

POSTILLA

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Postilla

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A Type Catalog of Fossil Invertebrates (Mollusca: Actinoceratoidea, Bactritoidea, Endoceratoidea and Nautiloidea) in the Yale Peabody Museum

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**A Type Catalog of Fossil Invertebrates
(Mollusca: Actinoceratoidea,
Bactritoidea, Endoceratoidea and
Nautiloidea) in the Yale Peabody Museum**

Russell D. White and Laura K. Skorina

(Received 9 June 1998)

Abstract

Type material for 220 nominal species of fossil actinoceratoids, bactritoids, endoceratoids and nautiloids are in the Invertebrate Paleontology Collections of Yale University's Peabody Museum of Natural History. Primary types for 158 nominal species include 133 holotypes, 64 syntypes (representing 18 nominal species), one lectotype and two neotypes. Secondary types for 22 nominal species include 90 paratypes. Tertiary types of 98 nominal species include 159 hypotypes. Most types are from Coahuila (Mexico), Newfoundland, New York State and Quebec and have been described by R.H. Flower, A.F. Foerste, J. Hall and A.K. Miller.

Key Words

Type Catalog, Actinoceratoidea, Bactritoidea, Endoceratoidea, Nautiloidea, Yale Peabody Museum, Coahuila (Mexico), Newfoundland, New York State, Quebec, R.H. Flower, A.F. Foerste, J. Hall, A.K. Miller.

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Introduction

This catalog lists all known fossil actinoceratoids, bactritoids, endoceratoids and nautiloid types in the Invertebrate Paleontology Collections housed in Yale University's Peabody Museum of Natural History. This is the tenth in a series of type catalogs of fossil invertebrates and is a product of an ongoing computerization project to improve the accessibility of the type collections.

Fourteen type specimens are missing and cannot be located. The collections have been thoroughly searched by the curatorial staff in the 1960s and 1990s and it is believed that these specimens are permanently lost. Missing specimens are indicated with a footnote, and any information on their whereabouts would be greatly appreciated.

Organization

Specimens are listed under the originally described binomen; genera and species within genera are indexed alphabetically. Each entry includes the catalog number used by the Division of Invertebrate Paleontology prefixed with the abbreviation YPM and the type status of the original designation, followed by all known references to that name. Any subsequent designations are listed under the original designation and are cross-referenced in the body of the text. Locality descriptions follow each entry or set of entries for each binomen. Errors and inconsistencies are footnoted at the bottom of each binomen.

The type designations used are holotype, syntype, lectotype and neotype for name bearers; paratype for secondary types; hypotype is used for all tertiary types. Name bearers and secondary types are defined as used in the *International Code of Zoological Nomenclature* (ICZN 1985). Tertiary types or hypotypes are treated here as any specimens used in an original species description but not explicitly designated primary or secondary types, any described, figured or measured specimen used in a publication to augment the knowledge of a previously defined species, or any referenced specimen that cannot be placed unequivocally in a known species (e.g., *Armenoceras* sp.).

Locality descriptions follow each entry or set of entries with identical locality data. The locality information includes the stratigraphy, geography, collector and date. Stratigraphy has been standardized using *Stratigraphic Nomenclature Databases for the United States, its Possessions and Territories* (MacLachlan et al. 1992).

**Catalog of Actinoceratoidea,
Bactritoidea, Endoceratoidea and
Nautiloidea**

***Actinoceras carletonense* Foerste**

HOLOTYPE YPM 20478

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.291, pl.42, f.3, pl.43, f.1,2.^a

Late Ordovician, English Head Fm, English Head zone 4, Carleton Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 35, Twenhofel Collection on p.291.

***Actinoceras gamachense* Foerste**

HOLOTYPE YPM 3846

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.290, pl.41, f.8, pl.42, f.1,2.

Ordovician, Ellis Bay Fm, Ellis Bay zone 5, Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Actinoceras serum* Foerste**

HOLOTYPE YPM 3845

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.290, pl.41, f.4,5.

Early Silurian, Chicotte Fm, Chicotte zone 1, Jumpers, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

***Adamsoceras transversum* Flower**

PARATYPE YPM 28353

Flower, R.H. 1976. New Mexico Bur. Mines Min. Res. Mem. n.28, pt.1, p.12, pl.5, f.2,3,5.

Middle Ordovician, Table Head Grp. Division 10 or K, lower Table Head, lower Chazy, NE side of Table Head, western Newfoundland, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 8/6/1910.

***Amphicyrtoceras cooperi* Foerste**

HOLOTYPE YPM 13148

Foerste, A.F. 1936. Bull. Denison Univ. Sci. Lab. v.31, p.78, pl.16, f.2a,b.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.227.

Middle Silurian, La Vieille Fm. RR cut above La Vieille, Quebec, Canada. Collector: Cooper, G.A., 8/1/1929.

***Amphicyrtoceras futile* (Billings)**

NEOTYPE? YPM 3866

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.311.^a

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.230, pl.6, f.3A.^b

Silurian, Jupiter Fm. East Jupiter Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3867

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.311.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.230, pl.11, f.7a.^c

Middle Silurian, Jupiter Fm, Jupiter zone 5, East Jupiter Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1908.

HYPOTYPE YPM 3868

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.311.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.230, pl.6, f.3b.^d

HYPOTYPE YPM 3946

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.311.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.230, pl.6, f.3c.^e

HYPOTYPE YPM 3947

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.311.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.230, pl.11, f.7b.^f

Silurian, Jupiter Fm, Jupiter zone 7. Cliff E of Jupiter River, Anticosti Island, Quebec, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 6/1908.

HYPOTYPE YPM 3948

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.311.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.230, pl.6, f.3d.^g

Middle Silurian, Jupiter Fm. East Jupiter Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as "selected as a Topotype," but probably was intended to be the neotype.

^bCited as "the topotype," but was probably intended to be the neotype.

^cCited as YPM 3867A.

^dCited as YPM 3868A.

^eCited as YPM 3868B.

^fCited as YPM 3868C.

^gCited as No. 49B, Twenhofel Collection.

***Amphicyrtoceras gunense* Foerste**

HOLOTYPE YPM 3880

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.312, pl.50, f.7,8.

Middle Silurian, Gun River Fm, Gun River zone 3?. East Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Apsidoceras depressum* Cooper**

HOLOTYPE YPM 12921

Cooper, G.A. 1930. Am. J. Sci. v.220, n.118, p.286, pl.3, f.11-13.

Foerste, A.F. 1936b. J. Paleont. v.10, n.5, p.379.

Late Ordovician, Richmondian, Whitehead Fm. Grande Coupe, near the mouth of the small brook in a deep gash on the E side of Mount Ste. Anne about 1 mi N of Perce, Gaspé Peninsula, Quebec, Canada. Collector: Northrop, S.A., 8/1927.

***Apsidoceras magnificum altum* Foerste**

HOLOTYPE YPM 3844

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.282, pl.39, f.1.

Late Ordovician, Ellis Bay Fm. Table Hill, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Apsidoceras magnificum major* Foerste**

SYNTYPE YPM 3842

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.281, pl.36, f.3,4.

SYNTYPE YPM 3843

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.281.

Ordovician, English Head Fm, English Head zone 4. Makasti Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

SYNTYPE YPM 26809

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.281.^a

Late Ordovician, English Head Fm, English Head zone 4. Caplan River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 34, Twenhofel Collection.

***Armenoceras angustum* Foerste**

HOLOTYPE YPM 3848

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.297, pl.48, f.1.

Silurian, Jupiter Fm, Jupiter zone 10. Jumpers, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Armenoceras chicottense* Foerste**

HOLOTYPE YPM 20510

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.294, pl.45, f.1,2.^a

Middle Silurian, Jupiter Fm. Cliff W of Iron River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

HYPOTYPE YPM 20494

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.294.^b

Middle Silurian, Jupiter Fm. Sand cliff, 3 mi up Jupiter River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 37, Twenhofel Collection.

^bCited as No. 38, Twenhofel Collection.

***Armenoceras excentrale* Foerste**

HOLOTYPE YPM 20477

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.294, pl.46, f.1,2.^a

Middle Silurian, Jupiter Fm, Jupiter zone 8. East cliff of Iron River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 39, Twenhofel Collection.

***Armenoceras gasconsense* Foerste**

HYPOTYPE YPM 12708

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.74.

Middle Silurian, Niagaran, La Vieille Fm. Near the top of the limestone, ridge W of Port Daniel RR station which extends from Clermville N to Barrachois, Quebec, Canada. Collector: Schuchert, C., 8/1923.

***Armenoceras cf. gasconsense* Foerste**

HYPOTYPE YPM 12714

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.227.

Middle Silurian, Niagaran, La Vieille Fm. Lower 50 ft of knobby limestone in RR cuts about 1.5 mi E of Gascons, Quebec, Canada. Collector: Schuchert, C., 8/1923.

HYPOTYPE YPM 13149

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.227.

Middle Silurian, Clintonian, La Vieille Fm. RR cut above La Vieille coast, Quebec, Canada. Collector: Cooper, J.W.

***Armenoceras jupiterense* Foerste**

HOLOTYPE YPM 20493

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.296, pl.42, f.7, pl.47, f.1-3.^a

Middle Silurian, Jupiter Fm, Jupiter zone 4. W of Heath Point Fault, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

HYPOTYPE YPM 3847^b

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.297.

Middle Silurian, Jupiter Fm, Jupiter zone 8. South Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^aCited as No. 40, Twenhofel Collection.

^bA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.

***Armenoceras* sp.**

HYPOTYPE YPM 17329

Miller, A.K. and W. Youngquist. 1947. J. Paleont. v.21, n.1, p.16, pl.7, f.1,2.

Late Ordovician. Small island about 1 mi NW of Read Island, Canada. Collector: Cloud, P.E., 7/29/1938.

HYPOTYPE YPM 17331

Miller, A.K. and W. Youngquist. 1947. J. Paleont. v.21, n.1, p.16.

Late Ordovician. Shore of one of the small inland lakes on Liston Island, Canada. Collector: Cloud, P.E., 7/31/1939.

HYPOTYPE YPM 26812

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.298.^a

Late Ordovician, English Head Fm, English Head zone 4. Makasti Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 41, Twenhofel Collection.

***Armenoceras wellsae* Foerste**

HYPOTYPE YPM 12710

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.73, pl.18, f.1a,1b.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.226.

Middle Silurian, Niagaran, La Vieille Fm. Lower 50 ft of knobby limestone in RR cuts about 1.5 mi E of Gascons, Quebec, Canada. Collector: Schuchert, C., 8/1923.

***Armenoceras cf. wellsae* Foerste**

HYPOTYPE YPM 12706, 12713

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.226.

Middle Silurian, Niagaran, La Vieille Fm. Lower 50 ft of knobby limestone in RR cuts about 1.5 mi E of Gascons, Quebec, Canada. Collector: Schuchert, C., 8/1923.

***Asaphiceras schucherti* Foerste**

HOLOTYPE YPM 3871

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.314, pl.58, f.2,3.

Silurian, Jupiter Fm, Jupiter zone 2. East Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Bactrites mexicanus* Miller**

SYNTYPE YPM 15279^a

Miller, A.K. 1944. Geol. Soc. Am. Spec. Pap. 52, p.82.

=*Bactrites? mexicanus*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.33.

Late Permian. Beds 5 and 7 of Difunta section, concretionary shale, collection made along strike from Cerro Wencilao on S to 300 m W of El Indio on N, NW of Las Delicias, Coahuila State, Mexico. Collector: King, R.E.

SYNTYPE YPM 16277

Miller, A.K. 1944. Geol. Soc. Am. Spec. Pap. 52, p.82, pl.20, f.8,9.

=*Bactrites? mexicanus*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.33, pl.8, f.8,9.

