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A CHECK-LIST OF THE FOSSIL AND PREHISTORIC BIRDS OF NORTH AMERICA AND THE WEST INDIES

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A CHECK-LIST OF THE FOSSIL AND PREHISTORIC BIRDS OF NORTH AMERICA AND THE WEST INDIES

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The present check-list is an amplification of the one published in the Smithsonian Miscellaneous Collections in 1940 (vol. 99, No. 4) and is complete to November 1955 so far as records have come to attention. To the present time these check-lists have covered the area of the check-list of living birds of the American Ornithologists' Union, namely North America north of México, with the addition of Baja California. It has seemed desirable now to include also the records, comparatively few in number, for México and the West Indies, since this information is complementary and otherwise is available only in widely scattered sources. Various of these latter records are of species of birds described from bones found during archeological excavations in Indian kitchen middens of pre-Columbian age or during the exploration of caverns. The species concerned have long been extinct, so that the only knowledge regarding them is embodied in their skeletal remains. No living examples have been known. It is useful therefore to include them for reference with other species of fossil status, since they do not figure in check-lists of existing birds and since possibly they may be encountered at some future time in true fossil form. They have the same pertinence therefore as species described from Pleistocene beds whose bones have been found subsequently in Recent deposits.

The considerable amount of information now available has allowed more detail relative to geological formations from which the various records have come, and these data have been brought down to date as far as practicable. In this I have had the advice in certain cases of Druid Wilson, of the U. S. Geological Survey, and also have profited from discussions with Dr. C. Wythe Cooke of the same service, particularly as to formations of the southeastern United States.

In the records from the Pleistocene there has been sufficient study of the deposits of this age known from the western United States to allow indication of position, as to whether they are considered early or

late, of most of the faunas. The situation in Florida is not so clear. Bone beds at Melbourne and Vero overlie the Anastasia formation, a marine Pleistocene deposit, and therefore are considered late Pleistocene. Apparently a newer find at Haile in Alachua County may be from a similar level. The Seminole Field in Pinellas County also appears to overlie the beds of the west coast of Florida that are considered equivalent to the Anastasia, if not exactly the same formation. However, Pliocene exposures are near at hand so that the sequence, from present knowledge, is not clear-cut as it is at Melbourne. Information relative to the localities at Bradenton, Sarasota, and on the Itchtucknee River is far from definite, and other deposits found in caverns, while evidently Pleistocene, are still more uncertain as to actual relationship within that period. Collecting continues actively in the Florida Pleistocene, and presently there should be accumulated sufficient data on the avifauna to permit a reasonable correlation. In the meantime it has seemed better to list all the Florida records as Pleistocene without attempt to indicate the level. To list Melbourne and Vero alone, for example, as late Pleistocene might be misleading.

Recent investigations of Dr. Joseph T. Gregory (Condor, 1952, pp. 73-88) have changed measurably the time-honored concept in which the species of *Ichthyornis* have been associated with the *Hesperornis* group in a superorder (Odontognathae) of the Neornithes, characterized by the possession of teeth. The skull of *Ichthyornis* always has presented an anomaly in that the teeth were in sockets instead of in grooves as in *Hesperornis*. Further, the mandible, or lower jaw, was unduly large in comparison with the rest of the skull and the body skeleton. Dr. Gregory has shown that the jaws attributed to *Ichthyornis* in reality are reptilian and are those of a small mosasaur.

These conclusions destroy the main reasons for the association of *Ichthyornis* and *Hesperornis* in one superorder, though still leaving *Ichthyornis* apart from birds known from later periods to the present, in the biconcave vertebrae. In preliminary consideration it seemed that it might be desirable in the classification to cancel the category of superorders, but on further consideration it appears useful to emphasize the considerable and definite differences that separate *Hesperornis, Ichthyornis,* and the penguins from each other and from other groups of birds. This may be accomplished through a new superorder Ichthyornithes for the order Ichthyornithiformes, leaving *Hesperornis* and those others placed near it in the Odontognathae. This will serve as stated above to call attention to the existing peculiarities of these groups and will give a balanced treatment.

The family Mancallidae is added for the two species of *Mancalla* at present recognized, since resemblance between these and the great auk appears due to convergence. The two west-coast forms differ from other auks in the marked modification of the wing for use as a flipper. The genera *Paloelodus* and *Megapaloelodus* have been placed with the typical flamingos in the Phoenicopteridae, a group to which they are unquestionably related. Dr. Hildegarde Howard recently pointed out their differences in the shorter, heavier metatarsus, nonpneumatic femur, and different form in the tibiotarsus and has proposed the family Paloelodidae. To the differences outlined by Dr. Howard there may be added the form of the bill, which, to judge from one incomplete specimen of *Paloelodus ambiguus* Milne Edwards of the Oligocene of western Europe, was gooselike and not bent downward as in the true flamingos. It may be noted also that the toes in *Paloelodus* were definitely longer.

The modern species that occur in the fossil record are distinguished from those not known in living form by the inclusion of a common name in the heading and the statement that the bird is one found in modern form. Most of these are listed under specific scientific names without regard to local race, since most subspecies may not be identified from bones. It is extremely doubtful procedure in most instances to assume that Pleistocene subspecies were the same as those encountered in the region today, and assumption of race is made only where there is reasonable certainty of the identification. The specific names therefore are used in an inclusive sense, though it is evident in wide-ranging groups that two or more subspecies may be covered in the fossil record, for example, in the ruffed grouse, *Bonasa umbellus,* where bones identified as this species are known from such widely separated localities as Maryland and California. This should be understood particularly in cases like that of the raven, *Corvus corax,* or marsh hawk, *Circus cyaneus,* where the range extends to other continents.

The present list gives the record of 189 forms still living, and of 248 species recorded only in an extinct state, this including 11 kinds known only from bones in cave or midden deposits of Recent age. There remain the 12 additional names of uncertain status listed at the end under the heading INCERTAE SEDIS. The increase from the 165 modern forms and 184 extinct species of the list of 1940 is indicative of the growth in knowledge in this field during the comparatively brief interval of 15 years but reveals only part of the increase since many additional records have been found for numerous living species included in 1940.

Class AVES: Birds

Subclass NEORNITHES: True Birds

Superorder ODONTOGNATHAE: New World Toothed Birds

Order HESPERORNITHIFORMES: Hesperornithes

Family HESPERORNITHIDAE: Hesperornithes

Genus HESPERORNIS Marsh

Hesperornis Marsh, Amer. Journ. Sci., ser. 3, vol. 3, 1872, p. 360. Type, by monotypy, *Hesperornis regalis* Marsh.

Hesperornis crassipes (Marsh)

Lestornis crassipes Marsh, Amer. Journ. Sci., ser. 3, vol. 11, 1876, p. 509.

Upper Cretaceous (Niobrara formation): Western Kansas.

Hesperornis montana Shufeldt

Hesperornis montana Shufeldt, Auk, vol. 32, No. 3, July 1915, p. 293, pl. 18, figs. 4, 6, 8, 10, 12.

Upper Cretaceous (Claggett formation): 1 mile above mouth of Dog Creek, Fergus County, Montana.

Hesperornis regalis Marsh

Hesperornis regalis Marsh, Amer. Journ. Sci., ser. 3, vol. 3, 1872, p. 357.

Upper Cretaceous (Niobrara formation): Smoky Hill River, 20 miles east of Wallace (type locality), and Two Mile Creek, Smoky Hill River, Logan County, Kansas.

Hesperornis gracilis Marsh [1]

Hesperornis gracilis Marsh, Amer. Journ. Sci., ser. 3, vol. 11, 1876, p. 510.

Upper Cretaceous (Niobrara formation): Near Smoky Hill River, western Kansas.

Genus CONIORNIS Marsh [2]

Coniornis Marsh, Amer. Journ. Sci., ser. 3, vol. 45, 1893, p. 82. Type, by monotypy, *Coniornis altus* Marsh.

Coniornis altus Marsh

Coniornis altus Marsh, Amer. Journ. Sci., ser. 3, vol. 45, 1893, p. 82, text fig.

Upper Cretaceous (Judith River formation): Dog Creek, Fergus County, Montana.

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[1] Gregory, Condor, vol. 54, No. 2, Mar. 26, 1952, p. 74, concludes that the genus *Hargeria*, erected for this species by Lucas, is not separable from *Hesperornis*.

[2] Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, pp. 16, 75, considers this a synonym of *Hesperornis*.

Family BAPTORNITHIDAE[3]: Baptornithes

Genus BAPTORNIS Marsh

Baptornis Marsh, Amer. Journ. Sci., ser. 3, vol. 14, 1877, p. 86. Type, by monotypy, *Baptornis advenus* Marsh.

Baptornis advenus Marsh

Baptornis advenus Marsh, Amer. Journ. Sci., ser. 3, vol. 14, 1877, p. 86.

Upper Cretaceous (Niobrara formation): Wallace County (type locality), and Butte Creek, Logan County, Kansas.

Superorder ICHTHYORNITHES: Ichthyornis and Allies

Order ICHTHYORNITHIFORMES: Ichthyornis and Allies

Family ICHTHYORNITHIDAE: Ichthyornithes

Genus ICHTHYORNIS Marsh

Ichthyornis Marsh, Amer. Journ. Sci., ser. 3, vol. 4, November 1872, p. 344. Type, by monotypy, *Ichthyornis dispar* Marsh.

Ichthyornis agilis (Marsh)

Graculavus agilis Marsh, Amer. Journ. Sci., ser. 3, vol. 5, 1873, p. 230.

Upper Cretaceous (Niobrara formation): Butte Creek, Logan County, Kansas.

Ichthyornis anceps (Marsh)

Graculavus anceps Marsh, Amer. Journ. Sci., ser. 3, vol. 3, 1872, p. 364.

Upper Cretaceous (Niobrara formation): North Fork Smoky Hill River, Logan County, about 12 miles east of Wallace, Kansas.

Ichthyornis dispar Marsh

Ichthyornis dispar Marsh, Amer. Journ. Sci., ser. 3, vol. 4, 1872, p. 344.

Upper Cretaceous (Niobrara formation): Near Solomon River, Kansas.

Ichthyornis lentus (Marsh)

Graculavus lentus Marsh, Amer. Journ. Sci., ser. 3, vol. 14, 1877, p. 253.

Upper Cretaceous: Near McKinney, Texas.

[3] Lambrecht, Handb. Palaeorn., 1933, pp. 258-260, unites this with the family Enaliornithidae, on what seem insufficient grounds. As suggested by Lucas, Proc. U. S. Nat. Mus., vol. 26, 1903, p. 555, *Baptornis* probably belongs in a distinct order.

Ichthyornis tener MARSH

Ichthyornis tener MARSH, Odontornithes, 1880, pp. 151, 198, pl. 30, fig. 8.

Upper Cretaceous (Niobrara formation): Wallace County, Kansas.

Ichthyornis validus MARSH

Ichthyornis validus MARSH, Odontornithes, 1880, pp. 147, 153, 198, pl. 30, figs. 11-14.

Upper Cretaceous (Niobrara formation): Near Solomon River, Kansas.

Ichthyornis victor MARSH

Ichthyornis victor MARSH, Amer. Journ. Sci., ser. 3, vol. 11, 1876, p. 511.

Upper Cretaceous (Niobrara formation): Wallace County (type locality), and Hackberry Creek, near Smoky Hill River, Gove County, Kansas.

Family APATORNITHIDAE: APATORNITHES

Genus APATORNIS Marsh

Apatornis MARSH, Amer. Journ. Sci., ser. 3, vol. 5, Jan. 21, 1873, p. 162. Type, by monotypy, *Ichthyornis celer* Marsh.

Apatornis celer (MARSH)

Ichthyornis celer MARSH, Amer. Journ. Sci., ser. 3, vol. 5, 1873, p. 74.

Upper Cretaceous (Niobrara formation): Butte Creek, Logan County, near Smoky Hill River, Kansas.

Superorder NEOGNATHAE: TYPICAL BIRDS

Order CAENAGNATHIFORMES: CAENAGNATHUS

Family CAENAGNATHIDAE: CAENAGNATHUS

Genus CAENAGNATHUS Sternberg

Caenagnathus STERNBERG, Journ. Pal., vol. 14, January 1940, p. 81. Type, by original designation, *Caenagnathus collinsi* Sternberg.

Caenagnathus collinsi STERNBERG [4]

Caenagnathus collinsi STERNBERG, Journ. Pal., vol. 14, January 1940, p. 81, figs. 1-6.

Upper Cretaceous (Pale beds, Belly River series): Quarry No. 112, Steveville map area, near mouth of Sand Creek, Alberta, Canada.

[4] This interesting species, known from a nearly complete mandible, is listed in the above superorder tentatively. It is not absolutely certain that it is avian.

Order GAVIIFORMES: Loons

Family GAVIIDAE: Loons

Subfamily GAVIINAE

Genus GAVIA Forster

Gavia J. R. Forster, Enchirid. Hist. Nat., 1788, p. 38. Type, by subsequent designation, *Colymbus imber* Gunnerus = *C. immer* Brünnich (Allen, 1907).

Gavia immer (Brünnich): Common Loon

Colymbus Immer Brünnich, Orn. Borealis, 1764, p. 38.

Modern form reported from late Pleistocene (Palos Verdes sand): Newport Bay, Orange County, California.

Gavia arctica (Linnaeus): Arctic Loon

Colymbus arcticus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 135.

Modern form reported from late Pleistocene (Palos Verdes sand): San Pedro, Los Angeles County, California.

Gavia concinna Wetmore

Gavia concinna Wetmore, Journ. Morph., vol. 66, No. 1, Jan. 2, 1940, p. 25, figs. 1-4.

Pliocene (Etchegoin formation): Sweetwater Canyon (type locality), $5\frac{1}{2}$ miles east of King City, Monterey County, California. Middle Pliocene (San Diego formation): Washington Boulevard Freeway, San Diego, California. Pliocene (Bone Valley formation): near Brewster, Polk County, Florida.

Gavia palaeodytes Wetmore

Gavia palaeodytes Wetmore, Proc. New England Zoöl. Club, vol. 22, June 23, 1943, p. 64, figs. 1-2.

Middle Pliocene (Bone Valley formation): Pierce (type locality) and Brewster, Polk County, Florida.

Gavia howardae Brodkorb

Gavia howardae Brodkorb, Condor, vol. 55, No. 4, July 20, 1953, p. 212, fig. 1B.

Pliocene (Bone Valley formation): Pierce (type locality) and Brewster, Polk County, Florida.

Subfamily GAVIELLINAE: Gaviella

Genus GAVIELLA Wetmore

Gaviella Wetmore, Journ. Morph. vol. 66, Jan. 2, 1940, p. 28. Type, by original designation, *Gavia pusilla* Shufeldt.

Gaviella pusilla (SHUFELDT)

Gavia pusilla SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 70, pl. 13, fig. 106.

Probably from Oligocene (White River formation): near Lusk, Wyoming.[5]

Order COLYMBIFORMES: GREBES

Family COLYMBIDAE: GREBES

Genus COLYMBUS Linnaeus

Colymbus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 135. Type, by subsequent designation, *Colymbus cristatus* Linnaeus (Baird, Brewer, and Ridgway, 1884).

Subgenus DYTES Kaup

Dytes KAUP, Skizz. Entw.-Gesch. Eur. Thierw., 1829, p. 41. Type, by subsequent designation, *Dytes cornutus* Kaup = *Colymbus auritus* Linnaeus (Gray, 1842).

Colymbus auritus LINNAEUS: **Horned Grebe**

Colymbus auritus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 135.

Modern form reported from Pleistocene: Cavern deposits of Tennessee; Seminole Field, Pinellas County, and Itchtucknee River, Columbia County, Florida.[6]

Colymbus caspicus HABLIZL: **Eared Grebe**

Colymbus caspicus HABLIZL, Neue Nordische Beyträge, vol. 4, 1783, p. 9.

Modern form reported from Pliocene (Ogallala formation): Edson Quarry, Sherman County, Kansas. Late Pleistocene: Fossil Lake, Oregon; San Pedro (Palos Verdes sand, lumberyard locality), Los Angeles County, California; Meade County (Vanhem formation, Jones fauna), Kansas.

Colymbus oligoceanus SHUFELDT

Colymbus oligoceanus SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 54.

? Oligocene (John Day): Lower Willow Creek, Baker County, Oregon.

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[5] See Wetmore, A., Journ. Morph., vol. 66, Jan. 2, 1940, p. 30.

[6] Specimens from Fossil Lake, Oregon, formerly included under this species have been found by Hildegarde Howard to represent *Colymbus caspicus* and *Podilymbus podiceps*.

Colymbus parvus SHUFELDT

Colymbus parvus SHUFELDT, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 6, July 9, 1913, p. 136, pl. 39, fig. 477.

Pliocene (Tulare formation): Kern County, California. Middle Pliocene (San Diego formation): San Diego, California. Late Pleistocene: Fossil Lake (type locality), Oregon.

Genus PLIODYTES Brodkorb

Pliodytes BRODKORB, Ann. Mag. Nat. Hist., ser. 12, vol. 6, December 1953, p. 953, 1 fig. Type, by original designation, *Pliodytes lanquisti* Brodkorb.

Pliodytes lanquisti BRODKORB

Pliodytes lanquisti BRODKORB, Ann. Mag. Nat. Hist., ser. 12, vol. 6, December 1953, p. 953, 1 fig.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Genus AECHMOPHORUS Coues

Æchmophorus COUES, Proc. Acad. Nat. Sci. Philadelphia, vol. 14, No. 5, April-May (Aug. 1), 1862, p. 229. Type, by original designation, *Podiceps occidentalis* Lawrence.

Aechmophorus occidentalis (LAWRENCE): **Western Grebe**

Podiceps occidentalis LAWRENCE, in Baird, Cassin, and Lawrence, Rep. Expl. and Surv. R. R. Pac., vol. 9, 1858, pp. liv, 892, 894.

Modern form reported from late Pleistocene: Rodeo, San Francisco Bay region.

Aechmophorus lucasi MILLER

Aechmophorus lucasi L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 4, Feb. 4, 1911, p. 83, figs. 1-3.

Late Pleistocene: Fossil Lake (type locality), Oregon;[7] Palos Verdes sand, Newport Bay, Orange County, Playa del Rey, San Pedro, Los Angeles County, and near Manix, San Bernardino County, California.

[7] Includes various specimens formerly listed under *Colymbus grisegena* and *Aechmophorus occidentalis*. Hildegarde Howard (Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, pp. 148-151) considers *lucasi* the Pleistocene ancestor of modern *A. occidentalis*, listing it as *Aechmophorus occidentalis lucasi*, the relationship being expressed in the sense of distribution through time rather than in the geographic sense of subspecies existing simultaneously.

Genus PODILYMBUS Lesson

Podilymbus Lesson, Traité d'Orn., livr. 8, June 11, 1831, p. 595. Type, by monotypy, *Podiceps carolinensis* Latham = *Colymbus podiceps* Linnaeus,

Podilymbus podiceps (Linnaeus): **Pied-billed Grebe** [8]

Colymbus Podiceps Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 136.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Itchtucknee River, Columbia County, and Haile, Alachua County, Florida. Late Pleistocene: Fossil Lake, Oregon; Rancho La Brea, Los Angeles, and McKittrick, Kern County, California. Late Pleistocene or early Recent: Tepexpan, México.

Order PROCELLARIIFORMES: Albatrosses, Shearwaters, Petrels, and Allies

Family DIOMEDEIDAE: Albatrosses

Genus DIOMEDEA Linnaeus

Diomedia Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 132. Type, by subsequent designation, *Diomedea exulans* Linnaeus (Gray, 1840).

Diomedea albatrus Pallas: **Short-tailed Albatross**

Diomedea albatrus Pallas, Spic. Zool., vol. 1, fasc. 5, 1769, p. 28.

Modern form reported from late Pleistocene (Palos Verdes sand): Newport Bay, Orange County, Playa del Rey, Los Angeles County, California.

Diomedea anglica Lydekker

Diomedea anglica Lydekker, Cat. Foss. Birds Brit. Mus., 1891, p. 189, fig. 42.

