



Sir William Blaxland Benham, K.B.E., F.R.S.
(1860-1950)

William Blaxland Benham was born in Isleworth, Middlesex, England, on 29 March 1860, the sixth of seven children of Ebenezer (Edward) Benham and his wife, Mary Ann Shoppee. Ebenezer was a prosperous solicitor and the family home had three acres of grounds. William had a secure childhood, going from private preparatory schooling to Marlborough College in 1874. He left in 1876 with good Classics, some rudiments of science, and extra subjects (including drawing) for engineering. But at University College, London, which he attended from 1879, the renowned Sir Ray Lankester drew Benham to what was to be a lifetime interest in zoology. He graduated BSc in 1883 and DSc in 1887.

Benham was appointed professor of biology at Bedford College for Women, London, in 1886. In that year he began his classic foundation studies of earthworm microstructure, and over the next 12 years he wrote some 40 wide ranging papers. When Lankester took up a chair at Oxford in 1890 the young Benham accompanied him as Aldrichian demonstrator in comparative anatomy, while keeping his lectureship at Bedford College. Benham wrote a volume in each of the series Cambridge natural history (1896) and the Oxford Treatise on Zoology (1901), two great zoological works, authoritative for the next half-century. On 24 April 1889 he married Beatrice Eadie at London. She died in 1909 leaving a daughter [name not available] and a son [Philip B. Benham]. Wm Benham did not remarry.

In 1898 William Benham, by now a zoologist of world stature, was appointed professor of biology at the University of Otago in Dunedin, New Zealand. Arriving on the Kaikoura in May 1898 he made an instant impression as 'a cheery young man, dapper, frank' who 'felt he could look after himself and manage even the toughest medical student' (medical students formed the majority of his classes). His classes were to become noted for their orderliness.

In addition to his teaching duties, Benham was curator of the Otago University Museum. He at once began to reorganize it on modern lines, building a notable comparative anatomy collection. Benham's teaching at once drew praise. Lucid and fluent, yet informal, he covered with panache the evolving panorama of the animal kingdom. He was also to teach palaeontology until 1907 and dental anatomy up to 1924. With rather less enjoyment he retained botany until 1923. He was busy, too, on the Faculty of Arts and Science and the professorial board, as well as on the university council (from 1914) and the University of New Zealand's senate, board of studies and subsequent academic board.

Benham was a governor of the New Zealand Institute (1905-11), its president (1916-17) and one of its original fellows (1919). He received its (first) Hutton Memorial Medal in 1911 and the Hector Memorial Medal and Prize in 1935. The highest honour, fellow of the Royal Society of London, came in 1907.

Other public honors included: Corresponding Member of the Royal Society of Tasmania (1902), Hutton Memorial Medal (1911 – the first recipient of this award), Fellow of the Royal Society of New Zealand (1919 – one of several original Fellows), Hector Memorial Medal (1935), Emeritus Professor of Biology, Otago University (1937 – a year after his retirement), Honorary D.Sc., New Zealand University (1937), Coronation Medal (1937), Knight Commander of the Order of the British Empire (1939).

Benham sat on the boards of the Cawthron Institute and Portobello marine research station, of which he was chairman from 1933 to 1946, and on the Hocken Library committee and Workers' Educational Association Otago council. A compact, active man, both physically and mentally, Benham was esteemed in civic and social life. He was a founder of the University Club, Dunedin, and of the Eugenics Education Society of New Zealand and patron of the Dunedin Film Society.

Busy as he was, Benham's research was never allowed to flag: over 67 years he produced about 160 scientific papers. In the first decade at Otago a typical year brought six or more. These ranged widely through offshore invertebrates, to whale anatomy, kiwi, takahe and a moa egg. But his specialty was still annelid worms, as shown in a long series of papers written between 1906 and 1934.

The acknowledged leader of New Zealand zoology, Benham brought to it a needed energy and many-sidedness, although his most concentrated, penetrating work had perhaps already been achieved in England. Showing little interest in modern ecology, ethnology and genetics, he was the inheritor of a great tradition rather than the herald of a new one. Yet in his special field his authority ran worldwide, and his zoological achievement in New Zealand was immense. Benham published comprehensive papers on Antarctic polychaete worms collected on a variety of expeditions, including one – of which he was a member – in 1908 to the Auckland Islands, and Robert Falcon Scott's ill-fated expedition on the Terra Nova. His first allegiance, however, was to the study of earthworms (Oligochaeta), in which New Zealand was rich. The southern continent earthworms drew Benham into speculating, on the basis of their distribution, that Antarctica and South America were once linked by land-bridges; the theory is no longer regarded as tenable.

Benham's character – genial, kindly, tolerant, humorous, yet of definite views – helped him to inspire others. His influence may also have owed something to a prose style, which was direct and simple, and avoided unnecessary technical terms. Editors continued to indulge his penchant for slyly humorous titles: his last-but-one paper (1949) was on 'A yard-long earthworm, *Notoscolex hakeapbilus*', and a paper of 1945 was titled 'An earthworm with four penes, *Conicodrillus* genus novum'. Retiring from his chair in 1937, Benham was awarded a Coronation Medal, and an honorary doctorate of science from the University of New Zealand. He was made a KBE in 1939. Still active through his eighties, he published on earthworms and fossil whales, with five papers also on a new interest, the octopodous molluscs. He died at Dunedin on 21 August 1950, and was cremated with the Anglican rite. An academic minute recorded his vigour and originality of mind and the gracious personality that would be 'long remembered in the University he adored'.

Citation for the information presented above: Morton, John. "Benham, William Blaxland", from the Dictionary of New Zealand Biography. Te Ara – the Encyclopedia of New Zealand, updates 5-Jun-2013. <http://www.teara.govt.nz/en/biographies/3b27/benham-william-blaxland> [with some additions from other sources added by JWReynolds and MJWetzel]

Photo credit: The Royal Society (a/k/a The Royal Society of London for Improving Natural Knowledge, and also The Royal Society of London) – <https://pictures.royalsociety.org/image-rs-7773>; original photo by Henry Maull (1829-1914), a British photographer who specialized in portraits of noted individuals.

