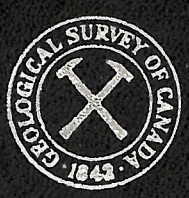

CATALOGUE OF TYPE INVERTEBRATE FOSSILS OF THE GEOLOGICAL SURVEY OF CANADA

Volume III

Thomas E. Bolton

1966

CATALOGUE OF TYPE INVERTEBRATE FOSSILS OF THE GEOLOGICAL SURVEY OF CANADA

Volume III

2,000-1964-5224

Catalogue of type invertebrate fossils of
the Geological Survey of Canada,
by Thomas E. Bolton, Vol. I (1960), Vol. II (1965).

Catalogue of types and figured specimens of
fossil plants in the Geological Survey of
Canada collections *by* W. A. Bell (1962)

GEOLOGICAL SURVEY
OF CANADA

Volume III

CATALOGUE OF TYPE INVERTEBRATE FOSSILS OF THE GEOLOGICAL SURVEY OF CANADA

By
Thomas E. Bolton

DEPARTMENT OF
MINES AND TECHNICAL SURVEYS
CANADA

Available by mail from the Queen's Printer, Ottawa,
from Geological Survey of Canada,
601 Booth St., Ottawa,
and at the following Canadian Government bookshops:

OTTAWA
Daly Building, corner Mackenzie and Rideau

TORONTO
Mackenzie Building, 36 Adelaide St. East

MONTREAL
Æterna-Vie Building, 1182 St. Catherine St. West

WINNIPEG
Mall Center Bldg., 499 Portage Avenue

VANCOUVER
657 Granville Avenue

or through your bookseller

A deposit copy of this publication is also available
for reference in public libraries across Canada

Price $5.00 Catalogue No. M41-4/3

Price subject to change without notice

ROGER DUHAMEL, F.R.S.C.
Queen's Printer and Controller of Stationery
Ottawa, Canada
1966

CONTENTS

INTRODUCTION

Volume I (1960) of the *Catalogue of Type Invertebrate Fossils* listed all fossil types from Foraminifera to Brachiopoda in the Geological Survey of Canada collection as of mid-1959, and Volume II (1965) included all Mollusca in the collection as of mid-1963. Volume III contains all the remaining groups in the collection as of mid-1963, namely ARTHROPODA, WORMS-SCOLECODONTS, CONODONTS, INCERTAE SEDIS, and an INDEX for all three volumes. This volume completes this phase of the compilation; future volumes will cover subsequent additions to the collection and will include representatives of all phyla.

The format of Volume III is similar to that adopted for the previous two volumes. The original reference for each species is cited as well as subsequent reviews directly related to the forms listed. Once again, no complete synonymy for each or any species is intended or attempted. Trilobites and Insects are the only groups whose types have been segregated in the present volume according to geological periods.

Primary type categories *Holotype, Paratype, Syntype, Lectotype, Neotype,* and secondary type terms *Hypotype, Plastotype, Topotype,* and Figured specimen *(Fig. spec.)* are used with the same connotations as in Volumes I and II.

All type specimens in the three volumes are cited as objectively as possible. A specimen is listed as a holotype only where there was definite evidence that a single specimen was the basis for the original description of the species or where there was an original designation of such (i.e., the type). Where no original type was designated but a specimen within a type lot was figured, the present writer has attempted to identify the figured specimen within the lot, but such specimens are not cited in this catalogue as holotypes. Type designations of earlier described forms by subsequent investigations are listed wherever possible. Some fossils in the type collection bear labels showing different localities from those cited in the original description and in some instances the number of specimens in a particular syntypic lot is greater than originally listed. Such extraneous specimens are omitted from the catalogue unless they have a direct bearing on the status of the species.

In recent years there has been a growing tendency for individuals and organizations to deposit types with the Geological Survey of Canada. Many such specimens are listed in all three volumes. Such donations make the specimens readily accessible under proper storage and curatorial supervision and greatly enhance the value of the National Type Collection.

ARTHROPODA-TRILOBITA

Cambrian

Acadagnostus acadicus var. *declivis* (Matthew)

Hypotype 11101

Hutchison, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 68, pl. 1, fig. 1

MacMullin Formation, Middle Cambrian, south shore St. Andrew Channel, Cape Breton Island, Nova Scotia.

Acontheus inarmatus Hutchinson

Holotype 12053; paratype 12054

Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 109, pl. 16, figs. 8a, b, 9.

Middle Cambrian, north shore of Highland Cove, Trinity Bay and Manuels River, Conception Bay, Newfoundland.

Acrocephalops matthewi Hutchinson

Holotype 11186; paratypes 11187–11190

Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 100, pl. 6, figs. 3–8.

MacMullin Formation, Middle Cambrian, east bank Indian River and south shore St. Andrew Channel, Cape Breton Island, Nova Scotia.

Agnostus americanus Billings

Syntypes 859, a, c

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 302, figs. 1a, b.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 395, figs. 372a, b.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 233, figs. 250a, b.

Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 233, pl. 36, fig. 2 [holotype 859, paratype 859c].

Levis conglomerate, Upper Cambrian, Levis, Quebec.

Agnostus canadensis Billings

Syntypes 858, a–c, e, f, h

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 304, figs. 3a [858], b [858b].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 397, figs. 374a, b.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 233, figs. 252a, b.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Pseudagnostus canadensis*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 234, pl. 36, figs. 8, 9 [holotype 858b, paratypes 858c–e, h].

Agnostus inexpectans Kobayashi

Syntypes 12004–12006

Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 172, pl. 16, figs. 30–33.

Palmer, A.R., 1962, U.S. Geol. Surv., Prof. Paper 374-F, p. 12, pl. 1, figs. 1, 6 [12005].

McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Agnostus orion Billings
Holotype 860f
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 304, fig. 2.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 397, fig. 373.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 233, fig. 251.
Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 233, pl. 36, fig. 7.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Agnostus pisiformis (Linnaeus)
Hypotypes 13037–13041
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 86, pl. 12, figs. 2–6.
Upper Cambrian, west bank Manuels River, Conception Bay and west shore of Random Island, south of Elliott's Cove, Newfoundland.

"Agnostus" spp. A–E
Fig. specs. 13051, 13052, 13054, 13063, 13064
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, pp. 92–93, pl. 12, figs. 7–11.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Agraulos affinis Billings
Syntype 260
Billings, E., 1872, Can. Naturalist Quart. J. Sci., n. ser., vol. 6, p. 473.
Matthew, G., 1887, Trans. Roy. Soc. Can., vol. 4, sec. 4, p. 153, figs. 2,a,b.
Middle Cambrian, branch, St. Marys Bay, Newfoundland.

Agraulos socialis Billings
Syntype 261
Billings, E.,
1872, Can. Naturalist Quart. J. Sci., n. ser., vol. 6, p. 472, fig. 9.
1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 71, fig. 40.
1882, ibid., Rept. Prog. 1881, Newfoundland, Appendix, p. 10, fig. 4.
Middle Cambrian, Chapel Arm, Trinity Bay, Newfoundland.

Agraulos strenuus Billings
Syntypes 267, a, b, 268, a, 269, a
Billings, E., 1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1,p. 71, fig. 4 [269(?)].
Lower Cambrian, Topsail Head and Brigus Bay, Conception Bay, Newfoundland.

Anapolenus henrici Salter
Hypotypes 13108–13114
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 112, pl. 17, figs. 12–18.
Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Anapolenus venustus Billings
Plastotypes 284, a
Billings, E.,
1872, Can. Naturalist Geol., vol. 6, p. 474, fig. 11.
1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 73, fig. 42.
1882, ibid., Rept. Prog. 1881, Newfoundland, Appendix, p. 11, fig. 6.
Middle Cambrian, Chapel Arm, Trinity Bay, Newfoundland.
=*Clarella venusta*, Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 111, pl. 17, figs. 7, 8.

Andrarina linarssoni bretonensis Hutchinson
Holotype 11182; paratype 11183
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 99, pl. 5, figs. 17, 18.
Dugald Formation, Middle Cambrian, Dugald Brook, Cape Breton Island, Nova Scotia.

Anomocare tucer see *Ptychoparella teucer* and *P. kindlei*

Apatokephaloides pauper see *Dikelocephalus pauper*

Apatokephaloides rotundatus Rasetti
Holotype 7667; paratype 7667a
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 465, pl. 60, figs. 15, 16.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Arionellus cylindricus Billings
Syntypes 837, a
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 314, fig. 14.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 406, fig. 385.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 237, fig. 264.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Keithiella cylindrica*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 243, pl. 39, fig. 40 [holotype 837a, paratype 837].

Arionellus subclavatus Billings
Syntypes 838, a–v
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 315, figs. 15, a.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 406, figs. 386, a.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 237, figs. 265a, b.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Keithia subclavata*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 242, pl. 37, figs. 16–19 [holotype 838e, paratypes 838, a–d].

Bailiaspis howelli Hutchinson
Holotype 12030; paratypes 12031–12033
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 102, pl. 14, figs. 1–4.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Bailiaspis cf. *B. howelli* Hutchinson
Hypotypes 12034, 12035
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 103, pl. 14, figs. 5a–c, 6.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Bailiaspis latigenae Hutchinson
Holotype 13043; paratype 13044
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 103, pl. 14, figs. 7a, b, 8.
Middle Cambrian, loose nodule on beach, Deep Cove, St. Marys Bay, Newfoundland.

Bailiaspis prominens Resser
Hypotypes 12028, 12029
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 101, pl. 13, figs. 13, 14.
Chamberlain's Brook Formation, Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Bailiaspis venusta Resser
Hypotypes 12036, 12037
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 100, pl. 13, figs. 11, 12.
Chamberlain's Brook Formation, Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Bailiaspis sp.
Fig. spec. 11176
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 96, pl. 5, fig. 11.
MacMullin Formation, Middle Cambrian, east bank Indian River, Cape Breton Island, Nova Scotia.

Bailiaspis sp.
Fig. spec. 12039
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 104, pl. 14, figs. 9a, b.
Middle Cambrian, on shore near Burgoynes Cove, Smith Sound, Trinity Bay, Newfoundland.

Bailiella manuelensis Hutchinson
Holotype 12043; paratypes 12044, 12045
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 106, pl. 15, figs. 5–7.
Chamberlain's Brook Formation, Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Bailiella ornata Resser
Hypotypes 12041, 12042
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 104, pl. 15, figs. 1, 2.
Middle Cambrian, Highland Cove, Trinity Bay, and east bank Manuels River, Conception Bay, Newfoundland.

Bailiella tenuicincta (Linnarsson)
Hypotypes 12038, 12040
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 105, pl. 15, figs. 3, 4a–d.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Bailiella sp.
Fig. spec. 12046
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 107, pl. 16, figs. 1a–c.
Middle Cambrian, on east shore of small bay west of Red Cove, on peninsula between St. Marys and Placentia Bays, Newfoundland.

Bathyuriscus senectus (Billings)
Neoholotype [Neotype] 420
Matthew, 1897, Trans. Roy. Soc. Can., ser. 2, vol. 3, sec. 4, p. 196, pl. 4, figs. 4, a.
Lower Cambrian, L'Anse au Loup, Labrador, Newfoundland.
=*Bonnia senecta*, Resser, C.E.,
1936, Smithsonian Misc. Coll., vol. 95, No. 4, p. 8.
1937, J. Pal., vol. 11, No. 1, p. 47, pls. 20–22.
[*Note:* J. Richardson, 1861 collection and probably part of *Bathyurus senectus* Billings original material.]

Bathyurus armatus Billings
Syntype 863
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 319, fig. 23.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 411, fig. 392.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 238, fig. 273.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Plethopeltis armatus*, Raymond, P.E., 1913, Victoria Mem. Mus., Bull. 1, p. 65, pl. 7, fig. 18 [the type].
=*Plethometopus armatus*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 251, pl. 39, fig. 25 [holotype].

Bathyurus capax Billings
Syntypes 835c,e
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 318, figs. 20, a [835e].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 409, figs. 389, a.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 238, figs. 271, a.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Platycolpus capax*, Raymond, P.E., 1913, Victoria Mem. Mus., Bull. 1, p. 63, pl. 7, figs. 20 [835e], 21 [835c].
Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 250, pl. 39, figs. 10 [holotype 835e], 12 [paratype 835c]

Bathyurus dubius Billings
Syntypes 992, a–e
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 319, fig. 21.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 410, fig. 390.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Platycolpus dubius*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 250, pl. 39, figs. 13, 14 [holotype 992, paratypes 992a–c].

Bathyurus parvulus Billings
Holotype 433
Billings, E.,
1861, "New Species of Lower Silurian Fossils", p. 16, fig. 21.
1861, Rept. Geol. Vermont, vol. 2, p. 953, fig. 361.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 16, fig. 21.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 286, fig. 299.
Lower Cambrian [Forteau Formation], L'Anse au Loup, Labrador, Newfoundland.
=*Dorypyge parvula* var. *angifrons*, Matthew, G.F., 1897, Trans. Roy. Soc. Can., ser. 2, vol. 3, sec. 4, p. 197, pl. 4, figs. 6,a.
=*Bonnia parvula*, Resser, C.E.,
1936, Smithsonian Misc. Coll., vol. 95, No. 4, p. 7 [holotype 433].
1937, J. Pal., vol. 11, No. 1, p. 45, pl. 8, figs. 1, 2.

Bayfieldia ulrichi Rasetti
Holotype 7660; paratypes 7660a–d
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 465, pl. 60, figs. 17–19.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Bellaspidella? latifrons Rasetti
Holotype 7671; paratypes 7671a, b
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 466, pl. 60, figs. 25–27.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Bellaspidella resseri Rasetti
Holotype 7679; paratypes 7679a, b
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 466, pl. 60, figs. 20–22.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Bienvillia corax see *Dikalocephalus? corax*

Bonnia billingsi Resser
Holotype 433b; paratype 433f
Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 46, pl. 8, figs. 12, 13 [433b], 14, 15 [433f].
Forteau Formation, Lower Cambrian, L'Anse au Loup, Labrador, Newfoundland.

Bonnia matthewi see *Dorypyge parvula*

Bonnia occipitalis Rasetti
Holotype 9486; paratypes 9486a, b
Rasetti, F., 1948, J. Pal., vol. 22, No. 1, p. 17, pl. 4, figs. 13–15 [9486].
Lower Cambrian, Bic, Quebec.

Bonnia parvula (Billings)
Hypotype 433a
Resser, C.E.,
1936, Smithsonian Misc. Coll., vol. 95, No. 4, p. 7.
1937, J. Pal., vol. 11, No. 1, p. 45, pl. 8, figs. 3, 4.
Lower Cambrian [Forteau Formation], L'Anse au Loup, Labrador, Newfoundland.
See *Bathyurus parvulus*

Bonnia richardsoni Resser
Holotype 433d; paratype 433e
Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 47, pl. 8, figs. 16–18 [433d], 19 [433e].
Forteau Formation, Lower Cambrian, L'Anse au Loup, Labrador, Newfoundland.

Bonnia senecta see *Bathyuriscus senectus*

Bonnia westoni Resser
Holotype 433c
Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 46, pl. 8, figs. 9–11.
Forteau Formation, Lower Cambrian, L'Anse au Loup, Labrador, Newfoundland.

cf. *Bonnia* sp.
Fig. specs. 16861, 16920
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 6, pl. 1, figs. 5, 7.
Early Cambrian, near headwaters of Gundahoo River lat. 59°06'N., long. 126°01'W., Rabbit River map-area, British Columbia.

Briscoia? devinei see *Dikelocephalus devinei*

Briscoia? latimarginalis Kobayashi
Holotype 11969
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 192, pl. 15, fig. 23.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Callavia broeggeri (Walcott)
Hypotypes 12085–12092
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 119, pl. 24, figs. 7–14.
Lower Cambrian, east side of Chapel Head; south shore of Heart's Delight Harbour; south shore of Heart's Desire Harbour, Trinity Bay; and Brigus South Point, Conception Bay, Newfoundland.

Centropleura belli Hutchinson
Holotype 10121
Hutchinson, R.D., 1952, Am. J. Sci., vol. 250, p. 275, pl. 1.
Middle Cambrian, Dartmouth River, Gaspé, Quebec.

Chancia canadensis Kobayashi
Syntypes 8714
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 164, pl. 21, fig. 28.
Lower Cambrian, Cap Mountain Ridge, District of Mackenzie.

Chancia ? clusia (Walcott)
Hypotypes 8713, a
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 165, pl. 21, figs. 25–27.
Lower Cambrian, Carcajou River, lat. 65°, northern Mackenzie River, District of Mackenzie.

Ciceragnostus barlowi var. *C. definatus* (Howell)
Hypotypes 12114–12116
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 88, pl. 10, figs. 12–14.
Chamberlain's Brook Formation, Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Ciceragnostus cicer (Tullberg)
Hypotypes 13033–13036
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 89, pl. 10, figs. 15, 16a, b; pl. 11, figs. 1a, b, 2.
Middle Cambrian. Highland Cove, Trinity Bay, Newfoundland.

Clarella venusta (Billings)
Hypotypes 13105, 13106
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 111, pl. 17, figs. 9, 10
Middle Cambrian, limestone nodules in small bay about 3/4 mile north of head of bay, west shore of Chapel Arm, Trinity Bay and Deep Cove, St. Marys Bay, Newfoundland.

Clarella sp.
Fig. spec. 13107
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 112, pl. 17, fig. 11.
Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Condylopyge carinata Westergard
Hypotypes 12093–12098
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 64, pl. 3, figs. 13–15; pl. 4, figs. 1–3.
Chamberlain's Brook Formation, Middle Cambrian, east bank of Manuels River, Conception Bay, Newfoundland.

Condylopyge rex (Barrande)
Hypotypes 12101, 12102
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 65, pl. 4, figs. 6, 7.
Middle Cambrian, southeast and west shores Chapel Arm, Trinity Bay, Newfoundland.

Condylopyge cf. *C. spinigera* Westergard
Hypotypes 12099, 12100
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 64, pl. 4, figs. 4, 5.
Chamberlain's Brook Formation, Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Condylopyge sp. A
Fig. spec. 12125
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 65, pl. 4, fig. 8.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Condylopyge sp. B
Fig. spec. 13053
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 65, pl. 4, fig. 9.
Middle Cambrian, south shore of Little Harbour, St. Marys Bay, Newfoundland.

Conocephalites adamsii see *Ptychoparia adamsi*

Conocephalites arenosus see *Solenopleura arenosa*

Conocephalites miser Billings
Syntypes 430, a, b
Billings, E.,
1861, "New Species of Lower Silurian Fossils", p. 11, fig. 14 [430(?)].
1861, Rept. Geol. Vermont, vol. 2, p. 950, fig. 354.
1865, Geol. Surv., Canada, Palaeoz. Fossils, p. 11, fig. 14.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 286, fig. 293.
Matthew, G.F., 1897, Trans. Roy. Soc. Can., ser. 2, vol. 3, sec. 4, p. 200, pl. 4, figs. 7, a [430b].
Lower Cambrian [Forteau Formation], L'Anse au Loup, Labrador, Newfoundland.
=*Ptychoparia miser*, Walcott, C.D.,
1886, U.S. Geol. Surv., Bull. 30, p. 199, pl. 27, fig. 2 [430b].
1891, ibid., 10th Ann. Rept., p. 651, pl. 96, fig. 8.
=*Labradoria miser*, Resser, C.E., 1936, Smithsonian Misc. Coll., vol. 95, No. 4, p. 25 [neoholotype 430b].
=*Labradoria misera*, Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 47, pl. 8, figs. 23–25 [430b], 26, 27 [paratype 430].
=*Labradoria elongata*, Resser, C.E., 1937, ibid., vol. 11, No. 1, p. 48, pl. 8, figs. 28–30 [holotype 430a].

Conocephalites teucer see *Ptychoparella teucer* and *P. kindlei*

Conocephalites vulcanus see *Ptychoparella vulcana*

Conocephalites zenkeri Billings
Syntype 849
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 305, fig. 4.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 398, fig. 375.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 233, fig. 253.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Loganopeltis zenkeri*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 248, pl. 38, fig. 27 [holotype].

Conocorphye terranovica Resser
Hypotypes 12024–12027
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 99, pl. 13, figs. 7–10.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Cotalagnostus barrandei (Salter)
Hypotype 11104
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 69, pl. 1, fig. 4.
MacMullin Formation, Middle Cambrian, east bank Indian River, Cape Breton Island, Nova Scotia.

Cotalagnostus lens (Groenwall)
Hypotypes 12142–12145
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 75, pl. 6, figs. 14–17.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Cotalagnostus lens subsp. *C. claudicons* Westergard
Hypotypes 12146–12148
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 76, pl. 6, figs. 18–20.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Crepicephalus columbiensis Kobayashi
Syntypes 11984–11988
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 187, pl. 15, figs. 24–28.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Crepicephalus rivus Kindle
Holotype 9464; paratypes 9465–9468
Kindle, C.H., 1948, Am. J. Sci., vol. 246, p. 446, pl. 1, figs. 14–18.
Upper Cambrian, Murphy Creek, Gaspé, Quebec.

Ctenocephalus excavatus Resser
Hypotypes 12015–12017
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 98, pl. 12, figs. 20a, b; pl. 13, figs. 1a, b, 2.
Middle Cambrian, west shore of Chapel Arm, Trinity Bay, Newfoundland.

Ctenocephalus (Harttella) terronovicus Resser
Hypotypes 12010–12014
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 95, pl. 12, figs. 13–17.
Chamberlain's Brook Formation, Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Ctenocephalus howelli Resser
Hypotype 12018
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 96, pl. 12, figs. 18a–c.
Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Ctenocephalus resseri Hutchinson
Holotype 12019
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 97, pl. 12, figs. 19a–c.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Ctenopyge bisulcata (Phillips)
Hypotypes 11150, 11151
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 87, pl. 4, figs. 9, 10.
MacNeil Formation, Upper Cambrian, MacNeil Brook 3/4 mile upstream from MacKeigan Road, Cape Breton Island, Nova Scotia.

Ctenopyge flagellifera (Angelin)
Hypotype 11152
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 87, pl. 4, fig. 11.
MacNeil Formation, Upper Cambrian, Spruce Brook, East Bay, 3/4 mile upstream from Eskasoni road, Cape Breton Island, Nova Scotia.

Ctenopyge pecten (Salter)
Hypotypes 11148, 11149
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 86, pl. 4, figs. 7, 8.
MacNeil Formation, Upper Cambrian, MacNeil Brook 3/4 mile upstream from MacKeigan road, Cape Breton Island, Nova Scotia.

Dikelocephalus affinis Billings

Syntypes 891, a

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 197, figs. 183a [891], b [891a].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 197, figs. 183, a.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Levisella affinis*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 246, pl. 38, fig. 8 [holotype 891].

Dikelocephalus belli Billings

Syntypes 853, a, c–g

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 311, fig. 7.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 403, fig. 378.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 236, fig. 260.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Loganellus belli*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 247, pl. 38, fig. 18 [holotype 853d, paratypes 853c, e–g].

Dikelocephalus? corax Billings

Syntypes 876, a

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 334, figs. 322a [876a], b [876].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 334, figs. 322a, b.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Bienvillia corax*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 240, pl. 36, fig. 51 [holotype 876a].

Dikelocephalus cristatus Billings

Syntypes 870, a–e

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 312, fig. 10.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 404, fig. 381.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 236, fig. 258.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Richardsonella cristata*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 256, pl. 39, figs. 50, 51 [holotype 870a, paratypes 870b, c].

=*Richardsonella convexa*, Rasetti, F., 1944, ibid., p. 256, pl. 39, fig. 53 [holotype 870d, paratype 870].

Dikelocephalus dalyi Walcott

Syntypes 5273, a–d

Walcott, C.D., 1914, Smithsonian Misc. Coll., vol. 57, No. 13, p. 367, pl. 64, figs. 1–5.

Upper Cambrian, 2 miles west of Donald Station, British Columbia.

Dikelocephalus devinei Billings

Syntypes 869, a–c

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 195, figs. 180 [869c], 181 [869, a].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 195, figs. 180. 181.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Briscoia? devinei*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 240, pl. 37, figs. 13–15 [holotype 869c; paratypes 869, a, b].

Dikelocephalus hisingeri Billings

Syntypes 868, a

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 196, fig. 182 [868a].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 196, fig. 182.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Pseudolisania hisingeri*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 252, pl. 37, figs. 26, 27 [holotype 868a].

Dikelocephalus magniticus Billings

Syntypes 848, a–h

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 307, fig. 5.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 399, fig. 376.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 235, figs. 255a, b.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Hungaia magnifica*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 242, pl. 37, figs. 1–3 [holotype 848b, paratypes 848c, f, h].

Dikelocephalus megalops Billings

Syntypes 871a–f

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 311, fig. 9.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 403, fig. 380.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 236, fig. 257.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Richardsonella megalops*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 255, pl. 39, figs. 48 [871c], 49 [871a].

Dikelocephalus oweni Billings

Syntypes 854, a–e

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 310, fig. 8 [854].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 402, fig. 379.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 236, fig. 259.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Levisella oweni*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 246, pl. 38, fig. 5 [holotype 854, paratypes 854a–e].

Dikelocephalus pauper Billings

Syntypes 877, a–i

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 200.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 200.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Apatokephaloides pauper*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 238, pl. 36, fig. 42 [holotype 877b, paratypes 877, a,c–h].

=*Richardsonella convexa*, Rasetti, F., 1944, ibid., p. 256 [paratype 877i].

Dikelocephalus planifrons Billings

Syntypes (?) 5594, a–d

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 309, fig. 6 [5594?].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 401, fig. 377.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 236, fig. 256.

Levis conglomerate, Upper Cambrian, Levis, Quebec.

=*Lauzonella planifrons*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 244, pl. 37, figs. 22, 24 [holotype 5594, paratypes 5594a–d].

[*Note:* Some doubt specimens primary types as apparently collected by T.C. Weston.]

Dikelocephalus selectus Billings
Holotype 879
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 199.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 199.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Saukiella selecta*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 256, pl. 39, fig. 57.

Dikelocephalus sesostris Billings
Syntypes 855, a–g
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 198, fig. 184 [855b].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 198, fig. 184.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Pseudosaukia sesostris*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 254, pl. 39, figs. 32. 33 [holotype 855b, paratypes 855a, c–g].

Dikelocephalus pygidium
Fig. spec. 717
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 311, fig. 11.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 403, fig. 382.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 237, fig. 263.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Loganellus belli*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 247, pl. 38, fig. 20.

Dipharus attleborensis (Shaler and Foerste)
Hypotypes 12076, 12077
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 61, pl. 3, figs. 3, 4.
Smith Point Member, Lower Cambrian, Broad Cove, Smith Sound, Newfoundland.

Dipharus planus Hutchinson
Holotype 12078; paratypes 12079–12082
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 61, pl. 3, figs. 5–9.
Lower Cambrian, Brigus South Point, Conception Bay, Newfoundland.

Diplagnostus nordengi Hutchinson
Holotype 12168; paratypes 12169, 12170
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 78, pl. 7, figs. 14–16.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Diplagnostus planicauda forma *D. bilobatus* Kobayashi
Hypotypes 12159–12163
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 78, pl. 7, figs. 10–13.
Middle Cambrian, Highland Cove and first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Dolichometopsis humei Kobayashi
Syntypes 8712, a
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 162, pl. 21, figs. 29, 30.
Lower Cambrian, Cap Mountain Ridge, District of Mackenzie.

Dolichometopsis? sp. undet.
Fig. specs. 13539a, b, 13540, 13541, a, 13542a, b, 13543, 13544a–d, 13545,a–d.
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 958, pl. 118, figs. 9–16; pl. 119, figs. 12–15.
Mount Whyte Formation, Middle Cambrian, beds W7c, 7f, 28f, 28fg, Mount Field and beds W4d, Ross Lake, British Columbia; beds W20d, Eiffel Peak, Alberta.

Doryagnostus incertus (Broegger)
Hypotypes 13024–13026
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 87, pl. 10, figs. 9–11.
Middle Cambrian, Highland Cove and 2,000 feet north of mouth of brook on southeast shore Chapel Arm, Trinity Bay, Newfoundland.

Dorypyge parvula (Billings)
Hypotypes 427, 433g
Matthew, G.F., 1897, Trans. Roy. Soc. Can., ser. 2, vol. 3, sec. 4, p. 197, pl. 4, figs. 5,a [433g], b, c [427?].
Lower Cambrian [Forteau Formation], L'Anse au Loup, Labrador, Newfoundland.
=*Bonnia matthewi*, Resser, C.E., 1936, Smithsonian Misc. Coll., vol. 95, No. 4, p. 8 [syntypes 427, 433g].
1937, J.Pal., vol. 11, No. 1, p. 45, pl. 8, figs. 5–7 [holotype 433g], 8[paratype 427].

Dorypyge parvula var. *angifrons* see *Bathyurus parvulus*

Dunderbergia canadensis Kobayashi
Syntypes 11954–11956
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 182, pl. 16, figs. 16, a, 17.
Wilson, J.L., 1956, J. Pal., vol. 30, No. 6, p. 1346, pl. 146, fig. 22 [11954].
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Dunderbergia (Megadunderbergia) convexa Kobayashi
Holotype 11963
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 182, pl. 15, fig. 33.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Dunderbergia (Megadunderbergia) quadrata Kabayashi
Holotype 11962
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 183, pl. 15, figs. 32a, b.
Palmer, A.R., 1960, U.S. Geol. Surv., Prof. Paper 334–C, pl. 4, fig. 27.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Dunderbergia (Megadunderbergia?) similator (Hall and Whitfield)
Hypotype 11983
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 183, pl. 16, fig. 39.
McKay Group, Upper Cambrian, 1 mile northwest of Leanchoil, British Columbia.

Ehmania borealis Howell
Paratypes 6463–6465
Howell, B.F., 1943, J. Pal., vol. 17, No. 3, p. 240.
Cloud Rapids Formation, Middle Cambrian, Cloud Rapids and point between Cloud Rapids and First Tickle Bay, Canada Bay, Newfoundland.

Elvinia roemeri (Shumard)
Hypotypes 11970–11975
Kobayashi, T., 1938, Jap. J., Geol. Geog., vol. 15, Nos. 3–4, p. 180, pl. 15, figs. 6–8, 10–12.
McKay Group, Upper Cambrian, Mount Hunter, British Columbia.

Elvinia sp. aff. *E. roemeri* (Shumard)
Hypotype 11935
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 180, pl. 15, fig. 13.
McKay Group, Upper Cambrian, Northwest Van Horne Range, British Columbia.

Elvinia (?) sp.
Fig. spec. 11934
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 181, pl. 15, fig. 14.
McKay Group, Upper Cambrian, Northwest Van Horne Range, British Columbia.

Elyx matthewi Hutchinson
Holotype 12020; paratypes 12021–12023
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 99, pl. 13, figs. 3–6.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Eodiscus armatus Hutchinson
Holotype 12072; paratypes 12073–12075
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 60, pl. 2, figs. 8a–c, 9; pl. 3, figs. 1a–c, 2.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Eodiscus punctatus (Salter)
Hypotypes 11113–11116
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 73, pl. 1, figs. 13–16.
Trout Brook Formation, Middle Cambrian, Canoe Lake Brook, Cape Breton Island, Nova Scotia.

Eodiscus punctatus (Salter)
Hypotypes 12067–12071
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 59, pl. 2, figs. 3–7.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Eodiscus scanicus (Linnarsson)
Hypotypes 12065, 12066
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 59, pl. 2, figs. 1a–c, 2a–c.
Middle Cambrian, first small bay east of tip of McLeod Point and west shore of Chapel Arm, Trinity Bay, Newfoundland.

Fieldaspis bilobata Rasetti
Hypotypes 13536, 13537
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 956, pl. 121, figs. 12, 13.
Mount Whyte Formation, Middle Cambrian, beds W20d, Eiffel Peak, Alberta and beds W7ef, Mount Field, British Columbia.

Fieldaspis celer (Walcott)
Hypotypes 13538a–h
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 957, pl. 118, figs. 2–8.
Mount Whyte Formation, Middle Cambrian, beds W28fg, Mount Field, British Columbia.

Fremontia sp.
Fig. specs. 16859, 16860
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 6, pl. 1, figs. 4, 6.
Atan Group, Early Cambrian, 7.4 miles northwest of northeastern end of Denetian Lake, Kechika map-area, British Columbia.

Glossopleura cf. *G. boccar* (Walcott)
Hypotype 16864
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 8, pl. 2, fig. 9.
Middle Cambrian, mountain between forks of south branch of Snake Indian River, Jasper Park, Alberta.

Glossopleura williamsi Kobayashi
Syntypes 8711, a–e
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 163, pl. 21, figs. 16–18, 21–23.
Middle Cambrian, Saline River at fork 8 miles above mouth, District of Mackenzie.

Glyphaspis (?) sp. undet.
Fig. spec. 11947
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 189, pl. 15, fig. 29.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Glyptagnostus "reticulatus" (Angelin)
Hypotype 11939
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 170, pl. 16, fig. 34.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Glyptometopus laflammei (Clark)
Hypotype 7662
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 467, pl. 61, figs. 1, 2.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Grandagnostus vermontensis Howell
Paratypes 6456–6459
Howell, B.F.,
1935, J. Pal., vol. 9, No. 3, p. 221.
1937, Bull. Geol. Soc. Amer., vol. 48, p. 1166.
St. Alban's Formation, Middle Cambrian, just west of and 1 mile southwest of St. Albans, and 1 1/2 miles south-southeast of Swanton Junction, Franklin co., Vermont, U.S.A.

Hardyoides minor Kobayashi
Holotype 11943
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 177, pl. 16, fig. 29.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Hartshillia terranovica Hutchinson
Holotype 12059; paratypes 12060, 12061
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 109, pl. 16, figs. 10a, b; pl. 17, figs. 1a, b, 2.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Holasaphus centropyge Matthew
Hypotypes 11200–11204
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 104, pl. 7, figs. 8–12.
MacMullin Formation, Middle Cambrian, south shore St. Andrew Channel, Young's Point, and east bank Indian River, Cape Breton Island, Nova Scotia.

Holocephalina americana Resser
Hypotypes 12055–12058
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 110, pl. 17, figs. 3–6.
Middle Cambrian, Highland Cove, Trinity Bay and east bank Manuels River, Conception Bay, Newfoundland.

Homagnostus acutus Kobayashi
Syntypes 11993–11997
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 172, pl. 16, figs. 18–22.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.
=*Pseudagnostus? acutus*, Palmer, A.R., 1960, U.S. Geol. Surv., Prof. Paper 334–C, p. 62, pl. 4, fig. 10 [lectotype 11996].

Homagnostus acutus Kobayashi
Hypotype 11954
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, pl. 16, fig. 16b.
Wilson, J.E., 1956, J. Pal., vol. 30, No. 6, pl. 146, fig. 22.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Homagnostus cf. *acutus* Kobayashi
Hypotype 11979
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 173, pl. 15, fig. 4.
McKay Group, Upper Cambrian, Mount Hunter, British Columbia.

Hungaia magnifica see *Dikelocephalus magnificus*

Hypagnostus parvifrons (Linnarsson)
Hypotypes 12140, 12141
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 73, pl. 6, figs. 6a, b, 7.
Middle Cambrian, north shore Highland Cove, Trinity Bay, Newfoundland.

Hypagnostus parvifrons var. *H. mammillatus* (Broegger)
Hypotypes 12136–12139
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 74, pl. 6, figs. 8–11.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Hypagnostus cf. *H. truncatus* (Broegger)
Hypotype 12149
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 74, pl. 6, fig. 12.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Hypagnostus ? sp.
Fig. spec. 13050
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 74, pl. 6, fig. 13.
Middle Cambrian, west bank Manuels River, Conception Bay, Newfoundland.

Iddingsia concava Kobayashi
Holotype 11936; hypotype 11937
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 179, pl. 15, figs. 15a, b, 16.
McKay Group, Upper Cambrian, Northwest Van Horne Range, British Columbia.

Irvingella (Irvingellina) protuberans Kobayashi
Syntypes 11976, 11977
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 176, pl. 15, figs. 1a–c, 2.
McKay Group, Upper Cambrian, Mount Hunter, British Columbia.

Irvingella (Irvingellina)? sp. undet.
Fig. spec. 11980
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 176, pl. 15, figs. 3a, b.
McKay Group, Upper Cambrian, Mount Hunter, British Columbia.

Jubileia grandifrons Kobayashi
Holotype 11944
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 191, pl. 16, figs. 28a, b.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Kaninia sulcata Kobayashi
Syntypes 11950–11952
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 190, pl. 16, figs. 36–38.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Kaninia sulcata Kobayashi
Hypotype 11953
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 190, pl. 15, fig. 19.
McKay Group, Upper Cambrian, Northwest Van Horne Range, British Columbia.

Kaniniella concinna Kobayashi
Holotype 11968
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 191, pl. 15, figs. 20a, b.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Keithia subclavata see *Arionellus subclavatus*

Keithiella cylindrica see *Arionellus cylindricus*

Keithiella cylindrica (Billings)
Hypotype 7668
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, pl. 61, p. 469, fig. 8.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Keithiella maior Rasetti
Holotype 7666
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 468, pl. 61, figs. 6, 7.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Kochaspis eiffelensis Rasetti
Hypotypes 13548, 13549a, b, 13550
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 960, pl. 119, figs. 5–8.
Mount Whyte Formation, Middle Cambrian, beds W20d, Eiffel Peak, Alberta; beds W7ef and W28fg, Mount Field, British Columbia.

Kochiella ? gibbosa Rasetti
Holotype 13554; paratypes 13555, a
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 961, pl. 121, figs. 1–4.
Mount Whyte Formation, Middle Cambrian, beds W28fg, Mount Field, British Columbia.

Kochiella ? maxeyi Rasetti
Hypotype 13551–13553
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 961, pl. 120, figs. 1–3.
Mount Whyte Formation, Middle Cambrian, beds W20d, Eiffel Peak, Alberta; beds W7ef, Mount Field, British Columbia.

Labradoria elongata see *Conocephalites miser*

Labradoria misera see *Conocephalites miser*

Lauzonella planifrons see *Dikelocephalus planifrons*

Leptoplastus minor Westergard
Hypotypes 11145–11147
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 85, pl. 4, figs. 3–5.
MacNeil Formation, Upper Cambrian, MacLean Brook, Cape Breton Island, Nova Scotia.

Leptoplastus ovatus Angelin
Hypotypes 11143, 11144
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 84, pl. 4, figs. 1, 2.
MacNeil Formation, Upper Cambrian, MacLean Brook, Cape Breton Island, Nova Scotia.

Leptoplastus sp.
Fig. spec. 11207
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 85, pl. 4, fig. 6.
MacNeil Formation, Upper Cambrian, MacLean Brook, Cape Breton Island, Nova Scotia.

