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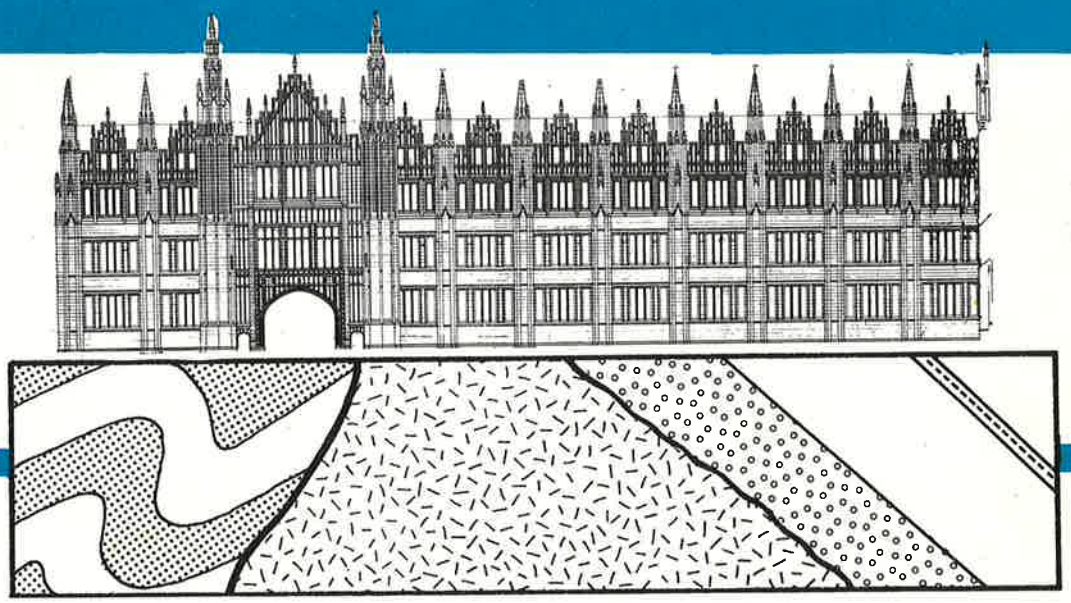

Catalogue of the type and figured material in the Palaeontology Collection, University of Aberdeen, with notes on the H.A. Nicholson collection.

M.J. Benton and N.H. Trewin

No. 2

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Introduction and Historical Notes.

This catalogue is a result of recent re-arrangement of the Palaeontology Collection in the Department of Geology and Mineralogy, University of Aberdeen. The main aim was to identify the type and figured material and also to discover the extent of the H.A. Nicholson collection at Aberdeen. The project resulted in the identification of primary type specimens of some 60 species as well as over 450 figured specimens. The collection contains several thousand corals, bryozoans and graptolites accumulated or actually collected by H.A. Nicholson. Since the majority of the type material is of species erected by Nicholson the following historical notes are relevant to the catalogue.

Henry Alleyne Nicholson (1844-1899) had a distinguished career, and gained several degrees from Edinburgh and Göttingen Universities. After a brief spell as a lecturer on Natural History in Edinburgh, he accepted the chair of Natural History in Toronto in 1871. Although he spent only three years in Canada, Nicholson wrote two monographs and several papers on Canadian palaeontology and a report on corals of Ohio, and he collected at least 30,000 invertebrate fossils from various localities in Ontario. This vast collection is now in Aberdeen University, the British Museum (Natural History) and Canada. However, a fire in Toronto University in 1890 may have destroyed some of the latter.

In 1874 Nicholson moved to Newcastle and then to St. Andrews in 1875. His post as Professor of Natural History at Aberdeen commenced in 1882 and lasted until his death in 1899. It was in these later years that Nicholson produced some of his most lasting and important work.

The range of Nicholson's work was prodigious - he wrote 150 papers and monographs covering Lake District geology, graptolites, corals, Bryozoa, stromatoporoids, trace fossils and Algae. He was well-loved by his students as an excellent lecturer and his text-books on zoology, geology and palaeontology ran to many editions.

Aberdeen had two separate universities, King's College (founded 1494) and Marischal College (founded 1593) until they were united as the University of Aberdeen in 1860. Up to that time, both universities had taught natural history to their arts and medical students and it was only in 1860 that a separate Professorship was established. The first Professor of Natural History was James Nicol, an eminent mineralogist, who studied the north-west of Scotland in particular. Nicholson came to Aberdeen in 1882 and immediately increased the geological content of the natural history course. In 1895 he instituted an extensive practical course in mineralogy, petrology and palaeontology and was about to start a palaeontology lecture course immediately before his death in 1899. The eminent zoologist, J. Arthur Thomson, held the chair next, and he passed the geological side of the department to Dr. A.W. Gibb. A separate lectureship in geology was instituted for Gibb in 1908, and in 1922, a separate Chair in geology was established and Gibb became its first occupant.

The fossils which Nicholson left in Aberdeen form the basis of our collection. Since his time, there have been many small accessions, the notable addition being the Adam Whyte collection of Scottish Carboniferous crinoids.

Nicholson did not catalogue his collections and left all his specimens with handwritten labels either attached or loose in their boxes. Apparently, the fossils remained unsorted in boxes and in wall and floor cabinets in the old geology museum. The bulk of the collection was first catalogued in the late 1940's under the supervision of Professor T.S. Westoll, then a lecturer at Aberdeen. Nicholson's labels remain on only a few specimens, mostly those discovered and catalogued in

more recent years. In almost all cases, Nicholson did not place identification marks on the specimens he figured in his papers. Some of our specimens have notes such as "PL III fig. 1" attached, but in most cases there is no identification at all.

It is relatively easy to match hand specimens of corals and some Bryozoa with Nicholson's figures, but slides are rather more difficult in that Nicholson may have combined appearances from a few parts of a slide in one figure. In general, however, most figures used by Nicholson are very accurate representations of what he saw - he drew most of the originals and even engraved some of his plates. If there is any doubt about the matching of a figure and a specimen or slide, this is indicated in the catalogue by a question mark ("?"). If the matching is very doubtful, but just possible, the letters "cf." are used.

No lectotypes are designated in this catalogue; reference to 'type specimens' means 'the original figured specimens' and nothing more should be inferred.

The names used throughout the catalogue are those that appear on the labels; no attempt has been made at reidentification. More detailed listings of likely Nicholson material, much from North America, are available on request to aid workers in identification of possible syntypic series of many of Nicholson's new species.

A complete list of Nicholson's type and figured specimens, with their repositories is in preparation by one of us (M.J.B.) who would welcome any information concerning Nicholson himself or his much dispersed collections.

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March, 1978.

PROTOZOA

General:

Spergen Hill foraminiferal limestone (Nicholson 1889b, figs 6, 33 etc). "Endothyra limestone" - slide ("155") is labelled in Nicholson's hand, "Endothyra bowmanni. Carb. Lime. Spergen Hill" - figured specimen?

Recent formaniferal rock (Nicholson 1889b, fig 27) - ?Slide 0429 labelled in Nicholson's hand.

Foraminifera and crinoids, Carboniferous limestone, Kendall Fell. Slide 0446: cf. Nicholson 1889b, fig 4.

Foraminifera, Oolitic limestone. Slide 0420: cf. Nicholson 1889b, fig 11.

"Eozoon canadense" Dawson 1865 (inorganic)
Canada, Petite Nation (Laurentian) (1, slides 0351-60) the basis for Nicholson 1889b, p 137-43. Slide 0345: Nicholson 1889b, fig 4A. Slide 0357: Nicholson 1889b, fig 4B. Slide 0352: Nicholson 1889b, fig 4C. Slide 0354: Nicholson 1889b, fig 4D.

Globigerina bulloides D'Orbigny 1826.
Recent, Atlantic. (Slides '132', '133', labelled in Nicholson's hand). ? figd. Nicholson 1889b, fig 20A, B.

Loftusia persica Brady 1869.
Persia (Tertiary): Slides 01139-42. See Nicholson 1888a, p 11-12. Slide 01139: Nicholson 1889b, fig 35B.

Parkeria sphaerica Carpenter 1870.
Greensand, Cambridge (8710 (c.50 specimens), 8712 (c.50 specimens), Slides 01113-33).
8710: Nicholson 1889b, fig 80 - one large specimen is the right shape and size, but the surface ornament is not so clear as in the figure, but could have been restored from one of the smaller specimens.
Slide 01113: Nicholson 1888a, fig 1, same as Nicholson 1889b, fig 81. Slide 01118: Nicholson 1888a, pl 3, fig 1. Slide 01124: Nicholson 1888a, pl 3, fig 3. Slide 01126: Nicholson 1888a, pl 3, fig 2. Slide 01128: Nicholson 1888a, pl 3, fig 4. Slide 01132: Nicholson 1888a, pl 3, fig 5.

