfect head.

Lower Chalk (probably zone of *Holaster subglobus*): Lewes.

Capron Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 35, pl. VII, fig. 4.



NHMUK PV OR 37981-1

Thrissopater magnus. Woodward, 1901. Holotype.

Vertically crushed imperfect head.

Lower Chalk: Hollingbourn, Kent.

Purchased, 1864.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 33, pl. V, fig. 1.



NHMUK PV P 9115

Pachyrhizodus dibleyi. Woodward, 1901. Holotype.

Portions of upper jaw: left premaxilla inner aspect (top left); outer aspect (top right); left maxilla outer aspect (bottom); part of oral border of left maxilla, with teeth, seen from below (middle right).

Turonian, Lower Chalk (probably zone of *Holaster subglobus*): Bluebell Hill, Burham, Kent.
Purchased 1899.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 38, text fig. 3.



SM B 9097

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=20002759>

Pachyrhizodus subulidens (Owen). Woodward, 1889. Holotype.

Rhaphiosaurus subulidens Owen 18??. Holotype

Anterior half of left maxilla.

Lower Chalk: Cherryhinton, Cambridgeshire.

Cenomanian Age (Cretaceous Period) (93.6 – 99.6 Ma B.P.)

Cambridge Museum of Natural Sciences.

1889. On the so-called Cretaceous Lizard *Rhaphiosaurus*. *Ann. Mag. Nat. Hist.* (6) 4, 350-351.

Group: Osteichthyes
Class: Actinopterygii
Order: Elopiformes



NHMUK PV P 1749_1 (Woodward, 1901, fig. 1)



NHMUK PV P 1749_4 (Woodward, 1901, fig. 1a)

Esocelops cavifrons. Woodward, 1901. Paratype. *Gen. nov.*

Imperfect head, left lateral aspect; inferior aspect.

Lower Eocene (London Clay): Sheppey, Kent.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 46, pl. III, figs. 1, 1a.



NHMUK PV P 1749_2



NHMUK PV P 1749_3

Esocelops cavifrons. Woodward, 1901. Paratype. *Gen. nov.*

Imperfect head, right lateral aspect; superior aspect.

Lower Eocene (London Clay): Sheppey, Kent.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 46.



NHMUK PV OR 39080

Apateodus lanceolatus. Woodward, 1901. Holotype. *Gen. nov.*

Anterior portion of premaxilla (right palatopterygoid).

Grey Chalk: Dover, Kent.

Bowerbank Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 264, pl. XIII, fig. 7.



NHMUK PV OR 49821_1 (Woodward, 1901, fig. 1a)



NHMUK PV OR 49821_2 (Woodward, 1901, fig. 1)



NHMUK PV OR 49821_3 (Woodward, 1901, fig. 1b)



NHMUK PV OR 49821_4

Apateodus striatus. Woodward, 1901. Holotype. *Gen. nov.*

Small skull partly broken and distorted, Left lateral aspect (top left); Right lateral aspect (top right); Superior aspect (bottom left); Inferior aspect (bottom right).

Lower Chalk: Southeram Pit, Lewes, Sussex.

Capron Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 260, pl. XIV, fig. 1, 1a, 1b.

Group: Osteichthyes
Class: Actinopterygii
Order: Aulopiformes
Family: Dercetidae



NHMUK PV OR 49906

Stratodus anglicus. Woodward, 1888. Type.

Portion of dentition.

Lower Chalk: Glynde, Sussex.

Capron Collection.

1888. A Synopsis of the Vertebrate Fossils of the English Chalk. *Proc. Geol. Assoc.* **10**, p. 314, pl. I, fig. 3.



NHMUK PV OR 31075

Dercetis maximus. Woodward, 1903. Part of type.

Head and anterior abdominal region, left lateral aspect.

Upper Chalk, Zone of *Micraster coranguinum*: Grays, Essex.

Purchased of William Griffith.

1903. The Fossil Fishes of the English Chalk. Part II. *Palaeont. Soc. Lond.*, p. 66, pl. XV, fig. 2.



NHMUK PV OR 31079_1 (Woodward, 1903, fig. 2a)



NHMUK PV OR 31076 (Woodward, 1903, fig. 2b)



NHMUK PV OR 31077 (Woodward, 1903, fig. 2c)



NHMUK PV OR 31078

Dercetis maximus. Woodward, 1903. Parts of type.

Detached vertebrae (top left); Scutes (top right); Fragment of the middle of the same fish (bottom left).

Upper Chalk, Zone of *Micraster coranguinum*: Grays, Essex.

Purchased of William Griffith.

1903. The Fossil Fishes of the English Chalk. Part II. *Palaeont. Soc. Lond.*, p. 66, pl. XV, fig. 2a.



NHMUK PV OR 31079_2



NHMUK PV OR 31080_1



NHMUK PV OR 31080_2



NHMUK PV OR 31081_1



NHMUK PV OR 31081_2



NHMUK PV OR 31082

Dercetis maximus. Woodward, 1903. Parts of type.

Upper Chalk, Zone of *Micraster coranguinum*: Grays, Essex.

Purchased of William Griffith.

1903. The Fossil Fishes of the English Chalk. Part II. *Palaeont. Soc. Lond.*, p. 66.



BMB 007264

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=25000965>

Dercetis latiscutatus. Woodward, 1903. Holotype

Middle portion of trunk

Chalk marl (probably zone of *Terebratulina gracilis*): Glynde, Sussex.

Late Cretaceous Epoch (Cretaceous Period) (65.5 – 99.6 Ma B.P.)

Booth Museum of Natural History, Willett Collection.

1903. The Fossil Fishes of the English Chalk. Part II. *Palaeont. Soc. Lond.*, p. 65, pl. XV, fig. 1.

Group: Osteichthyes
Class: Actinopterygii
Order: Aulopiformes
Family: Enchodontidae



NHMUK PV P 9249_1 (Woodward, 1901, fig. 4)



NHMUK PV P 9249_2 (Woodward, 1901, fig. 4a)

Enchodus annectens. Woodward, 1901. Holotype.

Imperfect head, left lateral aspect; right lateral aspect .

Chalk: England.

History unknown.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 195, pl. XI, figs. 4, 4a.



NHMUK PV P 1703_1 (Woodward, 1901, fig. 2)



NHMUK PV P 1703_2

Enchodus pulchellus. Woodward, 1901. Holotype.

Imperfect head, left lateral aspect; right lateral aspect.

Lower Chalk: Kent.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 194, pl. XI, fig. 2.

Group: Osteichthyes
Class: Actinopterygii



NHMUK PV P 9404

Acrognathus libanicus. Woodward, 1901. Type.

Imperfect fish.

Upper Cretaceous (Upper Senonian): Sahel Alma, Mt. Lebanon, Syria.

Lewis Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 244.

Group: Osteichthyes
Class: Actinopterygii
Order: Myctophiformes
Family: Myctophidae



NHMUK PV P 4865

Microcoelia libanica. Woodward, 1901. Holotype.

Upper Cretaceous: Hakel, Mt. Lebanon.

Lewis Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 252.

Group: Osteichthyes
Class: Actinopterygii
Order: Myctophiformes
Family: Sardinioiidae



NHMUK PV P 8682

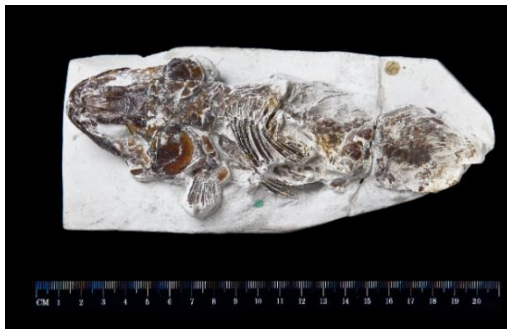
Sardinioides attenuatus. Woodward, 1901. Holotype.

