

# The *Challenger* Medal Roll (1895)

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The *Challenger* Medal of T. Digby Pigott  
(courtesy DNW actions, London, 2004)

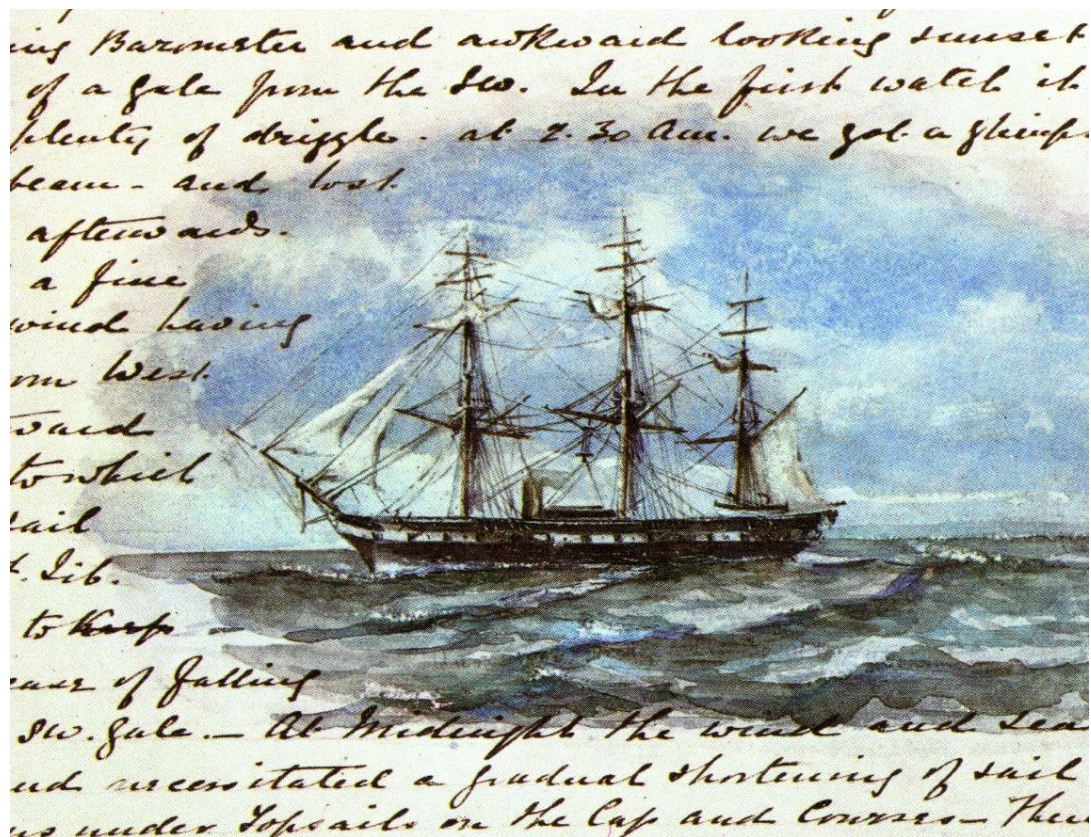
## INTRODUCTION

My intention is to provide anyone who seeks it, useful information regarding the medal commemorating the 1872-76 worldwide voyage of HMS *Challenger*, which (in hindsight) celebrates the beginning of the modern science of oceanography. I would be pleased to receive any additional information about the *Challenger* Medal, and in particular, be made aware of other existing examples of this medal. Please contact me at [eloasis@earthlink.net](mailto:eloasis@earthlink.net).

## BACKGROUND

*The objects of the Expedition have been fully and faithfully carried out. We always kept in view that to explore the conditions of the deep sea was the primary object of our mission, and throughout the voyage we took every possible opportunity of making a deep-sea observation. Between our departure from Sheerness on December 7th, 1872, and our arrival at Spithead on May 24th, 1876, we traversed a distance of 68,890 nautical miles, and at intervals as nearly uniform as possible we established 362 observing stations.*

Professor Sir Charles Wyville Thomson



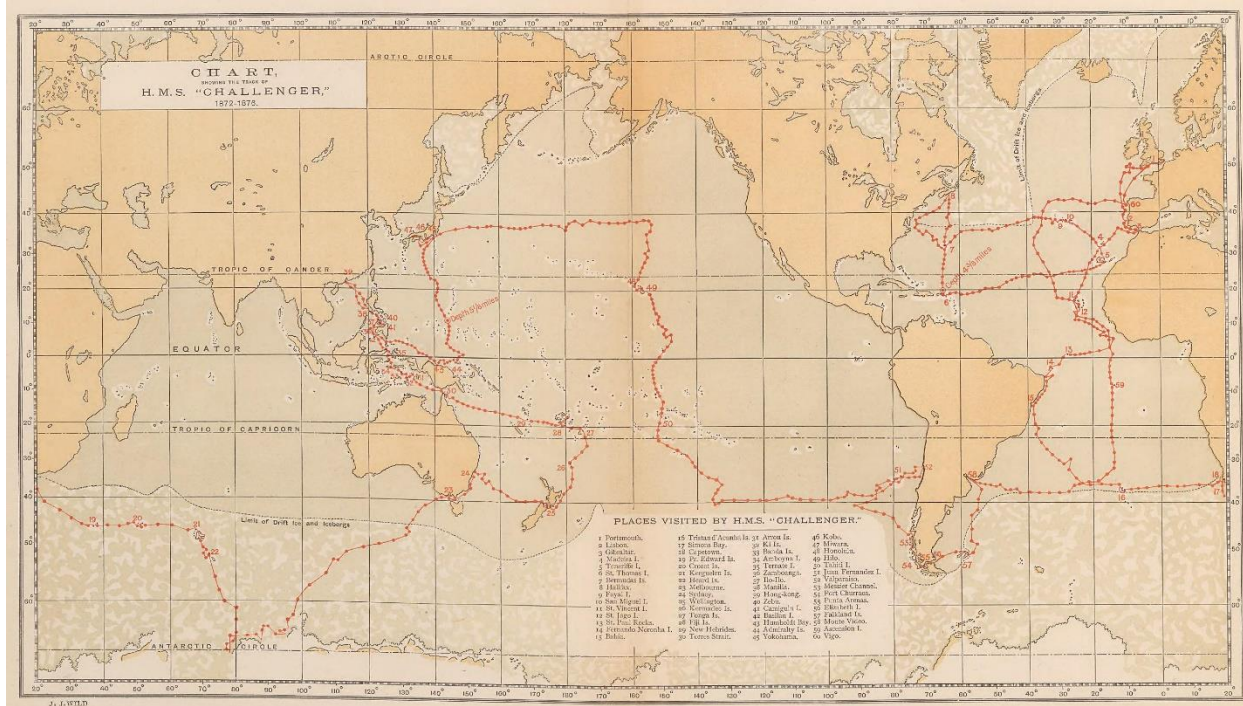
The first page of Senior Lieutenant Aldrich's journal, with his watercolor sketch of *Challenger*. (courtesy Royal Geographical Society)

But the work of the *Challenger* Expedition had only just begun. A group of specialists, individuals learned in their own subjects, would spend years describing and drawing the specimens that filled storehouses and laboratories. Then, the daunting task of publishing the results fell for the most part on the shoulders of John Murray. For the authors of the *Challenger Reports*, they

*received nothing more than a copy of the publication and a small honorarium to cover their expenses. In further appreciation it was resolved that a Challenger medal be struck (sic). The Treasury refused to pay for it and John Murray had the medal designed and executed at his own expense and himself sent replicas to those who had shared in the expedition or in the preparation of the Report. He himself was honoured by the Royal Society when he was admitted Fellow in 1896. Official commendation by the Government was deferred until 1898, when the Queen conferred to John Murray the rank of KCB in recognition of his outstanding contributions to science.*<sup>1</sup>

Contemporary writings in the journal *Nature* stated the medal “is being presented by Dr. John Murray to the naval officers of the expedition, the contributors of memoirs to the report[s] on the scientific results of the expedition, and to members of the civilian scientific staff, as a souvenir of

*Challenger* work.”<sup>2</sup> There were instances where medals were issued to individuals who fell outside this scope. One person concerned was Laurence Pullar. He had an engineering and business background, was a man of wealth, and took a broad view of public service. Pullar was also a life-long friend of Murray’s, and a Fellow of both the Royal Society and Royal Society of Edinburgh.



**Challenger's Route.** (Wild, 1878)

### NUMISMATIC DETAILS OF THE CHALLENGER MEDAL<sup>3</sup>

*Obverse:* Commemorates the voyage. In the center is a head and shoulders left-facing profile of the Roman goddess of wisdom and war, Minerva (in one of her many roles). Next to her is the image of an owl, her sacred bird (which is why wisdom is associated with owls).<sup>4</sup> These figures are superimposed upon a globe with lines of latitude and longitude. I know of at least one example of the medal with only the lines of longitude on the globe.<sup>5</sup> Partially encircling Athena and the owl is what appears to be an evergreen laurel branch; to the Greeks and Romans the laurel symbolized acquired immortality, both in battle as well as in the arts.<sup>6</sup> The whole is bordered by water, indicating the Expedition's round-the-world voyage. Figures from the sea include the Roman god of the sea, Neptune, who is grasping what appears to be a bottom sampler trawl in his right hand (disclosing treasures from the deep). He cradles his trident in the left hand. A stylized dolphin is close by, and two mermaids support a long ribbon, which carefully conceals their charms. The ribbon bears the words: VOYAGE OF H.M.S CHALLENGER/1872-76.