Polycistina
Large series of slides (0213-7, 0219-32, 0237-8, 0240-55) probably Nicholson material - "Polycistina from Barbados Earth, Cambridge Estates, Mount Wilton, Cleland Hill, Barbados". One of these probably figured in Nicholson 1889b, fig 12.

Saccamina limestone
Ayrshire, Tramitchell, Girvan (8548).
8548: cf. Nicholson and Etheridge 1878, p 21.

PORIFERA

Nicholson did relatively little work on sponges, describing only one new species from Girvan.

Amphispongia oblonga Salter 1861.
North Esk Reservoir, Pentland Hills, Lanarkshire.
204: Nicholson 1889b, fig 68C, D.

Porosphaera globularis (Phillips 1829)
Sussex (8714 (42), Slides 01101-7): mentioned, Nicholson 1888a, p 11.

COELENTERATA

Aberdeen University has important collections of fossil corals collected by Nicholson from Ontario, Ohio, S.W. England, Fife, Girvan, the Eifel, Oesel, Gotland, Estonia etc. (6000-7000 specimens and about 2000 slides). The collection includes probable or certain type material (excluding topotypes) of the following species:

Rugosa

Duncanella borealis Nicholson 1874
Petraia logani Nicholson 1873
Zaphrentis wortheni Nicholson 1875
Heliophyllum colbornense Nicholson 1874
Favistella (Columnaria) calicina Nicholson 1875
Blothrophyllum approximatum Nicholson 1874
Cystiphyllum ohioense Nicholson 1875
Cystiphyllum squamosum Nicholson 1875

Tabulata

Columnopora cribriformis Nicholson 1874
Favosites chapmanni Nicholson 1874
Favosites inosculans Nicholson 1881
Favosites forbesi var. eifelensis Nicholson 1879
Plasmopora exserta Nicholson and Etheridge 1880
Desmidopora alveolaris Nicholson 1886
Pachypora oehlertii Nicholson 1881.
Alveolites conferta Nicholson 1874
Alveolites (Coenites?) distans Nicholson 1874
Alveolites ramulosa Nicholson 1874
Dictoyostroma undulata Nicholson 1875
Araeopora australis Nicholson and Etheridge 1879 (?)
Rhaphidopora crinalis var. aculeata Nicholson and Foord 1886
Syringopora intermedia Nicholson 1874

ORDER HYDROIDA

Heterastridium (Stoliczkaria) granulata Duncan 1878
Slide 8711: Nicholson 1889b, fig 112 ("Syringosphaeria sp")
Slide 01109: Nicholson 1889b, fig 113A ("Stoliczkaria sp")
Slide 01143: Nicholson 1889b, fig 113B ("Stoliczkaria sp")

Hydractinia echinata (Fleming 1828)
Nicholson 1886a. Slide 01134: Pl 6, fig 6? Slide 01136:
Pl 6, fig 1? Slide 01137/8: Pl 6, fig 5? Slide 01162:
Pl 6, fig 3, 3a? Slide 01163: Pl 6, fig 2?

SUBCLASS OCTOCORALLIA

Tubipora musica Linné 1758
921 ("Tubipora sp"): cf. Nicholson 1882, fig 1A, C.
Same as Nicholson 1889b, fig 212A, C.

ORDER RUGOSA

Acrophyllum oneidaense (Billings 1859)
250, 251, 252, 630, 656, slide 01636: Thomson and Nicholson 1876a, p 455 (described, but not figured).
250, 251, 252 (topotypes) were used in the description of Acrophyllum oneidaense by Hill (1939 p 99-100) and figured as follows: 250 ("N 11"): Pl 5, fig 3. 251 ("N 12"): Pl 5, fig 4. 252 ("N 13"): Pl 5, fig 5.

Blothrophyllum approximatum Nicholson 1874
663a: Nicholson 1874f, Pl 4, fig 2 ("B. decorticatum")
663a, despite the wrong name on the label, is the figured specimen and thus the type. The other 6 specimens of 663 appear to be B. decorticatum.

Calostylis breviuscula Nicholson ms 1887
523: Nicholson 1887, p 174 - metioned; never figured or described.

Carcinophyllum Thomson and Nicholson 1876
8048, 8104, 8722, slide 01523: Thomson and Nicholson 1876b, fig H (p 71).No description: Described by Thomson (1880).

Cyathophyllum heterophyllum Edwards and Haime 1851
Slide 01540: Nicholson 1889b, fig 161A. Slide 01539: fig 161B.

Cystiphyllum americanum Edwards and Haime 1851
638a: Nicholson 1874f, Pl 6, fig 8.

Cystiphyllum cylindricum Lonsdale 1839
Slide 01548: Nicholson 1889b, fig 180A. Slide 01549: fig 180B.

Cystiphyllum ohioense Nicholson 1875
787a: Nicholson 1875a, Pl 1, fig 2, 2a. Same as Nicholson 1875e. Pl 1, fig 2, 2a. Same as Nicholson 1875g, Pl 23, fig 4, 4a. 787b: Nicholson 1875f, Pl 17, fig 10. Type Specimens.

Cystiphyllum senecaense Billings 1859
557a: Nicholson 1874f, Pl 6, fig 6.

Cystiphyllum squamosum Nicholson 1875
746a: Nicholson 1875a, Pl 1, fig 4, 4a.
746b: Nicholson 1875a, Pl 1, fig 4b; Nicholson 1875f, Pl 17, fig 9.
746a, 746b and another 2 specimens numbered 746 are type specimens.

Cystiphyllum sulcatum Billings 1859
662a: Nicholson 1874f, Pl 6, fig 7.

Cystiphyllum vesiculosum Goldfuss 1826
731a: Nicholson 1874f, fig 8 (p 37). Same as Nicholson 1877, fig 80. Same as Nicholson 1889b, fig 181.

Diphyphyllum arundinaceum Billings 1859
10661a: Nicholson 1874f, Pl 6, fig 1.

Diphyphyllum gracile M'Coy 1851
10660a: Nicholson 1874f, Pl 5, fig 5.

Diphyphyllum stramineum Billings 1859
10662a: Nicholson 1874f, Pl 5, fig 6.

Duncanella borealis Nicholson 1874
Slide 01554: Nicholson 1874e, fig c. Nicholson 1889b, fig 142C. 310 and 449 (from Indiana) could not be found. Very probably these would be the small hand specimens figured in Nicholson 1874d, figs a, d and e.

Eridophyllum simcoense Billings 1859
638a: Nicholson 1874f, Pl 6, fig 5. ("Synaptophyllum (Disphyllum) simcoense").

Eridophyllum verneuillanum Edwards and Haime 1850
729: cf. Nicholson 1874f, fig 7a, b.

Favistella calicina Nicholson 1875
8589: Nicholson 1875e, fig 9 (1a). Same as Nicholson 1879, fig 28 (1a). Same as Nicholson 1889b, fig 153. Slides 8589A, B: Jull 1976, Pl 1, fig 1a, b. Slides 10571A, B: Pl 1, fig 3a, b. Slide 10572A: Pl 1, fig 2. 8589 was designated lectotype by Jull (1976, p 458).

Heliophyllum canadense Billings 1859
681a: Nicholson 1874f, Pl 5, fig 1.

Heliophyllum cayugaense Billings 1859
635a: cf. Nicholson 1874f, Pl 5, fig 2.

Heliophyllum colbornense Nicholson 1874
646a: cf. Nicholson 1874f, Pl 5, fig 4.
Since the resemblance with the figure is not very good, this may not be a primary type. However the 6 specimens are syntype material.

Heliophyllum colligatum Billings 1859
654a: cf. Nicholson 1874f, Pl 5, fig 3.

Heliophyllum elegantulum Nicholson and Thomson 1876
566: cf. Nicholson 1889b, fig 168B.

Heliophyllum exiguum Billings 1860
786a: cf. Nicholson 1874f, figs 6a, b. Same as Nicholson 1877, fig 82.

Heliophyllum halli Edwards and Haime 1850
665: Nicholson 1874f, fig 4. Same as Nicholson 1889b, fig 169.
583a: Nicholson 1875f, Pl 17, fig 4. Slide 01562: Nicholson 1878, fig A.