Right lateral aspect.

Upper Cenomanian: Hakel, Lebanon.

Purchased C. H. V. Gollmer, Aug. 1897.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 241, pl. XII, fig. 5.



NHMUK PV P 3977_1 (Woodward, 1902, fig. 1)



NHMUK PV P 3977_2

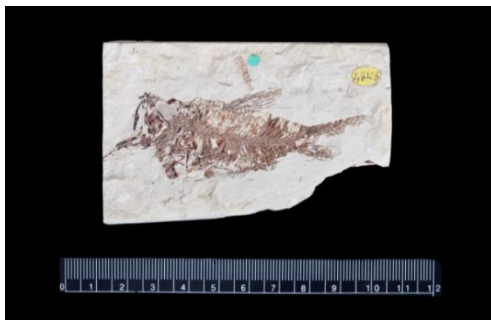
Sardinioides illustrans. Woodward, 1902. Holotype.

Imperfect fish in dorsal aspect; left lateral oblique aspect.

English Chalk.

Enniskillen Collection.

1902. *The Fossil Fishes of the English Chalk. Part I. Palaeont. Soc. Lond.*, p. 34, pl. X, fig. 1.



NHMUK PV OR 48123

Sardinioides pusillus. Woodward, 1901. Type.

Upper Cretaceous: Sahel Alma, Mt. Lebanon, Syria.

Lewis Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 240, pl. XVI, fig. 2.

Group: Osteichthyes
Class: Actinopterygii
Order: Beryciformes
Family: Polymixiidae



NHMUK PV P 315_1

Homonotus rotundus. Woodward, 1902. Holotype.

Distorted fish.

Zone of *Holaster subglobus*: Page's Pit, Westwell, Nr. Charing, Kent.

Harris Collection, purchased Mrs. R. Jones, 1881.

1902. *The Fossil Fishes of the English Chalk. Part I. Palaeont. Soc. Lond.*, p. 28, pl. VII, fig. 8.



NHMUK PV OR 48112

Omosoma intermedium. Woodward, 1901. Holotype.

Nearly complete fish.

Upper Cretaceous: Sahel Alma, Mt. Lebanon, Syria.

Lewis Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 420.

Group: Osteichthyes
Class: Actinopterygii
Order: Beryciformes
Family: Pharmacichthyidae



AUB104699_104691 (Woodward, 1942, text fig. 1, fig. a (104691)

AUB101872 (Woodward, 1942, pl. V, fig. 2)

Pharmacichthys venenifer. Woodward, 1942. Holotype. *Gen. nov.*; Paratype.
Nearly complete fish, in counterpart; Nearly complete fish.

Upper Cretaceous (Turonian): Hakel, Lebanon.

A.E Day Collection, American University of Beirut; American University of Beirut.

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) 9, p. 542, text-fig. 1, fig. a (AUB104691).

Group: Osteichthyes
Class: Actinopterygii
Order: Beryciformes
Family: Aipichthyidae



NHMUK PV OR 25770

Platax nuchalis. Woodward, 1887. Holotype.

Imperfect fish.

Chalk, probably zone of *Holaster subglobus*: Washington, Sussex.

Dixon Collection.

1887. On the so-called *Microdon nuchalis*, Dixon, from the Chalk of Sussex, a new Species of *Platax*. *Ann. Mag. Nat. Hist.* (5) 20, 342-344.



NHMUK PV P 4743

Aipichthys velifer. Woodward, 1901. Holotype.

Nearly complete fish.

Upper Cretaceous: Hakel, Mt. Lebanon, Syria.

Lewis Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 427.

Group: Osteichthyes

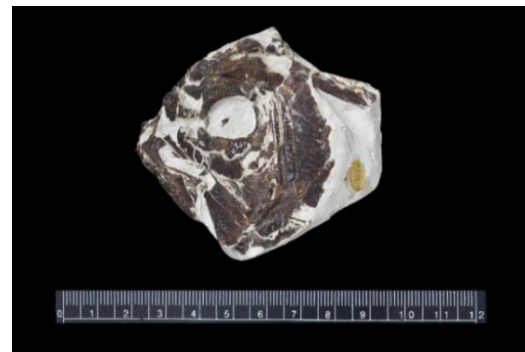
Class: Actinopterygii

Order: Beryciformes

Family: Trachichthyidae



NHMUK PV OR 49073_2 (Woodward, 1902, fig. 3)



NHMUK PV P 49073_1

Hoplopteryx simus. Woodward, 1902. Holotype.

Imperfect head, anterior aspect; left lateral aspect.

Chalk: Kent.

Mrs Smith's Collection.

1902. *The Fossil Fishes of the English Chalk. Part I. Palaeont. Soc. Lond.*, p. 23, pl. VIII, fig. 3.

NO IMAGE

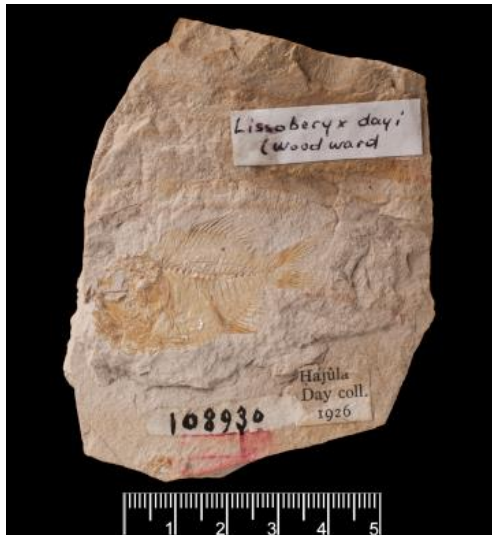
Hoplopteryx spinulosus. Woodward, 1942. Type.

Nearly complete fish.

Upper Cretaceous (Turonian): Sahel Alma, Lebanon.

American University of Beirut No. 102056

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) **9**, p. 538, pl. IV, fig. 1.



AUB.108930

Acrogaster dayi. Woodward, 1942. Holotype. *Gen. nov.*

Nearly complete fish.

Upper Cretaceous: Hajula, Lebanon.

A. E. Day Collection, American University of Beirut.

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) 9, p. 540, pl. IV, fig. 2.

Group: Osteichthyes

Class: Actinopterygii

Order: Beryciformes

Family: Holocentridae



NHMUK PV P 5686

Berycopsis (Caproberyx) major. Woodward, 1902. Holotype.

Imperfect head and trunk.

Middle Chalk: Cuxton, Kent.

Harford Collection.

1902. The Fossil Fishes of the English Chalk. Part I. *Palaeont. Soc. Lond.*, p. 11, pl. II, fig. 2.



NHMUK PV OR 39076_1 (Woodward, 1902, fig. 5)



NHMUK PV P 39076_2 (Woodward, 1902, fig. 5a)



NHMUK PV OR 39076_3

Trachichthyoides ornatus. Woodward, 1902. Holotype. *Gen. nov.*

Imperfect head, left lateral aspect; upper aspect; lower aspect.

Chalk: Bromley, Kent.

Bowerbank Collection.

1902. The Fossil Fishes of the English Chalk. Part I. *Palaeont. Soc. Lond.*, p. 29, pl. VIII, figs. 5, 5a.



NHMUK PV P 5310

Holocentrum melitense. Woodward, 1887. Type.

Tolerably complete fish.