*Reverse:* Commemorates work on the *Challenger* Reports. The central figure is a standing armored knight, throwing the gauntlet from his right hand into the sea (presumably to Neptune), whose trident appears above the waves – this being the crest of HMS *Challenger*. The trident is partially wrapped in a long ribbon, which extends the entire circumference of the reverse. The ribbon bears the wording: REPORT ON THE SCIENTIFIC RESULTS OF THE CHALLENGER EXPEDITION 1886.95.

*Size:* 75 mm (3 inches ).

*Metal:* bronze (*possibly* also manufactured in silver, and though I have never seen an example in this metal, one example supposedly exists, and Brown states the medal was manufactured in silver).<sup>7</sup>

*Designer and Sculptor:* William S. Black (an Edinburgh artist who actively exhibited between 1881-97) and William Birnie Rhind, RSA (1853-1933/an Edinburgh sculptor).<sup>8</sup>

*How manufactured:* cast.

*Manufacturer:* unknown maker in Paris.

*Naming:* Recipient's first name and surname are engraved on the edge at six o'clock, in thick serif or sans serif capitals. Sometimes only the first and middle initials are engraved.

*Number Cast:* unknown.

*Number Issued:* *List of Recipients of the Challenger Medal* states 120 medals were issued. Below, the *List* reveals the totals of issued medals from Aug. 29, 1895 through Feb. 15, 1897:

Up till Aug. 29. [1895]

95 medals have been despatched (as per list)

4 without names (1 to Mr. Irvine Smith - Aug. 27.95)

1 " " taken to Holland by Mr.(sic) Murray

1 engraved Monteith [struck through, but a named medal is known]

100

Dec.16.1895.

Jan.14 96

Feb. 15 97

107 medals engraved  
1 Dr. Murray  
1 Mr. Irvine Smith  
11 in office  
120

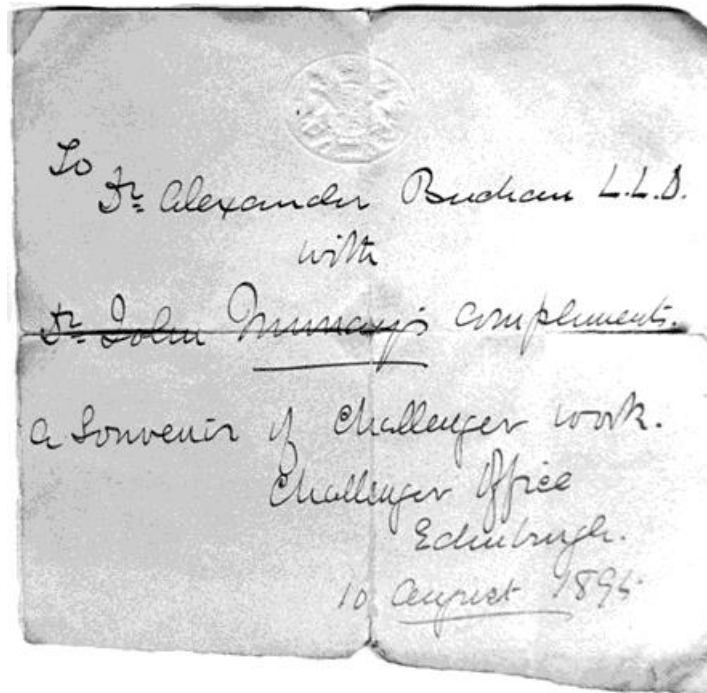
111 medals engraved  
1 Dr. Murray  
1 Mr. Irvine Smith  
7 in office  
120

118 medals engraved  
1 Dr. Murray  
1 Mr. Irvine Smith  
120

The medal was issued from the *Challenger* Office, Edinburgh, in a red leather fitted and hinged case, with dark green velvet interior, which has “James Crichton & Co., 47 George St., Edinburgh” printed on white silk/satin on the inside lid. It comes with a simple handwritten document noting the recipient’s name, and that it is a souvenir of Challenger work.<sup>9</sup> Several medals were hand delivered by Dr. Murray, but the majority were sent by post.



The *Challenger* Medal in its (damaged) case of issue to Acting Assistant Engineer William J. Abbott. (courtesy The London Medal Company)



**Handwritten note accompanying the *Challenger* Medal to Alexander Buchan.**  
(courtesy St. Columba's Hospice, Challenger Lodge, Edinburgh)

## **CHALLENGER MEDAL ROLL**

Assembling a complete medal roll presented various challenges. Laurence Pullar's award is but one example, as he did not (as far as I am aware) fit the criteria for the award, and yet he received a medal. Two other problems derive from the article in *Nature*. These writings state Dr. Murray was presenting medals "to the naval officers of the expedition, the contributors of memoirs to the report[s] on the scientific results of the expedition, and to members of the civilian scientific staff, as a souvenir of *Challenger* work." Firstly, there are nine individuals included in Walter Crane's *Challenger Expedition Reports. Portraits of the Contributors, Reproduced from the Photographs Presented by Them to John Murray, etc.* (1897), who do not appear on the *List of Recipients of the Challenger Medal*, and there seems no apparent reasons for their omissions. The second problem is whether or not "contributors" included their assistants; perhaps in some cases the answer was yes, but not in other cases. Frederick Gordon Pearcey had one foot in each of the two worlds, as he was a naval Domestic 3<sup>rd</sup> Class and an assistant to the naturalists onboard. His shipmate, Writer 3<sup>rd</sup> Class Richard Wyatt, must have significantly help record data, and was thus rewarded with the medal. One recipient was a certain "Miss Annie Sclater," who was perhaps related to the ornithologist Philip L. Sclater. I cannot find links with the Expedition or subsequent scientific work among some individuals at the end of the Roll, but more research and time will undoubtedly unmask their roles. The naval ranks shown are those existing at the time of the Expedition.

## NAVAL PERSONNEL

NAME	RANK	NOTES
1) ABBOTT, William J. (1850-1906)	Acting Assistant Engineer	<p>Medal sent to HMS <i>St. George</i>, Simon's Bay, Cape of Good Hope. Medal known within a family group and named "W.J. ABBOTT," and in case of issue; East and West Africa Medal 1887-1900/Benin 1897 (W.J. ABBOTT, FL. ENGR: H.M.S. ST. GEORGE.), mounted as worn; Order of the Brilliant Star (Zanzibar/Commander's neck badge); Masonic Royal Naval Lodge Past Master's Jewell, Royal Alfred Lodge No. 420, top brooch engraved "BRO.W.J.ABBOTT.PM.97" (97th Past Master), silver gilt, London hallmarks with date letter "b" for 1897. Son – Commander William St. George Abbott – 1914-15 Star (LIEUT. W. ST. G. ABBOTT. R.N.), British War Medal and Victory Medal (LIEUT. W. ST. G. ABBOTT. R.N.), swing mounted as worn. Also entitled to the Defence and War Medals 1939-45. Together with an HMS <i>Vampire</i> silver brooch, Birmingham hallmarks, with date letter "s" for 1917; tunic medal ribbon bar for First War trio; Royal Life Saving Society Bronze Proficiency Medal, reverse engraved "W. ST. G. ABBOTT JULY 1910" (fitted presentation case); an original photograph taken in wartime, showing him and fellow officers aboard a warship, believed to be HMS <i>Vampire</i>; and another photograph of him and his wife taken on their wedding day post war, wearing full dress uniform, and his 1914-15 trio; and two framed family crests, both hand done by W. &amp; A. Mussett of Lincoln's Inn, London.</p>



- 2) ALDRICH,  
Pelham  
(1844-1930)



First  
Lieutenant

Medal sent to Captain Aldrich, HMS *Hawke* (Mediterranean Squadron), Admiralty, London. Medal known, with case of issue and document, in NMM, and named "PELHAM ALDRICH". Donated by Aldrich's great-nephew.<sup>10</sup> Promoted to Commander after Expedition. Entitled to the Arctic Medal 1875-76 (First Lieutenant/HMS *Alert*). Commanded the Western Sledge Party (Ellesmere Island) during the Arctic Expedition. Captain's Good Service Pension, November 1894. Rear Admiral, 1898. Admiral Superintendent of Portsmouth Dockyard, 1899-1902. Attended the departure of the Royal Coffin from Gosport, at the funeral of Queen Victoria, Feb. 1, 1901. CVO (1902). Admiral 1907. Retired 1908. Aldrich's journal is in the RGS archives.

- 3) ALLEN,  
Alfred J.

Engineer

Shown as Allan on the List. Medal sent to a residence, but then forwarded to the Admiralty. Medal known in Royal Naval Museum (Portsmouth) and named "A.J. ALLEN".

- 4) BALFOUR,  
Andrew F.



Sub-  
Lieutenant

Medal sent to Commander Balfour, HMS *Penguin* (Australian Station), Admiralty, London. Balfour captained the *Penguin* from 1893-95. In 1895, he made three soundings in over 5,000 fathoms in the Kermadec Trench, the deepest obtained to that date.

5) BETHELL,  
George R.  
(1849-1919)



Lieutenant Medal sent to Commander Bethell, 43 Curzon Street, Mayfair, London. Also entitled to the Egypt and Sudan 1882-89 Medal/no clasp (Lieutenant/HMS *Minotaur*) and Khedive's Star (1882). Later an MP for Holderness Division, Yorkshire, for many years.

6) BROMLEY,  
Arthur C.B.