Levisella affinis see *Dikelocephalus affinis*

Levisella oweni see *Dikelocephalus oweni*

Levisella oweni (Billings)
Hypotype 7663
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 469, pl. 61, fig. 11.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Loganellus belli see *Dikelocephalus belli* and *D. pygidium*

Loganellus logani see *Olenus ? logani*

Loganellus ? unisulcatus (Raymond)
Hypotype 838
Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 248, pl. 38, fig. 5.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Loganopeltis zenkeri see *Conocephalites zenkeri*

Loganopeltoides zenkeri (Billings)
Hypotype 7685
Rasetti, F., 1945, Am. J. Sci., vol. 243, p. 46, pl. 1, fig. 2.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Lotagnostus trisectus (Salter)
Hypotypes 11106–11112
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 70, pl. 1, figs. 6–12.
MacNeil Formation, Upper Cambrian, Spruce Brook, East Bay, 3/4 mile upstream from Eskasoni road; north shore of East Bay; and on first tributary on east side of McLeod Brook south of present Boisdale road, 1/2 mile upstream from mouth, Cape Breton Island, Nova Scotia.

Loxopeltis problematica Rasetti
Holotype 13577; paratype 13578
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 968, pl. 119, figs. 3, 4.
Mount Whyte Formation, Middle Cambrian, beds W7 (talus) and W28fg, Mount Field, British Columbia.

Meneviella venulosa (Salter)
Hypotypes 12047–12052
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 108, pl. 16, figs. 2–7.
Middle Cambrian, Highland Cove and first small bay east of tip of McLeod Point, Trinity Brook and east bank Manuels River, Conception Bay, Newfoundland.

Menocephalus globosus Billings
Syntypes 884a, d, g, k
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 317, figs. 17–19.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 408, figs. 388a–c.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 237, figs. 267a–c.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Onchonotus globosus*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 249, pl. 38, figs. 29, 30 [holotype 884g, paratypes 884a, d, k].

Menocephalus sedgwicki Billings
Syntype 885
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 316.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 407.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
="*Menocephalus" sedgwicki*, Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 258, pl. 36, fig. 56.

Meteoraspis borealis Lochman
Hypotypes 9460–9463
Kindle, C.H., 1948, Am. J. Sci., vol. 246, p. 446, pl. 1, figs. 8–13.
Upper Cambrian, Murphy Creek, Gaspé, Quebec.

Meteoraspis laticephalus Kobayashi
Holotype 11964
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 188, pl. 15, figs. 34a, b.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Nevadia addyensis Okulitch
Holotype 10004
Okulitch, V.J., 1951, J. Pal., vol. 25, No. 3, p. 406, pl. 62, figs. 1, 2.
Addy quartzite, Lower Cambrian, near Addy, Washington, U.S.A.

Oidalagnostus cf. *O. trispiniger* Westergard
Hypotypes 12164–12167
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 80, pl. 7, figs. 17–20.
Middle – Upper Cambrian transition beds, Manuels Brook, Conception Bay, Newfoundland.

Olenaspella evansi (Kobayashi)
Hypotype 11941
Wilson, J.L., 1956, J. Pal., vol. 30, No. 6, p. 1344, pl. 146, fig. 20.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.
See *Parabolinella* (?) *evansi*

Olenaspella evansi (Kobayashi)
Hypotype 15151
Palmer, A.R., 1962, U.S. Geol. Surv., Prof. Paper 374–F, p. 37, pl. 5, fig. 5.
McKay Group, Upper Cambrian, north of Jubilee Mountain, British Columbia.

Olenellid trilobite, undescribed genus
Fig. spec. 16858
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 6, pl. 1, fig. 3.
Early Cambrian, about 2 miles southwest of Mount Simla, Jasper Park, Alberta.

Olenellus gilberti Meek
Plastotype 16862
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 6, pl. 1, fig. 8.
Peyto limestone, Early Cambrian, east slope of Mount Odaray, Yoho Park, British Columbia.

Olenellus gilberti Meek
Hypotype 16863
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 6, pl. 1, fig. 9.
Early Cambrian, 2.8 miles southwest of Rogers Lake, Rabbit River map-area, British Columbia.

Olenellus cf. *gilberti* Meek
Hypotypes 415, 424b, c, e
Walcott, C.D., 1910, Smithsonian Misc. Coll., vol. 53, No. 6, pl. 41, figs. 1 [415], 2 [424e], 3 [424b], 4 [424c].
Lower Cambrian, Bic, Quebec.

Olenellus logani Walcott
Syntypes 414, a, b, d
Walcott, C.D., 1910, Smithsonian Misc. Coll., vol. 53, No. 6, p. 333, pl. 41, figs. 5, a, b [414b], 6 [414].
Lower Cambrian, L'Anse au Loup, Labrador, Newfoundland.

Olenellus mackenziensis Kobayashi
Holotype and paratype 8716
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 161, pl. 21, fig. 32.
Lower Cambrian, Clark Mountain, District of Mackenzie.

Olenus? *logani* Devine
Plastosyntypes 903, a; syntypes 886, a
Devine, T., 1863, Can. Naturalist Geol., vol. 8, p. 95, figs. 1, 2.
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 201, figs. 185, 186.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 201, figs. 185, 186.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
=*Loganellus quebecensis*, Devine, T., 1863, Can. Naturalist Geol., vol. 8, p. 95.
=*Loganellus logani*, Rasetti, F., 1944, J. Pal., vol. 18, p. 247, pl. 38, figs. 13 [paratype 886], 14 [plastosyntype 903].

Onchocephalites laevis Rasetti
Holotype 13556; paratypes 13557, a
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 962, pl. 121, figs. 5–9.
Mount Whyte Formation, Middle Cambrian, beds W28fg, Mount Field, British Columbia.

Onchocephalus maior Rasetti
Hypotype 13558
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 962, pl. 120, fig. 11.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Onchocephalus skapta (Walcott)
Hypotype 13559
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 963, pl. 120, fig. 9.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Onchocephalus cf. *O. skapta* (Walcott)
Hypotype 13560
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 963, pl. 120, fig. 10.
Mount Whyte Formation, Middle Cambrian, beds, W28fg, Mount Field, British Columbia.

Onchonotus globosus see *Menocephalus globosus*

Onchonotus ovoidea Kobayashi
Holotype 11965
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 188, pl. 15, figs. 35a, b.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Onchonotus ? sedgwicki (Billings)
Hypotypes 7669, 7670
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 470, pl. 61, figs. 17–19.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Oryctocephalites resseri Rasetti
Hypotypes 13547, a
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 960, pl. 119, figs. 1, 2.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Orygmaspis microphthalmus Kobayashi
Holotype 11946
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 185, pl. 15, fig. 9.
McKay Group, Upper Cambrian, west of Leanchoil, British Columbia.

Paedeumias robsonensis Burling
Holotype 5272
Burling, L.D., 1916, Ottawa Naturalist, vol. 30, p. 53, pl. 1.
Lower Cambrian, Mount Robson region, British Columbia.

Paedeumias transitans Walcott
Syntypes 416
Walcott, C.D., 1910, Smithsonian Misc. Coll., vol. 53, No. 6, p. 305, pl. 41, fig. 7.
Lower Cambrian, L'Anse au Loup, Labrador, Newfoundland.

Parabolina dawsoni Matthew
Hypotypes 11139–11141
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 80, pl. 3, figs. 11–13.
MacNeil Formation, Upper Cambrian, Spruce and MacNeil Brooks, Cape Breton Island, Nova Scotia.

Parabolina ? incerta Rasetti
Holotype 7659
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 471, pl. 61, fig. 16.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Parabolina spinulosa (Wahlenberg)
Hypotypes 11135–11138
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 79, pl. 3, figs. 7–10.
MacNeil Formation, Upper Cambrian, MacNeil Brook 1/10 mile below MacKeigen road, Cape Breton Island, Nova Scotia.

Parabolinella (?) *evansi* Kobayashi
Syntypes 15147–15150
Kobayashi, T., 1936, Jap. J. Geol. Geog., vol. 13, Nos. 1–2, p. 92, pl. 15, figs. 7–10.
McKay Group, Upper Cambrian, north of Jubilee Mountain, British Columbia.
=*Olenaspella evansi*, Palmer, A.R., 1962, U.S. Geol. Surv., Prof. Paper 374–F, p. 37, pl. 5, figs. 4 [15147], 7 [15148], [lectotype 15150].

Parabolinella evansi Kobayashi
Hypotypes 11957–11961
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 186, pl. 16, figs. 11–15.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.
=*Olenaspella evansi*, Wilson, J.L., 1956, J. Pal., vol. 30, Nos. 6, p. 1344, pl. 146, fig. 21 [lectotype 11958].

Parabolinella ? punctolineata Kobayashi
Holotype 8721; paratype 8721a
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 166, pl. 21, figs. 19, 20.
Upper Cambrian, Jones Ridge, north of Tatonduk River, Yukon-Alaska boundary.

Parabolinella (?) quadrata Matthew
Syntypes 7342, a
Matthew, G., 1900, Bull. Natural Hist. Soc., New Brunswick, vol. 4, p. 411, pl. 18, fig. 7.
Lower Ordovician and (?) Upper Cambrian [McLeod Brook Formation], McLeod Brook, Cape Breton Island, Nova Scotia.
=*Parabolinella triarthra*, Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 82.

Paradoxides abenacus Matthew
Hypotypes 11118–11122
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 74, pl. 1, fig. 18; pl. 2. figs. 1–4.
MacMullin Formation, Middle Cambrian, south shore St. Andrew Channel, Cape Breton Island, Nova Scotia.

Paradoxides bennetti Salter
Hypotype 13086
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 117, pl. 25.
Middle Cambrian, on west shore 1/2 mile south of harbour head at Branch, St. Marys Bay, Newfoundland.

Paradoxides davidis Salter
Hypotypes 11124–11126
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 76, pl. 2, figs. 6–8.
Trout Brook Formation, Middle Cambrian, Trout Brook, Cape Breton Island, Nova Scotia.

Paradoxides davidis Salter
Hypotypes 13079–13085, 13088
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 115, pl. 19, fig. 10; pl. 20; pl. 21; pl. 22, figs. 1–5.
Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Paradoxides decorus Billings
Plastotypes 299, a
Billings, E.,
1872, Can. Naturalist Quart. J. Sci., n. ser., vol. 6, p. 476.
1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 75.
Middle Cambrian, Chapel Arm, Trinity Bay, Newfoundland.

Paradoxides eteminicus Matthew
Hypotype 11117
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 73, pl. 1, fig. 17.
Trout Brook Formation, Middle Cambrian, Grand Mira North Road, 1.13 miles south of Salmon River Road, Cape Breton Island, Nova Scotia.

Paradoxides eteminicus Matthew
Hypotypes 13089–13094, 13114
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 114, pl. 19, figs. 3–9.
Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Paradoxides forchhammeri Angelin

Hypotype 11127

Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 77, pl. 2, figs. 9, 10.

MacLean Brook Formation, Middle Cambrian, south side Campbelldale Road 100 yards east of Grand Mira South Road, Cape Breton Island, Nova Scotia.

Paradoxides freboldi Hutchinson

Holotype 13098; paratypes 13099–13104

Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 116, pl. 23, figs. 4–10.

Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Paradoxides hicksi Salter

Hypotype 11123

Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 76, pl. 2, fig. 5.

Trout Brook Formation, Middle Cambrian, Canoe Lake Brook, Cape Breton Island, Nova Scotia.

Paradoxides hicksi Salter

Hypotypes 13065–13075

Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 113, pl. 18, figs. 4–12; pl. 19, figs. 1, 2.

Middle Cambrian, limestone nodules in small bay about 3/4 mile north of head of bay and in small bay near head of arm, west shore of Chapel Arm, Trinity Bay; west shore of Bull Island Point, St. Marys Bay; first small bay east of tip of McLeod Point, Trinity Bay; and west bank of Manuels River, Conception Bay, Newfoundland.

Paradoxides lamellatus Hartt *in* Dawson

Hypotypes 13076–13078

Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 113, pl. 18, figs. 1–3.

Middle Cambrian, 3/4 mile northwest of stream mouth at Cavendish, northeast shore of Cavendish Bay and north shore of Island Cove, Trinity Bay, Newfoundland.

Paradoxides parvoculus Howell

Hypotypes 13115–13120

Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 118, pl. 24, figs. 1–6.

Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Paradoxides cf. *P. rugulosus* Corda

Hypotypes 13095–13097

Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 115, pl. 23, figs. 1–3.

Middle Cambrian, east and west banks Manuels River, Conception Bay, Newfoundland.

Paradoxides tenellus Billings

Plastotypes 298, a, b

Billings, E.,

1872, Can. Naturalist Quart. J. Sci., n. ser., vol. 6, p. 476, fig. 12 [298].

1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 74, fig. 43.

Middle Cambrian, Chapel Arm, Trinity Bay, Newfoundland.

Parapoulsenia lata Rasetti

Holotype 13561; paratype 13562

Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 964, pl. 120, figs. 4–7.

Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Parapoulsenia sp. *P. lata* Rasetti

Hypotype 13563

Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 964, pl. 120, fig. 8.

Mount Whyte Formation, Middle Cambrian, beds W28fg, Mount Field, British Columbia.

Peltura scarabaeoides (Wahlenberg)
Hypotypes 11167–11172
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 93, pl. 5, figs. 1–6.
MacNeil Formation, Upper Cambrian, Spruce Brook, East Bay, 3/4 mile upstream from Eskasoni Road; north shore East Bay; and MacNeil Brook 3/4 mile upstream from MacKeigan road, Cape Breton Island, Nova Scotia.

Perimetopus arenosus see *Solenopleura arenosa*

Perimetopus secundus see *Solenopleura arenosa*

Peronopsis cf. *fallax* var. *concinnus* (Matthew)
Hypotypes 11102, 11103
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 69, pl. 1, figs. 2, 3.
Trout Brook Formation, Middle Cambrian, Canoe Lake Brook, Cape Breton Island, Nova Scotia.

Peronopsis fallax subsp. *P. depressa* Westergard
Hypotypes 12117–12120
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 70, pl. 5, figs. 8–11.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Peronopsis howelli Hutchinson
Holotype 12134; paratype 12135
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 70, pl. 5, figs. 12a, b, 13.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Peronopsis (Acadagnostus) inarmata Hutchinson
Holotype 12112; paratype 12113
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 71, pl. 5, figs. 14, 15.
Chamberlain's Brook Formation, Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Peronopsis (?) *latimarginatus* Kobayashi
Holotype 11998; hypotype 11999
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 169, pl. 15, figs. 30, 31a.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Peronopsis (Acadagnostus) matthewi Hutchinson
Holotype 12127; paratypes 12128–12130
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 71, pl. 5, figs. 16–20.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Peronopsis cf. *P. quadrata* (Tullberg)
Hypotypes 12131–12133
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 69, pl. 5, figs. 5–7.
Middle Cambrian. Highland Cove, Trinity Bay, Newfoundland.

Peronopsis (Acadagnostus) scutalis (Salter *in* Hicks)
Hypotypes 12121–12124, 12126
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 72, pl. 6, figs. 1–5.
Middle Cambrian, Highland Cove, Trinity Bay and west bank Manuels River, Conception Bay, Newfoundland.

Peronopsis trilobata (Matthew)
Hypotypes 12110, 12111
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 69, pl. 5, figs. 3, 4.
Middle Cambrian, east bank Manuels River, Conception Bay, Newfoundland.

Phalacroma bairdi Hutchinson
Holotype 13055; paratypes 13056, 13057
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 90, pl. 11, figs. 9–11.
Upper Cambrian, Manuels River, Conception Bay, Newfoundland.

Phalacroma? howsei Hutchinson
Holotype 13058; paratypes 13059–13062
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 91, pl. 11, figs. 12–16.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Phalcacroma nudum (Beyrich)
Hypotypes 13027–13032
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 90, pl. 11, figs. 3–8.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Phalacroma? sp.
Fig. spec. 13042
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 89, pl. 12, fig. 1.
Middle Cambrian, Highland Cove, Trinity Cove, Newfoundland.

Phoreotropis? marginata Rasetti
Holotype 7661; paratypes 7661a–d
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 471, pl. 61, figs. 28, 29.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Plaguira cercops (Walcott)
Hypotypes 13564, 13565
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 964, pl. 119, figs. 9–11.
Mount Whyte Formation, Middle Cambrian, beds W28f, Mount Field, British Columbia; beds W20d, Eiffel Peak, Alberta.

Platycolpus capax (Billings)
Hypotype 835f
Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 250, pl. 39, fig. 11.
Levis conglomerate, Upper Cambrian, Levis, Quebec.
[*Note:* Specimens 835c, e primary types of *Bathyurus capx*, collected by R. Bell; specimen 835f collected by T.C. Weston, thus a hypotype rather than part of the syntypic suite.]

Platycolpus dubuis see *Bathyurus dubius*

Platycolpus marcoui Clark
Hypotype 13267
Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 250, pl. 39, fig. 16.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Platydiamesus depressus Raymond
Hypotype 7680
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 472, pl. 61, fig. 30.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Platydiamesus levisensis Rasetti
Hypotype 7664
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 472, pl. 61, fig. 15.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Plethometopus armatus see *Bathyurus armatus*

Plethometopus laticeps Rasetti
Holotype 13268
Rasetti, F., 1944, J. Pal., vol. 18, No. 3, p. 251, pl. 39, fig. 26.
Levis conglomerate, Upper Cambrian, North Ridge, Levis, Quebec.

Plethopeltis armatus see *Bathyurus armatus*

Plethopeltis robustus Kobayashi
Syntypes 11966, 11967
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 178, pl. 15, figs. 21, 22.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Pleurectinium bifurcatum (Illing)
Hypotypes 13045, 13046
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 67, pl. 4, figs. 15a, b, 16a, b.
Middle Cambrian, west bank Manuels River, Conception Bay, Newfoundland.

Pleurectinium granulatum (Barrande)
Hypotypes 12103–12107
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 66, pl. 4, figs. 10–14.
Middle Cambrian, west shore Chapel Arm and first small bay east of tip of McLeod Point, Trinity Bay and east bank Manuels River, Newfoundland.

Pleurectinium tuberculatum (Illing)
Hypotypes 12108, 12109
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 67, pl. 5, figs. 1, 2.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Poulsenia columbiana Rasetti
Holotype 13566; paratype 13567
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 965, pl. 121, figs. 10, 11.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Protypus reticulatus Rasetti
Holotype 9487; paratypes 9487a, b
Rasetti, F., 1948, J. Pal., vol. 22, No. 1, p. 23, pl. 6, figs. 14–17.
Lower Cambrian, Bic, Quebec.

Pseudagnostus? *acutus* see *Homagnostus acutus*

Pseudagnostus canadensis see *Agnostus canadensis*

Pseudagnostus latus Kobayashi
Syntypes 11989–11992
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 171, pl. 16, figs. 23, 24, 40, 41.
McKay Group, Upper Cambrian, west of Harrogate and Van Horne Range, British Columbia.

Pseudatops cf. *P. reticulatus* (Walcott)
Hypotype 12009
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 94, pl. 12, fig. 12.
Lower Cambrian, Brigus South Point, Conception Bay, Newfoundland.

Pseudolisania hisingeri see *Dikelocephalus hisingeri*

Pseudosaukia sesostris see *Dikelocephalus sesostris*

Pterocephalia brevifrons Kobayashi
Holotype 11938
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol., 15, Nos. 3–4, p. 178, pl. 15, figs. 17a, b.
McKay Group, Upper Cambrian, Northwest Van Horne Range, British Columbia.

Pterocephalia sp.
Fig. specs. 16870, 16871
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 10, pl. 3, figs. 15, 16.
McKay Group, from about 2,500 feet below base of upper unit, Upper Cambrian, near head of Tanglefoot Creek, lat. 49°40'N., long. 115°21'W., British Columbia.

Ptychagnostus atavus (Tullberg)
Hypotypes 12187–12201
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 83, pl. 8, figs. 16–22; pl. 9, figs. 1–8.
Middle Cambrian, on southeast shore 2,000 feet north of mouth of brook, Chapel Arm, Trinity Bay, Newfoundland.

Ptychagnostus ciceroides (Matthew)
Hypotypes 12202–12209, 13014, 13015, 13049
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 85, pl. 9, figs. 20–23; pl. 10, figs. 1–8.
Middle Cambrian, first small bay east of tip of McLeod Point, Highland Cove, Trinity Bay and large northward bend about 3 miles above mouth Branch River, St. Marys Bay, Newfoundland.

Ptychagnostus grandis Hutchinson
Holotype 12177; paratypes 12178–12182
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 81, pl. 8, figs. 6–11.
Middle Cambrian, first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Ptychagnostus (Triplagnostus) hybridus (Broegger)
Hypotypes 12183–12186
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 82, pl. 8, figs. 12–15.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Ptychagnostus punctuosus (Angelin)
Hypotypes 13016–13023, 13047, 13048
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 84, pl. 9, figs. 9–19.
Middle Cambrian, Highland Cove, Trinity Bay and east and west banks of Manuels River, Conception Bay, Newfoundland.

Ptychagnostus (Triplagnostus) stenorrachis (Groenwall)
Hypotypes 12171–12176
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 80, pl. 8, figs. 1–5.
Middle Cambrian, Highland Cove, Trinity Bay, Newfoundland.

Ptychoparella adamsi see *Ptychoparia adamsi*

Ptychoparella billingsi Resser
Holotype 502
Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 49, pl. 8, figs. 34–37.
Lower Cambrian, Highgate Springs, Vermont, U.S.A.

Ptychoparella kindlei Resser
Holotype 431a
Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 50, pl. 8, figs. 40, 41.
Parker Formation, Lower Cambrian, 1 1/2 miles east of Swanton, Vermont, U.S.A.
[*Note:* probably one of two specimens basis of composite *Anomocare tucer*, Matthew, G.F., 1897, Trans. Roy. Soc. Can., ser. 2, vol. 3, sec. 4, p. 198, pl. 4, fig. 8; as specimen collected by Billings, 1867, it cannot be a primary type of *Conocephalites teucer* Billings, 1861.]

Ptychoparella teucer (Billings)
Hypotype 431
Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 50, pl. 8, figs. 42, 43 [holotype 431].
Parker Formation, Lower Cambrian, 1 1/2 miles east of Swanton, Vermont, U.S.A.
[*Note:* as specimen collected by Billings, 1867, it cannot be the original of Figure 14, 1861, *Conocephalites teucer* Billings; probably one of two specimens basis of composite *Anomocare tucer*, Matthew, G.F., 1897, Trans. Roy. Soc. Can., ser. 2, vol. 3, sec. 4, p. 198, pl. 4, fig. 8.]

Ptychoparella vulcana (Billings)
Hypotype 432
Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 50, pl. 8, figs. 38, 39 [holotype 432].
Winooski? Formation, Lower Cambrian, 1 mile east of Highgate Springs, Vermont, U.S.A.
[*Note:* although closely resembling the original of *Conocephalites vulcanus* Billings, Figure 17, 1861, specimen part of series collected by Billings in 1867.]

Ptychoparia adamsi (Billings)
Hypotype 429
Matthew, G.F., 1897, Trans. Roy. Soc. Can., ser. 2, vol. 3, sec. 4, pp. 180, 199, pl. 4, fig. 9.
Lower Cambrian [Winooski? Formation], 1 mile east of Highgate Springs, Vermont, U.S.A.
=*Ptychoparella adamsi*, Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 49, pl. 8, figs. 31–33 [holotype 429].
[*Note:* as specimen collected by Billings, 1867, it cannot be the original of Figure 15, 1861, *Conocephalites adamsii* Billings.]

Ptychoparia bretonensis Hutchinson
Holotype 11177; paratypes 11178–11181
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 97, pl. 5, figs. 12–16.
MacMullin Formation, Middle Cambrian, south shore St. Andrew Channel, Cape Breton Island, Nova Scotia.

Ptychoparia miser see *Conocephalites miser*

Ptychopleura brevifrons Kobayashi
Holotype 8719; paratype 8719a
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 165, pl. 21, figs. 7, 8.
Upper Cambrian, Jones Ridge north of Tatonduk River, Yukon-Alaska boundary.

Redlichia ? sp.
Fig. spec. 8715
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 162, pl. 21, fig. 24.
Lower Cambrian, Cap Mountain Ridge, District of Mackenzie.

Richardsonella convexa see *Dikelocephalus cristatus* and *D. pauper*

Richardsonella cristata see *Dikelocephalus cristatus*

Richardsonella megalops see *Dikelocephalus megalops*

Saukiella selecta see *Dikelocephalus selectus*

Schistometopus convexus Rasetti
Hypotypes 13568, 13569, a, b
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 965, pl. 121, figs. 14–17.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Schistometopus? minor Rasetti
Holotype 13570; paratype 13571
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 966, pl. 120, figs. 13–15.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Serrodiscus bellimarginatus (Shaler and Foerste)
Hypotypes 12062, 12063
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 58, pl. 1, figs. 1a–e, 2.
Lower Cambrian, Broad Cove, Smith Sound and south shore of Heart's Delight Harbour, Trinity Bay, Newfoundland.

Serrodiscus sp.
Fig. spec. 12064
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 58, pl. 1, figs. 3a, b.
Lower Cambrian, south side Hopeall Head, Trinity Bay, Newfoundland.

Solenopleura arenosa (Billings)
Hypotypes 428, a
Matthew, G.F., 1897, Trans. Roy. Soc. Can., ser. 2, vol. 3, sec. 4, p. 199, pl. 4, fig. 10 [428a].
Lower Cambrian [Mallet or Dunham Formation], near International Boundary on road from St. Armand to Highgate Springs, Vermont, U.S.A.
=*Perimetopus arenosus*, Resser, C.E., 1937, J. Pal., vol. 11, No. 1, p. 51, pl. 8, figs. 50, 51 [holotype 428a].
=*Perimetopus secundus*, Resser, C.E., 1937, ibid., vol. 11, No. 1, p. 51, pl. 8, fig. 49 [holotype 428].
[*Note:* as both specimens collected by Billings, 1867, they cannot be the primary types of *Conocephalites arenosus* Billings, 1861.]

Solenopleura bretonensis Matthew
Hypotypes 11184, 11185
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 99, pl. 6, figs. 1, 2.
Dugald Formation, Middle Cambrian, Dugald Brook, Cape Breton Island, Nova Scotia.

Solenopleura communis Billings
Plastotype 285
Billings, E.,
1872, Can. Naturalist Quart. J. Sci., n. ser., vol. 6, p. 474.
1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 72.
Matthew, G.F., 1887, Trans. Roy. Soc. Can., vol. 4, sec. 4, p. 155, figs. 4, a, b.
Middle Cambrian, Chapel Arm, Trinity Bay, Newfoundland.

Sphaerophthalmoides ornatus Hutchinson
Holotype 11159; paratypes 11160–11166
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 91, pl. 4, figs. 18–25.
MacNeil Formation, Upper Cambrian, Spruce Brook, East Bay, 3/4 mile upstream from Eskansoni road, Cape Breton Island, Nova Scotia.

Sphaerophthalmus alatus (Boeck)
Hypotypes 11153–11156
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 88, pl. 4, figs. 12–15.
MacNeil Formation, Upper Cambrian, MacNeil Brook, 3/4 mile upstream from MacKeigan road, Cape Breton Island, Nova Scotia.

Sphaerophthalmus major Lake
Hypotypes 11157, 11158
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 90, pl. 4, figs. 16, 17.
MacNeil Formation, Upper Cambrian, MacNeil Brook, 3/4 mile upstream from MacKeigan road, Cape Breton Island, Nova Scotia.

Spinagnostus franklinensis Howell
Paratypes 6454a–d, 6455
Howell, B.F.,
1935, J. Pal., vol. 9, No, 3, p. 219.
1937, Bull. Geol. Soc. Amer., vol. 48, p. 1161.
St. Albans Formation, Middle Cambrian, 3 miles south-southwest of St. Albans and Adams Pasture just west of St. Albans, Franklin co., Vermont, U.S.A.

Strenuella strenua (Billings)
Hypotypes 11128–11134
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 78, pl. 2, fig. 11; pl. 3, figs. 1–6.
MacCodrum Formation, Lower Cambrian, east end Victoria Bridge, Mira River, Cape Breton Island, Nova Scotia.

Taenicephalus longifrons Kobayashi
Syntypes 11940, 11941; hypotype 11942
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 184, pl. 16, figs. 25–27.
Wilson, J.L., 1956, J. Pal., vol. 30, No. 6, p. 1346, pl. 146, figs. 18, 19.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Taenicephalus megalops Kobayashi
Syntypes 12000–12002; hypotype 12003
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 183, pl. 16, figs. 8–10, 35.
Wilson, J.L., 1956, J. Pal., vol. 30, No. 6, p. 1346, pl. 146, figs. 16, 17.
McKay Group, Upper Cambrian, west of Harrogate, British Columbia.

Tatonaspis levisensis Rasetti
Hypotype 7665
Rasetti, F., 1945, J. Pal., vol. 19, No. 5, p. 474, pl. 62, fig. 14.
Levis conglomerate, Upper Cambrian, Levis, Quebec.

Tomagnostus fissus (Lundgren MS; Linnarsson)
Hypotypes 12150–12154
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 76, pl. 7, figs. 1–5.
Middle Cambrian, west shore Chapel Arm, Trinity Bay and west bank Manuels River, Conception Bay, Newfoundland.

Tomagnostus perrugatus (Groenwall)
Hypotypes 12155–12158
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 77, pl. 7, figs. 6–9.
Middle Cambrian, north shore Highland Cove and first small bay east of tip of McLeod Point, Trinity Bay, Newfoundland.

Triangulaspis vigilans (Matthew)
Hypotypes 12083, 12084
Hutchinson, R.D., 1962, Geol. Surv., Canada, Bull. 88, p. 63, pl. 3, figs. 10–12.
Lower Cambrian, small quarry about 1 1/2 miles south of Manuels Station and Brigus South Point, Conception Bay, Newfoundland.

Tricrepicephalus murphyi Kindle
Holotype 9456; paratype 9457
Kindle, C.H., 1948, Am. J. Sci., vol. 246, p. 448, pl. 1, figs. 2, 3.
Upper Cambrian, Murphy Creek, Gaspé, Quebec.

Tricrepicephalus rusticus Kindle
Holotype 9458; paratype 9459
Kindle, C.H., 1948, Am. J. Sci., vol. 246, p. 447, pl. 1, figs. 4, 6.
Upper Cambrian, Murphy Creek, Gaspé, Quebec.

Tricrepicephalus sp.
Fig. specs. 16853, 16854
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 8, pl. 2, figs. 3, 7.
Lynx Formation, about 850 feet above base, Upper Cambrian, near Snake Indian River, Jasper Park, Alberta.

Trilobite pygidium. genus undetermined
Fig. spec. 11205
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 105, pl. 7, fig. 13.
MacMullin Formation, Middle Cambrian, east bank Indian River, 9/10 mile below mouth of Dugald Brook, Cape Breton Island, Nova Scotia.

Trilobites [*Olenoides serratus* (Rominger)]
Hypotype 15174
Baird, D.M.,
1960, "A Guide to Geology", Dept. Northern Affairs and National Res., National Parks Br., p. 22.
1962, Geol. Surv., Canada, Misc. Rept. 4, p. 43.
Norford, B.S., 1962, ibid., Paper 62–14, p. 8, pl. 2, fig. 13.
Middle Cambrian, Yoho National Park, British Columbia.

Triplagnostus cf. *lomondensis* Howell
Hypotype 11105
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 70, pl. 1, fig. 5.
Trout Brook Formation, Middle Cambrian, Canoe Lake Brook, Cape Breton Island, Nova Scotia.

Undetermined pygidium No. 1
Fig. spec. 13546
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 960, pl. 120, fig. 12.
Mount Whyte Formation, Middle Cambrian, beds W7f, Mount Field, British Columbia.

Undetermined pygidium No. 2
Fig. spec. 13572
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 967, pl. 120, fig. 16.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Undetermined pygidium No. 3
Fig. spec. 13573
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 967, pl. 120, fig. 17.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Undetermined pygidium No. 4
Fig. spec. 13574
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 867, pl. 120, fig. 18.
Mount Whyte Formation, Middle Cambrian, beds W28fg, Mount Field, British Columbia.

Undetermined pygidium No. 5
Fig. specs. 13575, a, 13576
Rasetti, F., 1957, J. Pal., vol. 31, No. 5, p. 967, pl. 120, figs. 19–21.
Mount Whyte Formation, Middle Cambrian, beds W7ef, Mount Field, British Columbia.

Vanuxemella nortia Walcott
Hypotype 16865
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 8, pl. 2, fig. 10.
Ross Lake Shale, Middle Cambrian, near Ross Lake, Banff Park, Alberta.

Wilbernia(?) *hunterensis* Kobayashi
Holotype 11978
Kobayashi, T., 1938, Jap. J. Geol. Geog., vol. 15, Nos. 3–4, p. 189, pl. 15, fig. 5.
McKay Group, Upper Cambrian, Mount Hunter, British Columbia.

Yukonaspis kindlei Kobayashi
Holotype 8718; paratypes 8718a, b
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 164, pl. 21, figs. 3–6.
Upper Cambrian (?), Squaw Mountain north of Tatonduk River, Yukon-Alaska boundary.

Zacanthoides cf. *Z. cnopus* Walcott
Hypotypes 16867–16869
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62–14, p. 8, pl. 2, figs. 15–17.
Middle Cambrian, Windsor Mountain, southwest Alberta.

Ordovician-Carboniferous

Achatella achates see *Dalmanites achates*

Achatella billingsi Sinclair
Holotype 13275
Sinclair, G.W., 1944, Trans. Roy. Can. Inst., vol. 25, pt. 1, No. 53, p. 17, pl. 1, figs. 1, 2.
Middle Trenton, Middle Ordovician, old quarry just north and east of Lakefield, Ontario.

Achatella sp.
Fig. spec. 8878
Cooper, G.A., and Kindle C.H., 1936, J. Pal., vol. 10, No. 5, p. 371, pl. 53, fig. 30.
Whitehead Formation, Upper Ordovician, Priest's Road, Percé, Quebec.

Acidaspis horani Billings
Holotype 1785
Billings, E., 1857, Geol. Surv., Canada, Rept. Prog. 1853–56, p. 341.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 190, fig. 190.
Middle Ordovician, near Cape Tourment, Quebec.

Acidaspis perarmata Whiteaves
Holotype 5813
Whiteaves, J.F.,
1891, Can. Rec. Sci., vol. 4, p. 300, pl. 3, fig. 6.
1906, Geol. Surv., Canada, Palaeoz. Fossils, vol. 3, pt. 4, p. 289, pl. 42, fig. 3.
Stearn, C.W., 1956, ibid., Mem. 281, p. 123, pl. 16, fig. 9.
Middle Silurian [Interlake Group], Long Point, east shore Lake Winnipegosis, Manitoba.

Acrolichas jukesii see *Lichas jukesii*

Agnostus fabius Billings
Syntypes 704, a–g,
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 298, fig. 289 [704c, d, g].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 298, fig. 289.
Middle Ordovician, 4 miles northeast of Portland Creek, Newfoundland.

Agnostus galba Billings
Syntypes 689, a–e
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 297, fig. 288 [689, b, e].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 297, fig. 288.
Middle Ordovician, Table Head, Newfoundland.

Agnostus subobesus Kobayashi
Syntypes 8717, a
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 161, pl. 21, figs. 1, 2.
Upper Cambrian or Lower Ordovician, Jones Ridge north of Tatonduk River, Yukon-Alaska boundary.
=*Geragnostus subobesus*, Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 474.

Amechilus tuberculatus Kobayashi
Holotype 12715
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 459, pl. 6, fig. 11.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Amphilichas? anticostiensis see *Lichas canadensis*

Amphilichas canadensis see *Lichas canadensis*

Amphilichas minganensis see *Lichas minganensis*

Amphilichas shallopensis Twenhofel
Holotype 2546
Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 328, pl. 57, fig. 6.
Jupiter Formation, Middle Silurian, Shallop River, Anticosti Island, Quebec.

Amphion barrandei Billings
Syntypes 681, a–d, 682, a, b
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 288, figs. 277a [681c], b.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 288, figs. 277a, b.
Divisions K-N [Table Head], Middle Ordovician, Point Rich and Table Head, Newfoundland.
=*Pseudomera barrandei*, Holliday, S., 1942, J. Pal., vol. 16, No. 5, p. 474, pl. 73, figs. 8 [681b], 10 [682].
Whittington, H.B., 1961, ibid., vol. 35, No. 5, p. 918, pl. 100, figs. 6, 10 [681a], 7 [681], 8 [lectotype 681b].

Amphion canadensis Billings
Syntype 1094b
Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 381, fig. 12b.
Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 133, fig. 69.
Middle Ordovician [Mingan Formation], Mingan Islands, Quebec.

Amphion canadensis Billings
Hypotype 1094a
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 288, fig. 278.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 288, fig. 278.
Middle Ordovician [Mingan Formation], Mingan Islands, Quebec.
=*Pliomerops canadensis*, Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 70, pl. 11, fig. 18 [syntype].
Whittington, H.B., 1961, J. Pal., vol. 35, No. 5, p. 917, pl. 101, figs. 12, 16.
[*Note:* probably one of the larger specimens noted by Billings in original description.]

Amphion cayleyi see *Amphion* pygidium

Amphion convexus Billings
Syntypes 833, a–d
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 322.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 322.
Lower Ordovician, lot 20, range 6, Stanbridge tp., Quebec.

Amphion julius Billings
Syntypes 680, a, b
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 290, fig. 279 [composite?].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 290, fig. 279.
Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.
=*Colobinion julius*, Whittington, H.B., 1961, J. Pal., vol. 35, No. 5, p. 920, pl. 102, fig. 18 [holotype 680].

Amphion salteri ? Billings
Hypotype 515
Billings, E., 1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 352, fig. 339.
Beekmantown, Lower Ordovician, Oxford tp., Ontario.

Amphion pygidium
Fig. spec. 825, a [mould and cast]
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 322, fig. 29.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 413, fig. 398.
Lower Ordovician(?), Levis, Quebec.
=*Amphion cayleyi*, Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 413, fig. 398.

Amphion westoni Billings
Syntypes 824a, c, f, h, i, k, l
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 321, figs. 307a [824a], b [824f].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 321, figs. 307a, b.
Lower Ordovician, lot 20, range 6, Stanbridge tp., Quebec.
=*Ectenonotus westoni*, Whittington, H.B., 1961, J. Pal., vol. 35, No. 5, p. 915, pl. 99, figs. 1 [lectotype 824a], 2, 3, 6 [824h].

Ampyx inflata Cooper and Kindle
Holotype 8870
Cooper, G.A. and Kindle, C.H., 1936, J. Pal., vol. 10, No. 5, p. 362, pl. 52, fig. 26.
Whitehead Formation, Upper Ordovician, Portage River west of Corner of the Beach, Gaspé, Quebec.

