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Geology

NEW SERIES, NO. 22

A Catalogue of Type Specimens of Fossil Vertebrates in the Field Museum of Natural History. Classes Amphibia, Reptilia, Aves, and Ichnites

John Clay Bruner

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Croat, T. B. 1978. Flora of Barro Colorado Island. Stanford University Press, Stanford, Calif., 943 pp.

Grubb, P. J., J. R. Lloyd, and T. D. Pennington. 1963. A comparison of montane and lowland rain forest in Ecuador I. The forest structure, physiognomy, and floristics. Journal of Ecology, **51:** 567-601.

Langdon, E. J. M. 1979. Yage among the Siona: Cultural patterns in visions, pp. 63-80. *In* Browman, D. L.,and R. A Schwarz, eds., Spirits, Shamans, and Stars. Mouton Publishers, The Hague, Netherlands.

Murra, J. 1946. The historic tribes of Ecuador, pp. 785-821. In Steward, J. H., ed., Handbook of South Americar Indians. Vol. 2, The Andean Civilizations. Bulletin 143, Bureau of American Ethnology, Smithsonia Institution, Washington, D.C.

Stolze, R. G. 1981. Ferns and fern allies of Guatemala. Part II. Polypodiaceae. Fieldiana: Botany, n.s., **6:** 1-522.

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Table of Contents

List of Illustrations

A Catalogue of Type Specimens of Fossil Vertebrates in the Field Museum of Natural History. Classes Amphibia, Reptilia, Aves, and Ichnites

John Clay Bruner

Abstract

Complete lists of the fossil types of amphibians, reptiles, birds, and trackways deposited in the collections of the Field Museum of Natural History are provided. The collections represent 152 holotypes, 482 paratypes, 8 cotypes, 1 doubtful neotype, and 53 casts of types from other museum collections. The catalogue number, the latest classification, a short description of the material, the type locality, the full citation, the pages on which the specimen was described, and listings of any figures are provided for each type specimen.

Introduction

This type catalogue represents the first time the Field Museum of Natural History has had a complete listing of the fossil vertebrate types deposited in the Geology Department. The museum had no accurate idea of how many types were in these collections. In some cases, specimen lots were marked as type specimens but were never published. In other cases, specimens were never marked as type specimens and were discarded or traded away. This list corrects mistakes made by the original authors in citing the type specimens. Some authors used the wrong prefixes to the catalogue number or quoted the wrong specimen number.

It is hoped this catalogue will advertise the final resting place of the types. The collections of the Walker Museum of the University of Chicago now belong to the Field Museum, where they are deposited. Yet the University of Chicago still receives letters requesting specimens from the Walker Museum. There are a few other types deposited at the Field Museum that once belonged to other universities (for example, the University of Notre Dame and the Catholic University of Peking). I have also included a listing of casts of type specimens from other museums in the collections. Often a cast can be as useful as the original specimen. Normally workers would not think of checking for copies of types at a museum other than the one at which the original is deposited. And, prior to this catalogue no list of casts of type specimens from other museums in the collections of the Geology Department had ever been prepared. Some museums will not loan their type specimens. This list may be useful to those workers who need to see the specimen but cannot afford to travel to the museum where the original is deposited. In one instance, the holotype of a fossil snake is now lost to science, but a cast of the holotype still exists in the Field Museum's fossil reptile collection.

This catalogue provides the latest classifications if the original identification of the type is not considered valid. The classification scheme followed for the Amphibia and Reptilia, with a few exceptions, is that of Carroll (1988). The Aves are classified according to Brodkorb (1963, 1964, 1967). This listing gives the catalogue number of the lot, a brief description of the specimen, and the geologic age and the type locality for the holotype and cotype. The names of the collectors are given if known. The complete literature citation for each type is given as are the pages on which it was described and any figures of the specimens. Also, all paratype specimens are listed.

When citing fossil vertebrates in the collections of the Field Museum, the full catalogue number

FIG. 1. Dolores Fetes, in the new fossil type room, checking a pelycosaur against the type catalogue. (Photo by Ronald Testa, FMNH.)

and both prefixes should be used. The prefixes used in this catalogue are as follows.

UC	University of Chicago, Walker Museum, Paleontology Collection
UR	University of Chicago, Walker Museum, Fossil Amphibian and Reptile Collection
CUP	Catholic University of Peking, Paleontology Collection
P	Field Museum of Natural History, Geology Department, Paleontology Collection
PA	Field Museum of Natural History, Geology Department, Fossil Bird Collection
PR	Field Museum of Natural History, Geology Department, Fossil Amphibian and Reptile Collection

For example, the correct method in citing the catalogue number of the holotype of *Proterpeton gurleyi* Moodie, 1916 would be FMNH UC 13296. The abbreviation "FMNH" for Field Museum of Natural History should always come first, followed by a space, followed by the prefix of the collection, followed by a space, and followed by the catalogue number.

Acknowledgments

I thank the following people for their volunteer help in compiling this catalogue: Dolores R. Fetes, Julie Spiegel, Ellen Hyndman, Elizabeth Moore, and Kathleen Early. I thank the following for reviewing drafts of the manuscript and for their constructive comments and improvements: James A. Hopson, University of Chicago, and his student, James Matthew Clark (amphibian and reptile sections); Rainer Zangerl, Curator Emeritus, FMNH Geology Department (fossil amphibian and reptile sections); Herbert Barghusen and Robert E. DeMar, both of the University of Illinois at Chicago (amphibian and reptile sections); Carl F. Wellstead, Creighton University, and Robert Reisz, University of Toronto (fossil reptile section); Joel Cracraft, University of Illinois at Chicago (fossil bird section); and William Davey Turnbull, FMNH Curator Emeritus of Fossil Mammals and Birds (bird section). I acknowledge the Geology Department and its facilities for help in preparing this catalogue. Lastly, I thank Ron Testa for taking the photograph for Figure 1, and my wife, Sarah Derr,

for help in editing. I also thank two anonymous *Fieldiana* reviewers.

CLASS AMPHIBIA

The Field Museum's collection of fossil amphibia includes 1 holotype, 2 paratypes, and 5 casts of types from other museums. The old University of Chicago, Walker Museum's collection of fossil amphibia, now owned by the Field Museum, has 41 holotypes, 1 cotype, 1 neotype, 80 paratypes, and 3 casts of types from other museums. The most prolific author of fossil amphibia in the field Museum's holdings is Everett Claire Olson. In a series of papers (1939, 1941, 1947, 1951 [two], 1952, 1955, 1962, 1965, 1970, 1979), he described 12 holotypes, 1 neotype, and 36 paratypes. E. C. Olson and Robert Broom (1937) described 1 holotype, E. C. Olson and Herbert Barghusen (1962) 1 holotype, Samuel Wendell Williston (1909, 1910, 1911, 1918) 6 holotypes and 1 paratype, Edward Drinker Cope (1871, 1874, 1877, 1885) 3 holotypes and 1 paratype. Roy Lee Moodie (1909, 1916) and Ermine C. Case (1903, 1911) each described 3 holotypes. The following authors have described 2 holotypes: Robert E. DeMar (1966, 1967), Maurice G. Mehl (1913, 1921), E. B. Branson (1905), and Eleanor Daly (1973, and also 11 paratypes). The following authors have described 1 new species: Alfred Sherwood Romer (1936, and also 1 cotype), Robert Carroll (1964), John Ryan Bolt (1974, and also 4 paratypes), and Coleman J. Goin and Walter Auffenberg (1958, and also 2 paratypes).

Indeterminate Amphibia Genus

1. Proterpeton gurleyi Moodie, 1916
UC 13296 HOLOTYPE. Vertebra.
Pennsylvanian: Conemaugh, McLeansboro Fm., about horizon of Danville Coal.
Illinois: Vermilion County: Near Danville.
Gurley Collection.
Moodie, Roy L. 1916. The Coal Measures Amphibia of North America. Carnegie Institution of Washington, Publication No. 238. 222 pp. Desc. & fig. (p. 176), pl. 22, fig. 2.

Note: Specimen is inorganic according to Donald Baird, 1969.

Subclass **LABYRINTHODONTIA**
Order **TEMNOSPONDYLI**
Suborder **RHACHITOMI**
Superfamily **LOXOMMATOIDEA**
Family **LOXOMMATIDAE**

2. Spathicephalus pereger Baird, 1962
PR 872 CAST OF HOLOTYPE, PU 17182. (Original in Princeton collection of Yale University, Peabody Museum.)
Upper Mississippian: Point Edward Fm., Mabou Group.
Canada: Nova Scotia: Point Edward, Sydney Harbour.
Collectors: Baird, Take, and Take, 1960.
Baird, Donald. 1962. A Rhachitomous amphibian *Spathicephalus,* from the Mississippian of Nova Scotia. Museum of Comparative Zoology, Breviora, 157:1–10. Desc. (pp. 1–8) & fig. Fig. 1 (p. 3), pl. 1 (p. 10).

Superfamily **EDOPOIDEA**
Family **EDOPIDAE**

3. Edops craigi Romer, 1936
UR 336 COTYPE. Part of snout.
Early Permian: Moran Fm., Wichita Group.
Texas: Young County: Padgett.
Collector: Alfred Sherwood Romer.
Romer, Alfred Sherwood. 1936. Studies on American Permo-Carboniferous tetrapods. Problems of Paleontology, Publication of the Laboratory of Paleontology, Moscow University, 1:85–93. Desc. (pp. 87–88).

Family **COCHLEOSAURIDAE**

4. Chenoprosopus milleri Mehl, 1913
UC 670 HOLOTYPE. Skull.
Early Permian: Abo Fm.
New Mexico: Rio Arriba County: Poleo Creek.
Collector: Paul C. Miller, 1911.
Mehl, Maurice G. 1913. Permo-Carboniferous vertebrates from New Mexico. Carnegie Institution of Washington, Paleontology Papers, Chapter III:11–16. Desc. (pp. 11–16) & fig. Fig. 4–5, 7.

Superfamily **TRIMERORHACHOIDEA**
Family **SAURERPETONTIDAE**

5. Erpetosaurus sculptilis Moodie, 1909
= *Branchiosauravus tabulatus* Romer, 1930.

UR 267 (also, UC 12315) HOLOTYPE. Skull.
Pennsylvanian: Allegheny, Upper Freeport, Kittanning Coal Group, Cannelton Slate.
Pennsylvania: Beaver County: Cannelton, 45 mi NW of Pittsburgh.
James Hall Collection, collected by J. J. Stevenson.
Moodie, Roy L. 1909. A contribution to a monograph of the extinct Amphibia of North America. New forms from the Carboniferous. The Journal of Geology, 17:38–82. Desc. (pp. 61–63) & fig. Fig. 11 (p. 61), fig. 12 (p. 62).

Family **TRIMERORHACHIDAE**

6. Nannospondylus stewarti Olson, 1965
UR 1002 HOLOTYPE. Four vertebrae, parts of several more, and a number of ribs.
Late Permian: Chickasha Fm. (equivalent to Middle Flowerpot).
Oklahoma: Blaine County: Sec. 34 and 35, T18N, R11W, Locality BC-6.
Collector: Everett Claire Olson, 1963.
Olson, Everett Claire. 1965. New Permian vertebrates from the Chickasha Formation in Oklahoma. Oklahoma Geological Survey, Circular No. 70:1–70. Desc. (pp. 31–34) & fig. Pl. VII, I (p. 33), fig. 2E–G (p. 35).

7. Slaugenhopia texensis Olson, 1962
UR 702 HOLOTYPE. Portions of skull and skeleton.
Late Permian: San Angelo Fm., Pease River Group.
Texas: Knox County: Kahn Quarry, Locality KAC.
Collector: Everett Claire Olson, 1958.
Olson, Everett Claire. 1962. Late Permian terrestrial vertebrates, U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, New Series, 52(2):1–224. Desc. (pp. 10–12) & fig. Fig. 1 (p. 11).
Paratype:
UR 155 Posterior portion of the jaw. Desc. (p. 10).

8. Trimerorhachis rogersi Olson, 1955
UR 138 HOLOTYPE. Skull, jaws, and skeletal elements.
Early Permian: Choza Fm., Clear Fork Group.
Texas: Foard County: Pipe Locality FA.
Collector: Everett Claire Olson, 1951.
Olson, Everett Claire 1955. Fauna of the Vale and Choza. Fieldiana: Geology, 10(21):225–274. Desc. (pp. 263–269) & fig. Fig. 100 (p. 264).
Paratypes:
UR 70 Part of skull. Desc. (p. 263).
UR 71 Skull fragment and much of skeleton. Desc. (pp. 259, 263) & fig. Fig. 98B (p. 259).
UR 72 Skull fragment, vertebral column, and part of shoulder girdle. Desc. (p. 263).
UR 73 Lower jaw. Desc. (p. 263) & fig. Fig. 104A,C (p. 268).
UR 74 Skull and jaws. Desc. (pp. 234, 263) & fig. Fig. 101C (p. 265).
UR 75 Part of skull and jaws. Desc. (p. 263).
UR 76 Skull and jaws. Desc. (pp. 234, 263) & fig. Fig. 101A,B (p. 265).
UR 133 Lower jaw. Desc. (p. 263).
UR 135 Part of skull and jaws. Desc. (p. 263).
UR 137 Part of skull, lower jaws, and scrap. Desc. (pp. 234, 263) & fig. Fig. 101D (p. 265).
UR 141 Part of skull and jaws. Desc. (p. 263).

Superfamily **ERYOPOIDEA**
Family **ERYOPIDAE**

9. Eryops latus Case, 1903
= *Eryops megacephalus* Cope, 1877
UC 103 (referred to as UC 182) HOLOTYPE. Scapula.
Permian.
Texas: Baylor County.
Collector: Ermine C. Case, 1896.
Case, Ermine C. 1903. New or little-known vertebrates from the Permian of Texas. Journal of Geology, 11(4):394–402. Desc. (pp. 394–398) & fig. Fig. 2 (p. 396).

Family **DISSOROPHIDAE**

10. Aspidosaurus peltatus Williston, 1911
= *Dissorophus multicinctus* Cope, 1895
UC 668 HOLOTYPE. Vertebral spine.
Permian: Clear Fork Group.
Texas: Baylor County: Near Seymour, Craddock Ranch, Craddock bone-bed.
Collector: Paul C. Miller, 1909.
Williston, Samuel Wendell. 1911. American Permian Vertebrates. University of Chicago Press, Chicago, Ill. 145 pp., 37 figs.,

38 pls. Desc. (pp. 13–14) & fig. Pl. 32, fig. 7.

11. Broiliellus arroyensis DeMar, 1967

UR 431 HOLOTYPE. Skull and jaws; skeleton possibly associated.

Early Permian: Arroyo Fm., Clear Fork Group.

Texas: Baylor County: East Coffee Creek.

Collector: Everett Claire Olson, 1939.

DeMar, Robert E. 1967. Two new species of *Broiliellus* (Amphibians) from the Permian of Texas. Fieldiana: Geology, 16(5):117–129. Desc. (pp. 119–123) & fig. Fig. 1 (p. 121).

Paratypes:

UR 808 Vertebrae and sacral rib. Desc. (p. 119).

UR 809 Anterior part of skull. Desc. (p. 119).

UR 810 Carapace and limb bones. Desc. (p. 119).

UR 811 Posterior part of skull. Desc. (p. 120).

UR 812 Partial carapace. Desc. (p. 120).

12. Broiliellus texensis Williston, 1914

UC 684 HOLOTYPE. Skull, skeleton in matrix.

Early Permian: Arroyo Fm., Clear Fork Group.

Texas: Baylor County: 5 mi NW of Mabelle, X Pasture.

Collector: Paul C. Miller, 1913.

Williston, Samuel Wendell. 1914. *Broiliellus,* a new genus of amphibians from the Permian of Texas. Journal of Geology, 22(1):49–56. Desc. (pp. 49–54) & fig. Figs. 1–3.

Paratype:

UC 685 Skull and front part of skeleton. Desc. (pp. 49–54).

13. Cacops aspidephorus Williston, 1910

UC 647 HOLOTYPE. Skull, jaws, and skeleton.

Early Permian: Arroyo Fm., Clear Fork Group.

Texas: Baylor County: Big Wichita River and Indian Creek.

Collectors: Paul C. Miller and Samuel Wendell Williston, 1909.

Williston, Samuel Wendell. 1910. *Cacops, Desmospondylus*: New genera of Permian vertebrates. Bulletin of the Geological Society of America, 21:249–284. Desc. (pp. 253–256) & fig. Pl. 6–14, 17.

Paratype:

UC 649 Skull. Desc. (p. 253).

14. Conjunctio multidens Carroll, 1964

UC 673 HOLOTYPE. Skull and associated post-cranial material including femora, humeri, scapulae, pelvis, section of vertebral column, and armor.

Lower Permian: Abo Fm.

New Mexico: Rio Arriba County: West side of Peurco River opposite El Rito.

Collector: Paul C. Miller, 1911.

Carroll, Robert L. 1964. Early evolution of the dissorophid amphibians. Bulletin of the Museum of Comparative Zoology, Harvard University, 131(7):161–250. Desc. (pp. 218–220). Illustrated in: Case, E. C., S. W. Williston, and M. G. Mehl. 1913. Permo-Carboniferous vertebrates from New Mexico. Publications of the Carnegie Institution of Washington, 181:1–81, fig. 7.

15. Fayella chichashaensis Olson, 1965

UR 1004 HOLOTYPE. Fragments of a skull, including part of the marginal tooth row, a small part of the palate, including the socket and impression of a large palatial tooth, and various parts of skull roof.

Late Permian: Chickasha Fm. (equivalent to Middle Flowerpot).

Oklahoma: Blaine County: Sec. 33 & 34, T81N, R11W, Locality BC-7.

Collector: Everett Claire Olson, 1964.

Olson, Everett Claire. 1965. New Permian vertebrates from the Chickasha Formation in Oklahoma. Oklahoma Geological Survey, Circular No. 70:1–70. Desc. (pp. 36–37) & fig. Fig. 2A (p. 35).

16. Longiscitula houghae DeMar, 1966

UR 430 HOLOTYPE. Incomplete skull.

Early Permian: Arroyo Fm., Clear Fork Group.

Texas: Baylor County: East Coffee Creek.

Collector: Everett Claire Olson, 1939.

DeMar, Robert E. 1966. *Longiscitula houghae,* a new genus of dissorophid amphibian from the Permian of Texas. Fieldiana: Geology, 16(2):45–53. Desc. (pp. 45–53) & fig. Fig. 1 (p. 47).

Paratype:

UR 807 Skull roof. Desc. (p. 45).

17. Micrerpeton caudatum Moodie, 1909

= *Amphibamus grandiceps* Cope, 1865.

UR 38 HOLOTYPE. Skeleton—obverse and reverse in nodule.

Middle Pennsylvanian: Desmoinesean, Westphalian D, Francis Creek Shale.

Illinois: Will County: Mazon Creek.

Collector: William Gurley.

Moodie, Roy L. 1909. A contribution to a monograph of the extinct Amphibia of North America. New forms from the Carboniferous. Journal of Geology, 17:38–82. Desc. (pp. 39–52) & fig. Figs. 1–2 (p. 42), fig. 3 (p. 46), fig. 4 (p. 47), fig. 5 (p. 48), figs. 6–7 (p. 49).

18. Miobatrachus romeri Watson, 1940
= *Amphibamus grandiceps* Cope, 1865.
UC 2000 HOLOTYPE. Skeleton, part and counterpart.
Middle Pennsylvanian: Westphalian D, Carbondale Fm., Desmoinesean, Francis Creek Shale.
Illinois: Will County: Mazon Creek.
Watson, David Meredith Seares. 1940. The origin of frogs. Transactions of the Royal Society of Edinburgh, 60(7):195–231. Desc. (pp. 198–209) & fig. Fig. 2 (p. 199), figs. 3–4 (p. 200), fig. 5A–C (p. 202), fig. 6A,B (p. 203), fig. 7 (p. 205), fig. 8 (p. 206), figs. 9–10 (p. 208).

19. Raniceps lyelli Wyman, 1858
= *Amphibamus lyelli* (Wyman, 1858).
PR 825 CAST OF HOLOTYPE, AMNH 6841. (Original at American Museum of Natural History.) Cast of skull and skeleton.
Mid-Pennsylvanian: Allegheny Group, cannel below Upper Freeport Coal.
Ohio: Jefferson County: Linton.
J. S. Newberry Collection.
Wyman, Jeffries. 1858. On some remains of batrachian reptiles discovered in the Coal Formation of Ohio, by Dr. J. S. Newberry and C. M. Wheatley. American Journal of Science and Arts, series 2, 25(74), Article 15:158–164. Desc. (pp. 160–162) & fig. Fig. 1 (p. 161).

20. Tersomius mosesi Olson, 1970
UR 1214 HOLOTYPE. Skull and jaws.
Early Permian: Hennessy Fm., 70 ft above base.
Oklahoma: Cleveland County: Near Norman: SW¼, NW¼, Sec. 13, T8N, R2W.
Collector: Everett Claire Olson, 1966.
Olson, Everett Claire. 1970. New and little-known genera and species of vertebrates from the lower Permian of Oklahoma. Fieldiana: Geology, 18(3):359–434. Desc. (pp. 400–403) & fig. Fig. 9A–D (p. 401).
Paratypes:
UR 1216 Part of lower jaw and skull fragments. Desc. (p. 400).
UR 1218 Front part of skull and lower jaws. Desc. (p. 400).
UR 1219 Skull and lower jaws, ventral side exposed. Desc. (p. 400).
UR 1220 Jaws and part of skull plus 3 or 5 vertebrae and other elements. Desc. (p. 400) & fig. Pl. VIA (p. 433).
UR 1221 Lower jaw and skull fragments. Desc. (p. 400).
UR 1222 Lower jaw. Desc. (p. 400).
UR 1223 Maxilla with well-preserved dentition. Desc. (p. 400).
UR 1224 Snout and lower jaw. Desc. (pp. 400, 402).
UR 1225 Jaw and skull fragments. Desc. (p. 400).
UR 1226 Lower jaw. Desc. (p. 400).
UR 1227 Partial lower jaw. Desc. (p. 400).
UR 1228 Partial lower jaw. Desc. (p. 400).
UR 1229 Partial lower jaw. Desc. (p. 400).
UR 1251a Side of skull. Desc. (p. 400).
UR 1285 Lower jaw and partial forelimb. Desc. (p. 400) & fig. Pl. VIB (p. 433).
UR 1286 Lower jaw. Desc. (p. 400).

21. Zatrachys crucifer Case, 1903
= *Aspidosaurus crucifer* (Case, 1903).
UC 1205 HOLOTYPE. Vertebral spine.
Permian.
Texas.
Collector: Ermine C. Case, 1896.
Case, Ermine C. 1903. New or little-known vertebrates from the Permian of Texas. Journal of Geology, 11:394–402. Desc. (pp. 399–400) & fig. Fig. 5 (p. 398).

Family **DOLESERPETONTIDAE**

22. Doleserpeton annectens Bolt, 1974
UR 1308 HOLOTYPE. Skull.
Lower Permian: Arroyo equivalent, Fissure Fills.
Oklahoma: Comanche County; Fort Sill, Richard's Spur, Dolese Brothers Limestone Quarry, SW¼, Sec. 31, T4N, R11W.
Collector: John Ryan Bolt, 1969.
Bolt, John Ryan. 1974. Evolutional and functional interpretation of some suture patterns in Paleozoic Labyrinthodont Amphibians and other Lower Tetrapods. Journal of Paleontology, 48(3):434–458. Desc. (pp. 436–438) & fig. Figs. 1–2 (p. 436), figs. 3–4 (p. 437), fig. 5 (p. 438).