Additional biographical information for W.B. Benham is available from these publications and websites:

- > Fyfe, Marion. 1950. Sir William Benham, K.B.E., F.R.S. Nature 166(No. 4228, November 11): 810-811.
- > <http://www.teara.govt.nz/en/1966/benham-sir-william-blaxland-kbe>
- > <http://www.jstor.org/stable/769019>
- > <http://nzetc.victoria.ac.nz/tm/scholarly/name-207408.html>
- > http://rsnz.natlib.govt.nz/volume/rsnz_80/rsnz_80_01_002280.html

Scholarly publications by William Blaxland Benham^{1, 2, 3, 4}

- Benham, W.B. 1883. On the testis of *Limulus*. Trans. Linn. Soc. Lond. (2nd Series) 2(Part IX, October): 363-366 + Plate XXXVIII.
- Benham, W.B. 1886. Studies on earthworms. Quart. J. Micros. Sci. (n.s.) 26(No. CII, February): 213-301.
- Benham, W.B. 1886. Studies on earthworms. No. II. Quart. J. Micros. Sci. (n.s.) 27(No. CV, August): 77-108.
- Benham, W.B. 1887. Studies on earthworms. No. III. *Criodrilus lacuum*, Hoffmeister. Quart. J. Micros. Sci. (n.s.) 27(No. CVIII, March): 561-572.
- Benham, W.B. 1888. British earthworms. Nature 38(No. 979, August 2): 319.
- Benham, W.B. 1888. Recent researches on earthworms. Rep. British Assoc. 1887, pp. 749-750.
- Benham, W.B. 1888. Notes on a new earthworm. Zool. Anz. 11: 72-75.
- Benham, W.B. 1889. The anatomy of *Phoronis australis*. Quart. J. Micros. Sci. (n.s.), 30(No. CXVIII, July): 125-158 + plates X–XIII.
- Benham, W.B. 1889. The anatomy of *Phoronis australis*. J. Roy. Micros. Soc. 6: 740-741.
- Benham, W.B. 1890. An attempt to classify earthworms. Quart. J. Micros. Sci. (n.s.) 31(No. CXXII, June): 201-315.
- Benham, W.B. 1890. Oligochaeta. J. Linn. Soc. Lond. 20: 560-563.
- Benham, W.B. 1890. “Atrium” or “Prostate”? Zool. Anz. 13: 368-372.
- Benham, W.B. 1890. The genera *Trigaster* and *Benhamia*. Ann. Mag. Nat. Hist. (6th Series) 6(No. XXXV, Article L): 414-417.
- Benham, W.B. 1890. Earthworms from Pennsylvania. Nature 41 (No. 1068, April 17): 560.
- Benham, W.B. 1891. The nephridium of *Lumbricus* and its blood supply; with remarks on the nephridia of other Chaetopoda. Quart. J. Micros. Soc. (n.s.) 32(No. CXXVII, June): 293-334 + plates XXIII–XXV.
- Benham, W.B. 1891. Notes on some aquatic Oligochaeta. Quart. J. Micros. (n.s.) 33(No. CXXIX, December): 187-218 + plates V, VI, and VII.
- Benham, W.B. 1891. Report on an earthworm collected for the Natural History Department of the British Museum, by Emin Pasha, in Equatorial Africa. J. Roy. Micros. Soc. 1891, pp. 161-168.
- Benham, W.B. 1891. Note on a couple of abnormalities. Ann. Mag. Nat. Hist. (6th Series) 7(No. XXXIX, Article XXVI): 256-258 + plate III.
- Benham, W.B. 1891. Note on a couple of abnormalities [abstract]. J. Roy. Micros. Soc., 1891, p. 328.
- Benham, W.B. 1892. Notes on two acanthodrilid earthworms from New Zealand. Quart. J. Micros. Sci. (n.s.) 33(No. XXX, January): 289-312.
- Benham, W.B. 1892. A new English genus of aquatic Oligochaeta (*Sparganophilus*) belonging to the family Rhinodrilidae. Quart. J. Micros. Soc. (n.s.) 34(No. CXXXIV, November): 155-180 + plates XIX & XX. {*Sparganophilus tamesis* nov. gen., nov. sp., p. 157}
- Benham, W.B. 1892. 3. Descriptions of three new species of earthworms. Proc. Zool. Soc. Lond. 1892 (article 3): 136-152 + plates VII & VIII. {*Plutellus perrieri* n. sp., p. 138; *Microchaeta papillata* n. sp., p. 141; *Microchaeta belli* n. sp., p. 147}.
- Beddard, F.E. 1892. On some species of the genus *Perichaeta* (sensu stricto). Proc. Zool. Soc. Lond. 1892 (article 4): 153-172 + plates IX & X. {*Perichaeta dyeri* n. sp., p. 157; *Perichaeta bermudensis* n. sp., p. 160; *Perichaeta taprobanae* n. sp., p. 163; *Perichaeta morrisoni* n. sp., p. 166; *Perichaeta barbadensis* n. sp., p. 167; *Perichaeta mauritiana* n. sp., p. 170}.