Ampyx laeviusculus Billings
Syntypes 693, a–f
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 295, fig. 285 [693].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 295, fig. 285.
Division N [Table Head], Middle Ordovician, Table Head, Newfoundland.

Ampyx normalis Billings
Syntypes 692, a–l
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 295, fig. 286 [692, a].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 295, fig. 286.
Division P [Cow Head conglomerate], Middle Ordovician, 4 miles northeast of Portland Creek, Newfoundland.

Ampyx rutilius Billings
Holotype 691
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 296.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 296.
Division P [Cow Head conglomerate], Middle Ordovician, 4 miles northeast of Portland Creek, Newfoundland.

Ampyx semicostatus Billings
Syntypes 690, a, b
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 297, fig. 287 [690].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 297, fig. 287.
Middle Ordovician, 4 miles northeast of Portland Creek, Newfoundland.

Ampyx walcotti Kobayashi
Holotype 12731; hypotypes 12732, 12733
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 469, pl. 8, figs. 1–3.
McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Ampyx walcotti var. *stenorachis* Kobayashi
Holotype 12734; paratype 12735
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 470, pl. 8, figs. 4a, b, 5.
McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Ampyx 'a' sp. nov.
Fig. specs. 12736–12738
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 470, pl. 8, figs. 21–23.
McKay Group, Lower Ordovician, south of Whiskey Trail, British Columbia.

Ampyx 'b' sp. nov.
Fig. specs. 12739–12741
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 471, pl. 8, figs. 18–20.
McKay Group, Lower Ordovician, Vermilion Basin, British Columbia.

Apatokephalus canadensis Kobayashi
Holotype 11926; paratype 11927; hypotypes 11928, 11929
Kobayashi, T., 1953, Jap. J. Geol. Geog., vol. 23, p. 52, pl. 3, figs. 1–4.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Apatokephalus canadensis Kobayashi
Hypotype 12620
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 414, pl. 2, fig. 2.
McKay Group, Lower Ordovician, southwest of Harrogate, British Columbia.

Apatolichas jukesi (Billings)
Hypotypes 16300–16315
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Havard, vol. 129, No. 1, p. 106, pl. 32, figs. 6–11; pl. 33, figs. 1–10; pl. 34, figs. 1–10.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.
See *Lichas jukesii*

Arctinurus sp.
Fig. spec. 11059
Steam, C.W., 1956, Geol. Surv., Canada, Mem. 281, p. 123, pl. 12, fig. 3.
Interlake Group, Middle Silurian, west shore Cross Lake, Manitoba.

Asaphellus(?) *canadensis* Kobayashi
Holotype 12664; paratypes 12665, 12666
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 438, pl. 5, figs. 1–3.
McKay Group, Lower Ordovician, southeast of Harrogate, British Columbia.

Asaphellus homfrayi (Salter)
Hypotypes 11191–11196
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 101, pl. 6, figs. 9–11; pl. 7, figs. 1–3.
McLeod Brook Formation, Upper Cambrian or Lower Ordovician, McLeod Brook, Cape Breton Island, Nova Scotia.

Asaphellus(?) *planus* Matthew
Paratypes 7354,a
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 102, pl. 7, figs. 5, 6.
McLeod Brook Formation, Upper Cambrian or Lower Ordovician, McLeod Brook, Cape Breton Island, Nova Scotia.

Asaphid, gen. & sp. indet.
Fig. specs. 12755–12757
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 436, pl. 8, figs. 8, 11, 14.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate and McKay Creek, British Columbia.

Asaphus alacer Billings
Holotype 2179
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 26, fig. 9a.
Upper Ordovician [English Head Formation], Carleton Point, Anticosti Island, Quebec.
=*Brachyaspis alacer*, Raymond, P.E.,
1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 119, pl. 2, fig. 3.
1913, Geol. Surv., Canada, Mus. Bull. 1, pl. 4, fig. 6.
Twenhofel, W.H., 1928, ibid., Mem. 154, p. 323, pl. 57, figs. 10–12.

Asaphus? curiosus Billings
Syntypes 829, a–e
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 318, fig. 305 [829?].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 318, fig. 305.
Lower Ordovician, lot 20, range 6, Stanbridge tp., Quebec.

Asaphus goniurus Billings
Syntypes(?) 830,a,b
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 324.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 415.
Beekmantown, Lower Ordovician, Levis, Quebec.
=*Megalaspis goniurus*, Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 119, pl. 2, fig. 6 [syntype 830].
[*Note:* questionably syntypic as mixed collection attributed to collectors R. Bell and T.C. Weston (1894).]

Asaphus huttoni Billings

Holotype 657

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 271, fig. 256.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 271, fig. 256.

Division N [Table Head], Middle Ordovician, Table Head, Newfoundland.

Asaphus illaenoides Billings

Syntype 832

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 323.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 414.

Levis conglomerate, Lower Ordovician, Levis, Quebec.

=*Symphysurus illaenoides*, Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 120, pl. 3, fig. 5 [the type].

Asaphus morrisii Billings

Syntypes 655a, b, 656, a,c,d,f,g

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 272, fig. 257 [656].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 272, fig. 257.

Middle Ordovician, Table Head, Newfoundland.

Asaphus notans Billings

Holotype 2180

Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 24, fig. 8.

Upper Ordovician [English Head Formation], English Head, Anticosti Island, Quebec.

=*Brachyaspis notans*, Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 118, pl. 1, fig. 1.

Asaphus pelops Billings

Syntypes 831

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 317.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 317.

Lower Ordovician, east side Bedford village, Stanbridge tp., Quebec.

Asaphus platycephalus Stokes

Hypotype 2181

Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 26, fig. 9b.

Upper Ordovician [English Head Formation], English Head, Anticosti Island, Quebec.

=*Brachyaspis altilis*, Raymond, P.E.,

1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 119, pl. 2, figs. 4, 5 [holotype].

1913, Geol. Surv., Canada, Mus. Bull. 1, p. 47, pl. 4, figs. 3, 7.

Asaphus platycephalus Stokes

Hypotype 1788

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 184, fig. 193.

Middle Ordovician [Cobourg? beds], Ottawa, Ontario.

=*Isotelus latus*, Raymond, P.E., 1913, ibid., Mus. Bull. 1, p. 45, pl. 5 [holotype].
Wilson, A.E., 1947, ibid., Bull. 9, p. 25, pl. 6.

Asaphus platycephalus Stokes

Hypotypes 1789, b

Billings, E., 1870, Quart. J. Geol. Soc. London, vol. 26, p. 479, pl. 31, figs. 1 [1789], 2–4 [1789b]; pl. 32, figs. 1, 2 [1789].

Woodward, H.W., 1871, Geol. Mag., vol. 8, p. 291, pl. 8, fig. 1 [1789].

Middle Ordovician [Cobourg? beds], Ottawa, Ontario.

=*Isotelus latus*, Raymond, P.E., 1920, Connecticut Acad. Arts Sci., Mem. 7, p. 34, pl. 10, fig. 1 [1789].

=*Isotelus covingtonensis*, Walcott, C.D., 1924, Smithsonian Misc. Coll., vol. 67, No. 4, p. 134.

=*Isotelus ottawaensis*, Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 26, pl. 3, fig. 5 [paratype 1789b]; pl. 5, figs. 1a, b [holotype 1789].

Basilicus barrandi (Hall)

Hypotype 7749

Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 23, pl. 1, fig. 2.

Leray beds, Ottawa Formation, Middle Ordovician, lot 4, con. 3, Gloucester tp., Ontario.

Bathyurellus abruptus Billings

Syntypes 648, a, b

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 263, fig. 250.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 263, fig. 250.

Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 660, pl. 69, figs. 26, 27 [lectotype 648].

Divisions F, G, H [St. George], Lower Ordovician, Port aux Choix, Newfoundland.

Bathyurellus expansus Billings

Syntypes 844, a–e

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 318, figs. 306a [844a], b [844c].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 318, figs. 306a, b.

Lower Ordovician, lot 20, range 6, Stanbridge tp., Quebec.

Bathyurellus formosus Billings

Syntypes 644, a, 664

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 266.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 266.

Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.

=*Uromystrum formosum*, Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 60, pl. 12, figs. 8, 9 [644a]; pl. 13, figs. 1, 2, 4 [lectotype 664].

=*Uromystrum patulum*, Whittington, H.B., 1963, ibid., p. 61 [644].

Bathyurellus fraternus Billings

Syntypes 643,a

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 267, figs. 251a [643], b [643a].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 267, figs. 251a, b.

Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.

=*Uromystrum fraternum*, Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 58, pl. 12, figs. 1–3 [lectotype 643], 7, 10 [643a].

Bathyurellus litoreus Billings
Syntypes 843, a–d
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 320.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 320.
Lower Ordovician, Levis, Quebec.

Bathyurellus marginatus Billings
Syntypes 646, a, 647
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 264, figs. 248 [646], 249 [647].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 264, figs. 248, 249.
Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 661, [lectotype 646; paratypes 646a, 647].
Divisions F, G, H [St. George], Lower Ordovician, Keppel Island and Port aux Choix, Newfoundland.

Bathyurellus nitidus Billings
Syntypes 645, a–g
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 265, fig. 249 [composite 645c, e].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 265, fig. 249.
Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 661, pl. 67, figs. 9, 13–15; text figs. 4a, b [lectotype 645b, e; paratypes 645, a, c, d, f, g].
Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.

Bathyurellus nitidus Billings
Hypotypes 16190–16199
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 55, pl. 10, figs. 8, 9, 11, 12, 14–17; pl. 11, figs. 1–12, 14, 15.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Bathyurellus rarus Billings
Holotype 845
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 320.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 320.
Lower Ordovician, Levis, Quebec.

Bathyurellus validus Billings
Syntype 642
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 268.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 268.
Division L [Table Head], Middle Ordovician, Point Rich, Newfoundland.
=*Uromystrum validum*, Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 659, pl. 67, figs. 1, 2, 4 [lectotype 642].

Bathyurus acutus Raymond
Holotype 7821; paratypes 7821a–d
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 56, pl. 7, fig. 4.
Wilson, A.E., 1947, ibid., Bull. 9, p. 16, pl. 2, figs. 1a, b [7821d], 2 [7821].
Pamelia beds, Lower Ordovician, CPR cut at Westboro, Ottawa, Ontario.

Bathyurus amplimarginatus Billings

Syntypes 517, a

Billings, E.,

1859, Can. Naturalist Geol., vol. 4, p. 365, figs. 12a, b.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 353, fig. 341a.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 122, fig. 41.

Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 71, pl. 10, fig. 13 [517].

Lower Ordovician [Romaine Formation], Mingan Islands, Quebec.

Bathyurus angelini Billings

Syntypes 1084, a–c

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 467, fig. 37 [1084c].

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 133, fig. 68.

Raymond, P.E., 1905, Annals Carnegie Mus., vol. 3, No. 2, p. 335, pl. 10, figs. 11 [1084], 12 [1084a]; text fig. 1 [the type 1084c].

Lower Ordovician, Grenville, Quebec.

Bathyurus angelini Billings

Hypotypes 7829, 7815, a

Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 55, pl. 7, fig. 5 [7829].

Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 653, pl. 65, fig. 18 [7829].

Beekmantown, Lower Ordovician, Grenville, Argenteuil co., Quebec.

Bathyurus arcuatus Billings

Syntypes 866, a–d

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 205, figs. 189, 190 [866b].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 205, figs. 189, 190.

Lower or Middle Ordovician, boulder at St. Antoine de Tilly, Quebec.

=*Platyantyx arcuata*, Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 667, pl. 68, figs. 22–29 [holotype 866a; paratypes 866, b–d].

Bathyurus (Raymondites) bandifer Sinclair

Holotype 13249

Sinclair, G.W., 1944, Trans. Roy. Can. Inst., vol. 25, pt. 1, No. 53, p. 17, pl. 1, fig. 12.

Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 19, pl. 2, fig. 7.

Leray beds, Ottawa Formation, Middle Ordovician, 7 miles west of Cobden, Ontario.

Bathyurus bituberculatus Billings

Syntypes 834, a–e

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 319, fig. 22 [834e].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 410, fig. 391.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 238, fig. 270.

Beekmantown, Lower Ordovician, Levis, Quebec.

=*Lloydia bituberculatus*, Raymond, P.E., 1913, ibid., Mus. Bull. 1, p. 67, pl. 7, fig. 15 [holotype 834e].

Bathyurus caudatus Billings

Holotype 635

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 261, fig. 245.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 261, fig. 245.

Divisions G, H [St. George], Lower Ordovician, Port aux Choix, Newfoundland.

Bathyurus conicus Billings

Holotype 516

Billings, E.,

1859, Can. Naturalist Geol., vol. 4, p. 366, fig. 12c.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 353, fig. 341b.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 122, fig. 42.

Beekmantown, Lower Ordovician, St. Timothy, Beauharnois Canal, Quebec.

=*Hystricurus conicus*, Raymond, P.E., 1913, ibid., Mus. Bull. 1, p. 60, pl. 7, fig. 9.

Bathyurus cordai Billings

Syntype 836c

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 321.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 412.

Lower Ordovician, Levis, Quebec.

Bathyurus cybele Billings

Syntypes 518, a

Billings, E.,

1859, Can. Naturalist Geol., vol. 4, p. 366, fig. 12d [518].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 353, fig. 341c.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 122, fig. 43.

Lower Ordovician [Romaine Formation], Inner Birch Island, Mingan Islands, Quebec.

=*Petigurus cybele*, Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 71, pl. 10, figs. 5 [518], 6 [518a].

Bathyurus extans (Hall)

Hypotypes 7938, a

Wilson, A.E.,

1947, Geol. Surv., Canada, Bull. 9, p. 16, pl. 2, figs. 5, 6.

1957, Can. Field-Naturalist, vol. 70, No. 1, 1956, pl. 4, fig. 13.

Pamelia beds, Ottawa Formation, Middle Ordovician, near L'Orignal, Ontario.

Bathyurus ingalli Raymond

Holotype 4318; hypotypes 3563, a

Raymond, P.E.,

1913, Geol. Surv., Canada, Mus. Bull. 1, p. 57, pl. 7, fig. 7 [4318].

1921, ibid., Mus. Bull. 31, p. 31, pl. 9, figs. 3 [4318], 4 [3563], 5 [3563a].

Wilson, A.E., 1947, ibid., Bull. 9, p. 19, pl. 2, figs. 16–18.

Hull Formation, Middle Ordovician, Kirkfield liftlock, Ontario.

=*Bathyurus (Raymondites) ingalli*, Sinclair, G.W., 1944, Trans. Roy. Can. Inst., vol. 25, pt. 1, No. 53, p. 16, pl. 1, fig. 11.

=*Raymondites ingalli*, Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 654.

Bathyurus (Raymondites) ingalli Raymond

Hypotype 13250

Sinclair, G.W., 1944, Trans. Roy. Can. Inst., vol. 25, pt. 1, No. 53, p. 16, pl. 1, figs. 9, 10.

Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 19, pl. 2, figs. 15a, b.

Leray-Rockland beds, Ottawa Formation, Middle Ordovician, Paquette Rapids, Ottawa River.

Bathyurus johnstoni Raymond

Syntypes 7830, 7831

Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 53, pl. 7, figs. 2 [7831], 3 [7830].

Wilson, A.E., 1947, ibid., Bull. 9, p. 17, pl. 2, figs. 12, 13.

Lowville beds, Middle Ordovician, lot 26, con. 6, Carden tp. and 3 miles north of Coboconk, lot 2, con. 10, Lexton tp., Ontario.

Bathyurus magnus Wilson
Holotype 7744
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 17, pl. 2, fig. 14.
Lowville beds, Ottawa Formation, Middle Ordovician, City View, Ottawa, Ontario.

Bathyurus minganensis Billings
Syntypes 520, a
Billings, E., 1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 353.
Lower Ordovician [Romaine Formation], Mingan Islands, Quebec.

Bathyurus nero Billings
Syntypes 637, a, 750, 8444, a–d
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 260, figs. 243a, b [750], c [637 + 8444].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 260, figs. 243a–c.
Divisions F, G, H [St. George], Lower Ordovician, Port aux Choix, Table Head and Keppel Island, Newfoundland.
=*Petigurus nero*, Raymond, P.E., 1913, ibid., Mus. Bull. 1, p. 59, pl. 7, fig. 8 [holotype 637].
Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 658, pl. 66, figs. 18–20, 23–25; text figs. 3a, b [lectotype 750].

Bathyurus oblongus Billings
Syntypes 840, a
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 321, fig. 25 [840].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 412, fig. 394.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 238, fig. 268.
Lower Ordovician, Levis, Quebec.

Bathyurus perplexus Billings
Holotype 632
Billings, E., 1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 364, fig. 350.
Middle ? Ordovician, Bonne Bay, Newfoundland.

Bathyurus perspicator Billings
Holotype 847
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 205, fig. 191.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 205, fig. 191.
Lower or Middle Ordovician, boulder at St. Antoine de Tilly, Quebec.
=*Goniotelus perspicator*, Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 662, pl. 68, figs. 1, 2.

Bathyurus quadratus Billings
Holotype (?) 862b
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 321, fig. 27.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 412, fig. 396.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 238, fig. 272.
Lower Ordovician, Levis, Quebec.

Bathyurus saffordi Billings

Syntypes 842, a–l

Billings, E.,

1860, Can. Naturalist Geol., vol. 5, p. 320.

1861, ibid., vol. 6, p. 313, fig. 2 [842].

1865, "New Species of Lower Silurian Fossils", p. 259, fig. 241b.

1865, Geological Survey of Canada, Palaeoz. Fossils, vol. 1, p. 259, fig. 241b.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 239, fig. 274b [842].

Lower Ordovician, Levis, Quebec.

=*Lloydia saffordi*, Raymond, P.E., 1913, ibid., Mus. Bull. 1, p. 67, pl. 7, fig. 16 [842].

Bathyurus smithii Billings

Holotype 1318

Billings, E.,

1862, "New Species of Lower Silurian Fossils", p. 56.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 56.

Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 153, fig. 114a.

Black River, Middle Ordovician, Peterborough, Ontario.

=*Dimeropyge smithii*, Sinclair, G.W., 1946, Am. J. Sci., vol. 244, p. 855, pl. 1, fig. 7.

Bathyurus spiniger (Hall)

Hypotype 7747

Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 20, pl. 2, fig. 3.

Leray beds, Ottawa Formation, Middle Ordovician, edge of hill above Sand Point, Ottawa River, Ontario.

Bathyurus strenuus Billings

Syntypes 839, a

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 204, fig. 188 [839a].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 204, fig. 188.

Lower or Middle Ordovician, boulder at St. Antoine de Tilly, Quebec.

=*Psephosthenaspis strenua*, Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 674, pl. 67, figs. 19, 20, 25 [lectotype 839a; paratype 839].

Bathyurus superbus Raymond

Syntypes 7422, a

Raymond, P.E., 1910, Ottawa Naturalist, vol. 24, No. 8, p. 129, pl. 2, figs. 1[7422], 2 [7422a].

Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 18, pl. 2, figs. 10, 11.

Black River, Middle Ordovician, Mechanicsville, Ottawa, Ontario.

Bathyurus timon Billings

Syntypes 636, a–c

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 261, fig. 244 [636].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 261, fig. 244.

Divisions G, H [St. George], Lower Ordovician, Port aux Choix, Newfoundland.

Bathyurus trispinosus Wilson

Holotype 11304; paratype 11304a

Wilson, A.E.,

1947, Geol. Surv., Canada, Bull. 9, p. 21, pl. 2, figs. 8 [11304a], 9 [11304].

1957, Can. Field-Naturalist, vol. 70, No. 1, 1956, pl. 4, fig. 12.

Leray-Rockland beds, Ottawa Formation, Middle Ordovician, east of Pakenham, Ontario.

Bathyurus sp.
Fig. spec. 7833
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 53, pl. 7, fig. 6.
Pamelia Formation, Middle Ordovician, 3 miles west of Clayton, New York, U.S.A.

Bellefontia (?) aff. *collieana* (Raymond)
Hypotypes 12661, 12662
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 437, pl. 5, figs. 4, 5.
McKay Group, Lower Ordovician, Pinnacle Creek and Harrogate, British Columbia.

Bellefontia platana Kobayashi
Holotype 12657; paratype 12658; hypotypes 12659, 12660
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 436, pl. 3, figs. 2-5.
McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Bellefontia (?) sp.
Fig. spec. 12663
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 437, pl. 5, fig. 6.
McKay Group, Lower Ordovician, Harrogate, British Columbia.

Beltella (?) sp.
Fig. spec. 11142
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 83, pl. 3, fig. 16.
McLeod Brook Formation, Lower Ordovician, McLeod Brook, Cape Breton Island, Nova Scotia.

Brachyaspis alacer see *Asaphus alacer*

Brachyaspis altilis see *Asaphus platycephalus*

Brachyaspis notans see *Asaphus notans*

Bronteus aquilonaris Whiteaves
Syntypes 4416, 17736,a [cast and mould], 17737
Whiteaves, J.F.,
1904, Geol. Surv., Canada, Ann. Rept., n. ser., vol. 14, 1901, p. 58F.
1906, ibid., Palaeoz. Fossils, vol. 3, pt. 4, p. 267, pl. 42, fig. 2 [4416].
Silurian, portage road below and at falls, Ekwan River, Ontario.

Bronteus ekwanensis Whiteaves
Syntypes 4406, 17753, a [cast and mould]
Whiteaves, J.F.,
1904, Geol. Surv., Canada, Ann. Rept., n. ser., vol. 14, 1901, p. 58F.
1906, ibid., Palaeoz. Fossils, vol. 3, pt. 4, p. 266, pl. 42, fig. 1 [4406].
Silurian, rapids below falls (middle and lower), Ekwan River, Ontario.

Bronteus insularis Billings
Holotype 2558
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 66.
Middle Silurian [Chicotte Formation], Southwest Point, Anticosti Island, Quebec.
=*Goldius insularis*, Twenhofel, W.H., 1928, ibid., Mem. 154, p. 327, pl. 54, fig. 9.

Bronteus lunatus Billings
Syntypes 1781, a-c
Billings, E., 1857, Geol. Surv., Canada, Rept. Prog. 1853-56, p. 338.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 188, fig. 187.
Middle Ordovician [Cobourg beds?], Ottawa, Ontario.
=*Goldius lunatus*, Raymond, P.E., 1921, ibid., Mus. Bull. 31, p. 32, pl. 9, fig. 8 [1781c].
=*Eobronteus lunatus*, Wilson, A.E., 1947, ibid., Bull. 9, p. 38, pl. 8, figs. 10 [holotype 1781], 11 [1781a].
Sinclair, G.W., 1949, J. Pal., vol. 23, No. 1, p. 52, pl. 14, figs. 2, 6.

Bronteus manitobensis Whiteaves
Syntypes 4108-4110
Whiteaves, J.F., 1892, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 4, p. 347, pl. 46, figs. 5 [4108], 6 [4109], 7 [4110].
Middle Devonian [Winnipegosan Formation], island north of Whiteaves Point and Rowan Island, Dawson Bay, Lake Winnipegosis and Pentamerus Point, Lake Manitoba, Manitoba.

Bronteus pompilius Billings
Syntypes? 3082, a-e
Billings, E., 1869, Proc. Portland (Maine) Soc. Natural Hist., vol. 1, pt. 2, p. 123, pl. 3, fig. 25 [composite].
Chaleur Group [West Point Formation], Middle Silurian, Port Daniel, Chaleur Bay, Quebec.

Bumastus billingsi Raymond and Narraway
Hypotype 331
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 34, pl. 3, fig. 12.
Wilson, A.E., 1947, ibid., Bull. 9, p. 34, pl. 7, fig. 13.
Cobourg ? beds, Middle Ordovician, Ottawa, Ontario.

Bumastus globosus see *Illaenus globosus*

Bumastus indeterminatus (Walcott)
Hypotype 13253
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 34, pl. 7, fig. 12.
Rockland beds, Ottawa Formation, Middle Ordovician, Parkdale Avenue, Ottawa, Ontario.

Bumastus (Bumastoides) milleri see *Illaenus milleri*

Bumastus milleri see *Illaenus milleri*

Bumastus orbicaudatus see *Illaenus orbicaudatus*

Bumastus porrectus Raymond
Hypotypes 7759, 7760
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 35, pl. 7, figs. 7, 8.
Cobourg beds, Ottawa Formation, Middle Ordovician, corners Percy Street and Fifth Avenue, and Booth and Elm Streets, Ottawa, Ontario.

Bumastus porrectus Raymond
Hypotype 13254
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 35, pl. 7, fig. 9.
Hull beds, Ottawa Formation, Middle Ordovician, east side of Fairy lake, Quebec.

Calliops callicephalus (Hall)
Hypotypes 7765, 8009
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 56, pl. 10, figs. 5, 6.
Sherman Fall beds, Ottawa Formation, Middle Ordovician, CPR cut south of Aylmer road and "The Heap", Hull, Quebec.

Calliops narrawayi Okulitch
Hypotype 13261
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 57, pl. 10, fig. 7.
Sherman Fall beds, Ottawa Formation, Middle Ordovician, axe factory, Hull, Quebec.

Calymene intermedia var. *antigonishensis* McLearn
Paratypes 5588-5590
McLearn, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 162, pl. 26, figs. 6, 7, 11.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Calymene tuberculata (Brünnich)
Hypotypes 5584, 5587
McLearn, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 161, pl. 26, figs. 1, 2.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Calymene tuberculosa (Dalman)
Hypotypes 5585, 5586
McLearn, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 161, pl. 26, figs. 3, 4.
Ross Brook Formation, Middle Silurian, Arisaig, Nova Scotia.

Calymene sp. indet.
Fig. spec. 3671
Raymond, P.E., 1921, Geol. Surv., Canada, Mus. Bull. 31, p. 38, pl. 11, fig. 5.
Upper Ordovician, Craigleith, Ontario.

Calyptaulax calderi Wilson
Holotype 11301; paratype 11301a
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 58, pl. 10, figs. 9, 10.
Leary-Rockland beds, Ottawa Formation, Middle Ordovician, east of Pakenham, Ontario.

Calyptaulax sp.
Fig. specs. 16872, 16873
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62-14, p. 12, pl. 4, figs. 1, 7.
Sunblood Formation, Middle Ordovician, Sunblood Mountain, South Nahanni River, District of Mackenzie.

Ceratocephala exigua Whittington
Holotype 16298; paratype 16299
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 103, pl. 31, figs. 18, 21; pl. 32, figs. 1-3.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Ceratocephala goniata Warden
Hypotypes 2990, 7825
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 38.
Middle Silurian [West Point Formation], Gros Morbe (Actenson's Cove) and Port Daniel, Chaleur Bay, Quebec.

Ceraurinus confluens Barton
Holotype 5997
Barton, D.C., 1913, Bull. Mus. Comp. Zoology Harvard, vol. 54, No. 21, p. 555, pl., fig. 3.
Cobourg Formation, Middle Ordovician, Pefferlaw, Ontario.

Ceraurinus elongatus Cooper
Paratype 9077
Cooper, G.A., 1930, Am. J. Sci., ser. 5, vol. 20, p. 384, pl. 5, fig. 14.
Whitehead Formation, Upper Ordovician, Irishtown Road, ¼ mile west of Mountain Road, Quebec.

Ceraurinus icarus see *Cheirurus icarus*

Ceraurinus marginatus Barton
Hypotype 3566
Raymond, P.E., 1921, Geol. Surv., Canada, Bull. 31, p. 37, pl. 11, fig. 6.
Collingwood Formation, Upper Ordovician, Craigleith, Ontario.

Ceraurinus marginatus Barton
Hypotypes 8555a, b
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 248, pl. 46, figs. 6a, b.
Kagawong Formation, Upper Ordovician, 3 miles southwest of Little Current, Manitoulin Island, Ontario.

Ceraurinus marginatus Barton
Hypotype 13259
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 51, pl. 9, fig. 6.
Cobourg beds, Ottawa Formation, Middle Ordovician, Philemon Island, Hull, Quebec.

Ceraurinus pompilius see *Cheirurus pompilius*

Ceraurinus trentonensis Barton
Holotype 5836
Barton, D.C., 1913, Bull. Mus. Comp. Zoology Harvard, vol. 54, No. 21, p. 552, pl., figs. 5, 6.
Basal Trenton, Middle Ordovician, Goat Island, Ontario.

Ceraurus dentatus Raymond and Barton
Holotype 1775 [missing]
Raymond, P.E., and Barton, D.C., 1913, Bull. Mus. Comp. Zoology Harvard, vol. 54, No. 20, p. 534, pl. 2, figs. 4, 5.
Raymond, P.E., 1921, Geol. Surv., Canada, Mus. Bull. 31, p. 35, pl. 11, figs. 7, 8.
Wilson, A.E., 1947, ibid., Bull. 9, p. 49, pl. 9, figs. 2a, b.
Leray-Rockland beds, Middle Ordovician, north of Vankleek Hill, Ontario.

Ceraurus dentatus Raymond and Barton
Hypotypes 1769, b, 8062
Raymond, P.E., 1921, Geol. Surv., Canada, Mus. Bull. 31, p. 35, pl. 10, figs. 1-3.
Cobourg and Hull Formations, Middle Ordovician, Cobourg and Belleville, Ontario.

Ceraurus matranseris Sinclair
Holotype 6801; paratype 7395; hypotype 7712
Sinclair, G.W., 1947, Am. J. Sci., vol. 245, p. 254, pl. 1, figs. 3-6.
Middle Trenton limestone, Middle Ordovician, north of Roberval, Quebec.

Ceraurus numitor (Billings)
Hypotype 2199
Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 333.
English Head Formation, Upper Ordovician, Makasty Bay, Anticosti Island, Quebec.
[Note: specimen collected by T.C. Weston and though very similar to figured specimens of *Cheirurus numitor* collected from English Head by Richardson doubtful if part of original material.]

Ceraurus pleurexanthemus Green
Hypotypes 7763, 11303
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 50, pl. 8, figs. 3, 4.
Leray-Rockland and Cobourg beds, Ottawa Formation, Middle Ordovician, lots 19-24, con. 1, Winchester tp. and near Alfred, Ontario.

Ceraurus sp. 1
Fig. spec. 8874
Cooper, G.A., and Kindle, C.H., 1936, J. Pal., vol. 10, No. 5, p. 370, pl. 53, fig. 27.
Whitehead Formation, Upper Ordovician, Priest's Road, Percé, Quebec.

Ceraurus sp. 2
Fig. spec. 8875
Cooper, G.A., and Kindle C.H., 1936, J. Pal., vol. 10, No. 5, p. 370, pl. 53, fig. 21.
Whitehead Formation, Upper Ordovician, Irishtown Road, Percé, Quebec.

Chasmops anticostiensis Twenhofel
Holotype 2329
Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 336, pl. 60, fig. 3 [labelled 4].
Delo, D.M., 1940, Geol. Soc. Amer., Sp. Paper 29, p. 105, pl. 13, fig. 12.
Ellis Bay Formation, Upper Ordovician, Junction Bay, Anticosti Island, Quebec.

Chasmops? bebryx (Billings)
Hypotype 13262
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 61, pl. 10, fig. 14.
Cobourg beds, Ottawa Formation, Middle Ordovician, Philemon Island, Hull, Quebec.

Chasmops occidentalis Twenhofel
Holotype 2187; paratype 2187a
Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 338, pl. 60, fig. 5 [labelled 2].
Delo, D.M., 1940, Geol. Soc. Amer., Sp. Paper 29, p. 106, pl. 13, fig. 14.
English Head Formation, Upper Ordovician, English Head, Anticosti Island, Quebec.

Cheirurus apollo Billings
Electrotype 865
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 322, fig. 28(?).
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 413, fig. 397(?).
Beekmantown, Lower Ordovician, Levis, Quebec.

Cheirurus eryx Billings
Holotype(?) 864
Billings, E.,
1860, Can. Naturalist Geol., vol. 5, p. 322, fig. 30.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 413, fig. 399.
Logan, W.E., 1863, "Geology of Canada", ibid., Rept. Prog., p. 239, fig. 276.
Beekmantown, Lower Ordovician, Levis, Quebec.

Cheirurus glaucus Billings
Syntypes 850, a
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 323, figs. 308a, b [850].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 323, figs. 308a, b.
Lower Ordovician, lot 20, range 6, Stanbridge tp., Quebec.

Cheirurus icarus Billings
Syntypes 2816, a-c
Billings, E., 1860, Can. Naturalist Geol., vol. 5, p. 67, fig. 11.
Upper Ordovician [Vaureal Formation], Carleton Point, Anticosti Island, Quebec.
=*Ceraurinus icarus*, Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 249, pl. 44, figs. 3a [2186], b [2186b].

Cheirurus mercurius Billings
Syntypes 668, a-f
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 285, fig. 272 [668].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 285, fig. 272.
Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.
=*Cydonocephalus mercurius*, Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Havard, vol. 129, No. 1, p. 102, pl. 30, figs. 11-13 [holotype 668], 19, 20 [668f].
=*Kawina limbata*, Whittington, H.B., 1963, ibid., p. 92 [668b].

Cheirurus numitor see *Ceraurus numitor*

Cheirurus nuperus Billings
Hypotype 2553
Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 333, pl. 54, fig. 7.
Middle Silurian, Chicotte Formation, Southwest Point, Anticosti Island, Quebec.

Cheirurus perforator Billings
Holotype 684
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 287, fig. 275.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 287, fig. 275.
Division N [Table Head], Middle Ordovician, Table Head, Newfoundland.

Cheirurus polydorus Billings
Syntypes 685, a-c
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 286.
1865, Geol. Surv., Canada, Palaeoz. Fossils", vol. 1, p. 286.
Division P, Middle Ordovician, Portland Creek, Newfoundland.
≠*Cheirurus" polydorus*, Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 85, pl. 25, fig. 10.

Cheirurus pompilius Billings
Holotype 1317
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 181, fig. 162.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 181, fig. 162.
Middle Ordovician [Mingan Formation], south side of Large Island, Mingan Islands, Quebec.
=*Ceraurinus pompilius*, Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 75, pl. 11, fig. 19.

Cheirurus prolificus Billings
Syntypes 687, a-n
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 285, fig. 273 [687].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 285, fig. 273.
Division P [Cow Head conglomerate], Middle Ordovician, Cow Head Newfoundland.
=*Cydonocephalus prolificus*, Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 101, pl. 29, figs. 16, 17 [holotype 687].

Cheirurus satyrus Billings
Holotype 1087
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 324, fig. 309.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 324, fig. 309.
Lower? Ordovician, Island of Montreal, Quebec.

Cheirurus sol Billings
Syntype 683
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 288, fig. 276(?).
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 288, fig. 276(?).
Middle Ordovician, 4 miles northeast of Portland Creek, Newfoundland.
=*Heliomera sol*, Evitt, W.R., 1951, J. Pal., vol. 25, No. 5, p. 603, pl. 85, figs. 24-29 [plaster cast of lectotype].

Cheirurus solitarius Billings
Holotype 852
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 206,
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 206.
Lower or Middle Ordovician, boulder at St. Antoine de Tilly, Quebec.
=*Idiorhapha solitaria*, Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 675, pl. 69, figs. 14, 15.

Cheirurus tarquinius Billings
Syntypes 3081, a-d
Billings, E., 1869, Proc. Portland Soc. Natural Hist., vol. 1, pt. 2, p. 121.
Raymond, P.E., 1916, Bull. Mus. Comp. Zool. Harvard, vol. 60, No. 1, p. 38 [the type 3081].
Middle Silurian, Port Daniel, Chaleur Bay, Quebec.

Cheirurus vulcanus Billings
Syntypes 669, a-c
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 284, figs. 271a [669], b [669c?], c [669b].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 284, figs. 271a-c.
Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.
=*Kawina limbata*, Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 92, pl. 25, figs. 9, 11, 12 [669c].
=*Kawina vulcanus*, Whittington, H.B., 1963, ibid., p. 91, pl. 25, figs. 7, 8 [lectotype 669].
=*?Kawina* sp. ind., Whittington, H.B., 1963, ibid., p. 95, pl. 31, fig. 1 [669b].

Cheirurus vulcanus Billings
Hypotypes 851, c
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 324, figs. 310a, b [851], c [851c].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 324, figs. 310a-c.
Lower Ordovician, lot 20, range 6, Stanbridge tp., Quebec.
=*Pseudosphaeroxochus vulcanus* var. *billingsi*, Raymond, P.E., 1905, Annals Carnegie Mus., vol. 3, No. 2, p. 369.

Clelandia(?) sp.
Fig. spec. 12711
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 456, pl. 6, figs. 5a, b.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Colobinion julius (Billings)
Hypotypes 16140-16144
Whittington, H.B., 1961, J. Pal., vol. 35, No. 5, p. 920, pl. 102, figs. 1-3, 6-17.
Upper Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Columbicephalus macrops Kobayashi
Holotype 12686
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 444, pl. 5, figs. 7a, b.
Glenogle Formation, Lower Ordovician, Vermilion Basin, British Columbia.

Cryptolithus bellulus (Ulrich)
Hypotypes 6780, a
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 237, pl. 43, figs. 19 [6780], 20 [6780a].
Upper Ordovician, Yamaska River, 1½ miles below St. Hugues, Quebec.

Cryptolithus lorettensis Foerste
Hypotype 10790
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 236, pl. 43, figs. 15, 16.
Trenton, Middle Ordovician, Falls of Lorette, near Quebec City, Quebec.

Cryptolithus sp.
Fig. spec. 1773
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 236, pl. 43, fig. 17.
Trenton, Middle Ordovician, Montmorency Falls near Quebec City, Quebec.

Cryptolithus sp.
Hypotypes 1753, a
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 236.
'Trenton', Middle Ordovician, Montreal, Quebec.

Cybele spicata Raymond
Holotype 3564
Raymond, P.E., 1921, Geol. Surv., Canada, Mus. Bull. 31, p. 34, pl. 11, fig. 1.
Collingwood Formation, Upper Ordovician, Craigleith, Ontario.

Cybeloides plana Sinclair
Holotype 13258
Sinclair, G.W., 1944, Trans. Roy. Can. Inst., vol. 25, pt. 1, No. 53, p. 19, pl. 1, fig. 8.
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 46, pl. 10, fig. 3.
Sherman Fall beds, Middle Ordovician, quarry 1 mile west of Finch, Ontario.

Cybeloides sp.
Fig. spec. 16874
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62-14, p. 12, pl. 4, fig. 2.
Sunblood Formation, Middle Ordovician, Sunblood Mountain, South Nahanni River, District of Mackenzie.

Cyclognathus rotundifrons Matthew
Hypotypes 11173-11175
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 94, pl. 5, figs. 7-9.
McLeod Brook Formation, Lower Ordovician, McLeod Brook, Cape Breton Island, Nova Scotia.

Cyclopyge kindlei Cooper
Holotype 9076
Cooper, G.A., 1930, Am. J. Sci., ser. 5, vol. 20, p. 378, pl. 5, figs. 2022.
Whitehead Formation, Upper Ordovician, South Cove, Percé, Quebec.