Lieutenant Medal sent to Captain Bromley, HMS *Endymion*, (Channel Squadron), Admiralty, London. Assistant Surveyor, 3<sup>rd</sup> Class.

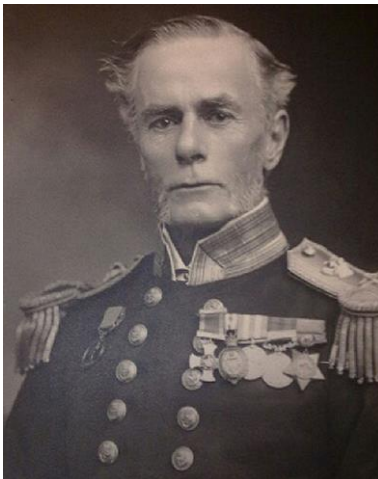
- 7) CAMPBELL,  
Lord George Granville  
(1850-1915)



Sub-  
Lieutenant

The fourth son of George John Douglas Campbell, 8<sup>th</sup> Duke of Argyll and Lady Elizabeth Georgina. Author of *Log-Letters from "The Challenger"* (London, 1877).

- 8) CARPENTER,  
Alfred  
(1847-1925)



Lieutenant

Medal sent to Commander Carpenter's agent in Westminster, London. Received the Albert Medal (Sea/2<sup>nd</sup> Class) during the Expedition (Stanley Harbour, Falkland Islands, Jan. 31, 1876), and awarded the RHS Bronze Medal for the same incident. DSO and specially MID for services during the annexation of Burma, and in 1889 he received a letter from the Indian Government recording their appreciation of his valuable services. Entitled to IGS/Burma 1885-7 (Commander/HMS *Bacchante*; Commander-in-Charge of the Marine Survey of India, 1884-September 1889); Egypt and Sudan 1882-89 Medal/no clasp (Commander/HMS *Myrmidon*) and Khedive's Star, 1884-86. FRMS; FZS. In November 2010, at the preview of the opening of the new VC and GC Gallery at the Imperial War Museum, Carpenter's great-granddaughter told a medal collector his medals were stolen in 1908 and some were replaced. Carpenter's original IGS and RHS awards were acquired at Spink's Nov. 25, 2010 sale (lot 75) and reunited with his *replacement* AM (titled case), DSO (silver-gilt/cased), Egypt and Sudan (later style

naming) and Khedive's Star, 1884-86. The RHS Medal lacks its top ribbon buckle, but is mounted for wearing, just as Carpenter wore it. The group now resides in a private UK collection.

9) CHANNER,  
Arthur



Sub-  
Lieutenant

Medal sent to Captain Channer, Light House Department, Colombo, Ceylon. Entitled to IGS/Burma 1885-7, when Assistant Superintendent of the Indian Marine Survey, and served with the Naval Brigade (MID). Assistant Superintendent, First Grade, Indian Marine Survey, May 1882 to August 1887.

10) HAVERGAL,  
Arthur  
(1851-?)



Sub-  
Lieutenant

Medal sent to Captain Havergal, Hydrographic Department, Admiralty, London. Assistant Surveyor 1<sup>st</sup> Class. Specially promoted to Lieutenant for services during the Expedition.

11) HIGHAM,  
Robert  
(?-1934)

Acting  
Carpenter

Medal sent to HMS *Victory*, Portsmouth.  
Medal known and in the possession of Higham's great-grandson in Quebec City, Canada. Higham's father was a shipbuilder in Rochester, Kent (the Higham Yard, which closed in 1907). Robert Higham rose to the rank of Chief Carpenter, retiring from the Royal Navy at Halifax, Nova Scotia (his last posting) in 1901. Higham died in Montreal in 1934 and is buried in the Mount Royal Cemetery in that city.

12) HOWLETT,  
William A.

Assistant  
Engineer  
2<sup>nd</sup> Class

Medal known. Medal sent to HMS *Grafton*, Chatham.



13) HYNES,  
John

Assistant  
Paymaster

Medal sent to HMS *Northampton*, Sheerness.

14) MACLEAN,  
George

Staff  
Surgeon

Medal sent to Surgeon-General Maclean, RN Hospital, Haslar, Gosport.

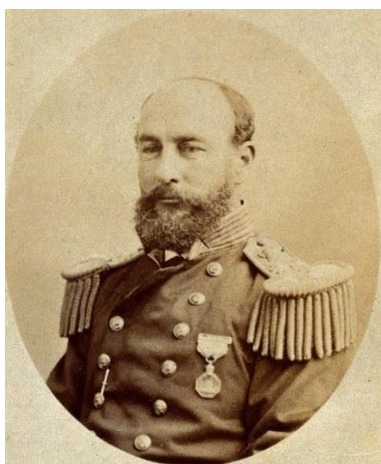


- 15) MACLEAR,  
John Fiot Lee Pearse  
(1838-1907)



Commander Medal delivered by Dr. Murray. A contributor to the Narrative, Maclear was second-in-command throughout the entire voyage, and was afterwards promoted to Captain. Assistant Surveyor, 2<sup>nd</sup> Class. Retired Vice-Admiral, Aug. 23, 1897. Entitled to Crimea/Sebastopol, Baltic, Turkish Crimea Medals (Midshipman/HMS *Algiers*), China Medal 1857- 60/Taku Forts 1860 (Lieutenant/HMS *Sphinx*), Abyssinia 1867-68 Medal (First Lieutenant/HMS *Octavia*). He is reputed in the *Dictionary of National Biography 20th Century* and *The Times'* obituary to have served as a Naval Cadet on HMS *Castor* during the South African War, 1850-53, but he is not on the medal roll. In addition, a photograph of Maclear wearing his miniature medals does *not* show him with the South Africa 1834-53 Medal. Admiral 1903. A mounted group of five miniatures attributed to Maclear was sold at Spink (April 25, 2018, lot 422): Crimea/Sebastopol; Baltic; China 1857-60/Taku Forts 1860; Abyssinia 1867-68; Turkish Crimea.

- 16) NARES,  
George Strong  
(1831-1915)



Captain Medal delivered by Dr. Murray. Contributor to the *Reports*. Also entitled to the Arctic Medal 1818-55 (Mate/HMS *Resolute*/1852-54) and Arctic Medal 1875-76 (Captain/HMS *Alert*/Commander of the Expedition). FRS (1875), RGS Founder's Gold Medal (1877). Gold Medal of the Soci  t   de Geographie de Paris. KCB upon his return from the Arctic Expedition. Vice-Admiral on the Retired List in 1892.

- 17) PEARCEY,  
Frederick Gordon  
(1857-1927)



Domestic,  
3<sup>rd</sup> Class

Assistant to scientists, with duties in the chemical laboratory. Employed by the Challenger Commission upon his return of the Expedition. Contributor to the *Reports*. Along with Writer 3<sup>rd</sup> Class Richard Wyatt, one of only two other ranks to receive the medal.

- 18) RICHARDS,  
R.R.A.

Paymaster

Medal delivered to Erlands, Crondall, Hants. Unpublished journal rests in the archives of the RGS.

- 19) SLOGGETT,  
Henry Charles  
(1852-1905)

Sub-  
Lieutenant

Medal sent to Honolulu, Sandwich Islands. Later resigned his commission and went to medical school in Glasgow. Dr. Sloggett, his wife and daughter, arrived in Honolulu in 1896, having come from the state of Washington. In 1900, he helped organized the Honolulu Microscopic Society. He was also a member of the Medical Association of Hawaii and its president in 1903.

- 20) SPRY,  
William James Joseph  
(?-1906)



Engineer

Medal delivered to Therapia, St. Andrews Road, Southsea. *The Cruise of HMS Challenger* (London, 1880). Spry is shown in Albanian dress (left) in his book, *Life on the Bosphorus: Doings in the City of the Sultan. Turkey, Past and Present* (1895), and wearing the Order of Medjidie (3<sup>rd</sup> Class neck badge). FRGS, FRHS.

21) SWIRE,  
Herbert  
(1851-1934)



Sub-  
Lieutenant

Medal sent to Commander Swire, HMS Australia, Southampton. *The Voyage of the Challenger* (two volumes, limited edition; London, 1937).

22) THOMSON,  
Frank Tourle  
(1829-84)



Captain  
(1875-76)

Medal known and probably named "F.T. THOMSON," in case of issue, within an old family chest containing many nautical diaries, certificates, logs, and private letters. Medal sent to Thomson at The Palace, Hampton Court, London. In charge of survey. Contributor to the *Reports. Mate*, March 23, 1851; Lieutenant, May 23, 1854; Commander, Jan. 29, 1863; Captain, Dec. 29, 1868; awarded a Good Service Pension, Jan. 26, 1883. Retired List (age), Oct. 14, 1884. Crimea/Sebastopol and Turkish Crimea Medals (Lieutenant/HMS *Fury*).

23) TIZARD,  
Thomas Henry  
(1839-1924)






Staff  
Commander Medal delivered by Dr. Murray. Asst.  
Surveyor, 1<sup>st</sup> Cl. Contributor to the Narrative  
and Meteorological Observations. Baltic  
Medal (Master's Assistant/HMS *Dragon*);  
CB (1889); FRS; FRGS.