- Benham, W.B. 1892. An earthworm from Ecuador (*Rhinodrilus ecuadoriensis*). Ann. Mag. Nat. Hist. (6th Series) 9(No. LI, Article XXXIV): 237-246 + plate X. {*Rhinodrilus ecuadoriensis* sp. n., p. 238}
- Benham, W.B. 1892. Note on the occurrence of a freshwater nemertine in England. [a letter to the editor of the journal]. Nature 46(No. 1200, October 27): 611-612.
- Benham, W.B. 1892. British earthworms. Nature 47(No. 1205, December 1): 102.
- Benham, W.B. 1893. Description of a new species of *Moniligaster* from India. Quart. J. Micros. Soc. (n.s.) 34(No. CXXXVI, April): 361-382 + Plate XXXII. {*Moniligaster indicus* n. sp., p. 363}
- Benham, W.B. 1893. Note on a new species of the genus *Nais*. Quart. J. Micros. Soc. (n.s.) 34(No. CXXXVI, April): 383-386 + Plate XXXIII. {*Nais heterochaeta* n. sp., p. 383}
- Benham, W.B. 1893. The structure of the pharyngeal bars of *Amphioxus*. Quart. J. Micros. Soc. (n.s.) 35(No. 137, July): 97-118 + plates 6 and 7.
- Benham, W.B. 1893. The post larval stage of *Arenicola marina*. J. Mar. Biol. Assn. 3: 48-53.
- Benham, W.B. 1894. On *Benhamia coecifera*, n. sp., from the Gold Coast. Quart. J. Micros. Soc. (n.s.) 37(No. 145, November): 103-112 + plate 12. {*Benhamia coecifera*, n. sp., p. 103}
- Benham, W.B. 1894. A description of the cerebral convolutions of the chimpanzee known as "Sally;" with notes on the convolutions of other chimpanzees and of two orangs. Quart. J. Micros. Sci. (n.s.) 37(No. 145, November): 47-86 + plates 7-11.
- Benham, W.B. 1894. Notes on a particularly abnormal vertebral column of the bull-frog; and on certain other variations in the Anuran column. Proc. Zool. Soc. Lond. 1894 (Part III, Article 5): 477-481 + Plate XXXIII.
- Benham, W.B. 1894. On *Benhamia caecifera* n.sp. Proc. Phys. Soc. Edinb., pp. 31-35.
- Benham, W.B. 1894. Notes on the clitellum of the earthworm. Zool. Anz., 17: 53.
- Benham, W.B. 1894. On the blood of *Magelona*. Rept. Brit. Assn., Oxford, p. 696.
- Benham, W.B. 1894. On the classification of the Polychaeta. Rept. Brit. Assn., Oxford, pp. 696-697.
- Benham, W.B. 1894. "Vermes". Nature 50(No. 1279, May 3, 1894): 7.
- Benham, W.B. 1895. Male of *Apus*. Nature 53 (No. 1365, 26 December). 175.
- Benham, W.B. 1895. Some Javan Perichaetidae. Ann. Mag. Nat. Hist. (6th Series) 16(No. XCI, Article VII): 40-51. {*Perichaeta willeyi* sp. n., p. 41; *Perichaeta sexta*, sp. n., p. 44; *Perichaeta caducichaeta*, sp. n., p. 47}.
- Benham, W.B. 1895. Earth-worms and stream-worms. [a book review by Benham, of: Beddard, F.E. 1895: A monograph of the order Oligochaeta]. Nature 53(No. 1361, November 28, 1895): 74-75.
- Benham, W.B. 1896. The male of *Apus cancriformis*. Ann. Mag. Nat. Hist. (6th Series) 17(No. XCVIII, Article XV): 120-122.
- Benham, W.B. 1896. Some earthworms from Celebes. Ann. Mag. Nat. Hist. (6th Series) 18(No. CVIII, Article LXIV): 429-448 + plates XX, XXI. {*Perichaeta jampeana* sp. n., p. 430; *Perichaeta digitata* sp. n., p. 432; *Perichaeta bonthainensis* sp. n., p. 437; *Perichaeta hexatheca* sp.n., p. 440; *Perichaeta zebra* sp. n., p. 442}.
- Benham, W.B. 1896. On *Kynotus cingulatus*, a new species of earthworm from Imerina in Madagascar. Quart. J. Micros. Sci. (n.s.) 38(No. 152, February): 445-463 + plates 33, 34. {*Kynotus cingulatus* n. sp. P. 445}
- Benham, W.B. 1896. The blood of *Magelona*. Quart. J. Micros. Sci. (n.s.) 39(No. 153, May): 1-17 + plate 1.
- Benham, W.B. 1896. Fission in Nemertines. Quart. J. Micros. Sci. (n.s.) 39(No. 153, May): 19-31 + plates 2 and 3.