Cydonocephalus griphus Whittington
Holotype 16272; paratypes 16273, 16274, 16276
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 98, pl. 27, figs. 3, 7, 10-15, 19; pl. 28, figs. 1-4.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Cydonocephalus mercurius see *Cheirurus mercurius*

Cydonocephalus prolificus (Billings)
Hypotypes 16283-16286
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 101, pl. 28, figs. 12-15; pl. 30, figs. 1-10.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Cydonocephalus prominulus Whittington
Holotype 16287; paratype 16288
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 103, pl. 30, figs. 14-18, 21.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Cydonocephalus scrobiculus Whittington
Holotype 16280; paratypes 16281, 16282
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 101, pl. 28, figs 9-11; pl. 29, figs. 8, 10-15.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Cydonocephalus torulus Whittington
Holotype 16277; paratypes 16275, 16278, 16279, 16320
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 100, pl. 27, figs. 16-18; pl. 28, figs. 5-8; pl. 29, figs. 1-7, 9; pl. 26, figs. 1-4, 6.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Cyphaspis bellula Whiteaves
Syntypes 4104, a, 4105, 4106, a-c
Whiteaves, J.F., 1892, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 4, p. 349, pl. 46, figs. 9, a [4106].
Middle Devonian [Winnipegosan Formation], Islands north of Whiteaves Point, Dawson Bay, Lake Winnipegosis, Manitoba.

Dalmanites achates Billings
Syntype 1784
Billings, E., 1860, Can. Naturalist Geol., vol. 5, p. 63, fig. 9.
Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 187, fig. 186.
Middle Ordovician [Cobourg? beds], Ottawa, Ontario.
=*Achatella achates*, Wilson, A.E., 1967, ibid., Bull. 9, p. 60, pl. 10, fig. 16 [holotype].

Dalmanites limulurus Green
Hypotype 2751
Williams, M.Y., 1919, Geol. Surv., Canada, Mem. 111, pl. 21, fig. 2.
Lockport Formation, Middle Silurian, West Flamborough, Wentworth co., Ontario.

Dalmanitina logani (Hall)
Hypotypes 5998, 6210, 6211
McLearn, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 167, pl. 27, figs. 3-5.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.
=*Scotiella logani*, Delo, D.M., 1940, Geol. Soc. Amer., Sp. Paper 29, p. 33.

Dalmanitina logani var. *conservatrix* McLearn
Paratype 5999
McLearn, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 168, pl. 27, fig. 2.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.
=*Scotiella logani* var. *conservatrix*, Delo, D.M., 1940, Geol. Soc. Amer., Sp. Paper 29, p. 34, pl. 2, fig. 18.

Dechenella (Basidechenella) formosensis Fagerstrom
Paratype 14756
Fagerstrom, J.A., 1961, J. Pal., vol. 35, No. 1, p. 42, pl. 14, fig. 5.
Formosa reef limestone, Middle Devonian, outcrop south side of road 6 miles southeast of Teeswater, lot 5, con. 3, Carrie tp., Ontario.

Dechenella (Dechenella) (?) halli Stumm
Hypotype 14758
Fagerstrom, J.A., 1961, J. Pal., vol. 35, No. 1, p. 42, pl. 14, fig. 19.
Formosa reef limestone, Middle Devonian, north side outcrop nearest west road, Falls of Teeswater River, Ontario.

Dikelocephalus missisquoi Billings
Holotype 878
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 199.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 199.
Beekmantown, Lower Ordovician, Philipsburg, Quebec.

Dimeropyge gibbus Sinclair
Paratype 6701
Sinclair, G.W., 1946, Am. J. Sci., vol. 244, p. 856, pl. 1, fig. 4.
Sherman Fall limestone, Middle Ordovician, Lakefield, Ontario.

Dimeropyge lucifer Sinclair
Holotype 6726; paratype 6726a
Sinclair, G.W., 1946, Am. J. Sci., vol. 244, p. 858, pl. 1, figs. 5, 6.
Middle Trenton, Middle Ordovician, 1 mile north of Roberval, Quebec.

Dimeropyge smithii see *Bathyurus smithii*

Dimeropygid cephalon, gen. ind.
Fig. spec. 16160
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 50, pl. 6, figs. 10-12.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Dimeropygiella eos Kobayashi
Holotype 12712
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 456, pl. 6, fig. 10.
McKay Group, Lower Ordovician, south of Whiskey Trail, British Columbia.

Dolichometopus ? convexus Billings
Holotype 718
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 269, fig. 253.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 269, fig. 253.
Division G [St. George], Lower Ordovician, Port aux Choix, Newfoundland.

Dolichometopus ? gibberulus Billings
Holotype 660
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 269, fig. 254.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 269, fig. 254.
Division G [St. George], Lower Ordovician, Port au Choix, Newfoundland.

Dolichometopus ? rarus Billings
Holotype 514
Billings, E., 1865, Geol. Surv., Canada. Palaeoz. Fossils, vol. 1, p. 352, fig. 338.
Lower Ordovician, Oxford tp., Ontario.

Echinolichas parallelobatus Fagerstrom
Paratype 14759
Fagerstrom, J.A., 1961, J. Pal., vol. 35, No. 1, p. 43.
Formosa reef limestone, Middle Devonian, road-cut 2 miles north of Formosa, Ontario.

Ectenonotus westoni see *Amphion westoni*

Ectenonotus sp.
Fig. specs. 16134, 16135
Whittington, H.B., 1961, J. Pal., vol. 35, No. 5, p. 917, pl. 100, figs. 1-5.
Upper Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Encrinurus caplanensis Northrop
Syntypes 9158
Northrop, S.A., 1939, Geol. Soc. Amer., Sp. Paper 21, p. 239, pl. 26, figs. 13-15.
Clemville Formation, Middle Silurian, St. Alphonse-de-la Rivière Caplan, Gaspé, Quebec.

Encrinurus cybeleformis Raymond
Holotype 3385
Raymond, P.E., 1921, Geol. Surv., Canada, Mus. Bull. 31, p. 33, pl. 11, fig. 2.
Wilson, A.E., 1947, ibid., Bull. 9, p. 44, pl. 8, fig. 6.
Rockland Formation, Middle Ordovician, 1 mile west of Kirkfield liftlock, Ontario.

Encrinurus elegantulus Billings
Syntypes 2551 [on same piece of rock]
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 62.
Middle Silurian [Jupiter Formation], The Jumpers, Anticosti Island, Quebec.

Encrinurus hypoleprus Steam
Holotype 11062; paratypes 11040, 11050
Steam, C.W., 1956, Geol. Surv., Canada, Mem. 281, p. 122, pl. 12, figs. 1, 2, 4.
Interlake Group, Middle Silurian, south bank Saskatchewan River and east side of bay behind and at Denbeigh Point, Lake Winnipegosis, Manitoba.

Encrinurus laurentinus Twenhofel
Holotype 2325e; paratype 2325
Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 328, pl. 59, figs. 2, 3.
Ellis Bay Formation, Upper Ordovician, Junction Cliff, Anticosti Island, Quebec.

Encrinurus mirus Billings
Syntypes 697, a-c, 698, a-c
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 292, fig. 282.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 292, fig. 282 [697, 698a].
Middle Ordovician, Pistolet Bay and Table Head, Newfoundland.
=*Cybele mira*, Howell, B.J., 1947, Bull. Wagner Free Inst. Sci., vol. 22, No. 2, p. 12, pl. 1, figs. 1, 2.

Encrinurus cf. *princeps* Poulsen
Hypotypes 15405-15407
Raasch, G.O. *et al.*, 1961, "Geology of the Arctic", vol. 1, p. 478, pl. 5, figs. 1-3.
Middle Silurian, Prong Creek, Wind River area, lat. 65°17'N, long. 135° 45'W, central Yukon.

Encrinurus cf. *E. princeps* Poulsen
Hypotype 16903
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62-14, p. 20, pl. 8, fig. 14.
Silurian, lat. 64°47'N, long. 135°07'W, Yukon Territory.

Encrinurus trentonensis Walcott
Hypotype 13257
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 45, pl. 8, fig. 5.
Rockland beds, Ottawa Formation, Middle Ordovician, south of Embrun, Ontario.

Endymion meeki Billings
Holotype 875
Billings, E.,
1862, "New Species of Lower Silurian Fossils", p. 94, fig. 84.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 94, fig. 84.
Lower Ordovician, Levis, Quebec.
=*Endymionia meeki*, Billings, E., 1865, ibid., p. 281.

Eobronteus benoratus Sinclair
Holotype 9573; paratypes 9573a, b
Sinclair, G.W., 1949, J. Pal., vol. 23, No. 1, p. 47, pl. 14, figs. 3, 5.
Black River limestone, Middle Ordovician, north of Ste. Anne de Chicoutimi, Quebec.

Eobronteus curtus Sinclair
Holotype 9572; paratype 9572a
Sinclair, G.W., 1949, J. Pal., vol. 23, No. 1, p. 50, pl. 13, figs. 1, 2.
Basal Trenton, Middle Ordovician, Riviere Sault à la Puce, County Montmorenci, Quebec.

Eobronteus lunatus see *Bronteus lunatus*

Eobronteus reedi Sinclair
Holotype 11081; paratype 11081a
Sinclair, G.W., 1949, J. Pal., vol. 23, No. 1, p. 51, pl. 14, figs. 7, 9, 10.
Middle Trenton, Middle Ordovician, Cap a l'Aigle, Quebec.

Eoharpes dentoni (Billings)
Hypotypes 1767, 7827
Raymond, P.E.,
1913, Geol. Surv., Canada, Mus. Bull. 1, p. 33, pl. 3, fig. 5 [1767].
1921, ibid., Mus. Bull. 31, p. 30, pl. 9, fig. 6 [not 1781c].
Wilson, A.E., 1947, ibid., Bull. 9, p. 11, pl. 1, figs. 7 [7827], 8 [neotype].
Trenton, Middle Ordovician, Ottawa River, Ottawa, Ontario.

Eoharpes ottawaensis see *Harpes ottawaensis*

Eoharpes ottawaensis var. *anticostiensis* Twenhofel
Syntypes 2196, 2197
Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 321, pl. 56, figs. 2, 3.
English Head Formation, Upper Ordovician, Wreck Point and English Head, Anticosti Island, Quebec.

Eulomella mckayensis Kobayashi

Holotype 12703

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec, 2, vol. 9, pt. 3, p. 451, pl. 6, fig. 3.

McKay Group, Lower Ordovician, north end Steamboat Mountain west of Brisco, British Columbia.

Flexicalymene senaria (Conrad)

Hypotypes 7761, 7762

Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 48, pl. 10, figs. 11a, b, 12.

Rockland and Sherman Fall beds, Ottawa Formation, Middle Ordovician, 4 miles west of L'Orignal and Governor Bay, Ottawa, Ontario.

Geragnostus clusus Whittington

Holotype 16171; paratypes 16172-16175

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 28, pl. 1, figs. 1-17.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Geragnostus aff. *mundus* (Raymond)

Hypotypes 12749, 12750

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 475, pl. 7, fig. 1; pl. 8, fig. 17.

McKay Group, Lower Ordovician, southeast of Sinclair Creek, British Columbia.

Geragnostus subobesus see *Agnostus subobesus*

Glaphurus divisus Whittington

Holotype 16183; paratypes 16184-16187

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 51, pl. 8, figs. 11-14; pl. 9, figs. 1-6, 8.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Goldius insularis see *Bronteus insularis*

Goldius lunatus see *Bronteus lunatus*

Gonioteloides monoceros Kobayashi

Holotype 12697; paratype 12698

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 447, pl. 6, figs. 17a, b, 18a, b.

McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Gonioteloides punctatus Kobayashi

Holotype 12699

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 448, pl. 6, figs. 19a, b.

McKay Group, Lower Ordovician, south of Whiskey Trail, British Columbia.

Goniotelus kindlei Whittington

Holotype 16206; paratypes 16207, 16208

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 63, pl. 14, figs. 3-9.

Cow Head Group, Middle Ordovician, Boulder at Lower Head, Newfoundland.

Goniotelus perspicator (Billings)

Hypotypes 13270-13272

Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 662, pl. 68, figs. 3, 4, 6, 8-10.

Lower or Middle Ordovician, boulder at St. Antoine de Tilly, Quebec.

Goniotelus perspicator (Billings)
Hypotype 16316
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 63, pl. 35, figs. 2, 5, 7, 9.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Goniotelus rostratus Whittington
Holotype 16209; paratypes 16210, 16211
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 64, pl. 14, figs. 10-12; pl. 15, figs. 1-4, 6.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Goniotelus sp. ind.
Fig. spec. 16212
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 65, pl. 15, figs. 5, 7, 8.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Goniurus elongatus Raymond
Syntypes 7937, a
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 66, pl. 7, figs. 11 [7937], 12 [7937a].
Beekmantown, Lower Ordovician, between Philipsburg and St. Armand, Quebec.

Goniurus perspicator (Billings)
Hypotype 7836
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 65, pl. 7, fig. 10.
Lower or Middle Ordovician, boulder at St. Antoine de Tilley, Quebec.
=*Goniotelus perspicator*, Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 662, pl. 68, figs. 5, 7.

Haploconus smithii (Billings)
Hypotype 7828
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 62, pl. 7, figs. 13, 14.
Sherman Fall limestone, Middle Ordovician, Peterborough, Ontario.
=*Dimeropyge gibbus*, Sinclair, G.W., 1946, Am. J. Sci., vol. 244, p. 856, pl. 1, figs. 1-3 [holotype].

Hardyia metion Walcott
Hypotypes 9377, a
Kindle, C.H., 1929, Can. Field-Naturalist, vol. 43, No. 7, p. 146, figs. 16, 17.
Lower Ordovician, Swift's Ranch, 7 miles north Jasper, British Columbia.

Harpes consuetus Billings
Holotype 2550
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 64.
Twenhofel, W.H., 1928, ibid., Mem. 154, p. 321, pl. 54, fig. 8.
Middle Silurian [Chicotte Formation], Southwest Point, Anticosti Island, Quebec.

Harpes granti Billings
Holotype 874
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 326, fig. 314.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 326, fig. 314.
Beekmantown, Lower Ordovician, lot 20, range 6, Stanbridge tp., Quebec.

Harpes ottawaensis Billings
Holotype 329; paratype 329c
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 182, fig. 165.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 182, fig. 165.
Middle Ordovician [Cobourg beds?], Ottawa, Ontario.
=*Eoharpes ottawaensis*, Raymond, P.E.,
1913, ibid., Mus. Bull. 1, pl. 3, fig. 6.
1921, ibid., Mus. Bull. 31, p. 29, pl. 9, fig. 1.
Wilson, A.E., 1947, ibid., Bull. 9, p. 12, pl. 1, fig. 9.

Harpides atlanticus Billings
Holotype 674
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 281, fig. 267.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 281, fig. 267.
Division P [Cow Head conglomerate], Middle Ordovician, 4 miles northeast of Portland Creek, Newfoundland.

Harpides concentricus Billings
Holotype 672
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 282, fig. 268.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 282, fig. 268.
Division P [Cow Head conglomerate], Middle Ordovician, 4 miles northeast of Portland Creek, Newfoundland.

Harpides? desertus Billings
Holotype 873
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 333, fig. 321.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 333, fig. 321.
Beekmantown, Lower Ordovician, Bedford, Quebec.

Harpillaenus arcuatus (Billings)
Hypotypes 16242-16250
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 78, pl. 20, figs. 13, 15, 16; pl. 21, figs. 4-15.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Heliomera albata Whittington
Holotype 16259; paratypes 16258, 16260-16262
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 86, pl. 24, figs. 1-13.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Heliomera sol see *Cheirurus sol*

Heliomerinid pygidium
Fig. spec. 16265
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 86, pl. 25, fig. 3.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Heliomeroides alacer Whittington
Holotype 16263; paratype 16264
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 88, pl. 24, figs. 14-16; pl. 25, figs. 1, 2, 4-6.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Hemiarges aeolus Sinclair
Holotype 13276
Sinclair, G.W., 1944, Trans. Roy. Can. Inst., vol. 25, No. 1, p. 19, pl. 1, figs. 5-7.
Middle Trenton, Middle Ordovician, Lakefield, Ontario.

Hemiarges aquilonius Whittington
Holotype 15242; paratypes 15243-15246; hypotypes 15247-15265
Whittington, H.B., 1961, J. Pal., vol. 35, No. 3, p. 439, pl. 56, figs. 1-34; pl. 57, figs. 1-28.
Member C, Read Bay Formation, Upper Silurian, near Cape Hotham, Cornwallis Island, Arctic.

Hemiarges paulianus (Clarke)
Hypotype 3741
Raymond, P.E., 1921, Geol. Surv., Canada, Mus. Bull. 31, p. 32, pl. 9, fig. 2.
Hull Formation, Middle Ordovician, Kirkfield liftlock, Ontario.

Hemiarges paulianus (Clarke)
Hypotypes 11302, 13256
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 42, pl. 8, figs. 7, 8.
Sherman Fall and Cobourg beds, Ottawa Formation, Middle Ordovician, Brewery Creek and Philemon Island, Hull, Quebec.

Hemigyraspis sp.
Fig. spec. 7820
Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 120, pl. 3, fig. 7.
Lower Ordovician, 3 miles east of Golden in Kicking Horse Pass, British Columbia.
=*Hemigyraspis mcconnelli*, Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 41, pl. 4, fig. 4.

Holasaphus moorei Raymond
Holotype 7823; paratypes 7823a-g
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 35, pl. 3, figs. 7 [7823c], 8 [7823e], 9 [7823d], 10 [7823a], 11 [holotype 7823].
Beauharnois Formation, Lower Ordovician, near CPR station at St. Anne de Bellevue, Quebec.

Holometopus angelini Billings
Syntype 872
Billings, E.,
1862, "New Species of Lower Silurian Fossils", p. 95, figs. 85a, b.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 95, figs. 85a, b.
Lower Ordovician, Levis, Quebec.

Holotrachelus inexpectans Cooper
Holotype 9075
Cooper, G.A., 1930, Am. J. Sci., ser. 5, vol. 20, p. 374, pl. 4, figs. 19, 20.
Whitehead Formation, Upper Ordovician, Murphy Creek, Percé, Quebec.

Homalonotus knighti Koenig
Hypotype 6209
McLearn, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 163, pl. 26, figs. 12, 13.
Moydart Formation, Upper Silurian, Arisaig, Nova Scotia.

Homotelus? elongatus Raymond
Hypotype 7748
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 22, pl. 1, fig. 5.
Hull beds, Ottawa Formation, Middle Ordovician, Chaudiere Falls, Hull, Quebec.

Hyperagnostus binodosus Kobayashi
Holotype 12747; paratype 12748
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 475, pl. 7, figs. 2, 3.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Hyperbolochilus expansus Kobayashi
Holotype 12636
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 422, pl. 3, fig. 1.
McKay Group, Lower Ordovician, north of Bri sco Trail, British Columbia.

Hystricurus conicus see *Bathyurus conicus*

Hystricurus cf. *genalatus* Ross
Hypotypes 12707, 12708
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 454, pl. 6. figs. 1, 2.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate, British Columbia.

Hystricurus platypleurus Kobayashi
Holotype 12706
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 454, pl. 6, fig. 6.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Hystricurus sp.
Fig. spec. 12709
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 455, pl. 6, fig. 8.
McKay Group, Lower Ordovician, west side McKay Creek, 1 mile north of Sinclair Creek, British Columbia.

Idiorhapha solitaria (Billings)
Hypotype 13274
Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 675, pl. 69, figs. 11-13.
Lower or Middle Ordovician, boulder at St. Antoine de Tilly, Quebec.

Idiorhapha solitaria (Billings)
Hypotype 16317
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 44, pl. 35, figs. 1, 3, 4, 6, 8.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Illaenid hypostome

Fig. spec. 16226

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 72, pl. 18, figs. 4, 7.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Illaenus aboynensis Whiteaves

Syntypes 3015, a, b

Whiteaves, J.F., 1895, Geol. Surv., Canada, Palaeoz. Fossils, vol. 3, pt. 2, p. 108, pl. 15, figs. 7 [3015], 8 [3015a].

Guelph Formation, Middle Silurian, Aboyne near Elora, Ontario,

Illaenus americanus Billings

Hypotypes 7757, 7758

Wilson, A. E., 1947, Geol. Surv., Canada, Bull. 9, p. 31, pl. 7, figs. 3, 4.

Cobourg beds, Ottawa Formation, Middle Ordovician, lots 10-12, con. 3, Roxborough tp. and lots 1-3, con. 8, Cornwall tp., Ontario.

Illaenus angusticollis Billings

Syntypes 1314, a-d

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 376, figs. 10 a-d.

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 151, figs. 113a-d.

Wilson, A.E., 1947, ibid., Bull. 9, p. 32, pl. 7, figs. 10 [holotype 1314b], 11 [paratype 1314d].

Middle Ordovician, St. Joseph Island, Lake Huron, Ontario.

Illaenus arcuatus Billings

Syntypes 661, a-h

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 279, fig. 265 [661b].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 279, fig. 265.

Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.

=*Harpillaenus arcuatus*, Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 78, pl. 21, figs. 1-3 [holotype 661b].

Illaenus bayfieldi Billings

Syntypes 1089, a-c

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 369, figs. 4-6.

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 133, figs. 65a-c.

Raymond, P.E., 1905, Ann. Carnegie Mus., vol. 3, No. 2, p. 348, pl. 13, figs. 11. 12 [1089b?].

Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 68, pl. 11, figs. 11 [1089b], 12, 13 [1089a].

Middle Ordovician [Mingan Formation], Trilobite Bay, Mingan Islands, Quebec.

Illaenus bucculentus Whittington

Holotype 16227; paratypes 16228-16230

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 72, pl. 18, figs. 6, 8-16.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Illaenus clavifrons Billings

Holotype(?) 1323

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 379.

Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 69, pl. 11, fig. 16.

Middle Ordovician [Mingan Formation], Large Island, Mingan Islands, Quebec.

Illaenus conifrons Billings

Syntype 1322

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 378, figs. 11a, b.

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 151, figs. 111a, b.

Middle Ordovician [Mingan Formation], Mingan Islands, Quebec.

=*Thaleops conifrons*, Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 73, pl. 11, fig. 10.

Illaenus conradi Billings

Syntypes 1320, a

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 372, figs. 7-9 [1320a].

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 151, figs. 110a-c.

Wilson, A.E., 1947, ibid., Bull. 9, p. 32, pl. 7, figs. 14, 15 [holotype 132a, paratype 1320].

Middle Ordovician [Leray Beds], La petite Chaudiere, Ottawa River, above Hull, Quebec.

Illaenus consimilis Billings

Syntypes 663, a-c, h-j

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 277, figs. 263a, c [663], b [663h]; p. 331, fig. 317 [663i].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 277, figs. 263a-c; p. 331, fig. 317.

Divisions M, N [Table Head], Middle Ordovician, Table Head, Newfoundland.

Illaenus consobrinus Billings

Syntypes 676, a-e

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 280, figs. 266a, b [676c]; p. 332, figs. 320a, b.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 280, figs. 266a, b; p. 332, figs. 320a, b.

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 71, pl. 17, figs. 1, 2, 4 [holotype 676c].

Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.

Illaenus consobrinus Billings

Hypotypes 16220-16225

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 71, pl. 17, figs. 3, 5-16; pl. 18, figs. 1-3, 5.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Illaenus fraternus Billings

Syntypes 665, a-e

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 276, figs. 262a [665a, e], b [665b].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 276, figs. 262a, b.

Middle Ordovician, Point Rich, Newfoundland.

Illaenus globosus Billings

Syntypes 1090, a, b

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 367, figs. 1-3 [1090b].

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 133, figs. 64a-c.

Middle Ordovician [Mingan Formation], Mingan Islands, Quebec.

=*Bumastus globosus*, Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 67, pl. 11, figs. 14 [1090a], 15 [1090b].

Illaenus grandis Billings

Syntype 2322

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 380.

Middle Silurian(?), Anticosti Island, Quebec.

Illaenus milleri Billings

Syntypes 1319, a-c

Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 375, fig. 10 [1319b].

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 151, fig. 112.

Middle Ordovician [Leary-Rockland beds], near L'Orignal, Ontario.

=*Bumastus milleri*, Wilson, A.E., 1947, ibid., Bull. 9, p. 35, pl. 7, figs. 1a, b [holotype 1319b].

1957, Can. Field-Naturalist vol. 70, No. 1, 1956, pl. 4, fig. 11.

=*Bumastus (Bumastoides) milleri*, Whittington, H.B., *in* Miller, A.K. *et al*, 1954, Geol. Soc. Amer., Mem. 62, p. 138, pl. 62, figs. 16-18, 20 [holotype 1319b], 25 [1319a], 26 [1319c], 29 [1319a].

Illaenus orbicaudatus Billings

Hypotype 2324

Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 27, fig. 10.

Upper Ordovician [Ellis Bay Formation], Ellis Bay, Anticosti Island, Quebec.

=*Bumastus orbicaudatus*, Twenhofel, W.H., 1928, ibid., Mem. 154, p. 322 [holotype 2324].

[*Note:* specimen not primary as collected by T.C. Weston, 1865.]

Illaenus simulator Billings

Syntypes 890, c, d

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 327, figs. 315a, b.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 327, figs. 315a [890d], b [890].

Middle? Ordovician, lot 20, range 6, Stanbridge tp., Quebec.

Illaenus spiculatus Whittington

Holotype 16234; paratypes 16235-16241

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 74, pl. 19, figs. 10-18; pl. 20, figs. 1-12, 14.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Illaenus tumidifrons Billings

Syntypes 662, a-m

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 278, figs. 264a [662, a(?)], b [662k(?)].

1865, Geol. Surv., Canada. Palaeoz. Fossils, vol. 1, p. 278, figs. 264a, b.

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 69, pl. 16, figs. 1-5 [lectotype 662j].

Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.

Illaenus tumidifrons Billings

Hypotypes 16213-16219

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 69, pl. 15, figs. 9-13; pl. 16, figs. 6-16.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Illaenus vindex Billings

Syntype 1088

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 179, figs. 160a, b.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 179, figs. 160a, b.

Middle Ordovician [Mingan Formation], Mingan Islands, Quebec

=*Thaleops conifrons*, Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 73, pl. 11, fig. 9.

Illaenus sp. indet 1 and 2

Fig. specs. 16231-16233

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 73, pl. 19, figs. 1-9.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Ischyrophyma tuberculata Whittington

Holotype 16166; paratypes 16167-16170

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 48, pl. 8, figs. 1-10.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

?Ischyrophyma sp. ind.

Fig. spec. 16161

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 50, pl. 6, figs. 13-16.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Ischyrotoma twenhofeli Raymond

Hypotypes 16162-16165

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 45, pl. 7, figs. 3, 5-13.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Isocolus dysdercus Whittington

Holotype 16153; paratypes 16154-16159

Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 41, pl. 5, figs. 7-10; pl. 6, figs. 1-9, 16.

Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Isoteloides divergens Wilson
Holotype 6604
Wilson, A.E., 1932, Trans. Roy. Soc. Can., ser. 3, vol. 26, sec. 4, p. 385, pl. 3, fig. 4.
Chazy, Middle Ordovician, Barnhart Island core, near Cornwall, Ontario.

Isoteloides homalonotoides (Walcott)
Hypotype 7934
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, pl. 4, fig. 5.
Wilson, A.E., 1947, ibid., Bull. 9, p. 29, pl. 1, fig. 6.
Middle Ordovician, Kirkfield, Ontario.

Isotelus arenicola Raymond
Paratypes 4328, 7423
Raymond, P.E., 1910, Ottawa Naturalist, vol. 24, No. 8, p. 130, pl. 2, fig. 5 [4328], text fig. 1 [7423].
Chazyan, Middle Ordovician, Lake Deschenes, Britannia, Ottawa, Ontario.

Isotelus covingtonensis see *Asaphus platycephalus*

Isotelus gigas DeKay
Hypotype 1786
Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 120, pl. 3, fig. 6.
Trenton, Middle Ordovician, Cobourg, Ontario.

Isotelus gigas DeKay
Hypotype 1798
Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 119, pl. 2, fig. 9.
Ordovician [Red River Formation], Inmost Island, Lake Winnipeg, Manitoba.

Isotelus gigas DeKay
Hypotypes 5591, 7750
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 24, pl. 3, figs. 2a-c, 3.
Hull beds, Ottawa Formation, Middle Ordovician, Hull, Quebec, and below bridge at Plantagenet, Ontario.

Isotelus iowensis (Owen)
Hypotype 13251
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 24, pl. 3, fig. 4.
Leray beds, Ottawa Formation, Middle Ordovician, Mechanicsville, Ottawa, Ontario.

Isotelus latus see *Asaphus platycephalus*

Isotelus maximum Locke
Hypotype 332
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 26, pl. 3, fig. 1.
Cobourg beds?, Ottawa Formation, Middle Ordovician, Ottawa, Ontario.

Isotelus maximus Locke
Hypotype 7935
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 46, pl. 4, fig. 8.
Upper Ordovician, Hawthorne, Ontario.

Isotelus ottawaensis see *Asaphus platycephalus*

Jujuyaspis borealis Kobayashi
Holotype 12727; paratype 12728
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 467, pl. 7, figs. 12, 13a,b.
McKay Group, Lower Ordovician, Steamboat Mountain, west of Brisco, British Columbia.

Kainella flagricauda (White)
Hypotype 11930
Kobayashi, T., 1953, Jap. J. Geol. Geog., vol. 23, p. 45, pl. 3, fig. 5.
McKay Group, Lower Ordovician, 2 miles south of mouth Sinclair Canyon, British Columbia.

Kainella kindlei Kobayashi
Holotype 12619
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 413, pl. 2, fig. 1.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Kainella stenorachis Kobayashi
Holotype 11931; paratype 11932
Kobayashi, T., 1953, Jap. J. Geol. Geog., vol. 23, p. 46, pl. 3, figs. 6, 7.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Kawina arnoldi Whittington
Holotype 16268; paratypes 16269-16271
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 93, pl. 26, figs. 7-9, 11, 12, 14; pl. 27, figs. 1, 2, 4-6, 8, 9.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Kawina limbata Whittington
Holotype 16267
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 92, pl. 26, figs. 4-6, 10.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland
See *Cheirurus mercurius* and *C. vulcanus*

Kawina vulcanus (Billings)
Hypotype 16266
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 91, pl. 26, figs. 1-3, 13; pl. 28, figs. 16-19.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

?*Kawina* sp. ind.
Fig. specs. 16289, 16290
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 95, pl. 31, figs. 2, 3, 6, 7.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.
See *Cheirurus vulcanus*

Kayseraspis (?) euclides (Walcott)
Hypotypes 12670-12674
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 442, pl. 4, figs. 4-8.
McKay Group, Lower Ordovician, Harrogate section, British Columbia.

Kayseraspis (?) euclides (Walcott)
Hypotype 12675
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 442, pl. 4, fig. 9.
McKay Group, Lower Ordovician, north Vermilion Basin, British Columbia.

Kayseraspis (?) euclides (Walcott)
Hypotypes 12676-12678
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 442, pl. 4, figs. 10-12.
McKay Group, Lower Ordovician, headwaters Pinnacle Creek, Brisco Range, British Columbia.

Kayseraspis (?) euclides (Walcott)
Hypotypes 12679-12681
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 442, pl. 5, figs. 8-10.
McKay Group, Lower Ordovician, southeast of Harrogate, British Columbia.

Kayseraspis (?) cf. *euclides* (Walcott)
Hypotypes 12682, 12683
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 442, pl. 5, figs. 22, 23.
McKay Group, Lower Ordovician, west side McKay Creek, 1.5 miles from Sinclair Creek, British Columbia.

Kayseraspis (?) sp.
Fig. specs. 12684, 12685
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 444, pl. 4, figs. 13, 14.
McKay Group, Lower Ordovician, north Vermilion Basin, and Rocky Mountain quartzite, Lower Ordovician, Mount Norquay, British Columbia.

Kirkella cf. *vigilans* (Whittington)
Hypotypes 12687-12693
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 445, pl. 5, figs. 12-17; pl. 8, fig. 6.
McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Kobayashia lanceolata Kobayashi
Holotype 12667; paratype 12668; hypotype 12669.
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 441, pl. 4, figs. 1-3.
McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Lachnostoma (?) sp.
Fig. spec. 12702
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 449, pl. 5, fig. 11.
McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Lehua argus Whittington
Holotype 16255; paratypes 16256, 16257
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 84, pl. 23, figs. 1-9, 11.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Leiostegium quadratum (Billings)
Hypotype 862e
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 68, pl. 7, fig. 17.
Levis conglomerate, Lower Ordovician, Levis, Quebec.

Leiostegium (Evansaspis) glabrum Kobayashi

Holotype 12629; paratype 12631; hypotypes 12630, 12632-12635

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 421, pl. 2, figs. 11-17.

McKay Group, Lower Ordovician, north of Brisco Trail and 1 mile north of Harrogate, British Columbia.

Leonaspis semiglabra Poulsen

Hypotypes 15398-15404

Raasch, G.O. *et al.*, 1961, "Geology of the Arctic", vol. 1, p. 474, pl. 4, figs. 12-18.

Middle Silurian (Road River Formation), Prong Creek, Wind River area, lat. 65°17'N, long. 135°45'W., Yukon Territory.

Lichas canadensis Billings

Holotype 2471; paratype 2471a

Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 65, fig. 22 [2471].

Middle Silurian [Jupiter Formation], East Point, Anticosti Island, Quebec.

=*Amphilichas canadensis*, Twenhofel, W.H., 1928, ibid., Mem. 154, p. 327, pl. 57, fig. 9 [2471].

=*Amphilichas ? anticostiensis*, Northrop, S.A., 1939, Geol. Soc. Amer., Sp. Paper 21, p. 238.

Lichas jukesii Billings

Syntypes 671, a, c-n

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 282, figs. 269a, b.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 282, figs. 269a, b.

Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland.

=*Acrolichas jukesii*, Foerste, A.F., 1920, Am. J. Sci., vol. 49, p. 41, pl. 2, fig. 1B.

=*Apatolichas jukesi*, Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 106, pl. 32, figs. 4, 5 [holotype 671a].

Lichas jukesii Billings

Hypotypes 671b, 887

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 335, figs. 323a [671b], b [887].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 335, figs. 323a, b.

Division P [Cow Head conglomerate], Middle Ordovician, Cow Head, Newfoundland and range 6, lot 20, Stanbridge tp., Quebec.

=*Acrolichas jukesii*, Foerste, A.F., 1920, Am. J. Sci., vol. 49, p. 41, pl. 2, fig. 1A [671b].

Lichas minganensis Billings

Syntypes 1332, a

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 181, figs. 163a [1332], b [1332a].

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 181, figs. 163a, b.

Middle Ordovician [Mingan Formation], south side of Large Island, Mingan Islands, Quebec.

=*Amphilichas minganensis*, Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 75, pl. 10, figs. 10, 11.

Lichas superbus Billings

Syntype 3605

Billings, E., 1874, Can. Naturalist Quart. J. Sci., n. ser., vol. 7, No. 4, p. 239.

Middle Devonian [Onondaga Formation], Cayuga, Ontario.

Lichas (Terataspis) n. sp.
Fig. spec. 4107
Whiteaves, J.F., 1892, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 4, p. 349, pl. 46, fig. 8.
Middle Devonian [Winnipegosan Formation], Rowan Island, Dawson Bay, Lake Winnipegosis, Manitoba.

Licnocephala longa Kobayashi
Holotype 12700; paratype 12701
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 448, pl. 6, fig. 16; pl. 8, fig. 13.
McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Lingukainella robusta Kobayashi
Holotype 11933
Kobayashi, T., 1953, Jap. J. Geol. Geog., vol. 23, p. 48, pl. 3, fig. 8.
McKay Group, Lower Ordovician, south of Whiskey Trail, British Columbia.

Lloydia bituberculatus see *Bathyurus bituberculatus*

Lloydia saffordi (Billings)
Hypotypes 639, a
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 65, pl. 11, figs. 13, 16-18.
Middle Ordovician, Cow Head, Newfoundland.
See *Bathyurus saffordi*

Lloydia sp. indet.
Fig. spec. 716
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, pl. 7, fig. 19.
Lower Ordovician, Levis, Quebec.

Lunacrania trisecta Kobayashi
Holotype 12743
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 472, pl. 7, fig. 8.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate, British Columbia.

Macroculites enigmaticus Kobayashi
Holotype 12716
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 461, pl. 6, fig. 14.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate, British Columbia.

Macroculites (?) sp.
Fig. spec. 12717
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 462, pl. 6, figs. 15a, b.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate, British Columbia.

Megalaspis goniurus see *Asaphus goniurus*

Metabowmania latilimbata Kobayashi
Holotype 12713; hypotype 12714
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 458, pl. 6, fig. 13; pl. 8, fig. 9.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Mystrocephala stumni Fagerstrom
Holotype 14753; paratype 14754
Fagerstrom, J.A., 1961, J. Pal., vol. 35, No. 1, p. 43, pl. 14, figs. 1, 2.
Formosa reef limestone, Middle Devonian, north end road-cut 2½ miles north of Formosa, Ontario.

Mystrocephala sp.
Fig. spec. 14755
Fagerstrom, J.A., 1961, J. Pal., vol. 35, No. 1, p. 43,
Formosa reef limestone, Middle Devonian, north end road-cut 2½ miles north of Formosa, Ontario.

Neoagnostus aspidoides Kobayashi
Holotype 12745; paratype 12746
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 473, pl. 7, figs. 4, 5.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate, British Columbia.

Neotaenicephalus obsoleta Kobayashi
Holotype 12704
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 452, pl. 6, figs. 12a, b.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate, British Columbia.

Nileidae(?) gen. and sp. indet.
Fig. specs. 12637, 12638
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 425, pl. 5, figs. 20, 21.
Glenogle Formation, Lower Ordovician, north Vermilion Basin, British Columbia.

Nileus affinis Billings
Syntypes 889, a
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 275, figs. 261a, b [889a].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 275, figs. 261a, b.
Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 120, pl. 3, fig. 4 [the type].
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 53, pl. 9, figs. 7, 11, 12 [889]; pl. 10, figs. 1-3,5,6 [lectotype 889a].
Lower Ordovician, Island of Orleans, Quebec.

Nileus affinis Billings
Hypotypes 16188, 16189
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 53, pl. 9, figs. 9, 10; pl. 10, figs. 4, 7, 10, 13.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Nileus macrops Billings
Syntypes 649, a-c
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 273, fig. 259 [649a].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 273, fig. 269.
Division N [Table Head]. Middle Ordovician, Table Head, Newfoundland.