Paratypes:
UR 1296 Skull. Desc. (p. 436).
UR 1307 Skull. Desc. (p. 436).
UR 1322 Skull. Desc. (p. 436).
UR 1323 Skull. Desc. (p. 436).

Family **TREMATOPSIDAE**

23. Trematops milleri Williston, 1909
UC 640 HOLOTYPE. Skull, jaws, skeletal fragments, vertebral column, humerus, femora, tibia, pelvis, limb bone fragments, and foot.
Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Near Seymour, 2 mi NW of Craddock ranch, near Tabletop Mountain.
Collector: Paul C. Miller, 1908.
Williston, Samuel Wendell. 1909. New or little-known Permian vertebrate *Trematops*, new genus. Journal of Geology, 17(7):636–658. Desc. (pp. 637–658) & fig. Fig. 1 (p. 638), fig. 2 (p. 640), fig. 3 (p. 642), fig. 4 (p. 644), fig. 5 (p. 652), fig. 6 (p. 655).
Paratype:
UC 1756 Skull and jaws. Skeleton—restored and mounted. Not figured, not described.

24. Trematops willistoni Olson, 1941
UC 1584 HOLOTYPE. Skull, jaws, and associated postcranial material.
Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Clear Fork, West Coffee Creek.
Collector: L. I. Price, 1934.
Olson, Everett Claire. 1941. The family Trematopsidae. Journal of Geology, 49(2):149–176. Desc. (p. 157) & fig. Fig. 6A,B (p. 158), table 6 (p. 159).

25. Trematopsis seltini Olson, 1956
= *Cacops*.
UR 279 HOLOTYPE. Skull and skeleton.
Early Permian: Vale Fm., Clear Fork Group.
Texas: Baylor County: Beaver Creek, Locality Bac.
Collector: Everett Claire Olson, 1954.
Olson, Everett Claire. 1956. Fauna of the Vale and Choza. A new Trematopsid Amphibian from the Vale Formation. Fieldiana: Geology, 10(26):323–328. Desc. (pp. 324–328) & fig. Fig. 133A,B (p. 325), fig. 134A–E (p. 236), table 1 (p. 327), table 2 (p. 328).

Note: Milner (1985) said this specimen is probably a dissorophid and probably *Cacops*.

Family **ZATRACHEIDAE**

26. Ceraterpeton divariacatum Cope, 1885
= *Stegops divericata* (Cope, 1885).
UR 16 (originally WM 12311) HOLOTYPE. Skull.
Mid-Pennsylvanian: Coal Measures.
Ohio: Jefferson County: Linton.
Collector: William Gurley.
Cope, Edward Drinker. 1885. Second continuation of researches among the Batrachia of the Coal Measures of Ohio. Proceedings of the American Philosophical Society, 22: 405–408. Desc. (pp. 406–407). No figure.

Note: The counterpart to this specimen is AMNH 2559.

Suborder **STEREOSPONDYLI**
Superfamily **RHINESUCHOIDEA**
Family **RHINESUCHIDAE**

27. Rhinesuchoides tenuiceps Olson & Broom, 1937
UC 1519 HOLOTYPE. Skull and left lower jaw.
Middle Permian: Karroo Series, Lower Beaufort Fm., Tapinocephalus Zone.
South Africa: Cape Province: 2 mi E of Stinkfontein, Prince Albert Division.
Collector: Paul C. Miller, 1929.
Olson, Everett Claire, and Robert Broom. 1937. New genera and species of Tetrapods from the Karroo Beds of South Africa. Journal of Paleontology, 11(7):613–619. Desc. (pp. 617–619) & fig. Figs. 6–7 (p. 618).

Superfamily **CAPITOSAUROIDEA**
Family **CAPITOSUARIDAE**

28. Paracyclotosaurus davidi Watson, 1958
PR 505 CAST OF HOLOTYPE, R 6000. (Original in British Museum [Natural History].)
Skull and jaws.
Late Triassic: Hawkesburg Series, Wianamatta Shales.

Australia: New South Wales: St. Peter's, near Sydney.
Collector: Dr. Dunston, 1914.
Watson, D. M. S. 1958. A new labyrinthodont (*Paracyclotosaurus*) from the Upper Trias of New South Wales. Bulletin of the British Museum (Natural History)–Geology, 3(7): 235–263. Desc. (pp. 235–263) & fig. Fig. 1 (p. 238), fig. 2 (p. 239), fig. 3 (p. 240), fig. 4 (p. 241), fig. 5 (p. 242), fig. 6 (p. 243), fig. 7A–E (p. 247), fig. 8, 1, 2, 3, 7, 13, 20, 27–29, 32, 33, 40, 49 (p. 248), fig. 9 (p. 249), figs. 10–11 (p. 250), fig. 12 (p. 251), fig. 13 (p. 252), fig. 14 (p. 255), pls. 27A,B, 28–31.

Superfamily **METOPOSAUROIDEA**
Family **METOPOSAURIDAE**

29. Anaschisma brachygnatha Branson, 1905
UC 448 HOLOTYPE. Skull.
Late Triassic: Popo Agie Fm.
Wyoming: Fremont County: Near Lander.
Collector: Newton H. Brown, 1902.
Branson, E. B. 1905. Structure and relationships of American Labyrinthodontidae. Journal of Geology, 13:568–610. Desc. (pp. 588–589) & fig. Fig. 9 (p. 588), fig. 10(1) (p. 589).

30. Anaschisma browni Branson, 1905
UC 447 HOLOTYPE. Skull.
Late Triassic: Popo Agie Fm.
Wyoming: Fremont County: Near Lander.
Collector: Newton H. Brown, 1902.
Branson, E. B. 1905. Structure and relationships of American Labyrinthodontidae. Journal of Geology, 13:568–610. Desc. (pp. 585–587) & fig. Fig. 1 (p. 573), fig. 2 (p. 576), fig. 3, 3a (p. 580), fig. 4a (p. 582), fig. 5 (p. 584), fig. 6 (p. 585), fig. 7 (p. 586), fig. 8 (p. 587), fig. 10(2) (p. 589).

Order **ANTHRACOSAURIA**
Suborder **SEYMOURIAMORPHA**
Family **SEYMOURIIDAE**

31. Desmospondylus anomalus Williston, 1910
= *Seymouria baylorensis* Broili, 1904.
UC 664–UC 665 HOLOTYPE.
Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: 1 mi W of Coffee Creek, bridge on Vernon Road.
Collector: Paul C. Miller, 1909.
Williston, Samuel Wendell. 1910. *Cacops, Desmospondylus*; new genera of Permian vertebrates. Bulletin of the Geological Society of America 21:249–284. Desc. (pp. 250, 280–283) & fig. Pl. 16, figs. 1–12.

32. Seymouria grandis Olson, 1979
UR 1031 HOLOTYPE. Partial skull and vertebra.
Early Permian: Garber-Hennessy Transition Beds.
Oklahoma: Logan County: 4 mi S of Crescent, on Cimarron River.
Collector: Everett Claire Olson, 1965.
Olson, Everett Claire. 1979. *Seymouria grandis* (Batrachosauria: Amphibia) from the Middle Clear Fork (Permian) of Oklahoma and Texas. Journal of Paleontology, 53(3): 720–728. Desc. (pp. 720–728) & fig. Fig. 1 (p. 722), fig. 2 (p. 723), fig. 3A (p. 724), fig. 4A–D (p. 726).

Family **LIMNOSCELIDAE**

33. Limnosceloides dunkardensis Romer, 1952
PR 381 CAST OF HOLOTYPE, USNM 12166. (Original at the U.S. National Museum, Smithsonian.) Cast of vertebrae, only part of holotype.
Early Permian (possibly Late Pennsylvanian): Dunkard Series.
West Virginia: Jackson County: 5 mi SW of Cottageville.
Romer, Alfred Sherwood. 1952. Late Pennsylvanian and early Permian vertebrates of the Pittsburgh–West Virginia region. Annals of the Carnegie Museum 33, Article 2: 47–112. Desc. (p. 88) & fig. Fig. 10 (p. 88).

Family **?WAGGONERIIDAE**

34. Waggoneria knoxensis Olson, 1951
= Captorhinomorph Reptile (Dr. John Ryan Bolt, pers. comm.)
UR 14 HOLOTYPE. Skull, lower jaws, 6 anterior vertebrae, and partial shoulder girdle.
Early Permian: Vale Fm.
Texas: Knox County: 7 mi N of Vera, Locality KF, north wall of valley of south Wichita River, east of Vera-Gillil and Road, 3-Channel Hill.
Collector: Everett Claire Olson, 1948.
Olson, Everett Claire. 1951. Fauna of Upper

Vale and Choza: 1–5. Fieldiana: Geology, 10(11):89–128. Desc. (pp. 90–97) & fig. Fig. 38 (p. 91), fig. 39 (p. 92), fig. 40 (p. 93), fig. 41 (p. 94).

Paratype:

UR 15 Dorsal vertebra. Desc. (pp. 93–96) & fig. Fig. 42 (p. 95).

Note: In 1979, E. C. Olson reidentified the paratype UR 15 as *Labidosaurikos.*

Family **DIADECTIDAE**

35. Diadectes sideropelicus Cope, 1878

AMNH 4360 (at the American Museum of Natural History) HOLOTYPE. Fragment of a lower jaw with two well-preserved teeth.

Early Permian: Belle Plains Fm., Wichita Beds. Texas.

Cope, Edward Drinker. 1878. Descriptions of extinct Batrachia and Reptilia from the Permian Formation of Texas. Proceedings of the American Philosophical Society, 17: 505–530.

Neotype (designated for this species by Everett Claire Olson, 1947):

UR 27 (formerly Harvard University, Museum of Comparative Zoology MCZ 1105) NEOTYPE. Skull and lower jaws, a complete series of presacral vertebrae, complete scapulo-coracoids, a clavicle, and well-preserved ribs.

Early Permian: Belle Plains Fm., Mid-Wichita Beds.

Texas: Archer County: 5 mi S of Dundee, near Woodrum Ranch House, NE corner, Sec. A1195 SPRP Survey.

Collector: L. I. Price. Received from Harvard University June 1949 in exchange from the Walker Museum for skull of *Varanops,* UC 681.

Olson, Everett Claire. 1947. The family Diadectidae and its bearing on the classification of Reptiles. Fieldiana: Geology, 11(1):3–53.

Note: No specific description of this specimen or figures of this specimen were ever given by Olson. According to the rules of the International Code of Zoological Nomenclature, Article 75, Neotypes, a neotype can be designated for a given species only if through loss or destruction, no holotype, lectotype, or syntype exists. Since the holotype still exists at the American Museum of Natural History, and no adequate description was given for this specimen in Olson (1947), I question whether UR 27 can be considered a valid neotype.

36. Diadectoides cretin Case, 1911

= *Diadectes tenuitectus* Cope, 1878.

UC 650 HOLOTYPE. Part of upper jaw, skull, and large part of skeleton, column, ribs, foot bones, and girdle.

Permian: Arroyo Fm., Indian Creek northeast of Vernon road.

Collector: Paul C. Miller, 1908.

Case, Ermine C. 1911. A revision of the Cotylosauria of North America. Carnegie Institution of Washington, Publication No. 145. 122 pp. Desc. (pp. 26–28) & fig. Fig. 6 (p. 27).

37. Phanerosaurus pugnax Geinitz & Deichmüller, 1882

= *Stephanospondylus pugnax* (Geinitz & Deichmüller, 1882).

UR 448 CAST OF HOLOTYPE. (Originals in the Staatliches Museum für Mineralogie und Geologie zu Dresden.)

Early Permian: Autunian, Middle Rotliegende.

Germany: Plauenschen Grunde, near Dresden. (New name = Freital near Dresden.)

Geinitz, Hans Bruno, and J. V. Deichmüller. 1882. Die Saurier der unteren Dyas von Sachsen. Palaeontographica, 29:1–46. Desc. (pp. 10–16) & fig. Pls. 4–5.

Note: The holotype of *Phanerosaurus pugnax* Geinitz & Deichmüller, 1882 still exists. The holotype was not given a number in the new catalogue. In the "Geinitz Catalog des Permes" from 1882, this specimen is given numbers 1 through 4 on page 13 (Dr. Sc. H. Prescher, pers. comm.).

Subclass **LEPOSPONDYLI**
Order **NECTRIDEA**
Family **KERATERPETONTIDAE**

38. Diplocaulus brevirostris Olson, 1951

Early Permian: Arroyo, Clear Fork Group.

Texas: Baylor County: Middle Coffee Creek.

Olson, Everett Claire. 1951. *Diplocaulus* a study in growth and variation. Fieldiana: Geology, 11(2):57–154. Desc. (p. 112) & fig. Pl. 7A–D.

Paratypes:

UC 1648 Desc. (p. 112) & fig. Pl. 7D.

UC 1655 Desc. (p. 112) & fig. Pl. 7C.
UC 1661 Desc. (p. 112) & fig. Pl. 7A.

39. Diplocaulus primigenius Mehl, 1921
= *Diplocaulus magnicornis* Cope, 1882.
UC 564 HOLOTYPE. One skull, 9 centra, and 8 ribs.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Brush Creek, near Craddock Ranch.
Collector: Paul C. Miller, 1919.
Mehl, Maurice G. 1921. A new form of *Diplocaulus*. The Journal of Geology, 29(1):48–56. Desc. (pp. 48–56) & fig. Fig. 1A–D (p. 49), fig. 2 (p. 50).

40. Diplocaulus recurvatus Olson, 1952
UR 19 HOLOTYPE. Skull.
Early Permian: Vale Fm., Clear Fork Group.
Texas: Knox County: Valley of South Wichita River, north of river and east of Vera-Gilliland Road KD.
Collected by University of Chicago Expedition, 1948.
Olson, Everett Claire. 1952. Fauna of the Upper Vale and Choza. Fieldiana: Geology, 10(14):147–166. Desc. (pp. 165–166) & fig. Fig. 58C (p. 154), fig. 64 (p. 166).
Paratypes:
UR 17 Posterior end of skull. Desc. (p. 165).
UR 18 Central portion of skull. Desc. (p. 165).
UR 20 Incomplete horn. Desc. (p. 165).
UR 21 Horn impression. Desc. (p. 165).
UR 22 Horn impression. Desc. (p. 165).

41. Peronedon primus Olson, 1970
UR 1234 HOLOTYPE. Skull, jaws, and vertebrae.
Early Permian: Hennessy Fm., about 70 ft above base.
Oklahoma: Cleveland County: Near Norman: SW¼, NW¼, Sec. 13, T8N, R2W.
Collector: Everett Claire Olso, 1966.
Olson, Everett Claire. 1970. New and little-known genera and species of vertebrates from the Lower Permian of Oklahoma. Fieldiana: Geology, 18(3):359–434. Desc. (pp. 410–412) & fig. Fig. 11A–C (p. 413), pl. 7A (p. 434).
Paratypes:
UR 1235 Partial skulls, vertebrae, etc. (3 individuals). Desc. (p. 410).
UR 1236 Skull and jaws, 2 vertebrae. Desc. (pp. 410–412) & fig. Fig. 11D (p. 413).
UR 1237 Partial skull and jaws. Desc. (pp. 410, 413).
UR 1238 Skull. Desc. (p. 410).

42. Platyops parvus Williston, 1918
= *Diplocaulus magnicornis* Cope, 1882.
UC 206 HOLOTYPE. Skull.
Early Permian: Arroyo Fm.
Texas: Baylor County: Brush Creek, below Craddock Ranch near Seymour.
Collector: Paul C. Miller, 1916.
Williston, Samuel Wendell. 1918. The osteology of some American Permian vertebrates. Contributions from Walker Museum, 2(4):87–112. Desc. (p. 110) & fig. Fig. 19 (p. 111).

Order **AISTOPODA**
Family **PHLEGETHONTIIDAE**

43. Phlegethontia linearis Cope, 1871
PR 826 CAST OF HOLOTYPE, AMNH 6966. (Original at the American Museum of Natural History.) Cast of skull and skeleton.
Mid-Pennsylvanian: Allegheny Group, cannel below Upper Freeport Coal.
Ohio: Jefferson County: Linton.
Collector: J. S. Newberry.
Cope, Edward Drinker. 1871. Observations on the extinct Batrachian fauna of the Carboniferous of Linton, Ohio. Stated Meeting, Nov. 3d, 1871. Proceedings of the American Philosophical Society, 12:176–177. Desc. (p. 177). No figure.

44. Phlegethontia mazonensis Gregory, 1948
PR 302 CAST OF HOLOTYPE, USNM 17097. (Original at the United States National Museum, Smithsonian.) Cast of skeleton in nodule, part and counterpart.
Pennsylvanian: Carbondale Fm., Roof Shale of Morris Coal No. 2.
Illinois: Grundy County: Mazon Creek, near Morris. Lacoe Collection.
Gregory, Joseph T. 1948. A new limbless vertebrate from the Pennsylvanian of Mazon Creek, Illinois. American Journal of Science, 246:636–663. Desc. (pp. 636–663) & fig. Fig. 1A,B (p. 637), fig. 2A,B (p. 638), fig. 3 (p. 639), fig. 4 (p. 642), fig. 5 (p. 643), pl. 1, figs. 1–4 (p. 643), fig. 6A,B (p. 650), fig. 6A–E (p. 651).

Order **LYSOROPHIA**
Family **LYSOROPHIDAE**

45. Cocytinus gyrinoides Cope, 1871
UR 421 CAST OF HOLOTYPE, AMNH 6925. (Original at the American Museum of Natural History.) Cast of skull and anterior part of column.
PR 827 CAST OF HOLOTYPE, AMNH 6925. (Original at the American Museum of Natural History.) Cast of skull and neck.
Pennsylvanian: Late Allegheny, Upper Freeport Coal, cannel coal.
Ohio: Jefferson County: Linton.
Cope, Edward Drinker. 1871. Observations on the extinct Batrachian fauna of the Carboniferous of Linton, Ohio. Stated Meeting, Nov. 3d, 1871. Proceedings of the American Philosophical Society, 12:176–177. Desc. (p. 177). No figure.

46. Lysorophus tricarinatus Cope, 1877
UC 6526 HOLOTYPE. Left anterior quarter of one centrum and a cone-shaped piece of sediment that formerly filled one end of an amphicoelus centrum.
Pennsylvanian: Early Conemaugh, Middle McLeansboro Fm.
Illinois: Vermilion County: Horseshoe Bend of Vermilion River.
Collector: William Gurley.
Cope, Edward Drinker. 1877. Descriptions of extinct vertebrata from the Permian and Triassic Formations of the United States. Proceedings of the American Philosophical Society, 17:182–193. Desc. (p. 187). No figure.
Paratype:
UR 6527 Two centra. Desc. (p. 187).

Note: Lot UC 6527 was not marked as a paratype of *Lysorophus tricarinatus* Cope, 1877. However, one of the centra appears to match a figured specimen in Case (1900, fig. 12 of Pl. 2). Case (1902) stated he figured Cope's original specimens in Case (1900) (Carl F. Wellstead, pers. comm.).

Order **MICROSAURIA**
Family **GYMNARTHRIDAE**

47. Cymatorhiza kittsi Olson & Barghusen, 1962
= in Tetrapoda *incertae sedis* according to Carroll and Gaskill (1978)
UR 855 HOLOTYPE. Lower jaw.
Late Permian: Flower Pot Fm., El Reno Group.
Oklahoma: Kingfisher County: Locality KF2, NE¼, NW¼, NW¼, Sec. 34, T17N, R9W.
Collector: Everett Claire Olson, 1961.
Olson, Everett Claire, and Hebert Barghusen. 1962. Permian vertebrates from Oklahoma and Texas. Part 1. Oklahoma Geological Survey, Circular 59:5–48. Desc. (pp. 13–15) & fig. Fig. 2A–C (p. 14).

48. Euryodus primus Olson, 1939
UC 1565 HOLOTYPE. Skull and jaws, 7 vertebrae; also, plaster cast and enlarged model.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: West Bank, Brudhy Creek.
Collector: Everett Claire Olson, 1938.
Olson, Everett Claire. 1939. The fauna of the *Lysorophus* pockets in the Clear Fork Permian Baylor County, Texas. Journal of Geology, 47(4):389–397. Desc. (pp. 389–397) & fig. Fig. 1A,B (p. 391), pl. 1A,B.
Paratypes:
UC 1566 Skull and jaws. Desc. (pp. 389–397) & fig. Fig. 2 (p. 392).
UC 1567 Two skulls in nodule, one with good palate. Desc. (pp. 389–397) & fig. Fig. 2 (p. 392).
UC 1569 Lower jaw and associated material. Desc. (pp. 389–397).

Family **OSTODOLEPIDIDAE**

49. Micraroter erythrogeios Daly, 1973
UR 2311 HOLOTYPE. Skull with jaw and 4 neural arches, 2 centra, part of shoulder girdle.
Early Permian: Believed to be Arroyo equivalent.
Oklahoma: Tillman County: Near Grandfield, SW¼, SE¼, SE¼, Sec. 20, T4S, R15W.
Collectors: Orville Gilpin, Everett Claire Olson and wife, Eleanor Daly, John Ryan Bolt et al., 1966–1968, 1970–1971.
Daly, Eleanor. 1973. A Lower Permian vertebrate fauna from Southern Oklahoma. Journal of Paleontology, 47(3):562–589. Desc. (p. 580) & fig. Fig. 19 (p. 580), fig. 20 (p. 581), fig. 21 (p. 582), figs. 22–23 (p. 583).
Paratypes:
UR 2312 Posterior part of jaw and ventral part of quadrate. Desc. (p. 580).

UR 2313 Snout from front of orbits. Desc. (pp. 580–581).
UR 2314 Skull fragments. Desc. (p. 580).

Family **RHYNCHONKIDAE**

50. Goniorhynchus stovalli Olson, 1970
= *Rhynchonkos stovalli* (Olson, 1970).
UR 1039 HOLOTYPE. Skull and jaws.
Early Permian: Hennessy Fm.
Oklahoma: Cleveland County: Locality southeast of Norman, SW¼, NW¼, Sec. 13, T8N, R2W.
Collector: Everett Claire Olson, 1965.
Olson, Everett Claire. 1970. New and little-known genera and species of vertebrates from the Lower Permian of Oklahoma. Fieldiana: Geology, 18(3):359–434. Desc. (pp. 403–404) & fig. Pl. 6D (p. 433).
Paratypes:
UR 1040 Skull and jaws. Desc. (p. 404) & fig. Pl. VI, fig. C (p. 433).
UR 1242 Part of skull. Desc. (p. 404).
UR 1243 Lower jaws. Desc. (p. 404).
UR 1244 Skull, jaw, and vertebrae. Desc. (p. 404).
UR 1245 Part of skull and vertebrae. Desc. (p. 404).
UR 1246 Front part of lower jaw, scrap. Desc. (p. 404).
UR 1247 Part of lower jaw. Desc. (p. 404).
UR 1248 Part of skull and vertebrae. Desc. (p. 404).
UR 1284 Crushed skull, vertebrae. Desc. (p. 404).
UR 1341 Front of skull and lower jaws. Desc. (pp. 404, 407) & fig. Pl. VI, figs. E–F (p. 433), fig. 10E (p. 405).