- Benham, W.B. 1896. Archiannelida, Polychaeta, Myzostomaria. Chapter IX. The Chaetopodous worms—The Archiannelida—Anatomy of *Nereis*, as typical of the Polychaeta. Pp. 241-256, In: Harmer, S.F. and A.E. Shipley, eds. The Cambridge Natural History, Vol. II. Macmillan & Co., Ltd., England; reprinted in 1959.
 Accessible on-line, here: [<http://www.biodiversitylibrary.org/item/76568#page/5/mode/1up>]
- Benham, W.B. 1896. Archiannelida, Polychaeta, Myzostomaria. Chapter X. Classification of the Polychaeta. Pp. 257-283, In: Harmer, S.F. and A.E. Shipley, eds. The Cambridge Natural History, Vol. II. Macmillan & Co., Ltd., England; reprinted in 1959.
 Accessible on-line, here: [<http://www.biodiversitylibrary.org/item/76568#page/5/mode/1up>]
- Benham, W.B. 1896. Archiannelida, Polychaeta, Myzostomaria. Chapter XI. Natural history of polychaetes. Pp. 284-302, In: Harmer, S.F. and A.E. Shipley, eds. The Cambridge Natural History, Vol. II. Macmillan & Co., Ltd., England; reprinted in 1959.
 Accessible on-line, here: [<http://www.biodiversitylibrary.org/item/76568#page/5/mode/1up>]
- Benham, W.B. 1896. Archiannelida, Polychaeta, Myzostomaria. Chapter XII. Characters of the sub-orders of polychaetes—Characters of the Families—Descriptions of British genera and species—The Myzostomaria. Pp. 303-344, In: Harmer, S.F. and A.E. Shipley, eds. The Cambridge Natural History, Vol. II. Macmillan & Co., Ltd., England; reprinted in 1959.
 Accessible on-line, here: [<http://www.biodiversitylibrary.org/item/76568#page/5/mode/1up>]
- Benham, W.B. 1897. The primate brain. *Nature* 55 (No. 1435, April 29, 1897): 619-620.
- Benham, W.B. 1899. A re-examination of Hutton's types of New Zealand earthworms. *Trans. N.Z. Inst.* 31(Article XIX): 156-163.
- Benham, W.B. 1898. A request for zoological literature. [*a letter to the editor of the journal*]. *Nature* 58(No. 1509, September 29): 520.
- Benham, W.B. 1899. New species of *Perichaeta* from New Britain and elsewhere; with some remarks on certain diagnostic characters of the genus. *J. Linn. Soc. Lond.* 26: 198-225.
- Benham, W.B. 1899. A re-examination of Hutton's types of New Zealand earthworms. *Ann. Mag. Nat. Hist.* (7th Series) 3(No. XIV, Article XVII): 136-141.
- Benham, W.B. 1899. Notes on the internal anatomy of *Notornis*. *Proc. Zool. Soc. Lond.* 1899 (Article 4): 88-96.
- Benham, W.B. 1899. Notes on the fourth skin of *Notornis*. *Trans. N.Z. Inst.* 31(Article XVII): 146-150.
- Benham, W.B. 1899. Notes on certain of the viscera of *Notornis*. *Trans. N.Z. Inst.* 31(Article XVIII): 151-156 + plates XII–XIII.
- Benham, W.B. 1899. *Balanoglossus otagoensis* n. sp. *Quart. J. Micros. Sci.* (n.s.) 42(No. 168, September): 497-504 + plate 45.
- Benham, W.B. 1899. The development of the Tuatara. *Nature* 60 (No. 1543, May 25, 1899): 79-80.
- Benham, W.B. 1899. The skull of Hatteria. [*a letter to the editor of the journal*] *Nature* 60(No. 1563, October 12): 567.
- Benham, W.B. 1899. Phosphorescent earthworms [*a letter to the editor of the journal*]. *Nature* 60(No. 1564): 591.
- Benham, W.B. 1900. Zoological results of trawling trials off the coast of Otago. *Trans. N.Z. Inst.* 32(Article I): 1-3. [read before the Otago Institute, 12th September, 1899].
- Benham, W.B. 1900. Note on *Cordyceps Sinclairii* Berkeley. *Trans. N.Z. Inst.* 32(Article II): 4-8 + Plate I. [read before the Otago Institute, 11th July, 1899].
- Benham, W.B. 1900. Note on the occurrence of the genus *Balanoglossus* in New Zealand waters. *Trans. N.Z. Inst.* 32(Article III): 9-10. [read before the Otago Institute, 12th September, 1899].
- Benham, W.B. 1900. The structure of the rostellum in two new species of tapeworm, from *Apteryx*. *Quart. J. Micros. Sci.* (n.s.) 43(No. 169): 83-96 + plates 7 and 8.

- Benham, W.B. 1901. The Platyhelminia, Mesozoa and Nemertini. In: Lankester, E. Ray (ed.). *A Treatise on Zoology, Part IV*. iv + 204 pp. (London: A. and C. Black.)
- Benham, W.B. 1901. On the larynx of certain whales (*Cogia*, *Balaenoptera*, and *Ziphius*). Proc. Zool. Soc. Lond. 1901 1(Article 1): 278-300 + plates XXV–XXVIII.
- Benham, W.B. 1901. On the anatomy of *Cogia breviceps*. Proc. Zool. Soc. Lond. 71(1, article 3): 107-134.
- Benham, W.B. 1901. *Heteropleuron hectori*, the New Zealand Lancelet. Quart. J. Micros. Sci. 44(No. 174, March): 273-280 + plate 17.
- Benham, W.B. 1901. On the New Zealand Lancelet. Trans. N.Z. Inst. 33(Article VI): 120-122 + Plate I. [read before the Otago Institute, 13th November, 1900].
- Benham, W.B. 1901. An account of *Acanthodrilus uliginosus*, Hutton. Trans. N.Z. Inst. 33(Article VII): 122-128 + Plate V. [read before the Otago Institute, 13th November, 1900].
- Benham, W.B. 1901. On some earthworms from the islands around New Zealand. Trans. N.Z. Inst. 33(Article VIII): 129-144 + plates II–IV. [read before the Otago Institute, 13th November, 1900].
- Benham, W.B. 1901. The coelomic fluid in Acanthodrilids. Quart. J. Micros. Sci. (n.s.) 44(No. 176, August): 565-590 + plate 41.
- Benham, W.B. 1902. The geographical distribution of earthworms and the Palaeography of the Antarctic Region. Rep. Aust. Assoc. Advanc. Sci., 1902, pp. 319-343.
- Benham, W.B. 1902. Notes on the osteology of the short-nosed sperm-whale Proc. Zool. Soc. Lond. 72(1): 54-62.
- Benham, W.B. 1902. Note on an entire egg of a Moa, now in the Museum of the University of Otago. Trans. N.Z. Inst. 34(Article XI): 149-151 + Plate VII.
- Benham, W.B. 1902. An account of the external anatomy of a baby Rorqual (*Blaenoptera rostrata*). Trans. N.Z. Inst. 34 (Article XII): 151-155.
- Benham, W.B. 1902. Notes on *Cogia breviceps*, the lesser Sperm-whale. Trans. N.Z. Inst. 34(Article XIII): 155-168.
- Benham, W.B. 1903. The geographical distribution of earthworms and the palaeogeography of the Antarctic Region. Presidential address. Rep. Australas. Assn., 1902, pp. 319-343.
- Benham, W.B. 1903. On the eggs of the Moa. Ibis, 1903, pp. 632-634.
- Benham, W.B. 1903. On the remains of a gigantic fossil Cirripede from the Tertiary Rocks of New Zealand Geol. Mag. (4) x, (3), pp. 110-119.
- Benham, W.B. 1903. On some new species of aquatic Oligochaeta from New Zealand. Proc. Zool. Soc. Lond. 1903 II(article 1): 202-232 + plates XXIV–XXVI. {*Phreodrilus lacustris* sp. n., p. 207; *Phreodrilus mauiensis* n. sp., p. 208; *Taupodrilus* n. gen., p. 209; *Taupodrilus simplex* n. sp., p. 209; *Limnodrilus vejdovskeyanus* sp. n., p. 213; *Limnodrilus lucasi* sp. n., p. 216; *Enchytraeus simulans* sp. n., p. 219; *Achaeta maorica* sp. n., p. 221; *Haplotaxis heterogyne* sp. n., p. 223; *Diprochaeta aquatica* sp. n., p. 226; *Plutellus lacustris* sp. n., p. 228}.
- Benham, W.B. 1903. Note on a neglected Tasmanian earthworm. Rep. Australas. Assn., 10: 383.
- Benham, W.B. 1903. On a new species of earthworm from Norfolk Island. Trans. N.Z. Inst. 35(Article XXIX): 273-274. {*Megascolex laingii* n. sp., p. 273}
- Benham, W.B. 1903. On an earthworm from the Auckland Islands – *Notiodrilus aucklandicus*. Trans. N.Z. Inst. 35(Article XXX): 275-277 + plates XXII–XXVI [plate nos. may be incorrect]. {*Notiodrilus aucklandicus* n. sp., p. 275}
- Benham, W.B. 1903. On the old and some new species of earth-worms belonging to the genus *Plagiochaeta*. Trans. N.Z. Inst. 35 (Article XXXI): 277-290 + plates XXII–XXVI [plate nos. may be incorrect] {*Plagiochaeta lateralis* n. sp., p. 282; *Plagiochaeta lateralis* n. sp., p. 284; *Plagiochaeta ricardi* n. sp., p. 286; *Plagiochaeta montana* n. sp., p. 288}