Nileus scrutator Billings
Syntypes 667, a-d, 720,a
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 274, fig. 260 [667a].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 274, fig. 260.
Divisions N, P [Cow Head conglomerate], Middle Ordovician, 4 miles northeast of Portland Creek, an d Table Head, Newfoundland.

Niobe (Niobella) homfrayi Salter
Hypotype 11199
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 103, pl. 7, fig. 7.
McLeod Brook Formation, Upper Cambrian or Lower Ordovician, McLeod Brook, Cape Breton Island, Nova Scotia.

Ogygites canadensis (Chapman)
Hypotype 1924b
Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 118, pl. 1, fig. 2.
Upper Ordovician, Collingwood, Ontario.
=*Ogygites latimarginatus*, Wilson, A.E., 1957, Can. Field-Naturalist, vol. 70, No. 1, 1956, pl. 5, fig. 2.

Ogygites canadensis (Chapman)
Hypotype 7817
Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 43, pl. 6, fig. 1.
Collingwood, Upper Ordovician, Adeline Street between Preston and Rochester Streets, Ottawa, Ontario.

Onchometopus susae (Whitfield)
Hypotype 7170
Raymond, P.E., 1912, Trans. Roy. Soc. Can., ser. 3, vol. 5, sec. 4, p. 118, pl. 2, figs. 1, 2.
Ordovician [Red River Formation], East Selkirk, Manitoba.

Otarion wilsonae Sinclair
Holotype 13255
Sinclair, G.W., 1944, Trans. Roy. Soc. Can. Inst., vol. 25, pt. 1, No. 53, p. 18, pl. 1, figs. 3, 4.
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 39, pl. 8, figs. 4a, b.
Sherman Fall beds, Middle Ordovician, Eganville, Ontario.

Paenebeltella convexa Kobayashi
Holotype 12729; paratype 12730
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 468, pl. 7, fig. 21a, b; pl. 8, fig. 12.
McKay Group, Lower Ordovician, north of Brisco Trail, and south of Whiskey Trail, Bri tish Columbia.

Parabolinella bisulcata Kobayashi
Holotype 12718; paratype 12719
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 463, pl. 7, figs. 18, 19.
McKay Group, Lower Ordovician, north end Steamboat Mountain, British Columbia.

Parahystricurus (?) sp.
Fig. spec. 12710
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 455, pl. 6, fig. 7.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Peltura canadensis Kobayashi
Holotype 12726
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 466, pl. 7, fig. 20.
McKay Group, Lower Ordovician, southeast of Harrogate, British Columbia.

Peltura pacifica Kobayashi
Holotype 12722; paratypes 12723-12725
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 465, pl. 7, figs. 14-17.
Glenogle Formation, Lower Ordovician, north Vermilion Basin, British Columbia.

Perischoclonus capitalis Raymond
Hypotypes 16251-16254, 16318, 16319
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 80, pl. 22, figs. 2, 4, 6-13; pl. 35, figs. 10, 11; pl. 36, figs. 5, 7, 8.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Petigurus cybele see *Bathyurus cybele*

Petigurus nero see *Bathyurus nero*

Phacops (Portlockia) marklandensis McLearn
Paratype 6001
McLeam, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 171, pl. 28, fig. 1.
Ross Brook Formation, Middle Silurian, Arisaig, Nova Scotia.
=*Eophacops marklandensis*, Delo, D.M., 1940, Geol. Soc. Amer., Sp. Paper 29, p. 28, pl. 2, fig. 5.

Phacops orestes Billings
Syntypes 2472, a-c
Billings, E., 1860, Can. Naturalist Geol., vol. 5, p. 65, figs. 10, a.
Middle Silurian [Jupiter Formation], East Point, Anticosti Island, Quebec.
=*Phacops (Portlockia) orestes*, Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 335, pl. 50, fig. 11 [2472a], 12 [2472].

Phaseolops sepositus Whittington
Holotype 16148; paratypes 16149-16152
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 37, pl. 4, figs. 11-13; pl. 5, figs. 1-6.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Phillipsia eichwaldi Fischer
Hypotypes 4375a, 7677, a, b.
Bell, W.A., 1929, Geol. Surv., Canada, Mem. 155, p. 186, pl. 35, figs. 3-6.
Mississippian, Kennetcook River, Hants co., Nova Scotia.

Phylacops vigilans Cooper and Kindle
Paratypes 8872, a
Cooper, G.A., and Kindle, C.H., 1936, J. Pal., vol. 10. No. 5, p. 367, pl. 52, figs. 39, 45, 46, 51.
Whitehead Formation, Upper Ordovician, Grande Coupe and Portage Road, Gaspé, Quebec.

Platyantyx arcuata see *Bathyurus arcuatus*

Pliomerid pygidium
Fig. spec. 16139
Whittington, H.B., 1961, J. Pal., vol. 35, No. 5, p. 921, pl. 101, figs. 14, 17, 20.
Upper Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Pliomerops canadensis (Billings)
Lectotype 1101; hypotype 1101d
Whittington, H.B., 1961, J. Pal., vol. 35, No. 5, p. 917, pl. 101, figs. 10, 13 [1101d], 11 [1101].
Mingan Formation, Middle Ordovician, "Little Hamer Island", Mingan Islands, Quebec.
[Note: according to associated labels, specimens collected by J. Richardson, 1860, therefore doubtful if part of *Amphion canadensis* syntypic material.]

Proetus alaricus Billings
Holotype 2198
Billings, E., 1860, Can. Naturalist Geol., vol. 5, p. 68, fig. 12.
Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 219, fig. 230.
Twenhofel, W.H., 1928, ibid., Mem. 154, p. 325, pl. 51, fig. 8.
Upper Ordovician [English Head Formation], Carleton Point, Anticosti Island, Quebec.

Proetus chambliensis Foerste
Syntypes 8435 [several specimens on one slab]
Foerste, A.F.,
1914, Denison Univ. Bull. J. Sci. Lab., vol. 17, p. 320, pl. 4, figs. 1a-h.
1924, Geol. Surv., Canada, Mem. 138, p. 243, pl. 46, fig. 7.
Upper Ordovician, Chambly Canton, Quebec.

Proetus (Crassiproetus) crassimarginata (Hall)
Paratype 14757
Fagerstrom, J.A., 1961, J. Pal., vol. 35, No. 1, p. 41, pl. 14, fig. 9.
Formosa reef limestone, Middle Devonian, just east of bridge at Formosa, Ontario.

Proetus haldemani Hall
Hypotypes 4282, a-e, g
Whiteaves, J.F., 1891, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 3, p. 246, pl. 31, figs. 6 [4282b], 7 [4282a], 8 [4282].
Upper Devonian, Grand View, Mackenzie River, Northwest Territories.

Proetus manitobensis McCammon
Holotype 14910; paratypes 14911-14916
McCammon, H., 1960, Manitoba Dept. Mines Natural Res., Mines Branch, Publ. 69-6, p. 75, pl. 13, figs. 1-5a, b.
Dawson Bay Formation, Middle Devonian, 2 miles west of Nina Lake along road to The Narrows, Lake Manitoba, sec. 24, tp. 24, rge. 10, W. Prin. mer.; north side Charlie Island, Lake Winnipegosis; north bank Red Deer River 100 yards west of Highway 10 bridge between The Pas and Mafeking, l.s.d. 7, sec. 17, tp. 45, rge. 25, W. Prin. mer.; and Snake Island, Lake Winnipegosis, Manitoba.

Proetus mundulus Whiteaves

Syntypes 4113, a-k, 4114, a, 4115, 4116, a, 4117-4122, 4127.

Whiteaves, J.F., 1892, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 4, p. 350, pl. 46, figs. 10, 11 [4113a].

Middle Devonian [Winnipegosis and Dawson Bay Formations], island north of Whiteaves Point; islands in southern portion of Dawson Bay; Devil Point, Lake Winnipegosis; and Red Deer River, Manitoba.

=*Proetus manitobensis*, McCammon, H., 1960. Manitoba Dept. Mines Natural Res., Mines Branch, Publ. 59-6. p. 75 [hypotypes 4119-4122].

Proetus phocion Billings

Syntypes 3337, a-e

Billings, E., 1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 63, fig. 31.

Devonian [Grande Greve Formation], Indian Cove, Gaspé, Quebec.

Protopliomerops longispinus Kobayashi

Holotype 12625

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 417, pl. 2, fig. 7.

McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Protopliomerops radiatus Koboyashi

Holotype 12623; paratype 12624

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 416, pl. 2, figs. 5a, b, 6.

McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Protopliomerops subquadratus Kobayashi

Holotype 12621; paratype 12622

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 414, pl. 2, figs. 3, 4.

McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Protopresbynileus (?) aff. *willdeni* (Hintze)

Hypotypes 12694-12696

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 446, pl. 5, figs. 18, 19; pl. 8, fig. 15.

McKay Group, Lower Ordovician, McKay Creek and Harrogate section, British Columbia.

Psephosthenaspis strenua (Billings)

Hypotype 13273

Whittington, H.B., 1953, J. Pal., vol. 27, No. 5, p. 674, pl. 67, figs. 24, 28, 29.

Lower or Middle Ordovician, boulder at St. Antoine de Tilly, Quebec.

Pseudomera barrandei see *Amphion barrandei*

Pseudomera billingsi Whittington

Holotype 16136; hypotypes 16137, 16138

Whittington, H.B., 1961, J. Pal., vol. 35, No. 5, p. 919, pl. 101, figs. 1-9.

Upper Cow Head Group, Middle Ordovician, boulder, Lower Head, Newfoundland.

Pseudosphaerexochus apollo (Billings)

Hypotypes 8441, 8442

Raymond, P.E., 1913, Geol. Surv., Canada, Mus. Bull. 1, p. 36, pl. 4, figs. 1 [8841], 2 [8842].

Lower Ordovician, Levis, Quebec.

Pseudosphaerexochus canadensis see *Sphaerexochus canadensis*

Pseudosphaerexochus vulcanus var. *billingsi* see *Cheirurus vulcanus*

Pterygometopus achates (Billings)
Hypotype 3384
Raymond, P.E., 1921, Geol. Surv., Canada, Mus. Bull. 31, p. 38, pl. 11, fig. 3.
Cobourg Formation, Middle Ordovician, cement quarry at Picton, Ontario.

Pterygometopus billingsi (Sinclair)
Hypotype 7764
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 55, pl. 10, figs. 4a, b.
Sherman Fall beds, Ottawa Formation, Middle Ordovician, Axe factory, Hull, Quebec.

Pygidium gen. indet 1-4
Fig. specs. 16291-16297
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, pp. 95-97, pl. 31, figs. 4, 5, 8-17, 19, 20.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Raymondites ingalli see *Bathyurus ingalli*

Remopleurides affinis Billings
Syntypes 881, a-c
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 325, fig. 313.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 325, fig. 313 [881c?].
Lower Ordovician, lot 20, range 6, Stanbridge tp., Quebec.

Remopleurides canadensis Billings
Holotype 1760
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 182, fig. 164.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 182, fig. 164.
Chazy, Middle Ordovician, Front con., Clarence tp., Ontario.

Remopleurides ligulus Whittington
Holotype 16145; paratypes 16146, 16147
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 36, pl. 4, figs. 1-10.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Remopleurides? schlotheimi Billings
Syntypes 694, a-d. 695
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 294, figs. 284a, b.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 294, figs. 284a, b.
Middle Ordovician, Pistolet and Bonne Bay, Newfoundland.

Remopleurides striatulus Walcott
Hypotype 3758
Raymond, P.E., 1921, Geol. Surv., Canada, Mus. Bull. 31, p. 31, pl. 9, fig. 7.
Middle Trenton, Middle Ordovician, Trenton, Ontario.

Remopleurides sp. indet.
Fig. spec. 8871
Cooper, G.A., and Kindle, C.H., 1936, J. Pal., vol. 10, No. 5, p. 363, pl. 52, figs. 20, 31.
Whitehead Formation, Upper Ordovician, Grande Coupe, Gaspé, Quebec.

Rhamphopyge altipolum Kobayashi
Holotype 12744
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 473, pl. 6, figs. 9a, b.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest Harrogate, British Columbia.

Scotiella logani see *Dalmanitina logani*

Scotiella logani var. *conservatrix* see *Dalmanitina logani* var. *conservatrix*

Scutellum borealis (Poulsen)
Hypotypes 15408-15411
Raasch, G.O. *et al.*, 1961, "Geology of the Arctic", vol. 1, p. 477, pl. 5, figs. 7-10.
Norford, B.S., 1962, Geol. Surv., Canada, Paper 62-14, p. 20, pl. 8, fig. 7 [15411].
Middle Silurian [Road River Formation], Prong Creek, Wind River area, lat. 65°17'N, long. 135°45'W., Yukon Territory.

Selenoharpes vitilis Whittington
Holotype 16176; paratypes 16177, 16179-16182
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 32, pl. 2, figs. 4-8; pl. 3, figs. 2-4, 6-11.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Selenoharpes vitilis Whittington?
Hypotype 16178
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 34, pl. 3, figs. 1, 5.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.

Shumardia glacialis Billings
Syntypes 670, a-c
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 283, fig. 270.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 283, fig. 270.
Division P [Cow Head conglomerate], Middle Ordovician, Portland Creek and Pistolet Bay, Newfoundland.

Shumardia granulosa Billings
Syntypes 880 [several specimens on one slab]
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 92, figs. 83a, b.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 92, figs. 83a, b.
Lower Ordovician, Levis, Quebec.

Shumardia sp.
Fig. spec. 12742
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 471, pl. 7, fig. 9.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Sphaeragnostus gaspensis Cooper and Kindle
Syntypes 8868, a, b
Cooper, G.A., and Kindle, C.H., 1936, J. Pal., vol. 10, No. 5, p. 361, pl. 52, figs. 22, 23, 35.
Whitehead Formation, Upper Ordovician, Grande Coupe and Priest's Road, Percé, Quebec.

Sphaerexochus bridgei Cooper and Kindle

Syntype 8876

Cooper, G.A. and Kindle, C.H., 1936, J. Pal., vol. 10, No. 5, p. 371.

Whitehead Formation, Upper Ordovician, Priest's Road, Percé, Quebec.

Sphaerexochus canadensis Billings

Syntypes 2557, a

Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 64, fig. 21.

Middle Silurian [Chicotte Formation], Southwest Point, Anticosti Island, Quebec.

=*Pseudosphaerexochus canadensis*, Twenhofel, W.H., 1928, ibid., Mem. 154, p. 335, pl. 50, fig. 13 [holotype 2557a].

Sphaerexochus parvus Billings

Syntype 1093

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 133, fig. 66.

Chazy, Middle Ordovician, Island of Montreal near Mile End, Quebec.

Sphaerexochus parvus Billings

Hypotype 1330

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 180, figs. 161a, b.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 180, figs. 161a, b.

Twenhofel, W.H., 1938, Geol. Soc. Amer., Sp. Paper 11, p. 76, pl. 10, fig. 12 [holotype].

Middle Ordovician [Mingan Formation], south side of Large Island, Mingan Islands, Quebec.

Sphaerocorphe robusta Walcott

Hypotype 13260

Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 52, pl. 10, fig. 1.

Sherman Fall beds, Ottawa Formation, Middle Ordovician, Brewery Creek, Hull, Quebec.

Sphaerocoryphe salteri Billings

Syntypes 2328, a, b

Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 63,

Twenhofel, W.H., 1928, ibid., Mem. 154, p. 331, pl. 51, figs. 6 [2328], 7 [2328a].

Upper Ordovician [Ellis Bay Formation], Junction Cliff, Anticosti Island, Quebec.

Sphaerocoryphe sp.

Fig. spec. 8877

Cooper, G.A. and Kindle, C.H., 1936, J. Pal., vol. 10, No. 5, p. 371, pl. 53, figs. 4, 11.

Whitehead Formation, Upper Ordovician, Priest's Road, Percé, Quebec.

Sphaerophthalmella inexpectans Kobayashi

Holotype 12720; paratype 12721

Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 464, pl. 7, figs. 10a, b, 11.

McKay Group, Lower Ordovician, north end Steamboat Mountain, British Columbia.

Symphysops spinifera Cooper and Kindle

Paratypes 8863, a

Cooper, G.A. and Kindle, C.H., 1936, J. Pal., vol. 10, No. 5, p. 367, pl. 53, figs. 3, 9, 10, 12, 24.

Whitehead Formation, Upper Ordovician, Grande Coupe, Gaspe, Quebec.

Symphysurina (Symphysurina) cf. *corlissensis* (Raymond)
Hypotype 12642
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 431, pl. 7, figs. 22a, b.
McKay Group, Lower Ordovician, Jubilee Mountain southwest of Harrogate, British Columbia.

Symphysurina (Symphysurina) spicata Ulrich
Hypotypes 12639, 12640
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 430, pl. 3, figs. 8, 9.
McKay Group, Lower Ordovician, Steamboat Mountain, west of Brisco, British Columbia.

Symphysurina (Symphysurina) spicata var. *eugenia* Walcott
Hypotype 12641
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 430, pl. 3, fig. 22.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate, British Columbia.

Symphysurina spicata Ulrich
Hypotype 8720
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 164, pl. 21, fig. 15.
Lower Ordovician (?), Squaw Mountain north of Tatonduk River, Yukon-Alaska boundary.

Symphysurina (Symphysurina) tatondukensis see *Symphysurina* aff. *S. woosteri*

Symphysurina walcotti Kindle
Holotype 9378
Kindle, C.H., 1929, Can. Field-Naturalist, vol. 43, No. 7, p. 146, fig. 18.
Lower Ordovician, Swift's Ranch, 7 miles north of Jasper, British Columbia.

Symphysurina aff. *S. woosteri* Ulrich
Hypotypes 8722, a-c
Kobayashi, T., 1936, J. Pal., vol. 10, No. 3, p. 164, pl. 21, figs. 9, 10 [8722b], 11 [8722a]. 12, 13 [8722c], 14 [8722].
Lower Ordovician, Jones Ridge north of Tatonduk River, Yukon-Alaska boundary.
=*Symphysurina (Symphysurina) tatondukensis*, Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 429 [syntypes 8722, a-c].

Symphysurina 'a' sp.
Fig. specs. 12652, 12653
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 433, pl. 3, figs. 10, 11.
McKay Group, Lower Ordovician, north end Steamboat Mountain, west of Brisco, British Columbia.

Symphysurina 'b' sp.
Fig. specs. 12654-12656
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 433, pl. 3, figs. 12-14.
McKay Group, Lower Ordovician, 2 miles south of Sinclair Creek, McKay Creek and north of Brisco Trail, British Columbia.

Symphysurina (Symphysuroides) cf. *brevispicata* Hintze
Hypotypes 12648-12651
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 433, pl. 3, figs. 15-18.
McKay Group, Lower Ordovician, McKay Creek and 2 miles south of Sinclair Creek, British Columbia.

Symphysurina (Symphysuroides) elegans Poulsen
Hypotypes 12643-12645
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 432, pl. 3, figs. 19-21.
McKay Group, Lower Ordovician, west side McKay Creek, 1 mile north of Sinclair Creek, British Columbia.

Symphysurina (Symphysuroides) expansa Kobayashi
Holotype 12646; paratype 12647
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 432, pl. 3, figs. 6a, b, 7.
McKay Group, Lower Ordovician, Jubilee Mountain, southwest of Harrogate, British Columbia.

Symphysurus illaenoides see *Asaphus illaenoides*

Telephus americanus Billings
Syntypes 699, a-e, 700, a, b
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 291, fig. 281 [700b].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 291, fig. 281.
Hadding, A., 1913, Geol. fören Förhandle, vol. 35, No. 1, p. 41, pl. 1, fig. 11; text figs. 1a, b [700b].
Ulrich, E.O., 1930, Proc. U.S., National Mus., vol. 76, Art. 21, pl. 2, figs. 22, 23 [holotype 700b], 24 [699], 25 [700a], 26 [700], 27 [699e].
Middle Ordovician, 4 miles northeast of Portland Creek and Table Head, Newfoundland.

Telephus pacificus Kobayashi
Holotype 12627; hypotype 12628
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 419, pl. 2, figs. 9a, b, 10.
Glenogle Formation, Middle Ordovician, Vermilion Basin, British Columbia.

Tesselacauda flabella Kobayashi
Holotype 12626
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 417, pl. 2, figs. 8a, b.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Thaleops conifrons see *Illaenus conifrons* and *Illaenus vindex*

Thaleops ovata Conrad
Hypotype 1321
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 36, pl. 7, figs. 16a, b.
Leray beds, Ottawa Formation, Middle Ordovician, Mechanicsville, Ottawa. Ontario.

Tostonia cf. *iole* Walcott
Hypotypes 9376, a, b
Kindle, C.H., 1929, Can. Field-Naturalist, vol. 43, No. 7, p. 146, figs. 13-15.
Lower Ordovician, Swift's Ranch, 7 miles north of Jasper, British Columbia.

Tretaspis elevata Cooper and Kindle
Paratype 8869
Cooper, G.A., and Kindle, C.H., 1936, J. Pal., vol. 10, No. 5, p. 361.
Whitehead Formation, Upper Ordovician, Priest's Road, Percé, Quebec.

Triarthrus belli Matthew
Holotype 7351
Matthew, G.W.. 1900, Bull. Natural Hist. Soc., New Brunswick, vol. 4, p. 412, pl. 18, fig. 8.
Hutchinson, R.D., 1952, Geol. Surv., Canada, Mem. 263, p. 83, pl. 3, fig. 15.
McLeod Brook Formation, Lower Ordovician, McLeod Brook, Cape Breton Island, Nova Scotia.

Triarthrus fischeri Billings
Syntypes 678, a-i
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 291, fig. 280 [678a].
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 291, fig. 280.
Division N [Table Head], Middle Ordovician, Pistolet Bay, Newfoundland.

Triarthrus glaber Billings
Syntypes 1939, e, h
Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 382.
Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 202, fig. 198 [1939 + 1939h].
Upper Ordovician, Quiatchouan River, Lake St. John, Quebec.

Triarthrus spinosus Billings
Hypotypes 13615, 13616
Wilson, A.E., 1957, Can. Field-Naturalist, vol. 70, No. 1, 1956, pl. 5, figs. 3, 4.
Upper Ordovician, Gloucester tp., Ontario.

Trinodus priscus Kobayashi
Holotype 12751
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 476, pl. 7, fig. 6.
McKay Group, Lower Ordovician, McKay Creek, British Columbia.

Trinodus tardiformis Kobayashi
Holotype 12752
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 476, pl. 7, figs. 7a, b.
Glenogle Formation, Middle Ordovician, Vermilion Basin, British Columbia.

Uromystrum formosum (Billings)
Hypotypes 16202, 16203
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 60, pl. 12, figs. 11, 14; pl. 13, figs. 3, 5, 6.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.
See *Bathyurellus formosus*

Uromystrum fraternum (Billings)
Hypotypes 16200, 16201
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 58, pl. 12, figs. 4-6, 12 13.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.
See *Bathyurellus fraternus*

Uromystrum patulum Whittington
Holotype 16204; paratypes 16205, a
Whittington, H.B., 1963, Bull. Mus. Comp. Zoology Harvard, vol. 129, No. 1, p. 61, pl. 13, figs. 7-11; pl. 14, figs. 1, 2.
Cow Head Group, Middle Ordovician, boulder at Lower Head, Newfoundland.
See *Bathyurellus formosus*

Uromystrum validum see *Bathyurellus validus*

Vermilionites bisulcatus Kobayashi
Holotype 12705
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, p. 453, pl. 6, fig. 4.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Vogdesia sinclairi Wilson
Holotype 13252
Wilson, A.E., 1947, Geol. Surv., Canada, Bull. 9, p. 30, pl. 7, figs. 2a, b.
Leary beds, Ottawa Formation, Middle Ordovician, west of Cumberland, Ontario.

Trilobite, gen. and sp. indet.
Fig. spec. 12753
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, pl. 8, fig. 7.
McKay Group, Lower Ordovician, west side of McKay Creek, 1 mile north of Sinclair Creek, British Columbia.

Trilobite, gen. and sp. indet.
Fig. spec. 12754
Kobayashi, T., 1955, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, pt. 3, pl. 8, fig. 16.
McKay Group, Lower Ordovician, north of Brisco Trail, British Columbia.

Trilobites
Fig. specs. 9379-9382
Kindle, C.H., 1929, Can. Field-Naturalist, vol. 43, No. 7, p. 146, figs. 19-22.
Lower Ordovician, Swift's Ranch, 7 miles north of Jasper, British Columbia.

Trilobite pygidium
Fig. spec. 15072
Whittington, H.B., *in* Boucot, A.J. *et al.*, Geol. Surv., Canada, Bull. 65, p. 40, pl. 9, figs. 1-3.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Artic.

ARTHROPODA-MEROSTOMATA-XIPHOSURA

Belinurus grandaevus Jones and Woodward

Syntypes 10391, 10400

Jones, T.R. and Woodward, H., 1899, Geol. Mag., ser. 4, vol. 6, p. 387, pl. 15, figs. 2, 3.

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 48, pl. 16, figs. 1, 6 [lectotype 10391, paratype 10400].

Riversdale Group, Pennsylvanian, 3rd railway cut east of Riversdale station, Nova Scotia.

Belinurus grandaevus Jones and Woodward

Hypotypes 12804a-c, 12805, 12806

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 48, pl. 16, figs. 3-5, 7, 8.

Canso Group, Upper Carboniferous, over Reptile tracks and west of Partridge Island, West Bay, Parrsboro, Nova Scotia.

Belinurus reginae Baily

Hypotypes 12802, 12803a, b

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 48, pl. 16, figs. 2, 9, 10.

Canso Group, Upper Carboniferous, east of Ottawa House and over Reptile tracks, West Bay, Parrsboro, Nova Scotia.

Cyclus subcircularis Bell

Holotype 7642

Bell, W.A., 1929, Geol. Surv., Canada, Mem. 155, p. 187, pl. 35, fig. 7.

Mississippian, Windsor, Nova Scotia.

Euproops amiae Woodward

Syntypes 10393, 10398, 12807

Woodward, H., 1918, Geol. Mag., n. ser., dec. 6, vol. 5, No. 10, p. 465, figs. 2-4.

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 49, pl. 17, figs. 1, 2, 6 [lectotype 10393; paratypes 10398, 12807].

Pictou Group, Pennsylvanian, Donkin No. 6, Caledonia No. 4 pits, Glace Bay Mines, Cape Breton Island, Nova Scotia.

Euproops amiae Woodward

Hypotypes 12808a-e

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 49, pl. 17, figs. 3-5, 7, 8.

Pictou Group, Pennsylvanian, Donkin No. 6 pit, Glace Bay Mines, Cape Breton Island, Nova Scotia.

Euproops cf. *danae* (Meek and Worthen)

Hypotype 12828, 12860

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 49, pl. 17, fig. 9; pl. 21, fig. 1.

Canso Group, Upper Carboniferous, shore section ½ mile north of Margaree Harbour and Black River Station, Nova Scotia.

Euproops thompsoni Raymond
Hypotypes 13312–13314
Copeland, M.J., 1957, J. Pal., vol. 31, No. 3, p. 598, pl. 67, figs. 7, 9, 10.
Windsor Group, Mississippian, near Wallace, Cumberland co., Nova Scotia.

Euproops sp.
Fig. specs. 13310, 13311
Copeland, M.J., 1957, J. Pal., vol. 31, No. 3, p. 597, pl. 67, figs. 6, 8.
Windsor Group, Mississippian, Kentville Creek at Limestone Point on Pugwash Basin, Cumberland co., Nova Scotia.

ARTHROPODA-MEROSTOMATA-EURYPTERIDA

"Angustidatus" seriatus Cooper
Hypotype 13449, a, b
Harker, P. and Raasch, G.O., 1958, "Jurassic and Carboniferous of Western Canada", Am. Assoc. Petrol. Geol., pl. 1, No. 11,
Banff Formation, Mississippian, Gulf Rumsey No. 6-30 well, depth 5,200-5,225 feet, l.s.d. 6, sec. 30, tp. 33, rge. 20, W. 4th mer., Alberta.
=*Angustidontus* sp., Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 37, pl. 10, fig. 3.

Angustidontus weihmannae Copeland and Bolton
Holotype 14013; paratype 14013a
Copeland M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 38, pl. 10, Nos. 1, 2.
Ireton Formation, Woodbend Group, Upper Devonian, Gulf Sachs No. 10 well, depth 7,717.5-7,720 feet, l.s.d. 10. sec. 36, tp. 43, rge. 1, W. 5th mer., Alberta.

Carcinosoma libertyi Copeland and Bolton
Holotype 13984, a [obverse and reverse]
Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 26, pl. 2, Nos. 1-4; fig. 7c
St. Edmund Formation, Middle Silurian, west of Gore Bay village, Manitoulin Island, Ontario.

Carcinosoma? sp.
Fig. spec. 14558
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 53, pl. 12, fig. 1.
Allen Bay Formation, Upper Silurian, 3.2 miles west-northwest along coast from Cape Majendie Point, Grinnell Peninsula, Devon Island, Arctic.

Eurypterid? remains
Fig. spec. 14559
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 54, pl. 11, figs. 4, 5.
Allen Bay Formation, Upper Silurian, 3.2 miles west-northwest along coast from Cape Majendie Point, Grinnell Peninsula, Devon Island, Arctic.

Eurypterus boylei Whiteaves

Holotype 2910

Whiteaves, J.F., 1884, Geol. Surv., Canada, Palaeoz. Fossils, vol. 3, pt. 1, p. 42, pl. 7, fig. 3.

Guelph Formation, Middle Silurian, Elora, Ontario.

=*Tylopterus boylei*, Clarke, J.M. and Ruedemann, R., 1912, N.Y. State Mus., Mem. 14, p. 218, fig. 42.

=*Tylopterella boylei*, Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 35, pl. 6, No. 3.

Eurypterus (Anthraconectes) brasdorensis Bell

Holotype 9649

Bell, W.A., 1922, Trans. Roy. Soc. Can., ser. 3, vol. 16, sec. 4, p. 164, pl. 1, fig. 11.
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 50, pl. 9, fig. 7.

Pictou Group, Pennsylvanian, New Campbellton seam, near Sydney, Nova Scotia.

Eurypterus dekayi Hall

Hypotype 13996

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 29, pl. 6, No. 2.

Bertie Formation, Upper Silurian, Canada Southern Railway, Bertie tp., Welland co., Ontario.

Eurypterus fischeri Eichwald

Hypotypes 13997-14001, 14003, 14004, a, b, d

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 30, pl. 7, Nos. 1-5, 7, 8; pl. 8, Nos. 5a, b, d; pl. 9, No. 1.

Unit 14, Member A, Reed Bay Formation, Upper Silurian, Goodsir Creek, central east coast Cornwallis Island, Arctic.

Eurypterus fischeri rectangularis Schmidt

Hypotype 1400c

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 30, pl. 8, No. 5c.

Unit 14, Member A, Reed Bay Formation, Upper Silurian, Goodsir Creek, central east coast Cornwallis Island, Arctic.

Eurypterus lacustris Harlan

Hypotypes 13985-13990, 13992, 13995

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 31, pl. 3, Nos. 1-5; pl. 4, Nos. 2, 3; pl. 5, Nos. 1-3; pl. 6, No. 1.

Bertie Formation, Upper Silurian, lot 5, con. 10, lot 2, con. 13 and lot 4, con. 10, Bertie tp., Welland co.; Canada Southern Railway near Bertie; and quarry behind Ridgeway, Ontario.

Eurypterus laticeps Schmidt

Hypotype 14002

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 32, pl. 7, No. 6.

Unit 14, member A, Read Bay Formation, Upper Silurian, Goodsir Creek, central east coast Cornwallis Island, Arctic.

Eurypterus remipes DeKay

Hypotype 3224c

Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 959, fig. 464.

Bertie Formation, Upper Silurian, lot 5, con. 10, Bertie tp., Welland co., Ontario.

=*Eurypterus lacustris*, Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 31, pl. 4, fig. 1.

Eurypterus remipes DeKay

Hypotype 3224g

Kindle, E.M., 1934, Trans. Roy. Soc. Can., ser. 3, vol. 28, sec. 4, p. 45, fig. 2 [top].

Bertie Formation, Upper Silurian, lot 5, con. 10, Bertie tp., Welland co., Ontario.

Eurypterus remipes DeKay

Hypotype 9145

Kindle, E.M., 1934, Trans. Roy. Soc. Can., ser. 3, vol. 28, sec. 4, p. 44, fig. 1.

Gascons Formation, Middle Silurian, 1 1/3 miles south of Port Daniel, Bay of Chaleur, Quebec.

=*Eurypterus remipes quebecensis*, Kjellesvig-Waering, E.N., 1958, J. Pal., vol. 32, No. 6, p. 1130, pl. 146, fig. 2.

Eurypterus sp.

Fig. specs. 12827a-c

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 50, pl. 16, figs. 11-13.

Parrsboro Formation, Riversdale Group, Pennsylvanian, 2 mile above mouth Harrington River, 10 miles east of Parrsboro, Nova Scotia.

Eusarcus logani Williams

Syntypes 3759, a-f

Williams, M.Y., 1915, Geol. Surv., Canada, Mus. Bull. 20, p. 8, pl. 3, figs. 2-6; pl. 4, figs. 1, 2; pl. 5, figs. 1-5.

Eramosa Member, Lockport Formation, Middle Silurian, east of Guelph, Ontario.

Pterygotus atlanticus Clarke and Ruedemann

Syntypes 3239, a-c

Clarke, J.M. and Ruedemann, R., 1912, N.Y. State Mus., Mem. 14, p. 356, pl. 79, figs. 3-5.

Russell, L.S., 1954, Nat. Mus. Can., Bull. 132, p. 86, pl. 1, fig. 4; pl. 2, fig. 2.

Lower Devonian, Campbellton, New Brunswick.

Pterygotus cummingsi Grote and Pitt

Hypotype 13991

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 32, pl. 4, No. 4.

Bertie Formation, Upper Silurian, North Buffalo, New York, U.S.A.

Pterygotus gaspesiensis Russell

Paratype 10326

Russell, L.S., 1954, Nat. Mus. Can., Bull. 132, p. 86, pl. 2, fig. 3.

Battery Point Formation, Gaspe sandstone series, Middle Devonian, D'Aiguillon, Cap des Rosiers tp., Quebec.

Pterygotus sp. 1

Fig. spec. 14010

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 33, pl. 9, Nos. 2, 3.

Escuminac Formation, Upper Devonian, Scaumenac Bay, Chaleur Bay, Quebec.

Pterygotus ? sp. 2
Fig. spec. 14012
Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 34, fig. 8.
Upper Silurian, on Lesseps Brook 1050 paces dowstream from the junction of the Lake Ste. Ann road, Gaspé co., Quebec.

ARTHROPODA-ARACHNIDA

Anthracomartus sp.
Fig. spec. 12786
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 50, pl. 11, fig. 4.
Canso? Group, Upper Carboniferous, ½ mile south of Black Point on east side of Cumberland Basin, Nova Scotia.

Eoscorpius sp.
Fig. spec. 12778
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 51, pl. 15, figs. 4, 5.
Pensylvanian, Stellarton coalfield, Nova Scotia.

ARTHROPODA-BRANCHIOPODA

Asmussia alta (Raymond)
Hypotypes 12799, 12800
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 37, pl. 5, figs. 3, 8.
Bell, W.A., 1960, ibid., Mem. 314, p. 46, pl. 23, fig. 1 [12799].
Horton and Stellarton (Pictou) Group, Pennsylvanian, near Petit de Grat and Coalburn borehole 529', Nova Scotia.

Asmussia canadensis see *Estheria canadensis*

Asmussia sp. cf. *A. membranacea* Pacht
Hypotype 15185
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 14.
Melville Island Formation, Middle or Upper Devonian, west coast in talus at Kelly Point south of Purchase Bay, Melville Island, Arctic.

Asmussia sp. cf. *A. pogrebovi?* (Lutkevich)
Hypotype 15185a
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 14,
Melville Island Formation, Middle or Upper Devonian, west coast in talus at Kelly Point south of Purchase Bay, Melville Island, Arctic.

Asmussia tenella (Bronn)
Hypotype 12853
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 38, pl. 5, fig. 6.
Canso Group, Upper Carboniferous, McLellan Brook, Nova Scotia.

Cyclestherioides blackstonensis (Raymond)
Hypotype 12851 [Missing]
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 40, pl. 5, fig. 4.
Alma Formation, Canso Group, near Alma, Nova Scotia.

Eoleaia elongata Copeland

Holotype 10399

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 37, pl. 7, fig. 8.

Riversdale Group, Pennsylvanian, west branch North River, Nova Scotia.

Eoleaia laevicostata (Raymond)

Hypotype 14385

Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 48, pl. 24, fig. 3.

Cheverie Formation, Horton Group, Mississippian, south of Blue Beach fault zone, Horton Bluff, Nova Scotia.

Eoleaia leaiaformis (Raymond)

Hypotypes 14380-14385, 14415

Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 47, pl. 22, fig. 6; pl. 23, figs. 3-5, 7, 9; pl. 24, figs. 7, 8.

Cheverie and Horton Bluff Formations, Horton Group, Mississippian, on shore Avon River opposite Horton Bluff; Harding (Angus) Brook, Gaspereau Valley, Kings co,; and Arichat Harbour near head on south side and about 2,000 feet west of head of harbour, Nova Scotia.

Erisopsis belli Raymond

Holotype 9450

Raymond, P.E., 1946, Bull. Mus. Comp. Zool. Harvard, vol. 96, No. 3, p. 234, pl. 1, fig. 6.

Cheverie Formation, Horton Group, Mississippian, shore southwest of Cheverie on Avon River, opposite Horton Bluff, Nova Scotia.

=*Euestheria belli*, Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 34, pl. 22, fig. 8.

Estheria bellula Whiteaves

Holotype 4812a; paratype 4812

Whiteaves, J.F., 1889, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 2, p. 162, pl. 21, figs. 7, a.

Lower Cretaceous [Jurassic], Rink Rapids, Lewes River, Yukon.

Estheria canadensis Lambe

Syntypes 10000 [numerous specimens on one slab]

Lambe, L.M., 1910, Report on the Dominion of Canada Expedition to the Artic Islands and Hudson Strait on Board the D.S.G. *Arctic*, J.E. Bernier, Appendix A, p. 482.

"Carboniferous" (Middle or Upper Devonian), ravine 4 miles northeast of Cape Providence, south coast of Melville Island, Arctic.

=*Asmussia canadensis*, Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 13, pl. 3, figs. 1, 2 [lectotype 10000; paratypes 10000a].

Euestheria belli (Raymond)

Hypotype 14407

Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 45, pl. 22, fig. 4.

Horton Group, Mississippian, Arichat Harbour, Petit de Grat Island, Nova Scotia.

Euestheria dawsoni (Jones)

Hypotype 12852

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 38, pl. 5, figs. 5, 9.

Canso Group, Upper Carboniferous, near Parrsboro, Nova Scotia.