24) WYATT,  
Richard

Writer,  
3<sup>rd</sup> Class

Medal known within a group. Probably  
named "R. WYATT" and delivered to 113  
Powerscourt Road, Portsmouth. Together  
with an Egypt and Sudan Medal 1882-  
89/Alexandria 11<sup>th</sup> July (dated/Writer 1<sup>st</sup>  
Class/HMS *Alexandra*), Naval Long Service  
and Good Conduct Medal (impressed/Writer  
1<sup>st</sup> Class/HMS *Alexandra*), and Khedive's  
Star (1882); these three kept in a case. Still a  
Writer 1<sup>st</sup> Class in 1886, Wyatt was chosen  
to be a Permanent Writer in the Office of the  
Chief Inspector of Machinery, Portsmouth.  
Wyatt was promoted to Chief Writer on July  
1, 1889, and was pensioned Oct. 19, 1897.

## CIVILIAN SCIENTISTS

NAME	TITLE(S)	NOTES & SPECIALTIES
25) BUCHANAN, John Young (1844-1925)	Chemist & Physician	Contributor to the <i>Reports</i> . Specific Gravity of Ocean Water. FRS (1887).
		
26) MOSELEY, Henry Nottidge (1844-91)	Naturalist	Zoologist and Anthropologist. <i>Notes by a Naturalist on HMS Challenger</i> (London, 1880). Contributor to the Narrative. Hydroid and other Corals; Phosphorescent Organ of Ipnops. Royal Medal (1887); MA; FRS (1877); FZS; FLS.
		
27) THOMSON, Sir Charles Wyville (1830-82)	Director of Civilian Scientific Staff	Medal awarded posthumously sent to a Miss Dawson (presumably a relative). Contributor to and first editor of the <i>Reports</i> . Introduction of the <i>Zoological Reports</i> . FRS (1869). Sir Wyville Thomson was an important proponent for ocean research in the 1860s that ultimately led to the <i>Challenger</i> Expedition. He was Chief Scientist for the dredging voyages of HMS <i>Porcupine</i> and <i>Lightning</i> , and authored <i>The Depths of the Sea</i> in 1873, which summarized the findings of these voyages and presented a case for a global oceanographic voyage of exploration.
		

28) WILD,  
John James  
(1828-1900)



Artist &  
Secretary

Author of *At Anchor: A Narrative of Experiences Afloat and Ashore During the Voyage of H.M.S. Challenger from 1872 to 1876*. (London, 1878). *Thalassa: An Essay on the Depth, Temperature, and Currents of the Ocean*. (London, 1877). Contributor to the Reports. A Swiss national.

29) WILLEMOES-SUHM,  
Rudolf von  
(1847-75)

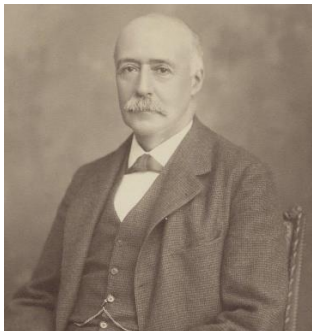
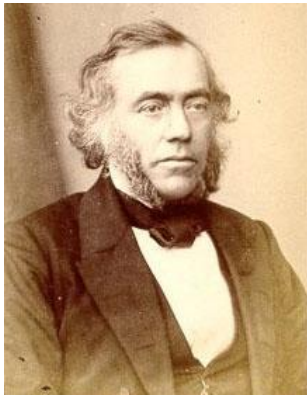



Naturalist

Medal awarded posthumously and sent to his mother. Marine Biologist. He died at sea of erysipelas, age 28, Sept. 13, 1875, on passage to Tahiti, and was buried at sea. A memorial tablet given to the family by Thomson, Murray, Buchanan, Moseley and Wild, now rests at the family burial place in Bad Segeberg (about 30 miles south of Kiel).

## CONTRIBUTORS TO THE REPORTS

There was a conscious decision to invite the world's premier specialists to conduct the investigations and write the various *Challenger Reports*. This was done at the vigorous insistence of J.J. Thomson, who experienced considerable pressure to give a more prominent role to British scientists.

NAME	SPECIALTIES AND/OR POSITIONS	NOTES
30) AGASSIZ, Alexander (1835-1910)	Echinoidea.	Marine Zoologist and Oceanographer. FRS (1891). Agassiz performed extensive explorations in the U.S. littoral areas prior to the expedition. An advisor and valuable assistant to Thomson immediately after the expedition, he helped catalog specimens and form the initial plans for the <i>Reports</i> .
		
31) ALLMAN, George James (1812-98)	Hydroida.	Medal known and named "G.J. ALLMAN". Marine Zoologist. Royal Medal (1873); Brisbane Gold Medal (1877); Conningham Gold Medal (1878); The Linnean Medal (1896). MD; LLD; FRCSI; FRS (1854); FRSE; MRJA; CMZS.
		
32) BEDDARD, Frank Evers (1858-1925)	Isopoda.	Member of Editorial Staff. Naturalist to the Challenger Expedition Commission (1882-84). MA; DSc; FRS (1892); Prosecutor of the Zoological Society (1884-1915); FRSE; FZS.
		

- 33) BERGH,  
Ludvig Sophus Rudolph  
(1824-1909)



Nudibranchiata;  
Marseniadae.

Invertebrate Zoologist. MD. A Danish national, Bergh worked in Copenhagen. As a doctor his specialty was sexually transmitted diseases. As a zoologist he studied molluscs, in particular nudibranchs, shell-less marine gastropods. Bergh also wrote reports of the *Albatross Expedition* (1884) and the *Siboga Expedition* (1889-1900).

- 34) BRADY,  
George Stewardson  
(1832-1921)



Copepoda;  
Ostracoda.

MD; FRS (1882); FLS; FGS.

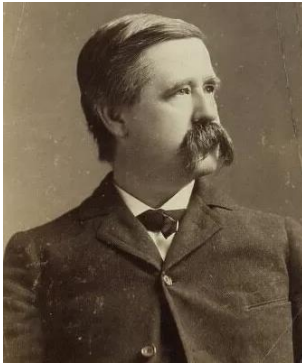
- 35) BROOK,  
George  
(1857-93)



Antipatharia.

Medal awarded posthumously and sent to his wife. FLS; FRSE.

- 36) BROOKS,  
William Keith  
(1848-1908)



Stomatopoda.

American Zoologist known for his research into the anatomy and embryology of marine animals. Elected a Member of the National Academy of Sciences in 1884.

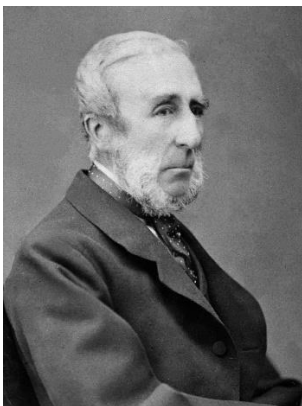
- 37) BUCHAN,  
Alexander  
(1829-1907)



Atmospheric and  
Oceanic  
Circulation.

Meteorologist. Medal known with document, held at St. Columba's Hospice, Challenger Lodge, Edinburgh. Secretary of the Scottish Meteorological Society in Edinburgh. MA; LLD. FRS (1898).

- 38) BUSK,  
George  
(1807-86)



Polyzoa.

Medal awarded posthumously; known and named "GEORGE BUSK". Ex-Surgeon, Royal Navy. Parasitologist, Zoologist and Paleontologist. Royal Medal (RS/1871); Lyell and Wollaston Medal (GS/1878 & 1885). X Club Member.<sup>11</sup> MRCS London (c. 1830); FRCS (1843); FLS (1846); FRS (1850); FGS Busk appears in the group photograph of the Royal Society's scientific party onboard the *Challenger* (December 1872)

- 39) CARPENTER,  
Philip Herbert  
(1852-91)



Comatulæ and  
Stalked Crinoids.

Medal awarded posthumously  
and sent to his wife.  
Crinoidologist (Zoologist &  
Paleontologist). FRS (1885);  
FLS. Son of William Benjamin  
Carpenter (1813-85), a  
physiologist who contributed to  
the *Reports*, but is oddly absent  
from the medal *List*.

- 40) CHUMLEY,  
James  
(1861-1948)



Secretary to the  
Director & Editor.

Medal known. Acknowledged in  
the *Challenger Reports* for his  
assistance.

- 41) COMBER,  
Thomas Radcliffe  
(1832-1902)



Diatoms. Botanist.

- 42) CREAK,  
Ettrick W.  
(1835-1920)



Magnetical Results. Medal sent to Staff Commander Creak, Hydrographic Department, Admiralty, London; known and named to "E.W. CREAK". Promoted to Second Master, Dec. 9, 1858. Captain, RN, in 1901, and Director of Compasses in the Royal Navy's Hydrographer's Department. Instructions for the set of magnetic instruments used by the 1901-04 British National Antarctic Expedition were supplied by Creak. FRS (1885); KCB (1901).

- 43) CUNNINGHAM,  
Daniel John  
(1850-1909)



Marsupialia.

MD; FRS (1891); FRSE; FRAI.

- 44) CUNNINGHAM,  
Joseph Thomas  
(1859-1935)



Contributor to  
Narrative.

the Posted to the Royal College of  
Surgeons, London.

- 45) DENDY,  
Arthur  
(1865-1925)



Monaxonida.

Zoologist. BSc; FRS  
(1908); FLS.

- 46) DITTMAR,  
William/Wilhelm  
(1833-92)



Composition of  
Ocean Water.

Medal known and named “W. DITTMAR”. Chemist. FRS (1882); FRSE (1863); Fellow, Institute of Chemistry; Graham Medal (Philosophical Society of Glasgow, 1891); Hon. LLD, Edinburgh University. In 1882, John Murray asked Dittmar to write a complete scientific report on the composition of sea water (water, salts, gases), the results of which proved a theory from 1865 of the composition of sea water.