Miocene: Malta.

Purchased, 1887.

1887. On a new Species of *Holocentrum* from the Miocene of Malta; with a List of Fossil Berycidae hitherto Described. *Geol. Mag.* (3) 4, 355-359.

Group: Osteichthyes
Class: Actinopterygii
Order: Syngnathiformes
Family: Fistulariidae



NHMUK PV OR 36877-1



NHMUK PV P 36877-2

Protaulopsis bolcensis. Woodward, 1901. Type. *Gen. nov.*

Imperfect fish, in counterpart.

Upper Eocene: Monte Bolca, near Verona.

Purchased Mr Wright, Dec. 1862.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 371.

Group: Osteichthyes
Class: Actinopterygii
Order: Perciformes
Family: Stromateidae



NHMUK PV P 45468 (Woodward, 1890, fig. 18) Maxilla



NHMUK PV P 45466 (Woodward, 1890, fig. 16) Operculum



NHMUK PV P 45469 (Woodward, 1890, fig. 19) Dentary



NHMUK PV P 45467 (Woodward, 1890, fig. 17) Preoperculum
Leptolepis disjectus. Woodward, 1890. Syntype.
Operculum; Preoperculum; Maxilla Dentary.
Stonesfield Slate: Stonesfield, Oxfordshire.
Egerton Collection.

1890. A Synopsis of the Fossil Fishes of the English Lower Oolites. *Proc. Geol. Assoc.* **11**, p. 295, pl. III, figs. 16-19.

NO IMAGE

Leptolepis gregarius. Woodward, 1895. Type.

Nearly complete fish with imperfect caudal fin.

Jurassic (Upper Hawkesbury-Wiannamatta Series): Talbragar, New South Wales.

Australian Museum, Sydney, Australia.

1895. The Fossil Fishes of the Talbragar Beds (Jurassic?), *Mem. Geol. Surv. N.S. Wales, Palaeont.*, **9**, p. 23, pl. IV, fig. 8.

NO IMAGE

Leptolepis lowei. Woodward, 1895. Type.

Jurassic (Upper Hawkesbury-Wiannamatta Series): Talbragar, New South Wales.

Mining Museum, Sydney, Australia.

1895. The Fossil Fishes of the Talbragar Beds (Jurassic?), *Mem. Geol. Surv. N.S. Wales, Palaeont.*, **9**, p. 22, pl. VI, fig. 9.

NO IMAGE

Leptolepis talbragarensis. Woodward, 1895. Type.

A well preserved fish exhibiting all the fins. The trunk is a little distorted, as shown by the displacement of the neural arches and vertebral rings in the abdominal region.

Jurassic (Upper Hawkesbury-Wiannamatta Series): Talbragar, New South Wales.

Mining Museum, Sydney, Australia.

1895. The Fossil Fishes of the Talbragar Beds (Jurassic?), *Mem. Geol. Surv. N.S. Wales, Palaeont.*, 9, p. 21, pl. VI, fig. 4.



NRM PZ P.1317 (Woodward, 1900, fig. 2; Nybelin, 1974, Pl. XX, fig. 5)



NRM PZ P.1314 (Woodward, 1900, fig. 5; Nybelin, 1974, Pl. XXI, fig. 1)



NRM PZ P.7988 (Woodward, 1900, fig. 6; Nybelin, 1974, Pl. XXI, fig. 3)



NRM PZ P.1313 Lectotype (Woodward, 1900, fig. 8; Nybelin, 1974, Pl. XX, fig. 20)

Leptolepis nathorsti. Woodward, 1900.

Detached and scattered bones.

Jurassic: Swedish Foreland, King Charles Land, Spitzbergen.

Swedish Museum of Natural History, Stockholm.

1900. Notes on Fossil Fish-remains collected in Spitzbergen by the Swedish Arctic Expedition, 1898. *Bihang. K. Svenska Vet.-Akad. Handl.* 25, Afd. IV, no. 5, p. 4, Plate, figs. 2-11.

1974. Nybelin, O., A revision of the Leptolepid Fishes, *ACTA Regiae Societatis Scientiarum et Litterarum Gothoburgensis (Zoologica)*, 9, 202pp, 30 plates.



NRM PZ P.1315 (Woodward, 1900, fig. 9; Nybelin, 1974, Pl. XX, fig. 23)



NRM PZ P.1316 (Woodward, 1900, fig. 10; Nybelin, 1974, Pl. XX, fig. 13)



NRM PZ P.7987 (Woodward, 1900, fig. 11; Nybelin, 1974, Pl. XXI, fig. 8)

Leptolepis nathorsti. Woodward, 1900.

Detached and scattered bones.

Jurassic: Swedish Foreland, King Charles Land, Spitzbergen.
Swedish Museum of Natural History, Stockholm.

1900. Notes on Fossil Fish-remains collected in Spitzbergen by the Swedish Arctic Expedition, 1898. *Bihang. K. Svenska Vet.-Akad. Handl.* 25, Afd. IV, no. 5, p. 4, Plate, figs. 2-11.

1974. Nybelin, O., A revision of the Leptolepid Fishes, *ACTA Regiae Societatis Scientiarum et Litterarum Gothoburgensis (Zoologica)*, 9, 202pp, 30 plates.



NHMUK PV P 10440-1

Leptolepis valdensis. Woodward, 1907. Type.

Imperfect fish, well preserved, in counterpart.

Weald Clay: Southwater, Sussex.

Purchased Southwater Brick & Tile Co. Ltd., March 1907.

1907. On a New Leptolepid Fish from the Weald Clay of Southwater (Sussex). *Ann. Mag. Nat. Hist.* (7) 20, 93-95, pl. 1, fig. 1



NHMUK PV P 10440-2 (Woodward, 1907, fig. 1).

Group: Osteichthyes
Class: Actinopterygii
Order: Perciformes
Family: Percichthyidae

NO IMAGE

Percichthys antiquus. Woodward, 1899. Type.

Nearly complete fish

Tertiary Lignite: Taubaté, Province of São Paulo, Brazil.

Senckenberg Museum, Frankfurt.

1898. Considerações sobre alguns peixes Terciarios dos schistos de Taubaté, Estrado de S. Paulo, Brazil. *Rev. Mus. Paulista*, Sao Paulo, 3, p. 68, pl. II, fig. 6.



NHMUK PV P 9011

Percichthys antiquus. Woodward, 1899. Paratype.

Dorsal part of the trunk

Tertiary Lignite: Taubaté, Province of São Paulo, Brazil.

By exchange, São Paulo Museum

1898. Considerações sobre alguns peixes Terciarios dos schistos de Taubaté, Estrado de S. Paulo, Brazil. *Rev. Mus. Paulista*, Sao Paulo, 3, p. 68, pl. IV, fig. 7.

NO IMAGE

Ctenolates avus. Woodward, 1902. Type.

Right lateral aspect of imperfect skeleton.

Freshwater Tertiary: Nimbin, Richmond River, N.S.W.

?Geological Survey, N.S.W.

1902. On *Atherstonia australis* and *Ctenolates avus*, two new species of Fossil Fishes from New South Wales. *Rec. Geol. Surv. N.S. Wales*, 7, p. 90, pl. XXIV, fig. 2.

Group: Osteichthyes
Class: Actinopterygii

NO IMAGE

Eoserranus hislopi. Woodward, 1908. Type. *Gen. nov.*

Skull.

Danian Cretaceous/Upper Eocene: Lameta Beds, Dongargaon, Central Provinces, India.

?Museum of the Geological Survey of India, Calcutta.