Koninckophyllum magnificum Thomson and Nicholson 1876 10 specimens from Charlestown, Fife (topotypes) were figured by Hill (1939) as follows:
253 ("N 1"): Pl 3, fig 13. 254 ("N 2"): Pl 3, fig 14. 255 ("N 3"): Pl 3, fig 15. 265 ("N 4"): Pl 3, fig 16. 257 ("N 5"): Pl 3, fig 17. 258 ("N 6"): Pl 4, fig 1. 259 ("N 7"): Pl 4, fig 2. 260 ("N 8"): Pl 4, fig 3, 4. 261 ("N 9"): Pl 4, fig 5. 262 ("N 10"): Pl 4, fig 6.

Lithostrotion martini Edwards and Haime 1850
Slide 01573: Nicholson 1889b, fig 166B.

Lophophyllum eruca M'Coy 1851
8100: cf. Nicholson 1889b, fig 174A.

Microcyclus discus Meek and Worthen 1868
578 (4 specimens): Nicholson 1874f, fig 9a, b. Nicholson 1889b, fig 167A, B.

Omphyma subturbinata D'Orbigny 1850
Slide 01582: Nicholson 1889b, fig 159A. Slide 01583: fig 159B.

Petraia logani Nicholson 1873
10170a: Nicholson 1874f, Pl 3, figs 3, 3a. 10170b: Pl 3, fig 3b. 10170c: Pl 3, fig 3c. 10170e: Pl 3, fig 3e(?). 10170f: Pl 3, fig 3f.
We have the whole series of figured specimens (no figures given in 1873b) except for 3d (an outline sketch, possibly restored from a few specimens). In all, 10170 consists of 24 specimens. Thus, these may be considered as the type series.

Stauria astraeformis Edwards and Haime 1850
Slide 01600: Nicholson 1889b, fig 152.

Streptelasma cornicula Hall 1847
433a: Nicholson 1889b, fig 156A, B. Slide 01612: fig 178A.

Zaphrentis enniskilleni Edwards and Haime 1851
Slide 01621: Nicholson 1889b, fig 172A. Slide 01622: fig 172B, C. Slide 01623: fig 172D.

Zaphrentis (Siphonophrentis) gigantea Lesueur 1821
240: Nicholson 1874f, Pl 3, fig 1a. 308: Pl 3, fig 1.

Zaphrentis multilamellata Nicholson 1875
768 (Falls of the Ohio): Nicholson 1875g, pp 236-7. The original description is based on one large specimen, 3¼ inches (82mm) long. 768 (2 specimens) are 55 and 60mm long.

Zaphrentis prolifica
314a: Nicholson 1874f, Pl 3, figs 2, 2a.

Zaphrentis wortheni Nicholson 1875
773 (2 specimens): cf. Nicholson 1875g, Pl 23, fig 5, 5a.
("Aulacophyllum wortheni") from Columbus, Ohio. Assuming the card is right, this is not the type locality (Sandusky, Ohio) and these may not be type specimens.

ORDER HETEROCORALLIA

Heterophyllia angulata Duncan 1867
8759: cf. Nicholson 1889b, fig 148A. Slide 01648: fig 148B. Slide 01651: fig 148C.

ORDER SCLERACTINIA

Pocillopora aspera var. **lata** Verrill
Slide 01707: cf. Nicholson 1889b, fig 3D.

Porites clavaria Lamarck 1816
Slide 01711: Nicholson 1884, fig 2.

Stylophora palmata Blainville
Slide 01714: Nicholson 1889b, fig 125A.

ORDER TABULATA

Alveolites billingsi Nicholson 1874
1282: labelled "type specimen", but does not seem to match Nicholson 1874a, Pl 4, fig 6c. However, it could have been broken.

Alveolites conferta Nicholson 1874
1498a: Nicholson 1874a, Pl 4, fig 5c. Same as Nicholson 1874f, fig 12c.
1498a, being the first and only figured specimen is a type specimen, the other 2 specimens numbered 1498 are syntypes. The figure given in 1874 omits the lower part of the specimen, no doubt in order to fit the space available in the engraving.

Alveolites cryptodens Billings 1859
1506: cf. Nicholson 1874a, Pl 4, fig 5a. Same as Nicholson 1874f, fig 12a.

Alveolites (Coenites?) distans Nicholson 1874
1369: Nicholson 1874a, fig 4. Same as 1874f, fig 13. Type specimen.

Alveolites labechei Edwards and Haime 1851
Slide 01915: Nicholson 1888c, fig 1B. Same as Nicholson 1889b, fig 194B.
Slide 01918: cf. Nicholson and Etheridge 1879a, Pl 6, fig 3, 3a.

Alveolites ramulosa Nicholson 1874
1183a: Nicholson 1874a, P. 4, fig 6a, b. Same as Nicholson 1874e, fig 14a, b (part of specimen). Whole specimen in Nicholson 1874e, Pl 7, fig 3.
1183a is a type specimen, having been figured several times, and being the only specimen figured. The other specimens numbered 1183 are also type material.

Alveolites suborbicularis (Lamarck 1801)
965: cf. Nicholson 1879, Pl 6, fig 2.

Araeopora australis Nicholson and Etheridge 1879
1214 (3 specimens): one of these could be the specimen from which the type slides were cut. (figured in Nicholson and Etheridge 1879b, fig 3, p 279).

Aulopora repens (Edwards and Haime 1851)
1072: cf. Nicholson and Etheridge 1879a, Pl 7, fig 1G, H.

Aulopora tubaeformis Goldfuss 1829
1441: cf. Nicholson 1874f, Pl 6, fig 3.

Aulopora umbellifera Billings 1859
942: Nicholson 1874f, Pl 6, fig 4.

Caliapora battersbyi (Edwards and Haime 1851)
Slide 01908: Nicholson 1889a, fig 4A. ("Alveolites").
Slide 01909: fig 4B. ("Alveolites")

Caliapora labechei (Edwards and Haime 1851)
Slide 02159: Nicholson 1889a, fig 5A. ("Alveolites").
Slide 02160: fig 5B, ("Alveolites").

Cannapora annulata Nicholson and Hinde 1874
1184: described, but not figured in Nicholson and Hinde 1874 and Nicholson 1875e. Locality quoted as Owen Sound, Ontario. Our specimen from Manitoulin. Possible type.

Chaetetes radians Fischer von Waldheim 1830
10658a ("Ch 8"): Nicholson and Etheridge 1877a, Pl 19, fig 7, 8. Slide 01946 ("C. septosus"): cf. Nicholson and Etheridge 1877a, Pl 19, fig 9; Nicholson 1879, Pl 12, fig 4c, d. Nicholson 1881b, fig 10A. Nicholson 1879, fig 35D. Same as Nicholson 1881b, fig 1D. 1156: cf. Nicholson 1879, Pl 12, fig 4b.

Chonostegites clappi Edwards and Haime 1851
8622: cf. Nicholson 1879, Pl 8, fig 2a. Slide 01646: cf. Pl 8, fig 2b. Slide 01647: Pl 8, fig 2c.

Cleistopora geometrica (Edwards and Haime 1851)
1469a: Nicholson 1888d, fig 1A, B.

Coenites linearis Edwards and Haime 1851
1225: Label states "figd. Nicholson 1879, Pl 7, fig 1", but specimen does not resemble figure.

Columnopora cribriformis Nicholson 1874
8621: Nicholson 1854g, fig 1(?). Jull (1976, p 463) selected this specimen as lectotype. 8621A, B: Jull 1976, Pl 3, figs 2a, b. 10568: Pl 3, fig 3.

Columnopora ungava Cox 1936
8606 ("C. huronensis"): Jull 1976, Pl 4, fig 4a, b. Identified by Jull (1976, p 464-5).

Desmidopora alveolaris Nicholson 1886
10152b: Nicholson 1886b, Pl 8, figs 1-3. Slide 10152 (1): Nicholson 1886b, Pl 8, figs 5, 6. Same as Hill and Stumm 1956, fig 349, 6b. Slide 10152 (2): Nicholson 1886b, Pl 8, fig 8. Slide 10152 (3): Pl 8, fig 7. Slide 10152 (4): Nicholson 1886b, Pl 8, fig 4. Hill and Stumm 1956, fig 349, 6a. This is the type series.

Dictyostroma undulata Nicholson 1875
10113: Nicholson 1875g, Pl 24, fig 6?, 6b? Type specimen.
10113B: Nicholson 1875g, Pl 24, Fig 6c?