- 47) FINSCH,  
Friedrich Hermann Otto  
(1839-1917)



Birds of Tongatabu  
and the Fiji Islands.

Naturalist. The Finsch Crater on the Moon is named in his honor.

- 48) FORBES,  
William Alexander  
(1855-83)



Zoologist

Medal awarded posthumously and posted to Mrs. Forbes; known and named “W.A. FORBES,” and in case. FLS; FGS; MBOU. “Report on the anatomy of petrels (Tubinares), collected during the voyage of H.M.S. *Challenger*” (1882).

- 49) FULTON,  
Thomas Alexander Wemyss  
(1855-1929)



Member of the  
Editorial Staff.

Medal known and named "T.W.  
FULTON". MD (1884); FRSE.

- 50) GIBSON,  
John  
(1855-1914)



Professor of  
Chemistry.  
Analysis of  
Manganese  
Nodules.

Medal known and named "JOHN  
GIBSON". Educated at  
Edinburgh Academy, and studied  
chemistry in Heidelberg,  
Germany, graduating in 1876 as  
Doctor of Philosophy. Appointed  
chief assistant in the laboratory  
at the University of Edinburgh in  
1881. Appointed Professor of  
Chemistry at Heriot-Watt  
College in 1892. Hope Prize  
(University of Edinburgh).

- 51) GRAFF,  
Ludwig Von  
(1851-1924)



Myzotomida.

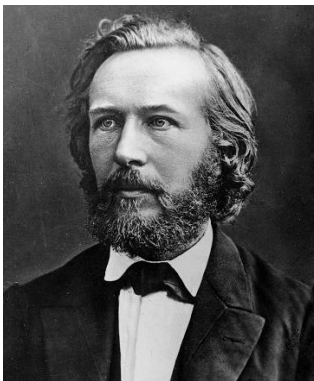
Medal known and named "L.  
VON GRAFF". Zoologist.

52) GÜNTHER,  
Albert Charles Lewis Gotthilf  
(1830-1914)



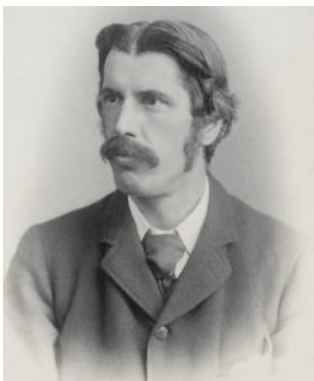
Shore Fish; Pelagic Fish; Deep-sea Fish. MA; MD; PhD; FLS; FRS (1867). Royal Archive Winner (RS/1878).

53) HAECKEL,  
Ernst  
(1834-1919)



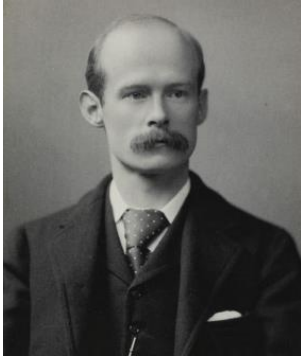
Radiolaria; Deep-sea Medusae; Deep-sea Keratosa. Biologist & Philosopher. MD; PhD; Hon. FRSE.

54) HADDON,  
Alfred Cort  
(1855-1940)



Polyplacophora. Zoologist & Anthropologist. Regarded as one of modern British anthropology. FRS (1899); MRJA.

55) HARMER,  
Sidney Frederic  
(1862-1950)



Cephalodiscus.

Zoologist; FRS (1898).

56) HEMSLEY,  
William Botting  
(1843-1924)



Botany of the  
Expedition.

Medal known, named "W.B. HEMSLEY" and in damaged cased. Botanist and Taxonomist. FLS (1875); FRS (1889); Hon. Member of Natural History Society of Mexico and the Royal Horticultural Society, and from the latter received the Victoria Medal (1909).

57) HENDERSON,  
John Robertson  
(1863-1925)



Anomura.

Medal known. Zoologist. CIE; FRSE; FZS; FLS.

58) HERDMAN,  
William Abbott  
(1858-1924)



Member of Editorial Staff. Tunicata. Marine Zoologist and Oceanographer. President of the Liverpool Geological Society (1898-1900), being awarded the Society's Silver Medal (1922). DSc; FRS (1892); Knighted (1922); FLS; FRSE.

59) HERTWIG,  
Karl Wilhelm Theodor  
Richard von  
(1850-1937)



Actiniaria. Zoologist. Knighted (1910).

60) HOEK,  
Paulus P.C.  
(1845-1914)



Cirripedia; Pycnogonida. Marine Zoologist. Member, Royal Academy of Sciences (Netherlands).

61) HORSLEY,  
Reginald Ernest  
(1863-1926)

Member of the  
Editorial Staff



62) HOYLE,  
William Evans  
(1855-1926)

Member of the  
Editorial Staff.  
Cephalopoda.

Malacologist. MA (Oxon.);  
MRCS; FRSE.



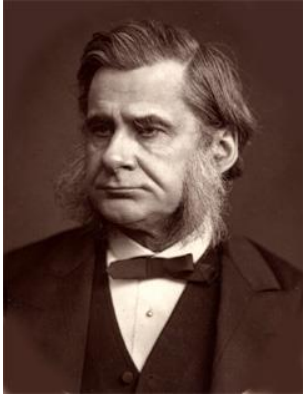
63) HUBRECHT,  
A.A.W.  
(1853-1915)

Nemertea.

Medal known and named  
“A.A.W. HUBRECHT”; in case  
of issue. Zoologist. LLD;  
CMZS.



- 64) HUXLEY,  
Thomas Henry  
(1825-95)



Spirula.

Medal awarded posthumously and sent to his wife. FRS (1851); Royal Medal (1852); Clarke Medal (RSNSW, 1880); President of the Royal Society (1883-85). X Club member.<sup>12</sup> Known as “Darwin's Bulldog”.

- 65) KÖLLIKER,  
Rudolph Albert von  
(1817-1905)



Pennatulida.

FRS (1860); Copley Medal (1897); FMRS; Hon. FRSE.

- 66) LANKESTER,  
Edwin Ray  
(1847-1929)



Invertebrate  
Zoologist

Medal sent to the Zoology Laboratory, University of Oxford. A disciple of Huxley, Lankester's father (Edwin) was medical doctor and friend of Huxley's. Director of London's Natural History Museum from 1898-1907. FRS (1875).

67) LENDENFELD,  
Robert Von  
(1858-1913)

Phosphorescent  
Organs of Fish.

Spongiologist and  
Cnidariologist.



68) LÉOPOLD,  
Alexandre Guillaume,  
Marquis de Folin  
(1817-96)

Caecidae.

Malacologist.



69) LINSTOW,  
Otto von  
(1842-1916)

Entozoa.

Helminthologist. MD.



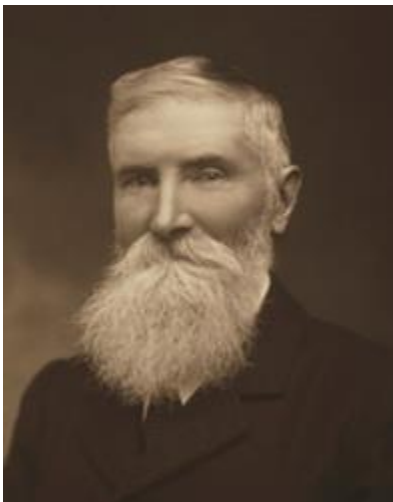
70) LYMAN III,  
Theodore  
(1833-97)



Ophiuroidea.

Naturalist. Served in the American Civil War as a Lieutenant-Colonel and Aide-de-Camp on General George G. Meade's staff (1863-65).

71) McINTOSH (M'Intosh),  
William Carmichael  
(1838-1931)



Annelida;  
Cephalodiscus;  
Phoronis.

Medal known. Named "W.C. M'INTOSH". Botanist and Marine Zoologist. Professor of Natural History, University of St. Andrews (1882-1917). MB; LLD; FRS (1877).

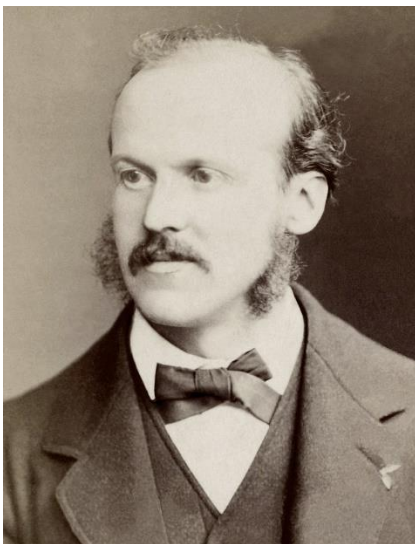
72) MILL,  
Hugh Robert  
(1861-1950)



Contributor to the  
Narrative

Medal known within a large group of table medals awarded to Mill by societies, academies, and for exhibitions and attending international geographical congress meetings (until sold separately at Spink (NYC), lot 77, June 26, 2019). Geographer and for years Librarian at the RGS. Hon. LLD; FRSE (1885); FRGS; Member of the Academy of Sciences Leopoldina (1936); RGS Victoria Medal (1915), RMS Symons Medal (1918); RSGS Gold Medal (1924); AGS Cullum Medal (1929); Mill Glacier, a branch of the Beardmore Glacier, was named for him.