1908. On some Fish-remains from the Lameta Beds at Dongargaon, Central Provinces. *Mem. Geol. Surv. India, Palaeont. Indica* (n.s.), 3, no. 3, p. 1, pl. I, fig. 1.

Group: Osteichthyes
Class: Actinopterygii
Order: Perciformes
Family: Sparidae



NHMUK PV P 9484

Sargus oranensis. Woodward, 1901. Type.

Nearly complete fish.

Upper Miocene: Oran, Algeria.

Purchased 1853.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 529.

Group: Osteichthyes
Class: Actinopterygii
Order: Perciformes
Family: Cichlidae



NHMUK PV P 25258

Macracara prisca. Woodward, 1939. Syntypes. *Gen. nov.*

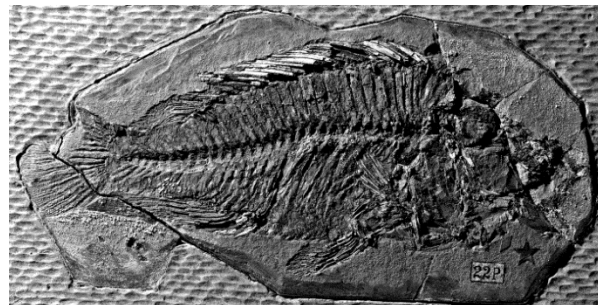
Tertiary: Nova Iorque beds (Pliocene), left bank of the Parnaiba River, municipality of Nova Iorque, state of Maranhão, Brazil.

NHMUK PV P 25258 - Presented by the Director General, Geological and Mineralogical Service of Brazil, through Sir Arthur Smith Woodward, May 1939.

DGM 33 - Departamento de Geologia e Mineralogia, Serviço Geológica Nacional do Brasil - old acronym for palaeontological collections currently held by CPRM - Companhia de Pesquisa de Recursos Minerais, Rio de Janeiro.

1939. Tertiary Fossil Fishes from the Maranhão, Brazil. *Ann. Mag. Nat. Hist.* (11) 3, p. 451.

See also Brito & Richter 2016.



DGM 22-P (Woodward, 1939, Pl. XVI, fig. 3.)

Group: Osteichthyes
Class: Actinopterygii
Order: Perciformes
Family: Scombridae



NHMUK PV P 4148_1

NHMUK PV P 4148_2

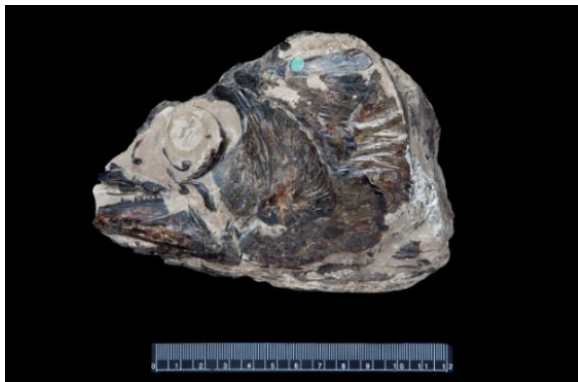
Scombrinus nuchalis. Woodward, 1901. Holotype. *Gen. nov.*

Imperfect head, right lateral aspect; left lateral aspect.

London Clay: Sheppey.

Enniskillen Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 461.



NHMUK PV P 623a_1

NHMUK PV P 623a_2

Eocoelopoma colei. Woodward, 1901. Holotype. *Gen. nov.*

Imperfect head, left lateral aspect; dorsal/right lateral aspect.

London Clay: Sheppey, Kent.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 470.



NHMUK PV P 623

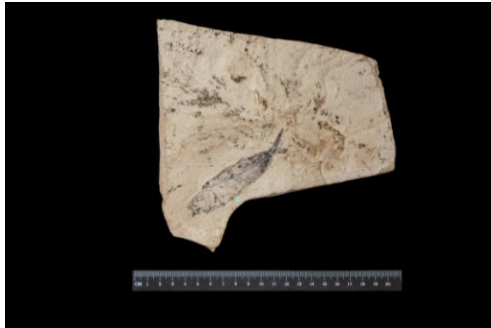
Eothyunnus salmoneus. Woodward, 1901. Type. *Gen. nov.*

Very imperfect cranium.

London Clay: Sheppey.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 457.



NHMUK PV P 7130

Isurichthys orientalis. Woodward, 1901. Type. *Gen. nov.*

Nearly complete fish.

Tertiary: Shushtar, Persia.

Presented by Alfred Holland Esq., 1894.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 453.

Group: Osteichthyes
Class: Actinopterygii
Order: Perciformes
Family: Xiphidae



NHMUK PV P 627

Acestrus ornatus. Woodward, 1901. Holotype. *Gen. nov.*

Abraded fragment of hinder part of cranium.

London Clay: Sheppey, Kent.

Egerton Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 494.



NHMUK PV OR 25744

Histiophorus eocaenicus. Woodward, 1901. Holotype.

Rostrum, vertically crushed in the anterior half.

Eocene: Bracklesham, Sussex.

Dixon Collection.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 495, text fig. 18, no. 2.



NHMUK PV P 8799

Histiophorus rotundus. Woodward, 1901. Type.

Rostrum.

Cooper River, Charleston, South Carolina.

Presented by Thomas Royle, Esq., 1898.

1901. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part IV, p. 495, text fig. 18, no. 3.

Group: Osteichthyes

Class: Actinopterygii

Order: Gadiformes

Family: Macrouridae



NHMUK PV OR 893&4&5

Coelorhynchus gigas. Woodward, 1888. Type.

Partial spine in three (four) fragments.

Extracted from the rock of the Great Sphinx, Egypt.

Presented by Col. Howard Vyse, 1838.

1888. On the Fossil Fish-spines named *Coelorhynchus*, Agassiz. *Ann. Mag. Nat. Hist.* (6) 2, p. 224.

NO IMAGE

Coelorhynchus libanicus. Woodward, 1942. Type.

Rostrum.

Upper Cretaceous (Turonian): Hajula, Lebanon.

American University of Beirut No. 108966.

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) 9, p. 552, pl. VI, fig. 2.

Group: Osteichthyes
Class: Actinopterygii
Order: Pleuronectiformes
Family: Soleidae



NHMUK PV P 14485

Eobuglossus eocenicus (Woodward)

Solea eocenica. Woodward, 1910. Holotype.

Almost complete fish.

L. Mokattam (= U. Lutetian): Tura, Nr. Cairo, Egypt.

Presented by Cecil Crawley, 1928.

1910. On a Fossil Sole and a Fossil Eel from the Eocene of Egypt. *Geol. Mag.* (5) 7, p. 404, pl. XXXIII, fig. 2.

1937. Chabanaud, P., Les Téléostéens Dyssymétriques du Mokattam Inférieur de Tourah, *Mémoires a L'Institut D'Égypte, Le Caire*, XXXII, pp. 74-92, text figs. 12,13, pls. II, III.

Group: Osteichthyes
Class: Sarcopterygii
Order: Dipnoi
Family: Sagenodontidae

NO IMAGE

Sagenodus laticeps. Woodward, 1908. Type.

Imperfect skeleton.

Wianamatta Shales, Triassic Hawkesbury Series: St. Peters, Sydney, NSW.

?Geological Survey, NSW.

1908. The Fossil Fishes of the Hawkesbury Series at St. Peter's; with Note by W. S. DUN. *Mem. Geol. Surv. N.S. Wales, Palaeont.*, 10, p. 7, pl. II, figs. 1, 1a.