Pliocene (Bone Valley formation): Pierce, Polk County, Florida.[9]

Family PROCELLARIIDAE: Shearwaters and Fulmars

Genus PUFFINUS Brisson [10]

Puffinus Brisson, Orn., 1760, vol. 1, p. 56; vol. 6, p. 130. Type, by tautonymy, *Puffinus* Brisson = *Procellaria puffinus* Brünnich.

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[8] *Podilymbus magnus* Shufeldt, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 6, July 9, 1913, p. 136, pl. 38, figs. 439-440, 449, has been identified as *P. podiceps* by Wetmore, California Acad. Sci., vol. 23, Dec. 30, 1937, pp. 198-199.

[9] Described by Lydekker from the Upper Pliocene at Foxhall, Suffolk, England. Recorded from Florida by Wetmore, Proc. New England Zoöl. Club, vol. 22, June 23, 1943, pp. 66-67, pl. 12, figs. 10-15.

[10] *Puffinus parvus* Shufeldt, Ibis, October 1916, p. 632, from Recent deposits in the bone caves of Bermuda is considered a synonym of *Puffinus lherminieri*. *Puffinus megalli* Shufeldt, Ibis, October 1916, p. 630, from Recent deposits in the bone caves of Bermuda seemingly is *Puffinus puffinus*.

Subgenus **PUFFINUS** Brisson

Puffinus griseus (Gmelin): **Sooty Shearwater**

Procellaria grisea Gmelin, Syst. Nat., vol. 1, pt. 2, 1789, p. 564.

Modern form reported from late Pleistocene (Palos Verdes sand): Newport Bay, Orange County; near San Pedro (lumberyard locality) and Playa del Rey, Los Angeles County, California.

Puffinus puffinus (Brünnich): **Common Shearwater**

Procellaria Puffinus Brünnich, Orn. Borealis, 1764, p. 29.

Modern form reported from Pleistocene (Melbourne bone bed): Melbourne, Florida. Late Pleistocene (Palos Verdes sand): San Pedro and Playa del Rey, Los Angeles County, California.[11]

Puffinus inceptor Wetmore

Puffinus inceptor Wetmore, Proc. California Acad. Sci., ser. 4, vol. 19, No. 8, July 15, 1930, p. 86, figs. 1-3.

Middle Miocene (Temblor formation): Sharktooth Hill, about 7 miles northeast of Bakersfield, California.

Puffinus diatomicus Miller

Puffinus diatomicus L. H. Miller, Carnegie Inst. Washington Publ. 349, August 1925, p. 111, pls. 1, 2, 7a.

Middle Miocene (Temblor formation, *Turritella ocoyana* zone): Lompoc (type locality). Miocene (Monterey shale): Lomita and San Pedro breakwater, San Pedro, California.

Puffinus kanakoffi Howard[12]

Puffinus kanakoffi Howard, Carnegie Inst. Washington Publ. 584, June 22, 1949, p. 187, pl. 2, figs. 3, 5.

Middle Pliocene (San Diego formation): Washington Boulevard Freeway, San Diego, California.

Puffinus felthami Howard[12]

Puffinus felthami Howard, Carnegie Inst. Washington Publ. 584, June 22, 1949, p. 194, pl. 2, figs. 4, 6.

Late Lower Pliocene: 3 miles north of Corona del Mar, Orange County, California.

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[11] The California records refer to *Puffinus puffinus opisthomelas* Coues, formerly listed as a separate species.

[12] Subgeneric allocation provisional.

Subgenus ARDENNA Reichenbach

Ardenna Reichenbach, Avium Syst. Nat., 1852 (1853), p. iv. Type, by monotypy, *Procellaria major* Faber = *P. gravis* O'Reilly.

Puffinus conradi Marsh

Puffinus conradi Marsh, Amer. Journ. Sci., ser. 2, vol. 49, 1870, p. 212.

Middle Miocene (Calvert formation): Maryland.

Genus FULMARUS Stephens

Fulmarus Stephens, in Shaw, Gen. Zoöl., vol. 13, pt. 1, Feb. 18, 1826, p. 233. Type, by subsequent designation, *Procellaria glacialis* Linnaeus (Gray, 1855).

Fulmarus glacialis (Linnaeus): **Fulmar**

Procellaria glacialis Linnaeus, Fauna Succica, ed. 2, 1761, p. 51.

Modern form reported from late Pleistocene (Palos Verdes sand): Newport Bay, Orange County; San Pedro, Los Angeles County, California.

Family HYDROBATIDAE: Storm Petrels

Genus OCEANODROMA Reichenbach

Oceanodroma Reichenbach, Avium Syst. Nat., 1852 (1853), p. iv. Type, by original designation, *Procellaria furcata* Gmelin.

Oceanodroma hubbsi Miller

Oceanodroma hubbsi L. H. Miller, Condor, vol. 53, No. 2, Mar. 27, 1951, p. 78, fig. 1.

Upper Miocene (Capistrano formation[13]): About 1 mile south of Capistrano Beach, Orange County, California.

Order PELECANIFORMES: Tropicbirds, Pelicans, Frigatebirds, and Allies

Suborder PELECANI: Pelicans, Boobies, Cormorants, and Darters

Superfamily PELECANOIDEA: Pelicans and Allies

Family PELECANIDAE: Pelicans

Genus PELECANUS Linnaeus

Pelecanus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 132. Type, by subsequent designation, *Pelecanus onocrotalus* Linnaeus (Gray, 1940).

[13] Possibly Lower Pliocene.

Subgenus CYRTOPELICANUS Reichenbach

Cyrtopelicanus REICHENBACH, Avium Syst. Nat., 1852 (1853), p. vii. Type, by original designation, *Pelecanus trachyrhynchus* Latham = *P. erythrorhynchos* Gmelin.

Pelecanus erythrorhynchos GMELIN: White Pelican

Pelecanus erythrorhynchos GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 571.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; Manix lake beds, near Manix, San Bernardino County, California. ? Pleistocene: Rattlesnake Hill, Fallon, Nevada.

Pelecanus halieus WETMORE

Pelecanus halieus WETMORE, Smithsonian Misc. Coll., vol. 87, No. 20, Dec. 27, 1933, p. 3, figs. 1-2.

Upper Pliocene (Hagerman lake beds): Near Hagerman, Idaho.

Subgenus LEPTOPELICANUS Reichenbach

Leptopelicanus REICHENBACH, Avium Syst. Nat., 1852 (1853), p. vii. Type, by original designation, *Pelecanus fuscus* Gmelin = *P. occidentalis* Linnaeus.

Pelecanus occidentalis LINNAEUS: Brown Pelican

Pelecanus occidentalis LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 215.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, California.

Family CYPHORNITHIDAE: CYPHORNITHES

Genus CYPHORNIS Cope

Cyphornis COPE, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 9, May 31, 1894, p. 449. Type, by monotypy, *Cyphornis magnus* Cope.

Cyphornis magnus COPE

Cyphornis magnus COPE, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 9, May 31, 1894, p. 451.

Middle Oligocene: Carmanah Point, Vancouver Island, British Columbia.

Genus PALAEOCHENÖIDES Shufeldt

Palaeochenöides SHUFELDT, Geol. Mag., n.s. 4, vol. 3, August 1916, p. 347. Type, by monotypy, *Palaeochenöides mioceanus* Shufeldt.

Palaeochenöides mioceanus Shufeldt

Palaeochenöides mioceanus Shufeldt, Geol. Mag., n.s. 4, vol. 3, August 1916, p. 347, pl. 15.

Miocene (Hawthorn formation): Near source of Stono River, South Carolina.

Superfamily SULOIDEA: Boobies, Cormorants, Darters, and Allies

Family SULIDAE: Boobies and Gannets

Genus SULA Brisson

Sula Brisson, Orn., 1760, vol. 1, p. 60; vol. 6, p. 494. Type, by tautonymy, *Sula* Brisson = *Pelecanus piscator* Linnaeus.

Subgenus SULA Brisson

Sula stocktoni Miller

Sula stocktoni L. H. Miller, Publ. Univ. California at Los Angeles Biol. Sci., vol. 1, No. 5, Mar. 12, 1935, p. 75, fig. 2.

Middle Miocene (Monterey shale): Near Lomita, Los Angeles County, California.

Sula willetti Miller

Sula willetti L. H. Miller, Carnegie Inst. Washington Publ. 349, August 1925, p. 112, pls. 3, 8, fig. 1.

Middle Miocene (Temblor formation, *Turritella ocoyana* zone): Lompoc, Santa Barbara County, California.

Sula guano Brodkorb

Sula guano Brodkorb, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 9, figs. 2, 5, 8.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Sula phosphata Brodkorb

Sula phosphata Brodkorb, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 11, figs. 3, 6, 9.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Subgenus MICROSULA Wetmore

Microsula Wetmore, Proc. U. S. Nat. Mus., vol. 85, Jan. 14, 1938, p. 25. Type, by original designation, *Sula* (*Microsula*) *avita* Wetmore.

Sula avita WETMORE

Sula avita WETMORE, Proc. U. S. Nat. Mus., vol. 85, Jan. 14, 1938, p. 22, figs. 2-3.

Middle Miocene (Calvert formation): western shore of Chesapeake Bay, near Plumpoint, Calvert County, Maryland.

Genus MIOSULA Miller

Miosula L. H. MILLER, Carnegie Inst. Washington Publ. 349, August 1925, p. 114. Type, by monotypy, *Miosula media* Miller.

Miosula media MILLER

Miosula media L. H. MILLER, Carnegie Inst. Washington Publ. 349, August 1925, p. 114, pl. 5.

Middle Miocene (Temblor formation, *Turritella ocoyana* zone): Lompoc, Santa Barbara County, California.

Miosula recentior HOWARD

Miosula recentior HOWARD, Carnegie Inst. Washington Publ. 584, June 22, 1949, p. 190, pl. 2, figs. 1-2a.

Middle Pliocene (San Diego formation): Curlew Street, opposite Ostego Drive, San Diego, California.

Genus MORUS Vieillot

Morus VIEILLOT, Analyse, April 1816, p. 63. Type, by monotypy, *Pelecanus bassanus* Linnaeus.

Morus loxostyla (COPE)[14]

Sula loxostyla COPE, Trans. Amer. Philos. Soc., n.s., vol. 14, December 1870, p. 236, fig. 53.

Miocene: Calvert County (type locality), Maryland; New Jersey.

Morus vagabundus WETMORE

Moris vagabundus WETMORE, Proc. California Acad. Sci., ser. 4, vol. 19, No. 8, July 15, 1930, p. 89, fig. 4.

Middle Miocene (Temblor formation): Sharktooth Hill (type locality), about 7 miles northeast, and west branch of Granite Creek, 11 miles north of Bakersfield, California.

[14] *Sula atlantica* Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 62, pl. 15, fig. 123, from the Miocene of New Jersey, is considered a synonym of *M. loxostyla;* cf. Wetmore, Auk, 1926, p. 465.

Morus lompocana (MILLER)

Sula lompocana L. H. MILLER, Carnegie Inst. Washington Publ. 349, August 1925, p. 114, pls. 4, 7b, 9.

Middle Miocene (Temblor formation, *Turritella ocoyana* zone): Lompoc, Santa Barbara County, California.

Morus peninsularis BRODKORB

Morus peninsularis BRODKORB, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 8, figs. 1, 4, 7.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Morus reyana HOWARD

Moris reyana HOWARD, Condor, vol. 38, No. 5, Sept. 15, 1936, p. 213, fig. 37.

Late Pleistocene (Palos Verdes sand): Newport Bay, Orange County; Playa del Rey (type locality), Los Angeles County, California.

Family PHALACROCORACIDAE: CORMORANTS

Genus GRACULAVUS Marsh [15]

Graculavus MARSH, Amer. Journ. Sci., ser. 3, vol. 3, 1872, p. 363. Type, by subsequent designation, *Graculavus velox* Marsh (Hay, 1902).

Graculavus pumilus MARSH

Graculavus pumilus MARSH, Amer. Journ. Sci., ser. 3, vol. 3, 1872, p. 364.

Paleocene (Hornerstown marl): Hornerstown, New Jersey.

Graculavus velox MARSH

Graculavus velox MARSH, Amer. Journ. Sci., ser. 3, vol. 3, 1872, p. 363.

Paleocene (Hornerstown marl): Hornerstown, New Jersey.

Genus PHALACROCORAX Brisson [16]

Phalacrocorax BRISSON, Orn., 1760, vol. 1, p. 60; vol. 6, p. 511. Type, by tautonymy, *Phalacrocorax* Brisson = *Pelecanus carbo* Linnaeus.

Phalacrocorax wetmorei BRODKORB

Phalacrocorax wetmorei BRODKORB, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 12, figs. 10, 11.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

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[15] *Limosavis* Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 19, proposed as a new genus for *Graculavus velox* Marsh, is a synonym of *Graculavus* Marsh, as both names are based on the same species.

[16] No subgenera are recognized in recent studies of the cormorants.

Phalacrocorax auritus (LESSON): **Double-crested Cormorant**

Carbo auritus LESSON, Traité d'Orn., livr. 8, June 11, 1831, p. 605.

Modern form reported from Pliocene: Dry Creek, Malheur County, Oregon. Upper Pliocene (Hagerman lake beds): Near Hagerman, Idaho. Pleistocene: Melbourne (stratum 2), Sarasota, Bradenton, Seminole Field, Pinellas County, Itchtucknee River, and Vero, Florida. Late Pleistocene (Palos Verdes sand): Santa Monica and San Pedro, Los Angeles County, California. ? Pleistocene: Rattlesnake Hill, Fallon, Nevada.

Phalacrocorax penicillatus (BRANDT): **Brandt's Cormorant**

Carbo penicillatus BRANDT, Bull. Sci. Acad. Imp. Sci. St.-Pétersbourg, vol. 3, No. 4, Nov. 16, 1837, col. 55.

Modern form reported from late Pleistocene (Palos Verdes sand): Newport Bay, Orange County; Santa Monica and San Pedro (lumberyard locality), Los Angeles County, California.

Phalacrocorax femoralis MILLER

Phalacrocorax femoralis L. H. MILLER, Condor, vol. 31, No. 4, July 15, 1929, p. 167, figs. 58-59.

Upper Miocene (Modelo formation): Calabasas, Los Angeles County, California.

Phalacrocorax idahensis (MARSH)

Graculus idahensis MARSH, Amer. Journ. Sci., ser. 2, vol. 49, 1870, p. 216.

Pliocene: Castle Creek; Owyhee County (type locality), Idaho; Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida. Upper Pliocene (Hagerman lake beds): Near Hagerman, Idaho.

Phalacrocorax macropus (COPE)

Graculus macropus COPE, Bull. Geol. Geogr. Surv. Terr., vol. 4, No. 2, 1878, p. 386.

Late Pleistocene: Fossil Lake, Oregon.[17]

Phalacrocorax marinavis SHUFELDT

Phalacrocorax marinavis SHUFELDT, Trans. Connecticut Acad. Sci., vol. 19, February 1915, p. 56, pl. 14, figs. 114, 116-118, 122.

? Oligocene (John Day): Willow Creek, Oregon.

[17] Shufeldt, Auk, 1915, pp. 485-488, has identified material from the Miocene of Montana as this species, but examination of the specimen reveals that this is in error.

Phalacrocorax mediterraneus SHUFELDT

Phalacrocorax mediterraneus SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 58, pl. 15, fig. 138.

Lower Oligocene (Chadron formation): Gerry's Ranch, Weld County, Colorado.

Phalacrocorax rogersi HOWARD

Phalacrocorax rogersi HOWARD, Condor, vol. 34, No. 3, May 16, 1932, p. 118, fig. 19.

Early Pleistocene (Santa Barbara formation): Veronica Springs Stone Quarry, near Santa Barbara, California.

Phalacrocorax kennelli HOWARD

Phalacrocorax kennelli HOWARD, Carnegie Inst. Washington Publ. 584, June 22, 1949, p. 188, pl. 3, figs. 7-8a.

Middle Pliocene (San Diego formation): Washington Boulevard Freeway, San Diego, California.

Family ANHINGIDAE: SNAKEBIRDS

Genus ANHINGA Brisson

Anhinga BRISSON, Orn., 1760, vol. 1, p. 60; vol. 6, p. 476. Type, by tautonymy and monotypy, *Anhinga* Brisson = *Plotus anhinga* Linnaeus.

Anhinga anhinga (LINNAEUS): **Anhinga**

Plotus Anhinga LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 218.

Modern form reported from Pleistocene (Melbourne bone bed): Melbourne (stratum 2), Florida.

Order CICONIIFORMES: HERONS, STORKS, and ALLIES

Suborder ARDEAE: HERONS, BITTERNS, and ALLIES

Family ARDEIDAE: HERONS and BITTERNS

Subfamily ARDEINAE: HERONS and EGRETS

Genus ARDEA Linnaeus [18]

Ardea LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 141. Type, by subsequent designation, *Ardea cinerea* Linnaeus (Gray, 1840).

[18] *Ardea sellardsi* Shufeldt, Journ. Geol., January-February (January) 1917, p. 19, described from Vero (stratum 3), Florida, proves to be based on the tibiotarsus of *Meleagris gallopavo*. See Wetmore, Smithsonian Misc. Coll., vol. 85, No. 2, Apr. 13, 1931, p. 32.

Ardea herodias LINNAEUS: **Great Blue Heron**

Ardea Herodias LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 143.

Modern form reported from Pleistocene: Melbourne,[19] Itchtucknee River, Bradenton and Seminole Field, Pinellas County, Florida. Late Pleistocene: Fossil Lake, Oregon; Rancho La Brea, Los Angeles, and McKittrick, Kern County, California.

Ardea polkensis BRODKORB

Ardea polkensis BRODKORB, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 17, figs. 13, 14, 15.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Genus CASMERODIUS Gloger

Casmerodius GLOGER, Hand- und Hilfsbuch Naturg., 1842 (1841), p. 412. Type, by subsequent designation, *Ardea egretta* Gmelin (Salvadori, 1882).

Casmerodius albus (LINNAEUS): **Common Egret**

Ardea alba LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 144.

Modern form reported from Pleistocene: Melbourne, Seminole Field, Pinellas County, and Venice, Florida. Late Pleistocene: Rancho La Brea, Los Angeles, California; Baños de Ciego Montero, Santa Clara Province, Cuba.

Genus LEUCOPHOYX Sharpe

Leucophoyx SHARPE, Bull. Brit. Orn. Club, vol. 3, Apr. 30, 1894, p. xxxix. Type, by original designation and monotypy, *Ardea candidissima* Gmelin = *Ardea thula* Molina.

Leucophoyx thula (MOLINA): **Snowy Egret**

Ardea Thula MOLINA, Sagg. Stor. Nat. Chili, 1782, p. 235.

Modern form reported from Pleistocene: Bradenton, Florida.

Genus HYDRANASSA Baird

Hydranassa BAIRD, in Baird, Cassin, and Lawrence, Rep. Expl. Surv. R. R. Pac., vol. 9, 1858, p. 660. Type, by original designation, *Ardea ludoviciana* Wilson = *Egretta ruficollis* Gosse.

Hydranassa tricolor (MÜLLER): **Tricolored Heron**

Ardea tricolor P. L. S. MÜLLER, Natursyst. Suppl., 1776, p. 111.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

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[19] The record from Vero (stratum 3) is now considered Recent. See Cooke, C. W., Florida Geol. Surv. Geol. Bull. 29, 1945, pp. 306-307.

Genus FLORIDA Baird

Florida Baird, in Baird, Cassin, and Lawrence, Rep. Expl. and Surv. R. R. Pac., vol. 9, 1858, pp. xxi, xlv, 659, 671. Type, by monotypy, *Ardea caerulea* Linnaeus.

Florida caerulea (Linnaeus): **Little Blue Heron**

Ardea caerulea Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 143.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

Genus BUTORIDES Blyth

Butorides Blythi, Cat. Birds Mus. Asiatic Soc., 1849 (1852), p. 281. Type, by monotypy, *Ardea javanica* Horsfield.

Butorides virescens (Linnaeus): **Green Heron**

Ardea virescens Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 144.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida. Late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus NYCTICORAX Forster

Nycticorax T. Forster, Syn. Cat. Brit. Birds, 1817, p. 59. Type, by tautonymy and monotypy, *Nycticorax infaustus* Forster = *Ardea nycticorax* Linnaeus.