Euestheria dawsoni (Jones)

Hypotype 14373

Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 44, pl. 24, fig. 1.

Cheverie Formation, Horton Group, Mississippian, on shore Avon River opposite Horton Bluff, Nova Scotia.

Euestheria lirella Bell

Holotype 14386; paratypes 14387-14390

Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 45, pl. 22, figs. 1-3, 5, 7.

Horton Group, Mississippian, near head on south side Arichat Harbour, Nova Scotia.

Euestheris cf. *dawsoni* (Jones)

Hypotype 12814

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 38, pl. 5, fig. 9.

Pictou Group, Pennsylvanian, McLellan Brook, Pictou co., Nova Scotia.

Euestheria raymondi Copeland

Holotype 10395; paratype 12797

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 38, pl. 5. figs. 1, 2.

Lower Mississippian (or Canso Group, Upper Carboniferous), north branch Becaguimec River, about 1 mile above Cloverdale, New Brunswick.

Leaia acutangularis (Raymond)

Hypotype 12819

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 36, pl. 8, fig. 3.

Canso Group, Upper Carboniferous, Brown's Brook, Nova Scotia.

Leaia acutilirata Copeland

Holotype 10396

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 36, pl. 7, fig. 3.

Canso Group, Upper Carboniferous, McKay Brook, Nova Scotia.

Leaia baentschiana (Beyrich)

Hypotype 12793, 12809, 12816, 12824, 12825a, 12854, 12855, 12857

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 34, pl. 4, fig. 10; pl. 6, figs. 3, 4; pl. 7, figs. 1, 9; pl. 8, figs. 1, 2, 4.

Canso Group, Upper Carboniferous, 1500' above base type section, Strait of Canso, on Sutherland River below Ross' bridge near Lismore, Nova Scotia, and point north of Cape Enrage, New Brunswick; Riversdale Group, Pennsylvanian, west branch of North River, Nova Scotia.

Leaia laevicostata Raymond

Holotype 9449

Raymond, P.E., 1946, Bull. Mus. Comp. Zool. Harvard, vol. 96, No. 3, p. 282, fig. 5.

Cheverie Formation, Horton Group, Mississippian, on shore Avon River opposite Horton Bluff, Nova Scotia.

=*Eoleaia laevicostata*, Kobayashi, T., 1954, J. Fac. Sci., Univ. Tokyo, sec. 2, vol. 9, No. 1, p. 140, fig. 30b.

Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 48, pl. 24, fig. 6.

Leaia laevis (Raymond)

Hypotype 12817

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 35, pl. 7, fig. 10.

Riversdale Group, Pennsylvanian, west branch North River, Nova Scotia.

Leaia magnacostata Copeland

Holotype 10397

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 36, pl. 6, fig. 5.

Pictou Group, Pennsylvanian, Greener Point, Barrington Cove, north of Sydney Harbour, Nova Scotia.

Leaia silurica Matthew

Hypotype 12818

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 35, pl. 7, fig. 4.

Canso Group, Upper Carboniferous, 27 chains below road at Datan's bridge, Brown's Brook, Nova Scotia.

Leaia tricarinata Meek and Worthen

Hypotypes 12787, 12795, 12796, 12815, 12824, 12826, 12856

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 35, pl. 4, figs. 8, 9; pl. 7, figs. 2, 5, 7; pl. 8, fig. 5.

Canso Group, Upper Carboniferous, near Alma, Point Edward, West side Parrsboro Harbour, and on Sutherland River below Ross' bridge near Lismore, Nova Scotia; Riversdale Group, Pennsylvanian, Treen Bluff section and west branch North River, Nova Scotia.

Leaia sp.

Fig. specs. 14408, 14409, a

Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 49, pl. 24, figs. 4, 5.

Cheverie Formation, Horton Group, Mississippian, on shore Avon River opposite Horton Bluff, Nova Scotia.

Lioestheria (?) simoni (Pruvost)

Hypotype 12801

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 39, pl. 5, fig. 7.

Canso? Group, Upper Carboniferous, Nova Scotia.

Lioestheria striata (Goldfuss and Munster)

Hypotype 12823

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 39, pl. 6, figs. 1, 2.

Canso Group, Upper Carboniferous, near Madden Cove, Strait of Canso, Nova Scotia.

Lynceites cansoensis Copeland

Holotype 10383; paratype 12792

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 41, pl. 9, figs. 8, 9.

West Bay Formation, Canso Group, Upper Carboniferous, east side West Bay, 2 miles west of Parrsboro, Nova Scotia.

Palaeolimnadiopsis pruvosti Raymond

Hypotype 12794

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 40, pl. 4, fig. 7.

Pictou ? – Riversdale ? Group, Pennsylvanian, Treen Bluff, Malagash, Nova Scotia.

Pseudestheria alta Raymond

Holotype 9451

Raymond, P.E., 1946, Bull. Mus. Comp. Zool. Harvard, vol. 96, No. 3, p. 246, fig. 1.

Cheverie Formation, Horton Group, Mississippian, on shore Avon River opposite Horton Bluff, Nova Scotia.

=*Asmussia alta*, Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 46, pl. 23, fig. 2.

Pseudestheria leaiaformis Raymond

Holotype 12398; paratype 14379

Raymond, P.E., 1946, Bull. Mus. Comp. Zool. Harvard, vol. 96, No. 3, p. 246, fig. 2 [12398].

Tasch, P., 1956, J. Pal., vol. 30, No. 5, p. 1255, text figs. 1-13.

Cheverie Formation, Horton Group, Mississippian, on shore Avon River opposite Horton Bluff, Nova Scotia.

=*Eoleaia leaiaformis*, Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 47, pl. 23, figs. 6, 8.

Pteroleaia canadensis Copeland

Holotype 15189b; paratypes 15186, a, 15188, 15189, a,c, 15190

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 15, pl. 4, figs. 1, 6; pl. 5, fig. 25.

Melville Island Formation, Middle or Upper Devonian, west coast 5 miles southwest of Kelly Point, Melville Island, Arctic.

ARTHROPODA-OSTRACODA

Aechmina equilateralis? Bassler

Hypotype 14535

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 29, pl. 6, fig. 34.

Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Aechmina sp.

Fig. spec. 15194

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 10, pl. 2, fig. 10.

Rochester Formation, Middle Silurian, basal 5 feet access road Sir Adam Beck Generating Station section, Niagara Falls, Ontario.

Aechminella biltmorensis (Loranger)

Hypotype 17346

McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 3, pl. 1, figs. 4-6.

Mildred Member, Beaverhill Lake Formation, Upper Devonian, 1,054–1,064 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Aechminella clivusbestiola McGill

Holotype 17345; paratypes 17345a-c

McGill, P., 1963, Bull. Can. Petrol Geol., vol. 11, No. 1, p. 3, pl. 1, figs. 1-3.

Christina Member, Beaverhill Lake Formation, Upper Devonian, 1,324–1,334 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

"Amphissites"(?) concentricus (Ulrich and Bassler)

Hypotypes 14530, a-f

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 43, pl. 6, figs. 17-21.

Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Aparchites canadensis Fritz

Syntypes 9406, 9407

Fritz, M.A., 1940, J. Pal., vol. 14, No. 1, p. 77, pl. 12, figs. 1-3.

Middle Devonian, Clute Well 14-441-25 (480') lot 147, N.T.R., Raleigh tp., Kent co., Ontario.

Aparchites dentis McGill

Holotype 17347; paratypes 17347a-g

McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 4, pl. 1, figs. 7-10.

Firebag Member, Beaverhill Lake Formation, Upper Devonian, 1,682 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Aparchites mitis Jones

Holotype 4298

Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 91, pl. 11, figs. 15a,b.

Upper Devonian, Hay River, 40 miles above mouth, District of Mackenzie.

Aparchites mundulus Jones
Holotype 17706
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 62, pl. 10, figs. 12a, b.
Middle Ordovician, Lorette Falls, St. Charles River, Quebec.

Aparchites parvulus Jones
Holotype 7167
Jones, T.R., 1897, Geol. Surv., Canada, Palaeoz. Fossils, vol. 3, pt. 3, p. 230, pl. 22, figs. 4a-c.
Ordovician, Little Black Island, Lake Winnipeg, Manitoba.

Aparchites sinuatus Hall
Hypotype 14515
Copeland, M.J., 1960, Pal., vol. 3, pt. 1, p. 100, pl. 23, figs. 21, 22 [figs. 19, 20 =*Bythocypris phillipsiana*].
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Aparchites whiteavesi Jones
Holotype 3838 [missing]
Jones, T.R., 1889, Annals Mag. Natural Hist., ser. 6, vol. 3, p. 384, pl. 17, fig. 10; text figs. 5, 6.
Ordovician, Lower Fort Garry, St. Andrew, Manitoba.

Arcyzona foordi Copeland
Holotype 14528; paratypes 14528a, b
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 42, pl. 6, figs. 7, 8.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bairdia fragosa Morey
Hypotype 15159
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 8.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Bairdia magnacurta Morey
Hypotype 15168
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 7.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Bairdia sp. cf. *B. subparallela* Morey
Hypotype 15167
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 9.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Bairdia sp.
Fig. spec. 14553
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 47.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bassleratia typa Kay
Paratype 6246
Kay, G.M., 1934, J. Pal., vol. 8, No. 3, p. 341.
Hull Formation, Middle Ordovician, Healey Falls, Trent River, Ontario.

Bellornatia tricollis Kay
Paratypes 6254
Kay, G.M., 1934, J. Pal., vol. 8, No. 3, p. 342, pl. 44, figs. 25, 26.
Hull Formation, Middle Ordovician, Healey Falls, Trent River, Ontario.

Beyrichia (Beyrichia) arctigena Martinsson
Holotype 15013; paratypes 15014–15017
Martinsson, A., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 16, pl. 4, figs. 1-6.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Beyrichia arcuata (Bean)
Hypotype 4197
Jones, T.R., 1889, Annals Mag. Natural Hist., ser. 6, vol. 3, p. 381, pl. 17, figs. 7a-c.
Lower Devonian, Cape Bon Ami, New Brunswick.
=*Kloedenia* sp. aff. *K. sussexensis*, Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 34, pl. 8, fig. 13.

Beyrichia decora Billings
Syntype 2547
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 67.
Middle Silurian [Jupiter Formation], The Jumpers, Anticosti Island, Quebec.

Beyrichia kloedeni var. *acadica* Jones
Syntypes 4186, 4188, a-c
Jones, T.R., 1889, Annals, Mag. Natural Hist., ser. 6, vol. 3, p. 379, pl. 17, figs. 3 [4188?], 4 [4188a], 5 [4188b], 6 [4186], 8, 9 [4188c].
Lower Devonian, Cape Bon Ami, New Brunswick.
=*Kloedenia acadica*, Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91. p. 36, pl. 8, figs. 14-16 [lectotype 4188a; paratypes 4186, 4188, b, c].

Beyrichia (Neobeyrichia) kochii Boll
Hypotype 14507
Copeland, M.J., 1960, Pal., vol. 3, pt. 1, p. 98, pl. 23, fig. 23.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Beyrichia logani Jones
Syntypes 1080, a, b
Jones, T.R.,
1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 244, pl. 9, figs. 7-9.
1858, Geol. Surv., Canada, Can. Org. Rem., dec. 3, p. 91, pl. 11, figs. 2-4.
Beekmantown Formation, Lower Ordovician, Grenville, Argenteuil co., Quebec and Hawkesbury, Ontario.

Beyrichia logani var. *leperditioides* Jones
Holotype 1098
Jones, T.R.,
1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 244, pl. 9, figs. 10, b.
1858, Geol. Surv., Canada, Can. Org. Rem., dec. 3, p. 91, pl. 11, figs. 5a, b.
Beekmantown Formation, Lower Ordovician, Grenville, Argenteuil co.. Ouebec.

Beyrichia logani var. *reniformis* Jones
Holotype 1097
Jones, T.R.,
1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 244, pl. 9, fig. 6.
1858, Geol. Surv., Canada, Can. Org. Rem., dec. 3, p. 91, pl. 11, fig. 1.
Beekmantown Formation, Lower Ordovician, Hawkesbury, Ontario.

Beyrichia (Neobeyrichia) maccoyiana Jones
Hypotypes 14508, 14509
Copeland, M.J., 1960, Pal., vol. 3, pt. 1, p. 99, pl. 23, figs. 12, 13.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Beyrichia (Neobeyrichia) maccoyiana var. *sulcata* Reuter
Hypotypes 14510–14512
Copeland, M.J., 1960, Pal., vol. 3, pt. 1, p. 99, pl. 23, figs. 14–16.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Beyrichia (Nodibeyrichia) pustulosa Hall
Hypotypes 14498–14504
Copeland, M.J., Pal., vol. 3, pt. 1, p. 96, pl. 23, figs. 2-9.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Beyrichia quadrifida Jones
Syntype 17707
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 66, pl. 11, figs. 9a, b.
Middle Ordovician, Lorette Falls, St. Charles River, Quebec.

Beyrichia venusta Billings
Syntypes 2475, 2548
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 68.
Middle Silurian [Jupiter Formation], East Point and The Jumpers, Anticosti Island, Quebec.

Beyrichiopsis lophota Copeland
Holotype 10387; paratype 12837
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 32, pl. 3, figs. 1-8.
Point Edward Formation, Canso Group, Pennsylvanian, near Sydney, Nova Scotia.

Bollia americana var. *zygocornis* Swartz
Hypotypes 14534, a
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 29, pl. 6, figs. 32, 33.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bollia sagittaformis Swartz
Hypotypes 14533, a, b
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 29, pl. 6, figs. 30, 31.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bollia subaequata Ulrich
Hypotypes 6247, b
Kay, G.M., 1934, J. Pal., vol. 8, No. 3, p. 337, pl. 44, figs. 9–12 [6247].
Hull Formation, Middle Ordovician, Healy Falls, Ontario.

Boursella trilobata Turner
Holotype 9397
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 14, pl. 1, fig. 4.
Middle Devonian, Lethwaite well 24-441-48 (250'), lot 141, N.T.R., Raleigh tp., Kent co., Ontario.

Bufina lineata Turner
Holotype 9401
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 21, pl. 1, figs. 9, 12.
Middle Devonian, Union D'Clute Sykes well 12-441-23 (215'), lot 15, con. 15, Raleigh tp., Kent co., Ontario.

Bythocypris alcocki Copeland
Holotype 14547; paratypes 14547a-d
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 46, pl. 10, figs. 16-20.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bythocypris cylindrica (Hall)
Hypotype 975
Ulrich, E.O., 1889, Geol. Surv., Canada, Contr. Can. Micro-Pal., vol. 2, p. 48, pl. 9, fig. 6.
Stony Mountain Formation, Upper Ordovician, Stony Mountain, Manitoba.

Bythocypris cylindrica (Hall)
Hypotype 8583e
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 255, pl. 46, fig. 2.
Queenston Formation, Upper Ordovician, lot 24, con. 8, St. Vincent tp., 4 miles northwest of Meaford, Ontario.

Bythocypris? cf. *B. perarcuata* Swartz and Swain
Hypotypes 14549, a, b
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 46, pl. 10, figs. 25–27.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bythocypris cf. *B. phaseolina* Ulrich and Bassler
Hypotypes 14548, a-c
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 46, pl. 10, figs. 21–24.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bythocypris phillipsiana (Jones and Holl)
Hypotypes 14516, 14517
Copeland, M.J., 1960, Pal., vol. 3, pt. 1, p. 101, pl. 23, figs. 19–20, [figs. 21, 22 =*Aparchites sinuatus*].
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Bythocypris swartzi Copeland
Holotype 14552; paratypes 14552a-f
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 47, pl. 10, figs. 37–40.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bythocypris sp. 1
Fig. specs. 14554, a, b
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 45.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Bythocypris? sp.
Fig. spec 15169
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, p. 39, fig. 1.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Camdenidea canadensis Copeland
Holotype 14550; paratypes 14550a-c
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 45, pl. 10, figs. 28-31.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Candona bairdioides (Jones and Kirkby)
Hypotype 12829
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 28, pl. 4, figs. 1-3.
Joggins Formation, Cumberland Group, Pennsylvanian, roof of 40 Brine seam, Joggins, Nova Scotia.

Candona salteriana (Jones)
Hypotype 12844
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 29, pl. 1, fig. 4.
Joggins Formation, Cumberland Group, Pennsylvanian, shales immediately above 40 Brine seam, Joggins, Nova Scotia.

Carbonita agnes (Jones)
Hypotype 12841
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 25, pl. 1, figs. 19–21.
Riversdale group, Pennsylvanian, ½ mile north of Finlay Point, Mabou Mines, Nova Scotia.

Carbonita altilis (Jones and Kirkby)
Hypotypes 12833, 12839
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 25, pl. 1, figs. 1-3, 15-18.
Upper part Boss Point Formation, Riversdale Group, Pennsylvanian, near Joggins, Nova Scotia.

Carbonita elongata (Jones and Kirkby)
Hypotype 12842
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 25, pl. 1, figs. 22–25.
Riversdale Group, Pennsylvanian, roof shales of 40 Brine seam, Joggins, Nova Scotia.

Carbonita fabulina (Jones and Kirkby)
Hypotype 12835
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 26, pl. 1, figs. 10, 11.
Riversdale Group, Pennsylvanian, shore section Port Hood, Nova Scotia.

Carbonita inflata (Jones and Kirkby)
Hypotypes 12838, 12843
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 26, pl. 1, figs. 12–14; pl. 2, figs. 18, 19.
Pictou? Group, Pennsylvanian, Mabou Mines, Nova Scotia.

Carbonita rankiniana (Jones and Kirkby)
Hypotype 12849
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 27, pl. 2, figs. 22, 23.
Joggins Formation, Cumberland Group, Pennsylvanian, roof shales immediately above Joggins seam, Joggins, Nova Scotia.

Carbonita scalpellus (Jones and Kirkby)
Hypotype 12850
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 27, pl. 4, fig. 6.
Pictou Group, Pennsylvanian, shales immediately above Backpit seam, Sydney, Nova Scotia.

Carbonita secans (Jones and Kirkby)
Hypotype 12834
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 27, pl. 1, figs. 8, 9.
Cumberland Group, Pennsylvanian, Bayview #8 mine on 40 Brine seam, Joggins, Nova Scotia.

Carbonita cf. *subula* (Jones and Kirkby)
Hypotypes 14400–14406
Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 43, pl. 21, figs. 2–4, 8, 9.
Horton Bluff Formation, Horton Group, Mississippian, north of Blue Beach fault, Horton Bluffs, Nova Scotia.

Cavellina caduca McGill

Holotype 17350; paratypes 17350a-d

McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 9, pl. 1, figs. 20–25.

Mildred Member, Beaverhill Lake Formation, Upper Devonian, 1,074–1,084 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Coryellina sp.

Fig. spec. 15166

Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 4.
Sohn, I.G., 1962, J. Pal., vol. 36, No. 6, pl. 167, fig. 35.

Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Ctenobolbina clavigera (Jones)

Hypotypes 13604–13610, 13624

Copeland, M.J., 1958, J. Pal., vol. 32, No. 1, p. 236, text figs. 1–8.

Pamelia beds, Ottawa Formation, Middle Ordovician, Buena Vista road, Rockliffe; Hogsback Rapids, Rideau River, Ottawa, Ontario; and Broad Street, Aylmer, Quebec.

"Ctenobolbina" punctata Ulrich

Hypotypes 15195, a, b

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 10, pl. 2, figs. 11–13.

Rochester Formation, Middle Silurian, 10–15 feet above base De Cew Falls section, St. Catharines, and 10–13 feet above base access road Sir Adam Beck Generating Station section, Niagara Falls, Ontario.

Cypridina acadica Bell

Holotype 7742

Bell, W.A., 1929, Geol. Surv., Canada, Mem. 155, p. 185, pl. 34, figs. 5, a.

Lower Windsor Group, Mississippian, Maxner Point, Windsor, Nova Scotia.

Cytherellina siliqua (Jones)

Hypotypes 14505, 14506

Copeland, M.J., 1960, Pal., vol. 3, pt. 1, p. 101, pl. 23, figs. 10, 11.

Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Cytheropsis siliqua Jones

Holotype 1328

Jones, T.R., 1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 249, pl. 10, fig. 6.

Middle Ordovician [Leray-Rockland beds], Paquette Rapids, Ottawa River.

Daleiella ? canadensis Copeland

Holotype 14532; paratypes 14532a, b

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 31, pl. 6, figs. 27–29.

Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Dihoğmochilina latimarginata see *Isochilina grandis* var. *latimarginata*

Dizygopleura chaleurensis Copeland

Holotype 14531; paratypes 14531a-f

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 40, pl. 6, figs. 22–26.

Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Dizygopleura sculptura Turner

Holotype 9399

Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 19, pl. 1, fig. 6.

Middle Devonian, East Coste well 6-441-2 (200'), northeast corner lot 19, con. 7, Tilbury East tp., Kent co., Ontario.

Dizygopleura symmetrica (Hall)

Hypotypes 15196, a-d

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 10, pl. 2, figs. 14–18.

Rochester Formation, Middle Silurian, 40–45 feet above base De Cew Falls section, St. Catharines, and 28–30 feet above base access road Sir Adam Beck Generating Station section, Niagara Falls, Ontario.

Drepanella richardsoni var. *canadensis* Ulrich

Hypotypes 8524 [2 specimens], 8583a, b

Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 252, pl. 46, figs. 5a[8583a], b [8583b], c [8524].

Queenston Formation, Upper Ordovician, lot 24, con. 8, St. Vincent tp., 4 miles northwest of Meaford, Ontario.

Egorovia longituda McGill

Holotype 17352; paratypes 17352a-g

McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 10, pl. 2, figs. 14–18.

Moberly Member, Beaverhill Lake Formation, Upper Devonian, 1,154–1,164 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Entomis brookei Kindle

Holotype 7977; paratypes 7977a, b

Kindle, E.M., 1919, Geol. Surv., Canada, Mus. Bull. 29, p. 8, pl. 2, figs. 7–10.

Simpson shale, Upper Devonian, east bank Mackenzie River 5 miles above Rabbitskin River, District of Mackenzie.

Entomis serratostriata (Sandberger)

Hypotypes 7976, b

Kindle, E.M., 1919, Geol. Surv., Canada, Mus. Bull. 29, p. 7, pl. 2, figs. 4-6.

Simpson shale, Upper Devonian, east bank Mackenzie River 5 miles above Rabbitskin River, District of Mackenzie.

Entomis variostriata Clarke

Hypotypes 7975, a, b

Kindle, E.M., 1919, Geol. Surv., Canada, Mus. Bull. 29, p. 7, pl. 2, figs. 1-3.

Simpson shale, Upper Devonian, east bank Mackenzie River 5 miles above Rabbitskin River, District of Mackenzie.

Eriella beaumontensis (Loranger)

Hypotypes 17353, a

McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 11, pl. 3, figs. 1-3.

Christina–Calumet Members, Beaverhill Lake Formation, Upper Devonian, 1,404–1,414 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Eucraterellina crateriformis (Swartz)

Hypotypes 14520, a, b

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 27, pl. 5, figs. 6-8.

Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Eucraterellina oblonga (Ulrich and Bassler)

Hypotypes 14522, a

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 27, pl. 5, figs. 13, 14.

Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Eukloedenella alcocki Copeland

Holotype 14546; paratypes 14546a-h

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 41, pl. 10, figs. 7–15.

Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Eukloedenella dalhousiensis Copeland
Holotype 14545; paratypes 14545a-e
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 42, pl. 10, figs. 1–6.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Eukloedenella doverensis Turner
Holotype 9400
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 20, pl. 1, figs. 5, 8.
Middle Devonian, Union D'Clute Sykes well 12–441–23 (200'), lot 15, con. 15, Raleigh tp., Kent co., Ontario.

Eurychilina (?) striatomarginata (Miller)
Hypotype 8525
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 253, pl. 46, fig. 4.
Queenston Formation, Upper Ordovician, lot 24, con. 8, St. Vincent tp., 4 miles northwest of Meaford, Ontario.

Eurychilina tutu Copeland
Holotype 15199; paratypes 15198, a-h, 15199a
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 55, pl. 12, figs. 2–10.
'Trenton', Middle Ordovician, Gretna quarry, 4½ miles south-southwest of Napanee, Ontario.

Graphiadactyllis fernglenensis Benson
Hypotypes 15160, a
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, figs. 12, 13.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Graphiadactyllis granopunctatus (Ulrich and Bassler)
Hypotype 15162
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 16.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Graphiadactyllis cf. *G. lineatus* (Ulrich and Bassler)
Hypotype 15515
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 14.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Graphiadactyllis moridgei Benson
Hypotype 15163
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 15.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Graphiadactyllis sp.
Fig. spec. 15156
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 17.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Gutschickia bretonensis Copeland
Holotype 10388; paratypes 12836a, b
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 29, pl. 3, figs. 9–19.
MacDonald Glen Formation, lower member, Riversdale Group, Pennsylvanian, near Mabou Mines, Nova Scotia.

Gutschickia ninevehensis (Holland)
Hypotype 12840
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 29, pl. 2, figs. 20, 21.
Riversdale Group, Pennsylvanian, shore section Port Hood, Nova Scotia.

Halliella labiosa Ulrich
Hypotype 6253
Kay, G.M., 1934, J. Pal., vol. 8, No. 3, p. 332.
Hull Formation, Middle Ordovician, Healey Falls, Trent River, Ontario.

Halliella magnapuncta Kay
Paratypes 6244, 6245
Kay, G.M., 1934, J. Pal., vol. 8, No. 3, p. 334.
Hull Formation, Middle Ordovician, Healey Falls, Trent River, Ontario and Decorah Formation, Middle Ordovician, sec. 13, Glenwood tp., Winneshiek co., Iowa, U.S.A.

Haploprimitia obscura McGill
Holotype 17348; paratypes 17348a, b
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 7, pl. 1, figs. 11–13.
Mildred Member, Beaverhill Lake Formation, Upper Devonian, 1,094–1,114 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Haploprimitia punctata Turner
Holotype 9395
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 10, pl. 1, fig. 1.
Middle Devonian, D'Clute well 19–441–30 (230'), lot 16, con. 15, Raleigh tp., Kent co., Ontario.

Healdia sp.
Fig. specs. 15158, a
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, figs. 10, 11.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Herrmannina cf. *H. consobrina* (Jones)
Hypotypes 15184, a, b
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 7.
Middle Devonian, northern shore of Deans Dundas Bay, Prince Albert Peninsula, lat. 72°21' N., long. 118°25'W., Victoria Island, Arctic.

Hiltoldtina evelinae (Jones)
Hypotype 12832
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 28, pl. 1, figs. 5–7.
Port Hood Formation, Riversdale Group, Pennsylvanian, shore section, Port Hood, Nova Scotia.

Hollinella? novascotica (Jones and Kirkby)
Hypotypes 14396–14399
Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 42, pl. 21, figs. 1, 5–7.
Horton Bluff Formation, Horton Group, Mississippian, north of Blue Beach fault, Horton Bluffs, Nova Scotia.

Hollinella subcircularis Turner
Holotype 9398
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 17, pl. 1, fig. 20.
Middle Devonian, Dauphin Imperial well 2-441-70 (130'), lot 2, con. 2, Tilbury East tp., Kent co., Ontario.

Hypotetragona albertensis Loranger (nude name)
Topotypes 17351a-g
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 5, pl. 12, figs. 1–13.
Ireton Formation, Upper Devonian, 2,140–2,144 feet Bear Beaumont No. 1 well, l.s.d. 14, sec. 25, tp. 75, rge. 17, W. 4th mer., Alberta.

Hypotetragona sp.
Fig. spec. 15161
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, figs. 5, 6.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Isochilina amii Jones
Holotype 17708
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 68, pl. 10, figs. 14a, b.
Middle Ordovician, Lorette Falls, St. Charles River, Quebec.

Isochilina bellula Jones
Syntypes 4297, a
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 92, pl. 11, figs. 16a, b.
Upper Devonian, Hay River, 40 miles above mouth, Northwest Territories.

Isochilina grandis var. *latimarginata* Jones
Syntypes 6055, b, d, f-i, 6057, a; plaster casts 6055a,c,e
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 78, pl. 10, figs. 1–4.
Middle Silurian [Cedar Lake Formation], Denbeigh (Long) Point, east side of Lake Winnipegosis, and north end Mossy portage, Cedar Lake, Manitoba.
=*Dihogmochilina latimarginata*, Stearn, C.W., 1956, ibid., Mem. 281, p. 126, pl. 12, fig. 5 [6055a plaster cast of holotype 6055].

Isochilina labellosa Jones
Syntype 13473
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 69, pl. 10. figs. 16a-c, 17.
"Chazy" [Pamelia beds], Middle Ordovician, Broad Street, Aylmer, Quebec.

Isochilina labellosa Jones
Syntype 13474
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 69, pl. 10, fig. 19.
"Birdseye" limestone [Lowville beds], Middle Ordovician, lot 3, con. 3, R.F., Gloucester tp., Carleton co., Ontario.

Isochilina labrosa Jones
Holotype 3841
Jones, T.R., 1889, Annals Mag. Natural Hist., ser. 6, vol. 3, p. 383, pl. 17, fig. 11.
Lower Devonian, Cape Bon Ami, New Brunswick.
=*Saccarchites labrosus*, Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 37, pl. 9, fig. 25.

Isochilina ottawa see *Leperditia (Isochilina) ottawa*

Isochilina whiteavesii Jones
Holotype 17709
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 68, pl. 10, figs. 13a, b.
Middle Ordovician, Lorette Falls, St. Charles River, Quebec.

Jenningsina concentrica Turner
Holotype 9405
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 28, pl. 1, fig. 16.
Middle Devonian, Union D'Clute Sykes well 12–441–23 (200'), lot 15, con. 15, Raleigh tp., Kent co., Ontario.

Kloedenia acadica see *Beyrichia arcuata*

Kloedenia? newbrunswickensis Copeland
Holotype 14541; paratypes 14541a-g
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 35, pl. 8, figs. 1–8.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Kloedenia punctillosa Ulrich and Bassler
Hypotypes 14538, a
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 33, figs. 9, 10.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Kloedenia retifera Ulrich and Bassler
Hypotypes 14540, a-g
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 33, pl. 7, figs. 14–21
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Kloedenia sp. aff. *K. sussexensis* see *Beyrichia arcuata*

Kloedenia wilckensiana (Jones)
Hypotypes 14513, 14514
Copeland, M.J., 1960, Pal., vol. 3, pt. 1, p. 99, pl. 23, figs. 17, 18.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Kloedenia ? sp. indet.
Fig. specs. 14539, a-e
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 32, pl. 7, figs. 11–13.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Leperditia amygdalina Jones
Syntypes 1078, a
Jones, T.R., 1858, Geol. Surv., Canada, dec. 3, p. 97, pl. 11, figs. 18, 19.
Pamelia beds, Middle Ordovician, near L'Orignal, Ontario.

Leperditia anna Jones
Holotype 506
Jones, T.R.,
1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 247, pl. 9, figs. 18a-c.
1858, Geol. Surv., Canada, dec. 3, p. 96, pl. 11, figs. 13a-c.
Beekmantown Formation, Lower Ordovician, Ste. Anne de Bellevue, Quebec.

Leperditia balthica var. *guelphica* Jones
Syntypes 3013, c
Jones, T.R., 1891, Geol. Surv., Canada, Micro-Pal., pt. 3, p. 80, pl. 13, figs. 12a, b, 13a-c.
Guelph Formation, Middle Silurian, Durham, Ontario.

Leperditia caeca Jones

Syntypes 8746, 8749

Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 88, pl. 12, figs. 7, 9.

Middle Silurian, below Cedar Lake, Saskatchewan River, and foot of Grand Rapids, near mouth of Saskatchewan River, Manitoba.

Leperditia caecigena Miller

Hypotypes 8522, a-c

Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 250.

Queenston Formation, Upper Ordovician, along north and south road bordering lot 24, con. 8, St. Vincent tp., 4 miles northwest of Meaford, Ontario.

Leperditia canadensis var. *josephiana* Jones

Holotype 1334h

Jones, T.R., 1858, Geol. Surv., Canada, dec. 3, p. 94, pl. 11, fig. 16.

Middle Ordovician, St. Joseph Island, Lake Huron, Ontario.

Leperditia canadensis var. *labrosa* Jones

Holotype 1079

Jones. T.R., 1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 245, pl. 9, figs. 13a-c.

Chazy (?), Middle Ordovician, Hawkesbury, Ontario.

Leperditia canadensis var. *louckiana* Jones

Holotype 1337

Jones, T.R., 1858, Geol. Surv., Canada, dec. 3, p. 93, pl. 11, fig. 11.

Middle Ordovician, Loucks Mill, Castor River, Ontario.

Leperditia canadensis var. *nana* Jones

Syntypes 1099, a

Jones, T.R.,

1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 244, pl. 9, figs. 11, 12.

1858, Geol. Surv., Canada, dec. 3, p. 92, pl. 11, figs. 6, 7.

Beekmantown Formation, Middle Ordovician, Grenville, Argenteuil co., Quebec.

Leperditia canadensis var. *pauquettiana* Jones

Holotype 1336a

Jones, T.R.,

1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 246, pl. 9, figs. 17a-d.

1858, Geol. Surv., Canada, dec. 3, p. 94, pl. 11, figs. 12a-d.

Leray beds, Middle Ordovician, Paquette Rapids, Ottawa River.

Leperditia concinnula Billings

Syntypes 702, a-c

Billings, E.,

1865, "New Species of Lower Silurian Fossils", p. 299.

1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 299.

Divisions L, M [Table Head], Middle Ordovician, Port Rich, and Table Head, Newfoundland.

Leperditia (?) exigua Jones

Holotype 8747

Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 94, pl. 12. fig. 10.

Devonian, small island east side of Lake Winnipegosis about 30 miles south of Denbeigh (Long) Point, Manitoba.

Leperditia hisingeri Schmidt
Hypotypes 8752, b
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 82, pl. 13, figs. 1a-c, 9a, b.
Stearn, C.W., 1956, ibid., Mem. 281, p. 124, pl. 12, fig. 6.
Middle Silurian [Cedar Lake Formation], Denbeigh (Long) Point, Lake Winnipegosis, Manitoba.

Leperditia hisingeri var. *egena* Jones
Holotype 8749
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 83, pl. 12, fig. 8.
Middle Silurian [Moose Lake Formation], foot of Grand Rapids, Saskatchewan River, Manitoba.

Leperditia hisingeri var. *fabulina* Jones
Syntypes 6052, b
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 82, pl. 10, figs. 5a-c, 7.
Stearn, C.W., 1956, ibid., Mem. 281, p. 124, pl. 12, fig. 13.
Middle Silurian [Fisher Branch Formation?], east side Lake Winnipegosis, Manitoba.

Leperditia hisingeri var. *fabulina* Jones
Syntype 8748, a
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 82, pl. 13, figs. 2, 5.
Middle Silurian, foot of Grand Rapids, Saskatchewan River, Manitoba.

Leperditia hisingeri var. *fabulina* Jones
Syntypes 8753, a
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 82, pl. 12, fig. 15; pl. 13, figs. 3a-c.
Middle Silurian, Denbeigh (Long) Point, Lake Winnipegosis, Manitoba.

Leperditia hisingeri var. *gibbera* Jones
Holotype 8754
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 82, pl. 13, fig. 4.
Middle Silurian, Denbeigh (Long) Point, Lake Winnipegosis, Manitoba.
=*Leperditia longigibbera*, Swartz, F.M., 1949, J. Pal., vol. 23, No. 3, p. 314.

Leperditia manitoulinensis Foerste
Syntypes 8520, a-c
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 250, pl. 46, figs. 1a [8520e], b [8520b], c [8520a], d [8520c].
Meaford Formation, Upper Ordovician, Clay Cliffs, Manitoulin Island, Ontario.

Leperditia (Isochilina) ottawa Jones
Syntypes 1077, a
Jones, T.R.,
1858, Annals Mag. Natural Hist., ser. 3, vol. 1, No. 4, p. 248, pl. 10, figs. 1a-c [1077?].
1858, Geol. Surv., Canada, dec. 3, p. 97, pl. 11, figs. 14a-c.
Beekmantown Formation, Lower Ordovician, canal at Grenville, Argenteuil co., Quebec.

Leperditia phaseola (Hisinger)
Hypotype 8755, a
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 85, pl. 13, figs. 7, 8.
Stearn, C.W., 1956, ibid., Mem. 281, p. 125, pl. 12, fig. 7.
Middle Silurian [East Arm Formation], Roche Rouge, Saskatchewan River, Manitoba.

Leperditia phaseola var. *guelphica* Jones
Holotype 3005
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 86, text fig. 5.
Guelph Formation, Middle Silurian, Durham, Ontario.

Leperditia selwynii Jones
Syntypes 10562, a-e
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 89, pl. 12, figs. 1-3, 5.
Middle Silurian, 12 and 15 mile pools, Jupiter River, Anticosti Island, Quebec.

Leperditia subcylindrica Ulrich
Holotype 6832
Ulrich, E.O., 1889, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 2, p. 49, pl. 9, fig. 4.
Stony Mountain Formation, Upper Ordovician, Stony Mountain, Manitoba.

Leperditia trentonensis Wilson
Holotype 6228
Wilson, A.E., 1921, Geol. Surv., Canada, Bull. 33, p. 57, pl. 4, figs. 12, 13.
Rockland beds, Middle Ordovician, MacLaren Landing above Ottawa, Ontario.

Leperditia ventralis Billings
Syntypes 701, a
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 300.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 300.
Division N [Table Head], Middle Ordovician, Bonne Bay, Newfoundland.

Leperditia whiteavesii Jones
Syntypes 8751, a, b
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 87, pl. 12, figs. 11, 12a-c, 14.
Middle Silurian, Chemahawin, Saskatchewan River, Manitoba.

Leperditiae spp.
Fig. specs. 8750
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 89, pl. 12, fig. 6.
Middle Silurian, foot of Grand Rapids, near mouth of Saskatchewan River, Manitoba.

Libumella reticulata Copeland
Holotype 14529; paratypes 14529a-g
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 44, pl. 6, figs. 9–16.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Limnoprimitia? hortonensis Bell
Holotype 14391; paratypes 14392–14395
Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 41, pl. 19, figs. 1–8.
Horton Bluff Formation, Horton Group, Mississippian, north of Blue Beach fault, Horton Bluffs, Nova Scotia.

Mesomphalus magnificus Copeland
Holotype 14537; paratypes 14537a-n
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 38, pl. 7, figs. 1-8; pl. 8, figs. 9–12.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Menoeidina arcuata Turner
Holotype 9402
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 22, pl. 1, figs. 11, 14.
Middle Devonian, Moore well 26 (190'), lot 142, con. T.R., Raleigh tp., Kent co., Ontario.