Early Permian. Bed 18 of Malascachas section, *Perrinites* shale 2600 to 2800 m S42E of Noria de Malascachas, NW of Las Delicias, Coahuila State, Mexico. Collector: King, R.E.

SYNTYPE YPM 16278

Miller, A.K. 1944. Geol. Soc. Am. Spec. Pap. 52, p.82, pl.21, f.4-6.

=*Bactrites? mexicanus*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.33, pl.3, f.10-12.

Late Permian. Bed 6 of Difunta section, concretionary shale, collection made along strike from Cerro Wencilao on S to 300 m W of El Indio on N, NW of Las Delicias, Coahuila State, Mexico. Collector: King, R.E.

^aThis is a lot of approximately five specimens.

***Bactrites? mexicanus* Miller**
See *Bactrites mexicanus* Miller.

***Bactrites postremus* Miller**

SYNTYPE YPM 12929^a

Miller, A.K. 1930. J. Paleont. v.4, n.4, p.389.

SYNTYPE YPM 12929A

Miller, A.K. 1930. J. Paleont. v.4, n.4, p.389, pl.38, f.11.

Late Pennsylvanian, Gaptank Fm. Upper Gaptank, 4.5 mi S, 15 E of Lenox, Brewster Co., Texas, USA. Collector: King, P.B., King, R.E., and Baker, C.L.

^aThis is a lot of approximately 10 specimens.

***Beloitoceras accultum* Foerste**

HOLOTYPE YPM 20487

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.306, pl.50, f.1.^a

Late Ordovician, English Head Fm, English Head zone 3. MacDonald River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 48, Twenhofel Collection.

***Beloitoceras (?) fererectum* Foerste**

HOLOTYPE YPM 3863

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.309, pl.50, f.3,4.

Late Ordovician, Ellis Bay Fm. Cape James, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Beloitoceras fragile* (Billings)**

NEOTYPE? YPM 3853

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305, pl.40, f.11, 12.^a

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.229, pl.11, f.5.^a

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 5. Top of White Cliff, Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Schuchert, C., 1908.

HYPOTYPE YPM 3494

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.229, pl.7, f.3a.^b

HYPOTYPE YPM 3495

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.229.

Ordovician, Ellis Bay Fm, Ellis Bay zone 5. Cape Eagle, E side of Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3496

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.229.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Cliff between Bear Cliff and Cape Eagle, Anticosti Island, Quebec, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 6/1908.

HYPOTYPE YPM 3497, 3498^c

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.229.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 5. W side of Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3854

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.229.

Ordovician, Ellis Bay Fm, Ellis Bay zone 5. Cape Eagle, E side of Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3855

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.230, pl.7, f.3b.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Cliff between Bear Cliff and Cape Eagle, Anticosti Island, Quebec, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 1908.

HYPOTYPE YPM 3856

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.229.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 5. W side of Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^aCited as topotype, but probably was intended to be the neotype.

^bCited as YPM 03854a.

^cA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.

***Beloitoceras(?) jamesense* Foerste**

SYNTYPE YPM 3860

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.308, pl.48, f.3, pl.50, f.2.

SYNTYPE YPM 3861

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.308, pl.48, f.4.

Late Ordovician, Ellis Bay Fm. Cape James, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Beloitoceras magisterium* Foerste**

HOLOTYPE YPM 20523

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.307.^a

Late Ordovician, English Head Fm, English Head zone 4. Cliff 0.5 mi E of Caplan River, Anticosti

Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

HYPOTYPE YPM 20485

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.307, pl.52, f.1.

Late Ordovician, Vaureal Fm. Bank W of West Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 46, Twenhofel Collection.

***Beloitoceras obstructum* Foerste**

HOLOTYPE YPM 3859

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.307, pl.52, f.2,3.^a

Late Ordovician, Vaureal Fm, Vaureal zone 2. Girard Cove, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^aIncorrectly cited as YPM 8859.

***Beloitoceras percurvatum* Foerste**

HYPOTYPE YPM 3499

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305.

Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3857

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.305, pl.49, f.5.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 6. W side of Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

***Beloitoceras (?) percurvatum* Foerste**

HYPOTYPE YPM 3858

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.306.

Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Bickmorites barbensis* Foerste**

HYPOTYPE YPM 12740

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.226.

Middle Silurian, Niagaran, Gascons Fm. Shore, W of mouth of Anse-a-la-Barbe River, Quebec, Canada. Collector: Northrop, S.A., 1927.

HYPOTYPE YPM 25668

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.226.^a

Middle Silurian, Niagaran, Bouleaux Fm. Shore of bay, Anse-a-la-Barbe, Quebec, Canada. Collector: Schuchert, C., 8/1905.

^aIncorrectly cited as YPM 12750.

***Billingsites acutus* Foerste**

HOLOTYPE YPM 3810

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.261, pl.28, f.1-3.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 1. Junction Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Billingsites anticostiensis* (Billings)**

HYPOTYPE YPM 3804

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.259.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.225.

Ordovician, English Head Fm, English Head zone 4. Carleton Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3807

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.259.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.225, pl.1, f.7.^a

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Cliff between Bear Cliff and Cape Eagle, Anticosti Island, Quebec, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 6/1908.

HYPOTYPE YPM 3939^b

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.259.^c

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.225.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 5. Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

HOLOTYPE YPM 20803

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.259.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.225, pl.1, f.6.^d

Late Ordovician, English Head Fm, English Head zone 4. Oil River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

HOLOTYPE YPM 26895

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.259.^e

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.225.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Junction Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as YPM 3807a.

^bA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.

^cCited as No. 4, Twenhofel Collection.

^dCited as No. 7a, Twenhofel Collection.

^eCited as No. 5, Twenhofel Collection.

***Billingsites canadensis* (Billings)**

HOLOTYPE YPM 3809

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.260.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.225.

Miller, A.K. 1932b. Univ. Iowa Stud. Nat. Hist. n.226, v.14, n.4, p.24, pl.4, f.3-6.

Ordovician, English Head Fm, English Head zone 4. Carleton Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HOLOTYPE YPM 20519

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.260, pl.40, f.3.^a

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.225, pl.1, f.2.^b

Miller, A.K. 1932b. Univ. Iowa Stud. Nat. Hist. n.226, v.14, n.4, p.24, pl.4, f.2.

Late Ordovician, English Head Fm, English Head zone 4. Oil River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as Twenhofel Collection in explanation for pl.40, f.3.

^bCited as No. 9, Twenhofel Collection.

***Billingsites logani* Cooper**

HOLOTYPE YPM 12922

Cooper, G.A. 1930. Am. J. Sci. v.220, n.118, p.287, pl.3, f.7-10.

=*Schuchertoceras logani*. Foerste, A.F. 1936b. J. Paleont. v.10, n.5, p.379.

Late Ordovician, Richmondian, Whitehead Fm. Grande Coupe, near the mouth of the small brook in a deep gash on the E side of Mount Ste. Anne about 1 mi N of Perce, Gaspé Peninsula, Quebec, Canada. Collector: Cooper, G.A., 8/1929.

***Billingsites newberryi* (Billings)**

HOLOTYPE YPM 20508

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.258, pl.40, f.4.^a

Late Ordovician, English Head Fm, English Head zone 4. Upper half of North Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as Twenhofel Collection in explanation for pl.40, f.4.

***Bitauinioceras coahuilense* Miller**

SYNTYPE YPM 16264

Miller, A.K. 1944. Geol. Soc. Am. Spec. Pap. 52, p.76, pl.20, f.1,2.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.30, pl.8, f.1,2.

Late Permian. Bed 17 of Difunta section, alternating shale and graywacke 60 m N35E of La Difunta, NW of Las Delicias, Coahuila State, Mexico. Collector: King, R.E.

SYNTYPE YPM 16265

Miller, A.K. 1944. Geol. Soc. Am. Spec. Pap. 52, p.76, pl.20, f.3,4.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.30, pl.8, f.3,4.

SYNTYPE YPM 16266

Miller, A.K. 1944. Geol. Soc. Am. Spec. Pap. 52, p.76, pl.20, f.5.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.30, pl.8, f.5.

SYNTYPE YPM 16267

Miller, A.K. 1944. Geol. Soc. Am. Spec. Pap. 52, p.76, pl.20, f.6,7.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.30, pl.8, f.6,7.

Late Permian. Beds 5 and 7 of Difunta section, concretionary shale, collection made along strike from Cerro Wencelao on S to 300 m W of El Indio on N, NW of Las Delicias, Coahuila State, Mexico. Collector: King, R.E.

***Brachycycloceras kentuckyense* Miller, Dunbar and Condra**

HOLOTYPE YPM 13977

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.110, pl.3, f.1,2.

=*Brachycycloceras normale* Miller, Dunbar and Condra. HYPOTYPE. Furnish, W.M., B.F. Glenister and R.H. Hansman. 1962. J. Paleont. v.36, n.6, p.1347, pl.179, f.3.

Middle Pennsylvanian, Breathitt Fm, Kendrick Shale Mbr. Wolf Branch, Buffalo Creek, Floyd Co., Kentucky, USA. Collector: Jillson, W.R.

***Brachycycloceras normale* Miller, Dunbar and Condra**

HOLOTYPE YPM 13976

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.107, pl.3, f.3,4.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.20.

Furnish, W.M., B.F. Glenister and R.H. Hansman. 1962. J. Paleont. v.36, n.6, p.1347, pl.180, f.7,8.

Middle Pennsylvanian, Marmaton Grp, Wewoka Fm. 3.5 mi NW of Allen, Pontotoc Co., Oklahoma, USA. Collector: Greger, D.K., 1919.

HYPOTYPE YPM 46520

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.107.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.20.

Furnish, W.M., B.F. Glenister and R.H. Hansman. 1962. J. Paleont. v.36, n.6, p.1347.

Pennsylvanian, Cisco Grp. 3 mi S and 0.5 mi E of Jacksboro, Jack Co., Texas, USA. Collector: Greger, D.K., 1919.

See also *Brachycycloceras kentuckyense* Miller, Dunbar and Condra.

***Bradfordoceras hector* (Hall)**

See *Cyrtoceras ? hector* Hall.

***Bradfordoceras hector* variant *alpha* Flower and Caster**

HOLOTYPE. YPM 13740A

Flower, R.H. and Caster, K.E. 1935. Bull. Am. Paleont. v.22, n.75, p.241, pl.6, f.4.

Late Devonian, Chemung Fm. Probably Salamanca conglomerate, Warren, Warren Co., Pennsylvania, USA. Collector: Beecher, C.E.

***Bradfordoceras hector* variant *beta* Flower and Caster**

HOLOTYPE YPM 13740B

Flower, R.H. and Caster, K.E. 1935. Bull. Am. Paleont. v.22, n.75, p.242, pl.6, f.8.^a

PARATYPE YPM 13740C

Flower, R.H. and Caster, K.E. 1935. Bull. Am. Paleont. v.22, n.75, p.242, pl.6, f.5.^a

PARATYPE YPM 13740D

Flower, R.H. and Caster, K.E. 1935. Bull. Am. Paleont. v.22, n.75, p.242, pl.6, f.6.

Late Devonian, Chemung Fm. Probably Salamanca conglomerate, Warren, Warren Co., Pennsylvania, USA. Collector: Beecher, C.E.

^aThe explanations for figures 5 and 8 on plate 6 are reversed: f.8 is the holotype YPM 13740B, and f.5 is paratype YPM 13740C.

***Bradfordoceras sinuosum* Flower and Caster**

See *Cyrtoceras ? hector* Hall.

***Centrotarphyceras billingsi* Foerste**

HOLOTYPE YPM 20488

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.86, pl.16, f.6.

=*Curtoceras? billingsi*. Ulrich, E.O., A.F. Foerste, A.K. Miller and W.M. Furnish. 1942. Geol. Soc. Am. Spec. Pap. 37, p.74, pl.29, f.3.