Nycticorax nycticorax (Linnaeus): **Black-crowned Night Heron**

Ardea Nycticorax Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 142.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León, México; Bradenton, and Itchtucknee River, Florida. Late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Genus NYCTANASSA Stejneger

Nyctanassa Stejneger, Proc. U. S. Nat. Mus., vol. 10, Aug. 3, 1887, p. 295. Type, by original designation, *Ardea violacea* Linnaeus.

Nyctanassa violacea (Linnaeus): **Yellow-crowned Night Heron**

Ardea violacea Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 143.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.[20]

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[20] *Larus vero* Shufeldt, Journ. Geol., 1917, p. 18, from stratum 3 of Vero, Florida, is *Nyctanassa violacea*, according to Wetmore, Smithsonian Misc. Coll., vol. 85, No. 2, 1931, pp. 3, 11, and 16. Cooke, Florida Geol. Surv., Geol. Bull. 29, 1945, pp. 306-307, considers this deposit to be of Recent age.

Genus EOCEORNIS Shufeldt

Eoceornis Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 39. Type, by monotypy, *Eoceornis ardetta* Shufeldt.

Eoceornis ardetta Shufeldt

Eoceornis ardetta Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 39, pl. 13, fig. 102.

Eocene (Bridger formation): Henry's Fork, Wyoming.

Subfamily BOTAURINAE: Bitterns

Genus IXOBRYCHUS Billberg

Ixobrychus Billberg, Syn. Faunae Scand., vol. 1, pt. 2, 1828, p. 166. Type, by subsequent designation, *Ardea minuta* Linnaeus (Stone, 1907).

Ixobrychus exilis (Gmelin): **Least Bittern.**

Ardea exilis Gmelin, Syst. Nat., vol. 1, pt. 2, 1789, p. 645.

Modern form reported from late Pleistocene: Baños de Ciego Montero, Santa Clara Province, Cuba.

Genus BOTAURUS Stephens

Botaurus Stephens, in Shaw, Gen. Zoöl., vol. 11, pt. 2, August 1819, p. 592. Type, by subsequent designation, *Ardea stellaris* Linnaeus (Gray, 1840).

Botaurus lentiginosus (Rackett): **American Bittern**

Ardea lentiginosa Rackett, in Pulteney, Cat. Birds, Shells and . . . . Plants of Dorsetshire, ed. 2, May 1813, p. 14.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, and Sarasota, Florida. Late Pleistocene: Fossil Lake, Oregon;[21] Rancho La Brea, Los Angeles, California.

Genus BOTAUROIDES Shufeldt

Botauroides Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 33. Type, by monotypy, *Botauroides parvus* Shufeldt.

Botauroides parvus Shufeldt

Botauroides parvus Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 33.

Eocene (? Bridger formation): "Spanish John Meadow," Wyoming.

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[21] *Ardea paloccidentalis* Shufeldt described from Fossil Lake is based on a fragmentary tarsometatarsus of the American bittern. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, pp. 156-157.

Suborder CICONIAE: Storks, Ibises, and Spoonbills

Superfamily CICONIOIDEA: Storks and Wood Ibises

Family CICONIIDAE: Storks and Jabirus

Subfamily CICONIINAE: Storks

Genus CICONIA Brisson

Ciconia Brisson, Orn., 1760, vol. 1, p. 48; vol. 5, p. 361. Type, by tautonymy, *Ciconia* = *Ardea ciconia* Linnaeus.

Ciconia maltha Miller

Ciconia maltha L. H. Miller, Univ. California Publ., Bull. Dept. Geol., vol. 5, No. 30, Aug. 5, 1910, p. 440, figs. 1-7.

Upper Pliocene (Hagerman lake beds): Barbour Ranch, Snake River, Idaho. Pleistocene: American Falls, Idaho; Vero (stratum 2), Melbourne (stratum 2), Itchtucknee River, 6½ miles south of Marineland, Flagler County, Seminole Field, Pinellas County, and Venice, Florida. Late Pleistocene: Carpinteria, McKittrick, Rancho La Brea, Los Angeles (type locality), and near Manix, San Bernardino County, California; Baños de Ciego Montero, Santa Clara Province, Cuba.[22]

Subfamily MYCTERIINAE: Wood Ibises

Genus MYCTERIA Linnaeus

Mycteria Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 140. Type, by monotypy, *Mycteria americana* Linnaeus.

Mycteria wetmorei Howard[23]

Mycteria wetmorei Howard, Condor, vol. 37, Sept. 15, 1935, p. 253, fig. 47.

Late Pleistocene: Rancho La Brea, Los Angeles, California.

Superfamily THRESKIORNITHOIDEA: Ibises

Family THRESKIORNITHIDAE: Ibises and Spoonbills

Subfamily THRESKIORNITHINAE: Ibises

Genus PLEGADIS Kaup

Plegadis Kaup, Skizz. Entw.-Ges. Eur. Thierw., 1829, p. 82. Type, by monotypy, *Tantalus falcinellus* Linnaeus.

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[22] Records formerly listed as *Jabiru mycteria* (Lichtenstein) have all been assigned to the present species by Hildegarde Howard, in Carnegie Inst. Washington Publ. 530, Jan. 19, 1942, p. 202. *Jabiru weillsi* Sellards, therefore, becomes a synonym of *Ciconia maltha*.

[23] Replaces *Mycteria americana* as listed in Check-list of North American Birds, ed. 4, 1931, p. 416.

Plegadis chihi (VIEILLOT): **White-faced Ibis**

Numenius chihi VIEILLOT, Nouv. Dict. Hist. Nat., nouv. éd., vol. 8, March 1817, p. 303.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus EUDOCIMUS Wagler

Eudocimus WAGLER, Isis von Oken, 1832, col. 1232. Type, by subsequent designation, *Scolopax rubra* Linnaeus (Reichenow, 1877).

Eudocimus albus (LINNAEUS): **White Ibis**

Scolopax alba LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 145.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, and Haile, Alachua County, Florida.

Subfamily PLATALEINAE: SPOONBILLS

Genus AJAIA Reichenbach

Ajaia REICHENBACH, Avium Syst. Nat., 1852 (1853), p. xvi. Type, by original designation, *Ajaia rosea* Reichenbach = *Platalea ajaja* Linnaeus.

Ajaia ajaja (LINNAEUS): **Roseate Spoonbill**

Platalea Ajaja LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 140.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Suborder PHOENICOPTERI: FLAMINGOS

Family PHOENICOPTERIDAE: FLAMINGOS

Genus PHOENICOPTERUS Linnaeus

Phoenicopterus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 139. Type, by monotypy, *Phoenicopterus ruber* Linnaeus.

Phoenicopterus copei SHUFELDT

Phoenicopterus copei SHUFELDT, Amer. Nat., vol. 25, No. 297, September 1891, p. 820.

Late Pleistocene: Fossil Lake, Oregon.

Phoenicopterus minutus HOWARD

Phoenicopterus minutus HOWARD, Geol. Surv. Prof. Pap. 264-J, June 1955, p. 202, pl. 50.

Late Pleistocene; Manix lake beds, near Manix, San Bernardino County, California.

Phoenicopterus stocki MILLER

Phoenicopterus stocki L. H. MILLER, Wilson Bull., vol. 56, No. 2, June 1944, p. 77, figs. 1, 2.

Pliocene (Rincón): Chihuahua, México.

Phoenicopterus floridanus BRODKORB

Phoenicopterus floridanus BRODKORB, Chicago Acad. Sci. Nat. Hist. Misc., No. 124, June 9, 1953, p. 1, figs. 1-2.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Family PALOELODIDAE: PALOELODUS and ALLIES

Genus MEGAPALOELODUS Miller

Megapaloelodus A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 86. Type, by original designation, *Megapaloelodus connectens* A. H. Miller.

Megapaloelodus connectens MILLER

Megapaloelodus connectens A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 86, fig. 1.

Lower Miocene (Rosebud formation): Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota (type locality). Upper Miocene (Barstow formation): near Barstow, California.

Order ANSERIFORMES: SCREAMERS, DUCKS, GEESE, and SWANS

Suborder ANSERES: DUCKS, GEESE, SWANS, and ALLIES

Family PARANYROCIDAE: PARANYROCA

Genus PARANYROCA Miller and Compton

Paranyroca A. H. MILLER and L. V. COMPTON, Condor, vol. 41, No. 4, July 15, 1939, p. 153. Type, by original designation, *Paranyroca magna* Miller and Compton.

Paranyroca magna MILLER and COMPTON

Paranyroca magna A. H. MILLER and L. V. COMPTON, Condor, vol. 41, No. 4, July 15, 1939, p. 153, fig. 34 A, C, D, E.

Lower Miocene (Rosebud formation): Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota.

Family ANATIDAE: DUCKS, GEESE, and SWANS

Subfamily CYGNINAE: SWANS

Genus CYGNUS Bechstein

Cygnus BECHSTEIN, Orn. Taschenb. Deutschl., vol. 2, 1803, p. 404, footnote. Type, by tautonymy, *Anas cygnus* Linnaeus.

Subgenus STHENELIDES Stejneger

Sthenelides Stejneger, Stand. Nat. Hist., vol. 4, 1885, p. 143. Type, by monotypy, *Anas melancoripha* Molina.

Cygnus paloregonus (Cope)[24]

Cygnus paloregonus Cope, Bull. Geol. Geogr. Surv. Terr., vol. 4, No. 2, 1878, p. 388.

Pleistocene: Froman's Ferry, Idaho. Late Pleistocene: Fossil Lake, Oregon (type locality).[25]

Genus OLOR Wagler

Olor Wagler, Isis von Oken, 1832, col. 1234. Type, by subsequent designation, *Cygnus musicus* Bechstein = *Anas cygnus* Linnaeus (Gray, 1840).

Subgenus OLOR Wagler

Olor columbianus (Ord): **Whistling Swan**

Anas columbianus Ord, in Guthrie, Geogr., 2d Amer. ed., 1815, p. 319.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida. Late Pleistocene: Rancho La Brea, Los Angeles, and McKittrick, Kern County, California.

Subgenus CLANGOCYCNUS Oberholser

Clangocycnus Oberholser, Emu, vol. 8, pt. 1, July 1908, p. 3. Type, by monotypy, *Cygnus buccinator* Richardson.

Olor buccinator (Richardson): **Trumpeter Swan**

Cygnus buccinator Richardson, in Wilson and Bonaparte, Amer. Orn., Jameson ed., vol. 4, August 1831, p. 345.

Modern form reported from Pleistocene: Aurora, Illinois; Itchtucknee River, Florida. Late Pleistocene: Fossil Lake, Oregon.

Subfamily ANSERINAE: Geese

Genus BRANTA Scopoli

Branta Scopoli, Annus I, Historico-Naturalis, 1769, p. 67. Type, by subsequent designation, *Anas bernicla* Linnaeus (Bannister, 1870).

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[24] Subgeneric allocation tentative.

[25] Specimens named *Cygnus matthewi* and *Anser condoni* by Shufeldt are now identified as *C. paloregonus*. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, pp. 160, 162, 163.

Branta canadensis (Linnaeus): Canada Goose

Anas canadensis Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 123.

Modern form reported from Pleistocene: Santa Rosa Island, California; Seminole Field, Pinellas County, and Itchtucknee River, Florida. Early Pleistocene: Irvington, Alameda County, California. Late Pleistocene: Fossil Lake, Orgeon;[26] Potter Creek Cave, Shasta County; Rancho La Brea, Los Angeles, San Pedro, Los Angeles County, and near Manix, San Bernardino County, California. ? Pleistocene: Rattlesnake Hill, Fallon, Nevada.[27]

Branta canadensis hutchinsii (Richardson): Richardson's Goose

Anser Hutchinsii Richardson, in Swainson and Richardson, Fauna Bor.-Amer., vol. 2, 1831 (1832), p. 470.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Itchtucknee River, and Melbourne, Florida.

Branta bernicla (Linnaeus): Brant

Anas bernicla Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 124.

Modern form reported from Pleistocene: Fossil Lake, Oregon.

Branta esmeralda Burt

Branta esmeralda Burt, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 18, No. 6, Mar. 19, 1929, p. 222, pl. 20.

Upper Miocene (Esmeralda formation): Fish Lake Valley, Esmeralda County, Nevada.

Branta howardae Miller

Branta howardae L. H. Miller, Condor, vol. 32, No. 4, July 15, 1930, p. 208, fig. 74.

Lower Pliocene (Ricardo formation): Mojave Desert area, Kern County, California.

Branta dickeyi Miller

Branta dickeyi L. H. Miller, Condor, vol. 26, No. 5, Sept. 15, 1924, p. 179, fig. 46.

Upper Pliocene: Dry Creek, Malheur County, Oregon. Late Pleistocene: McKittrick, California.

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[26] Specimens from Fossil Lake range in size from modern *B. c. minima* to *B. c. canadensis*.

[27] Recorded as *Branta canadensis canadensis*.

Branta hypsibata (COPE)[28]

Anser hypsibatus COPE, Bull. Geol. Geogr. Surv. Terr., vol. 4, No. 2, 1878, p. 387.

Late Pleistocene: Fossil Lake, Oregon.

Branta propinqua SHUFELDT

Branta propinqua SHUFELDT, Journ. Acad. Nat. Sci. Philadelphia, 2d ser., vol. 9, sign. 53, Oct. 20, 1892, p. 407, pl. 15, fig. 17.

Late Pleistocene: Fossil Lake, Oregon.

Genus ANABERNICULA Ross[29]

Anabernicula Ross, Trans. San Diego Soc. Nat. Hist., vol. 8, No. 15, Aug. 24, 1935, p. 107. Type, by monotypy, *Anabernicula gracilenta* Ross = *Branta minuscula* Wetmore.[30]

Anabernicula minuscula (WETMORE)

Branta minuscula WETMORE, Proc. U. S. Nat. Mus., vol. 64, art. 5, Jan. 15, 1924, p. 6, figs. 3-4.

Upper Pliocene (Blancan): Near Benson, Arizona (type locality). Late Pleistocene: Fossil Lake, Oregon; McKittrick, Kern County, and Rancho La Brea, Los Angeles, California. Quaternary: Smith Creek Cave, 34 miles north of Baker, White Pine County, Nevada.

Genus PRESBYCHEN Wetmore

Presbychen WETMORE, Proc. California Acad. Sci., ser. 4, vol. 19, No. 8, July 15, 1930, p. 92. Type, by original designation, *Presbychen abavus* Wetmore.

Presbychen abavus WETMORE

Presbychen abavus WETMORE, Proc. California Acad. Sci., ser. 4, vol. 19, No. 8, July 15, 1930, p. 92, figs. 5-7.

Miocene (Temblor formation): Sharktooth Hill, Kern County, about 7 miles northeast of Bakersfield, California.

Genus ANSER Brisson

Anser BRISSON, Orn., 1760, vol. 1, p. 58; vol. 6, p. 261. Type, by tautonymy, *Anser domestica* Brisson = *Anas anser* Linnaeus.

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[28] Status doubtful. Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, pp. 167-169, indicates that this may be a synonym of *Chen hyperborea*.

[29] Possibly representative of a distinct subfamily. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, pp. 172-173.

[30] See Howard, Condor, 1936, p. 35.

Anser albifrons (SCOPOLI): **White-fronted Goose**

Branta albifrons SCOPOLI, Annus I, Historico-Naturalis, 1769, p. 69.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; Rancho La Brea, Los Angeles, and San Pedro [31] (Palos Verdes sand), Los Angeles County, California.

Genus CHEN Boie

Chen BOIE, Isis von Oken, vol. 10, Heft 5, 1822, col. 563. Type, by monotypy, *Anser hyperboreus* Pallas.

Chen hyperborea (PALLAS): **Snow Goose**

Anser hyperboreus PALLAS, Spic. Zool., vol. 1, fasc. 6, 1769, p. 25.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; Rancho La Brea, Los Angeles, and McKittrick, California.[32]

Chen rossii (CASSIN): **Ross' Goose**

Anser Rossii "Baird," CASSIN, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, sign. 5-6, March-April (June 30), 1861, p. 73.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

Chen pressa WETMORE [33]

Chen pressa WETMORE, Smithsonian Misc. Coll., vol. 87, No. 20, Dec. 27, 1933, p. 9, figs. 5-8.

Upper Pliocene (Hagerman lake beds): Near Hagerman, Idaho.

Subfamily DENDROCYGNINAE: TREEDUCKS

Genus DENDROCYGNA Swainson

Dendrocygna SWAINSON, Class. Birds, vol. 2, July 1, 1837, p. 365. Type, by subsequent designation, *Anas arcuata* Horsfield (Gray, 1840).

Dendrocygna eversa WETMORE

Dendrocygna eversa WETMORE, Proc. U. S. Nat. Mus., vol. 64, art. 5, Jan. 15, 1924, p. 3, figs. 1-2.

Upper Pliocene (Blancan): Near Benson, Arizona.

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[31] Specimen with size of the subspecies *frontalis*.

[32] *Chen caerulescens* recorded by Shufeldt, Bull. Amer. Mus. Nat. Hist., vol. 32, July 9, 1913, p. 145, on basis of scapula only, has been dropped. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 166?

[33] Miller, A. H., Univ. California Publ. Zool., vol. 42, No. 1, 1937, p. 41, suggests that this species may belong in the genus *Nesochen*.

Genus DENDROCHEN Miller

Dendrochen A. H. Miller, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 88. Type, by original designation, *Dendrochen robusta* Miller.

Dendrochen robusta Miller

Dendrochen robusta A. H. Miller, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 88, fig. 3.

Lower Miocene (Rosebud formation): Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota.

Subfamily ANATINAE: Surface-feeding Ducks

Genus ANAS Linnaeus

Anas Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 122. Type, by subsequent designation, *Anas boschas* Linnaeus = *A. platyrhynchos* Linnaeus (Lesson, 1828).

Anas platyrhynchos Linnaeus: **Mallard**

Anas platyrhynchos Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 125.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; Rancho La Brea, Los Angeles, McKittrick, and Carpinteria, California; (Palos Verdes sand): San Pedro, Los Angeles County, California; Baños de Ciego Montero, Santa Clara Province, Cuba. Pleistocene: Itchtucknee River, and Haile, Alachua County, Florida.

Anas rubripes Brewster: **Black Duck**

Anas obscura rubripes Brewster, Auk, vol. 19, No. 2, April 1902, p. 184.

Modern form reported from Pleistocene: Itchtucknee River, Florida.

Anas fulvigula Ridgway: **Mottled Duck**

Anas obscura var. *fulvigula* Ridgway, Amer. Nat., vol. 8, No. 2, February 1874, p. 111.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Itchtucknee River, and Bradenton, Florida.

Anas strepera Linnaeus: **Gadwall**

Anas strepera Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 125.

Modern form reported from late Pleistocene: McKittrick and Rancho La Brea, Los Angeles, California.[34]

[34] Listed erroneously in Check-list of North American Birds, ed. 4, 1931, p. 421, from Itchtucknee River, Florida.

Anas acuta LINNAEUS: **Pintail**

Anas acuta LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 126.

Modern form reported from late Pleistocene: Fossil Lake, Oregon. (Vanhem formation, Jones fauna): Meade County, Kansas.

Anas carolinensis GMELIN; **Green-winged Teal** [35]

Anas carolinensis GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 533.

Modern form reported from Pleistocene: Santa Rosa Island, California; Seminole Field, Pinellas County, Florida. Late Pleistocene: Fossil Lake, Oregon; Hawver Cave, Eldorado County, McKittrick, Kern County, Rancho La Brea, Los Angeles, and San Pedro, Los Angeles County, California; McPherson County, Kansas (Kentuck locality).

Anas bunkeri (WETMORE)

Nettion bunkeri WETMORE, Univ. Kansas Sci. Bull., vol. 30, pt. 1, No. 9, May 15, 1944, p. 92, figs. 1-3.

Upper Pliocene (Rexroad formation): Meade County, Kansas (type locality); 2 miles south of Benson, Arizona.