Group: Osteichthyes
Class: Sarcopterygii
Order: Dipnoi
Family: Ctenodontidae

NO IMAGE

Ctenodus breviceps. Woodward, 1906. Type.

Hinder part of cranial roof.

Carboniferous: Mansfield, Victoria, Australia

National Museum, Melbourne, Australia.

1906. On a Carboniferous Fish Fauna from the Mansfield District, Victoria. *Mem. Nat. Mus. Melbourne*, no. 1, p. 15, text fig. 3.

Group: Osteichthyes
Class: Sarcopterygii
Order: Dipnoi
Family: Ceratodontidae

NO IMAGE

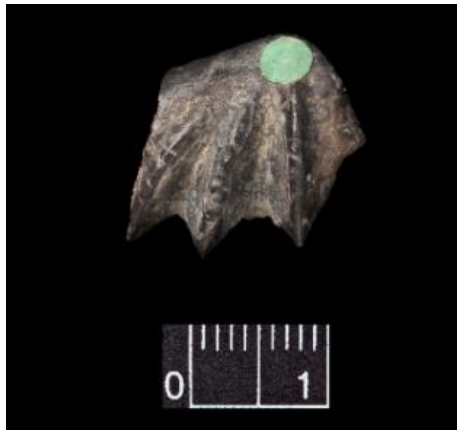
Gosfordia truncata. Woodward, 1890. Syntype.

The greater portion of the trunk to the tip of the tail.

Lower Triassic: Gosford, NSW, Australia

Australian Museum, Sydney, Australia

1890. The Fossil Fishes of the Hawkesbury Series at Gosford. *Mem. Geol. Surv. N.S. Wales, Palaeont.*, 4, p. 5, pl. II, fig. 1.



NHMUK PV P 4807

Ceratodus capensis. Woodward, 1889. Holotype.

Imperfect tooth.

Upper Karoo Formation (Stormberg Beds): Orange Free State, South Africa.

By exchange, 1884.

1889. Note on a Tooth of *Ceratodus*, from the Stormberg Beds of the Orange Free State, South Africa. *Ann. Mag. Nat. Hist.* (6) 4, 243, pl. XIV, fig. 4a.

NO IMAGE

Ceratodus avus. Woodward, 1906. Type.

Left splenial with lower tooth.

Lower Jurassic: Cape Patterson, Victoria, Australia.

?Collection of Prof. J.W. Gregory, F.R.S.

1906. On a Tooth of *Ceratodus* and a Dinosaurian Claw from the Lower Jurassic of Victoria, Australia. *Ann. Mag. Nat. Hist.* (7) 18, p. 2, pl. I, fig. 1.

Group: Osteichthyes
Class: Sarcopterygii
Order: Crossopterygii
Family: Laugiidae



NHMUK PV P 3343 (Woodward, 1890, fig. 5)

NHMUK PV OR 21335

Undina(?) barroviensis. Woodward, 1890. Holotype.

Fish wanting paired fins, in counterpart.

Lower Lias: Barrow-on-Soar, Leicestershire.

Enniskillen Collection; Purchased Mr Lee, 1847.

1890. Notes on some Ganoid Fishes from the English Lower Lias. *Ann. Mag. Nat. Hist.* (6) 5, p. 435, pl. XVI, fig. 5.



NHMUK PV P 11925_1

Undina purbeckensis. Woodward, 1916. Type.

Imperfect fish.

Middle Purbeck Beds: Swanage, Dorset.

Presented by Geological Society, 1911.

1916. The Fossil Fishes of the English Wealden and Purbeck Formations. Part I. *Palaeont. Soc. Lond.*, p. 22, pl. IV, fig. 1.

Group: Osteichthyes
Class: Sarcopterygii
Order: Crossopterygii
Family: Coelacanthidae



PMU 23684

Image ©Museum of Evolution, Uppsala University.

Sassenia ? guttata (Woodward) Stensio, 1921

Coelacanthus guttatus. Woodward, 1912. Type.

Imperfect fragmentary fish.

Lower Trias: Sassen Bay, Spitzbergen.

Uppsala University Museum, Uppsala, Sweden.

1912. Notes on some Fish-remains from the Lower Trias of Spitzbergen. *Bull. Geol. Inst. Univ. Upsala*, XI, p. 291, pl. XIV, figs 1, 1a, 1b.

Stensjö, Erik A:Son, 1921. Triassic Fishes from Spitzbergen, Part I, Vienna (Adolf Holzhausen).



NHMUK PV P 10768-2 (Woodward, 1910, fig. 5)

Coelacanthus madagascariensis. Woodward, 1910. Holotype.

Nearly complete fish in nodule, in counterpart.

Permo-Carboniferous shaley formation: Right bank of the Mahavavy River, opposite the village of Andogozo, near the extreme north-west coast of Madagascar.

Presented by Mr George G. Dixon.

1910. On some Permo-Carboniferous Fishes from Madagascar. *Ann. Mag. Nat. Hist.* (8) 5, p. 5, pl. I, fig. 5.



NHMUK PV OR 10768-1

NO IMAGE

Macropomoides orientalis. Woodward, 1942. Type.

Portion of the back showing the two dorsal fins and some scales.

Upper Cretaceous (Turonian): Hajula, Lebanon.

American University of Beirut No. 108935.

1942. Some new and little-known Upper Cretaceous Fishes from Mount Lebanon. *Ann. Mag. Nat. Hist.* (11) 9, p. 560, text-fig. 4.



NHMUK PV OR 35700_1 (Woodward, 1909, fig. 8)



NHMUK PV OR 35700_2 (Woodward, 1909, fig. 8a)



NHMUK PV OR 35700_3 (Woodward, 1909, fig. 8b)

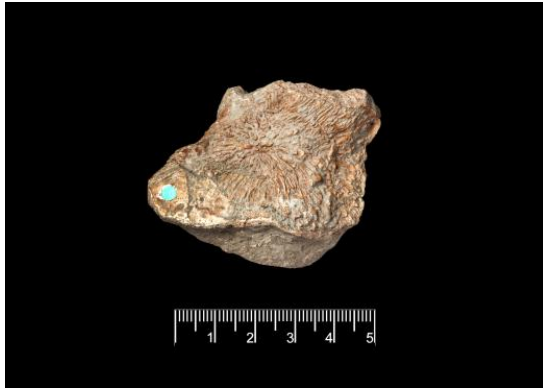
Macropoma precursor. Woodward, 1909. Type.

Imperfect head etc., (fig.8) left side view; (fig.8a) upper view of cranial roof;
(fig.8b) tubercular ornament of operculum.

Grey Chalk, Zone of *Schloenbachia varians*: Folkestone, Kent.

Purchased of William Griffith, 1859.

1909. The Fossil Fishes of the English Chalk. Part V. *Palaeont. Soc. Lond.*, p. 181, pl. XXXVIII, figs. 8, 8a, 8b.



NHMUK PV P 10355-4_1 (Woodward, 1907, fig. 1a)



NHMUK PV P 10355-4_2 (Woodward, 1907, fig. 1b)



NHMUK PV P 10355-2_1 (Woodward, 1907, fig. 5)

NHMUK PV P 10355-4_1

Mawsonia gigas. Woodward, 1907. Parts of holotype. *Gen. nov.*

Left articular, outer aspect; condylar aspect; Gular plate.

Cretaceous: Plataforma, Bahia, Brazil.

Presented by Joseph Mawson Esq., F.G.S., Dec. 1906.

1907. (With J. MAWSON.) On the Cretaceous Formation of Bahia (Brazil), and on the Vertebrate Fossils contained therein. *Quart. J. Geol. Soc.* **63**, p. 134, pl. VIII, figs. 1a, 1b, 5.