73) MILNE-EDWARDS,  
Alphonse  
(1835-1900)



Ornithologist and  
Carcinologist

Medal sent to the Natural  
History Museum, Paris.

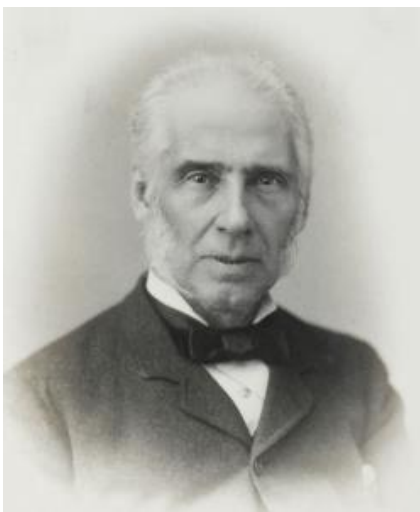
- 74) MURRAY,  
George Robt. Milne  
(1858-1911)



Cryptogamic  
Botanist

Medal known and named  
“G.R.M. MURRAY”. Published  
*An Introduction to the Study of  
Seaweeds* (1895). Posted to the  
British Museum, London. In  
1886 Murray acted as naturalist  
to the Solar Eclipse Expedition  
to the West Indies; he again  
visited the same area on a  
dredging expedition in 1897. In  
1898 he chartered a tug for a  
dredging expedition in the  
Atlantic, 300 miles west of  
Ireland, on which he was  
accompanied by a party of  
naturalists. In 1901 Milne  
became director of the civilian  
scientific staff of the National  
Antarctic Expedition in under  
Captain R.F. Scott, but was only  
able to accompany the  
expedition as far as Cape Town.

- 75) PARKER,  
William Kitchen  
(1823-90)



Development of the  
Green Turtle.

Marine Zoologist and  
Naturalist. FRS (1865); Royal  
Medal (1866).

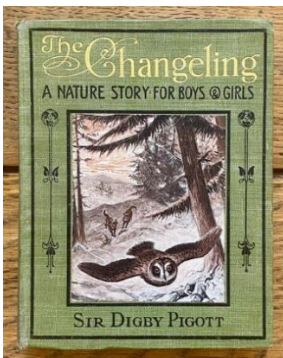
- 76) PELSENEER,  
Jean Paul Louis  
(1863-1945)



Pteropoda;  
Anatomy of  
Mollusca; Spirula.

Chemistry Teacher and Amateur  
Malacologist. During his lifetime  
he described 43 new marine  
species, 31 of which were  
molluscs. DSc.

- 77) PIGOTT,  
Thomas Digby  
(1840-1927)



Ornithology.

Medal known and named “T.  
DIGBY PIGOTT”.  
Ornithologist. CB (1890);  
Knighthood (1906); MBOU  
Among Pigott writings was *The  
Changeling* (1908), a children’s  
tale with a sprinkling of natural  
history, to which he contributed  
many of the illustrations (left).

- 78) POLÉJAEFF,  
Nikolai Nikolaevich



Calcarea; Keratosa. Spongiologist. MA.

79) QUELCH,  
John Joseph  
(1854 - ?)



Reef Corals.

Zoologist. BSc (London).

80) RENARD,  
Alphonse-François  
(1842-1903)



Deep-sea Deposits;  
Petrology of St.  
Paul's Rocks.

Geologist and Petrographer.  
Bigby Medal (GS/1885);  
Honorary FRSE.

81) RIDLEY,  
Stuart Oliver  
(1853-1935)



Monaxonida.

Medal known and named "S.O.  
RIDLEY". Spongiologist. MA;  
FLS.

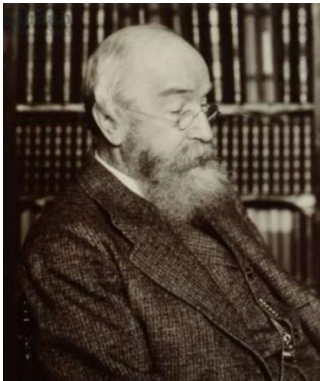
82) SALVADORI PALEOTTI,  
Count Adelar Tommaso  
(1835-1923)



Birds of Ternate,  
Amboyna, &c.

Ornithologist. Last of the  
original Honorary Fellows of the  
AOU.

83) SALVIN,  
Osbert  
(1835-98)



Steganopodes;  
Impennes;  
Procellariidae.

Ornithologist. The Godman-  
Salvin Medal of The British  
Ornithologists' Union is named  
after him.

84) SARS,  
Georg Ossian  
(1837-1927)



Schizopoda;  
Cumacea;  
Phyllocarida.

Marine Biologist.

85) SAUNDERS,  
Howard  
(1835-1907)



Laridae.

Ornithologist. FZS; FLS.

86) SCHULZE,  
Franz Eilhard  
(1840-1921)



Hexactinellida.

Zoologist.

87) SCLATER,  
Philip Lutley  
(1829-1913)



Birds of the  
Admiralty Islands,  
&c.

Medal known and named "P.L.  
SCLATER". Ornithologist. FRS  
(1861); FLS; Co-founder of The  
Society for the Preservation of  
Wild Fauna of the  
Empire (1903).

88) SELENKA,  
Emil  
(1842-1902)



Gephyrea.

Marine Zoologist.

89) SLADEN,  
W. Percy  
(1849-1900)



Astroidea.

Medal known in the collection of  
The Linnean Society of London.  
Marine Zoologist. FZS; FLS;  
FGS.

90) SMITH,  
Edgar Albert  
(1847-1916)



Lamellibranchiata;  
Heteropoda.

Medal known and named “E.A.  
SMITH” and in case.  
Malacologist. At the British  
Museum. FZS. The photograph  
of Smith (left) at the Natural  
History Museum in London  
appears to show his *Challenger*  
Medal in its open case on the  
table beside him.

- 91) SOLLAS,  
William Johnson  
(1849-1936)



Tetractinellida.

Geologist. Other scientific interests included zoological and anthropological subjects. In his later years, he became a leading authority in the latter. MA; DSc; LLD; FRS (1889).

- 92) STEBBING,  
Thomas Roscoe Rede  
(1835-1926)



Amphipoda.

Cleric and Gentleman-Naturalist. MA; FRS (1896).

- 93) STUDER,  
Theophil  
(1845-1922)



Alcyonaria.

Zoologist. MD and PhD.

- 94) TAIT,  
Peter Guthrie  
(1831-1901)



Pressure  
Errors of the  
Thermometers;  
Physical Properties  
of Water.

Mathematical Physicist. FRSE;  
Smith's Prize (Cambridge,  
1852); Keith Medal (RSE/1867-  
69); Royal Medal (RS/1886);  
Hon. Fellow of Edinburgh  
Mathematical Society.

- 95) THÉEL,  
Hjalmar  
(1848-1937)



Holothurioidea.

Zoologist.

- 96) THISELTON-DYER,  
William Turner  
(1843-1928)



Systematic Botanist

Medal sent to the Royal  
Gardens, Kew; known and  
named "W.T. THISELTON  
DYER" and with the Clarke  
Medal (RSNSW/1892), named  
"WILLIAM TURNER  
THISELTON DYER, C.M.G.,  
M.A., B.Sc., F.R.S., F.L.S.,  
1892." (with lid and inner  
recessed pad of titled case).  
Director of Kew (1885-1905).  
FRS (1880); KCMG (1899); CIE  
(1892). Sir Joseph Dalton  
Hooker's son-in-law.

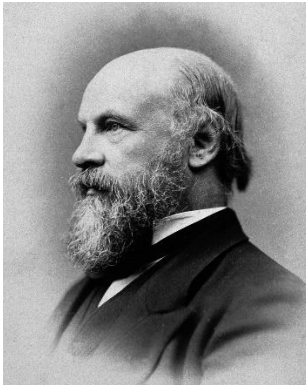
97) THOMSON,  
Sir John Arthur  
(1861-1933)



Translator of  
Zoological Reports.

Naturalist. Knighted (1930).

98) TURNER,  
Sir William  
(1832-1916)



Cetacea;  
Pinnipedia; Human  
Skeletons.

Anatomist. MB; LLD; KCB  
(1901); FRS (1877); FRSE;  
Freedom of the City of  
Edinburgh (1909).

99) WATERS,  
Arthur William  
(1846-1929)



Polyzoa.

Medal known, held in the  
Manchester Museum.  
Zoologist. FLS; FGS.

100) WATSON,  
Morrison  
(1846-85)



Anatomy of the  
Spheniscidae.

Anatomist. MD; FRS (1884);  
FRSE (1873); FRCPE.

101) WATSON,  
Rev. Robert Boog  
(1823-1910)



Gasteropoda.

Medal known. Chaplain, Royal  
Army; Zoologist. LLD; FLS;  
FGS; FRSE; President of the  
Conchological Society. Watson  
served in the Crimean War as  
chaplain to the Highland  
Brigade, and afterwards went to  
India to be chaplain to the 93<sup>rd</sup>  
Highlanders in 1858 (not on the  
Indian Mutiny Medal roll).  
Watson spent 20 years as an  
army chaplain and retired c.  
1870. Crimea Medal/no clasp  
and Turkish Crimea Medal  
(Sardinian/Crimean suspender)  
are both engraved in block  
capitals to Revd. R.B. Watson,  
Chaplain.