- Benham, W.B. 1904. A note on the Oligochaeta of the New Zealand lakes. Trans. N.Z. Inst. 36(Article XXII): 192-198. [Note: the following taxa were listed in this paper as new to science, although no descriptions were included – Phreodrilidae: *Phreodrilus lacustris* n. sp., *Phreodrilus mauiensis* n. sp.; Tubificidae: *Taupodrilus* n. gen., *Taupodrilus simplex* n. sp., *Limnodrilus lucasi* n. sp., *Limnodrilus vej dovskyanus* n. sp.; Enchytraeidae: *Enchytraeus simulans* n. sp., *Achaeta maorica* n. sp.; Haplotaxidae: *Haplotaxis heterogyne* n. sp.; Megascolecidae: *Diprochaeta aquatica* n. sp., and *Plutellus lacustris* n. sp. This paper was first read before the Otago Institute on 11th August 1903, inclusive of the following statement: “I propose to-night to give merely a brief summary of my results, a full and illustrated account of which I have sent to the Zoological Society.”
>> The new taxa listed in this paper were described in subsequent publications. *mjw*]
- Benham, W.B. 1904. On some new species of the genus *Phreodrilus*. Quart. J. Micros. Sci. (n.s.) 48(Part 2, No. 190, September): 271-298 + plates 13–15. {*Phreodrilus lacustris* n. sp., p. 272; *Phreodrilus mauiensis* n. sp., p. 280; *Phreodrilus beddardi* n. sp., p. 281}
- Benham, W.B. 1904. On a new species of the genus *Haplotaxis*; with some remarks on the genital ducts in the Oligochaeta. Quart. J. Micros. Sci. (n.s.) 48(Part 2, No. 190, September): 299-322 + plates 16–18. [*Haplotaxis heterogyne* n. sp., p. 299]
- Benham, W.B. 1904. On some edible and other new species of earthworms from the North Island of New Zealand. Proc. Zool. Soc. Lond. 74(4, article 5): 220-263.
- Benham, W.B. 1904. The sipunculids of New Zealand. Trans. N.Z. Inst. 36 (Article XX): 172-184 + Plate VII.
- Benham, W.B. 1904. On a new species of leech (*Hirudo antipodum*) recently discovered in New Zealand. Trans. N.Z. Inst. 36 (Article XXI): 185-192 + Plate VIII.
- Benham, W.B. 1904. A note on the Oligochaeta of the New Zealand lakes. Trans. N.Z. Inst. 36 (Article XXII): 192-198.
- Benham, W.B. 1904. On an apparently new species of *Regalecus* (*R. parkeri*). Trans. N.Z. Inst. 36 (Article XXIII): 198-200 + Plate IX.
- Benham, W.B. 1904. Phylum Annulata, in Hutton's *Index Faunae Novae Zealandiae*, pp. 276-285.
- Benham, W.B. 1905. The preservation of native plants and animals. [*a letter to the editor of the journal*]. Nature 72(No. 1874, September 28, 1905): 534.
- Benham, W.B. 1905. Some earthworms from the North Island of New Zealand. Trans. N.Z. Inst. 37 (Article XVIII): 281-285 + Plate XI.
- Benham, W.B. 1905. On the Oligochaeta from the Southern Islands of the New Zealand region. Trans. N.Z. Inst. 37 (Article XIX): 285-297 + plates XII and XIII. {*Notiodrilus campbellianus* n. sp., p. 288; *Rhododrilus cockaynei* n. sp., p. 289; *Rhododrilus leptomerus* n. sp., p. 291; *Marionina antipodum* n. sp., p. 294; *Lumbricillus macquariensis* n. sp., p. 295}.
- Benham, W.B. 1905. Earthworms from the Kermadecs. Trans. N.Z. Inst. 37 (Article XX): 298-299 + plates XIII and XIV (*Rhododrilus kermadecensis* n. sp., p. 298}.
- Benham, W.B. 1905. Note on the occurrence of the foraminiferan genus *Ramulina* in the New Zealand waters. Trans. N.Z. Inst. 37(Article XXI): 300.
- Benham, W.B. 1905. Further notes on the sipunculids of New Zealand. Trans. N.Z. Inst. 37(Article XXII): 301-308 + plates XV and XVI {*Phascolosoma novae-zealandiae* n. sp., p. 301; *Sipunculus maoricus*, n. sp., p. 303; *Dendrostoma huttoni* n. sp., p. 306}.
- Benham, W.B. 1905. The aquatic larva of the fly *Ephydra*. Trans. N.Z. Inst. 37(Article XXIII): 308-312 + Plate XVII.
- Benham, W.B. 1905. Notes on some nudibranch molluscs from New Zealand. Trans. N.Z. Inst. 37(Article XXIV): 312-320 + Plate XVIII.