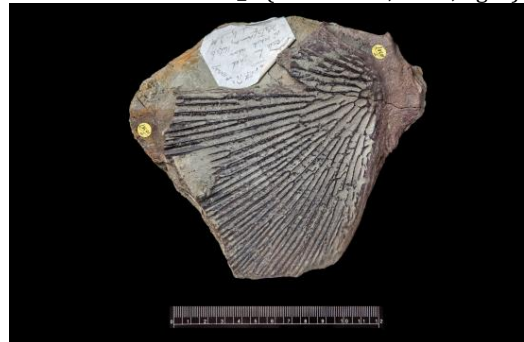
NHMUK PV P 10355-1_1 (Woodward, 1907, fig. 3)



NHMUK PV P 10355-3_1 (Woodward, 1907, fig. 1)



NHMUK PV P 10356 (Woodward, 1907, fig. 4a)



NHMUK PV P 10357 (Woodward, 1907, fig. 6)

Mawsonia gigas. Woodward, 1907. Parts of holotype. *Gen. nov.*
Left coronoid (fig. 3); Remains of skull and mandible (fig. 1); Right parietal, outer aspect (fig. 4a); Portion of right operculum, outer aspect (fig. 6).

Cretaceous: Plataforma, Bahia, Brazil.

Presented by Joseph Mawson Esq., F.G.S., Dec. 1906.

1907. (With J. MAWSON.) On the Cretaceous Formation of Bahia (Brazil), and on the Vertebrate Fossils contained therein. *Quart. J. Geol. Soc.* **63**, p. 134, pl. VIII, figs. 1, 3, 4a, 6.



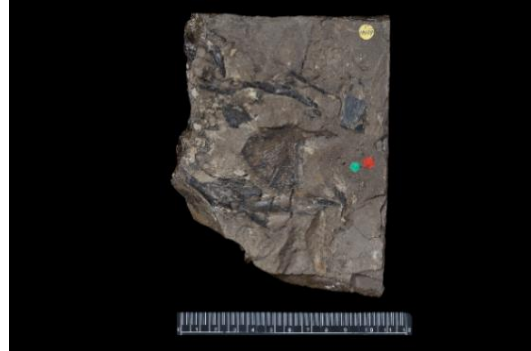
NHMUK PV P 10567-1 (Woodward, 1908, fig. 1)



NHMUK PV P 10567-2



NHMUK PV P 10568 (Woodward, 1908, figs. 1,d¹)



NHMUK PV P 10569 (Woodward, 1908, figs. 2, 3)

Mawsonia minor. Woodward, 1908. Holotype.

Tail and anal fin, in counterpart (top left and right); Anterior dorsal fin (bottom left); Greater part of the right angular bone of the mandible and left operculum.

Lower Cretaceous: Ilhéos, State of Bahia (Brazil).

Presented by Professor Ennes de Souza.

1908. On some Fossil Fishes discovered by Professor Ennes de Souza in the Cretaceous Formation at Ilhéos, State of Bahia (Brazil). *Quart. J. Geol. Soc.* **64**, p. 358, pl. XLII, fig. 1.

Group: Osteichthyes

Class: Sarcopterygii

Order: Crossopterygii

Family: Onychodontidae



OUM C 30558

<http://www.3d-fossils.ac.uk/fossilType.cfm?typSampleId=15000164>

Onychodus anglicus. Woodward, 1888. Holotype.

Intermandibular arch, or Presymphysial bone.

Lower Old Red Sandstone Passage Beds: Ledbury, Herefordshire

Pridoli Epoch (Silurian Period) (416 – 418.7 Ma B.P.)

Oxford University Museum of Natural History, Grindrod Collection.

1888. Note on the Occurrence of a Species of *Onychodus* in the Lower Old Red Sandstone Passage Beds of Ledbury, Herefordshire. *Geol. Mag.* (3) **5**, 500-501, 1 text fig.



NRM PZ P.1284

Onychodus arcticus. Woodward, 1889. Type.

Four fractured teeth, attached in close series to a narrow arched base.

Devonian: Ironstone, Mimers Valley, Spitzbergen.

Swedish Museum of Natural History, Stockholm.

1889. On the Occurrence of the Devonian Ganoid *Onychodus* in Spitzbergen. *Geol. Mag.* (3) 6, 499-500.

1889. On the Occurrence of the Devonian Ganoid *Onychodus* in Spitzbergen. *Rep. Brit. Ass.* p. 585.

1891. The Devonian Fish-fauna of Spitzbergen. *Ann. Mag. Nat. Hist.* (6) 8, p. 14, pl. II, fig. 12.

Group: Osteichthyes

Class: Sarcopterygii

Order: Crossopterygii

Family: Holoptychiidae



NRM PZ P.7804

Holoptychius monilifer. Woodward, 1900. Holotype.

Impression of outer face of imperfect scale.

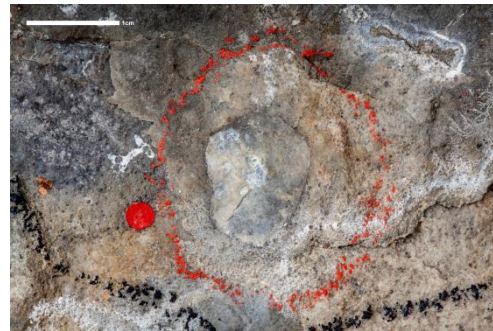
Upper Devonian: Bear Island, Spitzbergen.

Swedish Museum of Natural History, Stockholm.

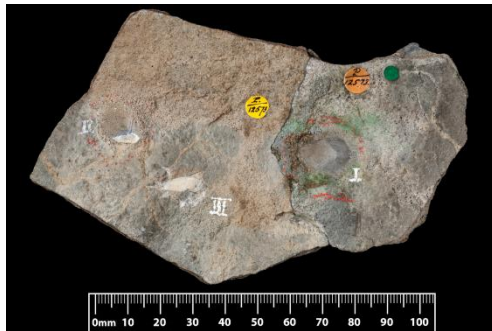
1900. Notes on Fossil Fish-remains collected in Spitzbergen by the Swedish Arctic Expedition, 1898. *Bihang. K. Svenska Vet.-Akad. Handl.* 25, Afd. IV, no. 5, p. 3, Plate, fig. 1.



NHMUK PV P 12573a_1 Lectotype (part)



NHMUK PV P 12573a_2 (Woodward 1921, fig. 25)



NHMUK PV P 12573 Lectotype (counterpart)(White 1968, text fig. 14)



NHMUK PV P 12574 (Woodward 1921, fig. 26)

Nomen nudum Young et al 1992.

Holoptychius antarcticus. Woodward, 1921.

Gyroptychius ? antarcticus. (Woodward), White 1968.

Scale.

Upper Devonian: Granite Harbour, Antarctica.

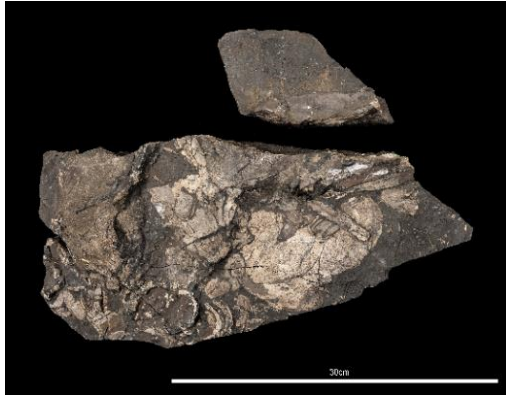
Terra Nova Collection.