102) WRIGHT,  
Edward Perceval  
(1834-1910)

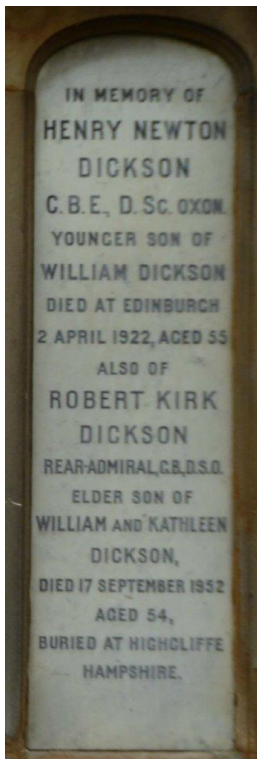


Alcyonaria.

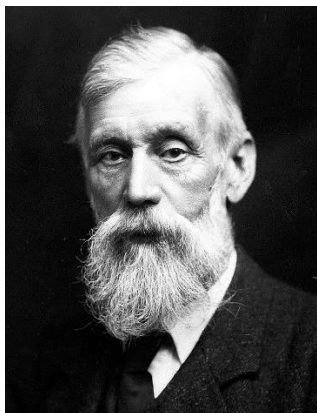
Marine Zoologist. MA; MD;  
MRIA (1857); Cunningham  
Medal (RIA/1883); Secretary of  
the Dublin University Zoological  
and Botanical Association, the  
Royal Geological Society of  
Ireland and a member of the  
Dublin Microscopical Club.  
President of the Royal Society of  
Antiquaries of Ireland (1900-02).

## OTHER RECIPIENTS

NAME	SPECIALTIES AND/OR POSITIONS	NOTES
103) ANDERSON, W.S.	Assistant, <i>Challenger</i> Office	
104) BLACK, William S.	Edinburgh Artist	Designer of the <i>Challenger</i> Medal. Black actively exhibited from 1881-97.
105) DICKSON, Henry Newton (1866-1922)	Edinburgh Hydrographer, Geographer and Meteorologist	Friend of Sir John Murray. CBE; FRSE (1888); FRGS. Dickson was strongly involved in the later phases in deciphering the masses of data from the <i>Challenger</i> Expedition. Dickson studied at the University of Edinburgh and received an MA and DSc from the University of Oxford, where he learned much from the eminent geographer Halford Mackinder. In 1888, aged only 21, he was elected a Fellow of the Royal Society of Edinburgh. From 1906-20, Dickson was a professor of geography at University College, Reading. During the First World War he was seconded as Head of the Geographical Section to the Naval Intelligence Division of the Admiralty. President of the Meteorological Society (1911-12) and President of Section E (Geography and Ethnology) of the British Association (1913).



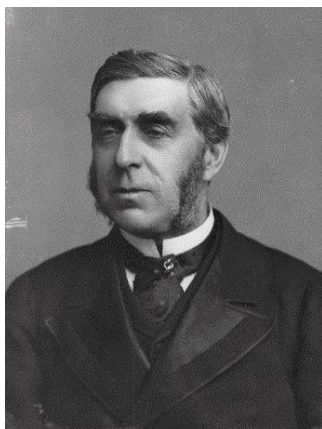
106) FOSTER,  
Michael  
(1836-1907)



Physiologist

FRS (1872); KCB (1899); Victoria Medal of Honor (Royal Horticultural Society). From 1881-1903, one of the secretaries of the Royal Society.

107) GOSCHEN,  
Rt. Hon. George Joachim  
(1831-1907)



Member of Parliament

PC; DL; FBA; First Lord of the Admiralty (1871-74 and 1895-1900). Chancellor of the Exchequer (1886-92). The latter position may be the reason he was issued a medal. Goschen may have assisted with funds to publish the *Reports*.

108) IRVINE,  
Robert  
(1839-1902)



Chemist

Medal known. FRSE (1886); Patrick Neill Medal for 1892-95. Co-authored papers in the Proceedings of the Royal Society of Edinburgh. Among others, Irvine was one of the instigators of the Scottish Marine Station.

109) MONTEITH,  
James  
(1865-1934)

Naturalist

Medal known, in case of issue, and named "JAMES MONTEITH". Medal *List* states: "handed to Mrs. Monteith, per Lily Murray August 27, 1895". MB.

110) MURRAY,  
Mrs.

?

Acknowledged in the *Challenger Reports* for her assistance. Evidently not Sir John Murray's wife.

111) NANSEN,  
Fridtjof  
(1861-1930)

Polar Explorer

Presented personally by Dr. Murray on Feb. 15, 1897. The medal was no doubt given in recognition of the oceanographic work carried out by Nansen during the *Fram* Expedition (1893-96).



112) PULLAR,  
Laurence  
(1838-1926)

Financier

Medal known. Named "LAURENCE PULLAR". Businessman, geographer and philanthropist. FRSE (1903); FRGS; FRSGS; LLD, University of Edinburgh (1926) for his generosity in promoting scientific research. Pullar was a lifelong friend of Sir John Murray, and so was drawn into scientific research. With Pullar's financial aid, the steam yacht *Medusa* was built and equipped for oceanographic work near the shores of Scottish sea-lochs. This is but one example of Pullar's financial assistance toward science. Some writings claim Murray did not tolerate the red tape of government, and when the Treasury became stubborn, he spent his own money to toward the *Report*.<sup>13</sup> Pullar possibly also helped with the publishing.



113) RICHARDS,  
Sir George Henry  
(1820-1896)



FRS (1866); FRGS; CB (Civil/1871); Knighted (1877); KCB (1886); China Medal 1840-42 (Supernumerary Mate/*Starling*); Arctic Medal 1818-55 (Commander/HMS *Assistance*/1852-54). Richards had an extensive background as a surveying officer, and in 1864, was appointed Hydrographer of the Navy. Retired Admiral 1884. In December 1874 he served on a committee to plan the Arctic Expedition of 1875. Richards appears in the December 1872 group photograph of the Royal Society's scientific party onboard the *Challenger*.

114) THE ROYAL SOCIETY

Sent to Burlington House, London; issued unengraved and known.

115) SCOTT,  
A. Ritchie

Contributor

Hand delivered to recipient at the *Challenger* Office. Medal known and in case. Acknowledged in the *Reports* for his assistance. Scott wrote "Chemistry and Physics in the "Challenger" Report" in *Natural Science: A Monthly Review of Scientific Progress* (1895). BSc.

116) SCLATER,  
Miss Annie

Assistant &  
Translator,  
*Challenger*  
Office

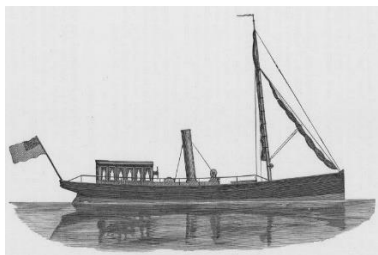
Perhaps related in some way to ornithologist Philip Lutley Sclater? He had only one daughter, named Lilian Elizabeth Lutley Sclater (1875-1957). Annie Sclater is acknowledged in the *Challenger Reports* for her assistance. She translated the eighty-third and last part of the Zoological Series of Reports from the manuscript received by Sir John Murray from Dr. Paul Pelseneer in 1894.

117) SMITH,  
Irvine

?

Issued unengraved.

118) TURBYNE,  
Alexander  
(1857-1905)



Merchant  
Captain

In the *Report*, Turbyne is described as “being in charge of the Marine Biological Station at Millport” and having been for many years “Captain of Dr. Murray’s steam Yacht ‘Medusa’” (left). The Marine Biological Station at Millport was established on the Isle of Cumbrae in the Firth of Clyde, in the spring of 1885. The *Report* relates that Turbyne “worked for over 13 years under Dr. Murray’s instructions (including 10 years consecutively),” conducting practical investigations “while matters strictly scientific were undertaken and prepared for press by men with a scientific training.” The above would explain the award of the *Challenger* Medal. At some point, Turbyne lived aboard the *Ark*, a lighter converted into a floating laboratory by Murray. The *Ark* marked the establishment of the Marine Station at Millport, the oldest in Scotland. Turbyne evidently went to work for the Fisheries Department of Cape Colony in 1898, and died as a result of a gun accident in East London, South Africa, on July 15, 1905.

119) WEIR,  
Mrs. Amelia

?


Sent “C/O James Murray, Supt. Can. Pac. Rl [Canadian Pacific Railroad], Winnipeg, Manitoba”. Acknowledged in the *Challenger Reports* for her assistance.

120) One unengraved medal

Taken to Holland by Dr. Murray.

## ADDENDUM

Below are individuals who do not appear on the *List of Recipients of the Challenger Medal*, but who were evidently in every way entitled to the award, whether through participation in the voyage or having contributed to the *Reports*. Though it is possible medals were not issued to some of these individuals due to their deaths, Busk, Carpenter and Huxley are a few examples of posthumously awarded medals. Perhaps some families could not be traced? As for the naval officers/warrant officers, excepting Commander Lloyd, it is possible that the other Royal Navy men left the Service and could not be traced. However, this again does not offer a certain answer to the question of why these individuals do not appear on the *List*.

ROYAL NAVY	RANKS	NOTES
1) COX, Richard	Boatswain	In charge of stores.
2) CROSBIE, Alexander	Staff Surgeon	
		
3) FERGUSON, James H.	Chief Engineer	In charge of engines.



- 4) HARSTON,  
Henry Cuthbert Eagles  
(1852-76)



Sub-Lieutenant Son of a Royal Navy captain. Harston died on June 6, 1876, and according to the death certificate, committed suicide “as a result of taking chloral while in a state of temporary insanity”.