Early Ordovician, Romaine Fm. Trilobite Bay, NW of St. George Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

***Centrotarphyceras yellvillensis* Ulrich, Foerste, Miller and Furnish**

HYPOTYPE YPM 17152

Cullison, J.S. 1944. Bull. Tech. Ser. Mo. Univ. Sch. Min. Met. v.15, n.2, p.67, pl.32, f.20.

HYPOTYPE YPM 17153

Cullison, J.S. 1944. Bull. Tech. Ser. Mo. Univ. Sch. Min. Met. v.15, n.2, p.67, pl.33, f.1.

Early Ordovician, Powell Fm. Large porous, drusy, red residual chert boulders, "Black Ledge" 40-60 ft above base of Powell, NW corner of central rectangle at top of first high hill on W.P.A. road W of Tracey's Ferry over North Fork of White River, Baxter Co., Arkansas, USA. Collector: Cullison, J.S.

***Charactoceras hercules* (Billings)**

HYPOTYPE YPM 26810

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.286.^{a, b}

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.227, pl.11, f.3.^a

Late Ordovician, Vaureal Fm. West Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 33, Twenhofel Collection.

^bIncorrectly cited as *Characteroceras hercules*.

***Coelogasteroceras canaliculatum* (Cox)**

HYPOTYPE YPM 6020

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.213, pl.14, f.1,2.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.124, pl.53, f.1,2.

Early Pennsylvanian. Nolin Furnace, Edmonson Co., Kentucky, USA. Collector: Tiffney, B.

***Coloceras greenei* Miller, Dunbar and Condra**

HOLOTYPE YPM 13982

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.136, pl.7, f.8,9.

Late Pennsylvanian, Iola Limestone, Muncie Creek Shale Mbr. Shale below Avant Limestone, N end of mound in SW sec16T22NR12E, Oklahoma, USA. Collector: Greene, F.C.

***Coloceras liratum* Girty**

HYPOTYPE YPM 13980

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.132, pl.6, f.8.

Late Pennsylvanian, Cisco Grp, Graham Fm, Jacksboro Limestone Mbr. Middle of Jacksboro Limestone Mbr, mainly from lower 10 ft, 3.5 mi SE of Jacksboro RR station, Jack Co., Texas, USA. Collector: Schuchert, C., 1922.

***Coloceras obsoletum* Girty**

HYPOTYPE YPM 6378

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.134, pl.7, f.4,5.

HYPOTYPE YPM 6378A

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.134.

Middle Pennsylvanian, Marmaton Grp, Wewoka Fm. 3.5 mi NW of Allen, Pontotoc Co., Oklahoma, USA. Collector: Greger, D.K., 1919.

HYPOTYPE YPM 13981

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.134, pl.7, f.6.

Middle Pennsylvanian, Desmoinesian, Marmaton Grp, Wewoka Fm. NE of Copan, Washington Co., Oklahoma, USA. Collector: Greger, D.K.

***Curtoceras? billingsi* (Foerste)**

See *Centrotarphyceras billingsi* Foerste.

***Cyclendoceras abundum* Miller**

HYPOTYPE YPM 5985

Miller, A.K. and W.M. Furnish. 1937. J. Paleont. v.11, n.7, p.542, pl.66, f.2.

Late Ordovician, Whitewood Fm. Dolomite member of Whitewood, E side of Whitewood Canyon, 1.5 mi NE of Deadwood, Lawrence Co., South Dakota, USA.

***Cyrtendoceras magnus* Cullison**

HOLOTYPE YPM 17155

Cullison, J.S. 1944. Bull. Tech. Ser. Mo. Univ. Sch. Min. Met. v.15, n.2, p.69, pl.33, f.10.

PARATYPE YPM 17156

Cullison, J.S. 1944. Bull. Tech. Ser. Mo. Univ. Sch. Min. Met. v.15, n.2, p.69, pl.33, f.12.

Early Ordovician, Cotter Fm. Massive, gray granular dolomite, *Jeffersonia jennii* and *Campbelloceras simplex* zone of lower Cotter, road from MO State Hwy 25 down to Crystal City Glass Workers Country Club, SW sec 27T40NR06E, Jefferson Co., Missouri, USA. Collector: Cullison, J.S.

***Cyrtoceras ? hector* Hall**

SYNTYPE YPM 6015

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.364, pl.90, f.11.

=*Bradfordoceras hector*. LECTOTYPE. Flower, R.H. and Caster, K.E. 1935. Bull. Am. Paleont. v.22, n.75, p.240.^a

SYNTYPE YPM 13740E

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.364, pl.90, f.12-15.

=*Bradfordoceras sinuosum*. PARATYPE. Flower, R.H. and Caster, K.E. 1935. Bull. Am. Paleont. v.22, n.75, p.238, pl.6, f.7.

Late Devonian, Chemung Fm. Warren, Warren Co., Pennsylvania, USA. Collector: Beecher, C.E.

^aCited in Flower and Caster (1935) as "present whereabouts unknown," but the specimen has since been located in the Yale collections.

Cyrtoceras (?) sp.HYPOTYPE YPM 3879^aFoerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.310.^b

Late Ordovician, English Head Fm, English Head zone 4. English Head, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^aA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.

^bCited as the "the type."

***Cyrtorizoceras ellisense* Foerste**

HOLOTYPE YPM 3852

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.304, pl.47, f.4.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Cliff between Bear Cliff and Cape Eagle, Anticosti Island, Quebec, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 1908.

***Cyrtorizoceras cf. gasconsense* Foerste**

HYPOTYPE YPM 12760

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.224.

Middle Silurian, Niagaran, West Point Fm, West Point Member I. At lighthouse, West Point, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Cyrtorizoceras schucherti* Foerste**

HOLOTYPE YPM 12748

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.51, pl.11, f.1A,1B.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.223.

Middle Silurian, Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

Cyrtorizoceras sp.

HYPOTYPE YPM 12726

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.223.

HYPOTYPE YPM 12732

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.53, pl.11, f.2.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.223.

Middle Silurian, Niagaran, Bouleaux Fm. Shore W side of Pointe Bouleaux extending into Anse-aux-Gascons, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Dawsonoceras cf. americanum* (Fourd)**

HYPOTYPE YPM 26900

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.279.^a

Middle Silurian, Jupiter Fm, Jupiter zone 7. Cliff E of Iron River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as Twenhofel Collection.

***Dawsonoceras arisaigense* McLearn**

HOLOTYPE YPM 272

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.157, pl.21, f.16.^a

Late Silurian, Moydart Fm. Zone a of McLearn, along shore, at McDonald's Brook, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

PARATYPE YPM 271

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.157, pl.21, f.15.^b

Late Silurian, McAdam Fm. Zone c of McLearn, along shore, between the point at the E side of McDonald's Cove and McAdam Brook, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 465a.

^bIncorrectly cited as YPM 465.

***Dawsonoceras elegantulum* (Dawson)**

HYPOTYPE YPM 283

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.156, pl.24, f.2.^a

HYPOTYPE YPM 284

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.156, pl.24, f.3.^b

Early Devonian, Stonehouse Fm. Trilobite bed at top of section, zone c of McLearn, along shore, just NE of Stonehouse Brook, 2.4 mi SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 468.

^bIncorrectly cited as YPM 468a.

***Diastoceras arenicolum* Foerste**

HOLOTYPE YPM 3874

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.316, pl.55, f.1-3.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 4. Cape James Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Diastoceras carletonense* Foerste**

HOLOTYPE YPM 3876

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.318, pl.54, f.4.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 4. Carleton Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Diastoceras strangulatum* Foerste**

HOLOTYPE YPM 20500

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.317, pl.57, f.1,2.^a

Late Ordovician, Vaureal Fm, Vaureal zone 1. Camp 0.5 mi W of campsite, De Puyjalon cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 50, Twenhofel Collection.

***Diastoceras vagum* Foerste**

HOLOTYPE YPM 3875

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.318, pl.54, f.3.

Late Ordovician, English Head Fm, English Head zone 4. White Head, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Discosorus gunensis* Foerste**

SYNTYPE YPM 20484

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.301, pl.49, f.1.^a

SYNTYPE YPM 20805

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.301, pl.46, f.3.^b

Middle Silurian, Gun River Fm, Gun River zone 3. Gun River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 44, Twenhofel Collection.

^bCited as No. 44a, Twenhofel Collection.

***Discosorus (?) infelix* (Billings)**

HYPOTYPE YPM 3850

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.302.

Middle Silurian, Jupiter Fm, Jupiter zone 9. Southwest Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 26813

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.302.^a

Middle Silurian, Jupiter Fm, Jupiter zone 9. Cliff E of Pavillon River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 45, Twenhofel Collection.

***Dolorthoceras ciscoense* Miller, Dunbar and Condra**

HOLOTYPE YPM 13963A

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.96, pl.1, f.1,2.

PARATYPE YPM 13963B

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.96, pl.1, f.3.

Late Pennsylvanian, Cisco Grp. 8 mi N of Jim Ned Creek, N of Brownwood, Brown Co., Texas, USA. Collector: Greger, D.K.

***Dolorthoceras? dubium* Miller, Dunbar and Condra**

HOLOTYPE YPM 13962

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.95, pl.1, f.10,11.

Late Pennsylvanian, Oread Limestone, Weeping Water Mbr. Plattsmouth Water Works at Plattsmouth, Plattsmouth Quad., W sec7T12NR14E, Cass Co., Nebraska, USA. Collector: Condra, G.E. and others.

***Domatoceras moorei* Miller, Dunbar and Condra**

HOLOTYPE YPM 14001

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.221, pl.21, f.1,2.

Late Pennsylvanian, Dennis Fm, Winterset Limestone Mbr. Brick Plant Quarry, 1 mi S of Cherryvale, Liberty Quad., NW sec21T32SR17E, Montgomery Co., Kansas, USA. Collector: Condra, G.E. and others.

PARATYPE YPM 14002

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.221.

Late Pennsylvanian. 1 mi E of Independence, Independence Quad., NE sec5T33SR1, Montgomery Co., Kansas, USA. Collector: Condra, G.E. and others.

***Domatoceras* sp.**

HYPOTYPE YPM 16276

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.47, pl.45, f.8.

Late Permian. Bed 17 of Difunta section, alternating shale and graywacke 60 m N35 E of La Difunta, NW of Las Delicias, Coahuila State, Mexico. Collector: King, R.E.

***Endoceras fulgar* (Billings)**

HYPOTYPE YPM 3801

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.257.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.224.

Late Ordovician, English Head Fm, English Head zone 4. Raven West, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3802

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.257.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.224.

Ordovician, English Head Fm, English Head zone 4. Carleton Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 20802

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.257.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.224, pl.7, f.1, pl.11, f.4.^a

Late Ordovician, English Head Fm, English Head zone 4. North Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

HYPOTYPE YPM 26894

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.258.^b

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.224.

Late Ordovician, English Head Fm, English Head zone 4. Caplan River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 1, Twenhofel Collection.

^bCited as No. 2, Twenhofel Collection.

***Endoceras* sp.**

HYPOTYPE YPM 3803

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.258.

Late Ordovician, English Head Fm, English Head zone 2. English Head, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 26815

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.91, pl.24, f.5.

Middle Ordovician, Mingan Fm. Ammonite and Clearwater Points, E of Sea Cow Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

***Endoceras velox* (Billings)**

HYPOTYPE YPM 20517

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.89, pl.22, f.3.^a

Middle Ordovician, Mingan Fm. Clearwater Point, E of Sea Cow Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

HYPOTYPE YPM 35901

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.89.

Ordovician. Quin Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

HYPOTYPE YPM 35902

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.89.