Family **HAPSIDOPAREIONTIDAE**

51. Hapsidopareion lepton Daly, 1973
UR 2303 HOLOTYPE. Skull with jaw and 2.5 vertebrae.
Early Permian: Believed to be Arroyo equivalent.
Oklahoma: Tillman County: Near Grandfield, SW¼, SE¼, SE¼, Sec 20, T4S, R15W.
Collectors: Orville Gilpin, Everett Claire Olson and wife, Eleanor Daly, John Ryan Bolt et al., 1966–1968, 1970–1971.
Daly, Eleanor. 1973. A Lower Permian vertebrate fauna from Southern Oklahoma, Journal of Paleontology, 47(3):562–589. Desc. (p. 576) & fig. Fig. 14 (p. 575), fig. 15 (p. 576), fig. 16 (p. 577), fig. 17 (p. 578), fig. 18 (p. 579).
Paratypes:
UR 2304 Flattened skull with jaw. Desc. (p. 576).
UR 2305 Partial flattened skull with jaw fragment. Desc. (p. 576).
UR 2306 Skull with jaw. Desc. (p. 576).
UR 2307 Posterior half of skull with jaw. Desc. (p. 576).
UR 2308 Anterior half of skull. Desc. (p. 576).
UR 2309 Group of disarticulated skull and jaw bones. Desc. (pp. 576, 578).
UR 2310 Laterally flattened skull. Desc. (p. 576).
UR 2413 Pelvis that probably belongs to this animal. Desc. (pp. 576, 579).

Subclass **LISSAMPHIBIA**
Superorder **CAUDATA**
Order **URODELA**
Family **PROSIRENIDAE**

52. Prosiren elinorae Goin & Auffenberg, 1958
PR 391 HOLOTYPE. Dorsal vertebra.
Early Cretaceous: Trinity Sandstone.
Texas: Montague County: 2.5 mi SW of Forestburg, Turtle Gully, Area B, small pinnacle.
Collector: Bryan Patterson, 1950.
Goin, Coleman J., and Walter Auffenberg. 1958. New salamanders of the family Sirenidae from the Cretaceous of North America. Fieldiana: Geology, 10(33):449–459. Desc. (pp. 450–453) & fig. Fig. 187A–D (p. 451).
Paratypes:
PR 390 Two dorsal vertebrae. Desc. (p. 450).
PR 392 Two dorsal vertebrae. Desc. (p. 450).

CLASS REPTILIA

The Field Museum's type collection of fossil reptiles consists of 104 holotypes, 7 cotypes, 389 paratypes (not counting the paratypes for *Varanosaurus brevirostris* Williston, 1911), and 18 casts of types from other museums. Of the 104 holotypes and 7 cotypes, 65 holotypes and all 7 cotypes were once part of the University of Chicago's de-

funct Walker Museum. Of the 389 paratypes, 223 were once part of the Walker Museum. The most prolific author of fossil reptiles in the holdings of the Field Museum is Everett Claire Olson. In a series of papers (1937 [three], 1941, 1951, 1954 [two], 1960, 1962 [two], 1965, 1968, 1970), he has described 23 holotypes and 195 paratypes. Everett Claire Olson and James R. Beerbower (1953) described 7 holotypes and 5 paratypes, Everett Claire Olson and Robert Broom (1937) 4 holotypes, Everett Claire Olson and Herbert R. Barghusen (1962) 2 holotypes and 19 paratypes, Rainer Zangerl (1944, 1945, 1947, 1953, 1960) 17 holotypes and 157 paratypes, Samuel Wendell Williston (1904, 1905, 1908, 1909, 1910, 1911, 1915, 1916) 14 holotypes and 1 paratype, Samuel Wendell Williston and Ermine C. Case (1913) 2 holotypes, Karl Patterson Schmidt (1931, 1938, 1940, 1941, 1944, 1945) 8 holotypes and 7 paratypes, Edward Drinker Cope (1875, 1877 [two]) 4 species in the type collection for a total of 1 holotype and 7 cotypes, Alfred Sherwood Romer (1925, 1936, 1937) 4 holotypes, Maurie G. Mehl (1913, 1915, 1922) 3 holotypes and 1 paratype, David Jay Simmons (1965) 3 holotypes, Elmer S. Riggs (1903, 1906) 2 holotypes, Dale A. Russell (1970, 1975) 2 holotypes, and Robert E. DeMar (1970) 1 holotype and 4 paratypes. The following authors are each responsible for producing one holotype: Ermine C. Case (1907), Charles W. Gilmore (1928), Bryan Patterson (1931), Frank Bryne (1937), Samuel G. Welles (1943), Peter Paul Vaughn (1958), Wann Langston, Jr. (1960), John H. Ostrom (1961), Eleanor Daly (1969), Robert L. Carroll and Peter Malcolm Galton (1977), and M. K. Brett-Surman (1979).

Subclass **ANAPSIDA**
Order **CAPTORHINIDA**
Suborder **CAPTORHINOMORPHA**
Family **PROTOROTHYRIDIDAE**

1. Cephalerpeton ventriarmatum Moodie, 1912
PR 828 CAST OF HOLOTYPE, YPM 796. (Original in Yale Peabody Museum.) Cast of skull and skeleton.
Middle Pennsylvanian: Desmoinesean, Westphalian D, Francis Creek Shale Member.
Illinois: Grundy County: Mazon Creek.
Collector: Roy L. Moodie, 1871.
Moodie, Roy L. 1912. The Pennsylvanian Amphibia of the Mazon Creek, Illinois Shales. The Kansas University Scientific Bulletin, 6(2):323–362. Desc. (pp. 350–352) & fig. Pl. 1, fig. 4; pl. 7, fig. 2.

2. Hylonomus lyelli Dawson, 1860
PR 875 CAST OF HOLOTYPE, BM(NH) R 4168. (Original in British Museum [Natural History].) Cast of disarticulated specimen.
Middle Pennsylvanian: Joggins Fm.
Canada: Nova Scotia: Joggins.
Dawson, J. William. 1860. On a Terrestrial Mollusk, a Chilognathous Myriapod, and some new Species of Reptiles from the Coal Formation of Nova Scotia. Quarterly Journal of the Geological Society of London, 16:268–277. Desc. (pp. 274–276) & fig. Figs. 14–18 (p. 274).

3. Protorothyris archeri Price, 1937
UR 379 CAST OF HOLOTYPE, MCZ 1532. (Original at Museum of Comparative Zoology, Harvard University.) Cast of skull and jaws of holotype.
Early Permian: Moran Fm., Wichita Group.
Texas: Archer County: Head of Cottonwood Creek.
Price, Lleweyn Ivor. 1937. Two new Cotylosaurs from the Permian of Texas. Proceedings of the New England Zoology Club, 16: 97–102. Desc. (p. 98) & fig. Pl. 6, fig. 2.

Family **CAPTORHINIDAE**

4. Captorhinoides valensis Olson, 1951
UR 13 HOLOTYPE. Skull and jaws.
Early Permian: Vale Fm., Clear Fork Group.
Texas: Knox County: 7 mi N of Vera, Locality KF, North wall of valley of South Wichita River, east of Vera-Gilliland Road.
Collector: Everett Claire Olson, 1948.
Olson, Everett Claire. 1951. Fauna of Upper Vale and Choza: 1–5. Fieldiana: Geology, 10(11):89–128. Desc. (pp. 98–104) & fig. Fig. 43 (p. 99), figs. 44–45 (p. 100), fig. 46 (p. 102).

5. Captorhinikos chozaensis Olson, 1954
UR 97 HOLOTYPE. Skull fragments, jaws, including maxillary toothplates.
Early Permian: Choza Fm., Clear Fork Group.
Texas: Foard County: Green Nodule Site, Locality FA.
Collector: Everett Claire Olson, 1948.
Olson, Everett Claire. 1954. Fauna of the Vale

and Choza: 9. Captorhinomorpha. Fieldiana: Geology, 10(19):211–218. Desc. (pp. 216–217) & fig. Fig. 86A,B (p. 215).

Paratypes:

UR 99 Part of skeleton, including 6 thoracic vertebrae, part of pelvis, femur, and indeterminate fragments. Desc. (p. 216) & fig. Fig. 86C–E (p. 215).

UR 100 Part of skull and skeleton, including portion of skull roof, impression of scapula, vertebrae (largely molds), humerus, radius, fibula, and various unprepared parts. Desc. (p. 216).

6. Captorhinikos valensis Olson, 1954

UR 101 HOLOTYPE. Anterior part of lower jaw and maxillary toothplate.

Early Permian: Upper part of Vale Fm., Clear Fork Group.

Texas: Knox County: Locality KA.

Olson, Everett Claire. 1954. Fauna of the Vale and Choza: 9. Captorhinomorpha. Fieldiana: Geology, 10(19):211–218. Desc. (pp. 215–216) & fig. Fig. 86F–H (p. 215).

Paratypes:

UR 102 Partial lower jaw. Desc. (p. 216).

UR 103 Fragment of upper toothplate. Desc. (pp. 215–216).

UR 104 Part of palate. Desc. (p. 216).

UR 105 Part of lower jaw with teeth. Desc. (p. 215).

UR 106 Six vertebrae with ribs and poorly preserved impression of 5 more anterior vertebrae leading toward what appears to be fragments of posterior part of skull. Desc. (p. 215).

UR 1077 Presacral vertebrae. Desc. (p. 215).

UR 1086 Vertebrae associated with ribs and fragments of dental plates. Desc. (p. 215).

7. Kahneria seltina Olson, 1962

UR 618 HOLOTYPE. Anterior half of lower jaw.

Later Permian: San Angelo Fm., Pease River Group.

Texas: Knox County: Kahn Quarry, Locality KAC.

Collector: Everett Claire Olson, 1958.

Olson, Everett Claire. 1962. Later Permian terrestrial vertebrates of the U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, New Series, 52(2):3–217. Desc. (pp. 14–17) & fig. Fig. 3B, pl. 2, figs. A,B.

8. Labidosaurikos barkeri Olson, 1954

= *Labidosaurikos meachami* Stovall, 1950

UR 110 HOLOTYPE. Partial skeleton, including upper jaw and skull fragments, parts of lower jaws, 10 vertebrae, part of clavicle, interclavicle, symphysial parts of the pubes, head of a femur, proximal and distal ends of humerus and fibula, plus miscellaneous fragments.

Early Permian: Lower part of the Choza Fm., Clear Fork Group.

Texas: Foard County: Locality FA, Pipe Site.

Collector: Everett Claire Olson, 1949.

Olson, Everett Claire. 1954. Fauna of the Vale and Choza: 9 Captorhinomorpha. Fieldiana: Geology, 10(19):211–218. Desc. (pp. 213–214) & fig. Fig. 85A,B,D,E (p. 212).

Paratypes:

UR 109 Partial large maxillary with dentition. Desc. (p. 213).

UR 111 Two partial lower jaws with postcanine dentition partly present, apparently from same individual. Desc. (pp. 213–214).

UR 112 Lower jaw with dentition. Desc. (p. 214).

UR 113 Maxillary with dentition. Desc. (p. 214) & fig. Fig. 85F (p. 212).

UR 114 Tooth-bearing maxillary. Desc. (p. 213).

UR 115 Partial maxillary toothplate. Desc. (p. 213).

UR 116 Part of sidewall of skull, including partial jugal, lacrimal, and maxillary with teeth. Desc. (p. 213) & fig. Fig. 85C (p. 212).

Note: Seltin (1959) stated that *L. barkeri* Olson, 1954 appeared to be an immature growth stage of *Labidosaurikos meachami* Stovall, 1950.

9. Labidosaurikos meachami Stovall, 1950.

UR 380 CAST OF HOLOTYPE, MUO3-1-52. (Original at University of Oklahoma, Museum.) Cast of skull and right ramus.

Early Permian: Hennessy Fm.

Oklahoma: Logan County: About 1.5 mi NE of Crescent.

Collector: J. Willis Stovall, 1939.

Stovall, J. Willis. 1950. A new cotylosaur from north central Oklahoma. American Journal of Science, 248(1):46–54. Desc. (pp. 46–54) & fig. Pl. 1, figs. a–f.

10. Pariotichus laticeps Williston, 1909

= *Eocaptorhinus laticeps* (Williston, 1909)

UC 642 HOLOTYPE. Skull, jaws, most of

skeleton on slab, loose right scapula-coracoid, humerus, radius-ulna, manus, 10 ribs, and 3 vertebrae.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: 2 mi S of Big Wichita River.
Collector: Paul C. Miller, 1908.
Williston, Samuel Wendell. 1909. New or little known Permian vertebrates *Pariotichus*. Biological Bulletin, 17(3):241–256. Desc. (pp. 241–255) & fig. Fig. 1 (p. 242), fig. 2 (p. 243), fig. 3 (p. 250), fig. 4 (p. 251), fig. 5 (p. 254), fig. 6 (p. 255).

11. Puercosaurus obtusidens Williston, 1916
UC 743 HOLOTYPE. Left ramus with teeth.
Early Permian: Abo Fm.
New Mexico: Rio Arriba County: Poleo Creek.
Collector: Paul C. Miller, 1911.
Williston, Samuel Wendell. 1916. The osteology of some American Permian vertebrates II. Contributions from Walker Museum, 1(9):165–192. Desc. (pp. 189–192) & fig. Fig. 37D (p. 190).
Paratype:
UC 745 Two skulls. Desc. (pp. 191–192) & fig. Fig. 37A,C (p. 190).

Note: According to Dr. Robert Reisz (pers. commn.), the holotype of *Puercosaurus obtusidens* Williston, 1916 is an undefinable specimen, *nomen dubium*. Also, he says the two skulls of paratype UC 745 are captorhinids of uncertain affinities.

12. Rothia multidonta Olson & Beerbower, 1953
= *Rothaniscus multidonta* (Olson & Beerbower, 1953)
UR 87 HOLOTYPE. Skull and jaws.
Late Permian: San Angelo Fm., 15 ft below top of section.
Texas: Hardeman County: North of Pease River, just west of Crowell Highway.
Collector: Everett Claire Olson and party, 1950.
Olson, Everett Claire, and James R. Beerbower. 1953. The San Angelo Formation, Permian of Texas and its vertebrates. Journal of Geology, 61(5):389–423. Desc. (p. 396) & fig. Fig. 3.

13. Rothia robusta Olson, 1965
= *Rothaniscus robusta* (Olson, 1965).
UR 966 HOLOTYPE. Lower jaw.
Late Permian: Chickasha Fm. (equivalent to Middle Flowerpot).
Oklahoma: Blaine County: Sec. 34 and 33, T18N, R11W, Locality BC-7.
Collector: Everett Claire Olson, 1963.
Olson, Everett Claire. 1965. New Permian vertebrates from the Chickasha Formation in Oklahoma. Oklahoma Geological Survey, Circular No. 70:1–70. Desc. (pp. 38–47) & fig. Fig. 3B, pl. 7, figs. E–G.
Paratypes:
UR 829 Vertebra. Desc. (p. 38).
UR 830 Partial vertebra. Desc. (p. 38).
UR 831 Partial vertebra. Desc. (p. 38).
UR 832 Partial vertebra. Desc. (p. 38).
UR 833 Partial pelvis. Desc. (p. 38).
UR 834 Rib. Desc. (p. 38).
UR 922 Partial toothplate. Desc. (p. 38).
UR 934 Astragalus. Desc. (p. 38).
UR 950 Jaw fragment. Desc. (p. 38).
UR 951 Skull plate. Desc. (p. 38).
UR 952 Jaw. Desc. (p. 38).
UR 953 Limb bone. Desc. (p. 38).
UR 954 Part of skull roof. Desc. (p. 38).
UR 955 Toothplate. Desc. (p. 38).
UR 956 Jaw fragment. Desc. (p. 38).
UR 957 Jaw fragment and rib. Desc. (p. 38).
UR 958 Jaw fragment. Desc. (p. 38).
UR 959 Jaw fragment. Desc. (p. 38).
UR 960 Jaw fragment. Desc. (p. 38).
UR 961 Partial jaw. Desc. (p. 38).
UR 962 Jaw fragments. Desc. (p. 38).
UR 963 Vertebra. Desc. (p. 38).
UR 964 Two sacral vertebrae. Desc. (p. 38).
UR 965 Vertebra. Desc. (p. 38).
UR 967 Much of skeleton and skull. Desc. (p. 39).
UR 989 Immature limb, scrap. Desc. (p. 39).
UR 991 Humerus. Desc. (p. 39).
UR 994 Front part of jaw. Desc. (p. 39).
UR 996 Part of scapulocoracoid, part of vertebra. Desc. (p. 39).
UR 1008 Fragment of jaw. Desc. (p. 39).
UR 1009 Part of jaw. Desc. (p. 39).
UR 1010 Part of toothplate. Desc. (p. 39).

Family **ACLEISTORHINIDAE**

14. Acleistorhinus pteroticus Daly, 1969
UR 1038 HOLOTYPE. Skull and jaws.
Early Permian: Hennessy Fm.
Oklahoma: Tillman County: Southwest of Grandfield, SW¼, SE¼, Sec. 20, T4S, R15E.
Collector: Everett Claire Olson, 1965.

Daly, Eleanor. 1969. A new procolophonoid reptile from the Lower Permian of Oklahoma. Journal of Paleontology, 43(3):676–687. Desc. (pp. 676–687) & fig. Fig. 1 (p. 677), figs. 2–3 (p. 678), fig. 4 (p. 679), figs. 5–6 (p. 680), fig. 7 (p. 682).

Suborder **PAREIASAUROIDEA**
Superfamily **PAREIASAUROIDEA**
Family **PAREIASAURIDAE**

15. Pareiasaurus pinnatus Olson & Broom, 1937
UC 1562 HOLOTYPE. Fragmentary skull, jaws, vertebrae, pelvis, limb bone fragments.
Late Permian: Lower Beaufort Fm., Karroo Series, Endothiodon Zone.
South Africa: Near Wagenaars Kraal.
Collector: Paul C. Miller, 1929.
Olson, Everett Claire, and Robert Broom. 1937. New genera and species of tetrapods from the Karroo Beds of South Africa. Journal of Paleontology, 11(7):613–619. Desc. (pp. 615–617) & fig. Fig. 5 (p. 617).

Subclass **TESTUDINATA**
Order **CHELONIA**
Suborder **CRYPTODIRA**
Superfamily **TRIONYCHOIDEA**
Family **CARETTOCHELYIDAE**

16. Anosteira manchuriana Zangerl, 1947
P 15102 HOLOTYPE. Carapace and plastron, crushed but well preserved.
Late Eocene: Probably from oil shale horizon.
Manchuria: Northeast Provinces: Fengtien, Fuschun coal mine.
Collector: Mr. K. Ogaki, 1935.
Zangerl, Rainer. 1947. A new Anosteirine turtle from Manchuria. Fieldiana: Geology, 10(3): 13–21. Desc. (pp. 13–21) & fig. Fig. 5 (p. 15), fig. 6 (p. 16), fig. 7 (p. 19), fig. 8 (p. 20).

Family **DERMATEMYDIDAE**

17. Basilemys sinuosus Riggs, 1906
P 12008 HOLOTYPE. Carapace and plastron.
Late Cretaceous: Creek Fm.
Montana: Eastern Custer County: Chalk Buttes near Powdes.
Collector: Field Columbian Museum Expedition of 1904, Elmer S. Riggs, in charge.
Riggs, Elmer S. 1906. The carapace and plastron of *Basilemys sinuosus,* a new fossil tortoise from the Laramie Beds of Montana. Field Columbian Museum, Geology Series, 2:249–256. Desc. (pp. 249–256) & fig. Pls. 76–78.

Family **TRIONYCHIDAE**

18. Aspideretes annae Zangerl, 1944
P 27241 HOLOTYPE (formerly University of Notre Dame UND 663). Carapace and plastron.
Eocene: Bridger.
Wyoming: Sweetwater County: 3 mi E of Little America, immediately north of U.S. Highway 30.
Collectors: Ann and Rainer Zangerl, 1940.
Zangerl, Rainer. 1944. *Aspideretes annae* n. sp., a new species of soft shell turtle from the Bridger Eocene of Wyoming. The American Midland Naturalist, 31(3):583–591. Desc. (pp. 584–589) & fig. Fig. 1 (p. 585), fig. 2 (p. 586), fig. 3 (p. 587).

Note: This specimen was originally catalogued into the University of Notre Dame's collection as No. 663 but was given to the Field Museum of Natural History under Accession Number 3692. Please note that in the original publication an error was made in referring to the catalogue number of the type. The description lists UND 663 as the holotype, but the figures list UND 661 as the holotype.

19. Paleotrionyx quinni Schmidt, 1945
= *Trionyx quinni* (Schmidt, 1945).
P 26441 HOLOTYPE. Incomplete carapace.
Late Paleocene.
Colorado: Mesa County: 2.5 mi W of DeBeque, 0.5 mi W of the Finley Ranch House.
Collector: Charles M. Barber.
Schmidt, Karl Patterson. 1945. A new turtle from the Paleocene of Colorado. Fieldiana: Geology, 10(1):1–4. Desc. (pp. 2–4) & fig. Fig. 1 (p. 3).

Superfamily **CHELONIOIDEA**
Family **TOXOCHELYIDAE**

20. Ctenochelys acris Zangerl, 1953
P 27354 HOLOTYPE. Fragments of plastron, partial carapace.

Late Cretaceous: Selma Fm., Mooreville Chalk Member, below Arcola Limestone.

Alabama: Dallas County: Moore Brothers Ranch, about 2 mi SE of Harrell Station.

Collector: Rainer Zangerl and Alabama Expedition, 1945.

Zangerl, Reiner. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part IV. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 242–247) & fig. Fig. 112 (p. 244).

Paratypes:

P 27337 Partial skull and mandible. Desc. (pp. 244, 246).

P 27340 Partial skull. Desc. (p. 244).

P 27344 Costal and peripheral. Desc. (p. 244).

P 27352 Vertebrae and limb bones. Desc. (pp. 244, 246–247).

P 27356 Hyoplastron, xiphiplastron, neural, peripheral, and costal (juv.). Desc. (p. 244) & fig. Fig. 112 (p. 244).

P 27366 Mandible and fragments of limb bones. Desc. (pp. 233, 246).

P 27437 Partial carapace. Desc. (p. 244).

PR 62 Partial carapace. Desc. (pp. 244, 247) & fig. Fig. 112 (p. 244).

PR 97 Partial shell, vertebrae, and mandible. Desc. (pp. 244, 246).

PR 153 Three peripherals. Fig. fig. 112 (p. 244).

PR 157 Left mandibular ramus. Desc. (p. 244).

PR 251 Partial skull. Desc. (pp. 244, 246).

21. Ctenochelys tenuitesta Zangerl, 1953

P 27361 HOLOTYPE. Fragments of carapace, plastron, girdle elements, limb bones, and vertebrae.

Late Cretaceous: Selma Fm., Mooreville Chalk.

Alabama: Dallas County: Moore Brothers Ranch, about 2 mi SE of Harrell Station.

Collector: Charles M. Barber, 1945, and Alabama Expedition.

Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part IV. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 227–237) & fig. Fig. 101 (p. 232), fig. 106 (p. 237), pl. 20Ec,Ed.

Paratypes:

P 27316 Partial carapace. Desc. (pp. 230, 234) & fig. Fig. 103 (p. 235).

P 27339 Snout fragment and mandible. Desc. (pp. 230–231) & fig. Fig. 98 (p. 227), fig. 99 (p. 227).

P 27341 Mandible. Desc. (p. 230).

P 27351 Partial plastron, scapulae, and vertebrae. Desc. (pp. 230, 232–233).