- Benham, W.B. 1905. Presidential address of the Otago Institute. Proc. N.Z. Inst. 37: 613-614. [*this is a reference to / summary of the address by Benham, written, presumably, by the editor of this issue/volume*]
- Benham, W.B. 1906. Additional notes on the earthworms of the North Island of New Zealand. Trans. N.Z. Inst. 38(Article XXVI): 239-245 + Plate XL. {*Tokea decipiens* n. sp., p. 241; *Rhododrilus similis* n. sp., p. 242; *Dinodrilus suteri* n. sp., p. 243}.
- Benham, W.B. 1906. On a new species of *Sarcophyllum* from New Zealand. Zool. Anz. 31: 66-67.
- Benham, W.B. 1906. Carnivorous habits of the New Zealand Kea parrot. Nature 73 (No. 1902, April 12): 559.
- Benham, W.B. 1906. The olfactory sense in *Apteryx* [*a letter to the editor of the journal*]. Nature 74(No. 1914, July 5): 222-223.
- Benham, W.B. 1906. On a large pterotracheid from the Pacific Ocean. Trans N.Z. Inst. 38(Article XXVII): 245-248 + Plate XLIII.
- Benham, W.B. 1906. An account of some earthworms from Little Barrier Island. Trans. N.Z. Inst. 38(Article XXVIII): 248-256 + plates XLI and XLII. {*Rhododrilus parvus* n. sp., p. 249; *Dinodriloides annectens* n. sp., p. 250; *Diporochaeta gigantea* n. sp., p. 251; *Diporochaeta shakespeari* n. sp., p. 254}.
- Benham, W.B. 1907. On the Oligochaeta from the Blue Lake, Mount Kosciusko. Rec. Australian Mus. Sydney 6: 251-264.
- Benham, W.B. 1907. Notes on the flesh-eating propensity of the Kea (*Nestor notabilis*). Trans. N.Z. Inst. 39 (Article III): 71-89 + Plate IV.
- Benham, W.B. 1907. New Zealand ctenophores. Trans. N.Z. Inst. 39(Article XIII): 138-143 + Plate VII. {*Beroe shakespeari* n. sp., p. 138; *Euplokamis australis* n. sp., p. 141.
- Benham, W.B. 1907. Two new species of leech in New Zealand. Trans. N.Z. Inst. 39(Article XVI): 180-192 + plates VIII and VIIIA {*Placobdella maorica* n. sp., p. 181; *Hirudo mauiana* n. sp., p. 185}.
- Benham, W.B. 1907. On a new species of pennatulid (*Sarcophyllum bollonsi*). Trans. N.Z. Inst. 39(Article XVII): 193-195 +Plate VI.
- Benham, W.B. 1907. The evolution of the elephant [an address to participants of the sixth meeting of the Otago Institute, 9 October 1906]. Proc. N.Z. Inst. 39: 547-548.
- Benham, W.B. 1908. An erroneous echinodermal identification. Ann. Mag. Nat. Hist. (8th Series) 1(No. 1, Article XIV): 104-108. {*Pseudechinus huttoni* sp. n., p. 104}.
- Benham, W.B. 1909. Report on the Polychaeta of the Sub-antarctic Islands of New Zealand. Pp. 236-250, In: Chilton, C. (ed.). The Subantarctic Islands of New Zealand 1. (Wellington, NZ: Government Printer).
- Benham, W.B. 1909. Report on the Oligochaeta of the Sub-antarctic Islands of New Zealand. Pp. 251-294, In: Chilton, C. (ed.). The Subantarctic Islands of New Zealand 1. (Wellington, NZ: Government Printer).
- Benham, W.B. 1909. The echinoderms, other than holothurians, of the Sub-antarctic Islands of New Zealand. Pp. 295-305, In: Chilton, C. (ed.). The Subantarctic Islands of New Zealand 1. (Wellington, NZ: Government Printer).
- Benham, W.B. 1909. Hydromedusae and Scyphomedusae from the Auckland and Campbell Islands. Pp. 306-311, In: Chilton, C. (ed.). The Subantarctic Islands of New Zealand 1. (Wellington, NZ: Government Printer).
- Benham, W.B. 1909. Preliminary report on two Hirudinea from the Sub-antarctic Islands of New Zealand. Pp. 372-376, In: Chilton, C. (ed.). The Subantarctic Islands of New Zealand 1. (Wellington, NZ: Government Printer).
- Benham, W.B. 1909. Annelida and Sipunculoidea, New Zealand Government Trawling Expedition, 1907. Rec. Cant. Mus., 1: 71-82.