Middle Ordovician, Mingan Fm. Clearwater Point, E of Sea Cow Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

^aCited as Twenhofel collection.***Endolobus schucherti* Miller**

HOLOTYPE YPM 13079

Miller, A.K. 1932a. J. Paleont. v.6, n.1, p.64, pl.12, f.12,13.

PARATYPE YPM 14127–14129

Miller, A.K. 1932a. J. Paleont. v.6, n.1, p.64.

Early Permian, Bursum Fm. Clay pits, 1.25 mi E of Tularosa on US Hwy 70, CENTER SW sec21T14SR10E, Otero Co., New Mexico, USA. Collector: Baker, C.L. and Drake, N.F.

***Eotrimeroceras jupiterense* Foerste**

HOLOTYPE YPM 3877

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.320, pl.53, f.4,5.^a

HYPOTYPE YPM 3500

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.320, pl.53, f.2,3.

HYPOTYPE YPM 3936

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.320, pl.53, f.6.

HYPOTYPE YPM 3937, 3938

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.320.

Middle Silurian, Jupiter Fm, Jupiter zone 4. 2 mi E of Jupiter River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^aCited as YPM 3877a.***Ehippioceras ferratum* (Cox)**

HYPOTYPE YPM 13978

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.114, pl.3, f.16,17.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.50.

Pennsylvanian. Kansas City, Jackson Co., Missouri, USA. Collector: Beecher, C.E.

***Euloxoceras greenei* Miller, Dunbar and Condra**

HOLOTYPE YPM 13964A

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99, pl.1, f.12,13.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Late Pennsylvanian, Kansas City Grp. Shale above sandstone above Checkerboard(?) Limestone (basal Kansas City), NW sec29T13NR10E, Oklahoma, USA. Collector: Greene, F.C.

PARATYPE YPM 13964^a

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Late Pennsylvanian, Kansas City Grp. Shale above sandstone above Checkerboard(?) Limestone (basal Kansas City), NW sec29T13NR10E, Oklahoma, USA. Collector: Greene, F.C.

PARATYPE YPM 13964B^b

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99, pl.1, f.14.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

PARATYPE YPM 13965

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Pennsylvanian, Cisco Grp. 3 mi S and 0.5 mi E of Jacksboro, Jack Co., Texas, USA. Collector: Greger, D.K., 1919.

PARATYPE YPM 13965A

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99, pl.1, f.15.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Pennsylvanian, Cisco Grp. 3 mi S and 0.5 mi E of Jacksboro, Jack Co., Texas, USA. Collector: Greger, D.K., 1919.

PARATYPE YPM 13966^b

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Middle Pennsylvanian, Marmaton Grp, Labette Shale. Zone R[ed], 2-4 ft below top of Labette, exposed along headwater branches of Feefee Creek, 0.6 mi W of Lackland Station, C.R.I. & P. Railroad, and 1 mi NW of Stratman, St. Louis Co., Missouri, USA. Collector: Knight, J.B.

PARATYPE YPM 13967

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Late Pennsylvanian, Cisco Grp, Graham Fm, Jacksboro Limestone Mbr. 130 ft above Canyon Limestone, 10.5 mi SE of Graham on N Mineral Wells Tpk, Young Co., Texas, USA. Collector: Schuchert, C. and Bean, W.B., 1922.

PARATYPE YPM 13968

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Middle Pennsylvanian, Marmaton Grp, Wewoka Fm. 3.5 mi NW of Allen, Pontotoc Co., Oklahoma, USA. Collector: Greger, D.K., 1919.

PARATYPE YPM 13969

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Pennsylvanian, Bend Grp. Lower Bend shale, 2.5 or 3 mi SE of Bend on narrow-gauge RR to Lampasas, San Saba Co., Texas, USA. Collector: Schuchert, C., 1919.

PARATYPE YPM 13970^c

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Francis Fm. Brick plant S of Ada, Pontotoc Co., Oklahoma, USA.

PARATYPE YPM 13971^c

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Late Pennsylvanian, Cisco Grp, Graham Fm, Jacksboro Limestone Mbr. Middle of Jacksboro Limestone Mbr, mainly from lower 10 ft, 3.5 mi SE of Jacksboro RR station, Jack Co., Texas, USA. Collector: Schuchert, C., 1922.

PARATYPE YPM 13972^d

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Late Pennsylvanian, Cisco Grp. 8 mi N of Jim Ned Creek, N of Brownwood, Brown Co., Texas, USA. Collector: Greger, D.K.

PARATYPE YPM 13973^e

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

No locality information is available for this specimen.

PARATYPE YPM 13974^f

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.99.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.24.

Late Pennsylvanian, Canyon Grp, Caddo Creek Fm, Home Creek Limestone Mbr. Near top of Canyon, bank W of Sinclair well and about 0.5 mi SW of the Partridge well, Brown Co., Texas, USA. Collector: Galpin, S.L.

^aThis is a lot of six specimens.

^bThis is represented by one thin section and remnant fragments.

^cThis is a lot of four specimens.

^dThis is a lot of 10 specimens.

^eA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.

^fThis is a lot of 24 specimens.

***Eurystomites ferox* (Billings)**

See *Eurystomites* (?) *ferox* (Billings).

***Eurystomites* (?) *ferox* (Billings)**

HYPOTYPE YPM 26814

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.85.^a

=*Eurystomites ferox*. Ulrich, E.O., A.F. Foerste, A.K. Miller and W.M. Furnish. 1942. Geol. Soc. Am. Spec. Pap. 37, p.62.^b

Early Ordovician, Romaine Fm. Eskimo Island, Mingan Islands, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

^aCited as Twenhofel Collection.

^bCited as private collection of W.H. Twenhofel.

***Eutrephoceras dekayi* Morton**

HYPOTYPE YPM 30394

Landman, N.H. 1982. Discovery, v.16, n.1, p.12, tf.8.

Mapes, R.H. and T.S. Evans. 1995. J. Paleont. v.69, n.4, p.785, tf.1.1-2.

Late Cretaceous, Fox Hills Fm, Trail City Mbr. *Protocardia-Oxytoma* assemblage zone, Dewey Co., South Dakota, USA. Collector: Ross, H.

***Eutrephoceras* sp.**

HYPOTYPE YPM 6405

Reeside, J.B., Jr. 1927. U.S. Geol. Surv. Prof. Pap. n.150-A, p.2, pl.1, f.1-4.

Late Cretaceous, Frontier Fm, Torchlight Sandstone Mbr. 800 ft above Torchlight, Oregon Basin, sec06T51NR100W, Park Co., Wyoming, USA. Collector: Binney, E., Jr., 1925.

***Gasconsoceras cascapediense* Foerste**

HOLOTYPE YPM 12723

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.66, pl.12, f.2.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.225.

HYPOTYPE YPM 12722, 30877

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.225.^a

Middle Silurian, Niagaran, Gascons Fm. Black Capes, near Little Cascapedia River, Quebec, Canada. Collector: Schuchert, C., 8/1927.

^aYPM 30877 cited as YPM 12723 ("same catalogue number as the holotype").

***Gasconsoceras obesum* Foerste**

HOLOTYPE YPM 12745

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.63, pl.12, f.1a,1b.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.225.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

***Gasconsoceras cf. obesum* Foerste**

HYPOTYPE YPM 12729

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.65, pl.15, f.2.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.225.

Middle Silurian, Niagaran, Bouleaux Fm. Shore W side of Pointe Bouleaux extending into Anse-aux-Gascons, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Gasconsoceras planiventrum* Foerste**

HYPOTYPE YPM 12750

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.62, pl.13, f.1a, 1b.^a

=*Gasconsoceras cf. planiventrum*.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.225.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

^aCited as *Gasconsoceras cf. planiventrum* in the explanation for pl.13, f.1.

***Gasconsoceras pulchellum* Foerste**

HOLOTYPE YPM 13099

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.61, pl.13, f.2.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.224.

Middle Silurian, Niagaran, Gascons Fm. Shore, W of mouth of Anse-a-la-Barbe River, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Geisonoceras ellisense* Foerste**

HOLOTYPE YPM 3813

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.263, pl.29, f.1.

Late Ordovician, Ellis Bay Fm. W side of Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

Geisonoceras sp.

HYPOTYPE YPM 12769

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.34, pl.10, f.2.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian, Niagaran, Indian Point Fm. Eastern portion (higher in section), shore at Indian Point, Quebec, Canada. Collector: Northrop, S.A., 1927.

Geisonoceras (?) sp.

HYPOTYPE YPM 12746

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.34, pl.10, f.5.

=*Geisonoceras?* sp. Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

Geisonoceras? sp.

HYPOTYPE YPM 12735

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian, Niagaran, Bouleaux Fm. Shore W side of Pointe Bouleaux extending into Anse-aux-Gascons, Quebec, Canada. Collector: Northrop, S.A., 1927.

See also *Geisonoceras(?) sp.*

***Geisonoceras barbensis* Foerste**

SYNTYPE YPM 12751A

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.32, pl.4, f.2.^a

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

HYPOTYPE YPM 12715

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.32, pl.5, f.3.^b

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

HYPOTYPE YPM 12719

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.32.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian, Niagaran, Gascons Fm. Stream drift in Anse-a-la-Barbe River, boundary between Range I-E and Range III, Quebec, Canada. Collector: Northrop, S.A., 1927.

HYPOTYPE YPM 12724

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.32.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian, Niagaran, Gascons Fm. Black Capes, near Little Cascapedia River, Quebec, Canada. Collector: Schuchert, C., 8/1927.

HYPOTYPE YPM 12747

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.32.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

^aCited as YPM 12751. YPM 12751 originally consisted of two specimens: one the figured syntype, and another that may be part of the same individual.

^bCited as *Geisonocarina* (?) *barbensis* in the explanation for pl.5, f.3.

***Geisonocarina* (?) *danielensis* Foerste**

HOLOTYPE YPM 12775

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.32, pl.5, f.1.

Middle Ordovician, Mictaw Grp. Cote d'Ardoise, Middle Branch, Port Daniel River, middle of Range VII, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Gomphoceras impar* Hall**

CAST OF HYPOTYPE YPM 6043^a

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.332.

Hall, J. 1886. N.Y. St. Geol. 5th Ann. Rept. 1885, pl.121A, f.1.

Hall, J. 1888. Paleont. N.Y. v.5, pt.2 suppl., p.32, pl.121A, f.1.

Middle Devonian, Onondaga Limestone. Corniferous limestone, Columbus. Franklin Co., Ohio, USA.

^aLocation of actual specimen is unknown.

***Gomphoceras lunatum* Hall**

HOLOTYPE YPM 6037

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.341, pl.95, f.10-13.

Grabau, A.W. 1899. Bull. Buffalo Soc. Nat. Sci. v.6, p.292.

Middle Devonian, Hamilton Grp. Hamburg, Erie Co., New York, USA.

***Gomphoceras mitra* Hall**

CAST OF HOLOTYPE YPM 6075^a

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.330.

Hall, J. 1886. N.Y. St. Geol. 5th Ann. Rept. 1885, pl.3.

Hall, J. 1888. Paleont. N.Y. v.5, pt.2 suppl., p.32, pl.119.

Devonian. Corniferous limestone, Lexington. Scott Co., Indiana, USA.

^aLocation of actual specimen is unknown.

***Goniotrochoceras twenhofeli* Foerste**

HOLOTYPE YPM 20499

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.285, pl.38, f.1,2.^a

Late Ordovician, Vaureal Fm, Vaureal zone 1. Girard Harbor, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 32, Twenhofel Collection.

***Hexameroceras schucherti* Foerste**

HOLOTYPE YPM 12752

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.87, pl.19, f.1a,1b.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.228.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

***Hexameroceras* (?) *occlusum* Foerste**

HOLOTYPE YPM 12749

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.88, pl.20, f.2a,2b.