Anas cyanoptera VIEILLOT: **Cinnamon Teal**

Anas cyanoptera VIEILLOT, Nouv. Dict. Hist. Nat., nouv. éd., vol. 5, December 1816, p. 104.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; McKittrick, Kern County, California.

Anas integra (MILLER).

Querquedula integra A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 90, fig. 4.

Lower Miocene (Rosebud formation), Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota.

Genus MARECA Stephens

Mareca STEPHENS, in Shaw, Gen. Zool., vol. 12, pt. 2, 1824, p. 130. Type, by subsequent designation, *Mareca fistularis* Stephens = *Anas penelope* Linnaeus (Eyton, 1838).

[35] There are also records for the Upper Miocene or lower Pliocene of Cedar Mountain, Nevada, by L. H. Miller, Univ. California Publ., Bull. Dept. Geol., vol. 9, Feb. 23, 1916, p. 173, and from the lower Pliocene of Hemphill County, Texas, by Compton, Condor, vol. 36, No. 1, January 1934, pp. 40-41, based on fragmentary material that is open to question as to specific identity.

Mareca americana (GMELIN): **American Widgeon**

Anas americana GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 526.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; McKittrick, Kern County; San Pedro (Palos Verdes sand, lumberyard locality), Los Angeles County, California.

Genus SPATULA Boie

Spatula BOIE, Isis von Oken, vol. 10, Heft 5, 1822, col. 564. Type, by monotypy, *Anas clypeata* Linnaeus.

Spatula clypeata (LINNAEUS): **Shoveler**

Anas clypeata LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 124.

Modern form reported from late Pleistocene: Fossil Lake, Oregon;[36] McKittrick, Kern County, and San Pedro (Palos Verdes sand, lumberyard locality), Los Angeles County, California; Meade County (Vanhem formation, Jones fauna), Kansas.

Subfamily AYTHYINAE: DIVING DUCKS[37]

Genus AYTHYA Boie

Aythya BOIE, Tageb. Reise Norwegen, before May 1822, p. 351. Type, by monotypy, *Anas marila* Linnaeus.

Aythya americana (EYTON): **Redhead**

Fuligula americana EYTON, Mon. Anatidae, 1838, p. 155.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; McKittrick, California.

Aythya collaris (DONOVAN): **Ring-necked Duck**

Anas collaris DONOVAN, Brit. Birds, vol. 6, 1809, pl. 147.

Modern form reported from Lower Pliocene: Cedar Mountain, Nevada.

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[36] Shufeldt's record of *Aix sponsa* from Fossil Lake is now assigned to *Spatula clypeata*. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 176.

[37] *Polysticta stelleri, Bucephala islandica,* and *Histrionicus histrionicus* reported from Fossil Lake by Shufeldt were wrongly identified and are eliminated from the list. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 176.

Aythya valisineria (WILSON): **Canvasback**

Anas valisineria WILSON, Amer. Orn., vol. 8, 1814, p. 103, pl. 70, fig. 5.

Modern form reported from Pleistocene: Itchtucknee River, Florida.[38]

Aythya affinis (EYTON): **Lesser Scaup**

Fuligula affinis EYTON, Mon. Anatidae, 1838, p. 157.

Modern form reported from Pleistocene: Melbourne (stratum 2), Itchtucknee River, Seminole Field, Pinellas County, Venice, and cave deposits near Lecanto, Florida. Late Pleistocene: Fossil Lake, Oregon.

Genus BUCEPHALA Baird

Bucephala BAIRD, in Baird, Cassin, and Lawrence, Rep. Expl. Surv. R. R. Pac., vol. 9, 1858, pp. XXIII, L, 787, 788, 795. Type, by original designation, *Anas albeola* Linnaeus.

Bucephala albeola (LINNAEUS): **Bufflehead**

Anas Albeola LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 124.

Modern form reported from Upper Pliocene (Rexroad formation): Meade County, Kansas. Pleistocene: Seminole Field, Pinellas County, Florida. Late Pleistocene: Fossil Lake, Oregon; McKittrick, Kern County, and San Pedro (Palos Verdes sand, lumberyard locality), Los Angeles County, California.

Bucephala ossivallis BRODKORB

Bucephala ossivallis BRODKORB, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 18, figs. 16, 17.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Genus CLANGULA Leach

Clangula LEACH, in Ross, Voy. *Discovery*, 1819, app., p. XLVIII. Type, by monotypy, *Clangula glacialis* Linnaeus = *Anas hyemalis* Linnaeus.

Clangula hyemalis (LINNAEUS): **Oldsquaw**

Anas hyemalis LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 126.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

Genus MELANITTA Boie

Melanitta BOIE, Isis von Oken, vol. 10, Heft 5, 1822, col. 564. Type, by subsequent designation, *Anas fusca* Linnaeus (Eyton, 1838).

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[38] Shufeldt's record for Fossil Lake, Oregon, refers to *Anas acuta*. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 174.

Melanitta deglandi (BONAPARTE): **White-winged Scoter**

Oedemia deglandi BONAPARTE, Rev. Crit. Orn. Europe, 1850, p. 108.

Modern form reported from late Pleistocene (Palos Verdes sand): San Pedro, Los Angeles County, California.

Melanitta perspicillata (LINNAEUS): **Surf Scoter**

Anas perspicillata LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 125.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; San Pedro (Palos Verdes sand), Los Angeles County, California.

Genus CHENDYTES Miller

Chendytes L. H. MILLER, Condor, vol. 27, No. 4, July 15, 1925, p. 145. Type, by monotypy, *Chendytes lawi* Miller.

Chendytes lawi MILLER

Chendytes lawi L. H. MILLER, Condor, vol. 27, No. 4, July 15, 1925, p. 145, fig. 40.

Early Pleistocene: Sexton Canyon, near Lake Canyon, Ventura County. Late Pleistocene: Newport Bay, Orange County; Lomita, Playa del Rey, Santa Monica (type locality), San Pedro (lumberyard locality), Vermont and Sepulveda Boulevard, Bixby Slough near Hermosa Beach, and Palos Verdes, Los Angeles County, California.

Chendytes milleri HOWARD

Chendytes milleri H. HOWARD, Condor, vol. 57, No. 3, May 25, 1955, p. 137, fig. 1 *a, d, e, f, g, i,* fig. 2 *b, c,* fig. 3.

Early Pleistocene: San Nicolás Island, California.

Subfamily OXYURINAE: RUDDY and MASKED DUCKS

Genus OXYURA Bonaparte

Oxyura BONAPARTE, Ann. Lyc. Nat. Hist. New York, vol. 2, 1828, p. 390. Type, by monotypy, *Anas rubidus* Wilson.

Oxyura jamaicensis (GMELIN): **Ruddy Duck**

Anas jamaicensis GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 519.

Modern form reported from Pleistocene: Venice, Florida. Late Pleistocene: Fossil Lake, Oregon; McKittrick, Kern County, and near Manix, San Bernardino County, California.

Subfamily EONESSINAE: EONESSA

Genus EONESSA Wetmore

Eonessa WETMORE, Journ. Pal., vol. 12, No. 3, May 1938, p. 280. Type, by original designation, *Eonessa anaticula* Wetmore.

Eonessa anaticula WETMORE

Eonessa anaticula WETMORE, Journ. Pal., vol. 12, No. 3, May 1938, p. 280, figs. 1-5.

Eocene (Uinta C horizon): Myton Pocket, Utah.

Subfamily MERGINAE: MERGANSERS

Genus LOPHODYTES Reichenbach

Lophodytes REICHENBACH, Avium Syst. Nat., 1852 (1853), p. IX. Type, by original designation, *Mergus cucullatus* Linnaeus.

Lophodytes cucullatus (LINNAEUS): **Hooded Merganser** [39]

Mergus cucullatus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 120.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Venice, and Itchtucknee River, Florida; Nye Sink, Beaver County, Oklahoma. Late Pleistocene: McPherson County (Kentuck locality), Kansas.

Lophodytes floridana (SHUFELDT) [40]

Querquedula floridana SHUFELDT, 9th Ann. Rep. Florida State Geol. Surv., 1917, p. 36, pl. 1, fig. 4, pl. 2, fig. 25.

Pleistocene: Vero (stratum 2, type locality), Melbourne, and Itchtucknee River, Florida.

Genus MERGUS Linnaeus

Mergus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 129. Type, by subsequent designation, *Mergus castor* Linnaeus = *Mergus merganser* Linnaeus (Gray, 1840).

Mergus merganser LINNAEUS: **Merganser**

Mergus Merganser LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 129.

Modern form reported from Pleistocene: North Shore Channel, Chicago, Illinois.[41] Late Pleistocene: Fossil Lake, Oregon.

Mergus serrator LINNAEUS: **Red-breasted Merganser**

Mergus Serrator LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 129.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

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[39] Shufeldt's record from Fossil Lake, Oregon, is based on an erroneous identification. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 176.

[40] See Wetmore, Condor, vol. 57, No. 3, 1955, p. 189.

[41] Formerly recorded as *Mergus serrator;* see Wetmore, Wilson Bull., 1948, p. 240.

Order FALCONIFORMES: Vultures, Hawks, and Falcons

Suborder CATHARTAE: New World Vultures

Superfamily NEOCATHARTOIDEA: Neocathartes

Family NEOCATHARTIDAE: Neocathartes

Genus NEOCATHARTES Wetmore

Neocathartes Wetmore, Auk, vol. 67, No. 2, April 1950, p. 235. Type, by original designation, *Eocathartes grallator* Wetmore.

Neocathartes grallator (Wetmore)

Eocathartes grallator Wetmore, Ann. Carnegie Mus., vol. 30, May 24, 1944, p. 58, pls. 1-5, figs. 1-10.

Upper Eocene (Upper Washakie beds): Sand wash one-half mile north of Dobe Town Road crossing, Sweetwater County, Wyoming.

Superfamily CATHARTOIDEA: New World Vultures

Family CATHARTIDAE: New World Vultures

Genus CATHARTES Illiger

Cathartes Illiger, Prodromus, 1811, p. 236. Type, by subsequent designation, *Vultur aura* Linnaeus (Vigors, 1825).

Cathartes aura (Linnaeus): **Turkey Vulture** [42]

Vultur aura Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 86.

Modern form reported from Pleistocene: Seminole Field, Pinellas County,[43] Melbourne, and cavern deposits near Lecanto, Florida. Late Pleistocene: Potter Creek and Samwel caves, Shasta County, Hawver Cave, Eldorado County, Carpinteria, Santa Barbara County, McKittrick, Kern County, Rancho La Brea, Los Angeles, and San Pedro (Palos Verdes sand, lumberyard locality), Los Angeles County, California.

Genus CORAGYPS Geoffroy

Coragyps Geoffroy Ms in Le Maout, Hist. Nat. Oiseaux, 1853, p. 66. Type, by monotypy, *Vultur urubu* Vieillot = *Vultur atratus* Bechstein.

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[42] Wetmore, Smithsonian Misc. Coll., vol. 85, No. 2, Apr. 13, 1931, pp. 4, 6, 7, 23-24, has recorded the small Mexican turkey vulture, *Cathartes aura aura*, from Seminole Field, Pinellas County, Florida. Other reports of this species are mainly of the larger type, of which two races, *septentrionalis* and *teter*, are at present recognized in the United States.

[43] Recorded from Vero, stratum 2, erroneously by Shufeldt, 9th Ann. Rep. Florida State Geol. Surv., 1917, p. 36. The record from Vero (stratum 3) is of Recent age according to Cooke, Florida Geol. Surv. Bull. 29, 1945, pp. 306-307.

Coragyps atratus (BECHSTEIN): **Black Vulture**

Vultur atratus BECHSTEIN, in John Latham's allg. Uebers Vogel, Bd. 1, Anh., 1793, p. 655.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, and cavern deposits near Lecanto, Florida. Quaternary (probably Recent): Rocky Arroyo, New Mexico.

Coragyps occidentalis (MILLER)[44]

Catharista occidentalis L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 5, No. 21, Sept. 10, 1909, p. 306.

Pleistocene: San Josecito Cavern, Aramberri, Nuevo León.[45] Late Pleistocene: Potter Creek and Samwel caves, Shasta County; Carpinteria, Santa Barbara County; McKittrick, Kern County; and Rancho La Brea, Los Angeles, California.

Genus PHASMAGYPS Wetmore

Phasmagyps WETMORE, Proc. Colorado Mus. Nat. Hist., vol. 7, No. 2, July 15, 1927, p. 3. Type, by monotypy, *Phasmagyps patritus* Wetmore.

Phasmagyps patritus WETMORE

Phasmagyps patritus WETMORE, Proc. Colorado Mus. Nat. Hist., vol. 7, No. 2, July 15, 1927, p. 3, figs. 1-4.

Lower Oligocene (Chadron formation): Horsetail Creek, Weld County, Colorado.

Genus PALAEOGYPS Wetmore

Palaeogyps WETMORE, Proc. Colorado Mus. Nat. Hist., vol. 7, No. 2, July 15, 1927, p. 5. Type, by monotypy, *Palaeogyps prodromus* Wetmore.

Palaeogyps prodromus WETMORE

Palaeogyps prodromus WETMORE, Proc. Colorado Mus. Nat. Hist., vol. 7, No. 2, July 15, 1927, p. 5, figs. 5-14.

Lower Oligocene (Chadron formation): Horsetail Creek, Weld County, Colorado.

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[44] *Coragyps shastensis* (Miller) is a synonym according to Miller, Condor, 1941, pp. 140-141.

[45] Recorded also from deposits that may be late Pleistocene or early Recent in Pit 10 at Rancho La Brea (Howard, H., and Miller, A. H., Carnegie Inst. Washington Publ. 514, 1939, p. 43), Conkling Cavern, Pyramid Peak, Organ Mountains, Dona Ana County, New Mexico (Howard, H., and Miller, A. H., Condor, vol. 35, Jan. 15, 1933, pp. 15, 17), and from Smith Creek Cave, 34 miles north of Baker, White Pine County, Nevada (Howard, H., Condor, vol. 37, July 15, 1935, pp. 206-207).

Genus GYMNOGYPS Lesson

Gymnogyps Lesson, Écho du Monde Savant, ser. 2, vol. 6, Dec. 8, 1842, col. 1037. Type, by monotypy, *Vultur californianus* Shaw.

Gymnogyps amplus Miller[46]

Gymnogyps amplus L. H. Miller, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 16, Oct. 28, 1911, p. 390, fig. 2.

Pleistocene: Sarasota and Seminole Field, Pinellas County, Florida; San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Samwel Cave (type locality) and Stone Man Cave, Shasta County; Carpinteria, McKittrick, and Rancho La Brea, Los Angeles, California. Quaternary (probably Recent): Rocky Arroyo, New Mexico.

Genus BREAGYPS Miller and Howard

Breagyps L. H. Miller and H. Howard, Publ. Univ. California at Los Angeles, Biol. Sci., vol. 9, Feb. 18, 1938, p. 171. Type, by original designation, *Vultur clarki* Miller = *Sarcorhamphus clarki* Miller.

Breagyps clarki (Miller)

Sarcorhamphus clarki L. H. Miller, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 1, Nov. 28, 1910, p. 11, figs. 3*a*, 3*b*.

Late Pleistocene: Rancho La Brea, Los Angeles, California. Quaternary (probably late Pleistocene): Smith Creek Cave, 34 miles north of Baker, White Pine County, Nevada.

Genus SARCORAMPHUS Duméril

Sarcoramphus Duméril, Zoöl. Anal., 1806, p. 32. Type, by subsequent designation, *Vultur papa* Linnaeus (Vigors, 1825).

Sarcoramphus kernense (Miller)

Vultur kernensis L. H. Miller, Condor, vol. 33, Mar. 18, 1931, p. 70, fig. 16,

Pliocene: Pozo Creek, Kern River Divide, Kern County, about 9 miles northeast of Bakersfield, California.

Family TERATORNITHIDAE: Teratornithes

Genus TERATORNIS Miller

Teratornis, L. H. Miller, Univ. California Publ., Bull. Dept. Geol., vol. 5, No. 21, Sept. 10, 1909, p. 307. Type, by monotypy, *Teratornis merriami* Miller.

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[46] Fisher, Pacific Science, vol. 1, No. 4, October 1947, p. 227, finds that all fossil material from western North America formerly placed under the living *Gymnogyps californianus* is properly assigned to the present bird, which is so slightly differentiated as to be considered the direct Pleistocene progenitor of the modern form. The remaining records, from Florida and Nuevo León, are placed under *amplus* on the basis of probability.

Teratornis merriami MILLER

Teratornis merriami L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 5, No. 21, Sept. 10, 1909, p. 307, text figs. 1-9.

Pleistocene: Seminole Field, Pinellas County, and Bradenton, Florida; San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Rancho La Brea (type locality),[47] Los Angeles, McKittrick, Kern County, and Carpinteria, Santa Barbara County, California.

Teratornis incredibilis HOWARD

Teratornis incredibilis HOWARD, Bull. Southern California Acad. Sci., vol. 51, pt. 2, 1952, p. 51, pl. 10, figs. 1-2.

Quaternary (probably late Pleistocene): Smith Creek Cave, 34 miles north of Baker, White Pine County, Nevada.

Genus CATHARTORNIS Miller [48]

Cathartornis L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 1, Nov. 28, 1910, p. 14. Type, by monotypy, *Cathartornis gracilis* Miller.

Cathartornis gracilis MILLER

Cathartornis gracilis L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 1, Nov. 28, 1910, p. 14, figs. 4*a*, 4*b*.

Late Pleistocene: Rancho La Brea, Los Angeles, California.

Suborder FALCONES: SECRETARY-BIRDS, HAWKS, and FALCONS

Superfamily FALCONOIDEA: HAWKS, FALCONS, and ALLIES

Family ACCIPITRIDAE: HAWKS, OLD WORLD VULTURES, and HARRIERS

Subfamily AEGYPIINAE: OLD WORLD VULTURES

Genus PALAEOBORUS Coues

Palaeoborus COUES, Key North Amer. Birds, ed. 2, 1884, p. 822. Type, by original designation, *Cathartes umbrosus* Cope.

Palaeoborus umbrosus (COPE)[49]

Cathartes umbrosus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 26, Oct. 20, 1874, p. 151.

Pliocene: North of Pojauque, New Mexico.

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[47] Recorded also from early Recent deposits in Pit 10, at Rancho La Brea (Howard, H., and Miller, A. H., Carnegie Inst. Washington Publ. 514, 1939, p. 43).

[48] Allocated to Teratornithidae by Miller, L. H., and Howard, H., Publ. Univ. California at Los Angeles, Biol. Sci., vol. 9, Feb. 18, 1938, pp. 169-170, 173.

[49] Placed in Aegypiinae by Howard, Carnegie Inst. Washington Publ. 349, 1932, pp. 45, 70-73, 75, 76.

Palaeoborus howardae WETMORE

Palaeoborus howardae WETMORE, Proc. U. S. Nat. Mus., vol. 84, No. 3, 1936, p. 73, fig. 13.

Miocene: Dawes County, Nebraska.

Palaeoborus rosatus MILLER and COMPTON

Palaeoborus rosatus A. H. MILLER and L. V. COMPTON, Condor, vol. 41, No. 4, July 15, 1939, p. 156, fig. 34B.

Lower Miocene (Rosebud formation): Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota.

Genus NEOGYPS Miller

Neogyps L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 9, No. 9, Mar. 10, 1916, p. 108. Type, by monotypy, *Neogyps errans* Miller.

Neogyps errans MILLER

Neogyps errans L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 9, No. 9, Mar. 10, 1916, p. 108, fig. 2.

Late Pleistocene: Rancho La Brea (type locality),[50] Los Angeles, Carpinteria, Santa Barbara County, and McKittrick, Kern County, California; San Josecito Cave, Aramberri, Nuevo León. Quaternary: Smith Creek Cave, 34 miles north of Baker, White Pine County, Nevada.

Genus NEOPHRONTOPS Miller

Neophrontops L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 9, No. 9, Mar. 10, 1916, p. 106. Type, by monotypy, *Neophrontops americanus* Miller.

Neophrontops americanus MILLER

Neophrontops americanus L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 9, No. 9, Mar. 10, 1916, p. 106, fig. 1.