P 27354 Partial shell. Desc. (p. 230).

P 27357 Peripheral. Desc. (p. 230).

P 27360 Peripherals. Desc. (p. 230).

P 27362 Partial shell, humerus, and neurals. Desc. (p. 230) & fig. Fig. 102 (p. 233).

P 27402 Snout fragment, parietals, and mandible. Desc. (pp. 230, 232) & fig. Fig. 98 (p. 227).

P 27404 Pygal and peripherals. Desc. (pp. 230, 234) & fig. Fig. 102 (p. 233).

P 27425 Peripherals and ulna. Desc. (pp. 230, 235) & fig. Fig. 106 (p. 237).

P 27429 Peripherals. Desc. (p. 230).

P 27431 Peripherals and coracoid. Desc. (pp. 230, 232).

P 27432 Shell fragments. Desc. (p. 230).

P 27481 Peripherals. Desc. (p. 230).

P 27548 Partial carapace and pelvis. Desc. (pp. 230, 232).

P 27551 Hyoplastron. Desc. (pp. 230, 234) & fig. Fig. 101 (p. 232).

P 27552 Shell fragments. Desc. (p. 230).

P 27557 Hypoplastron and xiphiplastron. Desc. (p. 230).

P 27558 Peripherals, neurals, and vertebrae. Desc. (pp. 230, 233).

P 27559 Shell fragments. Desc. (p. 230).

P 27560 Peripherals and neurals. Desc. (p. 230).

P 27563 Pelvis, peripherals, and neurals. Desc. (pp. 230, 236–237) & fig. Fig. 106 (p. 237).

PR 24 Costals, peripherals, suprapygal, and pygal. Desc. (pp. 230, 234) & fig. Fig. 102 (p. 233).

PR 25 Poorly preserved partial carapace. Desc. (p. 230).

PR 27 Peripherals. Desc. (p. 230).

PR 30 Braincase fragment, fragments of both maxillae, and a portion of the roof of the skull with one frontal, both parietals, and both postorbitals intact. Desc. (pp. 230, 232) & fig. Fig. 100 (p. 231).

PR 57 Peripherals. Desc. (p. 230).

PR 95 Peripheral bones. Desc. (p. 230).

PR 96 Shell fragments. Desc. (p. 230).

PR 161 Posterior rim of carapace. Desc. (pp. 230, 234) & fig. Fig. 102 (p. 233).

PR 209 Peripheral. Desc. (p. 230).

PR 248 Costals, neurals, peripherals, partial plastron, humerus, and vertebrae. Desc. (pp. 230, 232–235) & fig. Fig. 106 (p. 237).

PR 252 Xiphiplastra, peripherals, humerus, and scapula. Desc. (p. 230).

PR 258 Mandible, skull fragments, peripherals, and partial plastron. Desc. (p. 230).

22. Lophochelys natatrix Zangerl, 1953

PR 220 HOLOTYPE. Plastron, partial carapace, limb bones, scapulae, coracoid, and vertebrae (juv.).

Late Cretaceous: Niobrara Fm.

Kansas: Logan County: 1 mi N of the Pyramids.

Collector: George F. Sternberg, January 1949.

Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part IV. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 218–220) & fig. Fig. 91 (p. 219), fig. 92 (p. 221).

23. Lophochelys niobrarae Zangerl, 1953

UR 1 HOLOTYPE. Carapace and miscellaneous fragments (juv.).

Late Cretaceous: Niobrara Fm.

Kansas.

Collector: Harold T. Martin, purchased in 1894.

Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part 4. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 220–223) & fig. Fig. 94.

Paratypes:

UR 2 Plastron. Desc. (pp. 220–222) & fig. Fig. 94 (p. 223).

UR 7 Partial plastron, pygal plate, and ilium. Desc. (pp. 220–222).

24. Lophochelys venatrix Zangerl, 1953

P 27355 HOLOTYPE. Fragments: most peripherals, preneural, 2 neurals, and portion of plastron.

Late Cretaceous: Selma Fm., Mooreville Chalk Member, below Arcola Limestone.

Alabama: Dallas County: Moore Brothers Ranch, about 2 mi SE of Harrell Station.

Collector: Charles M. Barber, 1945 and Alabama Expedition.

Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part 4. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 224–226) & fig. Fig. 95 (p. 224), fig. 97 (p. 226).

Paratypes:

P 27350 Nuchal and peripherals. Desc. (pp. 224–225) & fig. Fig. 96 (p. 225).

P 27426 Peripherals and costal plates. Desc. (p. 224) & fig. Fig. 96 (p. 225).

PR 22 Three peripherals. Desc. (p. 224) & fig. Fig. 96 (p. 225).

25. Phyllemys barberi Schmidt, 1944

= *Toxochelys barberi* (Schmidt, 1944).

P 27047 HOLOTYPE. Complete plastron except for the epiplastra and entoplastron.

Late Cretaceous: Marlbrook Marl, Gulf Series.

Arkansas: Clark County: NW¼, Sec. 28, T7S, R20W, about 1 mi NE of the junction of the Hollywood–Okolona Road to Arkadelphia on the Widow Cox Farm.

Collector: Charles M. Barber, 1938.

Schmidt, Karl Patterson. 1944. Two new thalassemyd turtles from the Cretaceous of Arkansas. Field Museum of Natural History Geology Series, 8(11):63–74. Desc. (pp. 65–68) & fig. Fig. 20 (p. 66), fig. 21 (p. 67), fig. 22 (p. 68).

26. Prionochelys galeotergum Zangerl, 1953

PR 125 HOLOTYPE. Fragmentary carapace.

Late Cretaceous: Niobrara Fm.

Kansas: Cove County. Collector: George F. Sternberg, 1928.

Zangerl, Rainer 1953. The vertebrate fauna of the Selma Formation of Alabama. Part 4. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 258–260) & fig. Fig. 114 (p. 250), fig. 121 (p. 259).

27. Prionochelys matutina Zangerl, 1953

P 27561 HOLOTYPE. Peripherals, neurals, plastral fragments, rib fragments, and partial pelvis.

Late Cretaceous: Selma Fm., below Arkola Limestone.

Alabama: Dallas County: Moore Ranch.

Collector: Rainer Zangerl and Museum Expedition party, 1946.

Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part 4. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 254–258) & fig. Figs. 114 (p. 250), fig. 118 (p. 255), figs. 119–120 (p. 257).

Paratypes:

P 27479 Large peripheral. Desc. (p. 254).

PR 31 Crushed peripherals. Desc. (p. 254).
PR 185 Peripherals, pygal, neural, and costal of juvenile specimen. Desc. (pp. 254, 256–257).
PR 222 Nuchal and first peripheral of large individual. Desc. (pp. 254, 258).

28. Prionochelys nauta Zangerl, 1953
P 26237 HOLOTYPE. Partial carapace: neurals, peripherals, costals, and fragments of plastron.
Upper Cretaceous: Marlbrook Marl.
Arkansas: Howard County: Saratoga, Devil's backbone.
Collector: Charles M. Barber.
Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part 4. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 249–254) & fig. Fig. 114 (p. 250).

29. Thinochelys lapisossea Zangerl, 1953
P 27453 HOLOTYPE. Carapace and plastron, vertebral and girdle elements.
Late Cretaceous: Selma Fm., Mooreville Member below Arkola Limestone.
Alabama: Dallas County: 1 mi E of Harrell Station, south of railroad.
Collector: Charles M. Barber, 1946.
Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part 4. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 200–202) & fig. Fig. 82 (p. 201), pl. 25.
Paratypes:
P 27332 Peripheral bones and a distal half of humerus. Desc. (p. 200).
PR 201 Xiphiplastra. Desc. (p. 200).
PR 263 Fragmentary carapace. Desc. (p. 200).

Note: Zangerl listed the Field Museum of Natural History Reptile catalogue number for the first paratype as PR 27332. However, the correct citation should have been P 27332.

30. Toxochelys moorevillensis Zangerl, 1953
P 27330 HOLOTYPE. Nearly complete shell, vertebral fragments, and girdle bones.
Late Cretaceous: Selma Fm., Mooreville Chalk Member, below Arcola Limestone.
Alabama: Dallas County: Moore Brothers Ranch.
Collector: Charles M. Barber, 1945.
Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part IV. The turtles of the family Toxochelyidae. Fieldiana: Geology Memoirs, 3(4):137–277. Desc. (pp. 186–193) & fig. Fig. 76 (p. 189), pl. 22.

Paratypes:
P 27338 Posterior portion of skull. Desc. (pp. 186, 188) & fig. Pl. 14.
P 27345 Costal plate. Desc. (p. 186).
P 27346 Fragmentary specimen. Desc. (p. 186).
P 27347 Fragmentary plastron. Desc. (p. 186).
P 27348 Partial carapace and plastron. Desc. (pp. 186, 191) & fig. Fig. 76 (p. 189).
P 27349 Fragmentary plastron. Desc. (pp. 186, 191–192).
P 27358 Peripherals. Desc. (p. 186).
P 27367 Fragmentary plastron. Desc. (p. 186).
P 27391 Nearly complete carapace, fragments of plastron, vertebrae, and a good pelvis. Desc. (pp. 186, 190–191) & fig. Fig. 75 (p. 189), pl. 20B,G, pl. 23.
P 27434 Fragmentary specimen. Desc. (p. 186).
P 27436 Peripheral fragments. Desc. (p. 186).
P 27438 Peripherals. Desc. (p. 186).
P 27539 Peripheral fragments. Desc. (p. 186).
P 27544 Costal plate. Desc. (p. 186).
P 27549 Fragmentary specimen. Desc. (p. 186).
P 27550 Partial skeleton. Desc. (pp. 186, 191).
P 27554 Fragmentary specimen. Desc. (pp. 186, 191–192).
P 27555 Fragmentary specimen. Desc. (p. 186).
P 27556 Fragmentary specimen. Desc. (p. 186).
P 27562 Costal plate. Desc. (p. 186).
PR 26 Peripherals. Desc. (p. 186).
PR 28 Nearly complete carapace and several vertebrae. Desc. (pp. 187, 190–191) & fig. Pl. 23.
PR 32 Fragmentary specimen. Desc. (p. 186).
PR 33 Fragmentary specimen. Desc. (p. 187).
PR 59 Anterior peripherals. Desc. (p. 187).
PR 60 Costal plates. Desc. (p. 187).
PR 109 Fragmentary specimen. Desc. (p. 186).
PR 110 Fragmentary specimen. Desc. (pp. 186, 192).

PR 111 Fragmentary specimen. Desc. (p. 187).
PR 112 Fragmentary specimen. Desc. (p. 187).
PR 113 Fragment. Desc. (p. 186).
PR 136 Nearly complete shell, girdle bones, some limb bones, and some vertebrae. Desc. (p. 186, 190–192) & fig. Pl. 23.
PR 140 Peripherals. Desc. (p. 186).
PR 144 Partial carapace. Desc. (p. 186).
PR 154 Fragmentary specimen. Desc. (p. 186).
PR 155 Carapace fragments. Desc. (p. 186).
PR 166 Partial carapace. Desc. (pp. 186, 191).
PR 167 Nearly complete shell and pelvis. Desc. (pp. 186, 191) & fig. Pl. 23.
PR 168 Costal plates. Desc. (p. 186).
PR 188 Fragmentary specimen. Desc. (p. 186).
PR 189 Fragmentary plastron. Desc. (p. 186).
PR 191 Fragmentary plastron. Desc. (p. 186).
PR 194 Neural and costal plates. Desc. (p. 186).
PR 199 Anterior part of carapace. Desc. (p. 186).
PR 218 Mandible. Desc. (pp. 186, 188) & fig. Pl. 14.
PR 219 Skull. Desc. (pp. 186, 188) & fig. Pl. 14.
PR 224 Shell fragments. Desc. (p. 186).
PR 253 Peripherals. Desc. (p. 186).
PR 264 Peripherals. Desc. (p. 186).
PR 265 Costal plate. Desc. (p. 186).
PR 266 Peripherals. Desc. (p. 186).

31. Toxochelys weeksi Collins, 1951

PR 260 CAST OF HOLOTYPE. Casts of peripherals 7–9 and plastron.
Late Cretaceous: Ripley Fm., Coon Creek Tongue.
Tennessee: McNairy County: Coon Creek, near Ennville.
Collector: R. Lee Collins.
Collins, R. Lee. 1951. A new turtle *Toxochelys weeksi,* from the Upper Cretaceous of west Tennessee. Journal of Tennessee Academy of Sciences, 26(4):262–269. Desc. (pp. 262–269) & fig. 2 pls.

Family **PROTOSTEGIDAE**

32. Calcarichelys gemma Zangerl, 1953

PR 129 HOLOTYPE. Neurals 2–4, peripherals: L. 6, 7, 9–11; R. 4–7, 10–11. L. hyoplastron, xiphiplastron, pygal, superpygal, and coracoid.
Late Cretaceous: Selma Fm., Mooreville Member below Arkola Limestone.
Alabama: Montgomery County: South of Montgomery, D. H. Eargle's Locality 1.
Collectors: Charles M. Barber and D. H. Eargle, 1948.
Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part III. The turtles of the family Protostegidae. Fieldiana: Geology Memoirs, 3(3):59–133. Desc. (pp. 119–123) & fig. Fig. 56 (p. 121), fig. 57 (p. 123), fig. 58 (p. 124).
Paratype:
PR 152 Left third and fourth peripherals; fragments of costal plates. Desc. (pp. 119, 122).

33. Protostega dixie Zangerl, 1953

P 27314 HOLOTYPE. Skull, parts of carapace, nearly complete plastron, shoulder girdle, and elements of the limbs.
Late Cretaceous: Selma Fm., Mooreville Chalk.
Alabama: Dallas County: Southeast of Marion Junction, 3 mi SE of Harrell Station.
Collector: Charles M. Barber, 1945.
Zangerl, Rainer. 1953. The vertebrate fauna of the Selma Formation of Alabama. Part III. The turtles of the family Protostegidae. Fieldiana: Geology Memoirs, 3(3):59–133. Desc. (pp. 94–118) & fig. Fig. 30 (p. 95), fig. 32 (p. 97), fig. 35 (p. 100), fig. 36 (p. 101), fig. 37 (p. 101), fig. 39 (p. 103), fig. 40 (p. 104), fig. 41 (p. 105), fig. 44 (p. 107), fig. 45 (p. 109), fig. 47A (p. 110), fig. 47B (p. 111), fig. 50 (p. 114), fig. 51 (p. 115), fig. 55 (p. 117).
Paratypes:
P 27315 Skull, jaws, nuchal, neurals, peripherals, plastron, humeri and other limb bone fragments, ribs. Desc. (pp. 94, 100–102, 111) & fig. Fig. 31 (p. 96), fig. 34 (p. 98), fig. 43 (p. 106), fig. 46 (p. 109), fig. 55 (p. 117).
P 27319 Parts of skull, carapace, plastron, humerus, girdle, and vertebrae. Desc. (pp. 96, 102).
P 27353 Scapula and coracoid. Desc. (pp. 94, 108) & fig. Fig. 48 (p. 112).
P 27368 Rib. Desc. (p. 94).
P 27385 Jaw, nuchal, suprapygal, skull, rib, and several peripherals. Desc. (pp. 97, 101, 103, 111) & fig. Fig. 33 (p. 98), fig. 38 (p. 103).

P 27427 Rib fragments. Desc. (p. 96).
P 27441 Peripheral. Desc. (p. 97).
P 27473 Shell fragments. Desc. (p. 97).
P 27482 Humerus and fifth cervical vertebra. Desc. (pp. 96, 110) & fig. Fig. 53 (p. 116).
PR 21 Partial plastron, girdle, and rib. Desc. (p. 97).
PR 58 Three peripherals. Desc. (p. 97).
PR 64 Fragmentary peripherals. Desc. (p. 99).
PR 65 Skull, jaw, and carapace fragments. Desc. (p. 99).
PR 66 Carapace and plastral fragments. Desc. (p. 96).
PR 67 Carapace fragments. Desc. (p. 97).
PR 68 Miscellaneous fragments of shell. Desc. (p. 96).
PR 69 Rib. Desc. (p. 96).
PR 70 Two peripherals. Desc. (p. 96).
PR 71 Peripheral and rib fragments. Desc. (p. 96).
PR 72 Partial plastron. Desc. (p. 96).
PR 114 Two costal plates. Desc. (p. 97).
PR 132 Caudal vertebrae, partial carapace, limb bones, and skull. Desc. (pp. 97, 111, 118) & fig. Fig. 54 (p. 116).
PR 133 Fragments of carapace, plastron, and skull. Desc. (p. 96).
PR 134 Two plastral plates. Desc. (p. 86).
PR 147 Humerus. Desc. (p. 97).
PR 151 Two neurals, atlas, axis, girdle, and costal plate. Desc. (p. 118).
PR 159 Incomplete plastron. Desc. (p. 99).
PR 163 Plastron. Desc. (p. 99).
PR 170 Incomplete skull. Desc. (p. 99).
PR 174 Plastral fragments. Desc. (p. 99).
PR 177 Jaw. Desc. (p. 99).
PR 190 Peripheral plate. Desc. (p. 96).
PR 197 Skull bones. Desc. (p. 96).
PR 198 Carapace and plastral fragments. Desc. (pp. 96, 102) & fig. Fig. 42 (p. 105).

Family **CHELONIIDAE**

34. Catapleura arkansaw Schmidt, 1944
P 27045 HOLOTYPE. Carapace and plastron.
Late Cretaceous: Marlbrook Marl, Gulf Series.
Arkansas: Clark County: 2 mi NE of Okalona, Gaither Brothers Farm.
Collector: Charles M. Barber, 1934.
Schmidt, Karl Patterson. 1944. Two new Thalassemyd turtles from the Cretaceous of Arkansas. Geological Series of the Field Museum of Natural History. Fieldiana. Vol. 8(11):63–74. Desc. (pp. 70–74) & fig. Fig. 23 (p. 70), fig. 24 (p. 71).

35. Chelonia knorri Gray, 1831
= *Glarichelys knorri* (Gray, 1831).
PR 406 COPPER CAST OF HOLOTYPE. (Original in Paläontologisches Institut und complete skeleton.
Early Oligocene.
Switzerland: Canton Glarus: Slate quarry near Matt.
Gray, John Edward. 1831. Synopsis reptilium; or short descriptions of the species of reptiles. Pt. 1. Cataphracta, tortoises, crocodiles, and enaliosaurians. London, 85 pp. Desc. (p. 54).

36. Corsochelys haliniches Zangerl, 1960
PR 249 HOLOTYPE. Partial carapace and plastron, limb bones.
Late Cretaceous: Selma Group, Mooreville Chalk Member.
Alabama: Greene County: 2.5 mi E of West Greene.
Collectors: R. A. Hard and Rainer Zangerl.
Zangerl, Rainer. 1960. The vertebrate fauna of the Selma Formation of Alabama. Part V. An advanced chelonid sea turtle. Fieldiana: Geology Memoirs, 3(5):281–312. Desc. (pp. 286–306) & fig. Fig. 125 (p. 286), fig. 126 (p. 287), fig. 127 (p. 289), fig. 128 (p. 290), fig. 129 (p. 295), fig. 130 (p. 296), figs. 131–132 (p. 297), fig. 133 (p. 298), fig. 134 (p. 299), figs. 135–136 (p. 300), fig. 137 (p. 301), fig. 138 (p. 302), fig. 139 (p. 303), figs. 140–143 (p. 305), figs. 144–145 (p. 306). Pls. 30–33.

Family **DERMOCHELYIDAE**

37. Eosphargis breineri Nielsen, 1959
PR 405 CAST OF HOLOTYPE. Skull.
Early Eocene: Mo Clay Fm.
Denmark: Island of Fur: Beach below Knudeklint.
Collector: Eigil Nielsen.
Nielsen, Eigil. 1959. Eocene turtles from Denmark. Meddelelser Dansk Geologisk Forening (Bulletin of the Geological Society of Denmark), 14:96–114. Desc. (pp. 99–107) & fig. Figs. 1–4, pls. 1–4.

Superfamily **TESTUDINOIDEA**
Family **CHELYDRIDAE**

38. Macrochelys schmidti Zangerl, 1945
= *Psephophorus schmidti* (Zangerl, 1945).
P 26014 HOLOTYPE. Skull.
Early Middle Miocene: Marsland Fm., Hemingfordian.
Nebraska: Dawes County: Marsland.
Collector: A. Potter.
Zangerl, Rainer. 1945. Fossil specimens of *Macrochelys* from the Tertiary of the Plains. Fieldiana: Geology, 10(2):5–12. Desc. (pp. 5–9) & fig. Fig. 2 (p. 7), fig. 3 (p. 8).

Suborder **PLEURODIRA**
Family **PELOMEDUSIDAE**

39. Podocnemis alabamae Zangerl, 1948
P 27370 HOLOTYPE. Complete shell with pelvis.
Late Cretaceous: Selma Fm., lower, early marly member.
Alabama: Dallas County: Southeast of Marion Junction, Harrell Station area.
Collector: C. M. Barber, May 1946.
Zangerl, Rainer. 1948. The vertebrate fauna of the Selma Formation of Alabama. Part 1. Introduction. Fieldiana: Geology Memoirs, 3(1):1–56. Desc. (pp. 25, 28, 30–31, 33, 35–38) & fig. Fig. 5 (p. 32), fig. 6 (p. 35), fig. 11 (p. 47), fig. 12 (p. 49).
Paratypes:
P 27331 Posterior portion of carapace. Desc. (pp. 25, 28, 30–31, 36–38).
P 27369 Complete carapace, most of the plastron and other skeletal fragments. Desc. (pp. 26, 30–31, 33–38) & fig. Fig. 3 (p. 27).
P 27372 Most of carapace and part of the plastron. Desc. (pp. 25–26, 30–31, 33, 35–38) & fig. Fig. 4 (p. 29), fig. 7 (p. 43), fig. 8 (p. 44), fig. 9 (p. 45), fig. 10 (p. 46).
P 27405 Humerus and parts of both carapace and plastron. Desc. (pp. 25, 28, 31, 34).
P 27406 Fragmentary specimen. Desc. (pp. 25–26).
P 27419 Two peripherals. Desc. (p. 25).

40. Podocnemis barberi Schmidt, 1940
= *Bothremys barberi* (Schmidt, 1940).
P 26055 HOLOTYPE. Carapace and plastron.
Upper Cretaceous: Brownstone Marl, Gulf Series.
Arkansas: Pike County: Near Delight, E. L. Presley Farm, in a gully on the SW¼, NE¼, Sec. 29, T8S, R23W.
Collector: Charles M. Barber.
Schmidt, Karl Patterson. 1940. A new turtle of the genus *Podocnemis* from the Cretaceous of Arkansas. Fieldiana: Geology, 8(1): 1–11. Desc. (pp. 3–11) & fig. Fig. 2 (p. 4), figs. 3–5 (p. 8).
Paratypes:
P 26058 Right hypoplastron. Desc. (p. 3).
P 26059 Left peripheral. Desc. (p. 3).
P 26060 Neural. Desc. (p. 3).

41. Podocnemis olssoni Schmidt, 1931
= *Taphrosphys olssoni* (Schmidt, 1931).
P 14172 HOLOTYPE. Carapace and plastron.
Middle Eocene: Saline Group or Lower part of the Clavilithes Series.
Peru: Mogollon: 20 mi NE of Negritos.
Schmidt, Karl Patterson. 1931. A fossil turtle from Peru. Field Museum of Natural History: Geology Series, 4(8):249–254. Desc. (pp. 252–254) & fig. Pl. 46–47.