=*Hexameroceras*? *occlusum*. Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.228.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

***Huronia chicottense* Foerste**

HOLOTYPE YPM 20476

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.300, pl.48, f.2.^a

Early Silurian, Chicotte Fm, Chicotte zone 2. Southwest Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 42, Twenhofel Collection.***Huronia obliqua* Stokes**HYPOTYPE YPM 3942^aFoerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.300.^b

Silurian, Jupiter Fm, Jupiter zone 5. Cormorant Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3943^a

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.300.

Early Silurian, Chicotte Fm, Chicotte zone 1. Jumpers, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.^bCited as No. 23, Twenhofel Collection.***Huroniella* sp.**

HYPOTYPE YPM 3849

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.299.

Middle Silurian, Gun River Fm, Gun River zone 1. Hannah Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Hyperoceras twenhofeli* Foerste**

HOLOTYPE YPM 3872

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.315, pl.54, f.1,2.

Ordovician, English Head Fm, English Head zone 4. Carleton Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Kionoceras angulatum* (Wahlenberg)**

HYPOTYPE YPM 285

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.157, pl.24, f.7, pl.28, f.15.^a

Early Devonian, Stonehouse Fm. Zone b of McLearn, along shore, between Stonehouse Brook, and McPherson's Brook, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 469.***Kionoceras angulatum* var.
deflectostriatum McLearn**

HOLOTYPE YPM 287

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.158, pl.25, f.4, pl.29, f.6.^a

Early Devonian, Stonehouse Fm. Zone b of McLearn, along shore, between Stonehouse Brook, and McPherson's Brook, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 469b.***Kionoceras bellatulum* (Billings)**HYPOTYPE YPM 3940^aFoerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.269.^b

Middle Silurian, Gun River Fm, Gun River zone 4. Cape MacGilvray, Quebec, Canada. Collector: Twenhofel, W.H.

HYPOTYPE YPM 26941

Shrock, R.R. and W.H. Twenhofel. 1939. J. Paleont. v.13, n.3, p.263, pl.29, f.13.

Early Silurian, Pike Arm Fm. Fossiliferous black argillite, Burnt Island in Goldson Arm near New World Island, Newfoundland, Canada. Collector: Twenhofel, W.H., 1936.

^aA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.^bCited as No. 18, Twenhofel Collection.***Kionoceras bellense* Foerste**

HOLOTYPE YPM 3822

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.269, pl.30, f.1,2.

Silurian, Jupiter Fm. W cliff, mouth of Iron River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Kionoceras bouleauxense* Foerste**

SYNTYPE YPM 12731

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.35, pl.7, f.5.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

SYNTYPE YPM 12733

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.35, pl.7, f.4.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian, Niagaran, Bouleaux Fm. Shore W side of Pointe Bouleaux extending into Anse-aux-Gascons, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Kionoceras latouri* McLearn**

HOLOTYPE YPM 286

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.158, pl.25, f.2, pl.29, f.9.^a

Early Devonian, Stonehouse Fm. Trilobite bed at top of section, zone c of McLearn, along shore, just NE of Stonehouse Brook, 2.4 mi SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 469a.***Kionoceras cf. scammoni* (McChesney)**HYPOTYPE YPM 3941^aFoerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.268.^b

Early Silurian, Becscie Fm. Wreck Beach, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.^bCited as No. 23, Twenhofel Collection.***Kionoceras* sp.**

HYPOTYPE YPM 12728

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.36, pl.7, f.6.

=*Kionoceras* sp. A. Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.220.

Middle Silurian, Niagaran, Bouleaux Fm. Shore W side of Pointe Bouleaux extending into Anse-aux-Gascons, Quebec, Canada. Collector: Northrop, S.A., 1927.

Kionoceras* sp. A**See *Kionoceras* sp.Kionoceras* sp. B**

HYPOTYPE YPM 12702

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.220.

Middle Silurian, Niagaran, Clemville Fm. In road gutter near old limekiln, uphill and S of Bridge, Clemville, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Leurontoceras anticostiensis* Foerste**

HOLOTYPE YPM 3838

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.283, pl.41, f.6,7.^a

Ordovician, English Head Fm. English Head, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^aIncorrectly cited as YPM 3858.***Liroceras?* sp.**

HYPOTYPE YPM 16274

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.123, pl.45, f.7.

Late Permian. Probably bed 15 of Difunta section, conglomeratic buff limestone capping Cerro Agujito, NW of Las Delicias, Coahuila State, Mexico. Collector: King, R.E.

***Mandaloceras erectum* Foerste**

HOLOTYPE YPM 12743

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.83, pl.20, f.1a,1b.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.227.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

***Megadiscosorus crassisegmentatus brevior?* Foerste**HYPOTYPE YPM 3944^aFoerste, A.F. 1925. Mem. Can. Geol. Surv. n.145, p.91.^b

Silurian, Jupiter Fm, Jupiter zone 8. Jupiter River Cliff, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^a A thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.

^b Incorrectly cited as YPM 3063-125.

***Megadiscosorus crassisegmentatus orientalis* Foerste**

HOLOTYPE YPM 3851

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.303, pl.49, f.2,3.

Silurian, Jupiter Fm, Jupiter zone 10. Jumpers, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Megaglossoceras rectilaterale* Miller, Dunbar and Condra**

HOLOTYPE YPM 13979

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.125, pl.5, f.1-3.

Late Pennsylvanian, Plattsburg Limestone. National stone Quarry, Louisville, Cass Co., Nebraska, USA.

***Metacoceras inconspicuum* Hyatt**

HYPOTYPE YPM 13993

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.181.

Late Pennsylvanian, Lane Shale. 7 ft oolitic bed, quarry of the Kansas Cement Co., 1 mi E of Bonner Springs, NW sec28T11SR23E, Wyandotte Co., Kansas, USA. Collector: Condra, G.E. and others.

***Metacoceras nodosum* Miller, Dunbar and Condra**

HOLOTYPE YPM 13994

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.186, pl.15, f.5-7.

Pennsylvanian. Kansas City, Missouri, USA.

***Metacoceras sangamonense* (Meek and Worthen)**

HYPOTYPE YPM 13990

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.170, pl.15, f.8,9.

Middle Pennsylvanian, Mcleansboro Fm. Sangamon Co., Illinois, USA. Collector: Braun, F.A.

***Metacoceras* sp.**

HYPOTYPE YPM 25800

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.115, pl.42, f.11,12.

Late Pennsylvanian, Fort Riley Limestone. Quarry at Beatrice power dam, Baneston, Gage Co., Nebraska, USA.

***Metacoceras sublaeve* Miller, Dunbar and Condra**

HOLOTYPE YPM 13995

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.190, pl.7, f.1-3.

=*Stearoceras sublaeve*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.64, tf.19, pl.57, f.3,4.

PARATYPE YPM 13996A-D

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.190.

=*Stearoceras sublaeve*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.64.

Early Cretaceous, Grenola Limestone, Neva Mbr. Old quarry along creek, S of road, 1.25 mi NE of Roca, E sec8T8NR7E, SW sec9T8NR7E, Lancaster Co., Nebraska, USA. Collector: Condra, G.E. and others.

***Mooreoceras bakeri* Miller, Dunbar and Condra**

HOLOTYPE YPM 13959

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.92, pl.2, f.11-12.

Late Pennsylvanian, Burlingame Limestone. Sec17T17SR13 E, Lyon Co., Kansas, USA. Collector: Baker, R.F.

PARATYPE YPM 13960

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.92.

Late Pennsylvanian, Plattsburg Limestone. Zone A, Murphy Quarry, Louisville, Cedar Creek Quad., SW sec7T12NR12E, Cass Co., Nebraska, USA. Collector: Condra, G.E. and others.

PARATYPE YPM 13961

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.92.

Late Pennsylvanian, Oread Limestone, Weeping Water Mbr. Snyderville Quarry, Snyderville, Avoca Quad., SE sec10T10NR12E, Cass Co., Nebraska, USA. Collector: Condra, G.E. and others.

***Mooreoceras normale* var. *angusticameratum* Miller, Dunbar and Condra**

HOLOTYPE YPM 13957

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.89, pl.2, f.8-10.

Kendrick shales, Cow Creek, Floyd Co., Kentucky, USA. Collector: Jillson, W.R., 4/6/1919.

***Mooreoceras normale* Miller, Dunbar and Condra**

HOLOTYPE YPM 13956

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.87, pl.2, f.5-7.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.23, pl.4, f.1-4.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.25.

Pennsylvanian. Kansas City, Jackson Co., Missouri, USA. Collector: Beecher, C.E.

***Mooreoceras tuba* (Girty)**

HYPOTYPE YPM 13958

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.90, pl.2, f.4.

Late Pennsylvanian, Dennis Fm, Winterset Limestone Mbr. Top of the Winterset NW 1/4 of Section 33 NE of Cedar Creek, Cedar Creek Quad., NW sec33T13NR12E, Cass Co., Nebraska, USA. Collector: Condra, G.E. and others.

***Moreauceras milleri* Cullison**

HOLOTYPE YPM 17129

Cullison, J.S. 1944. Bull. Tech. Ser. Mo. Univ. Sch. Min. Met. v.15, n.2, p.68, pl.32, f.13-16.

Miller, A.K. and J.S. Cullison. 1946. J. Paleont. v.20, n.2, p.160, pl.27, f.1-4.

Early Ordovician, Jefferson City Grp, Rich Fountain Fm. Residual chert, Jeffersonia trilobite zone, base of hill on N side of Moreau River and on E side of US Hwy 63, SW SW sec27T44NR11W, Cole Co., Missouri, USA. Collector: Cullison, J.S.

***Nautilus (Discites) ammonis* Hall**

HOLOTYPE YPM 6065

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.425.

Hall, J. 1886. N.Y. St. Geol. 5th Ann. Rept. 1885, pl.10.

Hall, J. 1888. Paleont. N.Y. v.5, pt.2 suppl., p.38, pl.125.

Early Devonian, Helderberg Grp. Heldebergian limestone, in glacial drift, Ann Arbor, Washtenaw Co., Michigan, USA.

***Nautilus magister* Hall**

HYPOTYPE YPM 6260

Grabau, A.W. 1899. Bull. Buffalo Soc. Nat. Sci. v.6, p.292, pl.28.

Middle Devonian, Hamilton Grp. Soft shales, Eighteen Mile Creek, Hamburg, Erie Co., New York, USA. Collector: Grabau, A.W.

***Oncoceras carletonense* Foerste**

HOLOTYPE YPM 3864

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.309, pl.50, f.5.

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 4. Cape James Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Oncoceras (?) curvicameratum* Foerste**

HOLOTYPE YPM 3865

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.310.

Late Ordovician, Ellis Bay Fm. Cape James, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Ormoceras prinstaense* Foerste**

HOLOTYPE YPM 3881

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.292, pl.42, f.4, pl.43, f.3,4.^a

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 8. Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^aIncorrectly cited as YPM 3847.

***Ormoceras* sp.**

HYPOTYPE YPM 12753

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.73, pl.17, f.3a,3b.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.226.

Middle Silurian, Niagaran, West Point Fm, West Point Member IV. Shore, W of lighthouse [W of Peabody Locality B0949] between West Point and Indian Point, Quebec, Canada. Collector: Northrop, S.A., 1927.

HYPOTYPE YPM 26811

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.293.^a

Middle Silurian, Jupiter Fm. Sand cliff, 3 mi up Jupiter River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 36, Twenhofel Collection.***Orthoceras (?) antenor* Billings**

HYPOTYPE YPM 26845

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.92, pl.20, f.2,3.^a

Middle Ordovician, Mingan Fm. Clearwater Point, E of Sea Cow Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

^aCited as Twenhofel Collection.***Orthoceras anguliferum* d'Archiac and de Verneuil**

HYPOTYPE YPM 2750

Marsh, O.C. 1869. Proc. Am. Assoc. Adv. Sci., 1868, p.326.