Molleritia canadensis Copeland
Holotype 15179; paratypes 15176–15178, 15180–15183
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 4, pl. 1, figs. 3–17; text figs. 1, 2.
Middle Devonian, East Porcupine and Hart Rivers, Yukon, and north shore Deans Dundas Bay, lat. 72°21'N, long. 118°25'W., Victoria Island, Arctic.

Molleritia canadensis insignis Copeland
Holotype 15175
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 6, pl. 1, figs. 1, 2.
Middle Devonian, East Porcupine River, lat. 65°47'30''N., long. 139°14'30''W., Yukon.

"Octonaria" curta Ulrich
Hypotypes 15197, a
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 10, pl. 2, figs. 19, 20.
Rochester Formation, Middle Silurian, 20–25 feet above base De Cew Falls section, St. Catharines, Ontario.

Octonaria foordi Copeland
Holotype 14525; paratypes 1425a-j
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 25, pl. 5, figs. 18–24.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Octonaria cf. *O. typicus* (Bassler)
Hypotype 14524
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 26, pl. 5, fig. 17.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Oepikium planum Copeland
Holotype 15200
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 56, pl. 12, fig. 11.
'Trenton', Middle Ordovician, Gretna quarry, 4½ miles south-southwest of Napanee, Ontario.

Pachydomella? clarkei Copeland
Holotype 14542; paratypes 14542a-d
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 48, pl. 9, figs. 1–14.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Parabolbina granosa (Ulrich)
Hypotype 14543, a-f
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 30, pl. 9, figs. 15–19.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Paraechmina abnormis (Ulrich)
Hypotype 15193, a-c
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 10, pl. 2, figs. 6-9.
Rochester Formation, Middle Silurian, 15–30 feet above base De Cew Falls section, St. Catharines, Ontario.

Paraechmina postica Ulrich and Bassler
Hypotype 15191
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 10, pl. 2, fig. 1.
Rochester Formation, Middle Silurian, 20–25 feet above base De Cew Falls section, St. Catharines, Ontario.

Paraechmina spinosa (Hall)
Hypotypes 15192, a-c
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 10, pl. 2, figs. 2–5.
Rochester Formation, Middle Silurian, 30–35 feet above base De Cew Falls section, St. Catharines, and 28–30 feet above base access road Sir Adam Beck Generating Station section, Niagara Falls, Ontario.

Paraparchites gibbus Bell
Holotype 13590
Bell, W.A., 1929, Geol. Surv., Canada, Mem. 158, p. 185, pl. 34, figs. 6, a, b.
Lower Windsor Group, Mississippian, Maxner Point, Windsor, Nova Scotia.

Paraparchites okeni ? (Munster)
Hypotype 12779
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 30, pl. 4, fig. 4.
Mabou Formation, Canso Group, Pennsylvanian, along Southwest Mabou River, Inverness co., Nova Scotia.

Paraparchites scotoburdigalensis ? (Hibbert)
Hypotype 12780
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 30, pl. 4, fig. 5.
Mabou Formation, Canso Group, Pennsylvanian, along Southwest Mabou River, Inverness co., Nova Scotia.

Phlyctiscapha keslingi Copeland
Holotype 14544; paratypes 14544a-d
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 36, pl. 9, figs. 20–24.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Plagionephrodes montisdorsus McGill
Holotype 17359; paratypes 17359a-d
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 22, pl. 4, figs. 15–18.
Beaverhill Lake Formation, Middle Devonian, 4907–4922 feet Anglo Canadian Beaverhill Lake No. 2 well, l.s.d. 11, sec. 11, tp. 50, rge. 17, W. 4th mer., Alberta.

Plagionephrodes pustulosus McGill
Holotype 17360; paratypes 17360a-c
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 24, pl. 4, figs. 19–21.
Calumet Member, Beaverhill Lake Formation, Upper Devonian, 1,413.5 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Primitia aequalis Jones and Holl
Hypotype 4187
Jones, T.R., 1889, Annals Mag. Natural Hist., ser. 6, vol. 3, p. 379, pl. 17, fig. 2.
Lower Devonian, Cape Bon Ami, New Brunswick.

Primitia lativia Ulrich
Holotype 6833
Ulrich, E.O., 1889, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 2, p. 50, pl. 9, figs. 8, a.
Stony Mountain Formation, Upper Ordovician, Stony Mountain, Manitoba.

Primitia lativia Ulrich
Hypotype 8583c
Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 254, pl. 46, fig. 3.
Queenston Formation, Upper Ordovician, lot 24, con. 8, St. Vincent tp., 4 miles northwest of Meaford, Ontario.

Primitia mundula var. Jones
Hypotypes 4162, a-g, 4186
Jones, T.R., 1889, Annals Mag. Natural Hist., ser. 5, vol. 3, p. 375, pl. 16. figs. 1 [4162], 2 [4162a], 4 [4162b], 5 [4162c], 6 [4162d], 7 [4162e], 8, 9, [4162f]; pl. 17, fig. 1. [4186].
Lower Devonian, Campbellton, New Brunswick.

Primitia mundula (Jones)
Hypotype 14497
Copeland, M.J., 1960, Pal., vol. 3, pt. 1, p. 101, pl. 23, fig. 1.
Stonehouse Formation, Upper Silurian, Arisaig, Nova Scotia.

Primitia? (Beyrichia) parallela Ulrich
Holotype 975
Ulrich, E.O., 1889, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 2, p. 51, pl. 9, figs. 7, a.
Stony Mountain Formation, Upper Ordovician, Stony Mountain, Manitoba.

Primitia scaphoides Jones
Holotype 4185
Jones, T.R., 1889, Annals Mag. Natural Hist., ser. 6, vol. 3, p. 377, pl. 16, fig. 3.
Lower Devonian, Campbellton, New Brunswick.

Primitia scitula Jones
Holotype 4296a
Jones, T.R., 1891, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 3, p. 91, pl. 11, figs. 14a, b.
Upper Devonian, Hay River 40 miles above mouth, District of Mackenzie.

Punctaparchites ovatus Kay
Paratype 6252
Kay, G.M., 1934, J. Pal., vol. 8, No. 3, p. 332.
Hull Formation, Middle Ordovician. Healey Falls, Trent River, Ontario.

Pyxiprimitia cf. *P. germana* (Ulrich)
Hypotype 14527
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 28, pl. 6, fig. 5.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Pyxiprimitia ventriclefta Swartz
Hypotypes 14526, a-d
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 28, pl. 6, figs. 1-4, 6.
Dalhousie shale. Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Quasillites fordei var. *minimus* Turner
Holotype 9404
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 27, pl. 1, fig. 13
Middle Devonian, Union D'Clute Storey well 15–441–26 (190'), lot 142, N.T.R., Raleigh tp., Kent co., Ontario.

Quasillites reticulata Turner
Holotype 9403
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 26, pl. 1, fig. 10.
Middle Devonian, D'Clute well 14 (240'), lot 147, N.T.R., Raleigh tp., Kent co., Ontario.

Raymondatia goniglypta Kay
Paratype 6250
Kay, G.M., 1934, J. Pal., vol. 8, No. 3, p. 342.
Hull Formation, Middle Ordovician, Healey Falls, Trent River, Ontario.

Saccarchites labrosus see *Isochilina labrosa*

Sansabella carbonaria Cooper
Hypotypes 12831a-d
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 31, pl. 2, figs. 1–8.
Port Hood Formation, Riversdale Group, Pennsylvanian, above main coal seam, Port Hood, Nova Scotia.

Sansabella reversa Copeland
Holotype 10386; paratypes 12830a-d
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 31, pl. 2, figs. 9–17.
Port Hood Formation, Riversdale Group, Pennsylvanian, above main coal seam, Port Hood, Nova Scotia.

Scrobicula sp.
Fig. spec. 15165
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 1.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Semihealdioides levinsoni McGill
Holotype 17349; paratypes 17349a-d
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 8, pl. 1, figs. 14–19.
Calumet Member, Beaverhill Lake Formation, Upper Devonian, 1,494–1,514 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Senescella albertensis (Loranger)
Hypotypes 17356, a
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 21, pl. 4, figs. 1–4.
Mildred Member, Beaverhill Lake Formation, Upper Devonian, 1,010–1,020 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Senescella granulosa McGill
Holotype 17354; paratypes 17354a-e
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 20, pl. 3, figs. 14–16.
Christina–Calumet Members, Beaverhill Lake Formation, Upper Devonian, 1,413 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Senescella veritatis McGill
Holotype 17355; paratypes 17355a-e
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 20, pl. 3, figs. 17–22.
Ireton Formation, Upper Devonian, 1,848–1,858 feet Bear Beaumont No. 1 well, l.s.d. 14, sec. 25, tp. 75, rge. 17, W. 4th mer., Alberta.

Strepula quadrilirata var. *simplex* Ulrich
Holotype 13692
Ulrich, E.O., 1889, Geol. Surv., Canada, Contr. Can. Micro-Pal., pt. 2, p. 55, pl. 9, fig. 13.
Stony Mountain Formation, Upper Ordovician, Stony Mountain, Manitoba.

Strepulites dalhousiensis Copeland
Holotype 14523; paratype 14523a
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 25, pl. 5, figs. 15, 16.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Tetrasacculus stewartae Benson and Collinson
Hypotype 15157
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, figs. 2, 3.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Thlipsnephrodes silvancendatus McGill
Holotype 17357; paratype 17357a
McGill, P., 1963, Bull. Can. Petrol. Geol., vol. 11, No. 1, p. 22, pl. 4, figs. 5–10.
Mildred Member, Beaverhill Lake Formation, Upper Devonian, 1,084–1,094 feet Bear Biltmore No. 1 well, l.s.d. 7, sec. 11, tp. 87, rge. 17, W. 4th mer., Alberta.

Thlipsura whiteavesi Copeland
Holotype 14519; paratypes 14519a-c
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 23, pl. 5, figs. 3–5.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Thlipsurella curvistriata (Roth)
Hypotypes 14521, a-d
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 24, pl. 5, figs. 9–12.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Thlipsurella cf. *T. v–scripta* (Jones and Holl)
Hypotypes 14518, a, b
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 24, pl. 5, figs. 1, 2.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Thomasatia falcicosta Kay
Paratype 6249
Kay, G.M., 1934, J. Pal., vol. 8, No. 3, p. 337, pl. 46, fig. 19.
Hull Formation, Middle Ordovician, Healey Falls, Trent River, Ontario.

Tubulibairdia chaleurensis Copeland
Holotype 14551; paratypes 14551a-e
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 47, pl. 10, figs. 32–36.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

Ulrichia fragilis var. *subnodata* Turner
Holotype 9396
Turner, M.C., 1939, Bull. Am. Pal., vol. 25, No. 88, p. 25, pl. 1, fig. 2.
Middle Devonian, Dauphin Imperial well 2–441–70 (130'), lot 2, con. 4, Tilbury East tp., Kent co., Ontario.

Waylandella ? sp.
Fig. spec. 15164
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, fig. 18.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Zygobeyrichia dalhousiensis Copeland
Holotype 14536
Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 31, pl. 6, fig. 35.
Dalhousie shale, Lower Devonian, Stewart's Cove, Dalhousie, New Brunswick.

ARTHROPODA-CIRRIPEDIA

Balanus crenatus Bruguière
Hypotype 13621
Wilson, A.E., 1957, Can. Field-Naturalist, vol. 70, No. 1, pl. 5, fig. 10.
Pleistocene, Sandpits near Uplands, Ottawa, Ontario.

Loricula canadensis Whiteaves
Holotype 5070
Whiteaves, J.F., 1889, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 2, p. 190, pl. 26, figs. 4, a.
Upper Cretaceous, South Duck River, tp. 34, rge. 23, W. Prin. mer., Manitoba.

ARTHROPODA-MALACOSTRACA

Anthracophausia sp.
Fig. spec. 12783
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 47, pl. 14, fig. 1.
Mabou Formation, Canso Group, Upper Carboniferous, Southwest Mabou River, Inverness co., Nova Scotia.

Anthrapalaemon dubius (Milne-Edwards)
Hypotypes 12781, 12789, 12812, 12813, 12821, 12822
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 42, pl. 10, figs. 3-6; pl. 11, figs. 2, 3.
Parrsboro Formation, Riversdale Group, Pennsylvanian, Harrington River, 1 mile from mouth, 10 miles east of Parrsboro; ½ mile west of Diligent River, 5 miles west of Parrsboro; west side Parrsboro harbour, Nova Scotia; Cumberland Group, Pennsylvanian, near St. George's Mine, Joggins, Nova Scotia.

Anthrapalaemon hillianus Dawson
Hypotype 15187
Bell, W.A., 1922, Trans. Roy. Soc. Can., ser. 3, vol. 16, sec. 4, p. 162, pl. 1, fig. 10.
Riversdale Group, Pennsylvanian, Ste. Rose coal mine, Ste. Rose, Inverness co., Nova Scotia.

Anthrapalaemon sp.
Fig. spec. 12861
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 43, pl. 21, fig. 2.
Pictou Group, Pennsylvanian, Asphalt borehole 884, 1269', Pictou coalfield, Nova Scotia.

Callianassa whiteavesii Woodward

Syntypes 5818, a-c

Woodward, H., 1896, Quart. J. Geol. Soc. London, vol. 52, p. 223, figs. 1, 2.

Whiteaves, J.F., 1903, Geol. Surv., Canada, Mesoz. Fossils 1, pt. 5, p. 319, figs. 18, 19.

Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 107, pl. 20, figs. 6, 7.

Upper Cretaceous, Comox River, Vancouver Island, British Columbia.

Callianassa whiteavesii Woodward

Hypotypes 5382, a-f

Woodward, H., 1900, Geol. Mag., n. ser., dec. 4, vol. 7, p. 435, pl. 17, figs. 2a, b.

Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 107, pl. 20, figs. 8a, b.

Upper Cretaceous, Sounding Creek, tp. 30, rge. 8, W. 4th mer., Alberta.

Ceratiocaris cornwallisensis Copeland

Holotype 14006; paratypes 14005, 14011

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 49, pl. 8, Nos. 1, 2; pl. 9, No. 5.

Member C, Cape Phillips Formation, Upper Silurian, Cape Phillips and Snowblind Creek, northern Cornwallis Island, Arctic.

Ceratiocaris cornwallisensis Copeland

Hypotypes 14555, 14556

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 52, pl. 11, figs. 1, 2.

Devon Island and Cape Phillips Formations, Upper Silurian, 6½ miles northeast of Point Hogarth, Prince Alfred Bay, Devon Island and 3½ miles southeast of mouth of river flowing into Stuart ('Disappointment') Bay, Cornwallis Island, Arctic.

Ceratiocaris pusilla Matthew

Hypotypes 13298, a

Copeland, M.J., 1957, J. Pal., vol. 31, No. 3, p. 601, pl. 67, figs. 1–3.

Jones Creek Formation, Silurian, 1 mile above mouth Cunningham Brook, about 14 miles northeast of St. John, New Brunswick.

Ceratiocaris sp. cf. *C. stygia* Salter

Hypotypes 14007–14009

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 50, pl. 8, Nos. 3, 4; pl. 9, fig. 4.

Cape Phillips Formation, Upper Silurian, Twilight Creek (Stuart River), Bathurst Island, Arctic.

Ceratiocaris sp.

Fig. spec. 14557

Copeland, M.J., 1962, Geol. Surv., Canada, Bull. 91, p. 53, pl. 11, fig. 3.

Member C, Read Bay Formation, Upper Silurian, Washington Point, Baillie-Hamilton Island, Arctic.

Dithyrocaris glabroides Copeland

Holotype 10389; paratypes 12791, 12798

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 51, pl. 6, figs. 6, 7; pl. 9, fig. 6.

West Bay Formation, Canso Group, near Parrsboro, Nova Scotia.

Echinocaris beecheri Copeland

Holotype 13785

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 6, pl. 1, No. 8; fig. 2.

Banff? Formation, Mississippian, Imperial Zama Lake well, depth 1,355 feet, l.s.d. 15, sec. 22, tp. 115, rge. 10, W. 6th mer., Alberta.

Echinocaris castorensis Copeland

Holotype 13782; paratypes 13778–13781

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 4, pl. 1, Nos. 1–5; fig. 1.

Alexo Formation, Upper Devonian, talus at foot of "Beaver Ridge", lat. 52°50'N., long. 117°45'W., Alberta.

Echinocaris consanguina Eller

Hypotype 13783

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 5, pl. 1, Nos. 6, a.

Alexo Formation, Upper Devonian, "Beaver Ridge", lat. 52°50'N., long. 117°45'W., Alberta.

Echinocaris sp. (Telson)

Fig. spec. 13784

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 6, pl. 1, No. 7.

Duvernay Formation, Upper Devonian, Imperial Westlock No. 14–24 well, depth 5,095 feet, l.s.d. 14, sec. 24, tp. 59, rge. 26, W. 4th mer., Alberta.

Enoploclytia minor Woodward

Holotype 5971

Woodward, H., 1900, Geol. Mag., n. ser. dec. 4, vol. 7, p. 434.

Whiteaves, J.F., 1903, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 5, p. 321.

Upper Cretaceous, Hornby Island, British Columbia.

Eryma dawsoni Woodward

Holotype 5969

Woodward, H., 1900, Geol. Mag., n. ser., dec. 4, vol. 7, p. 400, pl. 16, fig. 2.

Whiteaves, J.F., 1903, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 5, p. 321, pl. 41, fig. 2.

Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 128, pl. 35, fig. 1.

Upper Cretaceous, northeast side Hornby Island, British Columbia.

Ermyastacus bordenensis Copeland

Holotype 14496

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 56, pl. 11, Nos. 1, 2; fig. 10.

Jurassic, east-central Borden Island, approx. long. 78°28'N., lat. 110°07'W., Arctic.

Homalopsis richardsoni Woodward

Holotype 5995, a

Woodward, H., 1896, Quart. J. Geol. Soc. London, vol. 52, p. 224, fig. 3.

Whiteaves, J.F., 1900, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 4, p. 266, fig. 13.

Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 86, pl. 20, fig. 3.

Cretaceous (?), west of Alliford Bay, Skidegate Inlet, Queen Charlotte Islands, British Columbia.

Hoploparia bennetti Woodward

Holotype 5972

Woodward, H., 1900, Geol. Mag., n. ser., dec. 4, vol. 7, p. 433.

Whiteaves, J.F., 1903, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 5, p. 320.

Upper Cretaceous, Comox River, Vancouver Island, British Columbia.

Hoploparia (?) canadensis Whiteaves

Holotype 5057

Whiteaves, J.F.,

1884, Trans. Roy. Soc. Can., vol. 2, sec. 4, p. 237.

1885, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 1, p. 87, pl. 11.

Upper Cretaceous, Highwood River, 10 miles west of first fork, Alberta.

=*Podocratus canadensis*, Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 134, pl. 36.

Hoploparia westoni Woodward

Syntypes 5377, a, 5378

Woodward, H., Geol. Mag., n. ser., dec. 4, vol. 7, p. 433, pl. 17, figs. 1a-c.

Upper Cretaceous, Red Deer River, tp. 23, rge. 15, W. 4th mer., Alberta.

Linuparus canadensis (Whiteaves)

Hypotype 5968

Woodward, J., 1900, Geol. Mag., n. ser., dec. 4, vol. 7, p. 398, pl. 16, fig. 1.

Whiteaves, J.F., 1903, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 5, p. 325, pl. 41, fig. 1.

Upper Cretaceous, 2 miles up Comox River, Vancouver Island, British Columbia.

=*Podocratus canadensis*, Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 134, pl. 35, fig. 2.

Linuparus (Podocrates) vancouverensis Whiteaves

Syntypes 5964, 5965, a

Whiteaves, J.F.,

1896, Trans. Roy. Soc. Can., ser. 2, vol. 1, sec. 4, p. 132.

1903, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 5, p. 323, pl. 40, fig. 1.

Woodward, H., 1900, Geol. Mag., n. ser., dec. 4, vol. 7, p. 394, pl. 15, fig. 1.

Upper Cretaceous, 2 miles up Puntledge (Comox) River, Vancouver Island, and Hornby Island, British Columbia.

=*Podocratus vancouverensis*, Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 135, pl. 37, figs. 1, 2.

Linuparus (Podocrates) vancouverensis Whiteaves

Hypotype 5966, 5967

Woodward, H., 1900, Geol. Mag., n. ser., dec. 4, vol. 7, p. 394, pl. 15, figs. 2, 3.

Whiteaves, J.F., 1903, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 5, p. 323, pl. 40, figs. 2, 3.

Upper Cretaceous, Comox River, Vancouver Island, and Hornby Island, British Columbia.

=*Podocratus vancouverensis*, Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 135, pl. 37, fig. 3.

Mesidotea sabinei Nothorst

Hypotypes 9368, a, b

Kindle, E.M., 1928, Can. Field-Naturalist, vol. 42, No. 9, p. 211, fig.

Pleistocene, bank Ottawa River below Rifle Range, Ottawa, Ontario.

Palaeastacus (?) ornatus Whiteaves
Holotype 12397
Whiteaves, J.F.
1887, Geol. Natural Hist. Surv., Canada, Ann. Rept., n. ser., vol. 2, p. 161E.
1889, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 2, p. 183, pl. 25, fig. 3.
Upper Cretaceous, Sounding Creek, tp. 30, rge. 8, W. 4th mer., Alberta.

Palaeocaris novascoticus Copeland
Holotype 13316; paratypes 13317–13324
Copeland, M.J., 1957, J. Pal., vol. 31, No. 3, p. 596, pl. 67, fig. 4; pl. 68, figs. 1–9.
Upper Horton Group, Mississippian, Borehole 530, 1 mile south of Hillsboro, Inverness co., Nova Scotia.

Palaeocaris cf. *typus* Meek and Worthen
Hypotype 12777
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 47, pl. 15, fig. 1.
Pictou Group, Pennsylvanian, Borehole 60, Stellarton, Nova Scotia.

Palaeocaris sp.
Fig. spec. 13315
Copeland, M.J., 1957, J. Pal., vol. 31, No. 3, p. 595, pl. 67, fig. 5.
Pictou Group, Pennsylvanian, near Clifton, Gloucester co., New Brunswick.

Palaeocorystes harveyi Woodward
Holotype 5817; paratype 5817a
Woodward, H., 1896, Quart. J. Geol. Soc. London, vol. 52, p. 226, fig. 4.
Whiteaves, J.F., 1903, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 5, p. 317, fig. 17.
Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 101, pl. 20, fig. 4.
Upper Cretaceous, Comox River, Vancouver Island, British Columbia.

Plagiolophus vancouverensis Woodward
Syntypes 5815, 5816, a, b
Woodward, H., 1896, Quart. J. Geol. Soc. London, vol. 52, p. 227, figs. 5, 6.
Whiteaves, J.F., 1903, Geol. Surv., Canada, Mesoz. Fossils, vol. 1, pt. 5, p. 316, figs. 15, 16.
Rathbun, M.J., 1926, U.S. Nat. Mus., Smithsonian Inst., Bull. 138, p. 37, pl. 20, figs. 1, 2.
Upper Cretaceous, Comox River, Vancouver Island, and northwest side Hornby Island, British Columbia.

Ptychocaris novaki Copeland
Syntypes 12459, a
Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 52, pl. 10, Nos. 4–6; fig. 9, Nos. 3, 4.
Middle Devonian, south side and about 1 mile inland from eastern end of Eids Fiord, southwestern Ellesmere Island.

Pygocephalus cooperi Huxley
Hypotypes 12811, 12858
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 43, pl. 10, fig. 1; pl. 11, fig. 1.
Parrsboro Formation, Riversdale Group, Pennsylvanian, near Parrsboro, Nova Scotia.

Pygocephalus cf. *cooperi* Huxley
Hypotype 12810
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 44, pl. 10, fig. 2.
Parrsboro Formation, Riversdale Group, Pennsylvanian, near Parrsboro, Nova Scotia.

Spathiocaris cf. *S. bipartita* (Woodward)

Hypotypes 13787, 13790

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 8, pl. 1, Nos. 10, 13.

Duvernay Formation, Upper Devonian, Imperial Paddle River No. 1, depth 7,730–7,743 feet, l.s.d. 5, sec. 17, tp. 56, rge. 8, W. 5th mer., Alberta.

Spathiocaris cf. *S. lata* (Woodward)

Hypotypes 13786, 13788, 13789

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 8, pl. 1, Nos. 9, 11, 12.

Black shales and Duvernay Formation, Upper Devonian, Central Leduc Toad River No. 1 well, depth 5,189 feet, lat. 59°21'N, long 124°59'W, British Columbia and Imperial Paddle River No. 1 well, depth 7,730–7,743 feet, l.s.d. 5, sec. 17, tp. 56, rge. 8, W. 5th mer., Alberta.

Spathiocaris? sp. (telson)

Fig. spec. 13791

Copeland, M.J. and Bolton, T.E., 1960, Geol. Surv., Canada, Bull. 60, p. 9, pl. 1, No. 14.

Upper Devonian black shales, Central Leduc Toad River No. 1 well, depth 5,165–5,170 feet, lat. 59°21'N, long. 124°59'W, British Columbia.

Tealliocaris barathrota Copeland

Holotype 10384; paratypes 12782, 12784, 12785a-d

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 45, pl. 13, figs. 2–6; pl. 14, figs. 2, 3.

Canso Group, near Creignish, Inverness co., and Mabou Formation, Canso Group, Upper Carboniferous, Southwest Mabou River, near Mabou, Nova Scotia.

Tealliocaris belli Copeland

Holotype 10381

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 46, pl. 12, fig. 4.

Canso Group, Upper Carboniferous, West Bay near Parrsboro, Nova Scotia.

Tealliocaris caudafimbriata Copeland

Holotype 10382

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 44, pl. 12, fig. 3.

West Bay Formation, Canso Group, Upper Carboniferous, near Parrsboro, Nova Scotia.

Crustacea incertae sedis

Fig. specs. 12775, 12820

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 60, pl. 13, fig. 1; pl. 20.

Pictou Group, Pennsylvanian, near Stellarton and Canso Group, second bridge up French River, Merigomish, Nova Scotia.

ARTHROPODA-MYRIAPODA

Amynilyspes springhillensis Copeland
Holotype 10385
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 52, pl. 15, fig. 2.
Joggins Formation, Cumberland Group, Pennsylvanian, near Springhill, Cumberland co., Nova Scotia.

Myriapoda incertae sedis
Fig. spec. 12776
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 59, pl. 15, fig. 3.
Lancaster Formation, Cumberland Group, Pennsylvanian, near St. John, New Brunswick.

Xylobius sigillariae Dawson
Hypotype 12788
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 53, pl. 11, fig. 6.
Joggins Formation, Cumberland Group, Pennsylvanian, near Joggins, Nova Scotia.

ARTHROPODA-INSECTA

Carboniferous

Archimylacris acadica (?) Scudder
Hypotype 12845
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 56, pl. 9, fig. 4.
Pictou Group, Pennsylvanian, Borehole 60, Thorburn area, Pictou co., Nova Scotia.

Archimylacris morienensis Copeland
Holotype 10394
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 57, pl. 19, fig. 5.
Pictou Group, Pennsylvanian, Morien Bay at South Port Morien, Nova Scotia.

Archimylacris sp. 1
Fig. spec. 12774
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 57, pl. 12, fig. 1.
Pictou Group, Pennsylvanian, Coalburn borehole (319'), Pictou co., Nova Scotia.

Archimylacris sp. 2
Fig. specs. 12773a, b
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 57, pl. 19, figs. 3, 4.
Pictou Group, Pennsylvanian, Borehole 60, Thorburn area, Pictou co., Nova Scotia.

Archimylacris sp. (pronotum)
Fig. spec. 12772
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 58, pl. 9, fig. 1.
Pictou Group, Pennsylvanian, Borehole 60 (384' within Thorburn coal series), Thorburn area, Pictou co., Nova Scotia.

(Blattoidea) carri see *Schistaspis bretonensis*

(Blattoidea) schuchertiana see *Schistaspis bretonensis*

Brodioptera amiae Copeland

Holotype 10392

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 54, pl. 18, figs. 4–6.

Riversdale Group, Pennsylvanian, Howard's Mills, River Wallace, 30 miles north of Stellarton, Nova Scotia.

Brodioptera cumberlandensis Copeland

Holotype 10390

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 54, pl. 18, figs. 1–3.

Parrsboro Formation, Riversdale Group, West Bay near Parrsboro, Nova Scotia.

Geroneura wilsoni Matthew

Holotype 8129

Matthew, G.F., 1889, Trans. Roy. Soc. Can., vol. 6, sec. 4, p. 57, pl. 4, fig. 10.

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 55, pl. 9, fig. 5.

"Fern Ledges" or Lancaster Formation, Cumberland Group, Pennsylvanian, near St. John, New Brunswick.

Hemimylacris sp. (pronotum)

Fig. spec. 12790

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 58, pl. 11, fig. 5.

Pictou Group, Pennsylvanian, McLellan Brook, Pictou co., Nova Scotia.

Homothetus erutus Matthew

Holotype 8135

Matthew, G.F., 1894, Trans. Roy. Soc. Can., vol. 12, sec. 4, p. 95, pl. 1, fig. 11.

"Fern Ledges" or Lancaster Formation, Cumberland Group, Pennsylvanian, near St. John, New Brunswick.

Meganeura sp.

Fig. specs. 12863, 12864

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 55, pl. 21, figs. 4, 5.

Pictou Group, Pennsylvanian, Sydney coalfields, Nova Scotia.

Phylloblatta (?) spp.

Fig. specs. 12846, 12847a-e, 12848, 12849a

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 59, pl. 12, fig. 2; pl. 18, figs. 7–11; pl. 19, figs. 1, 6, 7.

Pictou Group, Pennsylvanian, Thorburn area, 8 miles southeast of Stellarton and Sydney coalfield, Nova Scotia.

Schistaspis bretonensis Bell

Holotype 9650; paratype 9650a

Bell, W.A., 1922, Trans. Roy. Soc. Can., ser. 3, vol. 16, sec. 4, p. 166, pl. 1, figs. 12–14.

Morien Group, Pennsylvanian, New Campbellton Mines, near Sydney, Nova Scotia.

=*(Blattoidea) carri* and *(Blattoidea) schuchertiana*, Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, pp. 58, 59, pl. 9, figs. 2, 3.

Palaeodictyoptera incertae sedis

Fig. spec. 12859

Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 56, pl. 19, fig. 2.

Pictou Group, Pennsylvanian, Sydney coalfields, Nova Scotia.

Insecta incertae sedis
Fig. spec. 12862
Copeland, M.J., 1957, Geol. Surv., Canada, Mem. 286, p. 60, pl. 21, fig. 3.
Pictou Group, Pennsylvanian, Borehole, Stellarton, Nova Scotia.

Mesozoic

Otiorhynchites williamsi Cockerell
Holotype 17687
Cockerell, T.D.A., *in* Williams, M.Y., 1943, Trans. Roy. Soc. Can., ser. 3, vol. 37, sec. 4, p. 115, pl. 1, fig. 6.
Peng Chau Formation, Jurassic, west side Peng Chau Island, Mirs Bay, Hong Kong.

Tertiary

Anthomyia burgessi Scudder
Holotype 6166
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875-76, p. 274.
1890, Fossil Insects N.A., vol. 2, p. 549, pl. 3, fig. 34.
Oligocene-Miocene, Quesnel, British Columbia.

Anthomyia inanimata Scudder
Holotype 6165
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875-76, p. 273.
1890, Fossil Insects N.A., vol. 2, p. 548, pl. 3, fig. 19.
Oligocene-Miocene, Quesnel, British Columbia.

Aphaenogaster longaeva Scudder
Holotype 6178
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875-76, p. 267.
1890, Fossil Insects N.A., vol. 2, p. 615, pl. 3, fig. 28.
Ologocene-Miocene, Quesnel, British Columbia.

Aphrophora angusta Handlirsch
Holotype 7277
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 128, fig. 36.
Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

Aphrophora sp.
Fig. spec. 6146
Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 20, pl. 1, fig. 4.
Oligocene-Miocene, north fork Similkameen River, British Columbia.

Aranea columbiae Scudder
Syntypes 6131, a, 6150
Scudder, S.H.,
1878, Geol. Surv., Canada, Rept. Prog. 1876-77, p. 463.
1890, Fossil Insects N.A., vol. 2, p. 71, pl. 2, figs. 1, 2.
Oligocene-Miocene, Quesnel, British Columbia.

Archiinocellia oligoneura Handlirsch
Holotype 7250
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 100, figs. 3–5.
Oligocene-Miocene, opposite Horsefly Mine, Quesnel District, British Columbia.

Boletina sepulta Scudder
Holotype 6177b
Scudder, S.H., 1877, Geol. Surv., Canada, Rept. Prog. 1875-76, p. 271.
Oligocene-Miocene, Quesnel, British Columbia.

Bothromicromus lachlani Scudder
Holotype 6130
Scudder, S.H.,
1878, Geol. Surv., Canada, Rept. Prog. 1876-77, p. 462.
1890, Fossil Insects N.A., vol. 2, p. 164, pl. 2, fig. 8.
Oligocene-Miocene, Quesnel, British Columbia.

Brachypeza abita Scudder
Holotype 6169
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875-76, p. 271.
1890, Fossil Insects N.A., vol. 2, p. 591, pl. 3, fig. 7.
Oligocene-Miocene, Quesnel, British Columbia.

Brachypeza procera Scudder
Holotype 6170
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875-76, p. 272.
1890, Fossil Insects N.A., vol. 2, p. 591, pl. 3, fig. 14.
Oligocene-Miocene, Quesnel, British Columbia.

Bracon sp.
Fig. spec. 6174
Scudder, S.H.,
1879, Geol. Surv., Canada, Rept. Prog. 1877-78, p. 177B.
1890, Fossil Insects N.A., vol. 2, p. 607, pl. 3, fig. 33.
Oligocene-Miocene, north fork Similkameen River, British Columbia.

Buprestis saxigena Scudder
Syntypes 6154, a-d
Scudder, S.H.,
1879, Geol. Surv., Canada, Rept. Prog. 1877-78, p. 181B.
1890, Fossil Insects N.A., vol. 2, p. 494, pl. 2, figs. 24, 25.
1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 36.
Oligocene-Miocene, Nicola River below main coal seam, British Columbia.

Buprestis sepulta Scudder

Holotype 6155

Scudder, S.H.,

1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 181B.

1890, Fossil Insects N.A., vol. 2, p. 495, pl. 2, fig. 26.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 37.

Oligocene-Miocene, Nicola River below main coal seam, British Columbia.

Buprestis tertiaria scudder

Syntypes 6153, a, b

Scudder, S.H.,

1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 180B.

1890, Fossil Insects N.A., vol. 2, p. 493, pl. 2, fig. 23.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 35.

Oligocene-Miocene, Nicola River below main coal seam, British Columbia.

Calyptites antediluvianum Scudder

Holotype 6173

Scudder, S.H.,

1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 270.

1890, Fossil Insects N.A., vol. 2, p. 606, pl. 3, fig. 32.

Oligocene-Miocene, Quesnel, British Columbia.

Cercopites torpescens Scudder

Holotype 6138

Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 14, pl. 1, fig. 1.

Oligocene-Miocene, north fork Similkameen River, British Columbia.

Cercopsis grandescens Scudder

Holotype 6140

Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 16, pl. 1, fig. 2.

Oligocene-Miocene, north fork Similkameen River, British Columbia.

Cercopsis selwyni Scudder

Holotype 6139

Scudder, S.H.,

1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 184B.

1890, Fossil Insects N.A,, vol. 2, p. 318, pl. 2, fig. 14.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 15.

Oligocene-Miocene, Nine Mile Creek, Similkameen River, British Columbia.

Cercyon ? terrigena Scudder

Holotype 6194

Scudder, S.H.,

1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 179B.

1890, Fossil Insects N.A., vol. 2, p. 510, pl. 2, fig. 21.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 45.

Oligocene-Miocene, Nicola River below main coal seam, British Columbia.

Coelidea columbiana Scudder

Holotype 6137

Scudder, S.H.,

1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 185B.

1890, Fossil Insects N.A., vol. 2, p. 313, pl. 2, fig. 13.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 13.

Oligocene-Miocene, 3 miles up north fork Similkameen River, British Columbia.

Cryptohypnus ? terrestris Scudder

Holotype 6156

Scudder, S.H.,

1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 181B.

1890, Fossil Insects N.A., vol. 2, p. 497, pl. 2, fig. 30.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 38.

Oligocene-Miocene, Nicola River below main coal seam, British Columbia.

Dawsonites veter Scudder

Holotype 6143

Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 18, pl. 1, fig. 10.

Oligocene-Miocene, north fork Similkameen River, British Columbia.

Elateridae ? sp.

Fig. spec. 6157

Scudder, S.H.,

1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 182B.

1890, Fossil Insects N.A., vol. 2, p. 498, pl. 2, fig. 28.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 40.

Oligocene-Miocene, Nicola River below main coal seam, British Columbia.

Enchophora sp.

Fig. spec. 6134

Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 10, pl. 1, fig. 5.

Oligocene-Miocene, north fork Similkameen River, British Columbia.

Etoptychoptera tertiaria Handlirsch

Holotype 7273

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 122, fig. 30.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

Euschistus antiquus Scudder

Holotype 6150

Scudder, S.H., 1878, Geol. Surv., Canada, Rept. Prog. 1876–77, p. 459.

Oligocene–Miocene, Quesnel, British Columbia.

=*Teleoschistus antiquus*, Scudder, S.H., 1890, Fossil Insects N.A., vol. 2, p. 454, pl. 2, figs. 17–19; 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 2, p. 25.

Formica arcana Scudder

Holotype 6180

Scudder, S.H.,

1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 266.

1890, Fossil Insects N.A., vol. 2, p. 618, pl. 3, fig. 24.

Oligocene-Miocene, Quesnel, British Columbia.

Galerucella picea Scudder

Holotype 6152

Scudder, S.H.,

1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 182B.

1890, Fossil Insects N.A., vol. 2, p. 485, pl. 2, fig. 31.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 32.

Oligocene-Miocene, Nine Mile Creek, Similkameen River, British Columbia.

Geranchon petrorum see *Lachnus petrorum*

Gerris defuncta Handlirsch
Holotype 7276, a
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 126, figs. 34, 35.
Oligocene-Miocene, Quilchena, Nicola Lake, British Columbia.

Heteromyza senilis Scudder
Holotype 6164
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 275.
1890, Fossil Insects N.A., vol. 2, p. 547, pl. 3, figs. 1, 2.
Oligocene-Miocene, Quesnel, British Columbia.

Hygrotrechus stali Scudder
Syntypes 6149, a, b
Scudder, S.H., 1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 183B.
Oligocene-Miocene, 3 miles up north fork Similkameen River, British Columbia.
=*Telmatrechus stali*, Scudder, S.H., 1890, Fossil Insects N.A., vol. 2, p. 351, pl. 2, figs. 11, 12; 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 23.