Late Pleistocene: Rancho La Brea (type locality),[51] Los Angeles, Carpinteria, and McKittrick, California; San Josecito Cave, Aramberri, Nuevo León.

Neophrontops dakotensis COMPTON

Neophrontops dakotensis COMPTON, Amer. Journ. Sci., ser. 5, vol. 30, October 1935, p. 344, fig. 1.

Lower Pliocene: Big Spring Canyon, 15 miles southwest of Martin, Bennett County, South Dakota.

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[50] Recorded also from early Recent deposits in Pit 10 at this site (Howard, H., and Miller, A. H., Carnegie Inst. Washington Publ. 514, 1939, p. 43).

[51] Recorded also from early Recent deposits in Pit 10 at this site (Howard, H., and Miller, A. H., Carnegie Inst. Washington Publ. 514, 1939, p. 43).

Neophrontops vetustus WETMORE

Neophrontops vetustus WETMORE, Condor, vol. 45, No. 6, Dec. 8, 1943, p. 229, fig. 62.

Middle Miocene (Sheep Creek beds): Stonehouse Draw Quarry, Sioux County, Nebraska.

Subfamily ELANINAE: WHITE-TAILED KITES

Genus ELANUS Savigny

Elanus SAVIGNY, Descr. Égypte, vol. 1, 1809, pp. 69, 97. Type, by monotypy, *Elanus caesius* Savigny = *Falco caeruleus* Desfontaines.

Elanus leucurus (VIEILLOT): **White-tailed Kite**

Milvus leucurus VIEILLOT, Nouv. Dict. Hist. Nat., nouv. éd., vol. 20, May 1818, p. 563 [errore = 556].

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Rancho La Brea, Los Angeles, California.

Subfamily MILVINAE: TRUE KITES

Genus PROICTINIA Shufeldt

Proictinia SHUFELDT, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 16, Aug. 4, 1913, p. 301. Type, by monotypy, *Proictinia gilmorei* Shufeldt.

Proictinia effera WETMORE

Proictinia effera WETMORE, Bull. Amer. Mus. Nat. Hist., vol. 48, art. 12, Dec. 3, 1923, p. 504, figs. 19-20.

Lower Miocene (Lower Harrison beds): Agate Fossil Quarry, Sioux County, Nebraska.

Proictinia gilmorei SHUFELDT

Proictinia gilmorei SHUFELDT, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 16, Aug. 4, 1913, p. 301, pl. 55, fig. 27.

Lower Pliocene (Ogallala formation): Long Island, Phillips County, Kansas.

Subfamily ACCIPITRINAE: BIRD HAWKS

Genus ACCIPITER Brisson

Accipiter BRISSON, Orn., 1760, vol. 1, p. 28; vol. 6, p. 310. Type, by tautonymy, *Accipiter* Brisson = *Falco nisus* Linnaeus.

Accipiter gentilis (Linnaeus): Goshawk

Falco gentilis Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 89.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Accipiter striatus velox (Wilson): Sharp-shinned Hawk

Falco velox Wilson, Amer. Orn., vol. 5, 1812, p. 116, pl. 45, fig. 1.

Modern form reported from late Pleistocene: Samwel Cave, Shasta County, Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Accipiter cooperii (Bonaparte): Cooper's Hawk

Falco Cooperii Bonaparte, Amer. Orn., vol. 2, 1828, p. 1, pl. 10, fig. 1.

Modern form reported from late Pleistocene: McKittrick, Kern County, Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Subfamily BUTEONINAE: Buzzards and Eagles

Genus BUTEO Lacépède

Buteo Lacépède, Tabl. Ois., 1799, p. 4. Type, by tautonymy, *Falco buteo* Linnaeus.

Buteo jamaicensis (Gmelin): Red-tailed Hawk

Falco jamaicensis Gmelin, Syst. Nat., vol. 1, pt. 1, 1788, p. 266.

Modern form reported from late Pleistocene: Potter Creek Cave, Shasta County, McKittrick, Carpinteria, and Rancho La Brea, Los Angeles, California. Pleistocene: Seminole Field, Pinellas County, Venice, and Melbourne (stratum 2), Florida.

Buteo lineatus (Gmelin): Red-shouldered Hawk

Falco lineatus Gmelin, Syst. Nat., vol. 1, pt. 1, 1788, p. 268.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Venice, and Melbourne, Florida. Late Pleistocene: Carpinteria, Santa Barbara County, California.

Buteo platypterus (Vieillot): Broad-winged Hawk

Sparvius platypterus Vieillot, Tabl. Encycl. Méth. Orn., vol. 3, 1823, p. 1273.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

Buteo swainsoni BONAPARTE: **Swainson's Hawk**

Buteo swainsoni BONAPARTE, Geogr. and Comp. List, 1838, p. 3.

Modern form reported from late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Buteo lagopus (PONTOPPIDAN): **Rough-legged Hawk**

Falco lagopus PONTOPPIDAN, Danske Atlas, 1763, p. 616.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Buteo regalis (GRAY): **Ferruginous Hawk**

Archibuteo regalis G. R. GRAY, Genera of Birds, vol. 1, pt. 1, May 1844, pl. 6.

Modern form reported from late Pleistocene: Hawver Cave, Eldorado County, Rancho La Brea, Los Angeles, Carpinteria, Santa Barbara County, and McKittrick, Kern County, California.

Buteo fuscescens (VIEILLOT): **Buzzard Eagle**

Spizaëtus fuscescens VIEILLOT, Nouv. Dict. Hist. Nat., nouv. éd., vol. 32, September 1819, p. 55.

Modern form[52] reported from late Pleistocene: Baños de Ciego Montero, Santa Clara Province, Cuba.

Buteo antecursor WETMORE

Buteo antecursor WETMORE, Bull. Mus. Comp. Zoöl., vol. 75, October 1933, p. 298, figs. 1-5.

Oligocene (Brule formation): Near Torrington, Goshen County, Wyoming.

Buteo grangeri WETMORE and CASE

Buteo grangeri WETMORE and CASE, Contr. Mus. Pal. Univ. Michigan, vol. 4, No. 8, Jan. 15, 1934, p. 129, 1 pl.

Middle Oligocene (Brule formation, Oreodon beds): Big Badlands of Pass Creek, Washabaugh County, South Dakota.

Buteo fluviaticus MILLER and SIBLEY

Buteo fluviaticus A. H. MILLER and C. G. SIBLEY, Condor, vol. 44, No. 1, Jan. 15, 1942, p. 39, fig. 12.

Middle Oligocene (Brule formation, Oreodon beds): Owl Creek, 6 miles east of Carr, Weld County, Colorado.

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[52] Formerly called *Buteo melanoleucus* (Vieillot). The modern range extends from the mountains of Venezuela and Colombia, south through Ecuador and Perú to Chile, and from southeastern Brazil and Paraguay to Tierra del Fuego.

Buteo typhoius WETMORE

Buteo typhoius WETMORE, Bull. Amer. Mus. Nat. Hist., vol. 48, art. 12, Dec. 3, 1923, p. 489, figs. 3-5.

Lower Miocene (Lower Harrison beds); Upper Miocene [53] (Lower Snake Creek beds, type locality): south of Agate, Sioux County, Nebraska.

Buteo ales (WETMORE)

Geranoaëtus ales WETMORE, Ann. Carnegie Mus., vol. 16, No. 4, Apr. 10, 1926, p. 403, pl. 38, figs. 1-5.

Lower Miocene (Lower Harrison beds): Quarry No. 2, Agate Springs Fossil Quarries, Sioux County, Nebraska.

Buteo contortus (WETMORE)

Geranoaëtus contortus WETMORE, Bull. Amer. Mus. Nat. Hist., vol. 48, art. 12, Dec. 3, 1923, p. 492, figs. 6-9.

Upper Miocene [53] (Lower Snake Creek beds): Sinclair Draw (type locality) and Olcott Hill, Sioux County, Nebraska.

Buteo dananus (MARSH)

Aquila danana MARSH, Amer. Journ. Sci., ser. 3, vol. 2, August 1871, p. 125.

Lower Pliocene (Upper Snake Creek beds): Loup Fork River, Nebraska.

Buteo conterminus (WETMORE)

Geranoaëtus conterminus WETMORE, Bull. Amer. Mus. Nat. Hist., vol. 48, art. 12, Dec. 3, 1923, p. 497, figs. 11-13.

Lower Pliocene (Upper Snake Creek beds): 20 miles south of Agate, Sioux County, Nebraska.

Genus PARABUTEO Ridgway

Parabuteo RIDGWAY, in Baird, Brewer, and Ridgway, Hist. North Amer. Birds, vol. 3, 1874, p. 250. Type, by monotypy, *Buteo harrisi* Audubon.

Parabuteo unicinctus (TEMMINCK): **Harris' Hawk**

Falco unicinctus TEMMINCK, Planch. Col. Ois., livr. 53, Dec. 25, 1824, pl. 313.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

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[53] Possibly early Pliocene; cf. Cook, H. J., and Cook, M. C., Nebraska Geol. Surv., Paper No. 5, 1933, p. 42.

Genus CALOHIERAX Wetmore

Calohierax WETMORE, Bull. Mus. Comp. Zoöl., vol. 80, No. 12, October 1937, p. 428. Type, by original designation, *Calohierax quadratus* Wetmore.

Calohierax quadratus WETMORE

Calohierax quadratus WETMORE, Bull. Mus. Comp. Zoöl., vol. 80, No. 12, October 1937, p. 429, figs. 1-3.

Recent (extinct):[54] Cave deposits on Great Exuma Island, Bahama Islands.

Genus MIOHIERAX Howard

Miohierax HOWARD, Condor, vol. 46, No. 5, Sept. 27, 1944, p. 236. Type, by original designation, *Miohierax stocki* Howard.

Miohierax stocki HOWARD

Miohierax stocki HOWARD, Condor, vol. 46, No. 5, Sept. 27, 1944, p. 236, fig. 40.

Late Lower Miocene (Tick Canyon formation): Near head of Vasquez Canyon, Los Angeles County, California.

Genus HYPOMORPHNUS Cabanis[55]

Hypomorphnus CABANIS, Arch. Naturg., vol. 10, Bd. 1, 1844, p. 263. Type, by original designation, *Falco urubitinga* Linnaeus.

Hypomorphnus enectus (WETMORE)

Urubitinga enecta WETMORE, Bull. Amer. Mus. Nat. Hist., vol. 48, art. 12, Dec. 3, 1923, p. 500, figs. 14-18.

Middle Miocene (Lower Sheep Creek beds): 20 miles south of Agate, Sioux County, Nebraska.

Hypomorphnus sodalis (SHUFELDT)[56]

Aquila sodalis SHUFELDT, Amer. Nat., vol. 25, No. 297, September 1891, p. 821.

Late Pleistocene: Fossil Lake, Oregon.

Genus TITANOHIERAX Wetmore

Titanohierax WETMORE, Bull. Mus. Comp. Zoöl., vol. 80, No. 12, October 1937, p. 430. Type, by original designation, *Titanohierax gloveralleni* Wetmore.

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[54] Included here since it has not been found in living form, being known only from its bones.

[55] For the use of *Hypomorphnus* to replace *Urubitinga* see Peters, Check-list of the birds of the world, vol. 1, 1931, p. 244.

[56] Generic allocation questionable. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, pp. 177-178.

Titanohierax gloveralleni WETMORE

Titanohierax gloveralleni WETMORE, Bull. Mus. Comp. Zoöl., vol. 80, No. 12, October 1937, p. 431, figs. 4-9.

Recent (extinct) :[57] Cave deposits on Great Exuma Island, Bahama Islands.

Genus BUTEOGALLUS Lesson

Buteogallus LESSON, Traité d'Orn., livr. 2, 1830, p. 83. Type, by monotypy, *Buteogallus cathartoides* Lesson = *Falco aequinoctialis* Gmelin.

Buteogallus milleri (HOWARD)[58]

Urubitinga milleri HOWARD, Carnegie Inst. Washington Publ. 429, October 1932, p. 25, pl. 2, figs. 3-3a, pl. 3, fig. 2.

Late Pleistocene: Hawver Cave, Eldorado County, California.

Buteogallus fragilis (MILLER)[58]

Geranoaëtus fragilis L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 12, Oct. 9, 1911, p. 315, figs. 5a, 5b.

Late Pleistocene: McKittrick, Kern County, Rancho La Brea (type locality),[59] Los Angeles, and Carpinteria, Santa Barbara County, California.

Genus WETMOREGYPS Miller

Wetmoregyps L. H. MILLER, Condor, vol. 30, No. 4, July 16, 1928, p. 255. Type, by original designation, *Morphnus daggetti* Miller.

Wetmoregyps daggetti (MILLER)

Morphnus daggetti L. H. MILLER, Condor, vol. 17, No. 5, Oct. 10, 1915, p. 179, fig. 63.

Pleistocene: San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Rancho La Brea (type locality), Los Angeles, and Carpinteria, Santa Barbara County, California.

Genus MORPHNUS Dumont

Morphnus DUMONT, Dict. Sci. Nat., vol. 1, Suppl., October 1816, p. 88. Type, by subsequent designation, *Falco guianensis* Daudin (Chubb, 1916).

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[57] Included here since it has not been found in living form, being known only from its bones.

[58] Referred to this genus by Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 177.

[59] Recorded also from early Recent deposits in Pit 10 at Rancho La Brea (Howard, H., and Miller, A. H., Carnegie Inst. Washington Publ. 514, 1939, p. 43). And from late Pleistocene or early Recent deposits in Shelter Cave, Pyramid Peak, Organ Mountains, Dona Ana County, New Mexico, by Howard, H., and Miller, A. H., Condor, vol. 35, 1933, pp. 16, 17.

Morphnus woodwardi MILLER

Morphnus woodwardi L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 12, Oct. 9, 1911, p. 312, figs. 3a, 3b.

Late Pleistocene: Rancho La Brea, Los Angeles, California.[60]

Genus SPIZAËTUS Vieillot

Spizaëtus VIEILLOT, Analyse, 1816, p. 24. Type, by subsequent designation, *Falco ornatus* Daudin (Gray, 1840).

Spizaëtus grinnelli (MILLER)[61]

Geranoaëtus grinnelli L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 12, Oct. 9, 1911, p. 314, figs. 4a, 4b.

Pleistocene: San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Rancho La Brea (type locality),[62] Los Angeles, McKittrick and Carpinteria, California.

Spizaëtus willetti HOWARD

Spizaëtus willetti HOWARD, Condor, vol. 37, No. 4, July 15, 1935, p. 207, fig. 40.

Quaternary (probably late Pleistocene): Smith Creek Cave, 34 miles north of Baker, White Pine County, Nevada.

Spizaëtus pliogryps (SHUFELDT)

Aquila pliogryps SHUFELDT, Amer. Nat., vol. 25, No. 297, September 1891, p. 821.

Late Pleistocene: Fossil Lake, Oregon.

Genus PALAEASTUR Wetmore

Palaeastur WETMORE, Condor, vol. 45, No. 6, Dec. 8, 1943, p. 230. Type, by original designation, *Palaeastur atavus* Wetmore.

Palaeastur atavus WETMORE

Palaeastur atavus WETMORE, Condor, vol. 45, No. 6, Dec. 8, 1943, p. 230, fig. 63.

Lower Miocene (Lower Harrison beds); Stenomylus Quarry, about 2 miles southeast of Agate Springs fossil site, near Agate, Nebraska.

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[60] Recorded also from early Recent deposits in Pit 10 at this site (Howard, H., and Miller, A. H., Carnegie Inst. Washington Publ. 514, 1939, p. 43).

[61] Allocated in *Spizaëtus* by Howard, Carnegie Inst. Washington Publ. 429, 1932, pp. 33-44.

[62] Placed in *Spizaëtus* by Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, pp. 176-177.

Genus AQUILA Brisson [63]

Aquila Brisson, Orn., 1760, vol. 1, pp. 28, 419. Type, by tautonymy, *Aquila* Brisson = *Falco chrysaëtus* Linnaeus.

Aquila chrysaëtos (Linnaeus): **Golden Eagle**

Falco Chrysaëtos Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 88.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Fossil Lake, Oregon; Rancho La Brea,[64] Los Angeles, Carpinteria, McKittrick, and near Manix, San Bernardino County, California.

Genus HALIAEETUS Savigny

Haliaeetus Savigny, Descr. Égypte, Ois., vol. 1, 1809, pp. 68, 85. Type, by monotypy, *Haliaeetus nisus* Savigny = *Falco albicilla* Linnaeus.

Haliaeetus leucocephalus (Linnaeus): **Bald Eagle**

Falco leucocephalus Linnaeus, Syst. Nat., ed. 12, vol. 1, 1766, p. 124.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Venice, Melbourne, and cavern deposits near Lecanto, Florida; Niobrara River, near Peters, Sheridan County, Nebraska. Late Pleistocene: Fossil Lake, Oregon; Carpinteria, McKittrick, Rancho La Brea, Los Angeles, and San Pedro (Palos Verdes sand), Los Angeles County, California.

Subfamily PALAEOPLANCINAE: Palaeoplancus

Genus PALAEOPLANCUS Wetmore

Palaeoplancus Wetmore, Smithsonian Misc. Coll., vol. 87, No. 19, Dec. 26, 1933, p. 1. Type, by original designation, *Palaeoplancus sternbergi* Wetmore.

Palaeoplancus sternbergi Wetmore

Palaeoplancus sternbergi Wetmore, Smithsonian Misc. Coll., vol. 87, No. 19, Dec. 26, 1933, p. 12, figs. 1-19.

Middle Oligocene (Brule formation, Upper Oreodon beds): East side of Plum Creek, Niobrara County, Wyoming.

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[63] *Aquila ferox* Shufeldt proves to be a mammal. See Wetmore, Amer. Mus. Nov., No. 680, Dec. 4, 1933, pp. 1-2.

[64] Howard, Auk, vol. 64, April 1947, pp. 287-291, finds that the abundant material from Rancho La Brea indicates a bird with longer wing, shorter leg, and larger skull than the living population.

Subfamily CIRCINAE: Harriers

Genus CIRCUS Lacépède

Circus Lacépède, Tabl. Ois., 1799, p. 4. Type, by subsequent designation, *Falco aeruginosus* Linnaeus (Lesson, 1828).

Circus cyaneus (Linnaeus): Marsh Hawk

Falco cyaneus Linnaeus, Syst. Nat., ed. 12, vol. 1, 1766, p. 126.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Fossil Lake, Oregon; McKittrick, and Rancho La Brea, Los Angeles, California.

Family PANDIONIDAE: Ospreys

Genus PANDION Savigny

Pandion Savigny, Descr. Égypte, Ois., vol. 1, 1809, pp. 69, 96. Type, by monotypy, *Pandion fluvialis* Savigny = *Falco haliactus* Linnaeus.

Pandion haliaetus Linnaeus: Osprey

Falco Haliactus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 91.

Modern form reported from Pleistocene: Melbourne (stratum 2), and Itchtucknee River, Florida.

Family FALCONIDAE: Caracaras and Falcons

Subfamily CARACARINAE: Caracaras

Genus CARACARA Merrem

Caracara Merrem, in Ersch and Gruber, Allg. Encycl. Wiss. Künste, vol. 15, 1826, p. 159. Type, by subsequent designation, *Falco plancus* Miller (Hellmayr and Conover, 1949).

Caracara prelutosus prelutosus (Howard)

Polyborus prelutosus Howard, Carnegie Inst. Washington Publ. 487, July 7, 1938, p. 226, pls. 1-3.

Pleistocene: Seminole Field, Pinellas County, and Melbourne, Florida. Late Pleistocene: McKittrick, Kern County; Carpinteria, Santa Barbara County; and Rancho La Brea (type locality), Los Angeles, California.[65]

[65] Recorded also from early Recent deposits at this site (Howard, H., and Miller, A. H., Carnegie Inst. Washington Publ. 514, 1939, p. 43) and from Quaternary deposits in Conkling Cavern, Organ Mountains, New Mexico.

Caracara prelutosus grinnelli (HOWARD)

Polyborus prelutosus grinnelli HOWARD, Condor, vol. 42, No. 1, Jan. 19, 1940, p. 41.

Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Caracara latebrosus (WETMORE)

Polyborus latebrosus WETMORE, Proc. Biol. Soc. Washington, vol. 33, Dec. 30, 1920, p. 77, pl. 2, figs. 5, 6.

Recent (extinct): [66] Cave deposits in Cueva Toraño, near Utuado, Puerto Rico.

Subfamily FALCONINAE: FALCONS

Genus FALCO Linnaeus

Falco LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 88. Type, by subsequent designation, *Falco subbuteo* Linnaeus (A. O. U. Comm., 1886).

Subgenus HIEROFALCO Cuvier

Hierofalco CUVIER, Règne Animal, vol. 1, 1817 (Dec. 7, 1816), p. 312. Type, by monotypy, *Falco candicans* Gmelin.

Falco mexicanus SCHLEGEL: **Prairie Falcon**

Falco mexicanus SCHLEGEL, Abh. Geb. Zoöl. Vergl. Anat., Heft 3, 1851, p. 15.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: McKittrick, and Rancho La Brea, Los Angeles, California.

Falco swarthi MILLER

Falco swarthi L. H. MILLER, Condor, vol. 29, No. 3, May 15, 1927, p. 152, fig. 54.

Late Pleistocene: McKittrick, California.

Falco oregonus HOWARD

Falco oregonus H. HOWARD, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 178, pl. 1, figs. 2, 3.

Late Pleistocene: Fossil Lake, Oregon.

Subgenus RHYNCHODON Nitzsch

Rhynchodon NITZSCH, Obs. Avium Art. Carot. Comm., 1829, p. 20. Type, by subsequent designation, *Falco peregrinus* Tunstall (A. O. U. Comm., 1886).

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[66] Included here since it has not been found in living form, being known only from bones.

Falco peregrinus TUNSTALL: **Peregrine Falcon**

Falco Peregrinus TUNSTALL, Orn. Brit., 1771, p. 1.

Modern form reported from Late Pleistocene: Potter Creek Cave, Shasta County, McKittrick, and Rancho La Brea, Los Angeles, California.

Subgenus TINNUNCULUS Vieillot

Tinnunculus VIEILLOT, Ois. Amér. Sept., vol. 1, 1807, p. 39. Type, by subsequent designation, *Falco columbarius* Linnaeus (Walden, 1872).

Falco columbarius LINNAEUS: **Pigeon Hawk**

Falco columbarius LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 90.

Modern form reported from late Pleistocene: McKittrick, and Rancho La Brea, Los Angeles, California.

Falco ramenta WETMORE

Falco ramenta WETMORE, Proc. U. S. Nat. Mus., vol. 84, Nov. 3, 1936, p. 75, fig. 14.

Miocene (Sheep Creek formation): Dawes County, Nebraska.

Subgenus CERCHNEIS Boie

Cerchneis BOIE, Isis von Oken, vol. 19, Heft 10, October 1826, col. 970. Type, by monotypy, *Falco rupicolus* Daudin.

Falco sparverius LINNAEUS: **Sparrow Hawk**

Falco sparverius LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 90.

Modern form reported from Pleistocene: Cavern deposits near Lecanto, Florida; San Josecito Cavern, Aramberri, Nuevo León. Late Pleistocene: Samwel and Potter Creek caves, Shasta County, McKittrick, Carpinteria, and Rancho La Brea, Los Angeles, San Pedro (Palos Verdes sand), Los Angeles County, California.

Order GALLIFORMES: MEGAPODES, CURASSOWS, PHEASANTS, and HOATZINS

Suborder GALLI: MEGAPODES, CURASSOWS, GROUSE, and PHEASANTS

Superfamily CRACOIDEA: MEGAPODES, CURASSOWS, and GUANS

Family GALLINULOIDIDAE: GALLINULOIDES

Genus GALLINULOIDES Eastman

Gallinuloides EASTMAN, Geol. Mag., February 1900, p. 54. Type, by monotypy, *Gallinuloides wyomingensis* Eastman.

Gallinuloides wyomingensis EASTMAN

Gallinuloides wyomingensis EASTMAN, Geol. Mag., n. s., vol. 7, pt. 4, No. 2, February 1900, p. 54, pl. 4.

Middle Eocene (Green River formation): Fossil (type locality), and Henry's Fork, Wyoming.

Family CRACIDAE: CURASSOWS, GUANS, and CHACHALACAS

Genus ORTALIS Merrem

Ortalida (accusative case) = *Ortalis* (nominative) MERREM, Avium Rar. Icones et Descrip., vol. 2, 1786, p. 40. Type, by original designation, *Phasianus motmot* Linnaeus.

Ortalis phengites WETMORE

Ortalis phengites WETMORE, Bull. Amer. Mus. Nat. Hist., vol. 48, art. 12, Dec. 3, 1923, p. 487, figs. 1-2.

Lower Pliocene (Upper Snake Creek beds): South of Agate, Sioux County, Nebraska.

Ortalis tantala WETMORE

Ortalis tantala WETMORE, Condor, vol. 35, No. 2, Mar. 15, 1933, p. 64, figs. 10-14.

Lower Miocene (Lower Harrison beds): Carnegie Hill, Sioux County, Nebraska.

Ortalis pollicaris MILLER

Ortalis pollicaris A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 91, fig. 5.

Lower Miocene (Rosebud formation): Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota.

Genus BOREORTALIS Brodkorb

Boreortalis BRODKORB, Wilson Bull., vol. 66, No. 3, September (Oct. 29), 1954, p. 180. Type, by original designation, *Boreortalis laesslei* Brodkorb.

Boreortalis laesslei BRODKORB

Boreortalis laesslei BRODKORB, Wilson Bull., vol. 66, No. 3, September (Oct. 29), 1954, p. 182, fig. 1 (on p. 181).

Lower Miocene (Hawthorn formation): Thomas Farm, 8 miles north of Bell, Gilchrist County, Florida.

Superfamily PHASIANOIDEA: Grouse, Quails, Pheasants, and Turkeys

Family TETRAONIDAE: Grouse and Ptarmigans

Genus DENDRAGAPUS Elliot

Dendragapus Elliot, Proc. Acad. Nat. Sci. Philadelphia, vol. 16, No. 1, January-February (April 23), 1864, p. 23. Type, by subsequent designation, *Tetrao obscurus* Say (Baird, Brewer, and Ridgway, 1874).

Dendragapus obscurus (Say): Blue Grouse

Tetrao obscurus Say, in Long, Exped. Rocky Mts., vol. 2, 1823, p. 14.

Modern form reported from late Pleistocene: Samwel and Potter Creek caves, Shasta County, California.

Dendragapus lucasi (Shufeldt)[67]

Pediocætes lucasi Shufeldt, Auk, vol. 8, No. 4, October 1891, p. 367.

Late Pleistocene: Fossil Lake, Oregon.

Dendragapus nanus (Shufeldt)[67]

Pediocætes nanus Shufeldt, Amer. Nat., vol. 25, No. 297, September 1891, p. 821.

Late Pleistocene: Fossil Lake, Oregon.

Genus BONASA Stephens

Bonasa Stephens, in Shaw, Gen. Zool., vol. 9, pt. 2, 1819, p. 298. Type, by subsequent designation, *Tetrao umbellus* Linnaeus (A. O. U. Committee, 1886).

Bonasa umbellus (Linnaeus): Ruffed Grouse[68]

Tetrao umbellus Linnaeus, Syst. Nat., ed. 12, vol. 1, 1766, p. 275.

Modern form reported from Pleistocene: Cave near Frankstown, Pennsylvania; Cumberland Cave, near Corriganville, Allegany County, Maryland; caves of Tennessee. Late Pleistocene: Potter Creek Cave, Shasta County, California.

Genus TYMPANUCHUS Gloger[69]

Tympanuchus Gloger, Hand- und Hilfsbuch Naturg., 1842 (pp. 1-450, 1841), p. 396. Type, by monotypy, *Tetrao cupido* Linnaeus.

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[67] Assigned to *Dendragapus* by Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 180.

[68] *Bonasa ceres* Shufeldt, Bull. Amer. Mus. Nat. Hist., vol. 32, Aug. 4, 1913, p. 299, pl. 55, figs. 18-20, pl. 56, figs. 45-72, from the Pleistocene of the fissure beds of Arkansas is possibly a synonym. On p. 300 of the reference cited the author alludes to it as *Lagopus ceres*.

[69] Records from Fossil Lake, Oregon, formerly placed under *Tympanuchus pallidicinctus* are now referred to *Centrocercus urophasianus* and *Dendragapus lucasi*. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 179.

Tympanuchus lulli SHUFELDT

Tympanuchus lulli SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 69, pl. 12, fig. 90.

? Pleistocene:[70] Hornerstown, New Jersey.

Tympanuchus stirtoni MILLER

Tympanuchus stirtoni A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 92, fig. 6.

Lower Miocene (Rosebud formation): Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota.

Genus PEDIOECETES Baird

Pediocetes BAIRD, Rep. Expl. and Surv. R. R. Pac., vol. 9, 1858, pp. xxi, xliv. Type, by monotypy, *Tetrao phasianellus* Linnaeus.

Pediocetes phasianellus (LINNAEUS): **Sharp-tailed Grouse**

Tetrao Phasianellus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 160.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

Genus CENTROCERCUS Swainson

Centrocercus SWAINSON, in Swainson and Richardson, Fauna Bor.-Amer., vol. 2, 1831 (1832), pp. 358, 496. Type, by original designation, *Tetrao urophasianus* Bonaparte.

Centrocercus urophasianus (BONAPARTE): **Sage Grouse**

Tetrao urophasianus BONAPARTE, Zool. Journ., vol. 3, No. 10, April-September, 1827, p. 213.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

Genus PALAEALECTORIS Wetmore

Palaealectoris WETMORE, Condor, vol. 32, No. 3, May 15, 1930, p. 152. Type, by monotypy, *Palaealectoris incertus* Wetmore.

Palaealectoris incertus WETMORE

Palaealectoris incertus WETMORE, Condor, vol. 32, No. 3, May 15, 1930, p. 152, figs. 51-53.

Lower Miocene (Lower Harrison beds): Agate fossil quarry, near Agate, Sioux County, Nebraska.

Genus PALAEOTETRIX Shufeldt

Palaeotetrix SHUFELDT, Amer. Nat., vol. 25, No. 297, September 1891, p. 821. Type, by monotypy, *Palaeotetrix gilli* Shufeldt.

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[70] Cited in the original description as "Post-Pliocene."

Palaeotetrix gilli SHUFELDT

Palaeotetrix gilli SHUFELDT, Amer. Nat., vol. 25, No. 297, September 1891, p. 821.

Late Pleistocene: Fossil Lake, Oregon.

Genus PALAEOPHASIANUS Shufeldt

Palaeophasianus SHUFELDT, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 16, Aug. 4, 1913, p. 291. Type, by monotypy, *Palaeophasianus meleagroides* Shufeldt.

Palaeophasianus meleagroides SHUFELDT

Palaeophasianus meleagroides SHUFELDT, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 16, Aug. 4, 1913, p. 291, pl. 58, figs. 81-84, 86-88.

Lower Eocene (Wasatch): Elk Creek, Big Horn Basin (type locality). Eocene (Bridger): Henry's Fork, Wyoming.

Family PHASIANIDAE: QUAILS, PHEASANTS, and PEACOCKS

Subfamily ODONTOPHORINAE: AMERICAN QUAILS

Genus COLINUS Goldfuss

Colinus GOLDFUSS, Handb. Zool., vol. 2, 1820, p. 220. Type, by monotypy, *Perdix mexicanus*, Caille de la Louisiane, Pl. Enl. 149 = *Tetrao virginianus* Linnaeus.

Colinus virginianus (LINNAEUS): **Bobwhite**

Tetrao virginianus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 161.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Melbourne, and cavern deposits near Lecanto, Florida; caves of Tennessee.

Colinus hibbardi WETMORE

Colinus hibbardi WETMORE, Univ. Kansas Sci. Bull., vol. 30, pt. 1, No. 9, May 15, 1944, p. 96, figs. 4-8.

Upper Pliocene (Rexroad fauna): Meade County, Kansas.

? Colinus eatoni SHUFELDT [71]

Colinus eatoni SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 70, pl. 13, fig. 103.

Geologic age uncertain: Western Kansas.

[71] Relationship uncertain. From the published figure it may possibly be an oscinine passeriform.

Genus LOPHORTYX Bonaparte

Lophortyx Bonaparte, Geogr. and Comp. List, 1838, p. 42. Type, by subsequent designation, *Tetrao californicus* Shaw (Gray, 1840).

Lophortyx californicus (Shaw) : **California Quail**

Tetrao californicus Shaw, in Shaw and Nodder, Nat. Misc. vol. 9, 1798, text to pl. 345.

Modern form reported from late Pleistocene: Hawver Cave, Eldorado County, Carpinteria, McKittrick, Rancho La Brea, Los Angeles and San Pedro (Palos Verdes sand), Los Angeles County, California.

Genus OREORTYX Baird

Oreortyx Baird, Rep. Expl. and Surv. R. R. Pac., vol. 9, 1858, pp. xxi, xlv, 638, 642. Type, by original designation, *Ortyx picta* Douglas.

Oreortyx pictus (Douglas) : **Mountain Quail**

Ortyx picta Douglas, Trans. Linn. Soc. London, vol. 16, pt. 1, 1829, p. 143.

Modern form reported from late Pleistocene: Potter Creek and Samwel caves, Shasta County, and Hawver Cave, Eldorado County, California. Quaternary (probably Recent): Rocky Arroyo, New Mexico.

Genus MIORTYX Miller

Miortyx A. H. Miller, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 93. Type, by original designation, *Miortyx teres* Miller.

Miortyx teres Miller

Miortyx teres A. H. Miller, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 93, fig. 7.

Lower Miocene (Rosebud formation): Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota.

Genus CYRTONYX Gould

Cyrtonyx Gould, Monogr. Odontophoridae, pt. 1, 1844, pl. and text. Type, by monotypy, *Ortyx massena* Lesson = *Ortyx montezumae* Vigors.

Cyrtonyx montezumae (Vigors) : **Harlequin Quail**

Ortyx Montezumae Vigors, Zool. Journ., vol. 5, June 1830, p. 275.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Cyrtonyx cooki WETMORE

Cyrtonyx cooki WETMORE, Condor, vol. 36, No. 1, Jan. 15, 1934, p. 30, fig. 5.

Upper Miocene (Upper Sheep Creek beds): 17 miles south of Agate, Sioux County, Nebraska.

Cyrtonyx tedfordi MILLER [72]

Cyrtonyx tedfordi L. H. MILLER, Condor, vol. 54, No. 5, Sept. 22, 1952, p. 298, fig. 2.

Upper Miocene (Barstow formation): Lake bed horizon, near Barstow, California.

Subfamily PHASIANINAE: OLD WORLD PARTRIDGES and PHEASANTS

Genus PHASIANUS Linnaeus

Phasianus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 158. Type, by tautonymy, *Phasianus colchicus* Linnaeus.

Phasianus alfhildae SHUFELDT [73]

Phasianus alfhildae SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 71.

Geologic age uncertain: 100 feet below horizon of Haystack Butte, Haystack Mountain, Wyoming.

Genus ARCHAEOPHASIANUS Lambrecht

Archaeophasianus LAMBRECHT, Handb. Palaeorn., 1933, p. 438. Type, by subsequent designation, *Phasianus roberti* Stone (Brodkorb, 1952).

Archaeophasianus roberti (STONE)

Phasianus roberti STONE, Auk, vol. 32, No. 3, July (June 29), 1915, p. 376.

Lower Miocene (Middle John Day formation): Paulina [74] Creek, 6 miles from junction with Beaver Creek, Crook County, Oregon.

? Archaeophasianus mioceanus (SHUFELDT) [75]

Phasianus mioceanus SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 60, pl. 13, figs. 94, 96.

Miocene: Chimney Rock and Scott's Bluff, Nebraska.

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[72] Allocation in this genus tentative.

[73] Allocation of this species to the Old World genus *Phasianus* follows the usage of the original describer, and is subject to verification.

[74] Given as "Parilina" in the original place of publication, through an error in reading the field label.

[75] Described from fragmentary humerus and femur from the two separate localities listed. Probably a composite, with neither bone coming from a bird of this family. Assigned to *Archaeophasianus* by Lambrecht.

Family MELEAGRIDIDAE: Turkeys

Genus MELEAGRIS Linneaus

Meleagris Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 156. Type, by tautonymy, *Meleagris gallopavo* Linnaeus.

Meleagris gallopavo Linnaeus: **Turkey** [76]

Meleagris Gallopavo Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 156.

Modern form reported from Upper Pliocene (Rexroad formation): Meade County Kansas. Pleistocene: Hartman's or Crystal Hill Cave, near Stroudsburg, and Durham Cave, near Riegelsville, Bucks County, and caves near Carlisle, Pennsylvania; North Liberty, St. Joseph County, Indiana; Ashmore, Coles County, Illinois; caves of Tennessee; fissure beds, Arkansas; Seminole Field, Pinellas County, Sarasota, Bradenton, Itchtucknee River, Melbourne, and cavern deposits at Ocala and Lecanto, Florida; near San Antonio, Socorro County, New Mexico.[77]

Meleagris antiqua Marsh

Meleagris antiquus Marsh, Amer. Journ. Sci., ser. 3, vol. 2, August 1871, p. 126.

Oligocene (White River formation): "G Ranch," Colorado.

Meleagris celer Marsh

Meleagris celer Marsh, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 261.

Pleistocene: Monmouth County, New Jersey.

Meleagris richmondi Shufeldt

Meleagris richmondi Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 67, pl. 2, fig. 19.

Pleistocene: Near Mission San Jose, Alameda County, California.

Meleagris superba Cope

Meleagris superbus Cope, Trans. Amer. Philos. Soc., n.s., vol. 14, pt. 1, December 1870, p. 239.

Pleistocene: Monmouth County (type locality), and Manalapan,[78] New Jersey; Frankstown and Port Kennedy caves, Pennsylvania.

[76] *Ardea sellardsi* Shufeldt, 9th Ann. Rep. Florida State Geol. Surv., 1917, p. 38, pl. 2, fig. 15, from Vero (stratum 3) is a synonym of *Meleagris gallopavo* according to Wetmore, Smithsonian Misc. Coll., vol. 85, No. 2. Apr. 13, 1931, pp. 10-11, 32-33. The deposit is now considered to be of Recent age. See Cooke, Florida Geol. Surv. Geol. Bull. 29, 1945, pp. 306-307.

[77] Possibly Upper Pliocene.

[78] Type locality of *Meleagris altus* Marsh, Amer. Journ. Sci., ser. 3, vol. 4, 1872, p. 260, which is a synonym.

Meleagris tridens WETMORE

Meleagris tridens WETMORE, Smithsonian Misc. Coll., vol. 85, No. 2, Apr. 13, 1931, p. 33, fig. 13, pl. 6.

Pleistocene: Seminole Field, Pinellas County, Florida.

Meleagris crassipes MILLER

Meleagris crassipes L. H. MILLER, Condor, vol. 42, No. 3, May 15, 1940, p. 154, figs. 44-45.

Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Genus PARAPAVO Miller

Parapavo L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 9, No. 9, Mar. 10, 1916, p. 96. Type, by monotypy, *Pavo californicus* Miller.

Parapavo californicus (MILLER)

Pavo californicus L. H. MILLER, Univ. California Publ., Bull. Dept. Geol., vol. 5, No. 19, Aug. 14, 1909, p. 285, pl. 25.

Upper Pliocene: Cita Canyon, Randall County, Texas. Pleistocene: York Valley site at Avenue 45 and Lincoln Avenue, Highland Park, Los Angeles, and southwest of La Habra near Los Angeles–Orange County line, California. Late Pleistocene: Carpinteria, and Rancho La Brea (type locality),[79] Los Angeles, California.

Order GRUIFORMES: CRANES, RAILS, and ALLIES

Suborder GRUES: CRANES, LIMPKINS, TRUMPETERS, and RAILS

Superfamily GRUOIDEA: CRANES, LIMPKINS, and TRUMPETERS

Family GERANOIDIDAE: GERANOIDES

Genus GERANOIDES Wetmore

Geranoides WETMORE, Condor, vol. 35, No. 3, May 15, 1933, p. 115. Type, by original designation, *Geranoides jepseni* Wetmore.