Ruedemann, R. 1921. Bull. N.Y. St. Mus. n.227-228, p.79.

Foerste, A.F. 1930. Contrib. Mus. Paleont. Univ. Mich. v.3, n.6, p.133.

Devonian, Paffrath, Germany. Collector: Marsh, O.C., 1865.

HYPOTYPE YPM 4129

Foerste, A.F. 1930. Contrib. Mus. Paleont. Univ. Mich. v.3, n.6, p.134, pl.3, f.2.

HYPOTYPE YPM 4131

Foerste, A.F. 1930. Contrib. Mus. Paleont. Univ. Mich. v.3, n.6, p.134.

Middle Devonian, Stringocephalus Limestone. Zone of *Uncites paulinae*, Teufelsfuhrloch, near Hebborn, Germany. Collector: Winterfeld, F.

HYPOTYPE YPM 4132

Dunbar, C.O. 1924. Yale Univ. Press: New Haven (Conn.), ch.6, p.193, tf.17.

Berry, E.W. 1928. Quart. Rev. Bio. v.3, n.1, p.97, pl.4, f.4.

Foerste, A.F. 1930. Contrib. Mus. Paleont. Univ. Mich. v.3, n.6, p.133, pl.1, f.1, pl.3, f.1.

Middle Devonian, *Stringocephalus* Limestone. Zone of *Uncites paulinae*, Underthal quarry, above the Sehladethal, near Paffrath, Germany. Collector: Winterfeld, F.***Orthoceras antigonishense* McLearn**

PARATYPE YPM 278

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.152, pl.22, f.7.^a

Early Devonian, Stonehouse Fm. Zone c of McLearn, along shore, just NE of Stonehouse Brook, 2.4 mi SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

PARATYPE YPM 279

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.152, pl.22, f.8.^b

Early Devonian, Stonehouse Fm. Trilobite bed at top of section, zone c of McLearn, along shore, just NE of Stonehouse Brook, 2.4 mi SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 467b.^bIncorrectly cited as YPM 467c.***Orthoceras bipartitum* Hall**

SYNTYPE YPM 6017

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.313, pl.113, f.20.

SYNTYPE YPM 6238

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.313, pl.113, f.21.

Late Devonian, Chemung Fm. Warren, Warren Co., Pennsylvania, USA. Collector: Beecher, C.E.

***Orthoceras bullatum* var. *pictoense*
(Dawson)**

HYPOTYPE YPM 281

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.155, pl.23, f.1,4,5.^a

Late Silurian, Moydart Fm. Zone a of McLearn, along shore, between McDonald's Brook and the point at the E side of McDonald's Cove, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 467e.***Orthoceras chicottense* Foerste**

HOLOTYPE YPM 3811

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.262, pl.27, f.3.

Middle Silurian, Chicotte Fm, Chicotte zone 1. Southwest Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Orthoceras chinense* Foord**HYPOTYPE YPM 6273^a

Kobayashi, T. 1934. J. Tokyo Imp. Univ. Fac. Sci. sec.2, v.3, p.401, pl.32, f.7.

Middle Ordovician. Near Ichang, Hubei Province, China.

^aA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.***Orthoceras clemvillense* Foerste**

HOLOTYPE YPM 12704

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.29, pl.17, f.1a,1b.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.218.

Middle Silurian, Niagaran, Clemville Fm. *Camarotoechia fringilla* zone, Little Port Daniel River, about 0.25 mi up stream from bridge, outskirts of Clemville, Quebec, Canada. Collector: Schuchert, C., 8/1923.

PARATYPE YPM 12705

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.30, pl.17, f.2.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.218.

Middle Silurian, Niagaran, Clemville Fm. *Hyattidina* zone, above *Camarotoechia* zone, Little Port Daniel River, about 0.25 mi up stream from bridge, outskirts of Clemville, Quebec, Canada. Collector: Schuchert, C., 8/1923.***Orthoceras cochleatum* Hall**

HOLOTYPE YPM 6009

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.308, pl.113, f.19.

Late Devonian, Chemung Fm. Warren, Warren Co., Pennsylvania, USA. Collector: Beecher, C.E.

***Orthoceras confertiseptatum* McLearn**

HOLOTYPE YPM 282

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.154, pl.23, f.2,3.^a

Late Silurian, Moydart Fm. Zone a of McLearn, along shore, between the point at the E side of McDonald's Cove and McAdam Brook, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

HYPOTYPE YPM 26840

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.154.

Early Devonian, Stonehouse Fm. Trilobite bed at top of section, zone c of McLearn, along shore, just NE of Stonehouse Brook, 2.4 mi SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

HYPOTYPE YPM 26841

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.154.

Early Devonian, Stonehouse Fm. Composite of original localities 28-37, zone b of McLearn, along shore, between Stonehouse Brook, and McPherson's Brook, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 467f.***Orthoceras desideratum* (Billings)**

HYPOTYPE YPM 26896

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.261.

Foerste, A.F. 1928b. Proc. Trans. Royal Soc. Can. ser.3, v.22, n.4, p.226, pl.11, f.2.^a

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 4. Cliff 0.375 mi E of Junction Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 11, Twenhofel Collection.

***Orthoceras dunbari* Foerste**

See *Orthoceras* sp.

***Orthoceras eriense* Hall.**

See *Orthoceras robustum* Hall.

***Orthoceras ferecylindricum* Foerste**

SYNTYPE YPM 3812

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.262.

SYNTYPE YPM 3869

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.262, pl.27, f.4,5.

Middle Silurian, Chicotte Fm, Chicotte zone 8. Bell River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Orthoceras leander* Hall**

HOLOTYPE YPM 6030

Hall, J. 1879. Paleont. N.Y. v.5, pt.2, p.309, pl.90, f.8.

Late Devonian, Chemung Fm. Warren, Warren Co., Pennsylvania, USA. Collector: Beecher, C.E.

***Orthoceras longissimicameratum* Miller**

SYNTYPE YPM 12928A

Miller, A.K. 1930. J. Paleont. v.4, n.4, p.388, pl.38, f.1.

SYNTYPE YPM 12928B

Miller, A.K. 1930. J. Paleont. v.4, n.4, p.388, pl.38, f.2.

SYNTYPE YPM 12928C–12928G

Miller, A.K. 1930. J. Paleont. v.4, n.4, p.388.

Late Pennsylvanian, Gaptank Fm. Upper Gaptank, 4.5 mi S, 15 E of Lenox, Brewster Co., Texas, USA. Collector: King, P.B., King, R.E. and Baker, C.L.

***Orthoceras ludense* var. *camerini* McLearn**

PARATYPE YPM 276

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.152, pl.22, f.1,2.^a

PARATYPE YPM 277

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.152, pl.22, f.3,4.^b

Late Silurian, Moydart Fm. Zone a of McLearn, along shore, between McDonald's Brook and the point at the E side of McDonald's Cove, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 467.

^bIncorrectly cited as YPM 467a.

***Orthoceras mcadamense* McLearn**

HOLOTYPE YPM 273

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.152, pl.21, f.17,18.^a

Late Silurian, McAdam Fm. Zone c of McLearn, along shore, between the point at the E side of McDonald's Cove and McAdam Brook, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 465b.

***Orthoceras punctostriatum* Hall**

HYPOTYPE YPM 280

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.153, pl.22, f.9, pl.29, f.12.^a

Early Devonian, Stonehouse Fm. Composite of original localities 20-40, zone b of McLearn, along shore, between Stonehouse Brook, and McPherson's Brook, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

^aIncorrectly cited as YPM 467d.

***Orthoceras robustum* Hall**

HOLOTYPE YPM 6054

Hall, J. 1876. Illustrations of Devonian fossils: gasteropoda, pteropoda, cephalopoda, crustacea and corals of the Upper Helderberg, Hamilton and Chemung Groups, pl.40, f.1-3.

= *Orthoceras eriense* Hall. SYNTYPE. Hall, J. 1879. Paleont. New York. v.5, pt.2, p.274, pl.40, f.1-3.

Middle Devonian, Hamilton Grp. Shore of Lake Erie, Hamburg, Erie Co., New York, USA.

***Orthoceras* sp.**

HYPOTYPE YPM 274

McLearn, F.H. 1924. Mem. Geol. Surv. Can. n.118, p.154, pl.21, f.19.^a

Late Silurian, Moydart Fm. 2 ft above base of section, zone a of McLearn, along shore between McDonald's Brook and the point at the E side of McDonald's Cove, SW of Arisaig Point, Arisaig, Antigonish Co., Nova Scotia, Canada. Collector: Twenhofel, W.H., 1908.

HYPOTYPE YPM 10549

Dunbar, C.O. 1924. Yale Univ. Press: New Haven (Conn.), ch.6, p.193.

=*Orthoceras dunbari* Foerste. HOLOTYPE.

Foerste, A.F. 1930. Contrib. Mus. Paleont. Univ. Mich. v.3, n.6, p.133, pl.2, f.4, pl.5, f.3.

Late Pennsylvanian, Missourian, Ochelata Grp. About 15 mi N of Tulsa, Oklahoma, USA. Collector: Greene, F.C.

HYPOTYPE YPM 12771

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.219.

Middle Silurian, Niagaran, Indian Point Fm. Eastern portion (higher in section), shore at Indian Point, Quebec, Canada. Collector: Northrop, S.A., 1927.

^aIncorrectly cited as YPM 465c.

***Periodanoceras (?) chaleurense* Foerste**

HOLOTYPE YPM 12774

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.77, pl.11, f.3.

=*Periodanoceras? chaleurense*. Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.227.

Middle Silurian, Niagaran, Indian Point Fm. Eastern portion (higher in section), shore at Indian Point, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Phragmoceras altum* Foerste**

HOLOTYPE YPM 12744

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.89, pl.20, f.3.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.229.

Middle Silurian. Anse-a-la-Barbe, Port Daniel, Quebec, Canada. Collector: Schuchert, C., 1905.

***Phragmoceras anticostiense* Foerste**

HOLOTYPE YPM 3878

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.320, pl.58, f.1.

Middle Silurian, Chicotte Fm, Chicotte zone 1. Southwest Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Phragmoceras northropi* Foerste**

HOLOTYPE YPM 12739

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.90, pl.21, f.2.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.229.

Middle Silurian, Niagaran, Gascons Fm. Shore, W of mouth of Anse-a-la-Barbe River, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Piloceras acinaces* Foerste^a**

SYNTYPE YPM 15298A

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.80, pl.16, f.4.

Ulrich, E.O., A.F. Foerste, and A.K. Miller. 1943. Geol. Soc. Am. Spec. Pap. 49, p.22, pl.5, f.10.^{b, c}

Early Ordovician, Romaine Fm. Harbor Island, Mingan Islands, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

SYNTYPE YPM 15298B

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.80, pl.16, f.5.

Ulrich, E.O., A.F. Foerste, and A.K. Miller. 1943. Geol. Soc. Am. Spec. Pap. 49, p.22, pl.5, f.9.^{b, c}

Early Ordovician, Romaine Fm. Harbor Island, Mingan Islands, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

^aBoth Foerste (1939) and Ulrich et al. (1943) cite Ulrich and Foerste as authors of the species.

^bCited as Twenhofel Collection at the University of Wisconsin.

^cUlrich et al. (1943) refers to another specimen (Geological Survey of Canada, 507a) as the holotype, but a holotype was not designated in the original publication.

***Planetoceras bellilineatum* Miller, Dunbar and Condra**

HOLOTYPE YPM 13983

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.139, pl.3, f.9-13.