Favosites sp.
Slide 01953: cf. Nicholson 1888c, fig 1A. Same as Nicholson 1889b, fig 194A.
Slide 01955: cf. Nicholson 1888c, fig 1A. Same as Nicholson 1889b, fig 194A'.
Slide 02175: Nicholson 1889b, fig 135A. Slide 02176: fig 135B.

Favosites bowerbanki Edwards and Haime 1851
Slide 01956: Nicholson 1879, Pl 3, fig 4, 4a.

Favosites chapmanni Nicholson 1874
1202: Nicholson 1874f, Pl 7, fig 6. Type specimen.

Favosites dubia Blainville 1830
902a: Nicholson 1874f, Pl 7, fig 5.

Favosites forbesi var. eifelensis Nicholson 1879
1618: cf. Nicholson 1879, Pl 3, fig 1, 1a. This may be a type specimen.

Favosites forbesi var. tuberosa Rominger 1876
1173a: Nicholson 1879, Pl 3, fig 2. 1173b: Pl 3, fig 2a? 1610: Pl 3, fig 2b.

Favosites gothlandicus Lamarck 1816
1138: Nicholson 1879, fig 14C. Same as Nicholson 1889b, fit 195C. 1474a: Nicholson 1879, Pl 1, fig 3.

Favosites gothlandicus var. favosa (Goldfuss 1826)
925: Nicholson 1879, Pl 1, fig 4.

Favosites inosculans Nicholson 1881
Slide 01977: Nicholson 1881a, Pl 1, fig 4. Slide 01978: Pl 1, fig 4a. Type specimens.

Favosites mullochensis Nicholson and Etheridge 1878
Side 01979: cf. Nicholson and Etheridge 1880C, Pl 18, fig 5. Slide 01980: cf. Pl 18, fig 5b. Specimens 1463 and 2251 are labelled "type specimens" but do not match the original figures. Types are in the British Museum (Nat. Hist.)

Favosites polymorpha Goldfuss 1829
1159a: Nicholson 1874f, Pl 7, fig 7.

Favosites punctata Boullier 1826
1317a: Nicholson 1881a, Pl 1, fig 3, ? 3a.

Favosites turbinata Billings 1859
1275a: Nicholson 1874f, Pl 8, fig 1. 1275b: Pl 8, fig 2.

Halysites sp.
Slide 02268: cf. Nicholson and Etheridge 1880, Pl 18, fig 4.

Halysites catenularia (Linné 1767)
927: cf. Nicholson 1875f, fig 24b. Same as Nicholson 1877, fig 59b. Same as Nicholson 1879, fig 9b. Same as Nicholson 1889b, fig 219.
Slide 01988: Nicholson and Etheridge 1880, fig 9B. Slide 01989: fig 9C.

Halysites escharoides (Lamarck 1816)
Slide 01990: Nicholson and Etheridge 1878, fig 9A? Same as Nicholson 1889b, fig 220A.

Heliolites dubius Schmidt 1858
Slide 02009: Nicholson 1889b, fig 217A. Slide 02010: fig 217B.

Heliolites grayi Edwards and Haime 1851
Slide 02016: Nicholson and Etheridge 1878, Pl 5, fig 1.

Heliolites megastoma (M'Coy 1846)
Slide 02050: Nicholson 1879, Pl 12, fig 2. Slide 02051: Pl 12, fig 2a.

Heliolites porosa Goldfuss 1826
Slide 02062: Nicholson 1889b, fig 217D. Slide 02063: fig 217C.

Lyopora favosa (M'Coy 1850)
Slide 02279/80: cf. Nicholson and Etheridge 1878, Pl 1, fig 1d. Slide 02283: cf. Pl 1, figs 1b, c, e.

Nyctopora billingsii Nicholson 1879
Slides 1385A, B: Jull 1976, Pl 2, figs 1a, b. Slide 10574: Pl 2, fig 2.

Pachypora sp.
1260: see Nicholson 1881a, p 22 (not figd).

Pachypora cervicornis (Blainville 1830)
1063a: Nicholson 1879, Pl 4, figs 3, 3a. (Part of specimen omitted in drawing).

Pachypora fischeri Billings 1860
1097a: Nicholson and Etheridge 1877a, Pl 20, fig 18.
Nicholson 1879, fig 16C? 1097b: Nicholson 1879, fig 16A. 1097c: fig 16D?

Pachypora nicholsoni Frech 1885
Slide 02296: cf. Nicholson 1889b, fig 125B.

Pachypora oehlertii Nicholson 1881
1177a: Nicholson 1881a, Pl 1, figs 2, 2a.
1177a is a type specimen and the other 7 specimens numbered 1177 are associated types.

Plasmopora exserta Nicholson and Etheridge 1880
Slide 02096: Nicholson and Etheridge 1880, Pl 17, fig 4a? This may be a type specimen.

Plasmopora petaliformis (Lonsdale 1839)
Slide 02097: Nicholson 1879, Pl 12, fig 1. Slide 02100: Nicholson and Etheridge 1878, fig 8A. Same as Nicholson 1879, Pl 11, fig 5. Same as Nicholson 1889b, fig 218A.

Plasmopora scita Edwards and Haime 1851
Slide 02102: Nicholson and Etheridge 1878, fig 8B. Same as Nicholson 1889b, fig 218B.
Slide 02103: Nicholson and Etheridge 1878, fig 8C. Same as Nicholson 1889b, fig 218C.

Pleurodictyum stylophorum Eaton 1832
1476 (2 specimens): Nicholson 1879, fig 22C, D. Same as Nicholson 1889b, fig 200C, D. Both drawings could be from either of the specimens (text mentions 2 specimens).

Propora tubulata (Lonsdale 1839)
Slide 02110: Nicholson 1879, Pl 11, fig 3, 3a. Slide 02111: Pl 11, fig 3b.

Raphidopora
Slides and figures have been matched as well as possible, but, owing to the large number of slides in the Aberdeen Collection, some of the determinations are not certain.

Raphidopora crinalis (Schlüter 1881)
Slide 01436: Nicholson and Foord 1886, Pl 17, fig 1. Slides 01440/1: Pl 17, fig 7 (cf. figs 8, 9, 10). Slide 01443: Pl 15, fig 2a. Slide 01445: Pl 15, fig 3. Slide 01449: Pl 15, fig 3a. Slide 01450: Pl 15, fig 2. Slide 01453: cf. Pl 15, fig 1; Pl 17, fig 5. Slide 01454: cf. Pl 15, fig 1a; Pl 17, fig 6.

Raphidopora crinalis var. **aculeata** Nicholson and Foord 1886
Slide 01444: Nicholson and Foord 1886, Pl 15, fig 4, 4a, ?4b. Slide 01444 is a possible type specimen of this variety.

Raphidopora stromatoporoides (Roemer 1883)
Slide 01391A: cf. Nicholson and Foord 1886, Pl 15, fig 7, 7a. Slide 01392: cf. text figs F, ?G. Slide 01393: Pl 16, fig 5. Slide 01395: Pl 16, fig 2a. Slide 01411: cf. Pl 15, fig 1, ?1a. Slide 01412: Pl 15, fig 5b. Slide 01413: cf. Pl 15, fig 5, 5a. Slide 01415: figs A-D (p 519). Slide 01420: Pl 16, fig 3, ? text fig E. Slide 01427: Pl 16, fig 4, ?6, 7; Pl 17, ? fig 4. Slide 01429: cf. Pl 16, fig 1b. Slide 01430: Pl 16, fig 1c. Slide 01431: Pl 16, fig 2; ? Pl 17, fig 2, 3 (or slide 01409). Slide 01433: cf. Pl 15, fig 6a. Slide 01434: Pl 15, fig 6. 1873 (ringed): Pl 16, fig 8.

Roemeria minor (Schlüter 1885)
Slide 02183: Nicholson 1889a, fig 2. Slide 02184: fig 3.

Striatopora linneana Billings 1860
1641a: cf. Nicholson 1879, Pl 5, fig 2. Slide 02912: cf. Pl 5, fig 2a.

Syringolites huronensis Hinde 1879
993a: Nicholson 1879, fig 27A. Same as Nicholson 1889a, fig 1A. Same as Nicholson 1889b, fig 202A. 993a: Nicholson 1879, fig 27B. Same as Nicholson 1889a, fig 1B. Same as Nicholson 1889b, fig 202B. 993a/b: ? Nicholson 1879, fig 27C. Same as Nicholson 1889a, fig 1C. Same as Nicholson 1889b, fig 202C. 993a: cf. Nicholson 1879, fig 27D. Same as Nicholson 1889a, fig 1D. Same as Nicholson 1889b, fig 202D.

Syringopora intermedia Nicholson 1874
1451: Nicholson 1874f, fig 58? This may be the type specimen.