Subclass **DIAPSIDA**
Order **ARAEOSCELIDA**
Family **ARAEOSCELIDAE**

42. Araeoscelis gracilis Williston, 1910
UR 341 HOLOTYPE. Right femur and right humerus.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Craddock Ranch near Seymour.
Collector: Paul C. Miller, 1910.
Williston, Samuel Wendell. 1910. New Permian reptiles: Rachitomous vertebrae. Journal of Geology, 18(7):585–600. Desc. (pp. 587–590) & fig. Pl. 1, figs. 7–8.

43. Dictyobolos tener Olson, 1970
UR 1041 HOLOTYPE. Part of skull and jaws, vertebral column, girdle and limb elements.
Early Permian: Wellington Fm.
Oklahoma: Noble County: SE¼, SE¼, Sec. 26, T23N, R2W, Perry #6.
Collectors: Everett Clair Olson and Orville L. Gilpin, 1966.
Olson, Everett Claire. 1970. New and little

known genera and species of vertebrates from the Lower Permian of Oklahoma. Fieldiana: Geology, 18(3):359–434. Desc. (pp. 378–391) & fig. Fig. 4 (p. 382), pl. 3 (p. 429).

Paratypes:

UR 1042 Ilium. Desc. (p. 380).
UR 1043 Pterygoid. Desc. (p. 380) & fig. Pl. 4a (p. 431).
UR 1044 Dentary, radius, etc. Desc. (p. 380).
UR 1045 Mid-dorsal vertebrae. Desc. (p. 380) & fig. Fig. 5d,e (p. 385).
UR 1046 Anterior dorsal vertebra. Desc. (p. 380) & fig. Fig. 5b,c (p. 385).
UR 1047 Pterygoid. Desc. (p. 380).
UR 1048 Part of scapula. Desc. (p. 380).
UR 1049 Humerus. Desc. (p. 380) & fig. Fig. 8a (p. 389).
UR 1050 Right ischium. Desc. (p. 380).
UR 1051 Dentary. Desc. (p. 380).
UR 1052 Lumbar vertebra. Desc. (p. 380) & fig. Fig. 5f (p. 385).
UR 1053 Pubis. Desc. (p. 380) & fig. Fig. 7d (p. 388).
UR 1054 Cervical vertebra. Desc. (p. 380) & fig. Fig. 5a (p. 385).
UR 1055 Left premaxillary. Desc. (p. 380).
UR 1056 Right premaxillary. Desc. (p. 380).
UR 1057 Right premaxillary. Desc. (p. 380).
UR 1058 Left premaxillary. Desc. (p. 380).
UR 1059 Sacral vertebra. Desc. (p. 380) & fig. Fig. 5g (p. 385).
UR 1060 Anterior caudal vertebra. Desc. (p. 380) & fig. Fig. 5h (p. 385).
UR 1061 Radius. Desc. (p. 380) & fig. Fig. 8d (p. 389).
UR 1062 ?Interclavicle. Desc. (p. 380).
UR 1063 Femur and tibia. Desc. (p. 380).
UR 1064 Quadratojugal and parts of postcranium. Desc. (p. 380).
UR 1065 Partial femur. Desc. (p. 380).
UR 1066 Scapulacoracoid. Desc. (p. 380).
UR 1067 Maxilla, vertebra, rib, part limb bone, and skull fragments. Desc. (p. 380).
UR 1068 Scapula. Desc. (p. 380).
UR 1069 Slab with numerous bones (to show occurrence). Desc. (p. 380) & fig. Pl. 3 (p. 429).
UR 1070 Squamosal. Desc. (p. 380).
UR 1071 Teeth. Desc. (p. 380).
UR 1072 Ilium. Desc. (p. 380).
UR 1073 Parts of skull and caudal vertebra. Desc. (p. 380).
UR 1074 Ilium. Desc. (p. 380).
UR 1075 Cervical vertebra and rib. Desc. (p. 380).
UR 1076 Base of pelvis. Desc. (p. 380).
UR 1077 Postorbital. Desc. (p. 380).
UR 1078 Postorbital. Desc. (p. 380).
UR 1079 Two caudal vertebrae. Desc. (p. 380).
UR 1080 Skull plates, various. Desc. (p. 380).
UR 1081 Fibula. Desc. (p. 380).
UR 1082 Fibula. Desc. (p. 380).
UR 1083 Fibula. Desc. (p. 380).
UR 1084 Partial fibula. Desc. (p. 380).
UR 1085 Femur. Desc. (p. 380).
UR 1086 Femur. Desc. (p. 380).
UR 1087 Femur. Desc. (p. 380).
UR 1088 Femur. Desc. (p. 380).
UR 1089 Femur. Desc. (p. 380).
UR 1090 Femur. Desc. (p. 380).
UR 1091 Femur. Desc. (p. 380).
UR 1092 Femur. Desc. (p. 380).
UR 1093 Partial femora. Desc. (p. 380).
UR 1094 Radius. Desc. (p. 380).
UR 1095 Radius. Desc. (p. 380).
UR 1096 Radius. Desc. (p. 380).
UR 1097 Radius. Desc. (p. 380).
UR 1098 Partial ilium. Desc. (p. 380).
UR 1099 Partial ilium. Desc. (p. 380).
UR 1100 Partial ilium. Desc. (p. 380).
UR 1101 Parts of about 30 vertebrae. Desc. (p. 380).
UR 1102 Six partial limb bones. Desc. (p. 380).
UR 1103 About 30 miscellaneous and partial limb bones. Desc. (p. 380).
UR 1104 Phalanges. Desc. (p. 380).
UR 1105 Humerus. Desc. (p. 380) & fig. Fig. 8a (p. 389).
UR 1106 Ilium. Desc. (p. 380).
UR 1107 Scapula. Desc. (p. 380).
UR 1108 Caudal vertebra. Desc. (p. 380).
UR 1109 Nasal. Desc. (p. 380).
UR 1110 Radius. Desc. (p. 380).
UR 1111 Scapula. Desc. (p. 380) & fig. Fig. 7A (p. 388).
UR 1112 Ilium. Desc. (p. 380) & fig. Fig. 7b,c (p. 388).
UR 1113 Prefrontal. Desc. (p. 380).
UR 1114 Quadratojugals, identity uncertain, may be platysomid. Desc. (p. 380).
UR 1115 Jugal. Desc. (p. 380).
UR 1116 Anterior caudal rib. Desc. (p. 380) & fig. Fig. 6E (p. 387).
UR 1117 Fibula. Desc. (p. 380) & fig. Fig. 8F (p. 389).

UR 1118 Fibula. Desc. (p. 380).
UR 1119 Originally described as a radius by Olson. UR 1119 has now been provisionally identified as the head of a femur and the head of a tibia. Desc. (p. 380).
UR 1120 ?Tibia. Desc. (p. 380).
UR 1121 Lacrimal. Desc. (p. 380). Please note that in Olson's publication, in fig. 6D he lists the figured representative rib as "posterior presacral, UR 1121." There are two bones in the chunk of rock containing UR 1121. The bone that appears to be a lacrimal has the number UR 1121 on it. The other bone, which may be a presacral rib, does not appear to match fig. 6D (p. 387).
UR 1122 Frontal. Desc. (p. 380).
UR 1123 Postfrontal. Desc. (p. 380).
UR 1124 Postfrontal. Desc. (p. 380).
UR 1125 Partial frontal. Desc. (p. 380).
UR 1126 Caudal rib. Desc. (p. 380).
UR 1127 Anterior dorsal rib. Desc. (p. 380).
UR 1128 Miscellaneous metapodials. Desc. (p. 380).
UR 1129 Ulnae, poor. Desc. (p. 380) & fig. Fig. 8E (p. 389).
UR 1130 Coracoid. Desc. (p. 380) & fig. Fig. 6F (p. 387).
UR 1131 Skull parts and fragments. Desc. (p. 380).
UR 1132 Left premaxillary. Desc. (p. 380) & fig. Pl. 4D (p. 431).
UR 1133 Cervical rib. Desc. (p. 380).
UR 1134 Premaxilla. Desc. (p. 380).
UR 1135 Femur. Desc. (p. 380) & fig. Fig. 8B (p. 389).
UR 1136 Femur. Desc. (p. 380) & fig. Fig. 8B (p. 389).
UR 1137 Femur. Desc. (p. 380) & fig. Fig. 8B (p. 389).
UR 1138 Dorsal rib. Desc. (p. 380) & fig. Fig. 6B (p. 387).
UR 1139 Partial rib. Desc. (p. 380) & fig. Fig. 6D (p. 387).
UR 1140 Skull parts and vertebra. Desc. (p. 380).
UR 1141 Prefrontal. Desc. (p. 380).
UR 1142 Prefrontal. Desc. (p. 380).
UR 1143 Ribs. Desc. (p. 380).
UR 1144 Miscellaneous vertebrae. Desc. (p. 380).
UR 1145 Maxillary. Desc. (p. 380).
UR 1146 Maxillary. Desc. (p. 380).
UR 1147 Maxillary. Desc. (p. 380).
UR 1148 Maxillary. Desc. (p. 380).
UR 1149 Maxillary. Desc. (p. 380).
UR 1150 Maxillary. Desc. (p. 380).
UR 1151 Maxillary. Desc. (p. 380).
UR 1152 Maxillary. Desc. (p. 380).
UR 1153 Nine partial maxillaries. Desc. (p. 380).
UR 1154 Dentary. Desc. (p. 380).
UR 1155 Dentary. Desc. (p. 380).
UR 1156 Dentary. Desc. (p. 380).
UR 1157 Dentary. Desc. (p. 380) & fig. Pl. 4E (p. 431).
UR 1158 Dentary. Desc. (p. 380).
UR 1159 Dentary. Desc. (p. 380).
UR 1160 Dentary. Desc. (p. 380).
UR 1161 Dentary. Desc. (p. 380).
UR 1162 Dentary. Desc. (p. 380).
UR 1163 Dentary. Desc. (p. 380).
UR 1164 Incomplete dentaries and teeth. Desc. (p. 380).
UR 1165 Partial tibia and fibula. Desc. (p. 380).
UR 1166 Humerus. Desc. (p. 380).
UR 1167 Humerus. Desc. (p. 380).
UR 1168 Humerus. Desc. (p. 380).
UR 1169 Humerus and fragments. Desc. (p. 380).
UR 1170 Ulna. Desc. (p. 380).
UR 1171 Frontal. Desc. (p. 380).
UR 1172 Dentary. Desc. (p. 380).
UR 1173 Various skull bones. Desc. (p. 380).

Infraclass **LEPIDOSAUROMORPHA**
Order **EOSUCHIA**
Suborder **YOUNGIFORMES**
Family **YOUNGINIIDAE**

44. Youngoides romeri Olson & Broom, 1937
= *Youngia romeri* (Olson & Broom, 1937).
UC 1528 HOLOTYPE. Skull and jaws.
Late Permian: Lower Beaufort Fm., Karroo Series, Lower Cistecephalus Zone.
South Africa: Cape Province District: Murraysburg, Tovewater Farm, 1.5 mi W of house.
Collector: Paul C. Miller, 1929.
Olson, Everette Clair, and Robert Broom. 1937. New genera and species of tetrapods from the Karroo Beds of South Africa. Journal of Paleontology, 11(7):613–619. Desc. (p. 614) & fig. Fig. 3 (p. 615).

Superorder **LEPIDOSAURIA**
Order **SPHENODONTA**
Family **SPHENODONTIDAE**

45. Toxolophosaurus cloudi Olson, 1960
UR 619 HOLOTYPE. Lower jaws.
Lower Cretaceous: Kootenai Fm.
Montana: Silverbow County: W. Center of NESE Sec. 23, T4S, R8W.
Collector: Charles Cloud.
Olson, Everett Clair. 1960. A trilophosaurid reptile from the Kootenai Formation (Lower Cretaceous). Journal of Paleontology, 34(3):551–555. Desc. (pp. 551–555) & fig. Fig. 1 (p. 552), fig. 2A–D (p. 553), fig. 3 (p. 555).

Note: Throckmorton et al. (1981) redescribed *T. cloudi* Olson and removed this species from the subclass Euryapsida and placed it in the subclass Lepidosauria.

Order **SQUAMATA**
Suborder **LACERTILIA**
Infraorder **EOLACERTILIA**
Family **FULENGIDAE**

46. Fulengia youngi Carroll & Galton, 1977
CUP 2037 HOLOTYPE. Nearly complete skull, jaws, and associated vertebrae.
Late Triassic: Lower Lufeng Series, Dark Red Beds.
China: Yunnan Province: Near K'un-ming, Lufeng Basin, Ta Ti.
Collector: Fr. E. Oehler, SVD, in 1948 or 1949.
Carroll, Robert L., and Peter M. Galton. 1977. 'Modern' lizard from the Upper Triassic of China. Nature, 266(5599):252–255. Desc. (pp. 252–254) & fig. Fig. 1 (p. 253), fig. 2 (p. 254).

Infraorder **IGUANIA**
Family **IGUANIDAE**

47. Tetralophosaurus minutus Olson, 1937
UC 1546 HOLOTYPE. Jaw fragment with teeth.
Miocene: Lower Harrison.
Nebraska: Near Agate.
Collector: Paul McGraw, 1936.
Olson, Everett Clair. 1937. A Miocene lizard from Nebraska. Herpetologica, 1(4):97–120. Desc. (pp. 111–112) & fig. Fig. 1A,B (p. 112).

Infraorder **DIPLOGLOSSA**
Superfamily **ANGUOIDEA**
Family **ANGUIDAE**

48. Peltosaurus abbotti Gilmore, 1928
P 12861 HOLOTYPE. Skull.
Oligocene: Upper Brule, Leftanchemia Zone.
South Dakota: Cottonwood Creek, Badlands.
Collector: J. B. Abbott, 1905.
Gilmore, Charles W. 1928. Fossil lizards of North America. National Academy of Sciences, Third Memoir, 22:1–169. Desc. (pp. 135–136) & fig. Fig. 83 (p. 135), pl. 22, figs. 1, 2.

Superfamily **VARANOIDEA**
Family **VARANIDAE**

49. Saniva major Leidy, 1873
P 26992. CASTS OF HOLOTYPE. (Originals at Peabody Museum, Yale.) Casts of 2 dorsal vertebrae.
Mid Eocene: Bridger Fm., Green Sandstone stratum.
Wyoming: Lodge Pole Trail, crossing at Dry Creek.
Leidy, Joseph. 1873. Contributions to the Extinct Vertebrate Fauna of the Western Territories. Vol. 1, Fossil Vertebrates. Report of the United States Geological Survey of the Territories. Government Printing Office, Washington, 358 pp. Desc. (p. 182) & fig. Pl. 15, fig. 14, pl. 27, figs. 36–37.

Note: The description uses the spelling *Saniva,* but plates 15 and 27 use the spelling *Saniwa.*

Family **MOSASAURIDAE**
Subfamily **MOSASAURINAE**

50. Globidens dakotensis Russell, 1975
PR 846 HOLOTYPE. Skull, atlas-axis, 9 cervicals, and quadrates.
Late Cretaceous: Pierre Shale Member, upper part, Sharon Springs.
South Dakota: Custer County: 7.5 mi S of Fairburn, NW¼, SW¼, SW¼, Sec. 29, T5S, R8E.
Collectors: Priscilla and William Davey Turnbull.
Russell, Dale A. 1975. A new species of *Globidens* from South Dakota, and a review of Globidentine Mosasaurs. Fieldiana: Geol-

ogy, 33(13):235–256. Desc. (pp. 240–254) & fig. Fig. 1 (p. 241), fig. 2 (p. 242), fig. 3 (p. 243), pl. 1 (p. 244), pl. 2 (p. 246), pl. 3 (p. 247), fig. 5 (p. 251).

Subfamily **TYLOSAURINAE**

51. Tylosaurus zangerli Russell, 1970
P 27443 HOLOTYPE. Femur and humerus.
Late Cretaceous: Selma Fm., Mooreville Chalk, below Arkola Limestone.
Alabama: Dallas County: Southeast of Marion Junction, Moore Farm, High river exposures.
Collector: Charles M. Barber.
Russell, Dale A. 1970. The vertebrate fauna of the Selma Formation of Alabama. Part 7, The Mosasaurs. Fieldiana: Geology Memoirs, 3(7):363–380. Desc. (pp. 374–375) & fig. Figs. 169–170 (p. 275).

Suborder **SERPENTES**
Infraorder **HENOPHIDIA**
Superfamily **BOOIDEA**
Family **BOIDAE**

52. Boavus idelmani Gilmore, 1938
PR 1457 CAST OF HOLOTYPE. Cast of nearly complete articulated skeleton 96 cm long.
Eocene: Green River Fm.
Wyoming: Uinta County: Fossil Basin, probably near Fossil.
Collector: Lee Craig.
Gilmore, Charles W. 1938. Fossil snakes of North America. Geological Society of America Special Papers, Number 9, 96 pp. Desc. (pp. 29–35) & fig. Pls. 1–2, fig. 9 (p. 31), fig. 10 (p. 36).

Note: The holotype of *Boavus idelmani* was in the private collection of Edgar S. Weinberg of New York, New York. The holotype is now missing and only casts of the holotype survive in a few museums.

Subclass **DIAPSIDA**
Infraclass **ARCHOSAUROMORPHA**
Superorder **ARCHOSAURIA**
Order **THECODONTIA**
Suborder **RAUISUCHIA**
Family **POPOSAURIDAE**

53. Poposaurus gracilis Mehl, 1915
UR 357 HOLOTYPE. Vertebrae, ilium, and bones of hind limbs.
Late Triassic: Popo Agie Fm.
Wyoming: Fremont County: Little Popo Agie River near Lander.
Collector: E. B. Branson, 1904.
Mehl, Maurice G. 1915. *Poposaurus gracilis,* a new reptile from the Triassic of Wyoming. The Journal of Geology, 23(6):516–522. Desc. (pp. 516–522) & fig. Fig. 1 (p. 517), fig. 2 (p. 519).
Paratype:
UR 358 Ilium. Desc. (p. 519).

Note: Mehl published the wrong catalogue number for the holotype. Originally, he published the number for the holotype as UC 602. The correct number for the holotype is UR 357.

Suborder **AETOSAURIA**
Family **STAGONOLEPIDIDAE**

54. Aetosauroides scagliai Casamiquela, 1960
PR 509 CAST OF HOLOTYPE, PVL 2073. (Original in the Laboratorio de Vertebrados Fosiles del Instituto Miguel Lillo, Tucuman University.)
Middle Triassic: "Formation de Ischigualasto."
Argentina: San Juan: Hoyadade Ischigualasto, Dept. of Valle Fertil.
Casamiquela, Rodolfo M. 1960. Noticia preliminar sobre dos nuevos esta gonolepoideos Argentinos. Ameghiniana. Revista de la Asociacion Paleontologica Argentino, 2(1):3–9. Desc. (pp. 3–4) & fig. Figs. 1–2 (p. 5).

Suborder **PHYTOSAURIA**
Family **PHYTOSAURIDAE**

55. Angistorhinus grandis Mehl, 1913
UC 631 HOLOTYPE. Skull and left mandible.
Late Triassic: Popo Agie Fm.
Wyoming: Fremont County: Little Popo Agie River near Lander.
Collector: E. B. Branson, 1904.
Mehl, Maurice G. 1913. *Angistorhinus,* a new genus of Phytosauria from the Trias of Wyoming. Journal of Geology, 21(2):186–191. Desc. (pp. 186–191) & fig. Fig. (p. 187).

56. Machaeroprosopus andersoni Mehl, 1922
UC 396 HOLOTYPE. Skull.
Late Trias: Upper Dockum Fm.
New Mexico: Guadalupe County: Near Santa Rosa.
Collector: J. E. Anderson.
Mehl, Maurice G. 1922. A new phytosaur from the Trias of Arizona. The Journal of Geology, 30(2):89–176. Desc. (pp. 144–157) & fig. Figs. 1–3.

57. Paleorhinus bransoni Williston, 1904
= *Parasuchus bransoni* (Williston, 1904).
UC 632 HOLOTYPE. Skull.
Late Triassic: Popo Agie Fm.
Wyoming: Fremont County: Little Popo Agie River near Lander.
Collector: E. B. Branson.
Williston, Samuel Wendell. 1904. Notice of some new reptiles from the Upper Trias of Wyoming. Journal of Geology, 12:688–697. Desc. (p. 696) & fig. Fig. 6.

Suborder **PROTEROSUCHIA**
Family **PROTEROCHAMPSIDAE**

58. Proterochampsa barrionuevoi Reig, 1958
PR 510 CAST OF HOLOTYPE, PVL 2063. (Original in the Laboratorio de Vertebrados Fosiles del Instituto Miguel Lillo, Tucuman University.) Cast of skull and jaws.
Middle Triassic: Ischigualasto Fm.
Argentina: San Juan: Hoyadade Ischigualasto, Dept. de Valle Fertil.
Reig, Osvaldo A. 1958. Primeros datos descriptives sobre Nuevos reptiles arcosaurios del Triasico de Ischigualasto (San Juan, Argentina). Rev. Asoc. Geol. Argentina, 13(4):257–270. Desc. (pp. 259–264) & fig. Figs. 1–2.

Suborder **MESOSUCHIA**
Family **SEBECIDAE**

59. Sebecus icaeorhinus Simpson, 1937
PR 861 CAST OF HOLOTYPE, AMNH 3160. (Original in American Museum of Natural History.) Right and left maxilla, left dentary, palatine, frontals, prefrontals, nasal, left jugal, left ectopterygoid, and angular.
Lower Eocene: Casamayor Fm.
Argentina: Chubut: Canadon Hondo, tributary of Rio Chico, at point above Paso Niemann.
Simpson, George Gaylord. 1937. New reptiles from the Eocene of South America. American Museum Novitates, Number 927:1–3. Desc. (pp. 1–3). No figure.

Order **CROCODILIA**
Suborder **EUSUCHIA**
Family **ALLIGATORIDAE**

60. Akanthosuchus langstoni O'Neill, Lucas & Kues, 1981
PR 1427 CAST OF HOLOTYPE, UNMNP-139. (Original at the University of New Mexico, Albuquerque.) Casts of right tibia, right fibula, right calcaneum, right astragalus, left femur, right metatarsals, retroarticular process, spiked osteoscutes, caudal vertebra 1, lumbar vertebra 4, and distal tarsals.
Paleocene: Nacimiento Fm., Torrejonian.
USA: New Mexico: Sandoval County: Sec. 27, T21N, R5W, west side of Torrejon Wash.
Collector: F. Michael O'Neill.
O'Neill, F. Michael, Spencer G. Lucas, and Barry S. Kues. 1981. *Akanthosuchus langstoni,* a new crocodilian from the Nacimiento Formation (Paleocene, Torrejonian) of New Mexico. Journal of Paleontology, 55(2):340–352. Desc. (pp. 340–352) & fig. Pl. 1, figs. 1–21 (p. 342), pl. 2, figs. 1–25 (p. 345), pl. 3, figs. 1–7 (p. 346).

61. Alligator mcgrewi Schmidt, 1941
P 26242 HOLOTYPE. Skull and jaws.
Early middle Miocene: Marsland Fm.
Nebraska: Cherry County: Aletomeryx Quarry, Antelope Creek.
Collectors: J. M. Schmidt and Chicago Natural History Museum Expedition, 1940.
Schmidt, Karl P. 1941. A new fossil alligator from Nebraska. Fieldiana: Geology, 8(4): 27–32. Desc. (pp. 27–32) & fig. Figs. 10–11.