Middle Pennsylvanian, Breathitt Fm, Kendrick Shale Mbr. Cow Creek, Floyd Co., Kentucky, USA. Collector: Jilison, W.R., 4/6/1919.

***Polygrammoceras chicottense* Foerste**

HOLOTYPE YPM 3819

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.266, pl.31, f.1,2, pl.33, f.1,2.

Middle Silurian, Jupiter Fm, Jupiter zone 8. 1 mi W of Box Brook, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 26897

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.266, pl.32, f.1.

Middle Silurian, Jupiter Fm, Jupiter zone 2?. 1.5 mi W of Box River, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

HYPOTYPE YPM 26898

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.266.^a

Early Silurian, Chicotte Fm, Chicotte zone 2. Southwest Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as Twenhofel Collection.

***Polygrammoceras ellisense* Foerste**

SYNTYPE YPM 3656–3659, 3796

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.264.

Late Ordovician, Ellis Bay Fm. Cape James, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

SYNTYPE YPM 3815

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.264, pl.28, f.7,8.

Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

SYNTYPE YPM 3816

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.264.

Late Ordovician, Ellis Bay Fm. Cape James, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

SYNTYPE YPM 3817

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.264.

Late Ordovician, Ellis Bay Fm. Table Mountain, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Polygrammoceras latolineatum* Foerste**

HYPOTYPE YPM 3818

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.265, pl.30, f.3.^a

Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Ellis Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

^aIncorrectly cited as YPM 2818. The other specimen described by Foerste, the holotype, cited as YPM 2316, is actually repositated at the National Museum of Canada, as indicated in the explanation for pl.29, f.2.

***Polygrammoceras* sp.**

HYPOTYPE YPM 12720

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.221.

Middle Silurian, Niagaran, Gascons Fm. Just E of Marcil RR station, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Polygrammoceras twenhofeli* Foerste**

HOLOTYPE YPM 20480

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.264, pl.29, f.3,4.^a

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 1. Junction Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 13, Twenhofel Collection.

***Protokionoceras anticostiense* Foerste**

HOLOTYPE YPM 26899

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.267, pl.34, f.1.^a

Middle Silurian, Jupiter Fm, Jupiter zone 2. Southwest Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

HYPOTYPE YPM 3820

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.267, pl.34, f.2.

Middle Silurian, Jupiter Fm, Jupiter zone 8.
Southwest Point, Anticosti Island, Quebec, Canada.
Collector: Twenhofel, W.H., 1909.

HYPOTYPE YPM 3821

Foerste, A.F. 1928a. Mem. Can. Geol. Surv.
n.154, p.267.

Middle Silurian, Chicotte Fm, Chicotte zone 2.
Southwest Point, Anticosti Island, Quebec, Canada.
Collector: Twenhofel, W.H., 1909.

^aCited as No. 17, Twenhofel Collection.

***Protokionoceras microlineatum* Foerste**

HOLOTYPE YPM 12768

Foerste, A.F. 1936a. Bull. Denison Univ.
Sci. Lab. v.31, p.39, pl.7, f.1.^a

Northrop, S.A. 1939. Geol. Soc. Am. Spec.
Pap. 21, p.220.^a

HYPOTYPE YPM 30891

Foerste, A.F. 1936a. Bull. Denison Univ.
Sci. Lab. v.31, p.39, pl.7, f.2.^{b, c}

=*Protokionoceras* cf. *microlineatum*.

Northrop, S.A. 1939. Geol. Soc. Am. Spec.
Pap. 21, p.220.^b

Middle Silurian, Niagaran, Indian Point Fm. Eastern
portion (higher in section), shore at Indian Point,
Quebec, Canada. Collector: Northrop, S.A., 1927.

^aCited as YPM 12768A.

^bCited as YPM 12768B.

^cCited as *Protokionoceras* cf. *microlineatum* in
the explanation for pl.7, f.2.

***Pseudorthoceras knoxense* (McChesney)**

HYPOTYPE YPM 13939

Miller, A.K., C.O. Dunbar, and G.E. Condra.
1933. Bull. Neb. Geol. Surv. ser.2, n.9,
p.81, pl.1, f.6.

Late Pennsylvanian, Cisco Grp. 8 mi N of Jim Ned
Creek, N of Brownwood, Brown Co., Texas, USA.
Collector: Greger, D.K.

HYPOTYPE YPM 13951

Miller, A.K., C.O. Dunbar, and G.E. Condra.
1933. Bull. Neb. Geol. Surv. ser.2, n.9,
p.81, pl.1, f.4.

HYPOTYPE YPM 13952

Miller, A.K., C.O. Dunbar, and G.E. Condra.
1933. Bull. Neb. Geol. Surv. ser.2, n.9,
p.81, pl.1, f.5.

Pennsylvanian, Copan Fm. Copan shale, 5 Mi. NE
of Copan, Oklahoma, USA. Collector: Greger, D.K.

HYPOTYPE YPM 13954

Miller, A.K., C.O. Dunbar, and G.E. Condra.
1933. Bull. Neb. Geol. Surv. ser.2, n.9,
p.81, pl.1, f.7.

HYPOTYPE YPM 13955A^a

Miller, A.K., C.O. Dunbar, and G.E. Condra.
1933. Bull. Neb. Geol. Surv. ser.2, n.9,
p.81, pl.1, f.8.

HYPOTYPE YPM 13955B^{a, b}

Miller, A.K., C.O. Dunbar, and G.E. Condra.
1933. Bull. Neb. Geol. Surv. ser.2, n.9,
p.81, pl.1, f.9.

Middle Pennsylvanian, Marmaton Grp, Labette
Shale. St. Louis, St. Louis Co., Missouri, USA.
Collector: Knight, J.B.

^aThis is represented by one thin section.

^bA thorough search of the collections by the
curatorial staff in the 1960s and 1990s could
not locate this specimen. It is believed to be
permanently lost.

***Rayonnoceras huecoense* Miller, Dunbar
and Condra**

HOLOTYPE YPM 13975

Miller, A.K., C.O. Dunbar, and G.E. Condra.
1933. Bull. Neb. Geol. Surv. ser.2, n.9,
p.103, pl.2, f.1.

Pennsylvanian, Bend Grp. Lower Bend, S side of
the hills 3.7 mi W and a little S of the second "U"
in "Hueco Mountains," El Paso Quad., Texas,
USA. Collector: King, R.E.

***Rizoceras (?) atlanticum* Foerste**

HOLOTYPE YPM 12741

Foerste, A.F. 1936a. Bull. Denison Univ.
Sci. Lab. v.31, p.48, pl.10, f.6.

=*Rizoceras?* *atlanticum*. Northrop, S.A.
1939. Geol. Soc. Am. Spec. Pap. 21, p.223

Middle Silurian. Anse-a-la-Barbe, Port Daniel,
Quebec, Canada. Collector: Schuchert, C., 1905.

***Schroederoceras* (?) sp.**

HYPOTYPE YPM 3841

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.288.

Ordovician, Ellis Bay Fm, Ellis Bay zone 4. 0.5 mi E of Junction Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Schuchertoceras anticostiensis* (Billings)**

HYPOTYPE YPM 3945

Miller, A.K. 1932b. Univ. Iowa Stud. Nat. Hist. n.226, v.14, n.4, p.28, pl.3, f.6-9.^a

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 7. Cliff between Bear Cliff and Cape Eagle, Anticosti Island, Quebec, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 6/1908.

^aCited as YPM 3807b.***Schuchertoceras logani* (Cooper)**See *Billingsites logani* Cooper.***Solenochilus brammeri* Miller, Dunbar and Condra**

HOLOTYPE YPM 14006

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.234, pl.23, f.1, pl.24, f.1.

PARATYPE YPM 14005

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.234, pl.22, f.6,7.

Late Pennsylvanian, Plattsburg Limestone. Murphy Quarry, NE of Louisville, Cass Co., Nebraska, USA.

***Solenochilus kerefordensis* Miller, Dunbar and Condra**

HOLOTYPE YPM 14003

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.232, pl.22, f.1-3.

Late Pennsylvanian, Oread Limestone, Plattsmouth Mbr. Quarry E edge of Lecompton, Perry Quad., SW sec35T11SR18E, Douglas Co., Kansas, USA. Collector: Condra, G.E. and others.

***Solenochilus syracusensis* Miller, Dunbar and Condra**

HOLOTYPE YPM 14004

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.233, pl.22, f.4,5.

=*Solenochilus syracusense*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.134, pl.32, f.5,6.

Middle Pennsylvanian, Bluejacket Sandstone. Atlantic Oil Company, Roth, Tulsa, NE sec1T19NR17E, Tulsa Co., Oklahoma, USA. Collector: Condra, G.E. and others.

***Sphyroceras* (?) *anticostiense* Foerste**

HOLOTYPE YPM 3839

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.284, pl.41, f.1-3.

Late Ordovician, Vaureal Fm, Vaureal zone 1. White Brook, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Sphyroceras* sp.**

HYPOTYPE YPM 3840

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.284.

Ordovician, English Head Fm, English Head zone 4. Carleton Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Spyroceras anticostiense* Foerste**

HOLOTYPE YPM 20502

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.277, pl.37, f.4.^a

Late Ordovician, English Head Fm, English Head zone 2. Reef at North Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 26, Twenhofel Collection.***Spyroceras chaleurensis* Foerste**

HOLOTYPE YPM 12761

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.42, pl.6, f.5a,5b.

Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.221.

Middle Silurian, Niagaran, West Point Fm. Along crest of ridge, Reddish Point, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Spyroceras chicottense* Foerste**

HOLOTYPE YPM 20504

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.276, pl.34, f.4.^a

Early Silurian, Chicotte Fm, Chicotte zone 2. Southwest Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 29, Twenhofel Collection.

***Spyroceras crocus* (Billings)**

HYPOTYPE YPM 3834

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.278.

Ordovician, English Head Fm, English Head zone 4. Carleton Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Spyroceras ferum* (Billings)**

HYPOTYPE YPM 20518

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.278.^a

Late Ordovician, Vaureal Fm, Vaureal zone 4. Battery Point, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 30, Twenhofel Collection.

***Spyroceras magnosiphonatum* Foerste**

SYNTYPE YPM 20521

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.95, pl.19, f.2.^a

Middle Ordovician, Mingan Fm. Ammonite and Clearwater Points, E of Sea Cow Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

^aCited as Twenhofel Collection.

***Spyroceras maro* (Billings)**

HYPOTYPE YPM 20489

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.93, pl.18, f.4.^a

Middle Ordovician, Mingan Fm. Clearwater Point, E of Sea Cow Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

HYPOTYPE YPM 35904

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.93.^a

HYPOTYPE YPM 75583

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.93, pl.20, f.10.

Middle Ordovician, Mingan Fm. 50 to 75 ft above base of formation, Mingan Island, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

^aCited as Twenhofel Collection.

***Spyroceras microcancellatum* Foerste**

HOLOTYPE YPM 20479

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.275, pl.31, f.3.^a

Late Ordovician, Ellis Bay Fm, Ellis Bay zone 1. Junction Cliff, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 28, Twenhofel Collection.

***Spyroceras microlineatum* Foerste**

HOLOTYPE YPM 3835

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.274.

Late Ordovician, Vaureal Fm, Vaureal zone 3. Cape Henry, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Spyroceras northropi* Foerste**

HOLOTYPE YPM 12772

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.43, pl.6, f.1.

Middle Silurian, Niagaran, Indian Point Fm. Eastern portion (higher in section), shore at Indian Point, Quebec, Canada. Collector: Northrop, S.A., 1927.

***Spyroceras* sp.**

HYPOTYPE YPM 12701

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.40, pl.6, f.4.^a

=*Spyroceras* sp. A. Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.221.