Syringopora reticulata Goldfuss 1826
Slide 02119: Nicholson 1879, fig 30B. Same as Nicholson 1889b, fig 208B. Slides 02119/20: cf. Pl 10, fig 5. Slide 02120: Nicholson 1882, ?fig 3A. B.

Tetradium minus Safford 1856
944/1589: Nicholson and Etheridge 1877b, fig b ? Slide 02122: Nicholson 1879, fig 10B, C. Same as Nicholson 1881b, fig 13B, C. Slide 02266: Nicholson and Etheridge 1877b, fig a.

Trachypora elegantula (Billings 1860)
1648a: Nicholson 1879, Pl 5, fig 4, 4a (part of specimen omitted in drawing).

Trachypora ornata (Rominger 1876)
1642a: Nicholson 1879, Pl 5, fig 3, 3a.

Vermipora (Favosites) clausa (Lindström 1858)
1056a: Nicholson 1879, Pl 6, fig 1. Slide 02142: Pl 6, fig 1a. Slide 02143: Pl 6, fig 1b.

BRYOZOA

Aberdeen University has an extensive collection of Canadian Bryozoa, many of which were figured and described by Nicholson. Type specimens of the following appear to be in our collection:

Alecto auloporoides Nicholson 1875
Alecto canadensis Nicholson 1873
Alecto frondosa Nicholson 1875
Callopora foordi Nicholson 1889
Callopora minutissima Nicholson 1875
Carinopora hindei Nicholson 1874
Ceramopora huronesis Nicholson 1875
Ceramopora ohioensis Nicholson 1875
Chaetetes attrita Nicholson 1874
Chaetetes discoideus Nicholson 1874
Chaetetes jamesi Nicholson 1874
Chaetetes moniliformis Nicholson 1874
Chaetetes petechialis Nicholson 1875
Chaetetes quadrangularis Nicholson 1874
Chaetetes subpulchellus Nicholson 1875
Clathropora intermedia Nicholson and Hinde 1874
Clathropora intertexta Nicholson 1874
Fenestella davidsoni Nicholson 1875
Monticulipora (Heterotrypa) dawsoni Nicholson 1881
Monticulipora (Heterotrypa) trentonensis Nicholson 1881
Monticulipora tumida var. miliaria Nicholson 1881
Monticulipora (Peronopora) molesta Nicholson 1881
Monticulipora (Prasopora) selwynii Nicholson 1881
Ptilodictya (?) arctipora Nicholson 1875
Ptilodictya cosciniformis Nicholson 1875
Ptilodictya falciformis Nicholson 1875
Stenopora howsii Nicholson 1881

This list is provisional until the monographic revision of Nicholson's Bryozoa is completed by Dr. Alan Horowitz, of Indiana University, and his associates.

Alecto auloporoides Nicholson 1875

9358: Nicholson 1875c, fig 2, 2a, 2b? Same as Nicholson 1875g, Pl 25, fig 2. This is a likely type specimen.

Alecto (?) canadensis Nicholson 1873

10145, 10633: Nicholson 1874f, fig 57? These may be types, but the figures are not easy to match with specimens, in that they show enlarged drawings of impressions.

Alecto frondosa Nicholson 1875

9854a: Nicholson 1875c, Pl 11, fig 3, 3a, 3b. Type specimen (one of 16 specimens).

Callopora foordi Nicholson 1889

9888: Nicholson 1889b, fig 229A? Slide 02837: fig 229B? Slide 02840: fig 229C. Possibly the type series. (N.B. 9888 labelled C. nummiformis).

Callopora minutissima Nicholson 1875

9842a: Nicholson 1875e, fig 43a, a'. Type specimen.

Callopora nummiformis Dybowski 1877
9888: Nicholson 1889b, fig 224D. 9898: fig 224E. Slide 02828: fig 225A. Slide 02829: fig 225B.

Carinopora hindei Nicholson 1874
9836b: Nicholson 1874b, fig 2. Same as Nicholson 1874f, fig 48. The "only known specimen" and probably the type.

Ceramopora huronensis Nicholson 1875
10653: Nicholson 1875b, Pl 2, fig 5. Same as Nicholson 1875e, Pl 2, fig 5. Type specimen.

Ceramopora ohioensis Nicholson 1875
9394: cf. Nicholson 1875d, Pl 14, fig 7-7d. Slide 01908: Nicholson 1881b, fig 14A, C. Slide 02905: fig 14B? 9394 may be a type specimen.

Chaetetes attrita Nicholson 1874
9862a: Nicholson 1874h, Pl 9, fig 4. Nicholson 1875g, Pl 21, fig 4. Nicholson 1879, Pl 15, fig 1, 1a. Type specimen.

Chaetetes delicatulus Nicholson 1874
1436: Nicholson 1875g, Pl 21, fig 9, 9a.

Chaetetes discoideus Nicholson 1874
1455a: Nicholson 1874h, Pl 30, fig 4-4d. 1455b: Nicholson 1875g, Pl 21, fig 15-15c. Nicholson 1881b, Pl 4, fig 3-3b. 1455: Nicholson 1889b, fig 224C? The specimens numbered 1455 contain the type series.

Chaetetes frondosus (D'Orbigny 1850)
1466: Nicholson 1881b, Pl 5, fig 4.

Chaetetes jamesi Nicholson 1874
9133: Nicholson 1874h, Pl 29, fig 10-10b? Nicholson 1875g, Pl 21, fig 11a. Nicholson 1880, fig 3A, B. Type specimen.

Chaetetes mammulatus (D'Orbigny 1850)
8769a: Nicholson 1881b, Pl 6, fig 1. 8769b: Pl 6, fig 1a. 8769c: Pl 6, fig 1b, c. Slide 02854: Nicholson 1879, Pl 13, fig 1, 1a. Same as Nicholson 1881b, Pl 6, fig 1f? Slide 02855: Nicholson 1881b, Pl 6, fig 1d, e. Slide 02861: Nicholson 1879, Pl 13, fig 1b. Nicholson 1881b, Pl 6, fig 1g.
(see Monticulipora (Peronopora) molesta)

Chaetetes moniliformis Nicholson 1874
1391a: Nicholson 1874a, Pl 4, fig 7a, b. Same as Nicholson 1874f, fig 17. Same as Nicholson 1879, fig 36. 1391b: Nicholson 1881b, Pl 1, fig 1, 1a. Type specimens.

Chaetetes petechialis Nicholson 1875
1478: Nicholson 1875g, Pl 22, fig 5, 5a. Type specimen.

Chaetetes quadrangularis Nicholson 1874
8619a: Nicholson 1874a, Pl 4, fig 8. Same as Nicholson 1874f, fig 18. Type specimen.

Chaetetes subpulchellus Nicholson 1875
1222a: Nicholson 1875g, Pl 21, fig 6, 6a. 1222b: Nicholson 1881b, Pl 5, fig 2, 2a. Type specimens.

Chaetetes undulatus Nicholson 1875
Slide 02317: Nicholson 1879, Pl 14, fig 4a. Nicholson 1881b, fig 32C, fig 3D?

Clathropora intermedia Nicholson and Hinde 1874
10147: Nicholson and Hinde 1874, fig 5A, B. Same as Nicholson 1875e, fig 29. Type specimen.

Clathropora intertexta Nicholson 1874
10643a: Nicholson 1874c, fig 15a, b. Same as Nicholson 1874f, fig 49. Type specimen.

Constellaria antheloidea (Hall 1847)
9855: Nicholson 1879, Pl 14, fig 5.

Dekayia aspera Edwards and Haime 1851
9853: Nicholson and Foord 1885, fig 2a, b?

Fenestella davidsoni Nicholson 1875
10137a: Nicholson 1875b, Pl 2, fig 3-3c. Same as Nicholson 1875e, Pl 2, fig 3. This may be the type specimen. It bears Nicholson's original label.

Fenestella tenuiceps Hall 1852
9310: Nicholson 1874f, fig 44a, b?

Fenestella tuberculocarinata Etheridge 1873
Slide 02981: Nicholson 1889b, fig 467A. Slide 02982: fig 467B.

Fistulipora eifelensis (Schlüter 1881)
1220: Nicholson and Foord 1885, fig 5A.

Fistulipora goldfussi (Michelin 1847)
Slide 02252: Nicholson and Foord 1885, Pl 17, fig 2b. Slide 02253: Pl 17, fig 2a.

Fistulipora torrubiae (Edwards and Haime 1851)
Slide 02265: Nicholson and Foord 1885, Pl 16, fig 2b. Slide 02986: Pl 16, fig 2, 2a.