62. Allognathosuchus riggsi Patterson, 1931
P 12141 HOLOTYPE. Left mandible and vertebrae.
Early Oligocene: Chadron Fm., Upper Titanotherium Beds, White River.
South Dakota: Badlands, Phinney Springs, Cheyenne River.

Collectors: Field Museum Expedition, 1898.
Patterson, Bryan. 1931. Occurrence of the alligatoroid genus *Allognathosuchus* in the Lower Oligocene. Fieldiana: Geology, 4(6): 223–226. Desc. (pp. 223–226) & fig. Pl. 41.

63. Ceratosuchus burdoshi Schmidt, 1938
P 15576 HOLOTYPE. Skull with dorsal and palatal surfaces nearly complete and skeletal fragments.
Late Paleocene: De Beque Fm., Plateau Valley local fauna.
Colorado: Mesa County: Near Mesa.
Collector: Theodore Bush, 1937.
Schmidt, Karl P. 1938. New Crocodilians from the Upper Paleocene of Western Colorado. Fieldiana: Geology, 6(21):315–321. Desc. (pp. 316–318) & fig. Fig. 83 (p. 317).
Paratypes:
P 15436 Squamosal, fragmentary mandible, worn heads of 2 limb bones, and other associated bony fragments. Desc. (p. 316).
P 15437 Five squamosals. Desc. (p. 316).
P 15562 Homerus, 2 fragmentary vertebrae and associated small fragments. Desc. (p. 316).

Family **CROCODYLIDAE**

64. Leidyosuchus riggsi Schmidt, 1938
P 15582 HOLOTYPE. Skull with nearly complete palate and part of cranial table.
Upper Paleocene: DeBeque Fm., Plateau Valley local fauna.
Colorado: Mesa County: Hell's Half Acre.
Schmidt, Karl Patterson. 1938. New Crocodilians from the Upper Paleocene of Western Colorado. Fieldiana: Geology, 6(21): 315–321. Desc. (pp. 318–320) & fig. Fig. 84 (p. 319).
Paratype:
P 15778 Ramus fragment with 5 teeth. Desc. (p. 318).

Suborder **SPHENOSUCHIA**
Family **SPHENOSUCHIDAE**

65. Dibothrosuchus elaphros Simmons, 1965
CUP 2081 HOLOTYPE. Partial skull and jaws, vertebral column, partial forelimb and hand.
Late Triassic: Lower Lufeng Series, Dark Red Beds.
China: Yunnan Province: Ta Ti.
Collector: Fr. E. Oehler, 1948 or 1949.
Simmons, David Jay. 1965. The non-therapsid reptiles of the Lufeng Basin, Yunnan, China. Fieldiana: Geology, 15(1):1–93. Desc. (pp. 13–31) & fig. Fig. 4 (p. 15), fig. 5 (p. 21), fig. 6 (p. 28).

Order **PTEROSAURIA**
Suborder **PTERODACTYLOIDEA**
Family **PTERODACTYLIDAE**

66. Pterodactylus longirostris Cuvier, 1819
= *Pterodactylus antiquus* (Soemmerring, 1812).
PR 424 CAST OF HOLOTYPE. (Original at Paris Museum.)
Late Jurassic: Lithographic Limestone.
Germany: Bavaria: Eichstatt.
Cuvier, George. 1819. *In* Oken, L. 1818 and 1819. Isis: 246–253, 1788–1795, 1795–1798, Jena.

Order **THECODONTIA incertae sedis**

67. Strigosuchus licinus Simmons, 1965
CUP 2082 HOLOTYPE. Fragment of left mandible.
Late Triassic: Lower Lufeng Series, Dark Red Beds.
China: Yunnan Province: Ta Ti.
Collector: Fr. E. Oehler, in 1948 or 1949.
Simmons, David Jay. 1965. The non-therapsid reptiles of the Lufeng Basin, Yunnan, China. Fieldiana: Geology, 15(1):1–93. Desc. (pp. 31–34) & fig. Fig. 7C (p. 32).

Order **SAURISCHIA**
Suborder **THEROPODA**
Infraorder **COELUROSAURIA**
Family **COMPSOGNATHIDAE**

68. Compsognathus longipes Wagner, 1861
PR 425 CAST OF HOLOTYPE. (Original at Munich.) Complete individual.
Late Jurassic: Lithographic Limestone.
Germany: Bavaria: Kelheim.
Wagner, Johann Andreas. 1861. Neue Beiträge zur Kenntniss der urweltlichen Faunades lithographischen Schiefers. II. Schildkröten und Saurier. Abhandlungen der (Königlichen bayerischen) Akademie der

Wissenschaften, Munich, 9:30–124. Desc. (pp. 30–38) & fig. Pl. 3.

Suborder **SAUROPODOMORPHA**
Infraorder **SAUROPODA**
Family **BRACHIOSAURIDAE**

69. Brachiosaurus altithorax Riggs, 1903
P 25107 HOLOTYPE. Seven presacral vertebrae, sacrum, 2 anterior caudal vertebrae, 4 ribs, right coracoid, humerus, ilium, and femur.
Late Jurassic: Morrison Fm.
Colorado: Mesa County: Near Grand Junction.
Collectors: Elmer S. Riggs and H. Menke.
Riggs, Elmer S. 1903. *Brachiosaurus altithorax,* the largest known dinosaur. The American Journal of Science, Vol. 15, Ser. 4, Article 30:299–306. Desc. (pp. 299–306) & fig. Figs. 1–7 (p. 302).

Order **ORNITHISCHIA**
Suborder **ORNITHOPODA**
Family **HYPSILOPHODONTIDAE**

70. Tatisaurus oehleri Simmons, 1965
CUP 2088 HOLOTYPE. Left mandible fragment with teeth.
Late Triassic: Lower Lufeng Series, Dark Red Beds.
China: Yunnan Province: Ta Ti.
Collector: Fr. E. Oehler.
Simmons, David Jay. 1965. The non-therapsid reptiles of the Lufeng Basin, Yunnan, China. Fieldiana: Geology, 15(1):1–93. Desc. (pp. 65–68) & fig. Fig. 11 (p. 66).

Family **HADROSAURIDAE**

71. Lophorhoton atopus Langston, 1960
P 27383 HOLOTYPE. Fragments of skull, jaws, vertebrae, ribs, and various limb bones.
Late Cretaceous: Selma Fm., below Arkola Limestone.
Alabama: Dallas County: Moore Ranch, High River Exposure, 200 yards north of road.
Collectors; Rainer Zangerl and William D. Turnbull, 1946.
Langston, Wann, Jr. 1960. The dinosaurs. Part VI. The vertebrate fauna of the Selma Formation of Alabama. Fieldiana: Geology Memoirs, 3(66):315–361. Desc. (pp. 321–344) & fig. Fig. 146 (p. 323), fig. 147 (p. 325), fig. 148 (p. 325), fig. 149 (p. 326), fig. 150 (p. 327), figs. 151–152 (p. 330), fig. 153 (p. 331), fig. 154 (p. 333), figs. 155–156 (p. 335), figs. 157–158 (p. 337), fig. 159 (p. 345), fig. 163 (p. 353).

72. Parasaurolophus cyrtocristatus Ostrom, 1961
P 27393 HOLOTYPE. Skull, badly weathered, crest broken; skeleton.
Late Cretaceous: Fruitland Shale.
New Mexico: Near Coal Creek, 8 mi SE of Tsaya.
Collector: Mr. C. H. Sternberg, 1924.
Ostrom, John H. 1961. A new species of Hadrosaurian dinosaur from the Cretaceous of New Mexico. Journal of Paleontology, 35(3): 575–577. Desc. (pp. 575–577) & fig. Fig. 1 (p. 576).

73. Parasaurolophus walkeri Parks, 1922
PR 18 CAST OF HOLOTYPE, ROM P 4578. (Original in the Royal Ontario Museum.) Cast of skull.
Cretaceous: Belly River Fm., 125 ft above the river level.
Canada: Alberta: Red Deer River, Middle branch of the coulee below Sand Creek.
Collector: University of Toronto Expedition of 1920.
Parks, William A. 1922. *Parasaurolophus walkeri,* a new genus and species of crested trachodont dinosaur. University of Toronto Studies, Geological Ser., No. 13: 1–32. Desc. (pp. 5–32) & fig. Pls. 1–5.

74. Secernosaurus koerneri Brett-Surman, 1979
P 13423 HOLOTYPE. Two ilia, prepubis, scapula, fibula, caudals, and partial braincase.
Upper Cretaceous: San Jorge Fm.
Argentina: Chubut: 2 mi E of head of Rio Chico.
Collector: John B. Abbott, 1923.
Brett-Surman, M. K. 1979. Phylogeny and palaeobiogeography of hadrosaurian dinosaurs. Nature, 277(5697):560–562. Desc. (p. 561) & fig. Fig. 2 (p. 561).

Suborder **ANKLYOSAURIA**
Family **NODOSAURIDAE**

75. Stegopelta landerensis Williston, 1905
UR 88 HOLOTYPE. Partial skeleton, frag-

ments of skull and jaws, girdles, ribs, limb and foot bones, scutes, and vertebrae.
Late Cretaceous: Frontier Fm., Hailey Beds.
Wyoming: Fremont County: Southeast of Lander.
Collector: Samuel Wendell Williston, 1905.
Williston, Samuel Wendell. 1905. A new armored dinosaur from the Upper Cretaceous of Wyoming. Science, n.s., 22:503–504. Desc. (pp. 503–504).

Superorder **SAUROPTERYGIA**
Order **PLESIOSAURIA**
Superfamily **PLIOSAUROIDEA**
Family **PLIOSAURIDAE**

76. Trinacromerum latimanus Williston, 1908
= *Dolichorhynchops latimanus* (Williston, 1908).
UC 606 HOLOTYPE. Humerus.
Late Cretaceous: Lower Frontier Fm.
Wyoming: Fremont County: Near Hailey.
Collector: Roy Moodie.
Williston, Samuel Wendell. 1908. North American Plesiosaurs *Trinacromerum*. Journal of Geology, 16:715–736. Desc. (pp. 732–733) & fig. Fig. 15 (p. 734).

Superfamily **PLESIOSAUROIDEA**
Family **ELASMOSAURIDAE**

77. Alzadasaurus riggsi Welles, 1943
= *Elasmosaurus serpentinus* Cope, 1880.
P 12009 HOLOTYPE (formerly FMNH P 7600). Shoulder girdle, nearly complete right paddle. Series of 206 gastroliths (size range = 20–102 mm in diameter) in association with P 12009.
Late Cretaceous: Benton Fm.
Montana: Carter County: Alzeda.
Collectors: Elmer S. Riggs and John D. Abbott, 1904.
Welles, Samuel Paul. 1943. Elasmosaurid plesiosaurs with description of new material from California and Colorado. Memoirs of the University of California, 13(3):125–254. Desc. (pp. 186–187) & fig. Fig. 30 (p. 187).

Subclass **SYNAPSIDA**
Order **PELYCOSAURI incertae sedis**

78. Colobomycter pholeter Vaughn, 1958
UR 272 HOLOTYPE. Right half of skull.
Early Permian: Fissure Fill.
Oklahoma: Comanche County: Richards Spur, 3 mi N of Fort Sill.
Collector: Everett Claire Olson, 1950.
Vaughn, Peter Paul. 1958. On a new Pelycosaur from the Lower Permian of Oklahoma and on the origin of the family Caseidae. Journal of Paleontology, 22(5):981–991. Desc. (pp. 981–991) & fig. Fig. 1A–C (p. 983).

79. Glaucosaurus megalops Williston, 1915
UC 691 HOLOTYPE. Skull and jaws.
Permian: Clyde Fm., Clear Fork Group.
Texas: Baylor County: Mitchill Creek near Big Wichita River, Locality Vla.
Collector: Paul C. Miller, 1914.
Williston, Samuel Wendell. 1915. New genera of Permian reptiles. American Journal of Science, 4th ser., 39(40):575–579. Desc. (pp. 575–576) & fig. Fig. 1.

80. Milosaurus mccordi DeMar, 1970
PR 701 HOLOTYPE. Partial articulated skeleton.
Late Pennsylvanian: Virgilian, Mattoon Fm., 20 ft above Reisner limestone.
Illinois: Clasper County: SW¼, Sec. 15, T7N, R10E, Newton-Falmouth Locality.
Collector: Robert E. DeMar, 1968.
DeMar, Robert E. 1970. A primitive pelycosaur from the Pennsylvanian of Illinois. Journal of Paleontology, 44(1)(Part I):154–163. Desc. (pp. 154–163) & fig. Fig. 1 (p. 155), fig. 5 (p. 159), fig. 6 (p. 160).
Paratypes:
PR 702 Small portion of the maxillary region including 2 teeth. Desc. (p. 155) & fig. Fig. 8 (p. 161).
PR 703 Presacral rib. Desc. (p. 155) & fig. Fig. 4 (p. 157).
PR 704 Lumbar vertebra. Desc. (p. 155) & fig. Figs. 2–3 (p. 156).
PR 705 Lumbar or dorsal neural spine. Desc. (p. 155).

81. Scoliomus puercensis Williston & Case, 1913
= *Sphenacodon ferox* Marsh, 1878.
UC 736 HOLOTYPE. Two humeri, essentially complete femur, ulna and upper half of tibia, vertebral centrum, and miscellaneous fragments.
Early Permian: Abo Fm.
New Mexico: Rio Arriba County: Poleo Creek.
Collector: F. V. Huene, 1911.
Williston, Samuel Wendell, and Ermine C. Case.

1913. A description of *Scoliomus puercensis*, new genus and species, p. 60. *In* Case, Ermine C., Samuel Wendell Williston, and Maurice G. Mehl. Permo-Carboniferous Vertebrates from New Mexico. Publication No. 181, Paleontology Papers, Carnegie Institute of Washington, D.C., 81 pp. Desc. (p. 60) & fig. Fig. 37A–H (p. 60).

82. Trispondylus texensis Williston, 1910
= *Trichasaurus texensis* (Williston, 1910).
UC 652 HOLOTYPE. Pelvis, vertebrae, humerus, radius, ulna, femur, and foot.
Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Craddock Ranch.
Collector: Paul C. Miller, 1908.
Williston, Samuel Wendell. 1910. New Permian reptiles: rhachitomous vertebrae. Journal of Geology, 18(7):585–600. Desc. (pp. 592–594) & fig. Fig. 2A–F (p. 593).

Order **PELYCOSAURIA**
Suborder **CASEASAURIA**
Family **EOTHYRIDIDAE**

83. Bayloria morei Olson, 1941
= *Captorhinus aguti* (Cope, 1882).
UC 1639 HOLOTYPE. Skull and jaws.
Early Permian: Arroyo Fm., Clear Fork Beds.
Texas: Baylor County: West bank of Brushy Creek.
Collector: Everett Claire Olson, 1940.
Olson, Everette Clair. 1941. New specimens of Permian vertebrates in Walker Museum. Journal of Geology, 49(7):673–784. Desc. (pp. 753–757) & fig. Fig. 1a,b (p. 754).

Suborder **OPHIACODONTIA**
Family **OPHIACODONTIDAE**

84. Archæbeobelus vellicatus Cope, 1877
= *Clepsydrops collettii* Cope, 1875.
UC 6524 COTYPE. Jaw fragment with tooth and another tooth.
Pennsylvanian: Early Conemaugh, Middle McLeansboro Fm.
Illinois: Vermilion County: Horseshoe Bend of Vermilion River.
Collector: William Gurley.
Cope, Edward Drinker. 1877. Descriptions of extinct Vertebrata from the Permian and Triassic formations of the United States. Proceedings of the American Philosophical Society, 17:182–193. Desc. (pp. 192–193). No figure.
Cotype:
UC 6525 Many teeth. Desc. (pp. 192–193). No figure.

85. Captorhinus illinoisensis Williston, 1911
= *Clepsydrops* sp.
UC 6548 HOLOTYPE. Femur.
Pennsylvanian: Early Conemaugh, Middle McLeansboro Formation.
Illinois: Vermilion County: Horseshoe Bend of Vermilion River.
Collector: William Gurley.
Williston, Samuel Wendell. 1911. American Permian Vertebrates. University of Chicago Press, Chicago, Ill., 145 pp. Desc. (p. 69) & fig. Pl. 24, figs. 5–7.

Note: In the 1981 inventory of the Fossil Reptile Collection, the holotype of *C. illinoisensis* Williston, 1911 turned up missing. If anyone has a cast of this specimen or knows the whereabouts of the specimen, please contact the Collection Manager, Fossil Vertebrates.

86. Clepsydrops collettii Cope, 1875
UC 6530 COTYPE. (LECTOTYPE designated by E. C. Case, 1900.) Vertebra.
Pennsylvanian: Early Conemaugh, Middle McLeansboro Fm.
Illinois: Vermilion County: Horseshoe Bend of Vermilion River.
Collector: William Gurley.
Cope, Edward Drinker. 1875. On fossil remains of Reptilia and fishes from Illinois. Philadelphia Academy of Natural Sciences, Proceedings, 27:404–411. Desc. (p. 407). No figure.
Lectotype:
Case, Ermine C. 1900. The vertebrates from the Permian Bone Red of Vermilion County, Illinois. Journal of Geology, 8(8):698–729. Redescribed and lectotype designated (pp. 711–713) & fig. Pl. II, figs. 1a–c, 2a,b, 3a,b (p. 724).
Cotypes (Cope, 1875) and paralectotypes (Case, 1900):
UC 6531 Dorsal vertebra. Cope (1875) desc. (p. 407) and paralectotype designation (Case, 1900) redesc. (pp. 711–713) & fig. Pl. II, figs. 1a–c, 2b, 3a,b (p. 274).
UC 6578 Dorsal vertebra. Cope (1875) desc. (p. 407) and paralectotype designation (Case, 1900) redesc. (pp. 711–713) & fig. Pl. II, figs. 1a–c, 2b, 3a,b (p. 274).

87. Clepsydrops pedunculatus Cope, 1877
= *Clepsydrops collettii* Cope, 1875.
UC 6534 COTYPE. (LECTOTYPE designated by E. C. Case, 1900.) Third cervical vertebra.
Pennsylvanian: Early Conemaugh, Middle McLeansboro Fm.
Illinois: Vermilion County: Horseshoe Bend of Vermilion River.
Collector: William Gurley.
Cope, Edward Drinker. 1877. On the Vertebrata of the Bone Bed in eastern Illinois. Proceedings of the American Philosophical Society, 17:52–63. Desc. (p. 62). No figure.
Lectotype:
Case, Ermine C. 1900. The vertebrates from the Permian Bone Bed of Vermilion County, Illinois. Journal of Geology, Vol. 8(8): 698–729. Redescribed and lectotype designated (pp. 713–714) & fig. Pl. II, figs. 4a–d, 5a–d.
Cotype (Cope, 1875) and paralectotype (Case, 1900):
UC 6535 Anterior caudal vertebra. Cope (1877) desc. (p. 62) and paralectotype designation (Case, 1900) redesc. (pp. 713–714) & fig. Pl. II, figs. 4a–d, 5a–d.

88. Clepsydrops vinslovii Cope, 1877
UC 6532 HOLOTYPE. Third cervical vertebra.
Pennsylvanian: Early Conemaugh, Middle McLeansboro Fm.
Illinois: Vermilion County: Horseshoe Bend of Vermilion River.
Collector: William Gurley.
Cope, Edward Drinker. 1877. On the Vertebrata of the Bone Bed in eastern Illinois. Proceedings of the American Philosophical Society, 17:52–63. Desc. (pp. 61–62). No figure.

89. Winfieldia hilli Romer, 1925
= *Ophiacodon hilli* (Romer, 1925).
UC 454 HOLOTYPE. Mounted skeleton.
Early Permian: Fort Riley Limestone, Chase Group (Autunian).
Kansas: Cowley County: Wild Cat Canyon, near Winfield.
Collector: Matt Hill.
Romer, Alfred Sherwood. 1925. An ophiacodont reptile from the Permian of Kansas. Journal of Geology, 33(2):173–182). Desc. (pp. 173–179) & fig. Fig. 1 (p. 174), fig. 2 (p. 176), fig. 3 (p. 178).

Suborder **SPHENACODONTOIDEA**
Family **SPHENACODONTIDAE**

90. Bathygnathus borealis Leidy, 1854
PR 456 CAST OF HOLOTYPE, PANS 9524. (Original at Philadelphia Academy of Natural Sciences.) Case of front of skull.
Early Permian.
Canada: Prince Edward Island: New London District.
Leidy, J. 1854. On *Bathygnathus borealis,* an extinct saurian of the New Red sandstone of Prince Edward's Island. Philadelphia, Journal of the Academy of Natural Sciences, 2nd ser., 2:327–330. Desc. (pp. 327–330) & fig. Pl. 33.

91. Dimetrodon angelensis Olson, 1962
UR 362 HOLOTYPE. Skull, jaw, radius, ulna, vertebrae, and ribs.
Late Permian: San Angelo Fm., Pease River Group.
Texas: Knox County: Locality KV.
Collector: J. W. Stovall, 1954.
Olson, Everett Clair. 1962. Permian terrestrial vertebrates U.S.A. and U.S.S.R. Transactions American Philosophical Society, n.s., 52(2):3–224. Desc. (pp. 22–24) & fig. Pl. 3, fig. 7A–E, fig. 7 (p. 22).
Paratypes:
UR 482 Vertebrae, one complete, fragments of others, scapula, fragments of skull and ribs. Desc. (pp. 22–24).

92. Dimetrodon giganhomogenes Case, 1907
UC 112 HOLOTYPE. Right pelvis, spines, and vertebrae.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Seymour, Coffee Creek, Locality 7a.
Collector: Ermine C. Case, 1896.
Case, Ermine C. 1907. Revision of the Pelycosauria of North America. Carnegie Inst. Washington, Publication No. 55:1–176. Desc. (pp. 47, 108, 123–127) & fig. Pl. 21, fig. 9; pl. 22; pl. 24, fig. 2; figs. 14d, 36, 51–53.

93. Dimetrodon loomisi Romer, 1937
UC 1322 HOLOTYPE. Nearly complete skeleton.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Craddock bonebed, Locality 7b.
Romer, Alfred Sherwood. 1937. New genera

and species of Pelycosaurian reptiles. Proceedings of the New England Zoölogical Club, 16:89–96. Desc. (p. 95).

94. Secodontosaurus willistoni Romer, 1936
UC 754 HOLOTYPE. Fragmentary maxilla and mandibles.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Craddock Ranch near Seymour.
Collector: Paul C. Miller, 1910.
Romer, Alfred Sherwood. 1936. Studies on American Permo-Carboniferous tetrapods. Problems of Paleontology, U.S.S.R., 1:85–93.

Family **VARANOPSEIDAE**

95. Aerosaurus greenleeorum Romer, 1937
UC 464 HOLOTYPE. Skull, basi- and exoccipitals, vertebral centra, clavical, scapulocoracoid, ilium, humerus fragments, radius, foot bones, and fragments.
Early Permian: Abo Fm.
New Mexico: El Cobre Canyon.
Romer, Alfred Sherwood. 1937. New genera and species of Pelycosaurian reptiles. Proceedings of New England Zoölogical Club, 16:89–96. Desc. (pp. 92–93). No figure.