Geranoides jepseni WETMORE

Geranoides jepseni WETMORE, Condor, vol. 35, No. 3, May 15, 1933, p. 115, fig. 22.

Lower Eocene (Gray Bull member): South Elk Creek, Bighorn County, Wyoming.

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[79] Recorded also from early Recent deposits in Pit 10 at this site (Howard, H., and Miller, A. H., Carnegie Inst. Washington Publ. 514, 1939, p. 43). *Parapavo oklahomaensis* Stovall and Sandoz, Proc. Oklahoma Acad. Sci., vol. 16, 1936, p. 77, is a nomen nudum.

Family GRUIDAE: Cranes

Subfamily GRUINAE: Cranes

Genus ALETORNIS Marsh [80]

Aletornis Marsh, Amer. Journ. Sci., ser. 3, vol. 14, October 1872, p. 256. Type, by subsequent designation, *Aletornis nobilis* Marsh (Hay, 1902).

Aletornis bellus Marsh [81]

Aletornis bellus Marsh, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 258.

Eocene (Bridger formation): Grizzly Buttes, Wyoming.

Aletornis gracilis Marsh [81]

Aletornis gracilis Marsh, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 258.

Eocene (Bridger formation): Henry's Fork, Wyoming.

Aletornis nobilis Marsh [82]

Aletornis nobilis Marsh, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 256.

Eocene (Bridger formation): Grizzly Buttes, Wyoming.

Aletornis pernix Marsh

Aletornis pernix Marsh, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 256.

Eocene (Bridger formation): Henry's Fork, Wyoming.

Genus FULICALETORNIS Lambrecht

Fulicaletornis Lambrecht, Handb. Palaeorn., 1933, p. 479. Type, by monotypy, *Aletornis venustus* Marsh.

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[80] Allocation in the subfamily Gruinae provisional.

[81] Considered by Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, pp. 32, 76, as possibly a species of Scolopacidae.

[82] Marsh in his original proposal of the genus *Aletornis* included in it five species without selecting a type. From the five in question Hay, U. S. Geol. Surv., Bull. 179, 1902, p. 527, designated *Aletornis nobilis* Marsh as genotype. Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, 1915, pp. 30, 31, placed *A. nobilis* in *Grus,* and described in the same paper (p. 77) *Grus marshi.* Lambrecht, Handb. Palaeorn., 1933, p. 520, proposed the genus *Protogrus* for *Aletornis nobilis* and *Grus marshi,* without designating a type. Lambrecht's action as regards *A. nobilis* obviously is erroneous as his proposed genus includes the genotype of *Aletornis. Aletornis nobilis,* therefore, is to be listed as above, and pending study *Grus marshi* is included tentatively under *Grus.* Brodkorb, Condor, vol. 54, No. 3, May 21, 1952, p. 175, has designated *A. nobilis,* already the type of *Aletornis* through action by Hay, as the type of *Protogrus.* That generic name therefore becomes a synonym of *Aletornis.*

Fulicaletornis venustus (MARSH)[83]

Aletornis venustus MARSH, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 257.

Eocene (Bridger formation): Henry's Fork, Wyoming.

Genus PARAGRUS Lambrecht

Paragrus LAMBRECHT, Handb. Palaeorn., 1933, p. 520. Type, by monotypy, *Gallinuloides prentici* Loomis.

Paragrus prentici (LOOMIS)

Gallinuloides prentici F. B. LOOMIS, Amer. Journ. Sci., ser. 4, vol. 22, December 1906, p. 481, figs. 1-3.

Eocene (Wasatch): Head of Elk Creek, 10 miles west of Otto, Wyoming.

Genus GRUS Pallas

Grus PALLAS, Misc. Zool., 1766, p. 66. Type, by tautonymy, *Ardea grus* Linnaeus.

Grus americana (LINNAEUS): **Whooping Crane**

Ardea americana LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 142.

Modern form reported from late Upper Pliocene: Snake River, 13 miles northwest of Grandview, Idaho. Pleistocene: Seminole Field, Pinellas County, Itchtucknee River, and Melbourne (stratum 2), Florida. Late Pleistocene: Rancho La Brea, Los Angeles, California.

Grus canadensis (LINNAEUS): **Sandhill Crane**[84]

Ardea canadensis LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 141.

Modern form reported from Lower Pliocene (Upper Snake Creek beds): Sioux County, Nebraska. From ? Pleistocene: Niobrara River, Nebraska,[85] and Grizzly Buttes, Wyoming. From Pleistocene: Ash-

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[83] Systematic allocation provisional. Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, pp. 31, 32, 76, placed this species in the genus *Fulica*, the principal basis for Lambrecht's action in proposing *Fulicaletornis*.

[84] *Grus canadensis* is used as a species name to cover records of cranes of this type from the Pliocene and Pleistocene, including specimens that range in size from the modern little brown crane to the larger races of the sandhill crane.

Grus minor L. H. Miller, Univ. California Publ., Bull. Dept. Geol., vol. 5, August 1910, p. 446, fig. 8, from the Pleistocene of Rancho La Brea, is now considered by the describer as a synonym of *Grus canadensis*.

[85] This specimen, from either Pliocene or Pleistocene deposits, is the basis of *Grus haydeni* Marsh, Amer. Journ. Sci., ser. 2, vol. 49, 1870, p. 214, considered by Wetmore, Amer. Mus. Nov., No. 302, Feb. 29, 1928, p. 4, as a synonym of *Grus canadensis*.

more, Coles County, Illinois; Melbourne, Seminole Field, Pinellas County, and Bradenton, Florida. Late Pleistocene: Rancho La Brea, Los Angeles, and McKittrick, California.

Grus proavus MARSH

Grus proavus MARSH, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 261.

Pleistocene: Monmouth County, New Jersey.

Grus nannodes WETMORE and MARTIN

Grus nannodes WETMORE and MARTIN, Condor, vol. 32, No. 1, Jan. 20, 1930, p. 62, figs. 23-25.

Middle Pliocene (Ogallala formation, Edson beds): Sec. 25, T. 10 S., R. 38 W., Sherman County, Kansas.

Grus conferta MILLER and SIBLEY

Grus conferta A. H. MILLER and C. G. SIBLEY, Condor, vol. 44, No. 3, May 15, 1942, p. 126, fig. 50.

Late Lower Pliocene (Siesta formation): Black Hawk Ranch, southern base of Mount Diablo, Contra Costa County, California.

Grus marshi SHUFELDT [86]

Grus marshi SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 77, pl. 15, figs. 144-147.

Eocene (Bridger formation): Henry's Fork, Wyoming.

Family ARAMIDAE: LIMPKINS

Genus ARAMUS Vieillot

Aramus VIEILLOT, Analyse, 1816, p. 58. Type, by monotypy, *Courliri* Buffon = *Ardea scolopacea* Gmelin.

Aramus guarauna LINNAEUS: **Limpkin**

Scolopax Guarauna LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 242.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, and Itchtucknee River, Florida.

Genus BADISTORNIS Wetmore

Badistornis WETMORE, Journ. Morph., vol. 66, Jan. 2, 1940, p. 30. Type, by original designation, *Badistornis aramus* Wetmore.

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[86] Generic allocation doubtful. See footnote under *Aletornis nobilis* (p. 59).

Badistornis aramus WETMORE

Badistornis aramus WETMORE, Journ. Morph., vol. 66, Jan. 2, 1940, p. 30, figs. 7-10.

Oligocene (*Metamynodon* zone, Brule formation) : 35 miles southwest of Scenic, South Dakota.

Genus ARAMORNIS Wetmore

Aramornis WETMORE, Amer. Mus. Nov., No. 211, Mar. 11, 1926, p. 1. Type, by original designation, *Aramornis longurio* Wetmore.

Aramornis longurio WETMORE

Aramornis longurio WETMORE, Amer. Mus. Nov., No. 211, Mar. 11, 1926, p. 1, figs. 1-4.

Middle Miocene (Lower Sheep Creek beds) : Snake Creek Quarries, Sioux County, Nebraska.

Genus GNOTORNIS Wetmore

Gnotornis WETMORE, Smithsonian Misc. Coll., vol. 101, No. 14, May 11, 1942, p. 1. Type, by monotypy, *Gnotornis aramiellus* Wetmore.

Gnotornis aramiellus WETMORE

Gnotornis aramiellus WETMORE, Smithsonian Misc. Coll., vol. 101, No. 14, May 11, 1942, p. 1, figs. 1-4.

Upper Oligocene (Upper Brule formation, *Protoceras–Leptauchenia* beds) : 25 miles southeast of Scenic and 6 miles east of Rockyford, Washington County, South Dakota.

Superfamily RALLOIDEA: RAILS

Family RALLIDAE: RAILS, GALLINULES, and COOTS

Subfamily RALLINAE: RAILS

Genus TELMATORNIS Marsh [87]

Telmatornis MARSH, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 210. Type, by subsequent designation, *Telmatornis priscus* Marsh (Hay, 1902).

Telmatornis affinis MARSH

Telmatornis affinis MARSH, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 211.

Paleocene (Hornerstown marl) : Hornerstown, New Jersey.

[87] Allocation in the subfamily Rallinae provisional.

Telmatornis priscus MARSH

Telmatornis priscus MARSH, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 210.

Paleocene (Hornerstown marl): Hornerstown, New Jersey.

Telmatornis rex SHUFELDT

Telmatornis rex SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 27, pl. 13, fig. 101.

Paleocene (Hornerstown marl): Hornerstown, New Jersey.

Genus PALAEORALLUS Wetmore

Palaeorallus WETMORE, Condor, vol. 33, No. 3, May 15, 1931, p. 108. Type, by original designation, *Palaeorallus troxelli* Wetmore.

Palaeorallus troxelli WETMORE

Palaeorallus troxelli WETMORE, Condor, vol. 33, No. 3, May 15, 1931, p. 108, figs. 26-29.

Lower Eocene (Wasatch formation): Northwest of Little Tatman Mountain, near Burlington, Wyoming.

Genus CRECCOIDES Shufeldt

Creccoides SHUFELDT, Proc. Amer. Philos. Soc., vol. 30, Apr. 14, 1892, p. 125. Type, by monotypy, *Creccoides osbornii* Shufeldt.

Creccoides osbornii SHUFELDT

Creccoides osbornii SHUFELDT, Proc. Amer. Philos. Soc., vol. 30, Apr. 14, 1892, p. 125.

Pliocene (Blanco fauna): Blanco Canyon, Crosby County, Texas.

Genus EPIRALLUS Miller

Epirallus L. H. MILLER, Univ. California Publ. Zoöl., vol. 47, Mar. 6, 1942, p. 43. Type, by monotypy, *Epirallus natator* Miller.

Epirallus natator MILLER

Epirallus natator L. H. MILLER, Univ. California Publ. Zoöl., vol. 43, Mar. 6, 1942, p. 43, fig. 1a.

Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Genus RALLUS Linnaeus

Rallus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 153. Type, by subsequent designation, *Rallus aquaticus* Linnaeus (Fleming, 1821).

Rallus elegans AUDUBON: **King Rail**

Rallus elegans AUDUBON, Birds Amer. (folio), vol. 3, 1834, pl. 203.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, and Itchtucknee River, Florida.

Rallus longirostris BODDAERT: **Clapper Rail**

Rallus longirostris BODDAERT, Table Planch. Enlum., 1783, p. 52.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

Rallus limicola VIEILLOT: **Virginia Rail**

Rallus limicola VIEILLOT, Nouv. Dict. Hist. Nat., nouv. éd., vol. 28, May 1819, p. 558.

Modern form recorded from Pleistocene: Reddick, Marion County, Florida. Late Pleistocene: Fossil Lake, Oregon; McKittrick, California.

Rallus prenticei WETMORE

Rallus prenticei WETMORE, Univ. Kansas Sci. Bull., vol. 30, pt. 1, No. 9, May 15, 1944, p. 99, figs. 9-19.

Upper Pliocene (Rexroad fauna): Meade County, Kansas.

Genus PORZANA Vieillot

Porzana VIEILLOT, Analyse, 1816, p. 61. Type, by monotypy and tautonymy, Marouette Buffon = *Rallus porzana* Linnaeus.

Porzana carolina (LINNAEUS): **Sora**

Rallus carolinus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 153.

Pleistocene: Near Reddick, Marion County, Florida.

Porzana auffenbergi BRODKORB

Porzana auffenbergi BRODKORB, Condor, vol. 56, No. 2, Mar. 26, 1954, p. 103, fig. 1.

Pleistocene (stratum 2, shell layer, Sangamon stage): near Haile, Alachua County, Florida.

Genus LATERALLUS Gray

Laterallus G. R. GRAY, Cat. Gen. Subgen. Birds, 1855, p. 120. Type, by monotypy, *Rallus melanophaius* Vieillot.

Laterallus guti BRODKORB

Laterallus guti BRODKORB, Wilson Bull., vol. 64, No. 2, June 16, 1952, p. 80, fig. 1.

Pleistocene: 1 mile south of Reddick, Marion County, Florida.

Genus ARAMIDES Pucheran

Aramides Pucheran, Rev. Zool., vol. 8, August 1845, p. 277. Type, by original designation, *Fulica cayennensis* Gmelin.

Aramides cajanea (Müller): **Wood Rail**

Fulica Cajanea P. L. S. Müller, Natursyst. Suppl., 1776, p. 119.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

Genus NESOTROCHIS Wetmore

Nesotrochis Wetmore, Proc. U. S. Nat. Mus., vol. 54, Nov. 21, 1918, p. 516. Type, by original designation, *Nesotrochis debooyi* Wetmore.

Nesotrochis debooyi Wetmore

Nesotrochis debooyi Wetmore, Proc. U. S. Nat. Mus., vol. 54, Nov. 21, 1918, p. 516, pl. 82.

Recent (extinct):[88] Archeological sites on St. Thomas[89] and St. Croix, Virgin Islands; and at Barrio Cañas, near Ponce; cavern deposits in Cueva Clara and Cueva San Miguel, near Morovis; Cueva Toraño, and a cave on Hacienda Jobo, near Utuado, Puerto Rico.

Subfamily GALLINULINAE: Gallinules

Genus PORPHYRULA Blyth

Porphyrula Blyth, Cat. Birds Mus. Asiat. Soc., 1849 (1852), p. 283. Type, by monotypy, *P. chloronotus* Blyth = *Porphyrio alleni* Thomson.

Porphyrula martinica (Linnaeus): **Purple Gallinule**

Fulica martinica Linnaeus, Syst. Nat., ed. 12, vol. 1, 1766, p. 259.

Modern form reported from Pleistocene: Haile, Alachua County, Florida.

Genus GALLINULA Brisson

Gallinula Brisson, Orn., 1760, vol. 1, p. 50; vol. 6, p. 2. Type, by tautonymy *Gallinula* Brisson = *Fulica chloropus* Linnaeus.

Gallinula chloropus (Linnaeus): **Common Gallinule**

Fulica Chloropus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 152.

Modern form reported from Upper Pliocene (Hagerman lake beds): Near Hagerman, Idaho. From Pleistocene:[90] Seminole Field,

[88] Included here as it has not been found in living form, being known only from bones. Possibly the species lived until Spanish colonial times.

[89] Type locality a kitchen midden at Magen's Bay, on the north coast of St. Thomas.

[90] Reported from Pleistocene at Haile, Alachua County, Florida, on basis of a

Pinellas County, and Itchtucknee River, Florida. Late Pleistocene: Baños de Ciego Montero, Cuba.

Genus PALAEOCREX Wetmore [91]

Palaeocrex WETMORE, Proc. Colorado Mus. Nat. Hist., vol. 7, No. 2, July 15, 1927, p. 9. Type, by monotypy, *Palaeocrex fax* Wetmore.

Palaeocrex fax WETMORE

Palaeocrex fax WETMORE, Proc. Colorado Mus. Nat. Hist., vol. 7, No. 2, July 15, 1927, p. 9, figs. 15-18.

Lower Oligocene (Chadronian, Horsetail Creek facies): Horsetail Creek, Weld County, Colorado.

Genus EOCREX Wetmore

Eocrex WETMORE, Condor, vol. 33, No. 3, May 15, 1931, p. 107. Type, by original designation, *Eocrex primus* Wetmore.

Eocrex primus WETMORE

Eocrex primus WETMORE, Condor, vol. 33, No. 3, May 15, 1931, p. 107, figs. 21-25.

Lower Eocene ("Wasatch" formation): Near Steamboat Springs, Sweetwater County, Colorado (sec. 13, T. 24 N., R. 102 W., in Cathedral Bluffs).

Subfamily FULICINAE: Coots

Genus FULICA Linnaeus

Fulica LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 152. Type, by subsequent designation, *Fulica atra* Linnaeus (Gray, 1840).

Fulica americana GMELIN: **American Coot**

Fulica americana GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 704.

Modern form recorded from Upper Pliocene (Rexroad fauna): Meade County, Kansas. Pleistocene: Seminole Field, Pinellas County, Bradenton, Itchtucknee River, and Haile, Alachua County, Florida; Hemphill County, Texas; San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Rancho La Brea, Los Angeles, and San Pedro (Palos Verdes formation), Los Angeles County, California.

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cervical vertebra, by Brodkorb, Wilson Bull., vol. 65, No. 1, March (Apr. 22), 1953, p. 50.

[91] Subfamily allocation provisional.

Fulica minor SHUFELDT [92]

Fulica minor SHUFELDT, Amer. Nat., vol. 25, No. 297, September 1891, p. 820.

Late Pleistocene: Fossil Lake, Oregon.

Suborder CARIAMAE: CARIAMAS and ALLIES

Family BATHORNITHIDAE: BATHORNITHES

Genus BATHORNIS Wetmore

Bathornis WETMORE, Proc. Colorado Mus. Nat. Hist., vol. 7, No. 2, July 15, 1927, p. 11. Type, by monotypy, *Bathornis veredus* Wetmore.

Bathornis veredus WETMORE

Bathornis veredus WETMORE, Proc. Colorado Mus. Nat. Hist., vol. 7, No. 2, July 15, 1927, p. 11, figs. 19-24.

Lower Oligocene (Chadronian, Horsetail Creek facies): Horsetail Creek, Weld County, Colorado (type locality); near Crawford, Nebraska; Indian Creek, Pennington County, South Dakota.

Bathornis celeripes WETMORE

Bathornis celeripes WETMORE, Bull. Mus. Comp. Zoöl., vol. 75, October 1933, p. 302, figs. 6-14.

Upper Oligocene (Brule formation): Near Torrington, Goshen County, Wyoming (type locality); 12 miles northwest of Crawford, Nebraska.

Bathornis cursor WETMORE

Bathornis cursor WETMORE, Bull. Mus. Comp. Zoöl., vol. 75, October 1933, p. 310, figs. 15-19.

Upper Oligocene (Brule formation): Near Torrington, Goshen County, Wyoming.

Bathornis geographicus WETMORE

Bathornis geographicus WETMORE, Smithsonian Misc. Coll., vol. 101, No. 14, May 11, 1942, p. 3, figs. 5-13.

Upper Oligocene (Upper Brule formation, *Protoceras–Leptauchenia* beds): 25 miles southeast of Scenic and 6 miles east of Rockyford, Washington County, South Dakota.

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[92] Howard (Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, pp. 182-183) places all *Fulica* records from Fossil Lake, Oregon, under this name. She considers *minor* the Pleistocene ancestor of modern *Fulica americana*, listing it as *Fulica americana minor*, the relationship indicated by the trinomial expressing distribution through geologic time and not the geographic range of two subspecies existing simultaneously.

Order DIATRYMIFORMES: Diatrymas

Family DIATRYMIDAE: Diatrymas

Genus BARORNIS Marsh

Barornis Marsh, Amer. Journ. Sci., ser. 3, vol. 48, 1894, p. 344. Type, by monotypy, *Barornis regens* Marsh.

Barornis regens Marsh [93]

Barornis regens Marsh, Amer. Journ. Sci., ser. 3, vol. 48, October 1894, p. 344, text fig.