- Benham, W.B. 1909. Echinoderma, Scientific results of the New Zealand Government trawling expedition 1907. Rec. Cant. Mus., 1: 83-116.
- Benham, W.B. 1910. The discovery of Moa-remains on Stewart Island. Trans. N.Z. Inst. 42(Article XLV): 354-356.
- Benham, W.B. 1911. Stellerids and echinids from the Kermadec Islands. Trans. N.Z. Inst. 43(Article XIX): 140-163.
- Benham, W.B. 1912. Report on sundry invertebrates from the Kermadec Islands. Trans. N.Z. Inst. 44(Article XII): 135-138.
- Benham, W.B. 1914. The nomenclature of the birds of New Zealand: being an abstract of Matthews and Iredale's "Reference List." Trans N.Z. Inst. 46(Article XXVII): 188-204.
- Benham, W.B. 1915. Notes on New Zealand polychaetes. Trans. N.Z. Inst. 47(Article XX): 161-170. [paper read before the Otago Institute, 1st December, 1914; this annual publication for the year 2014 was published on 12 July 1915].
- Benham, W.B. 1915. Preliminary report on the polychaetous annelids from the Kermadec Islands. Trans. N.Z. Inst. 47 (Article XXI): 170-174. [read before the Otago Institute, 8th July, 1914]
- Benham, W.B. 1915. Oligochaeta from the Kermadec Islands Trans. N.Z. Inst. 47(Article XXII): 174-185. [read before the Otago Institute, 7th July, 1914; this annual publication for the year 2014 was published on 12 July 1915]
- Benham, W.B. 1915. A remarkable case of bifurcation in *Lumbricus rubellus*. Trans. N.Z. Inst. 47(Article XXIII): 185-188. [read before the Otago Institute, 1st December, 1914; this annual publication for the year 2014 was published on 12 July 1915].
- Benham, W.B. 1915. On *Lumbricillus macquariensis* Benham. Trans. N.Z. Inst. 47(Article XXIV): 189-191.
- Benham, W.B. 1915. Report on the Polychaeta obtained by the F.I.S. Endeavour on the coasts of New South Wales, Victoria, Tasmania and South Australia. Pt. 1. Fisheries Commonw. Australia, 3: 173-237.
- Benham, W.B. 1916. Report on gephyrcan *Periapulus* obtained by the F.I.S. Endeavour in Australian waters. Pt 2. iii. Fisheries Commonw. Australia 4: 127-162.
- Benham, W.B. 1916. Notes on New Zealand Polychaeta (II). Trans. N.Z. Inst. 48(Article XXXVIII): 386-396.
- Benham, W.B. 1917. Presidential address to the New Zealand Institute. Trans. N.Z. Inst. 49: 543-547.
- Benham, W.B. 1918. Presidential address to the New Zealand Institute. Trans. N.Z. Inst. 50: 338-342.
- Benham, W.B. 1918. The organisation of research in agriculture. Nature 100(No. 2522, February28): 507-508.
- Benham, W.B. 1918. Biology in relation to agriculture. Cawthron Lecture, 1918.
- Benham, W.B. 1919. On the occurrence of two unusual blood-vessels in *Hyla aurea*. Trans. N.Z. Inst. 51(Article III): 1: 30-34.
- Benham, W.B. 1919. Some earthworms from Stephen Island and D'Urville Island. Trans. N.Z. Inst. 51(Article IV): 34-41. {*Maoridrilus megacystis* n. sp., p. 35; *Maoridrilus thomsoni* n. sp., p. 36; *Perieodrilus durvilleanus* n. sp., p. 38}.
- Benham, W.B. 1921. Polychaeta. Australasian Antarctic Expedition, 1911-1914 [under the leadership of Sir Douglas Mawson]. Scientific Reports. Series C – Zoology and Botany. Voume VI, Part 3, 1-128 + 6 plates + 1 map. William Applegate Gullick, Government Printer, Phillip-Street, Sydney, Australia. Accessible via this URL: [<http://www.biodiversitylibrary.org/item/54692#page/7/mode/1up>]
- Benham, W.B. 1922. Oligochaeta of Macquarie Island. Sci. Rep. Aust. Antarct. Exped. 1911-1914 (C), Zool. Bot. 6: 1-38.
- Benham, W.B. 1922. *Gephyrea inermia*. Sci. Rep. Austral. Antarct. Exped. 6, 1922, 22 pp.
- Benham, W.B. 1922. On the occurrence of the Opah, or moonfish, in New Zealand waters. N.Z. J. Sci. Tech. 4, 316-318.

- Benham, W.B. 1927. Polychaeta. Brit. Antarct. "Terra Nova" Exped., 1910, Nat. Hist. Rep., Zool. 7: ii. pp. 47-182.
- Benham, W.B. 1928. On some Alcyonarians from New Zealand waters. Trans. N.Z. Inst. 59 (Part 1): 67-84. [paper read before the Otago Institute, 6th December, 1927; issued separately, May 12th, 1928.]
- Benham, W.B. 1929. The pelagic Polychaeta. Brit. Antract. "Terra Nova" Exped., 1910, Nat. Hist. Rep., Zool., 7, iii, pp. 183-201.
- Benham, W.B. 1929. [in actuality, this is a summary, by an anonymous person, of Benham's public lecture on Friday 25 January 1929]: "The inheritance of mental qualities." Presidential Address by W.B. Benham, as a public lecture during the 4th Science Congress of the New Zealand Institute. This note was published in 1930, in Proc. N.Z. Inst. 60: 27-28.
- Benham, W.B. 1930. Another specimen of the oar-fish (*Regaleus*). N.Z. J. Sci. Tech. 11: 428.
- Benham, W.B. 1932. Notes on Polychaeta: two new species of the genus *Goniada*. Ann. Mag. Nat Hist. (10th Series) 9(54: No. LVIII): 553-566.
- Benham, W.B. 1932. *Priapulius caudatus* in New Zealand waters. Nature 130(No. 3293, December 10, 1932): 890.
- Benham, W.B. 1934. The skeleton of a small Moa, *Emeus huttoni* Owen. Trans. Proc. Roy. Soc. N.Z. 64: 87-104. [issued September].
- Benham, W.B. 1935. George Malcolm Thomson (1848-1933). Trans. Proc. Roy. Soc. N.Z. 64(Part 4): 413-421.
- Benham, W.B. 1935. A reptilian jaw from Kakanui, South Island, New Zealand. Trans. Proc. Roy. Soc. N.Z. 65(Part 3): 232-238.
- Benham, W.B. 1935. The teeth of an extinct whale, *Microcetus hectori* n. sp. Trans. Proc. Roy. Soc. N.Z. 65(Part 3): 239-243.
- Benham, W.B. 1937. Fossil Cetacea of New Zealand. II.—On *Lophocephalus*, a new genus of Zeuglodont Cetacea. Trans. Proc. Roy. Soc. N.Z. 67(Part 1): 1-7.
- Benham, W.B. 1937. Fossil Cetacea of New Zealand. III.—The skull and other parts of the skeleton of *Prosqualodon hamiltoni* n.sp. Trans. Roy. Soc. N.Z. 67(Part 1): 8-14.
- Benham, W.B. 1937. Fossil Cetacea of New Zealand. IV.—Notes on some of the bones of *Kekenodon onamata* Hector. Trans. Roy. Soc. N.Z. 67(Part 1): 15-20.
- Benham, W.B. 1939. *Mauicetus*: a fossil whale. Nature 143 (No. 3627): 765.
- Benham, W.B. 1941. *Megascolides napiensis*, a new species of earthworm. Trans. Roy. Soc. N.Z. 71(1): 27-31 + Plate 4. {*Megascolides napiensis* n.sp., p. 27}
- Benham, W.B. 1942. Fossil Cetacea of New Zealand. V.—*Mauicetus*, a generic name substituted for *Lophocephalus* Benham. Trans. Roy. Soc. N.Z. 71(4): 260-270 + plates 44-47. {*Squalodon andrewi* n.sp.}
- Benham, W.B. 1942. *Notoscolex equestris*, an earthworm from the Poor Knight Islands. Trans. Roy. Soc. N.Z. 72(3): 220-225 + Plate 17. {*Notoscolex equestris* n.sp., p. 220}
- Benham, W.B. 1942. Octopodus Mollusca of New Zealand. I.—The midget octopus of the coastal waters. Trans. Roy. Soc. N.Z. 72(3): 226-236 + Plate 19.
- Benham, W.B. 1943. The octopodous Mollusca of New Zealand—II. Trans. Roy. Soc. N.Z. 73: 53-57 + Plate 8. {*Robsonella huttoni* n. sp., p. 53}
- Benham, W.B. 1943. The octopodous Mollusca of New Zealand—III. The giant octopus, *Macroctopus maorum* (Hutton) — in youth, adolescence and maturity. Trans. Roy. Soc. N.Z. 73: 139-153.
- Benham, W.B. 1944. The octopodous Mollusca of New Zealand—IV. Trans. Roy. Soc. N.Z. 73: 255-261+ Plate 4. {*Paroctopus zealandicus* n.sp., p. 256; *Octopus adamsi* n.sp., p. 259}
- Benham, W.B. 1944. The octopodous Mollusca of New Zealand.—V. Trans. Roy. Soc. N.Z. 74(III): 294-296 + Plate 40.
- Benham, W.B. 1945. An earthworm with four penes *Conicodrilus* genus novum. Trans. Roy. Soc. N.Z. 75(I): 23-28. {*Conicodrilus kanieriensis* n.sp.}