Fistulipora trifoliata Schlüter 1885
9041: Nicholson and Foord 1885, Pl 18, fig 1?

Fistulipora utriculus Rominger 1866
9859a: Nicholson and Foord 1885, Pl 16, fig 1. 9859b: Pl 16, fig 1a.

Heterodictya gigantea Nicholson 1875
10139a: Nicholson 1875b, Pl 2, fig 1-1e? This is almost certainly not the type specimen. Nicholson 1889b fig 472 gives a more detailed figure of the type specimen which is unlike 10139a.

Heteropora neozelanica Busk 1859
9890: Nicholson 1880, fig 1A. Slide 02988: fig 2A. Slide 02992/3: fig 2C. Slide 02994: fig 2B. Slide 02996: fig 1B.

Hippothoa inflata Hall 1847
9856: Nicholson 1875c, Pl 11, fig 1, 1a? Same as Nicholson 1875g, Pl 25, fig 1.

Monticulipora mammulata D'Orbigny 1850
Slide 02855: Nicholson 1889b, fig 230A, D. Slide 02857: fig 230B, E. Slide 02861: fig 230C, F.

Monticulipora (Diplotrypa) petropolitana (Pander 1830)
Slide 02883: Nicholson 1879, fig 35A, Pl 13, fig 3b. Slide 02884: Nicholson 1879, Pl 13, fig 3c. Nicholson 1881b, fig 3C.

Monticulipora (Heterotrypa) dawsoni Nicholson 1881
8770: Nicholson 1881b, Pl 5, fig 3, 3a, 3b. Type specimen.

Monticulipora (Heterotrypa) ramosa Edwards and Haime 1851
Slide 02990: Nicholson 1879, Pl 13, fig 2a.

Monticulipora (Heterotrypa) trentonensis Nicholson 1881
8768a: Nicholson 1881b, fig 28A, B. Type specimen.

Monticulipora (Heterotrypa) tumida (Phillips 1836)
10642a: Nicholson 1881b, Pl 3, fig 1-1c. Slide 10642b: Pl 3, fig 1d. Slide 10642c/d: Pl 3, fig 1e, f.

Monticulipora (Heterotrypa) tumida var. **miliaria** Nicholson 1881
10135: Nicholson 1881b, Pl 3, fig 2, 2a. Type specimen.

Monticulipora (Monotrypa) clavacoidea (James 1875)
1235a: Nicholson 1881b, fig 37A, B.

Monticulipora (Monotrypa) pulchella (Edwards and Haime 1851)
Slide 02897: Nicholson 1879, fig 35C? Nicholson 1880, fig 5A? Slide 02926: Nicholson 1880, fig 5B?

Monticulipora (Peronopora) molesta Nicholson 1881
9863a: Nicholson 1881b, Pl 6, fig 2, 2a. Slide 02862: Pl 6, fig 2d. Slide 02857: Pl 6, fig 2b, c. This is the type series. The "one massive specimen" mentioned on p 225 is probably 9583.

Monticulipora (Prasopora) selwynii Nicholson 1881
9839a: Nicholson 1881b, fig 44A. Type specimen.

Phyllopora sp.
Slide 02959: Nicholson 1889b, fig 453?

Ptilodictya (?) arctipora Nicholson 1875
10138: Nicholson 1875d, Pl 14, fig 4-4b. Same as Nicholson 1875g, Pl 25, fig 9? This may be the type specimen.

Ptilodictya cosciniformis Nicholson 1875
9085: Nicholson 1875b, Pl 2, fig 2. Same as Nicholson 1875e, Pl 2, fig 2. Type specimen.

Ptilodictya falciformis Nicholson 1875
9389a: Nicholson 1875d, Pl 14, fig 1-1b. Nicholson 1875g, Pl 25, fig 7-7b? 9385a: Nicholson 1875e, fig 2a-c? Slide 02946: Nicholson 1889b, fig 475A. Slide 02947: fig 475B. Type specimens.

Ptilodictya gilberti Meek 1873
Slide 02948: Nicholson 1889b, fig 476B. Slide 02949: fig 476D.

Ptilodictya schafferi Meek 1873
10136: Nicholson 1875e, fig 4a. Slide 02950: fig 4b.

Retepora sp.
Slide 02954: Nicholson 1889b, fig 455A.

Rhabdomeson gracile (Phillips 1841)
Slide 02956: Nicholson 1889b, fig 479B.

Rhinopora verrucosa Hall 1852
9381a: Nicholson 1875e, fig 19 (1, 1a).

Stenopora howsii Nicholson 1881
10134b: Nicholson 1881b, fig 12A, B. 10134c: fig 12C. 10141: Nicholson 1883, Pl 10, fig 1-3? These may be type specimens. 10141 shows the correct form and features but differs in shape from the figure.

Tabulipora urii Young 1883
Slide URE 1: "Ure's Millepore. Tabulipora Urii Young 1883. Capelrig Quarry, East Kilbride, Lanarkshire. Lower Carb. Lime." 4 short stems in a recessed slide. Made by J. Young and presented to Nicholson. Probably used by Nicholson for his comments in Nicholson 1883. Similar slides made by Young are in the British Museum (Natural History).

BRACHIOPODA

Aberdeen University has about 1000 brachiopods collected by Nicholson in Canada and the U.S.A. Many of these were figured by Nicholson in his reports on the palaeontology of Ontario (1874, 1875). The genera and species are listed alphabetically.

Chonetes sp.
3470: cf. Nicholson 1874f, fig 24, (p 75) (C. mucronata).

Chonetes acutiradiata (Hall 1843)
9830: Nicholson 1874f, fig 25 (p 76).

Chonetes lineata (Vanuxem 1842)
3460: Nicholson 1874f, fig 22 (p 73).

Chonetes scitula Hall 1857
3452: cf. Nicholson 1874f, fig 23a, b (p 74).

Cyrtina hamiltonensis (Hall 1857)
Slide 02604: Nicholson 1889b, fig 489C. Slide 02605: fig 489D.

Dinobolus magnificus (Billings 1858)
3242: Nicholson 1875e, fig 6a.

Lingula maida Hall 1867
3033: Nicholson 1874f, fig 30b?

Orthis (calligramma var.) davidsoni (de Verneuil 1848)
9071: Nicholson 1875e, fig 21g, g'. Nicholson 1877, fig 68g, g'.

Orthis testudinaria Dalman 1828
3556: cf. Nicholson 1875e, fig 10c. Nicholson 1877, fig 51c. Nicholson 1889b, fig 514C.

Pholidops ovata Hall 1859
9832: Nicholson 1874f, fig 31.

Productella eriensis Nicholson 1874
3456: Nicholson 1874c, Pl 6, fig 10. 3455: Nicholson 1874f, fig 26. Possibly type specimens.

Rhynchonella increbrescens (Hall 1847)
3684: Nicholson 1875e, fig 6d (p 17).

Rhynchonella (Zygospira) recurvirostris (Hall 1847)
3559, 3577: Nicholson 1875e, fig 6c (p 17).

Strophomena filitexta (Hall 1847)
3442, 3448: Nicholson 1875e, fig 10b. Nicholson 1877, fig 51b. Nicholson 1889b, fig 514B.

Strophomena nacrea Hall 1857 ("Pholidostrophia iowaensis")
9914: Nicholson 1874f, fig 21, p 68-69.

Waldheimia australis (Quoy and Gaimard 1834)
Slide 02614: Nicholson 1889b, fig 489A. Slide 02615: fig 489B.

MOLLUSCA

CLASS BIVALVIA

Nicholson described a few bivalves from the Canadian Silurian and Devonian in 1874 and 1875, erecting only one new species.

Ambonychia (Byssonychia) radiata Hall 1847
4518: cf. Nicholson 1875e, fig 11a.

Lyrodesma poststriatum (Emmons 1842)
4419: Nicholson 1875e, fig 11b'.

Myalina crassa (Fleming 1828) (Naiadites)
8933 (largest specimen): Nicholson 1889b, fig 578.

CLASS CEPHALOPODA

Endoceras sp. (cf. E. longissimum Hall 1847)
Ottawa, Trenton limestone. 5031: This is the "fragment about nine inches long and three and a half inches in diameter, showing a large excentric siphuncle, the diameter of which is about one inch", described in Nicholson 1875e, p 20.

"Endoceras proteiforme" Hall 1847
Cincinnati, Ohio. 5015: mislabelled. This is Nicholson's 'E. longissimum from the Hudson River Group'. Nicholson 1875e, fig 8a, a'.