- 5) LLOYD,  
Edward W.

Sub-Lieutenant Retired Commander on Sept. 15, 1899. Emergency List, 1901. Commander, Tyneside Division, RNVR, April 1, 1905. In charge of Ordnance Department of Messrs. Armstrong, Witworth & Co., Elswick. CB (Civil/1911 Coronation).

- 6) MARCOM,  
Alfred

Assistant  
Surgeon

- 7) OLDHAM,  
Cecil Frederick  
(1852-1937)

Sub-Lieutenant

- 8) WESTFORD,  
Frederick W.

Carpenter,  
2<sup>nd</sup> Class

## CIVILIAN SCIENTISTS

## SPECIALTY

## NOTES

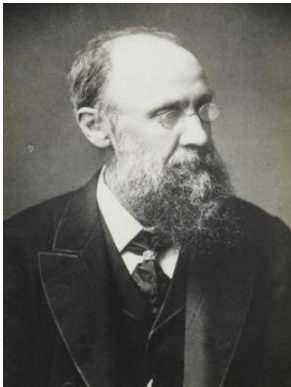
- 9) BATE,  
Charles Spence  
(1819-89)



Macrura.

Invertebrate Zoologist and practicing Dentist. Licentiate Royal College of Surgeons; President, Odontological Society (1885). FRS (1861); FLS.

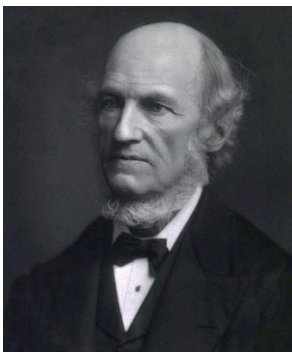
- 10) BRADY,  
Henry Bowman  
(1835-91)



Foraminifera.

FRS (1874); FLS; FGS.

- 11) CARPENTER,  
William Benjamin  
(1813-85)



Orbitolites.

Physiologist, neurologist and naturalist, who published extensively in the fields of mental physiology, microscopy, marine biology and religion; CB (1879); MD; LLD, Edinburgh (1871); FRS (1844); FGS; FLS; MRCS. Royal Medal (RS/1861); Lyell Medal (Geological Society of London/1883). Father of *Challenger* Medal recipient Philip Herbert Carpenter.

- 12) CASTRACANE  
DEGLI ANTELMINELLI,  
Conte (Count) Francesco  
(1817-99)



Diatomaceae. Biologist. Castracane was one of the first to introduce micro-photography into the study of biology. Among the extensive collections of diatomaceae obtained during the expedition, he discovered three new genera, 225 new species, and some 30 new varieties. Castracane authored a number of papers, which were mainly published in the proceedings of the Accademia dei Nuovi Lincei, over whose meetings he presided for many years.

- 13) DAVIDSON,  
Thomas  
(1817-85)



Brachiopoda. Paleontologist. FRS (1857)-Royal Medal (1870); FGS-Wollaston Medal (1865); Honorary degree by the University of St. Andrews (1882); FLS; VPPS.

- 14) GARROD,  
Alfred Henry  
(1846-79)



Anatomy of  
Carpophaga. Vertebrate Zoologist. BA. FRS (1876). In 1875, he was nominated as the Fullerian Professor of Physiology and Comparative Anatomy at the Royal Institution, a position he held until 1878. In 1881, William Alexander Forbes named the genus *Garrodia* for the grey-backed storm petrel in honor of Garrod.

- 15) HAY, Arthur  
(9th Marquis of Tweeddale)  
(1824-78)



Birds of the  
Philippines.

Ornithologist. The *Ornithological Works of Arthur, Ninth Marquis of Tweeddale* (1881). Soldier in India and Crimea. President, Zoological Society of London. FRS (1871).

- 16) MIERS,  
Edward John  
(1851-1930)



Brachyura.

Zoologist. Curator of the  
Natural History Museum in London  
(1872-85). FZS; FLS.

17) WHITE,  
Francis Buchanan  
(1842-94)

Pelagic  
Hemiptera.

Entomologist. MD; FLS.



### Summary of Sir John Murray's Titles & Awards, Etc.

Note: Murray is not shown on the *List* as having a medal engraved for himself, but instead received an unnamed piece, and this may well be an indication of the gentleman's modesty.

MURRAY,  
Sir John  
(1841-1914)



Naturalist Considered the founder of modern oceanography. Seven of the 50 volumes of the *Challenger Reports* were written largely or entirely by Murray. He was also the Editor, contributor to the Narrative and wrote the Summary of Results. Deep-Sea Deposits. FRS (1896); FRSE. Cuvier Prize & Medal (Institute of France/1894); Humboldt Medal (Berlin Society of Geography/1895); Royal Medal (RS/1895); Founders Medal (RGS/1895); Neill Medal (RSE/1880); Makdougall-Brisbane Medal (RSE/1886); Order of Pour le Mérite for Arts & Sciences (Prussia/1898); Cullum Medal (AGS/1899); Clarke Memorial Medal (RSNSW/1901); Lütke Medal (IRSG/1904); Livingstone Medal (RSGS/1910); Grand Cross of the Royal Order of

St. Olav (Norway/1910); Helen Culver Medal (GSC/1911); Vega Medal (SAGS/1912); Agassiz Gold Medal (Academy of Sciences, Washington/special copy/1913). Murray created the Alexander Agassiz Medal in honor of his friend. The medal is awarded for an original contribution in the science of oceanography. KCB (1898). In 1886, he put forth a plan to send two ships on a major Antarctic expedition. Although it was never put into action, eight years later, the RGS used his ideas to promote the British National Antarctic Expedition.

### Footnotes

<sup>1</sup> Boog-Watson, 1967.

<sup>2</sup> *Nature*, 1895.

<sup>3</sup> *Ibid.*

<sup>4</sup> McManus.

<sup>5</sup> P. Rodger, Appeals Officer, March 27, 1995.

<sup>6</sup> Bourner, 2000.

<sup>7</sup> Linklater, 1972 and Brown, 1987.

<sup>8</sup> C. J. Burnett, Curator of Fine Art and Medals, Jan. 12, 1995, and Eimer, 1987.

<sup>9</sup> Rodger, *op.cit.* and B. Tomlinson, Curator, Antiquities, Aug. 5, 1998.

<sup>10</sup> Tomlinson, *ibid.*

<sup>11</sup> The X Club was a dinner club formed in 1864 by nine eminent scientists, who had long been intimate friends, so they would not drift apart and to further the cause of science. The Club held monthly meetings from October to June, and meetings often focused on the affairs of the Royal Society. The Club was extremely active for two decades, but this activity gradually lessened. Regular communication helped X Club members to gather their efforts against what they felt to be the obstructionist activities and ideas of conservative scientists, certain theologians, and non-scientific society figures. Original members were: George Busk (1807-86), Joseph D. Hooker (1817-1911), Herbert Spencer (1820-1923), John Tyndall (1820-93), Edward Frankland (1825-99), Thomas Henry Huxley (1825-95), Thomas Archer Hirst (1830-92) and John Lubbock (1834-1913). William Spottiswoode (1825-83) became the ninth member at its second meeting. By 1864, all were Fellows of the Royal Society, except Spencer who, due to principle and possible resentment, flatly refused to agree to his being nominated. The X Club exerted important influence in the Royal Society, in the British Association, in various other scholarly societies, in the Royal Institution, and in the publishing of scientific works.

<sup>12</sup> Linklater, 1972.

## Abbreviations

AOU	American Ornithologists' Union
CB	Companion of the Order of the Bath
CIE	Companion of the Most Eminent Order of the Indian Empire
CMZS	Corresponding Member Zoological Society
CVO	Commander Victorian Order
DL	Deputy Lieutenant (to the lord lieutenant of a lieutenancy area)
DSO	Distinguished Service Order
FBA	Fellow of the British Academy
FGS	Fellow of the Geological Society
FLS	Fellow of the Linnean Society
FRAI	Fellow Royal Anthropological Institute
FRCPE	Fellow Royal College of Physicians of Edinburgh
FRCSI	Fellow of the Royal College of Surgeons in Ireland
FRGS	Fellow of the Royal Geographical Society
FRHS	Fellow Royal Historical Society
FRMS	Fellow of the Royal Meteorological Society
FRS	Fellow of the Royal Society
FRSE	Fellow of the Royal Society of Edinburgh
FZS	Fellow of the Zoological Society of London
GSC	Geographic Society of Chicago
Hon.	Honorary
IGS	India General Service Medal 1854-95
IRGS	Imperial Russian Geographical Society
KCB	Knight Commander of the Order of the Bath
KCMG	Knight Commander of the Most Distinguished Order of St. Michael and St. George
LLD	Legum Doctor (Doctor of Law)
MB	Bachelor of Medicine
MBOU	Member of the British Ornithologists' Union
MID	Mentioned in Despatches
MP	Member of Parliament
MRCs	Member of the Royal College of Surgeons
MRIA	Member Royal Irish Academy
NA	The National Archives
PC	His Majesty's Most Honorable Privy Council
RHS	Royal Humane Society
RMS	Royal Meteorological Society
RN	Royal Navy

RNVR	Royal Naval Volunteer Reserve
RS	Royal Society (London)
RSA	Royal Society of Arts
RSE	Royal Society of Edinburgh
RSGS	The Royal Scottish Geographical Society
RSNWS	The Royal Society of New South Wales
SAGS	Swedish Anthropological & Geographical Society
VPPS	Vice President of the Palaeontographical Society

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