- Benham, W.B. 1947. Studies in earthworms. XLII. The occurrence of the genus *Pheretima* in New Zealand. Trans. Roy. Soc. N.Z. 76(Part 3): 423-428 + 1 plate. {*Pheretima clerica* n.sp., p. 425}
- Benham, W.B. 1949. A yard-long earthworm, *Notoscolex hakeaphilus*. Trans. Roy. Soc. N.Z. 77(3): 346-350.
- Benham, W.B. 1950. A review of certain external structures employed in the coition of earthworms. Proc. Zool. Soc. Lond. 119(4): 905-916.
- Benham, W.B. 1949. [1950]. Polychaeta and Oligochaeta of the Auckland and Campbell Islands. N.Z. Dept. Sci. Industr. Res. Cape Exped. Ser. Bull. 10: 27-35.
- Benham, W.B. 1950. Polychaeta and Oligochaeta of the Auckland and Campbell Islands. Scientific Results of the N.Z. Sub-antarctic Exped., 1941-1945, Bul. 10.
- Benham, W.B. 1950. On *Cryptochaeta*, a new genus of earthworms; and a nomenclatural muddle solved. Trans. Roy. Soc. N.Z. 78(Parts 2 and 3): 324-328. [read before Otago Branch, October 12, 1948; issued August 1950]
- Lankester, E. Ray, W. B. Benham, and E.J. Beck. 1885. On the muscular and endoskeletal systems of *Limulus* and *Scorpio*. Trans. Zool. Soc. Lond. 11 (10, Article XVIII): 311-384.
- Benham, W.B., X. Thomson, and X Malcolm. 1900. Introduction to "An account of a large branchiate polynoid from New Zealand, *Lepidonotus giganteus* Kirk." Proc. Zool. Soc. Lond. 1900, pp. 974-986.
- Benham, W.B., and W.J. Dunbar. 1906. On the skull of a young specimen of the ribbon-fish, *Regalecus*. Proc. Zool. Soc. Lond. 37: 544-556.
- Benham, W.B., and Gladys Cameron. 1913. The nephridia of *Perieodrilus ricardi* and *P. montanus*. Trans. N.Z. Inst. 45(Article XX): 191-198. [read before the Otago Institute, 5th November, 1912]
- Wilson, K. [‘with note by Professor Benham’]. 1913. Footprints of the Moa. Trans. N.Z. Inst. 45 (Article XXIV): 211-212. [read before the Manawatu Philosophical Society, 19th August, 1912].
-

¹ Note that many of the plates referenced in papers published in the *Quarterly Journal of Microscopical Science*, n.s., were included as foldouts in separate issues within the same volume (with table of contents noting titles of articles). These volumes and issues (including the plates) can be accessed through the Biodiversity Heritage Library, here:

[<http://www.biodiversitylibrary.org/bibliography/13831#/summary>]

² Volumes and issues (in pdf) of the journal, *Transactions and Proceedings of the Royal Society of New Zealand* for the years 1868-1961, can be accessed via the website affiliated with the Te Puna Mataurangta o Aotearoa National Library of New Zealand, here:

[<http://rsnz.natlib.govt.nz/allvolumes.html>]. Please note that volumes in this journal present articles associated with several sections: Transactions of the New Zealand Institute, Proceedings of the New Zealand Institute, Transactions of the Royal Society of New Zealand, and Proceedings of the Royal Society of New Zealand; in addition.

³ Volumes and issues (in pdf) of the journal, *Annals and Magazine of Natural History*, can be accessed through the Biodiversity Heritage Library, here:

[<http://biodiversitylibrary.org/bibliography/15774#/summary>]

⁴ Although the accuracy of most of the citations above could be verified by reviewing the actual publication, several were not accessible, and thus may not be correct. Inaccuracies should be forwarded to us. *JWR & MJW*