96. Mycterosaurus longiceps Williston, 1915
UC 692 HOLOTYPE. Skull and jaws.
Permian: Clyde Fm., Clear Fork Group.
Texas: Baylor County: Mitchell Creek near Big Wichita River.
Collector: H. Douthitt, 1914.
Williston, Samuel Wendell. 1915. A new genus and species of American Theromorpha *Mycterosaurus longiceps*. Journal of Geology, 23:554–559. Desc. (pp. 557–558) & fig. Figs. 1–2 (p. 555).

97. Varanodon agilis Olson, 1965
UR 986 HOLOTYPE. Articulated skeleton.
Late Permian: Chickasha Fm. (equivalent to Middle Flowerpot).
Oklahoma: Kingfisher County: NW¼, Sec. 22, and N ⅔, Sec. 21, T18N, R11W. Locality EC-8, northwest of Hitchcock.
Collector: Everett Claire Olson, 1964.
Olson, Everett Claire. 1965. New Permian vertebrates from the Chickasha Formation in Oklahoma. Oklahoma Geol. Survey Circular 70. 70 pp. Desc. (pp. 49–57) & fig. Fig. 4A–D (p. 81), pl. 8A–D (p. 55).

98. Varanosaurus brevirostris Williston, 1911
= *Varanops brevirostris* (Williston, 1911).
UC 644 HOLOTYPE. Skull and skeleton.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Big Wichita River near Indian Creek.
Collector: Paul C. Miller, 1909.
Williston, Samuel Wendell. 1911. American Permian Vertebrates. University of Chicago Press, Chicago, Ill., 145 pp. Desc. (pp. 85–111) & fig. Pls. I–XII; XIII, figs. 1–3, figs. 25–26, frontispiece.
Paratypes: Williston described 3 prepared skulls, vertebrae and ribs, ventral ribs, the sacrum, caudal vertebrae, the pectoral girdle and extremity, and the pelvic girdle and extremity from numerous specimens. Even the mounted skeleton of *V. brevirostris* is a composite. Since Williston did not cite the catalogue numbers of his referred specimens, I feel that the person who determines which specimens were used by Williston in the original paper should be an authority on pelycosaurs. Romer (1940, p. 276) avoided the problem altogether by stating: "All known specimens were obtained from the Cacops bonebed (VIIc) and were described by Williston. They include a good portion of the materials from this deposit included in Walker Museum numbers 884–1107. UM 3017 is a partial skeleton from this series." However, in the original University of Chicago Walker Museum catalogue, none of the above 124 lots cited by Romer as *Varanops brevirostris* (Williston, 1911) are actually presently labeled as *V. brevirostris*. Of the 124 lots, 62 are identified simply as the genus *Varanops*. One of these lots has since been discarded (FMNH UC 927, February 1950) and four lots left the Walker Museum on exchange. Therefore, I will not attempt in this paper to determine Williston's paratypes.

Family **EDAPHOSAURIDAE**

99. Brachycnemus dolichomerus Williston, 1911
= *Edaphosaurus pogonias* Cope, 1882.
UC 1092 HOLOTYPE. Right femur, tibia, and fibula.
Early Permian: Arroyo Fm., Clear Fork Group.
Texas: Baylor County: Hog Creek, near Big Wichita River.

Collector: Samuel Wendell Williston, 1909.

Williston, Samuel Wendell. 1911. American Permian Vertebrates. University of Chicago Press, Chicago, Ill., 145 pp. Desc. (pp. 75–77) & fig. Fig. 23 (p. 76).

100. Edaphosaurus novomexicanus Williston & Case, 1913

UC 674 HOLOTYPE. Fragments of skull and skeleton.

Early Permian: Abo Fm. (Autunian).

New Mexico: Rio Arriba County: Near Poleo Creek.

Collector: Ermine C. Case, 1911.

Williston, Samuel Wendell, and Ermine C. Case. 1913. A Description of *Edaphosaurus* Cope. Chapter VII. No. 181:71–81. *In* Case, Ermine C., Samuel Wendell Williston and Maurice G. Mehl, Permo-Carboniferous Vertebrates from New Mexico. Publication No. 181, Paleontology Papers, Carnegie Institute of Washington, D.C. 81 pp. Desc. (pp. 74–81) & fig. Fig. 47A,B (p. 75), fig. 48A,B (p. 77), fig. 49 (p. 78), fig. 50 (p. 79), fig. 51A–C (p. 80).

Family **CASEIDAE**

101. Angelosaurus dolani Olson & Beerbower, 1953

UR 149 HOLOTYPE. Partial skull, dorsal vertebrae, ribs, pelvis, right manus, hind limbs, etc.

Late Permian: San Angelo Fm., near base of red shale, mid-⅓ section.

Texas: Knox County: MacFayden Ranch, Locality K. N.E.C.O. 38-51.

Collector: Everett Claire Olson, 1951.

Olson, Everett Claire, and James R. Beerbower. 1953. The San Angelo Formation, Permian of Texas, and its vertebrates. Journal of Geology, 61(5):389–423. Desc. (pp. 403–406) & fig. Fig. 5A–C (p. 402), fig. 6A–E (p. 404).

102. Angelosaurus greeni Olson, 1962

UR 257 HOLOTYPE. Femur, vertebra, part of rib, plus scraps including rib segments and unidentified pieces of bone.

Texas: Knox County: Alexander Ranch, Locality KR.

Collector: Everett Claire Olson, 1953.

Olson, Everett Claire. 1962. Late Permian terrestrial vertebrates, U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, n.s., 52 (part 2):1–224. Desc. (pp. 25–26) & fig. Pl. 4H,I (p. 200).

Paratypes:

UR 258 Distal end of humerus. Desc. (p. 25).

UR 259 Humerus. Desc. (p. 25).

UR 264 Fragments of pelvis and distal limb elements. Desc. (p. 25).

103. Anglosaurus romeri Olson & Barghusen, 1962

UR 827 HOLOTYPE. Pelvis, right femur, 16 presacral, 3 sacral and 4 caudal vertebrae, ribs associated with 5 posterior presacral vertebrae, and chevrons associated with 2 caudal vertebrae, probably numbers 7 and 8.

Upper Permian: Chickasha Fm. of Middle Flowerpot age, El Reno Group.

Oklahoma: Kingfisher County: Omega Quarry, Site KF-1.

Olson, Everett Claire, and Herbert Barghusen. 1962. Permian Vertebrates Oklahoma and Texas. Part 1. Vertebrates from the Flowerpot Formation, Permian of Oklahoma. Oklahoma Geological Survey, Circular 59: 1–48. Desc. (pp. 33–44) & fig. Fig. 4C (p. 23), fig. 7A–D (p. 37), fig. 8A (p. 38), fig. 9B (p. 40), pl. 1C,F,H,I (p. 17), pl. 2F–I (p. 31), pl. 3A–F (p. 43).

Paratypes:

UR 828 Two sacral and 2 presacral vertebrae articulated in series, associated ribs. Desc. (pp. 33–36).

UR 844 Right side of pelvis with most of ischium missing. Desc. (pp. 33–34, 39, 41).

UR 845 Right pubis. Desc. (pp. 33, 39).

UR 846 Interclavicle. Desc. (pp. 33, 41).

UR 848 Mid-dorsal rib. Desc. (pp. 33–34) & fig. Fig. 7C (p. 37).

UR 849 Mid-dorsal rib. Desc. (p. 33) & fig. Fig. 7B (p. 37).

UR 850 Anterior dorsal rib. Desc. (p. 33).

UR 851 Posterior dorsal rib. Desc. (pp. 33–34) & fig. Fig. 7D (p. 37).

UR 852 Cervical rib. Desc. (pp. 33–34).

UR 853 Four anterior caudal vertebrae. Desc. (pp. 33, 36).

UR 854 Fragment of snout with 2 teeth. Desc. (p. 33).

104. Casea broilii Willston, 1910

UC 656 HOLOTYPE. Skull and jaws, skeleton.

Permian: Arroyo Fm., Clear Fork Group.

Texas: Baylor County: Near Big Wichita River,

Indian Creek, Locality VIIc, a single bone pocket.

Collector: Paul C. Miller, 1909.

Williston, Samuel Wendell. 1910. New Permian reptiles: Rhachitomous vertebrae. Journal of Geology, 18(7):585–600. Desc. (pp. 590–592) & fig. Fig. 1 (p. 591).

105. Casea halselli Olson, 1968

UR 117 HOLOTYPE. Vertebrae, pelvis, limb bones, left femur and tibia, head of right femur.

Early Permian: Choza Fm., Cleark Fork Group.

Texas: Foard County: Locality FC, Halsell Ranch.

Collector: Everett Claire Olson, 1950.

Olson, Everett Claire. 1954. Fauna of the Vale and Choza: 7 Pelycosauria: Family Caseidae. Fieldiana: Geology, 10(17):193–204. Desc. (pp. 200–202) & fig. Fig. 84 (p. 201).

106. Casea nicholsi Olson, 1954

UR 86 HOLOTYPE. Part of basicranium and lower jaw, largely impression, and skeleton, including much of column except tail, part of pelvis, forelimb with humerus poorly preserved, and part of hind foot.

Early Permian: Upper part of Vale Fm., Clear Fork Group.

Texas: Knox County: Locality KC, Nichols Ranch, 5 mi N of Vera, ¼ mi W of Vera Gilliland Road on South Fork Wichita River.

Collector: Everett Claire Olson and party, 1950.

Olson, Everett Claire. 1954. Fauna of the Vale and Choza: 7 Pelycosauria: Family Caseidae. Fieldiana: Geology, 10(17):193–204. Desc. (pp. 194–200) & fig. Fig. 81C (p. 198), fig. 82A,B (p. 199).

Paratype:

UR 85 Posterior part of skull; skeleton, including much of vertebral column except caudals, part of shoulder girdle, pelvis, femur, and head of fibula. Desc. (pp. 195–201) & fig. Fig. 81A,B (p. 198), fig. 83A,B (p. 201).

107. Caseoides sanangeloensis Olson & Beerbower, 1953

UR 151 HOLOTYPE. Right hind limb and part of foot; part of left femur, humerus, fragments of vertebrae, including two centra and scrap.

Middle Permian: San Angelo Fm., 10 ft below top of red shale facies of middle third section.

Texas: Knox County: Little Croton Creek, Sublocality KP.

Collector: Everett Claire Olson, 1952.

Olson, Everett Claire, and James R. Beerbower. 1953. The San Angelo Formation, Permian of Texas, and its vertebrates. Journal of Geology, 61(5):389–423. Desc. (pp. 399–401) & fig. Fig. 4A–C (p. 400).

Paratype:

UR 152 Right and left femora, top of ilium, part of symphysial region of pubis, vertebral centrum, and scrap. Desc. (pp. 399–400) & fig. Fig. 4D (p. 400).

108. Caseopsis agilis Olson, 1962

UR 253 HOLOTYPE. Part of skull and jaws, one lumbar vertebra and fragments of other vertebrae, several ribs, part of left scapula, radius, and ulna. Pelvis and parts of tibia and fibula. Various foot bones.

Late Permian: San Angelo Fm., shaley red sandstone, near top of mid-San Angelo Fm.

Texas: Knox County: Swanson Quarry, Locality KV.

Collector: Everett Claire Olson, 1954.

Olson, Everett Claire. 1962. Late Permian terrestrial vertebrates, U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, n.s., 52 (part 2):1–224. Desc. (pp. 26–28) & fig. Pl. 5A–G (p. 201).

Paratype:

UR 255 Head of radius, tibia, fibula, fragment of distal end of femur, and rib fragments. Desc. (pp. 27–28) & fig. Pl. 5H,I (p. 201).

109. Cotylorhynchus bransoni Olson & Barghusen, 1962

UR 835 HOLOTYPE. Left side of pelvis, left femur, and sacral rib.

Late Permian: Flower Pot Fm., El Reno Group.

Oklahoma: Kingfisher County: Locality KF1: NW¼, NW¼, Sec. 19, T17N, R9W.

Collector: Everett Claire Olson, 1961.

Olson, Everett Claire, and Herbert Barghusen. 1962. Permian vertebrates Oklahoma and Texas. Part I. Vertebrates from the Flowerpot Formation, Permian of Oklahoma. Oklahoma Geological Survey, Circular 59: 1–48. Desc. (pp. 21–32) & fig. Fig. 5 (p. 26).

Paratypes:

UR 836 Right tibia and fibula, tarsus, metatarsus, phalanges except for unguals. Desc.

(pp. 21–22, 25, 27–31) & fig. Fig. 6C (p. 28), pl. IID (p. 31).

UR 837 Left radius and ulna and part of carpus. Desc. (pp. 22, 24, 28) & fig. Fig. 6A (p. 28).

UR 838 Flattened left astragulus. Desc. (p. 22).

UR 839 Immature left tibia. Desc. (p. 22).

UR 840 Poorly preserved left fibula of somewhat immature individual. Desc. (pp. 22, 29).

UR 841 Part of left maxilla with two cheek teeth. Desc. (pp. 22–24) & fig. Fig. 4A (p. 23).

UR 842 Two fragments of an ungual phalanx. Desc. (p. 22).

UR 843 Ungual phalanx. Desc. (pp. 22, 30).

110. Cotylorhynchus hancocki Olson & Beerbower, 1953

UR 154 HOLOTYPE. Right humerus and proximal end of right radius.

Middle Permian: Upper part of San Angelo Fm., fine green sandstone.

Texas: Hardeman County: Pease River, Sublocality HA, Hancock Ranch.

Collector: Everett Claire Olson, 1951.

Olson, Everett Claire, and James R. Beerbower. 1953. The San Angelo Formation, Permian of Texas, and its vertebrates. Journal of Geology, 61(5):389–423. Desc. (p. 401) & fig. Fig. 5D,E (p. 402).

Order **THERAPSIDA**

Suborder **EOTITANOSUCHI incertae sedis**

111. Gorgodon minutus Olson, 1962

UR 495 HOLOTYPE. Partial skull.

Late Permian: San Angelo Fm., Pease River Group.

Texas: Knox County: Kahn Quarry, Locality KAC.

Collector: Everett Claire Olson, 1956.

Olson, Everett Claire. 1962. Late Permian terrestrial vertebrates, U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, n.s., 52(part 2):1–224. Desc. (pp. 55–56) & fig. Fig. 24A,B (p. 55), pl. 12C,D (p. 208).

Paratype:

UR 574 Part of maxillary and premaxillary bones with canine and two postcanine teeth. Desc. (pp. 55–56) & fig. Fig. 24A (p. 55), pl. 12F,G (p. 208).

112. Knoxosaurus niteckii Olson, 1962.

UR 824 HOLOTYPE. Part of maxillary with two canine teeth and two postcanine teeth.

Late Permian: Upper San Angelo Fm., Pease River Group.

Texas: Knox County: Kahn Quarry, Locality KAC.

Collector: Everett Claire Olson, 1960.

Olson, Everett Claire. 1962. Late Permian terrestrial vertebrates, U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, n.s., 52(part 2):1–244. Desc. (pp. 54–55) & fig. Fig. 21B,C (p. 52).

Paratype:

UR 825 Part of lower jaw including roots of the canine and three incisors. Desc. (p. 54) & fig. Fig. 21B,C (p. 52).

113. Steppesaurus gurleyi Olson & Beerbower, 1953

UR 148 HOLOTYPE. Maxillary with teeth, partial jaw, and isolated teeth.

Late Permian: San Angelo Fm., near base of middle ⅓ of section.

Texas: Knox County: Steppe Ranch, Location HA, thin red shale of West margin.

Collector: Everett Claire Olson, 1952.

Olson, Everett Claire, and James R. Beerbower. 1953. The San Angelo Formation, Permian of Texas, and its vertebrates. Journal of Geology, 61(5):389–423. Desc. (pp. 408–409) & fig. Fig. 7 (p. 408).

Suborder **GORGONOPSIA**

Infraorder **GORGONOPSIA**

Family **SCYMNOGNATHIDAE**

114. Scymnognathus major Olson & Broom, 1937

UC 1513 HOLOTYPE. Skull and incomplete jaw.

Late Permian: Karroo Series, Lower Beaufort Fm., Endothiodon Zone.

South Africa: Cape Province: Brakewater Farm, Victoria road 6 mi NE from Murraysburg, west of Victoria Road, ¾ mi S of river crossing.

Collector: Paul C. Miller, 1929.

Olson, Everett Claire, and Robert Broom. 1937. New genera and species of Tetrapods from the Karroo Beds of South Africa. Journal of Paleontology, 11(7):613–619. Desc. (pp. 613–614) & fig. Fig. 1 (p. 613), fig. 2 (p. 614).

Family **GORGONOPSIDAE**
Subfamily **CYONOSAURINAE**

115. Cyonosaurus longiceps Olson, 1937
UC 1515 HOLOTYPE. Skull and jaws.
Late Permian: Karroo Series, Lower Beaufort Fm., Lower Cisticephalus Zone.
South Africa: Cape Province: Toverwater Farm, Murraysburg District.
Collector: Paul C. Miller, 1929.
Olson, Everett Claire. 1937. The cranial morphology of a New Gorgonopsian. Journal of Geology, 45(5):511–524. Desc. (pp. 511–524) & fig. Fig. 1 (p. 513), fig. 2 (p. 521), figs. 3–6 (p. 523), pl. I–III.

Suborder **DINOCEPHALIA**
Infraorder **TITANOSUCHIA**
Superfamily **TITANOSUCHOIDEA**
Family **BRITHOPODIDAE**

116. Eosyodon hudsoni Olson, 1962
UR 575 HOLOTYPE. Right femur.
Late Permian: San Angelo Fm., Pease River Group.
Texas: Knox County: Kahn Quarry, Locality KAC.
Collector: Everett Claire Olson, 1957.
Olson, Everett Claire. 1962. Late Permian terrestrial vertebrates, U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, n.s., 52(part 2):1–224. Desc. (pp. 60–63) & fig. Fig. 27A,B (p. 60), pl. 14A,B (p. 210).
Paratypes:
UR 496 Partial occiput. Desc. (pp. 60, 63).
UR 499 Dentary with row of teeth. Desc. (pp. 60, 62–63) & fig. Pl. 13H,K (p. 209).
UR 500 Part of palatine bone with row of teeth. Desc. (pp. 60, 63) & fig. Pl. 13H,K (p. 209).
UR 711 About 15 partial ribs, fragments of vertebrae; femur, indeterminate limb bone, perhaps a fibula; part of a scapula and interclavicle. Desc. (pp. 60–62) & fig. Fig. 28A–F (p. 60), fig. 30A,B,D (p. 62).
UR 712 Metapodial. Desc. (p. 60).
UR 826 Dentary with teeth. Desc. (pp. 60–62) & fig. Fig. 29A,B (p. 61).

Infraorder **TAPINOCEPHALI incertae sedis**

117. Dimacrodon hottoni Olson & Beerbower, 1953
UR 146 HOLOTYPE. Pair of partially complete lower jaws, including tooth series with crowns missing.
Middle Permian: Upper third of the San Angelo Fm., green sandstone near base of upper ⅓ of section.
Texas: Hardeman County: Pease River, Sublocality HA.
Collector: Everett Claire Olson, 1950.
Olson, Everett Claire, and James R. Beerbower. 1953. The San Angelo Formation, Permian of Texas, and its vertebrates. Journal of Geology, 61(5):389–423. Desc. (pp. 414–416).
Paratypes:
UR 145 Fragments of symphysis of lower jaws with root of large canine. Desc. (p. 414) & fig. Fig. 7D,E (p. 407).
UR 147 Fragments of lower jaw and of skull. Desc. (p. 414).

118. Driveria ponderosa Olson, 1962
UR 247 HOLOTYPE. Scapulocoracoid, pelvis, and part of fibula.
Late Permian: San Angelo Fm., Pease River Group.
Texas: Knox County: Locality KV, MacFayden Ranch north.
Collector: Everett Claire Olson, 1954.
Olson, Everett Claire. 1962. Late Permian terrestrial vertebrates, U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, n.s., 52(part 2):1–224. Desc. (pp. 71–73) & fig. Pl. 15A,D–G (p. 211).
Paratype:
UR 248 Femur, humerus, 1 vertebra, zygomatic part of skull, and fragments. Desc. (pp. 71–73) & fig. Fig. 35 (p. 71), pl. 15B,C (p. 211).

119. Mastersonia driverensis Olson, 1962
UR 486 HOLOTYPE. Parts of 3 vertebrae, 1 thoracic fairly complete. Parts of several ribs.
Late Permian: San Angelo Fm., Pease River Group.
Texas: Knox County: Locality KY, 0.5 mi N of High Site, 0.75 mi E of "southwest site."
Collector: Everett Claire Olson, 1956.
Olson, Everett Claire. 1962. Late Permian terrestrial vertebrates, U.S.A. and U.S.S.R. Transactions of the American Philosophical Society, n.s., 52(part 2):1–224. Desc. (pp. 73–74) & fig. Fig. 36A,B (p. 73), pl. 15H,I (p. 211).

120. Tappenosaurus magnus Olson & Beerbower, 1953

UR 143 HOLOTYPE. Skull and tooth fragments, humeri, 8 vertebrae, rib fragments, pelvic fragments, and scrap.

Middle Permian: Uppermost part of San Angelo Fm.

Texas: Knox County: Little Croton Creek, Sublocality KN.

Collector: Everett Claire Olson, 1951.

Olson, Everett Claire and James R. Beerbower. 1953. The San Angelo Formation, Permian of Texas, and its vertebrates. Journal of Geology, 61(5):389–423. Desc. (pp. 412–414) & fig. Fig. 8A–D,G–I (p. 410), fig. 9A (p. 411).

Paratypes:

UR 144 Several ribs. Desc. (p. 412).

UR 153 Scapulo-coracoid, cervical vertebra, and an anterior rib. Desc. (p. 412) & fig. Fig. 8E,F (p. 410), fig. 9B (p. 411).

Infraorder **TAPINOCEPHALIA**
Family **TAPINOCEPHALIDAE**

121. Moschoides romeri Bryne, 1937

= *Moschops romeri* (Bryne, 1937).

UR 367 HOLOTYPE. Portions of lower jaw and most of skeleton.

Middle Permian: Karroo Series, Lower Beaufort Fm., *Tapinocephalus* Zone.

South Africa: Cape Province: Hottentot's River, 1 mi WSW of Myburg's.

Collectors: Paul C. Miller and Alfred Sherwood Romer, 1929.

Byrne, Frank. 1937. A preliminary report of a new mammal-like reptile from the Permian of South Africa. Transactions of the Kansas Academy of Science, 40:221–232. Desc. (pp. 221–224) & fig. Pl. I, figs. 1–20 (p. 227), pl. II, figs. 21–30 (p. 229), pl. III, fig. 31 (p. 231).

122. Struthiocephalus milleri Olson & Broom, 1937

UC 1512 HOLOTYPE. Skull.

Middle Permian: Karroo Series, Lower Beaufort Fm., *Tapinocephalus* Zone.

South Africa: Cape Province: ¼ mi SW of Stinkfontein P.A. Division.

Collector: F. P. DeVit, 1929.

Olson, Everett Claire, and Robert Broom. 1937. New genera and species of tetrapods from the Karroo Beds of South Africa. Journal of Paleontology, 11(7):613–619. Desc. (p. 615) & fig. Fig. 4 (p. 616).

Suborder **DICYNODONTI incertae sedis**

123. Brachyuraniscus broomi Olson, 1937

UC 1561 (now P 25748). HOLOTYPE. Skull.

Middle Permian: Karroo Series, Lower Beaufort Fm., *Tapinocephalus* Zone.

South Africa: Cape Province: Hottentot River, 1 mi SW of where river is crossed by main road at Myburg's.