"Loxoceras sp.".
5026: mislabelled ("may not refer to this specimen"). This is Orthoceras multicameratum Emmons 1842 from the Hudson River Group. Nicholson 1875e, fig 12a.

Ormoceras crebriseptum Hall 1847
Hudson River Group, Weston, Ontario, 5039: Referred to in Nicholson 1875e, p 37.

CLASS GASTEROPODA

The collection contains most of the Gasteropoda described and figured in Nicholson 1875f and 1875h.

Cyclonema (Strophostylus) elevata Hall 1868
Cincinnati, Ohio. 4844 2 specimens: Nicholson 1875e, Pl 3, fig 16, 16a. Nicholson 1875h, Pl 26, fig 16, 16a.

Holopea guelphensis Billings 1863
Guelph formation, Elora, Ontario. 4843: Nicholson 1875e, Pl 3, fig 18. Nicholson 1875h, Pl 26, fig 18. The top whorls are now missing, but this is clearly the figured specimen.

Murchisonia (Coelocaulus) bivittata Hall 1852
Guelph formation, Elora, Ontario. 4832, 2 specimens: Nicholson 1875e, Pl 3, figs 7, 8. Nicholson 1875h, Pl 26, figs 7, 8.

Murchisonia (Turritoma) boylei Nicholson 1875
Guelph formation, Elora, Ontario. 4833: (cast of type). Nicholson 1875e, Pl 3, fig 1. Nicholson 1875h, Pl 26, fig 1. In 1875e (p 71) and 1875h (p 547), Nicholson says: "The above description is taken from a fine gutta-percha cast, which exhibits all the essential characters except the mouth. The original specimen . . . is now in the Museum of the University of Toronto".

Murchisonia hercyna Billings 1865
Guelph formation, Elora, Ontario. 4842: (Same as M. ? billingsana Miller 1889, M. hercyna Billings 1865 preocc.) Nicholson 1875e, Pl 3, fig 2. Nicholson 1875h, Pl 26, fig 2.

Murchisonia loganii Hall 1852 (Coelocaulus macrospira Hall 1852)
Guelph formation, Hespeler, Ontario. 4830, 3 specimens: Nicholson 1875e, Pl 3, fig 3. Nicholson 1875h, Pl 26, fig 3, one broken specimen resembles fig 4.

Murchisonia (Coelocaulus) turritiformis Hall 1852
Guelph formation, Elora, Ontario. 4837, 2 specimens: Nicholson 1875e, Pl 3, fig 10. Nicholson 1875h, Pl 26, fig 10.

Murchisonia (Coelocaulus) vitellia Billings 1865
Guelph formation, Elora, Ontario. 4921: Nicholson 1875e, Pl 3, fig 6. Nicholson 1875h, Pl 26, fig 6.

Platyceras uniseriale Nicholson 1874
Port Colborne, Ontario. 4897: Nicholson 1874f, Pl 2, fig 5. Nicholson says (1874f, p 116): "I have only a single specimen of this singular form". Type specimen.

Pleurotomaria (Pycnomphalus) solarioides Hall 1852
Guelph formation, Elora, Ontario. 4839, 2 specimens: Nicholson 1875e, Pl 3, fig 15. Nicholson 1875h, Pl 26, fig 15.

Pleurotomaria (Trochonema) umbilicata Hall 1847
Trenton limestone, Collingwood, Ontario. 4900, 5 specimens: Nicholson 1875e, fig 7e?

ARTHROPODA

Triarthrus beckii Green 1832
6345: referred to in Nicholson 1875e, p 39?

"Scorpion"
"Arachnid, Carboniferous, Joppes Quarry": Slides 03203-4: Probably the sections figured in Nicholson 1889b, fig 430.

ECHINODERMATA

Nicholson collected and described very few echinoderms. The following two specimens were figured by him.

"Echinoid plate (madreporite), Carboniferous, Scotland".
Section 02409: Nicholson 1889b, fig 236A.

Ophioglypha sp. "Brittle-star, Recent, Loc.?"
9203: Nicholson 1889b, fig 276A-C. Now badly damaged.

The collection contains the Adam Whyte collection of Scottish Carboniferous crinoids (over 100 specimens), some of which were described by J. Wright in the 1930s and 1950s.

Allagecrinus garpelensis Wright 1932
6002-6005: Syntypes (Adam Whyte Coll. Nos. M1, M8, M12 and M13); (Also Geol. Surv. Edin., 5070, 5071; J. Wright Coll. 2343).
6002 (M1): Wright 1932, text-figs 5-7, Pl 25, figs 1-3, 9. Wright 1933: Pl 14, fig 9. Wright 1939: Pl 10, figs 16, 25. Wright 1952: Pl 39, figs 10, 18; Pl 40, fig 27.
6003 (M8): Wright 1932, text-fig 10, Pl 25, fig 13. Wright 1933: Pl 14, fig 12. Wright 1939: Pl 10, fig 28. Wright 1952: Pl 39, fig 19.
6004 (M12): Wright 1932, Pl 25, fig 12.
6005 (M13): Wright 1932, Pl 25, fig 8.

Woodocrinus whytei Wright 1936
6016: Holotype (Whyte Collection).
6017, 6018: Paratypes (Whyte Collection).
6016: Wright 1936: Pl 10, fig 4. Wright 1939: Pl 1, fig 4. Wright 1951: Pl 26, fig 5.
6017: Wright 1951: Pl 24, fig 4.
6018: Wright 1939: Pl 12, fig 23. Wright 1951: Pl 31, fig 15.

Platycrinites muirkirkensis Wright 1956
6001e: Holotype (Whyte Collection).
6001b, 6001n: Paratypes (Whyte Collection).
6001e: Wright 1956: Pl 74, fig 24.
6001b: Wright 1956: Pl 74, fig 25.
6001n: Wright 1956: Pl 74, fig 23.

STOMOCHORDA

CLASS GRAPTOLITHINA

Aberdeen University has over 1000 Nicholson graptolites. It is probable that most of the type specimens are in the British Museum. However, in most cases, it is impossible to identify original type material because 19th century engravings tended to be rather diagrammatic and may have been built up from several fragments in order to produce a complete graptolite. Lectotypes have been designated in some cases for Nicholson graptolites in the British Museum (Natural History).

Some of the specimens in the collection resemble Nicholson's figures, but these are not listed here. Some may be type material. The only definitely figured specimens are as follows.

Corynoides curtus Lapworth 1876
2345: Strachan 1949, fig 2b ("8139").

Corynoides incurvus Hadding 1915
2362: Strachan 1949, fig 3d, e, f ("8156").
2363: Strachan 1949, fig 3b, c ("8157").
2367: Strachan 1949, fig 3a ("8161").

Diplograptus hudsonicus Nicholson 1875 (Glyptograptus)
2227: Nicholson 1865e, ?fig 15a, a'. Possibly a type specimen of Glyptograptus hudsonicus (Nicholson 1875).

VERTEBRATA

CLASS UNCERTAIN

Palaeospondylus gunni Traquair
10579, 10580: Sandwick Fish Bed, Cruaday Hill, Orkney. mentioned by Trewin (1976b, p 205).

CLASS REPTILIA

The Geology Department has 2 specimens of the Triassic reptile from Elgin, Stagonolepis robertsoni Agassiz 1844: The designations are those given by Walker (1961).

MCGD 1: 2 femurs, 4 large dorsal scutes. Upper Triassic, Findrassie, Elgin. (Display Stratigraphy Lab.) Walker 1961, p 111, 151, fig 18a (left femur).

MCGD2: Abdominal scutes (7 longitudinal rows, 10 transverse), gastralia, ribs. (Display: Palaeontology Lab.) Huxley 1877, p 11-12. Walker 1961, p 111, 159, 160, fig 21a (scutes).

For completeness, the Stagonolepis material held in the Zoological Museum, Department of Zoology, Aberdeen University is listed here. This material was apparently obtained in the early 1930's from Lossiemouth West Quarry by Mr. George Thompson, a stone mason, who sent the material to Aberdeen. D.M.S. Watson studied the material in 1935, but did not publish on it. Walker (1961) was the first to describe the new material in his revision of Stagonolepis. We thank him for the following list:

MCZD 1. Large slab with impression of part of ventral armour, left humerus, radius, ulna, manus, appendicular scutes and gastralia. Walker 1961, p 111, 146-147, figs 14c (radius), 14d, e, f (ulna), 14g (manus), fig 21c (belly armour restoration).