1921. Fish-remains from the Upper Old Red Sandstone of Granite Harbour, Antarctica. British Museum (Natural History), London, *Brit. Antarctic ('Terra Nova') Exped. 1910, Nat. Hist. Rep. Geol.* **1**, no. 2, p. 58, pl. 1, figs. 25, 26.

White, E. I. 1968. Devonian Fishes of the Mawson-Mulock Area, Victoria Land, Antarctica. Trans-Antarctica Expedition Committee, *Trans-Antarctica Expedition 1955-1958, Scientific Reports*, **16**, Geology, p. 22, text fig. 14.

Young, G. C., Long, J. A. & Ritchie, A. 1992. Crossopterygian fishes of the Devonian of Antarctica: systematics, relationships and biogeographic significance. *Records of the Australian Museum, Supplement* **14**, p. 28.

Group: Osteichthyes
Class: Sarcopterygii
Order: Crossopterygii
Family: Osteolepidae



NHMUK PV OR 37320-1



NHMUK PV OR 37321



NHMUK PV OR 37320-2

Megalichthys intermedius. Woodward, 1891. Type.

Portions of head (top left & bottom); Pair of jugular plates and portions of jaws.

Coal Measures: Airdrie, Lanarkshire.

Purchased from Mr. J. Russel, July 1st 1863.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II. p. 384.

Group: Osteichthyes
Class: Sarcopterygii
Order: Crossopterygii
Family: Rhizodontidae

NO IMAGE

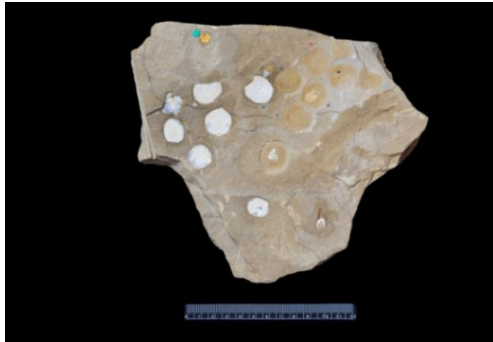
Strepsodus decipiens. Woodward, 1906. Type.

Scales.

Carboniferous: Mansfield, Victoria, Australia

National Museum, Melbourne, Australia.

1906. On a Carboniferous Fish Fauna from the Mansfield District, Victoria. *Mem. Nat. Mus. Melbourne*, no. 1, p. 17.



NHMUK PV P 200

Sauripterus anglicus. Woodward, 1891. Holotype.

Scales and tooth.

Upper Old Red Sandstone: Farlow, Shropshire.

Purchased Weaver-Jones, Oct. 1880.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 366, pl. XVI, figs. 4,6.



NHMUK PV P 4587

Rhizodopsis robusta. Woodward, 1891. Type.

Scale.

Coal Measures: Volpersdorf, Glatz, Silesia.

Enniskillen Collection.

1891. *Catalogue of the Fossil Fishes in the British Museum (Natural History)*, Part II, p. 357, pl. XVI, fig. 3.

Appendix A Countries

The following is a list of the countries from where Smith Woodward described new fossil fishes.

Algeria (Oran)
Antarctica
Argentina (Santa Cruz)
Australia (New South Wales, Queensland, Victoria)
Austria (Carinthia)
Belgium
Brazil (Bahia, Maranhão, Pernambuco, São Paulo)
Canada (Quebec, New Brunswick)
China (Shandong Province)
Egypt (Cairo)
France (Ain, Marne)
Germany (Bavaria, Rhenish Prussia, Württemberg)
Greenland
India (Dongargaon, Srinagar, Warora)
Indonesia (Sumatra)
Iran (Shushtar, capital of Khuzestan Province)
Ireland, Republic of
Italy (Tuscany, Verona)
Lebanon
Madagascar (Andogozo)
Malta
New Zealand
Norway (Spitzbergen)
Russia (Siberia)
South Africa (Cape Colony, Cape Province, Orange Free State)
Sweden (South Scania)
Turkey (Sea of Marmora)
USA (South Carolina)
Zimbabwe (formerly Southern Rhodesia)

Appendix B Collections, Collectors and Dealers

The majority of the Natural History Museum collection of fossil fishes (and many of the important type specimens) has been acquired from amateur collectors either by purchase or donation. Such collectors remain a very important source of new acquisitions. Many of the collectors and their collections up to the year 1900 are described in Woodward 1904. Those in the following list included in this publication are marked with an asterisk and a double asterisk if details have already been mentioned in the chapter on the fossil fish collection (Smith 2015). Details of some collections are given in Smith Woodward's Catalogue of Fossil Fishes (Woodward 1889; 1891; 1895; 1901); these are marked with a dagger, †. Much useful information regarding collections is also contained in the World Palaeontological Collections book (Cleevely 1983). Details of those marked with a double dagger, ‡, can be found in this publication.

Andrews, Reverend W. R. Andrews.

***Atherstone**, The Hon. William Guybon (1813-1898)

Atherstone was a resident at Grahamstown, Cape Colony. He presented the type specimen of *Atherstonia scutata* to the Museum in 1884.

Barnes, F. J.

Barnes headed a company quarrying the famous Portland stone on the Isle of Portland.

****Baugh Collection** - Thomas Baugh.

†**Bayfield Collection**

"Fossil fishes and reptiles, chiefly from the Upper Chalk of Norfolk, purchased from Mr. T. G. Bayfield, of Norwich, 1878." (Woodward 1889).

***Beckles Collection** - Samuel Husband Beckles (-1890).

His Wealden and general collection, comprising about 500 vertebrata and 2000 invertebrata, was purchased in 1891.

****Bowerbank Collection** - James Scott Bowerbank (1797-1877).

***Brodie Collection** - Peter Bellinger Brodie (1815-1897).

Collected at various locations where he was employed by the church e.g. the Upper Silurian of Herefordshire and the Jurassic rocks of Northamptonshire and Leicestershire. His collection of over 25,000 fossils included many valuable type specimens and an extensive selection was purchased in 1895.

‡**Butler**, Francis H. (1849-1935).

"Mineral and fossil dealer; science lecturer; assistant editor, Encyclopaedia Britannica. Became a dealer through his responsibility as an executor." (Cleevely 1983).

†**Byne Collection** - Mr. Byne.

"Miscellaneous fossils from the Jurassic of Gloucestershire, purchased from Mr. Byne, before 1845." (Woodward 1889).

****Capron Collection** - J. Rand Capron.

***Charlesworth**, Edward.

Sold many fossils to the Museum, 1875.

***Clifton, George**.

“Presented a collection of British fossils, including fish-remains from the Portland Stone (*Caturus cliftoni*, &c.), 1889.” (Woodward 1904).

Crawley, Cecil.

***Crofton**, Addison.

“Presented Mollusca from the Carboniferous Limestone of Yorkshire, 1898.” (Woodward 1904).

***Damon**, Robert (1814-1899).

This well-known Weymouth dealer in natural history specimens made a private collection that was purchased in 1890.

‡**Damon**, Robert Ferris (1845-1925).

Weymouth dealer in fossils, shells and minerals. His stock of natural history material sold at auction between 1909-10.

‡**Davis**, Arthur George (1892-1957).

“Palaeontologist, naturalist and bibliophile; noted for his contribution to our knowledge of the British Lower Tertiaries, particularly the micro-fossils.” (Cleevely 1983).

‡**Day Collection** - Alfred Ely Day.

Professor of Geology, American University of Beirut.

‡**Dibley Collection** – George E. Dibley, F.G.S. (1857-1943).

Teacher.