Collector: Paul C. Miller, 1929.

Olson, Everett Claire. 1937. The skull structure of a new Anomodont. Journal of Geology, 45(8):851–858. Desc. (pp. 851–858) & fig. Fig. 1 (p. 853), fig. 2 (p. 854), fig. 3 (p. 855), fig. 4A,B (p. 856).

Suborder **DICYNODONTIA**
Infraorder **PRISTERODONTIA**
Family **KANNEMEYERIIDAE**

124. Eubrachiosaurus browni Williston, 1904

= *Placerias browni* (Williston, 1904).

UC 633 HOLOTYPE. Scapula; supposed to be a humerus and ilium also.

Late Triassic: Popo Agie Fm.

Wyoming: Fremont County: Little Popo Agie River near Lauder.

Collector: Samuel Wendell Williston, 1904.

Williston, Samuel Wendell. 1904. Notice of some new reptiles from the Upper Trias of Wyoming. Journal of Geology, 12(8):688–697. Desc. (pp. 690–694) & fig. Fig. 3 (p. 691), fig. 4 (p. 692).

125. Stahleckeria lenzii Romer & Price, 1944

UR 697 CAST OF HOLOTYPE, Cast of MCZ 1688. (Original at the Museum of Comparative Zoology.) Cast of vertebra.

Upper Triassic: Rio do Rastro Group.

Brazil: State of Rio Grande do Sul: Municipio de Candelaria, 15 km S of Candelaria, Sanga No. 3.

Collector: Llewellyn I. Price, 1936.

Romer, Alfred Sherwood, and Llewellyn I. Price. 1944. *Stahleckeria lenzii,* a giant Triassic Brazilian dicynodont. Bulletin of the Museum of Comparative Zoology, 93(4):465–491. Desc. (pp. 465–490) & fig. Fig. 1 (p. 467), fig. 2 (p. 469), fig. 3 (p. 472), fig. 4 (p. 474), fig. 5 (p. 475), fig. 7 (p. 479), fig. 8 (p.

481), fig. 9 (p. 483), fig. 10 (p. 485), fig. 11 (p. 487).

CLASS AVES

The Field Museum's type collection of fossil birds consists of two holotypes. Bryan Patterson described *Andrewsornis abbotti* in 1941. In 1960, Bryan Patterson and Jorge L. Kraglievich described *Andalgalornis ferox*. There are also 26 casts of types from other museums. The small number of type specimens of fossil birds reflects the fact that there has never been a paleoornithologist on fulltime staff at the Field Museum of Natural History.

Subclass **ARCHAEORNITHES**
Order **ARCHAEOPTERYGIFORMES**
Family **ARCHAEOPTERYGIDAE**

1. Archaeopteryx macrura Owen, 1863
= *Archaeopteryx lithographica* von Meyer, 1861.
P 25022 CAST OF HOLOTYPE before preparation. (Original in British Museum [Natural History].) Cast of skeleton before preparation. Purchased by Ward's Scentific Company.
PA 308 CAST OF HOLOTYPE after preparation. (Original in British Museum [Natural History].) Cast of part and counterpart of skeleton after further preparation.
Upper Jurassic: Lower Tithonian, Solenhofen Limestone, *Hybonoticeras hybonotum* Zone.
Germany: Bavaria: Near Pappenheim, Ottmann Quarry at Langenaltheimer Haardt, 20 m below surface. Purchased by British Museum, 1862. Cast gift to FMNH by BM(NH), 1974.
Owen, Richard. 1863. On the *Archaeopteryx* of von Meyer, with a description of the fossil remains of a long-tailed species, from the Lithographic Stone of Solenhofen. Philosophical Transactions, London, 153: 33–47, pls. I–IV.

Subclass **NEORNITHES**
Superorder **PALAEOGNATHAE**
Order **RHEIFORMES**
Family **OPHISTHODACTYLIDAE**

2. Opisthodactylus patagonicus Ameghino, 1891
PA 16 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of premaxillary.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Monte Observacion. Cast received from British Museum (Natural History).
Ameghino, Florentino. 1891. Enumeración de las aves fósiles de la República Argentina. Rev. Arg. Hist. Nat. Tomo, 1:441–456, Buenos Aires, Diciembre 1 de 1891. Desc. (p. 453).

Superorder **NEOGNATHAE**
Order **PELECANIFORMES**
Suborder **PELECANI**
Superfamily **PELECANOIDEA**
Family **PELECANIDAE**

3. Liptornis hesternus Ameghino, 1895
PA 22 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of one cervical vertebra.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: La Cueva. Cast received from British Museum (Natural History), 1947.
Ameghino, Florentino. 1895. Sur les oiseaux fossiles de Patagonie. Boletín del Instituto Geográfico Argentino. Tome 15: cahiers 11 et 12, Nov. & Dec., 1894, Buenos Aires, 1895. Desc. (pp. 597–598). No figure.

Order **CICONIIFORMES**
Suborder **PLATALEAE**
Family **PLATALEIDAE**

4. Protibis cnemialis Ameghino, 1891
PA 21 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of distal half of tibiotarsus.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Monte Observacion. Cast received from British Museum (Natural History), 1947.
Ameghino, Florentino. 1891. Enumeración de las aves fósiles de la República Argentina. Rev. Arg. Hist. Nat. Tomo I, Entrega 6a, pp. 441–453, Buenos Aires, Diciembre 1 de 1891. Desc. (p. 445).

Order **ANSERIFORMES**
Suborder **ANSERES**
Family **ANATIDAE**

5. Eutelornis patagonica Ameghino, 1895
PA 19 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Casts of distal end of humerus, proximal end of tibiotarsus.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Monte Observacion. Casts received from British Museum (Natural History), 1947.
Ameghino, Florentino. 1895. Sur les oiseaux fossiles de Patagonie. Boletín del Instituto Geográfico Argentino, Tome XV, cahiers 11 et 12, Nov. & Dec., 1894, Buenos Aires, 1895. Desc. (pp. 594–595) & fig. Fig. 40.

6. Loxornis clivus Ameghino, 1895
PA 20 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of distal end of tibiotarsus.
Early Oligocene: Deseado Fm.
Argentina: Santa Cruz: Rio Deseado. Cast received from British Museum (Natural History), 1947.
Ameghino, Florentino. 1895. Sur les oiseaux fossiles de Patagonie. Boletín del Instituto Geográfico Argentino, Tome XV, cahiers 11 et 12, Nov. & Dec., 1894, Buenos Aires, 1895. Desc. (pp. 595–596) & fig. Fig. 41.

Order **FALCONIFORMES**
Suborder **ACCIPITRES**
Family **FALCONIDAE**

7. Badiostes patagonicus Ameghino, 1895.
PA 25 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of proximal end of tarsometatarsus.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Rio Deseado. Cast received from British Museum (Natural History), 1947.
Ameghino, Florentino. 1895. Sur les oiseaux fossiles de Patagonie. Boletín del Instituto Geográfico Argentino, Tome XV, cahiers 11 et 12, Nov. & Dec., 1894, Buneos Aires, 1895. Desc. (pp. 102–104) & fig. Fig. 44.

Family **ACCIPITRIDAE**

8. Thegornis debilis Ameghino, 1895
PA 24 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of distal end of tarsometatarsus.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Corriguen-kaik. Cast received from British Museum (Natural History).
Ameghino, Florentino. 1895. Sur les oiseaux fossiles de Patagonie et la faune mammalogique des couches à Pyrotherium. Boletín del Instituto Geográfico Argentino, Tomo XV, Buenos Aires. Desc. (p. 600) & fig. Fig. 43e.

9. Thegornis musculosus Ameghino, 1895
PA 23 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of distal half of tarsometatarsus.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Tagua Quemada. Cast received from British Museum (Natural History), 1947.
Ameghino, Florentino. 1895. Sur les oiseaux fossiles de Patagonie et la faune mammalogique des couches à Pyrotherium. Boletín del Instituto Geográfico Argentino, Tomo XV, Buenos Aires. Desc. (pp. 598–600) & fig. Fig. 43a,c.

Order **GALLIFORMES**
Family **CRACIDAE**

10. Anisolornis excavatus Ameghino, 1891
PA 18 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of distal end of metatarsal.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Karaiken. Cast received from British Museum (Natural History), 1947.
Ameghino, Florentino. 1891. Enumeración de las aves fósiles de la República Argentina. Revista Argentina de Historia Natural, Tomo I, Entrega 6a, pp. 441–453, Buenos Aires, Diciembre 1 de 1891. Desc. (p. 449).

Note: According to Brodkorb (1964, p. 305), *Anisolornis* may belong to the family Tinamidae.

Order **GRUIFORMES**
Suborder **CARIAMAE**
Family **PHORUSRHACIDAE**
Subfamily **PALAEOCICONIINAE**

11. Andalgalornis ferox Patterson & Kraglievich, 1960

P 14357 HOLOTYPE. Jaws, skull, pelvis, 16 vertebrae, ribs, and synsacrum.

Early Miocene: Araucano Formation: Level 18-B.

Argentina: Catamarca: Chiquilmil: Rio Santa Maria.

Collectors: Elmer S. Riggs and R. C. Thorne, 1926.

Patterson, Bryan, and Jorge L. Kraglievich. 1960. Sistemáticas y nomenclatura de las aves fororracioideas del Plioceno Argentino. Publicaciones del Museo Municipal de Ciencias Naturales y Tradicional de Mardel Plata, 1(1):1–52. Desc. (pp. 34–36) & fig. Figs. 3–4, 6.

12. Andrewsornis abbotti Patterson, 1941

P 13417 HOLOTYPE. Skull, jaws, leg bones, fragments, and claw.

Early Oligocene: Upper Deseadan Fm., *Pyrotherium* Beds.

Argentina: Chubut: Rio Chico, Preo Blanca (Lomis Locality), Cabeza.

Collector: John Bernard Abbott, September 18, 1923.

Patterson, Bryan. 1941. A new phororhacoid bird from the Deseado Formation of Patagonia. Fieldiana: Geology, 8(8):49–54. Desc. (pp. 50–53) & fig. Fig. 16 (p. 51).

13. Palaeociconia australis Moreno, 1889

PA 189 CAST OF HOLOTYPE. (Original at Museo de La Plata.) Cast of incomplete tarsometatarsus.

Late Pliocene Monte Hermoso Fm.

Argentina: Buenos Aries: Monte Hermoso. Cast received from Museo de La Plata, 1960.

Moreno, Francisco P. 1889. Breve reseña de los progresos del Museo La Plata, durante el segundo semestre de 1888. Bol. Mus. La Plata. pp. 1–44, lám. 1. Desc. (p. 30).

Note: According to Brodkorb (1967, p. 161), *Palaeociconia australis* Moreno, 1889, is a *nomen nudum.*

Subfamily **PHORUSRHACINAE**

14. Owenornis affinis Moreno & Mercerat, 1891
= *Phorusrhacos longissimus* Ameghino, 1887.

P 15774 CAST OF HOLOTYPE, LPM 77. (Original in Museo de La Plata.) Cast of proximal and distal ends of right tarsometatarsus.

Early Oligocene: Deseadan, Quaranitica Fm.

Argentina: Santa Cruz. Cast received from Museo de La Plata, Argentino, 1938.

Moreno, Francisco P., and Alcide Mercerat. 1891. Catálogo de los pájaros fósiles de la República Argentina. Anales del Museode La Plata. Paleontologia Argentina, I, 1891. Desc. (pp. 25, 64) & fig. Pl. 17, fig. 6; pl. 18, figs. 1, 1a.

15. Phororhacos platygnathus Ameghino, 1891
= *Phorusrhacos longissimus* Ameghino, 1887.

PA 26 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of jaw fragments, part of symphysis.

Early Miocene: Santa Cruz Fm.

Argentina: Santa Cruz: Monte Observacion. Cast received from British Museum (Natural History), 1947.

Ameghino, Florentino. 1891. Enumeración de las aves fósiles de la República Argentina. Rev. Arg. Hist. Nat., Tomo I, Entrega 6a, pp. 441–453, Buenos Aires, Diciembre 1 de 1891. Desc. (p. 452).

16. Phororhacos sehuenensis Ameghino, 1891
= *Phorusrhacos longisimus* Ameghino, 1891.

PA 2 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Casts of right jaw, femur, metatarsus, and vertebra.

Early Miocene: Santa Cruz Fm.

Argentina: Santa Cruz: La Cueva, Tagua Quemada, Rio Sehuen. Casts received from British Museum (Natural History), 1947.

Ameghino, Florentino. 1891. Aves fósiles argentinas. Rev. Arg. Hist. Nat., Tomo I, Entrega 4a, pp. 255–259, Buenos Aires, Agosto 1 de 1891. Desc. (p. 258).

17. Phorusrhacos longissimus Ameghino, 1887

PA 193 CAST OF HOLOTYPE, LP 118. (Original at Museo de la Plata.) Cast of mandible.

Early Miocene: Santa Cruz Fm.

Argentina: Santa Cruz: Bank of Santa Cruz River.

Collector: Carlos Ameghino.

Ameghino, Florentino. 1887. Enumeración sistemática de las especies de mamíferos fósiles colecionados por Cárlos Ameghino en los terrenos eocenos de la Patagonia austral. Depositados en el Museo La Plata. Bol. Mus. La Plata, 1:1–24.

Subfamily **BRONTORNITHINAE**

18. Aucornis eurhynchus Ameghino, 1899
= *Physornis fortis* Ameghino, 1895.
P 15775 CAST OF HOLOTYPE. (Original at Museo de La Plata.) Casts of anterior extremity of beak and incomplete phalanx of digit IV.
Early Oligocene: ?Deseadan, Guaranitica Fm.
Argentina.
Collector: Carlos Ameghino. Casts received in exchange from Museo de La Plata, Argentino, Buenos Aires, 1938.
Ameghino, Florentino. 1899. Sinopsis geológico-paleontológica, Suplemento (adiciones y correcciones). La Plata, Imprenta "La Libertad," pp. 1–13. Desc. (p. 9).

19. Brontornis burmeisteri Moreno & Mercerat, 1891
PA 190 CAST OF LECTOTYPE. (Original at Museo de La Plata.) Casts of left femur, left tarsometatarsus, left tibiotarsus, left fibula.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Lago Argentino. Casts received from Museo de La Plata, 1960.
Moreno, Francisco P., and Alcide Mercerat. 1891. Catálogo de los pájaros fósiles de la República Argentina conservados en el Museo de La Plata. Ann. Mus. La Plata, Palaeont. Argent., 1:7–71, lám. 1–21. Texto paralelo en castellano y frances. Desc. (pp. 20, 37–40) and fig. Pl. 3, figs. 1–4; Pl. 5, fig. 2.

20. Liornis floweri Ameghino, 1895
= *Brontornis burmeisteri* Moreno & Mercerat, 1891.
PA 14 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Casts of distal end of metatarsal, 2 phalanges.
Early Miocene: Santa Cruz Fm.
Argentina; Santa Cruz: Monte Observacion. Casts received from the British Museum (Natural History), 1947.
Ameghino, Florentino. 1895. Sur les oiseaux fossiles de Patagonie. Boletín del Instituto Geográfico Argentino, Tome XV, cahiers 11 et 12, Nov. & Dec., 1894, Buenos Aires, 1895. pp. 501–602. Desc. (p. 570) & fig. Figs. 26–27.

21. Rostrornis floweri Moreno & Mercerat, 1891
= *Brontornis burmeisteri* Moreno & Mercerat, 1891.
PA 191 CAST OF HOLOTYPE. (Original at Museo de La Plata.) Casts of vertebrae, rostrum, condyle, phalange.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Monte Leon. Casts recieved from Museo de La Plata, 1960.
Moreno, Francisco P., and Alcide Mercerat. 1891. Catálogo de los pájaros fósiles de la República Argentina conservados en el Museo de La Plata. Ann. Mus. La Plata, Palaeont. Argent., 1:7–71, lám. 1–21. Texto paralelo en castellano y frances. Desc. (pp. 20–21, 40–43) & fig. Pl. 5, figs. 1, 3, 3a, 3b, 4, 4a; pl. 6, figs. 1, 1a, 2, 2a, 3, 3a, 6; pl. 7, figs. 1–3; pl. 8, figs. 1–2.

Subfamily **PSILOPTERINAE**

22. Pelecyornis tubulatus Ameghino, 1895
= *Psilopterus australis* Moreno & Mercerat, 1891.
PA 8 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of tarsometatarsus.
Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Monte Observacion. Cast received from British Museum (Natural History), 1947.
Ameghino, Florentino. 1895. Sur les oiseaux fossiles de Patagonie. Boletín del Instituto Geográfico Argentino, Tomo XV, cahiers 11 y 12, Nov. & Dec., 1894, Buenos Aires, 1895. Desc. (pp. 62–63).

23. Procariama simplex Rovereto, 1914
P 14535 CAST OF LECTOTYPE, MA 8225. (Original at Museo Argentina.) Cast of femur.
Mid Pliocene: Corral Quemada Fm.
Argentina: Catamarca: Dept. of Belen, Corral Quemada. Cast received from Museo Argentina, 1927.
Rovereto, Cayetano. 1914. Los estratos araucanos y sus fósiles. Ann. Mus. Nac. Hist. Nat. Buenos Aires, 25:1–249, figs. 1–92, lám. 1–31. Desc. (pp. 110–114) & fig. Fig. 51a–c (p. 112).

24. Pseudolarus eocaenus Ameghino, 1891
PA 15 CAST OF HOLOTYPE. (Original in British Museum [Natural History].) Cast of proximal end of humerus.
Early Miocene: Santa Cruz Fm.
Argentina: Santa Cruz: Monte Observación. Cast

received from British Museum (Natural History), 1947.

Ameghino, Florentino. 1891. Enumeración de las aves fósiles de la República Argentina. Rev. Arg. Hist. Nat., Tomo I, Entrega 6a, pp. 441–453, Buenos Aires, Diciembre 1 de 1891. Desc. (p. 446).

25. Pseudolarus guaraniticus Ameghino, 1899

P 15776 CAST OF HOLOTYPE. (Original at Museo de La Plata.) Cast of proximal end of humerus.

Early Oligocene: ?Deseadan, Guaranitica Fm.

Argentina: Patagonia. Cast received in exchange with Museo de La Plata, 1938.

Ameghino, Florentino. 1899. Sinopsis geológico paleontológica, Suplemento (adiciones y correcciones). La Plata. Imprenta "La Libertad," pp. 1–13. Desc. (p. 9).

26. Smiliornis penetrans Ameghino, 1899

P 15777 CAST OF HOLOTYPE. (Original at Museo Argentina.) Cast of proximal end of coracoid.

Early Oligocene: ?Deseadan, Guaranitica Fm.

Argentina. Cast received from Museo Argentina, 1938.

Ameghino, Florentino. 1899. Sinopsis geológico-paleontológica, Suplemento (adiciones y correcciones). La Plata. Imprenta "La Libertad," pp. 1–13. Desc. (p. 9).

Order **DIATRYMIFORMES**
Family **DIATRYMATIDAE**

27. Diatryma steini Matthew & Granger, 1917

= *Diatryma gigantea* Cope, 1876.

P 25466 CAST OF HOLOTYPE, AMNH 6199. (Original at American Museum of Natural History.) Cast of type skeleton.

Lower Eocene: Wasatch Fm., Gray Bull Horizon.

Wyoming: Bighorn Basin, South Elk Creek.

Collector: William Stein, 1916.

Matthew, W. D., and Walter Granger. 1917. The skeleton of *Diatryma,* a gigantic bird from the Lower Eocene of Wyoming. Bulletin of the American Museum of Natural History, 37(11):307–316. Desc. (pp. 307–326) & fig. Fig. 1 (p. 310), pl. 20–32.

ICHNITES

The type trace fossil collection consists of four holotypes and seven paratypes. All of these tracks were described by Roy L. Moodie in 1929 and 1930. The Field Museum also has one cast of a type described by John L. Tilton in 1931. Because all of Moodie's trace fossils were described prior to December 31, 1930, these species remain valid according to Articles 16 a (viii) and 24 b (iii) of the International Code of Zoological Nomenclature. (See Basan, 1979.)

1. Dimetrodon berea Tilton, 1931

= *Dimetropus bereae* (Tilton, 1931).

UR 311 CAST OF HOLOTYPE, WVU Permian Number 182. (Original at West Virginia University.) Cast of footprints.

Early Permian: Waynesburg Sandstone.

West Virginia: Ritchie County: Berea, 0.4 mi SW of Hughes River Bridge.

Collector: David H. Jones, 1927.

Tilton, John L. 1931. Permian vertebrate tracks in West Virginia. Bulletin of the Geological Society of America, 42:547–555. Desc. (pp. 550–551) & fig. Fig. 1A (p. 548), fig. 2 (p. 548).

2. Erpetopus willistoni Moodie, 1929

UC 443A HOLOTYPE. Trackway of 9 tracks.

Early Permian: Upper Clear Fork Group.

Texas: Taylor County: North Slope of Castle Peak, 10 mi S of Merkel.

Collector: Augusta Hasslock, 1908.

Moodie, Roy L. 1929. Vertebrate footprints from the Red Beds of Texas. American Journal of Science, 17(5):352–368. Desc. (pp. 359–360) & fig. Fig. 4 (p. 360).

Paratype:

UC 443 Slab of red shale, 110 mm × 145 mm with 10 tracks. Desc. (pp. 359–360).

3. Laoporus wyldei Moodie, 1930

UC 2300 HOLOTYPE. Track of left hindfoot.

Early Permian: Upper Clear Fork Group.

Texas: Taylor County: Castle Peak in Clear Fork Valley, 10 mi S of Merkel.

Moodie, Roy L. 1930. Vertebrate footprints from the Red Beds of Texas. II. Journal of Geology, 38:548–565. Desc. (pp. 561–563) & fig. Fig. 13, right (p. 561).

Paratype:

UC 2305 Two imperfect tracks. Desc. (p. 563) & fig. Fig. 13 (p. 561).

4. Solidopus perissodactylus Moodie, 1930

UC 2314 HOLOTYPE. Tracks.

Early Permian: Upper Clear Fork Group.

Texas: Taylor County: Castle Peak in Clear Fork Valley, 10 mi S of Merkel.
Collector: Roy L. Moodie, 1930.
Moodie, Roy L. 1930. Vertebrate footprints from the Red Beds of Texas. II. Journal of Geology, 38:548–565. Desc. (pp. 563–564) & fig. Fig. 14 (p. 562).
Paratypes:
UC 2303 Two tracks, small on red shale slab, 4 × 6 inches. Desc. (pp. 563–564) & fig. Fig. 16 (p. 564).
UC 2312 Four imperfect tracks. Desc. (p. 563).
UC 2317 Shows imprint of digits only, emphasizing the ungulate progression. Desc. (pp. 563–564).

5. Varanopus didactylus Moodie, 1930
UC 2316 HOLOTYPE. Tracks.
Early Permian: Upper Clear Fork Group.
Texas: Taylor County: Castle Peak in Clear Fork Valley, 10 mi S of Merkel.
Collector: Roy L. Moodie, 1930.
Moodie, Roy L. 1930. Vertebrate footprints from the Red Beds of Texas. II. Journal of Geology, 38:548–565. Desc. (pp. 558–560) & fig. Fig. 12 (p. 560).
Paratypes:
UC 2309 Another track. Desc. (p. 558).
UC 2310 A slab of shale, 10 in. in diameter, containing at center a single, clear obverse of a left hind foot. Desc. (p. 559).

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Systematic Index

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