MCZD 2. (Includes specimens originally numbered 5, 6, 8, 9 and 11). Skull, succeeded by vertebrae to the lumbar region with dorsal and ventral armour in situ, ribs, gastralia, appendicular scutes, right scapula, distal end of right humerus.

MCZD 2-1. All the pieces of the 'body' which fit together. Walker 1961, p 111, 114-117, 122-125, 127, 131-133, 135-136, 176. used in skull restorations (figs 2-6) and belly armour restoration (fig 21c).

MCZD 2-2. Middle part of skull with palate below (formerly 5). Walker 1961, Pl 10, figs 30-31.

MCZD 2-3. Counterpart of above, i.e. skull roof (formerly 6). Walker 1961, Pl 9, fig 27.

MCZD 2-4. Left half of posterior region of skull, dorsal scutes of neck (formerly 8). Walker 1961, Pl 9, figs 26, 28, 29.

MCZD 2-5. Right half of posterior region, dorsal scutes of neck. In 3 pieces (formerly 9). Walker 1961, Pl 9, fig 32.

MCZD 2-6. Tip of snout with premaxillae and nasals (formerly 11). Walker 1961, Pl 9, fig 27.

MCZD 2-7. Small piece with ascending process of right maxilla.

MCZD 3. Proximal two-thirds of left tibia, both ends of left fibula, metatarsals I and III of left pes. Some metacarpals and phalanges of left manus. Distal end of right humerus. Walker 1961, p 111, figs 19b (tibia), 19f (pes.).

MCZD 4. Symphysis and most of bone of both ischia in ventral view. Right pubis (incomplete), vertebrae and ventral scutes. Walker 1961, fig 16 (pubis).

MCZD 7. Part of right fibula, small part of proximal end of right tibia, appendicular scutes, a lateral dorsal scute.

MCZD 10. Metatarsals and phalanges of right pes. Walker 1961, p 154, fig 19f (pes.).

MCZD 12. ? Crushed proximal end of left femur.

MCZD 13. Crushed left tarsus and metatarsus, (impression shows undersurface). Walker 1961, p 152, 154, 160, figs 19e, f (pes.).

MCZD 14. Incomplete left ilium, crushed; dorsal scutes.

MCZD 15-1. 2 pieces enclosing right surangular. Walker 1961, p 129.

MCZD 15-2. Piece with right ectopterygoid and scute fragments.

MCZD 15-3. Large piece with scutes, large rib.

MCZD 16. Block with two rows of paramedian ventral scutes from middle of tail, plus a few lateral ventrals (edges only preserved): 5 scutes antero-posteriorly. Walker 1961, p 159.

MCZD 17. Block with one very crushed row of paramedian dorsal scutes, flanked by one row of lateral dorsal (left side), flanked by edges of lateral ventral row (tail). 4 scutes antero-posteriorly. Walker 1961, p 157, 159.

MCZD 18. Block with parts of both (very crushed) rows of paramedian dorsal scutes, flanked by halves of lateral dorsals of left side (tail). 5 scutes antero-posteriorly. Walker 1961, p 157.

PHYLUM UNCERTAIN

Conchicolites gregarius Nicholson 1872

8796: Nicholson 1872a, fig 2a. Same as Nicholson 1872b, fig 88a. Same as Nicholson 1889b, fig 342A. Type specimen.

Cornulites serpularius Schlotheim 1820

8795: Nicholson 1872a, fig 1a. Same as Nicholson 1872b, fig 87a. Same as Nicholson 1889b, fig 340 A.

Styliola fissurella Hall 1879

Slide 03010: Nicholson 1889b, fig 8, 720. Same as Nicholson 1890, fig 1.

Tentaculites neglectus Nicholson and Hinde 1874

10187: Nicholson and Hinde 1874, p 145; Nicholson 1875e, p 48: never figured. Possibly the type specimen.

TRACE FOSSILS

The Aberdeen Collection contains a few of Nicholson's figured Canadian trace fossils, but the most important collection is a series of trace fossils which Nicholson described briefly in 1873a (abstract). The descriptions and plates were not originally published in full, but have recently been printed (Nicholson 1978) with an introduction (Benton and Trewin 1978). New names established in Nicholson 1873a are considered to be nomina nuda. Many of the specimens are now included under other ichnogenera, see Benton and Trewin (1978) for details.

Arenicolites robustus Nicholson 1873, nom. nud.
10603: Nicholson 1978, Pl I, fig 4.

Arenicolites sparsus Salter 1857
10604: Nicholson 1978, Pl I, fig 3. 10605: Nicholson 1978, Pl I, fig 1. Benton and Trewin 1978, Pl 1, fig 1.

Buthotrephis gracilis (Hall 1843)
10630: Nicholson 1875e, fig 1.

Caridolites wilsoni Etheridge, Woodward and Jones 1890
7059: Etheridge, Woodward and Jones 1890, p 65, described, but not figured; Nicholson 1978, Pl V, fig 2; Benton and Trewin 1978, Pl 3, fig 1. 10674: Benton and Trewin 1978, Pl 3, fig 2. 7059 is the type specimen.

Crossopodia scotica M'Coy 1851
8820: Nicholson 1978, Pl VI. 9224: Benton and Trewin 1978, Pl 2, fig 1. 10606: Nicholson 1978, Pl III, fig 1.

Isopodichnus stromnessi Trewin 1976
10556: Trewin 1976a, fig 4B, D. 10557: Trewin 1976a, fig 4A, C, E.
Holotype: 10557. Paratypes: 10556, 10558, 10559, 1060.

Myrianites murchisoni Emmons 1846
10607: Nicholson 1978, Pl V, fig 1. 10608: Pl 4, fig 2.

Myrianites tenuis M'Coy 1851
10610: Nicholson 1978, fig 7; Benton and Trewin 1978, Pl 2, fig 2. 10612: Nicholson 1978, Pl IV, fig 1.

Nemertites major (M'Coy 1848)
10613: Nicholson 1978, Pl III, fig 3. 10614: Pl III, fig 2.

Nemertites minor (M'Coy 1848)
10615: Nicholson 1978, Pl III, fig 4.

Palaeophycus virgatus Hall 1847
10616: Nicholson 1875e, fig 13.

Planolites articulatus Nicholson 1873, nom. nud.
10617: Nicholson 1978, Pl I, fig 4; Benton and Trewin 1978, Pl 1, fig 2.

Planolites granosus Nicholson 1873, nom. nud.
10618: Nicholson 1978, Pl II, fig 3. 10619: Pl II, fig 4. 10620: Pl II fig 5.

Planolites vulgaris Nicholson and Hinde 1874
10624: Nicholson 1978, Pl I, fig 2. 10625: Pl II, fig 1. 10626: Pl II, fig 3.

Rusophycus bilobatus Hall 1847
4571: Nicholson 1875e, fig 14.

Skolithos canadensis Billings 1865
10627: Nicholson 1978, Pl II, fig 2.

Skolithos verticalis Hall 1852
10123: Nicholson 1875e, fig 16.

PLANTS

General

The "4ft. 2½in. long" stem from Rhynie, described briefly by Newlands (1916) is on display in the Palaeontology Laboratory.

ALGAE

Aberdeen has a small collection of fossil Algae, many of which were figured by Nicholson. Brown (1894) described the Solenopora specimens in Nicholson's collection, but we do not have all the specimens he figured. Thus they are in another repository, or have been lost.

"Nullipores"

Recent. (Slides 0102-7): Nicholson and Etheridge, 1885, Pl 13, figs 10, 11. Nullipore Limestone, Nussdorf nr. Vienna (Slide 0108) cf. Nicholson 1889b, fig 9.

Solenopora compacta Billings 1865
Slide 02806: Brown 1894 , fig 1. Slide 02808: Nicholson and Etheridge 1885, Pl 13, figs 6, 7, 8. Nicholson 1888b, fig 3C. Same as Nicholson 1889b, fig 83C (see also S. nigra).

Solenopora compacta var. **peachii** (Nicholson and Etheridge 1877)
Slide 02805: cf. Nicholson and Etheridge 1885, Pl 13, fig 3. Slide 02806: Pl 13, fig 2. Slide 02807: Pl 13, fig 9.

Solenopora jurassica (Nicholson ms) Brown 1894
Malton, Yorkshire (10676, 10677); Chedworth, Gloucestershire (Slides 02809-11). Slide 02809: Brown 1894, fig 4. Slide 02810: cf. fig 5. The slides appear to be type specimens, but the hand specimens from which they were cut are not in the collection.

Solenopora nigra Brown 1894
Slide 02808: Brown 1894, fig 3. Possibly a type specimen.

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