Middle Silurian, Niagaran, Clemville Fm. In road gutter near old limekiln, uphill and S of Bridge, Clemville, Quebec, Canada. Collector: Northrop, S.A., 1927.

HYPOTYPE YPM 12717

Foerste, A.F. 1936a. Bull. Denison Univ. Sci. Lab. v.31, p.41, pl.6, f.3.^b

=*Spyroceras* sp. B. Northrop, S.A. 1939. Geol. Soc. Am. Spec. Pap. 21, p.222.

Middle Silurian, Niagaran, Gascons Fm. Morin Road, not far from RR track, Anse a la Barbe, Quebec, Canada. Collector: Schuchert, C., 8/1923.

^aCited as *Spyroceras* sp. (Clemville).

^bCited as *Spyroceras* sp. (Morrin).

***Spyroceras tenuicltratum* Foerste**

HOLOTYPE YPM 3837

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.275, pl.34, f.3.

Late Ordovician, Vaureal Fm, Vaureal zone 3. Cape Henry, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Spyroceras twenhofeli* Foerste**

HOLOTYPE YPM 20515

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.97, pl.16, f.2.^a

Middle Ordovician, Mingan Fm. Ammonite and Clearwater Points, E of Sea Cow Island, Mingan Islands area, Gulf of St. Lawrence, Quebec, Canada. Collector: Twenhofel, W.H.

HYPOTYPE YPM 20509

Foerste, A.F. 1938. Geol. Soc. Am. Spec. Pap. 11, p.97, pl.16, f.3.^a

Ordovician, Mingan Fm. Eskimoe Island, Mingan Islands, Quebec, Canada. Collector: Twenhofel, W.H.

^aCited as Twenhofel Collection.

***Spyroceras vaurealense* Foerste**

HOLOTYPE YPM 20507

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.277, pl.37, f.6.^a

Late Ordovician, Vaureal Fm, Vaureal zone 5. Natiskotek Bay, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1919.

^aCited as No. 27, Twenhofel Collection.

Stearoceras sanandreasense

See *Titanoceras sanandreasense* Miller, Dunbar and Condra.

***Stearoceras* sp.**

HYPOTYPE YPM 16275

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.66.

Late Permian. Beds 5 and 7 of Difunta section, concretionary shale, collection made along strike from Cerro Wencelao on S to 300 m W of El Indio on N, NW of Las Delicias, Coahuila State, Mexico. Collector: King, R.E.

***Stearoceras sublaeve* (Miller, Dunbar and Condra)**

See *Metacoceras sublaeve* (Miller, Dunbar and Condra).

***Stenopoceras tularosense* Miller**

HOLOTYPE YPM 13080

Miller, A.K. 1932a. J. Paleont. v.6, n.1, p.68, pl.12, f.1-4.

Early Permian, Bursum Fm. Clay pits, 1.25 mi E of Tularosa on US Hwy 70, CENTER SW sec21T14SR10E, Otero Co., New Mexico, USA. Collector: Baker, C.L. and Drake, N.F.

***Tainoceras monilifer* Miller, Dunbar and Condra**

HOLOTYPE YPM 6390

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.148, pl.10, f.1-4.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.31.

Pennsylvanian, Cisco Grp. 3 mi S and 0.5 mi E of Jacksboro, Jack Co., Texas, USA. Collector: Greger, D.K., 1919.

HYPOTYPE YPM 13985

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, pl.10, f.5.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.31.

Late Pennsylvanian, Plattsmouth Limestone. Quarry near the RR station, at Lecompton, Perry Quad., SW sec35T11SR18E, Douglas Co., Kansas, USA. Collector: Condra, G.E. and others.

HYPOTYPE YPM 13988

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.148.

Unklesbay, A.G. 1962. Bull. Okla. Geol. Surv. n.96, p.31.

Late Pennsylvanian, Burlingame Limestone. 7.5 mi N of Topeka, Shawnee Co., Kansas, USA.

***Tainoceras nebrascense* Miller, Dunbar and Condra**

SYNTYPE YPM 25795

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.151, pl.11, f.1.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.88, pl.32, f.1,2.

SYNTYPE YPM 25796

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.151, pl.11, f.2.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.88, pl.32, f.3,4.

SYNTYPE YPM 25797

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.151, pl.11, f.3.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.88, pl.31, f.4,5.

SYNTYPE YPM 25798

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.151, pl.11, f.4.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.88, pl.30, f.3,4.

SYNTYPE YPM 25799

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.151, pl.11, f.5,6.

Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.88, pl.31, f.1-3.

Late Pennsylvanian, Fort Riley Limestone. Quarry at Beatrice power dam, Baneston, Gage Co., Nebraska, USA.

***Tainoceras rotundatum* Miller, Dunbar and Condra**

HOLOTYPE YPM 13986

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.154, pl.12, f.2,3.

Late Pennsylvanian, Oread Limestone, Kereford Mbr. Snyderville Quarry, Snyderville, Avoca Quad., Cass Co., Nebraska, USA. Collector: Clark, and Turner.

***Tainoceras* sp.**

HYPOTYPE YPM 13987

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.155, tf.24, pl.12, f.4-7.

No locality information is available for this specimen.

***Temnocheilus* sp.**

HYPOTYPE YPM 75584^a

Miller, A.K. and J.B. Owen. 1934. IA Univ. Stud. Nat. Hist. ns.280, v.16, n.3, p.225, tf.2B.

Middle Pennsylvanian, Strawn Grp, Mingus Shale. Near Millsap, Parker Co., Texas, USA.

^aA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.

***Temnocheilus subrectangularis* Miller, Dunbar and Condra**

HOLOTYPE YPM 13989A

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.160, pl.13, f.1,2.

PARATYPE YPM 13989B

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.160, pl.13, f.3.

PARATYPE YPM 13989C

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.160.

Middle Pennsylvanian, Breathitt Fm, Kendrick Shale Mbr. Dr. G.T. Kendrick Farm, head of Cow Creek (off of the Levisa Fork of Big Sandy River), Floyd Co., Kentucky, USA. Collector: Jillson, W.R., 4/6/1919.

***Titanoceras? ingens* Miller, Dunbar and Condra**

HOLOTYPE YPM 13999^a

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.208, tf.32, pl.20, f.1.

Late Pennsylvanian, Wyandotte Limestone, Argentine Mbr. National Stone Quarry, Louisville, Cedar Creek Quad., SW sec7T12NR12E, Cass Co., Nebraska, USA. Collector: Condra, G.E. and others.

^aA thorough search of the collections by the curatorial staff in the 1960s and 1990s could not locate this specimen. It is believed to be permanently lost.

***Titanoceras sanandreasense* Miller, Dunbar and Condra**

HOLOTYPE YPM 13998A

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.204, pl.17, f.1,2.

=*Stearoceras sanandreasense*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.59, pl.21, f.1,2.

PARATYPE YPM 13998^a

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.204.

=*Stearoceras sanandreasense*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.59.

PARATYPE YPM 13998B

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.204, pl.13, f.7.

=*Stearoceras sanandreasense*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.59, ff.14.

PARATYPE YPM 13998C

Miller, A.K., C.O. Dunbar, and G.E. Condra. 1933. Bull. Neb. Geol. Surv. ser.2, n.9, p.204.

=*Stearoceras sanandreasense*. Miller, A.K. and W. Youngquist. 1949. Geol. Soc. Am. Mem. 41, p.59.

Late Permian, San Andres Limestone. W side of the Penasco River Valley, about 52 mi W of Artesia, on new highway between Artesia and Elk, on the way to Cloudcroft, SE corner sec12T16SR16E, Otero Co., New Mexico, USA. Collector: Baker, R.F.

^aThis is a lot of four fragments.

undet. *Nautiloidea*

HYPOTYPE YPM 28505

Pannella, G. 1972. Astro. Sp. Sci. v.16, tbl.1.

Early Silurian, Arisaig Grp, Ross Brook Upper Mbr. Dark gray silty mudstone, fall block, 1273-1280 ft above base of Arisaig Grp section, exposed in first prominent seaward projecting cliff W of the mouth of Arisaig Brook along Northumberland Strait shore, Arisaig [datum: 1025 ft for contact of bottom of Ross Brook Upper Mbr with underlying Ross Brook Middle Mbr], Antigonish Co., Nova Scotia, Canada. Collector: Bambach, R.K., 1964 to 1965.

***Uranoceras* (?) sp.**

HYPOTYPE YPM 3862

Foerste, A.F. 1928a. Mem. Can. Geol. Surv. n.154, p.287.

Late Ordovician, Ellis Bay Fm. Raven's West, Anticosti Island, Quebec, Canada. Collector: Twenhofel, W.H., 1909.

***Williamsoceras adnatum* Flower**

PARATYPE YPM 26505

Flower, R.H. 1968. New Mexico Bur. Mines Min. Res. Mem. n.19, pt.2, p.28, pl.19, f.5.

Ordovician, Garden City Fm. 1405 ft above base of Garden City near contact with Swan Peak, most easterly prominent dip slope of Garden City, about 100 ft above road vertically, N side of Green Canyon, 0.3 mi E of Ross locality 46.1A, and about 6384 ft E of Canyon mouth, and about 2.5 mi E of North Logan Logan Quad., N NE sec19T12NR2E, Cache Co., Utah, USA. Collector: Ross, R.J., Jr., 7/1947.

***Winnipegoceras* aff. *W. laticurvatum* (Whiteaves)**

See *Winnipegoceras* sp.

***Winnipegoceras* sp.**

HYPOTYPE YPM 25801

Crickmay, G.W. 1932. Am. J. Sci. v.24, n.143, p.379.^a

=*Winnipegoceras* aff. *W. laticurvatum* (Whiteaves). HYPOTYPE. Miller, A.K. and W.M. Furnish. 1937. J. Paleont. v.11, n.7, p.551, pl.69, f.1.

Ordovician, Matapedia Series. Dark calcareous phyllite of Matapedia, E shore of Restigouche River, 5 mi upstream from Matapedia Village, Quebec, Canada. Collector: Crickmay, G.W. and Cooper, G.A., 7/29/1929.

^aCrickmay (1932) reports the locality as "3 miles upstream," but the field label says "5 miles upstream."

***Wutinoceras geronticum* Flower**

HOLOTYPE YPM 28354

Flower, R.H. 1976. New Mexico Bur. Mines Min. Res. Mem. n.28, pt.1, p.10, pl.5, f.1.^a

Middle Ordovician, Table Head Grp. Division 10 or K, lower Table Head, lower Chazy, NE side of Table Head, western Newfoundland, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 8/6/1910.

^aNot pl.3, f.13, which is actually a paratype of *Wutinoceras giganteum*.***Wutinoceras giganteum* Flower**

HOLOTYPE YPM 28351

Flower, R.H. 1976. New Mexico Bur. Mines Min. Res. Mem. n.28, pt.1, p.10, pl.2, f.4, pl.3, f.12, pl.5, f.6.

Middle Ordovician, Table Head Grp. Division 10 or K, lower Table Head, lower Chazy, NE side of Table Head, western Newfoundland, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 8/6/1910.

PARATYPE YPM 28352

Flower, R.H. 1976. New Mexico Bur. Mines Min. Res. Mem. n.28, pt.1, p.10, pl.3, f.13, pl.4, f.1,2.^a

Middle Ordovician, Table Head Grp. Top of zone 10 of Logan's section, a little below the sponge bed, lower Table Head, lower Chazy, from lighthouse eastward along shore, Point Riche, western Newfoundland, Canada. Collector: Schuchert, C. and Twenhofel, W.H., 8/1/1910.

^aPl.3, f.13 is not the holotype of *Wutinoceras geronticum* as stated in the explanation; it is actually YPM 28352, a paratype of *Wutinoceras giganteum*.**Acknowledgements**

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