Hypoclinia obliterata Scudder
Holotype 6179
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 267.
1890, Fossil Insects N.A., vol. 2, p. 615, pl. 3, fig. 25.
Oligocene-Miocene, Quesnel, British Columbia.

Lachnus petrorum Scudder
Holotype 6132
Scudder, S.H., 1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 279.
Oligocene-Miocene, Quesnel, British Columbia.
=*Geranchon petrorum*, Scudder, S.H., 1890, Fossil Insects N.A., vol. 2, p. 249, pl. 2, fig. 6; 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 7.

Lachnus quesneli Scudder
Holotype 6133
Scudder, S.H., 1878, Geol. Surv., Canada, Rept. Prog. 1876–77, p. 461.
Oligocene-Miocene, Quesnel, British Columbia.
=*Sbenaphis quesneli*, Scudder, S.H., 1890, Fossil Insects N.A., vol. 2, p. 250, pl. 2, figs. 4, 5; 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 8.

Lithortalis picta Scudder
Holotype 6162
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 277.
1890, Fossil Insects N.A., vol. 2, p. 541, pl. 3, figs. 10, 16.
Oligocene-Miocene, Quesnel, British Columbia.

Lonchaea senescens Scudder
Holotype 6160
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 277.
1890, Fossil Insects N.A., vol. 2, p. 539, pl. 3, fig. 18.
Oligocene-Miocene, Quesnel, British Columbia.

Microphorus defunctus Handlirsch
Holotype 7275, a
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 124, figs. 32, 33.
Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

Nebria paleomelas Scudder
Holotype 6159
Scudder, S.H.,
1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 179B.
1890, Fossil Insects N.A., vol. 2, p. 532, pl. 2, fig. 20.
1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 54.
Oligocene-Miocene, Nicola River below main coal seam, British Columbia.

Palaeoptysma venosa Scudder
Holotype 6148
Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 21, pl. 1, fig. 8.
Oligocene-Miocene, north fork Similkameen River, British Columbia.

Palaphrodes sp.
Fig. spec. 6145 [missing]
Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Pal., vol. 2, pt. 1, p. 19.
Oligocene-Miocene, north fork Similkameen River, British Columbia.

Palecphora sp.
Fig. spec. 6141
Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 6, pl. 1, fig. 7.
Oligocene-Miocene, north fork Similkameen River, British Columbia.

Palloptera morticina Scudder
Holotype 6161
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 278.
1890, Fossil Insects N.A., vol. 2, p. 540, pl. 3, fig. 15.
Oligocene-Miocene, Quesnel, British Columbia.

Penthetria angustipennis Handlirsch
Holotype 7251, a
Handlirsch, A., Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 104, fig. 6.
Oligocene-Miocene, Horsefly Mine, Quesnel district, British Columbia.
=*Plecia angustipennis*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 9, fig. 3, No. 11.

Penthetria avunculus Handlirsch
Syntypes 7264, a
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 114, figs. 20, 21.
Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.
=*Plecia curtula*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 10, pl. 1, fig. 11; fig. 4, No. 7, [7264].

Penthetria avus Handlirsch
Holotype 7265
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 115, fig. 22.
Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.
=*Plecia avus*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 14, pl. 3, fig. 6; fig. 5, No. 13.

Penthetria brevipes Handlirsch

Holotype 7253

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 106, fig. 8.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

=*Plecia pulla*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 10, pl. 1, fig. 7; fig. 3, No. 14.

Penthetria canadensis Handlirsch

Holotype 7269

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 118, fig. 26.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

=*Plecia canadensis*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 13, pl. 2, fig. 10; fig. 5, No. 5.

Penthetria curtula Handlirsch

Holotype 7270

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 119, fig. 27.

Oligocene-Miocene, Horsefly Mine, Quesnel district, British Columbia.

=*Plecia curtula*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 10, pl. 1, fig. 9; fig. 4, No. 1.

Penthetria dilatata Handlirsch

Holotype 7271, a

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 120, fig. 28.

Oligocene-Miocene, Horsefly Mine, Quesnel district, British Columbia.

=*Plecia dilatata*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 15, pl. 3, fig. 9; fig. 8, No. 5.

Penthetria elatior Handlirsch

Holotype 7257, a

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 108, fig. 12.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

=*Plecia elatior*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 17, pl. 4, fig. 5; fig. 8, Nos. 10, 11.

Penthetria falcatula Handlirsch

Holotype 7259, a

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 110, fig. 14.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

=*Plecia transitoria*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 14, pl. 3, fig. 1; fig. 6, No. 5.

Penthetria fragmentum Handlirsch

Holotype 7260

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 111, fig. 15.

Oligocene-Miocene, Horsefly Mine, Quesnel district, British Columbia.

=*Plecia transitoria*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 14, pl. 4, fig. 3; fig. 6, No. 6.

Penthetria lambei Handlirsch

Holotype 7266

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 116, fig. 23.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

=*Plecia pictipennis*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 15, pl. 3, fig. 8; fig. 7, No. 11.

Penthetria nana Handlirsch

Syntype 7261, a

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 111, figs. 16, 17.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

=*Plecia nana*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 10, pl. 1, fig. 8; fig. 3, Nos. 15a, b.

Penthetria ovalis Handlirsch

Holotype 7267

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 117, fig. 24.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

=*Plecia pictipennis*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 15, pl. 3, fig. 5; fig. 7, No. 10.

Penthetria pictipennis Handlirsch

Syntypes 7254–7256

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 106, figs. 9–11.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff and right bank 1½ miles above Princeton, and Quilchena, Nicola Lake, British Columbia.

=*Plecia pictipennis*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 15, pl. 3, fig. 2; fig. 7, Nos. 1a, b, 2 [lectotype 7256; paratype 7254].

Penthetria platyptera Handlirsch

Holotype 7272, a

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 121, fig. 29.

Oligocene-Miocene, Horsefly Mine, Quesnel district, British Columbia.

=*Plecia platyptera*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 16, pl. 4, fig. 1; fig. 8, No. 7.

Penthetria pulchra Handlirsch

Holotype 7263, a

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 113, fig. 19.

Oligocene-Miocene, Tulameen River, right bank 1 mile above Princeton, British Columbia.

=*Plecia pulchra*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 16, pl. 4, fig. 2; fig. 8, No. 8.

Penthetria pulla Handlirsch

Holotype 7252, a

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 105, fig. 7.

Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

=*Plecia pulla*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 10, pl. 1, fig. 6; fig. 3, No. 13.

Penthetria reducta Handlirsch

Holotype 7258

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 109, fig. 13.

Oligocene-Miocene, Horsefly Mine, Quesnel district, British Columbia.

=*Plecia reducta*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 12, pl. 2, fig. 2; fig. 4, No. 8.

Penthetria separanda Handlirsch
Holotype 7262, a
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 112, fig. 18.
Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.
=*Plecia pictipennis*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 15, pl. 4, fig. 4; fig. 7, No. 3.

Penthetria similkameena Scudder
Syntypes 6172, a, b
Scudder, S.H., 1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 177B.
Oligocene-Miocene, north fork Similkameen River, British Columbia.
=*Plecia similkameena*, Scudder, S.H., 1890, Fossil Insects N.A., vol. 2, p. 583, pl. 3, figs. 20–22.
Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 12, pl. 2, fig. 5; fig. 5, No. 1 [lectotype 6172–attached wing].

Penthetria transitoria Handlirsch
Holotype 7268
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 117, fig. 25.
Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.
=*Plecia transitoria*, Rice, H.M.A., 1959, ibid., Bull. 55, p. 14, pl. 3, fig. 3; fig. 6, Nos. 4a, b.

Pimpla decessa Scudder
Holotype 6177a
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 269.
1890, Fossil Insects N.A., vol. 2, p. 612, pl. 3, fig. 27.
Oligocene-Miocene, Quesnel, British Columbia.

Pimpla saxea Scudder
Holotype 6175
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 268.
1890, Fossil Insects N.A., vol. 2, p. 610, pl. 3, fig. 23.
Oligocene-Miocene, Quesnel, British Columbia.

Pimpla senecta Scudder
Holotype 6176
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 268.
1890, Fossil Insects N.A., vol. 2, p. 611, pl. 3, figs. 29–31.
Oligocene-Miocene, Quesnel, British Columbia.

Planophlebia gigantea Scudder
Holotype 6135
Scudder, S.H.,
1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 186B.
1890, Fossil Insects N.A., vol. 2, p. 296, pl. 2, fig. 16.
1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 11.
Oligocene-Miocene, north fork Similkameen River 3 miles upriver, British Columbia.

Plecia angustipennis (Handlirsch)

Hypotype 14426

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 9, pl. 1, fig. 5; fig. 3, No. 12.

Oligocene, Diamond Vale Coal Company, Quilchena district, British Columbia.

Plecia avus (Handlirsch)

Hypotypes 14458–14464

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 14, pl. 3, fig. 7; fig. 5, Nos. 14–17; fig. 6, Nos. 1–3.

Oligocene, shale cliffs on east side of Driftwood Creek from 300 to 350 yards upstream, Smithers district; Tranquille Creek, Kamloops district; on CPR west of Princeton on Station park and on south bank of Tulameen River 400 yards west of old entry portal, Princeton district; and 1.45 miles from schoolhouse east side Driftwood Creek, Smithers district, British Columbia.

Plecia cairnesi Rice

Holotype 14432; paratypes 14433, 14434

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 11, pl. 2, figs. 3, 7; fig. 3, Nos. 17–19.

Oligocene, 1.45 miles from schoolhouse east side Driftwood Creek, Smithers district and northwest of Falkland, Okanagan Lake district, British Columbia.

Plecia canadensis (Handlirsch)

Hypotypes 14452–14457, 6172 (detached wing)

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 13, pl. 2, fig. 8; fig. 5, Nos. 6–12.

Oligocene, from 40 feet above Pleasant Valley No. 2 Mine Portal, Tulameen River, Princeton district; Diamond Vale Coal Company, Quilchena district; Tranquille Creek, Kamloops district; shale cliffs on east side of Driftwood Creek, Smithers district; and 3 miles up north fork of Simikameen River, Princeton district, British Columbia.

Plecia curtula (Handlirsch)

Hypotypes 14427–14431

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 10, pl. 1, fig. 10; fig. 4, Nos. 2–6.

Oligocene, from section along Tulameen River about a quarter mile north, and on east side of bank downstream from CPR bridge; 40 feet above Pleasant Valley No. 2 Mine Portal, Tulameen River; opposite Vermilion Cliff, Tulameen River, Princeton district; shale cliffs on east side of Driftwood Creek from 300 to 350 yards upstream, Smithers district; and above Tulameen River on southeast bank north of CPR bridge, Princeton district, British Columbia.

Plecia dilatata (Handlirsch)

Hypotype 14482

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 15, fig. 8, No. 6.

Princeton Group, Oligocene, 0.7 mile north of bridge over Whipsaw Creek, Princeton district, British Columbia.

Plecia intermedia? (Scudder)

Hypotype 14425

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 9, fig. 3, No. 10.

Oligocene, shale cliffs on east side Driftwood Creek from 300 to 350 yards upstream, Smithers district, British Columbia.

Plecia kelownaensis Rice

Holotype 14423; paratype 14424

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 8, pl. 1, fig. 4; fig. 3, Nos. 8, 9.

Oligocene, Mission Creek, Kelowna district and east bank from 300 to 350 yards upstream Driftwood Creek, Smithers district, British Columbia.

Plecia minutula Rice

Holotype 14422

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 8, pl. 1, figs. 3a, b; fig. 3, No. 7.

Princeton Group, Oligocene, from 40 feet above Pleasant Valley No. 2 Mine Portal, Tulameen River, Princeton district, British Columbia.

Plecia pictipennis (Handlirsch)

Hypotypes 14472–14481

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 15, pl. 4, fig. 6; fig. 7, Nos. 4–9; fig. 8, Nos. 1–4a, b.

Oligocene, east bank from 300 to 350 yards upstream and east side 1.45 miles from schoolhouse, Driftwood Creek, Smithers district; from 40 feet above Pleasant Valley No. 2 Mine Portal, Tulameen River, Azolla locality on China (Asp) Creek, section about 25 feet above river level on south bank of Tulameen River 400 yards west of old entry portal, and Tulameen River opposite Vermilion Cliff, Princeton district, British Columbia.

Plecia pulchra (Handlirsch)

Hypotype 14483

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 16, fig. 8, No. 9.

Princeton Group, Oligocene, North Fork, Similkameen River, British Columbia.

Plecia reducta (Handlirsch)

Hypotypes 14439–14448

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 12, pl. 2, fig. 6; fig. 4, Nos. 9–18.

Oligocene, from 40 feet above Pleasant Valley No. 2 Mine Portal, Tulameen River, Princeton district; shale cliffs on east side of Driftwood Creek 300 to 350 yards upstream, Smithers disctict; Azolla locality on China (Asp) Creek, Princeton district; east side 1.45 miles from schoolhouse, Driftwood Creek, Smithers district; Tulameen River opposite Vermilion Cliff and section about 25 feet above river level on south bank of Tulameen River 400 yards west of old entry portal, Princeton district, British Columbia.

Plecia similkameena Scudder

Hypotypes 14449–14451

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 12, pl. 2, fig. 9; fig. 5, Nos. 2–4.

Oligocene, Tranquille Creek, Kamloops district and 40 feet above Pleasant Valley No. 2 Mine Portal, Tulameen River, Princeton district, British Columbia.

Plecia transitoria (Handlirsch)

Hypotypes 14465–14471

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 14, pl. 3, fig. 4; fig. 6, Nos. 7–14.

Oligocene, east bank from 300 to 350 yards upstream, Driftwood Creek, Smithers district; 40 feet above Pleasant Valley No. 2 Mine Portal, Tulameen River; 3 miles up north fork Similkameen River; Tulameen River opposite Vermilion Cliff; road-cut in village of Princeton directly below Princeton General Hospital, Princeton district; Horsefly Mine, Quesnel district; and Tranquille Creek, Kamloops district, British Columbia.

Plecia tulameenensis Rice

Holotype 14435; paratypes 14436, 14437; hypotype 14438

Rice, H.M.A., 1959, Geol. Surv., Canada, Bull. 55, p. 11, pl. 2, figs. 1, 4; fig. 3, Nos. 16, 20, 21; fig. 4, No. 19.

Oligocene, 40 feet above Pleasant Valley No. 2 Mine Portal, Tulameen River, Princeton district; Tranquille Creek, Kamloops district; and section about 25 feet above river level on south bank of Tulameen River 400 yards west of old entry portal, Princeton district, British Columbia.

Promastox archaicus Handlirsch

Holotype 7248

Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 97, fig. 1.

Oligocene-Miocene, Horsefly Mine, Quesnel district, British Columbia.

Prometopia depilis Scudder

Holotype 6158

Scudder, S.H.,

1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 278.

1890, Fossil Insects N.A., vol. 2, p. 500, pl. 2, fig. 29.

1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 41.

Oligocene-Miocene, Quesnel, British Columbia.

Ptysmaphora fletcheri Scudder

Holotype 6147, a

Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 21, pl. 1, fig. 6.

Oligocene-Miocene, north fork Similkameen River, British Columbia.

Ricania antiquata Scudder

Holotype 6136

Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 12, pl. 1, fig. 3.

Oligocene-Miocene, north fork Similkameen River, British Columbia.

Sbenaphis quesneli see *Lachnus quesneli*

Sciara deperdita Scudder

Holotype 6167

Scudder, S.H.,

1878, Geol. Surv., Canada, Rept. Prog. 1876–77, p. 457.

1890, Fossil Insects N.A., vol. 2, p. 586, pl. 3, fig. 17.

Oligocene-Miocene, Quesnel, British Columbia.

Sciomyza revelata Scudder

Syntypes 6163, a

Scudder, S.H.,

1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 275.

1878, ibid., Rept. Prog. 1876–77, p. 458.

1890, Fossil Insects N.A., vol. 2, p. 542, pl. 3, figs. 3–6.

Oligocene-Miocene, Quesnel, British Columbia.

Stenecphora punctalata Scudder

Holotype 6142, a

Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 17, pl. 1, fig. 9.

Oligocene-Miocene, north fork Similkameen River, British Columbia.

Stenolocris venosa Scudder
Holotype 6144
Scudder, S.H., 1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 19, pl. 1, fig. 11.
Oligocene-Miocene, north fork Similkameen River, British Columbia.

Teleoschistus antiquus see *Euschistus antiquus*

Telmatrechus stali see *Hygrotrechus stali*

Tenebrio primigenius Scudder
Holotype 6151
Scudder, S.H.,
1879, Geol. Surv., Canada, Rept. Prog. 1877–78, p. 183B.
1890, Fossil Insects N.A., vol. 2, p. 483, pl. 2, fig. 32.
1895, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 1, p. 31.
Oligocene–Miocene, Nine Mile Creek, Similkameen River, British Columbia.

Tipula tulameena Handlirsch
Holotype 7274
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 123, fig. 31.
Oligocene-Miocene, Tulameen River opposite Vermilion Cliff, British Columbia.

Trichonta dawsoni Scudder
Holotype 6168
Scudder, S.H.,
1877, Geol. Surv., Canada, Rept. Prog. 1875–76, p. 272.
1890, Fossil Insects N.A., vol. 2, p. 590, pl. 3, figs. 12, 13.
Oligocene-Miocene, Quesnel, British Columbia.

Xylonomus lambei Handlirsch
Holotype 7249
Handlirsch, A., 1910, Geol. Surv., Canada, Contr. Can. Pal., vol. 2, pt. 3, p. 99, fig. 2.
Oligocene-Miocene, Tranquille Creek, Kamloops district, British Columbia,

ARTHROPODA-INCERTAE SEDIS

Anomalocaris canadensis Whiteaves
Holotype 3418
Whiteaves, J.F., 1906, Geol. Surv., Canada, Palaeoz. Fossils, vol. 3, pt. 4, p. 313, fig. 20.
Middle Cambrian, Mount Stephen, East Kootenay, British Columbia.

Eopteria richardsoni Billings
Holotype 756
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 306, figs. 298a, b.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 306, figs. 298a, b.
Beekmantown Formation, Lower Ordovician, near St. Antoine de Tilly, Quebec.

Ischyrina winchelli Billings
Syntypes 2114, a
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 16, figs. 4a-c.
Twenhofel, W.H., 1928, ibid., Mem. 154, p. 339, pl. 56, figs. 6, 7.
Upper Ordovician [English Head Formation], Macasty Bay, Anticosti Island, Quebec.

Ischyrina plicata Billings
Holotype 2291
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 52.
Upper Ordovician [Ellis Bay Formation], Junction Cliff, Anticosti Island, Quebec.
=*Technophorus plicata*, Twenhofel, W.H., 1928. ibid., Mem. 154, p. 340, pl. 56, fig. 8.

Ribeiria (Ribeirina) calcifera Billings
Holotype 469
Billings, E.,
1865, "New Species of Lower Silurian Fossils", p. 340, figs. 326a-c.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 340, figs. 326a-c.
Beekmantown Formation, Lower Ordovician, Oxford tp., Grenville co., Ontario.

Ribeiria (Ribeirina) longiuscula Billings
Holotype 470
Billings E.,
1865, "New Species of Lower Silurian Fossils", p. 341, fig. 327.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 341, fig. 327.
Beekmantown Formation, Lower Ordovician, Oxford tp., Grenville co., Ontario.

Technophorus plicata see *Ischyrina plicata*

Technophorus punctostriatus-quincuncialis Foerste
Syntypes 8413, 8415
Foerste, A.F., 1914, Denison Univ. Bull., J. Sci. Lab., vol. 17, p. 316, pl. 2, figs. 13A, B.
Upper Ordovician, Chambly, Quebec.
=*Technophorus quincuncialis*, Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 249, pl. 30, figs. 13a, b.

WORMS-SCOLECODONTS

Arabellites sinuatus Walliser

Holotype 15018

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 22, pl. 5, figs. 1a, b.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Artic.

Arthraria biclavata var. *westonensis* Foerste

Holotype 5597

Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 78, pl. 5, fig. 3.

Upper Ordovician, south of bridge at Weston, Humber River, Ontario.

Burrow

Fig. spec. 8581

Foerste, A.F., 1924, Geol. Surv., Canada, Mem. 138, p. 78, pl. 6, figs. 4a, b.

Meaford Formation, Upper Ordovician, Clay Cliffs, Manitoulin Island, Ontario.

Cornulites flexuosus Hall

Hypotype 13211

Wilson, A.E., 1948, Geol. Surv., Canada, Bull. 11, p. 54, pl. 25, fig. 3.

Lowville beds, Ottawa Formation, Middle Ordovician, first quarry on Merivale Road south of Carling Avenue, Ottawa, Ontario.

Cornulites parvus Wilson

Holotype 6752

Wilson, A.E., 1926, Geol. Surv., Canada, Contr. Can. Pal., Bull. 44, p. 31, pl. 8, fig. 1.

Beaverfoot Formation, Upper or Lower Ordovician, east of Palliser Pass, British Columbia.

Cornulites serpularius Schlotheim

Hypotypes 6009, 6010

McLearn, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 39, pl. 2, figs. 12, 13.

Beechhill Formation, Lower Silurian, Beechhill Cove, Arisaig, Nova Scotia.

Cornulites (Ortonis) sublaevis Whiteaves

Syntypes 4215, a-d

Whiteaves, J.F., 1891, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 3, p. 210, pl. 28, figs. 6 [4215], 7 [4215a].

Upper Devonian, 40 miles above mouth Hay River, District of Mackenzie.

Ildraites beckeri Walliser

Holotype 15019

Walliser, O.H., *in* Boucot, A.J. et al., 1960, Geol. Surv., Canada, Bull. 65, p. 23, pl. 5, figs. 2a-c.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Ildraites n. sp.

Holotype 15020

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 23, pl. 5, figs. 3a-c.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Lechthaylus? curiosus Wilson
Holotype 13210
Wilson, A.E., Geol. Surv., Canada, Bull. 11, p. 53, pl. 25, figs. 6, 7.
Cobourg beds, Ottawa Formation, Middle Ordovician, Mines Branch excavation at corner Rochester and Lydia Streets, Ottawa, Ontario.

Leodicites alatus Walliser
Holotype 15022
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 24, pl. 5, figs. 5a, b.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Leodicites sublunatus Walliser
Holotype 15021
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 24, pl. 5, figs. 4a, b.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Leodicites *sp.*
Fig. spec. 15023
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 25, pl. 5, figs. 6a, b.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Lumbriconereites cf. *L. webbi* Stauffer
Hypotypes 15034–15036
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 25, pl. 7, figs. 1–3.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Lumbriconereites n. sp.
Holotype 15037
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 25, pl. 7, figs. 4a-c.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Lumbriconereites sp.
Fig. spec. 15038
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 26, pl. 7, figs. 5a-c.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Oenonites sp.
Hypotype 13212
Wilson, A,E., 1948, Geol. Surv., Canada, Bull. 11, p. 54, pl. 24, figs. 7, 8.
Cobourg beds, Ottawa Formation, Middle Ordovician, Mines Branch excavation at corner of Rochester and Lydia Streets. Ottawa, Ontario.

Polychaetaspis? kozlowskii Walliser
Holotype 15024; paratypes 15025, 15026
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 26, pl. 6, figs. 1–3.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Polychaetaspis cf. *P. wyszogrodensis* Kozlowski
Hypotypes 15027–15032
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 27, pl. 6, figs. 4–10.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Scolecodont sp. indet.
Fig. specs. 15039, 15040
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 28, pl. 7, figs. 6a, b, 7a, b.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Serpula annulata (Dawson)
Hypotype 7744
Bell, W.A., 1929, Geol. Surv., Canada, Mem. 155, p. 97, pl. 5, figs. 1, a.
Mississippian, Nova Scotia.

Serpula hartti Bell
Holotype 7748
Bell, W.A., 1929, Geol. Surv., Canada, Mem. 155, p. 98, pl. 5, fig. 2.
Mississippian, Miller's quarry, Windsor, Nova Scotia.

Serpula semicoalita Whiteaves
Holotype 5058
Whiteaves, J.F., 1889, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 2, p. 185, pl. 26, fig. 1.
Cretaceous, Vermilion River, tp. 25, rge. 20, W. Prin. mer., Manitoba.

Serpulites dissolutus Billings
Syntypes 1758, 1759
Billings, E.,
1862, "New Species of Lower Silurian Fossils", p. 56.
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 56.
Middle Ordovician, 3 miles above Lachine and Lac Ouareau River, Quebec.

Serpulites longissimus Sowerby
Hypotype 6212
McLearn, F.H., 1924, Geol. Surv., Canada, Mem. 137, p. 36, pl. 1, fig. 12.
Stonehouse? Formation, Upper Silurian, coast section, Arisaig, Nova Scotia.

Serpulites splendens Billings
Syntypes 1091, a-e
Billings, E., 1859, Can. Naturalist Geol., vol. 4, p. 470.
'Chazy', Middle Ordovician, Island of Montreal, Quebec.

Spirorbis avonensis Bell
Holotype 14414; paratypes 14410–14413
Bell, W.A., 1960, Geol. Surv., Canada, Mem. 314, p. 41, pl. 19, figs. 10–12; pl. 20, fig. 1.
Horton Bluff Formation, Mississippian, Halfway River 5,500 feet downstream from bridge at Bishopville and Horton Bluffs north of Blue Beach fault, Nova Scotia.

Spirorbis caperatus M'Coy
Hypotypes 7641, a
Bell, W.A., 1929, Geol. Surv., Canada, Mem. 155, p. 98, pl. 6, figs. 1, 2.
Mississippian, Minudie, Cumberland co., Nova Scotia.

Spirorbis omphalodes (Goldfuss)

Hypotypes 4214, a-e

Whiteaves, J.F., 1891, Geol. Surv., Canada, Contr. Can. Pal., vol. 1, pt. 3, p. 209, pl. 28, figs. 3–5.

Upper Devonian, 40 miles above mouth Hay River, District of Mackenzie.

Worm Burrows?

Fig. spec. 4505

Williams, M.Y., 1919, Geol. Surv., Canada, Mem. 111, pl. 2, fig. 2.

Whirlpool Formation, Cataract Group, Lower Silurian, Glen William, Ontario.

Worm burrows?

Fig. specs. 6522, a

Wilson, A.E., 1932, Trans. Roy. Soc. Can. ser. 3, vol. 26, sec, 4, p. 378, pl. 1, figs. 3, 4.

Upper Chazy [Aylmer Formation], Middle Ordovician, shaft Barnhart Island near Cornwall, Ontario.

CONODONTS

Angulodus n. sp.

Holotype 15069

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 29, pl. 8, fig. 19.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Hindeodella cf. *H. equidentata* Rhodes

Hypotype 15065

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 30, pl. 8, fig. 15.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Hindeodella n. sp.

Holotype 15066

Walliser, O.H., *in* Boucot A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 30, pl. 8, fig. 16.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Ligonodina sp.

Fig. spec. 15046

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 30, pl. 7, fig. 13.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Lonchodina greilingi Walliser

Hypotypes 15067, 15068

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 31, pl. 8, figs. 17, 18.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Ottawella sinclairi Wilson

Holotype 13213

Wilson, A.E., 1948, Geol. Surv., Canada, Bull. 11, p. 55, pl. 24, fig. 6.

Cobourg beds, Ottawa Formation, Middle Ordovician, Mines Branch excavation at corner of Rochester and Lydia Streets, Ottawa, Ontario.

Ottawina trentonensis Wilson

Holotype 13214

Wilson, A.E., 1948, Geol. Surv., Canada, Bull. 11, p. 56, pl. 25, fig. 5.

Cobourg beds, Ottawa Formation, Middle Ordovician, Mines Branch excavation at corner of Rochester and Lydia Streets, Ottawa, Ontario.

Ozarkodina denckmanni Ziegler

Hypotypes 15063, 15064

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 31, pl. 8, figs. 13, 14.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Conodonts

Ozarkodina sp.
Fig. specs. 15172, a
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, figs. 23, 24.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Paltodus cf. *P. acostatus* Branson and Branson
Hypotype 15043
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 31, pl. 7, fig. 10.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Paltodus cf. *P. recurvatus* Rhodes
Hypotype 15041
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 31, pl. 7, fig. 8.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Paltodus cf. *P. unicostatus* Branson and Mehl
Hypotype 15042
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 32, pl. 7, fig. 9.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Plectospathodus extensus Rhodes
Hypotype 15070
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 32, pl. 8, fig. 20.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Polygnathus spp.
Fig. specs. 15171, a
Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, figs. 19, 20.
Exshaw Formation, Mississippian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Prioniodina bicurvata pronoides Walliser
Holotype 15059; paratypes 15058, 15060
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 33, pl. 8, figs. 8–10.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Prioniodina cf. *P. bicurvata pronoides* Walliser
Hypotype 15061
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 33, pl. 8, fig. 11.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Prioniodina cf. *P. excavata* (Branson and Mehl)
Hypotype 15062
Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 32, pl. 8, fig. 12.
Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Siphonodella duplicata (Branson and Mehl)

Hypotypes 15170, a

Copeland, M.J., 1960, Trans. Roy. Soc. Can., ser. 3, vol. 54, sec. 4, pl. 1, figs. 21, 22.

Exshaw Formation, Upper Silurian, Crowsnest Pass, sec. 8, tp. 8, rge. 5, W. 5th mer., Alberta.

Spathognathodus canadensis Walliser

Holotype 15051; paratypes 15052, 15053

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 34, pl. 8, figs. 1–3.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Spathognathodus cf. *S. canadensis* Walliser

Hypotypes 15054, 15055

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 34, pl. 8, figs. 4a, b, 5a-c.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Spathognathodus sp.

Fig. spec. 15056

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 35, pl. 8, figs. 6a, b.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Spathognathodus n. sp.

Holotype 15057

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 35, pl. 8, fig. 7.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Trichonodella inconstans Walliser

Hypotypes 15044, 15045

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 35, pl. 7, figs. 11, 12.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

Species indet. a-d

Fig. specs. 15047–15050

Walliser, O.H., *in* Boucot, A.J. *et al.*, 1960, Geol. Surv., Canada, Bull. 65, p. 35, pl. 7, figs. 14–17.

Sutherland River Formation, Upper Silurian, Douro Range, West Devon Island, Arctic.

INCERTAE SEDIS

Cruziana similis Billings
Syntype 346
Billings, E.,
1872, Can. Naturalist Geol., n. ser., vol. 6, p. 469, fig. 6.
1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 68, fig. 37.
'Upper Cambrian' [Lower Ordovician], Great Bell Island, Newfoundland.

Ctenichnites bisulcatus Matthew
Holotype 17693
Matthew, G.F., 1903, Geol. Surv., Canada, Rept. Cambrian of Cape Breton, p. 239.
Upper Cambrian, falls of MacMullin Brook, Indian Brook, Escasonie, Nova Scotia.

Cyclocrinites halli see *Pasceolus halli*

Cyclocrinites intermedius (Billings) [Algae]
Hypotype 8131
Twenhofel, W.H., 1928, Geol. Surv., Canada, Mem. 154, p. 102, pl. 1, fig. 10.
Gun River Formation, Middle Silurian, Cape MacGilvray, Anticosti Island, Quebec.

Eophyton jukesi Billings
Holotype 351
Billings, E.,
1872, Can. Naturalist Geol., n. ser., vol. 6, p. 466.
1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 66.
'Upper Cambrian' [Lower Ordovician], Great Bell Island, Newfoundland.

Eophyton linnaeanum? Torell
Hypotype 343
Billings, E.,
1872, Can. Naturalist Geol., n. ser., vol. 6, p. 466, fig. 1.
1874, Geol. Surv., Canada, Palaeoz. Fossils, vol. 2, pt. 1, p. 65, fig. 32.
'Upper Cambrian' [Lower Ordovician], Great Bell Island, Newfoundland.

Ischadites canadensis Billings
Holotype 2590
Logan, W.E., 1863, "Geology of Canada", Geol. Surv., Canada, Rept. Prog., p. 309, fig. 313.
Lower Silurian [Cabot Head Formation], Limehouse, Ontario.
=*Receptaculites canadensis*, Billings, E.,
1865, ibid., Palaeoz. Fossils, vol. 1, p. 385, fig. 362.
1865, Can. Naturalist Geol., n. ser., vol. 2, p. 191, fig. 10.
Williams, M.Y., 1919, Geol. Surv., Canada, Mem. 111, pl. 5, fig. 1.

Ischadites? insularis see *Receptaculites insularis*

Ischadites jonesi see *Receptaculites jonesi*

Ischadites ottawaensis Wilson

Holotype 9321; paratype 9323, a, b [specimen and thin section]

Wilson, A.E., 1948, Geol. Surv., Canada, Bull. 11, p. 26, pl. 13, figs. 1–4.

Cobourg beds, Ottawa formation, Middle Ordovician, Booth Street and south end of LeBreton Street, Ottawa, Ontario.

Oldhamia keithi Ruedemann

Holotype 13603

Ruedemann, R., 1942, New York State Mus., Bull. 327, pl. 5, figs. 1, 2.

Lower Ordovician, Mechins Point, Gaspé, Quebec.

Pasceolus globosus Billings [Algae]

Syntypes 1376, a-e

Billings, E.,

1857, Geol. Surv., Canada, Rept. Prog. 1853–56, p. 343.

1865, ibid., Palaeoz. Fossils, vol. 1, p. 391.

1865, Can. Naturalist Geol., n. ser., vol. 2, p. 195, fig. 14.

Wilson, A.E., 1948, ibid., Bull. 11, p. 28, pl. 14, figs. 4 [1376b], 5 [1376d].

Middle Ordovician [Cobourg? beds], Ottawa, Ontario.

Pasceolus globosus Billings [Algae]

Hypotype 9333

Wilson, A.E., 1948, Geol. Surv., Canada, Bull. 11, p. 28, pl. 14, fig. 6.

Cobourg beds, Ottawa Formation, Middle Ordovician, south end LeBreton Street, Ottawa, Ontario.

Pasceolus gregarius Billings [Algae]

Syntypes 2230, a, c, d

Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 72.

Lower Silurian [Becscie Formation], Reef Point, Anticosti Island, Quebec.

=*Cyclocrinites gregarius*, Twenhofel, W.H., 1928, ibid., Mem. 154, p. 102.

Pasceolus halli Billings [Algae]

Syntype 2227

Billings, E.,

1857, Geol. Surv., Canada, Rept. Prog. 1853–56, p. 342.

1865, ibid., Palaeoz. Fossils, vol. 1, p. 390, fig. 366.

1865, Can. Naturalist Geol., n. ser., vol. 2, p. 195, fig. 13.

Logan, W.E., 1863, "Geology of Canada" Geol Surv., Canada, Rept. Prog., p. 309, fig. 312. Wilson, A.E., ibid., Bull. 11, pl. 13, fig. 6; pl. 14, fig. 7 [holotype 2227].

Upper Ordovician [Ellis Bay Formation], White Cliff, Ellis Bay, Anticosti Island, Quebec.

=*Cyclocrinites halli*, Twenhofel, 1928, ibid., Mem. 154, p. 101 [holotype and paratypes 2227].

Pasceolus intermedius Billings [Algae]

Syntypes 2338, a-d, f, g

Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 72.

Middle Silurian [Gun River Formation], 3 miles west of Jupiter River, Anticosti Island, Quebec.

Receptaculites cf. *arcticus* Etheridge

Hypotypes 6497, 6498

Wilson, A.E., 1931, Trans. Roy. Soc. Can., ser. 3, vol. 25, sec. 4, p. 290, pl. 1, figs. 1, 2.

Upper Ordovician, drift at Cape Dorset and at Coral Bay, Lake Nettilling, Baffin Island, Arctic.

Receptaculites calciferus Billings
Holotype 461, a [parts of one specimen]
Billings, E.,
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 359, fig. 346; p. 384, fig. 358.
1865, Can. Naturalist Geol., n. ser., vol. 2, p. 190, fig. 6.
Lower Ordovician [Romaine Formation], Mingan Islands, Quebec.

Receptaculites canadensis see *Ischadites canadensis*

Receptaculites? elegantulus Billings
Holotype 462
Billings, E., 1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 360, fig. 347.
Lower Ordovician [Romaine Formation], Mingan Islands, Quebec.

Receptaculites? insularis Billings
Holotype (?) 2228
Billings, E., 1866, Geol. Surv., Canada, Cat. Sil. Fossils Anticosti, p. 29.
Upper Ordovician [Ellis Bay Formation], Ellis Bay, Anticosti Island, Quebec.
=*Ischadites? insularis*, Twenhofel, W.H., 1928, ibid., Mem. 154, p. 102, pl. 1, fig. 9.

Receptaculites iowensis (Owen)
Hypotype 1367
Billings, E.,
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 385, fig. 364.
1865, Can. Naturalist Geol., n. ser., vol. 2, p. 191, fig. 12 [fig. 11= *R. jonesii*].
Middle Ordovician, Ottawa, Ontario.
=*Ischadites ottawaensis*, Wilson, A.E., 1948, Geol. Surv., Canada, Bull. 11, p. 26.

Receptaculites jonesi Billings
Syntypes 3257, a [1 specimen], b, c
Billings, E.,
1865, Geol. Surv., Canada, Palaeoz. Fossils, vol. 1, p. 389, figs. 363, 365a, b [3257, a].
1865, Can. Naturalist Geol., n. ser., vol. 2, p. 191, fig. 11 [fig. 12=*R. iowensis*].
Devonian [Grande Greve Formation], Grande Greve, Gaspé, Quebec.
=*Ischadites jonesi*, Wilson, A.E., 1948, Geol. Surv., Canada, Bull. 11, pl. 13, fig. 5 [holotype 3257a].

Receptaculites occidentalis Salter
Syntypes 1125, a, d, f, h, j, k, m, n, p
Salter, J.W., 1859, Geol. Surv., Canada, Can. Org. Rem., dec. 1, p. 45, pl. 10, figs. 1 [1125], 2 [1125a].
Wilson, A.E.,
1931, Trans. Roy. Soc. Can., ser. 3, vol. 25, sec. 4, p. 288, pl. 1, fig. 4 [1125m].
1948, Geol. Surv., Canada, Bull. 11, p. 28, pl. 14, figs. 1–3.
Middle Ordovician [Leary-Rockland beds], Paquette Rapids, Allumette Island, Quebec.

Receptaculites oweni Hall
Hypotype 9089
Hume, G.S., 1925, Geol. Surv., Canada, Mem. 145, pl. 4, fig. 1.
Liskeard Formation, Ordovician, Lake Timiskaming area, Ontario.

Receptaculites sp.
Fig. spec. 9078
Hume, G.S., 1926, Geol. Surv., Canada, Contr. Can. Pal., Bull. 44, p. 62, pl. 12.
Ordovician, North Arm Great Slave Lake, District of Mackenzie.

INDEX TO VOLUMES I, II, AND III