Dixon, George G.

****Dixon Collection** - Frederic Dixon (1799-1849).

‡**Doran**, Patrick? (?1784-1880).

Mineral and fossil collector and dealer of Glassdrummond, Co. Down.

***Edwards Collection** - Frederick Erasmus Edwards (1799-1875)

Edwards was a member of the London Clay Club and a founder of the Palaeontographical Society. The bulk of his collection was purchased in 1872-1873.

****Egerton Collection** - Sir Philip Malpas de Grey Egerton (1806-1881).

****Enniskillen Collection** - William Willoughby Cole, Third Earl of Enniskillen (1807-1886).

***Exton**, Hugh.

“Presented fossil Fishes from the Stormberg Beds of South Africa, namely, *Semionotus capensis* in 1883, and *Cleithrolepis extoni* in 1888... “. (Woodward 1904).

‡**Finlay**, T. M.

Edinburgh University.

***Fox Collection** - Rev. William Darwin Fox (-1882).

“Fox collected from the Wealden cliffs ... of the Isle of Wight in the neighbourhood of Brixton, where he lived.” ... His collection was purchased in 1882. (Woodward 1904).

****Gardner Collection** - John Starkie Gardner (1845-1930).

‡**Garwood**, Edmund Johnston, FGS (1864-1949).

Professor of Geology and Mineralogy, University College, London. President of the Geological Society of London(1930-32).

***Gollmer**, C. H. V.

Collected in the Lebanon, purchased 1896.

***Gordon**, John.

"Presented fossil Fishes from the Lignite of Taubat , San Paulo, Brazil, 1900."
(Woodward 1904).

***Gregory**, John Walter

Dr. Gregory made an important collection of fossils in Spitzbergen,
donated in 1896.

Griffith, William.

Fossil collector from Folkestone, Kent.

****H berlein Collection** - Karl H berlein.

***Harford Collection** - Frederick Harford.

"For many years, Harford relieved the tedium of a city life by the preparation of Chalk fossils. His specimens were collected chiefly by Joseph Wood in the neighbourhood of Cuxton and Burham, Kent. ... Besides the beautifully-prepared Chalk fossils, especially fishes, Harford accumulated a few specimens from other formations, some of them valuable. The greater part of the collection, numbering 1108 specimens, was purchased from him in 1888. In the same year he presented to the Museum the type-specimen of *Thrissops portlandicus*, A. S. Woodw., from the Portland Stone ..." (Woodward 1904).

***Harris Collection** - William Harris (1797-1877).

"A selection of about 240 specimens from the collection left at his death was purchased by the Museum from his daughter in 1881. It comprised ... various fish-remains ..." (Woodward 1904).

‡**Hislop**, Reverend Stephen (1817-1864).

Holland, Alfred.

‡**Hooley**, Reginald Walter F.G.S (1865-1923).

Honorary Curator of Winchester Museum.

***Houzeau Collection** - Houzeau de Lehaie (A.)

"Presented Upper Cretaceous and Eocene fish-teeth from Belgium, 1889."
" (Woodward 1904).

‡**Hovenden**, Frederick, F.G.S, F.L.S (*fl.* 1864-1907).

Lived at Dulwich c. 1885.

***Jesson Collection** - Thomas Jesson.

"Mr. Jesson began his collection at Cambridge, when he obtained a fine series of fossils from the Cambridge Greensand... 2709 fossils from the Cambridge Greensand were purchased from him in 1891, 1892, and 1894 respectively." (Woodward 1904).

****Weaver Jones Collection** - W. Weaver Jones.

King, William Wickham (1862-1959).

Stourbridge solicitor, amateur geologist and F. G. S., wrote on the Old Red Sandstone of Shropshire in particular.

***Krantz**, A. and F.

Numerous purchases have been made, especially of Continental fossils, from these dealers.

***Leeds Collection** - Alfred Nicholson and Charles E. Leeds.

The Leeds brothers were assiduous collectors of fossil reptiles and fishes from the Oxford Clay pits near Peterborough. Their first collection was purchased in instalments in 1890, 1891, 1892 and 1893. The Leeds collection "comprises many type and unique specimens ... [including] fishes..." (Woodward 1904).

****Lewis Collection** - Reverend Professor E. R. Lewis.

****Mantell Collection** - Gideon Algernon Mantell (1790-1852).

***‡Marsham** - Hon. Robert Marsham-Townsend (1834-1915).

"Presented a valuable collection of British fossils and some Cretaceous Fishes from Brazil, 1877." (Woodward 1904).

***Mawson, Joseph.**

"While occupied with the construction of railways in Bahia, Brazil, Mr. Mawson has made a valuable collection of Cretaceous Reptilia, Pisces, and Mollusca from that region. It has been presented by him to the Museum in several small instalments from 1881 onwards, and comprises the type-specimens of *Lepidotus mawsoni*, *Megalurus mawsoni*, and *Acrodus nitidus*, ..." (Woodward 1904).

‡Molyneux, Arthur John Charles F.G.S. (d. 28 Dec. 1920).

Mining engineer who discovered chalcedonized fossils in Kalahari Desert.

***Owen, Sir Richard.**

"Many specimens given personally to Sir Richard Owen were presented by him to the Museum." (Woodward 1904).

Penny, E.

***Penton, R. H.**

"Presented dentition of *Myliobatis pentoni* from Eocene near Cairo, 1893." (Woodward 1904).

‡Roberts, George E. F.G.S (1831-1865).

‡Rubidge Collection - Richard Nathaniel Rubidge (1821-1869).

South African doctor interested in geology, particularly metamorphism.

Russel, J.

***Seeley, Harry Govier.**

Smith Woodward's father-in-law (see Shindler & Smith 2015; Smith & Shindler 2015).

Short, J. J. R.

***Simmons, Jeremiah.**

"An expert collector of Chalk fossils, from whom many specimens were purchased." (Woodward 1904).

****Mrs. Smith's Collection** - Mrs. M. H. Smith.

Smith, R. J.

****Toulmin Smith Collection** - Joshua Toulmin Smith (1816-1869).

Souza, Professor Ennes de Souza.

‡**Stebbing**, W. P. D., F.G.S.

***Sweet**, George.

“Discovered and presented a specimen of *Belonostomus sweeti* from the Cretaceous of Queensland, 1895.” (Woodward 1904).

****Taylor Collection** - Henry William Taylor (-1843).

‡**Teilhard de Chardin**, Marie Joseph Pierre (1881-1955).

French Jesuit philosopher, biologist and palaeontologist, who was restricted by the supervision of his Catholic superiors in Rome and prevented from publishing between 1923-51, this eventually caused him to emigrate to North America.

***Tennant**, James.

“A lecturer on Geology and Mineralogy and a dealer from whom many specimens were purchased. An extensive selection from his private collection of English fossils was purchased ... in 1881-82.” (Woodward 1904).

***Verbeek**, R. D. M.

“Presented fossil Fishes from Tertiary Lignite at Padang, Sumatra, 1876.” (Woodward 1904).

Vyse, Colonel Howard.

***Ward**, John.

“Resident at Longton, Staffordshire, Mr. Ward has been occupied for forty years in collecting the fossils, especially fishes ... of the North Staffordshire Coalfield. ... A set of 1072 selected fossils, comprising many type-specimens and other specimens described by Egerton, John Young, and Traquair, was purchased ... in 1894.” (Woodward 1904).

****Wetherell Collection** - Nathaniel Thomas Wetherell (1800-1875).

***Wright**, Bryce M.

“Many fossils were purchased from this dealer, ... 1873.” (Woodward 1904).

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