Eocene: Squankum, Monmouth County, New Jersey.

Genus DIATRYMA Cope

Diatryma Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 28, sign. 2, April 18, 1876, p. 11. Type, by monotypy, *Diatryma gigantea* Cope.

Diatryma ajax Shufeldt

Diatryma ajax Shufeldt, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 16, Aug. 4, 1913, p. 287, pl. 52, figs. 4-5, pl. 53, figs. 8-10, pl. 54, figs. 13-14.

Lower Eocene (Wasatch formation): 3 (type locality) and 5 miles southeast of mouth of Pat O'Hara Creek, Clark's Fork Basin, Wyoming.

Diatryma giganteum Cope

Diatryma gigantea Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 28, sign. 2, Apr. 18, 1876, p. 11.

Lower Eocene (Wasatch formation): New Mexico.[94]

Diatryma steini Matthew and Granger

Diatryma steini Matthew and Granger, Bull. Amer. Mus. Nat. Hist., vol. 37, art. 11, May 28, 1917, p. 322, pls. 20-33.

Lower Eocene (Wasatch, Gray Bull member): South Elk Creek, Bighorn Basin, Wyoming.

Genus OMORHAMPHUS Sinclair

Omorhamphus Sinclair, Proc. Amer. Philos. Soc., vol. 67, 1928, p. 51. Type, by monotypy, *Omorhamphus storchii* Sinclair.

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[93] Considered a species of *Diatryma* by Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, pp. 37-38.

[94] Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 34, refers a fragment in Peabody Museum, Yale University, from Island Point, North Horseshoe, Gallina, New Mexico, to this species.

Omorhamphus storchii SINCLAIR

Omorhamphus storchii SINCLAIR, Proc. Amer. Philos. Soc., vol. 67, 1928, p. 52, pls. 1-2, figs. 1-3.

Lower Eocene (Lower Gray Bull horizon, Lower Wasatch): 1½ miles southeast of Dorsey Creek, about 2 miles south of Otto-Basin Road, Big Horn County, Wyoming.

Order CHARADRIIFORMES: SHOREBIRDS, GULLS, and AUKS

Suborder CHARADRII: SHOREBIRDS

Superfamily CHARADRIOIDEA: PLOVERS, SANDPIPERS, and ALLIES

Family RHEGMINORNITHIDAE: RHEGMINORNIS

Genus RHEGMINORNIS Wetmore

Rhegminornis WETMORE, Proc. New England Zoöl. Club, vol. 22, June 23, 1943, p. 61. Type, by original designation, *Rhegminornis calobates* Wetmore.

Rhegminornis calobates WETMORE, Proc. New England Zoöl. Club, vol. 22, June 23, 1943, p. 61, pl. 11, figs. 1-5.

Lower Miocene (Tampa limestone): [95] Thomas Farm, 8 miles north of Bell, Gilchrist County, Florida.

Family HAEMATOPODIDAE: OYSTERCATCHERS

Genus PARACTIORNIS Wetmore

Paractiornis WETMORE, Condor, vol. 32, No. 3, May 15, 1930, p. 133. Type, by monotypy, *Paractiornis perpusillus* Wetmore.

Paractiornis perpusillus WETMORE

Paractiornis perpusillus WETMORE, Condor, vol. 32, No. 3, May 15, 1930, p. 153, figs. 54-56.

Lower Miocene (Harrison formation): Carnegie Hill, Agate Fossil Quarry, near Agate, Sioux County, Nebraska.

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[95] Cooke, Florida Geol. Surv., Geol. Bull. 29, 1945, pp. 119-120, believes that the specimen came from a sink in the Tampa limestone, rather than from the younger Hawthorn formation, to which it was ascribed by T. E. White, who collected it.

Genus PALOSTRALEGUS Brodkorb

Palostralegus Brodkorb, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 19. Type, by original designation, *Palostralegus sulcatus* Brodkorb.

Palostralegus sulcatus Brodkorb

Palostralegus sulcatus Brodkorb, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 20, fig. 18.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Family CHARADRIIDAE: Plovers, Turnstones, and Surfbirds

Subfamily CHARADRIINAE: Plovers

Genus CHARADRIUS Linnaeus

Charadrius Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 150. Type, by tautonymy, *Charadrius hiaticula* Linnaeus.

Charadrius sheppardianus Cope

Charadrius sheppardianus Cope, Bull. Geol. Geogr. Surv. Terr., vol. 6, No. 1, Feb. 11, 1881, p. 83.

Oligocene (Florissant lake beds): Florissant, Colorado.[96]

Charadrius vociferus Linnaeus: **Killdeer**

Charadrius vociferus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 150.

Modern form reported from late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Genus EUPODA Brandt

Eupoda J. F. Brandt, in Tchihatchev, Voy. Sci. Altai Orient., 1845, p. 444. Type, by monotypy, *Charadrius asiaticus* Pallas.

Eupoda montana (Townsend): **Mountain Plover**

Charadrius montanus J. K. Townsend, Journ. Acad. Nat. Sci. Philadelphia, vol. 7, pt. 2, Nov. 21, 1837, p. 192.

Modern form reported from late Pleistocene: McKittrick, Kern County, California.

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[96] Generic and subfamily allocation tentative, particularly since the Florissant beds now are held to be Oligocene rather than Miocene by most paleontologists.

Genus SQUATAROLA Cuvier

Squatarola Cuvier, Règne Animal, vol. 1, 1817 (Dec. 7, 1816), p. 467. Type, by tautonymy, *Tringa squatarola* Linnaeus.

Squatarola squatarola (Linnaeus): **Black-bellied Plover**

Tringa Squatarola Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 149.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus LIMICOLAVIS Shufeldt [97]

Limicolavis Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 55. Type, by monotypy, *Limicolavis pluvianella* Shufeldt.

Limicolavis pluvianella Shufeldt

Limicolavis pluvianella Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 55, pl. 15, fig. 129.

? Oligocene: Lower Willow Creek, Oregon.

Family SCOLOPACIDAE: Woodcock, Snipes, and Sandpipers

Subfamily PALAEOTRINGINAE: Palaeotringas

Genus PALAEOTRINGA Marsh

Palaeotringa Marsh, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 208. Type, by subsequent designation, *Palaeotringa littoralis* Marsh (Hay, 1902).

Palaeotringa littoralis Marsh [98]

Palaeotringa littoralis Marsh, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 208.

Paleocene (Hornerstown marl): Hornerstown, New Jersey.

Palaeotringa vagans Marsh

Palaeotringa vagans Marsh, Amer. Journ. Sci., ser. 3, vol. 3, May 1872, p. 365.

Paleocene (Hornerstown marl): Hornerstown, New Jersey.

Palaeotringa vetus Marsh

Palaeotringa vetus Marsh, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 209.

Paleocene (Hornerstown marl): Arneytown, New Jersey.

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[97] Family relationship uncertain.

[98] Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, pp. 23, 77, pl. 6, fig. 35, believes this to be a gull, but this is open to question.

Subfamily SCOLOPACINAE: Woodcock and Snipes

Genus CAPELLA Frenzel

Capella Frenzel, Beschr. Vögel und Eyer Wittenberg, 1801, p. 58. Type, by monotypy, *Scolopax coelestis* Frenzel = *Scolopax gallinago* Linnaeus.

Capella gallinago (Linnaeus): **Common Snipe** [99]

Scolopax Gallinago Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 147.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Capella anthonyi (Wetmore)

Gallinago anthonyi Wetmore, Proc. Biol. Soc. Washington, vol. 33, Dec. 30, 1920, p. 78, pl. 2, figs. 1, 2.

Recent (extinct): [1] Cave deposits in Cueva Catedral (type locality) and Cueva Clara, near Morovís, Puerto Rico.

Subfamily TRINGINAE: Curlews, Yellowlegs, and Allies

Genus NUMENIUS Brisson

Numenius Brisson, Orn., 1760, vol. 1, p. 48; vol. 5, p. 311. Type, by tautonymy, *Numenius* Brisson = *Scolopax arquata* Linnaeus.

Numenius americanus Bechstein: **Long-billed Curlew**

Numenius americanus Bechstein, in Latham, Allgem. Uebers. Vögel, vol. 4, pt. 2, 1812, p. 432.

Modern form reported from late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Numenius borealis (Forster): **Eskimo Curlew**

Scolopax borealis J. R. Forster, Philos. Trans., vol. 62, 1772, p. 431.

Modern form reported from late Pleistocene (Kentuck locality): McPherson County, Kansas.

Numenius phaeopus (Linnaeus): **Whimbrel** [2]

Scolopax Phaeopus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 146.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

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[99] *Capella delicata* (Ord), Wilson's snipe, of the previous list.

[1] Included here as it has not been found in living form, being known only from bones.

[2] *Phaeopus hudsonicus* (Latham), Hudsonian curlew of the previous list.

Genus PALNUMENIUS Miller

Palnumenius L. Miller, Univ. California Publ. Zoöl., vol. 43, Mar. 6, 1942, p. 45. Type, by monotypy, *Palnumenius victima* Miller.

Palnumenius victima Miller

Palnumenius victima L. Miller, Univ. California Publ. Zoöl., vol. 43, Mar. 6, 1942, p. 45, fig. 1b.

Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Genus BARTRAMIA Lesson

Bartramia Lesson, Traité d'Orn., livr. 7, Apr. 9, 1831, p. 553. Type, by monotypy, *Bartramia laticauda* Lesson = *Tringa longicauda* Bechstein.

Bartramia longicauda (Bechstein): **Upland Plover**

Tringa longicauda Bechstein, in Latham, Allgem. Uebers. Vögel, vol. 4, pt. 2, 1812, p. 453.

Modern form reported from late Pleistocene: Meade County (Jones fauna, Vanhem formation), and McPherson County (Kentuck locality), Kansas.

Genus TOTANUS Bechstein

Totanus Bechstein, Orn. Taschenb. Deutschland, vol. 2, 1803, p. 282. Type, by tautonymy, *Totanus maculatus* Bechstein = *Scolopax totanus* Linnaeus.

Totanus melanoleucus (Gmelin): **Greater Yellowlegs**

Scolopax melanoleuca Gmelin, Syst. Nat., vol. 1, pt. 2, 1789, p. 659.

Modern form reported from Pleistocene: Fossil Lake, Oregon; Rancho La Brea, Los Angeles, and McKittrick, Kern County, California.

Subfamily CALIDRIINAE: Sandpipers, Godwits, and Allies

Genus CALIDRIS Merrem

Calidris pacis Merrem, Lit. Zeitung, vol. 2, No. 168, June 8, 1804, col. 542. Type, by tautonymy, *Tringa calidris* Gmelin = *Tringa canutus* Linnaeus.

Calidris pacis Brodkorb

Calidris pacis Brodkorb, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 22, figs. 19, 20.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Genus EROLIA Vieillot

Erolia VIEILLOT, Analyse, 1816, p. 55. Type, by monotypy, *Erolia variegata* Vieillot = *Scolopax testacea* Pallas.

Erolia penepusilla BRODKORB

Erolia penepusilla BRODKORB, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 23, fig. 21.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Erolia alpina (LINNAEUS): **Dunlin**

Tringa alpina LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 149.

Modern form reported from late Pleistocene: McKittrick, Kern County, California.

Genus LIMNODROMUS Wied

Limnodromus WIED, Beitr. Naturg. Brasil, vol. 4, Abt. 2, 1833, p. 716. Type, by monotypy, *Scolopax noveboracensis* Gmelin = *Scolopax grisea* Gmelin.

Limnodromus griseus (GMELIN): **Dowitcher**

Scolopax grisea GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 658.

Modern form reported late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Genus MICROPALAMA Baird

Micropalama BAIRD, Rep. Expl. and Surv. R. R. Pac., vol. 9, 1858, pp. xxii, xlvii, 714, 726. Type, by monotypy, *Tringa himantopus* Bonaparte.

Micropalama hesternus WETMORE

Micropalama hesternus WETMORE, Proc. U. S. Nat. Mus., vol. 64, art. 5, Jan. 15, 1924, p. 11, figs. 6-7.

Upper Pliocene (Blancan): 2 miles south of Benson, Arizona.

Genus LIMOSA Brisson

Limosa BRISSON, Orn., 1760, vol. 1, p. 48; vol. 5, p. 261. Type, by tautonymy, *Limosa* Brisson = *Scolopax limosa* Linnaeus.

Limosa vanrossemi MILLER

Limosa vanrossemi L. H. MILLER, Carnegie Inst. Washington Publ. 349, August 1925, p. 116, pl. 6.

Middle Miocene (Temblor, *Turritella ocoyana* zone): Lompoc, California.

Family RECURVIROSTRIDAE: Ibis-bills, Avocets, and Stilts

Subfamily RECURVIROSTRINAE: Avocets and Stilts

Genus RECURVIROSTRA Linnaeus

Recurvirostra Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 151. Type, by monotypy, *Recurvirostra avosetta* Linnaeus.

Recurvirostra americana Gmelin: **Avocet**

Recurvirostra americana Gmelin, Syst. Nat., vol. 1, pt. 2, 1789, p. 693.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; Rancho La Brea, Los Angeles, and McKittrick, Kern County, California.

Genus HIMANTOPUS Brisson

Himantopus Brisson, Orn., 1760, vol. 1, p. 46; vol. 5, p. 33. Type, by tautonymy, *Himantopus* Brisson = *Charadrius himantopus* Linnaeus.

Himantopus mexicanus (Müller): **Black-necked Stilt**

Charadrius Mexicanus P. L. S. Müller, Natursyst., Suppl., 1776, p. 117.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

Family PRESBYORNITHIDAE: Presbyornithes

Genus PRESBYORNIS Wetmore

Presbyornis Wetmore, Ann. Carnegie Mus., vol. 16, Apr. 10, 1926, p. 396. Type, by monotypy, *Presbyornis pervetus* Wetmore.

Presbyornis pervetus Wetmore

Presbyornis pervetus Wetmore, Ann. Carnegie Mus., vol. 16, Apr. 10, 1926, p. 396, pl. 37, figs. 10-20.

Eocene (Lower Green River formation): White River, Utah, 2 miles from Colorado State line.

Family PHALAROPODIDAE: Phalaropes

Genus LOBIPES Cuvier

Lobipes Cuvier, Règne Animal, vol. 1, 1817 (Dec. 7, 1816), p. 495. Type, by original designation, *Tringa hyperborea* Linnaeus = *Tringa lobata* Linnaeus.

Lobipes lobatus (Linnaeus): **Northern Phalarope**

Tringa lobata Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 148.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

Suborder LARI: Skuas, Gulls, Terns, and Skimmers

Family STERCORARIIDAE: Jaegers and Skuas

Genus STERCORARIUS Brisson

Stercorarius Brisson, Orn., 1760, vol. 1, p. 56; vol. 6, p. 149. Type, by tautonymy, *Stercorarius* Brisson = *Larus parasiticus* Linnaeus.

Stercorarius shufeldti Howard

Stercorarius shufeldti H. Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 184, pl. 2, figs. 1, 2.

Late Pleistocene: Fossil Lake, Oregon.[3]

Family LARIDAE: Gulls and Terns

Subfamily LARINAE: Gulls

Genus LARUS Linnaeus [4]

Larus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 136. Type, by subsequent designation, *Larus marinus* Linnaeus (Selby, 1840).

Larus glaucescens Naumann: **Glaucous-winged Gull**

Larus glaucescens Naumann, Naturg. Vögel Deutschl., vol. 10, 1840, p. 351.

Modern form reported from late Pleistocene (Palos Verdes formation): San Pedro, Los Angeles County, California.

Larus californicus Lawrence: **California Gull**

Larus Californicus Lawrence, Ann. Lyc. Nat. Hist. New York, vol. 6, 1854, p. 79.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

Larus philadelphia (Ord): **Bonaparte's Gull**

Sterna Philadelphia Ord, in Guthrie, Geogr., 2d Amer. ed., 1815, p. 319.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.[5]

Larus oregonus Shufeldt

Larus oregonus Shufeldt, Amer. Nat., vol. 25, No. 297, September 1891, p. 820.

Late Pleistocene: Fossil Lake, Oregon.

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[3] The type of *Stercorarius shufeldti* originally was identified by Shufeldt as *Larus argentatus*, this specimen being the basis for the record of the herring gull from Fossil Lake.

[4] *Larus vero* Shufeldt, Journ. Geol., January-February 1917, p. 18, has been identified by Wetmore as *Nyctanassa violacea* Linnaeus (Smithsonian Misc. Coll., vol. 85, No. 2, Apr. 13, 1931, p. 16).

[5] Records of *Xema sabini* from Fossil Lake, so far as identified, refer to *Larus philadelphia*.

Larus pristinus SHUFELDT [6]

Larus pristinus SHUFELDT, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 54, pl. 14, fig. 112.

? Oligocene (John Day) : Willow Creek, Oregon.

Larus robustus SHUFELDT

Larus robustus SHUFELDT, Amer. Nat., vol. 25, No. 297, September 1891, p. 819.

Late Pleistocene: Fossil Lake, Oregon.

Larus elmorei BRODKORB

Larus elmorei BRODKORB, Wilson Bull., vol. 65, No. 2, June 30, 1953, p. 94, fig. 1.

Pliocene (Bone Valley formation) : Near Brewster, Polk County, Florida.

Genus GAVIOTA Miller and Sibley [7]

Gaviota A. H. MILLER and C. G. SIBLEY, Auk, vol. 58, No. 4, October 1941, p. 563. Type, by monotypy, *Gaviota niobrara* Miller and Sibley.

Gaviota niobrara MILLER and SIBLEY

Gaviota niobrara A. H. MILLER and C. G. SIBLEY, Auk, vol. 58, No. 4, October 1941, p. 563, fig. 1.

Late Upper Miocene (Barstovian, Niobrara River zone) : Niobrara Game Preserve, Cherry County, Nebraska.

Subfamily STERNINAE: TERNS

Genus STERNA Linnaeus

Sterna LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 137. Type, by tautonymy, *Sterna hirundo* Linnaeus.

Subgenus STERNA Linnaeus

Sterna forsteri NUTTALL: **Forster's Tern**

Sterna forsteri NUTTALL, Manual Orn. U. S. and Canada, vol. 2, 1834, p. 274.

Modern form reported from late Pleistocene: Fossil Lake, Oregon.

Genus CHLIDONIAS Rafinesque

Chlidonias RAFINESQUE, Kentucky Gazette, n. s., vol. 1, No. 8, Feb. 21, 1822, p. 3, col. 5. Type, by monotypy, *Sterna melanops* Rafinesque = *Sterna surinamensis* Gmelin.

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[6] Generic assignation in original description tentative.

[7] Allocation to subfamily provisional.

Chlidonias niger (LINNAEUS): **Black Tern**

Sterna nigra LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 137.

Modern form reported from late Pleistocene: Fossil Lake, Oregon,

Suborder ALCAE: AUKS

Family ALCIDAE: AUKS, MURRES, and PUFFINS

Subfamily NAUTILORNITHINAE: NAUTILORNITHES

Genus NAUTILORNIS Wetmore

Nautilornis WETMORE, Ann. Carnegie Mus., vol. 16, Apr. 10, 1926, p. 392. Type, by original designation, *Nautilornis avus* Wetmore.

Nautilornis avus WETMORE

Nautilornis avus WETMORE, Ann. Carnegie Mus., vol. 16, Apr. 10, 1926, p. 392, pl. 36, figs. 1-8.

Eocene (Lower Green River formation): White River, Utah, 2 miles from Colorado State line.

Nautilornis proavitus WETMORE

Nautilornis proavitus WETMORE, Ann. Carnegie Mus., vol. 16, Apr. 10, 1926, p. 394, pl. 36, fig. 9.

Eocene (Lower Green River formation): White River, Utah, 2 miles from Colorado State line.

Genus HYDROTHERIKORNIS Miller

Hydrotherikornis A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 20, No. 3, Apr. 21, 1931, p. 24. Type, by monotypy, *Hydrotherikornis oregonus* Miller.

Hydrotherikornis oregonus MILLER

Hydrotherikornis oregonus A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 20, No. 3, Apr. 21, 1931, p. 24, fig. 1.

Upper Eocene (Arago series): Sunset Bay, near Coos Bay, Coos County, Oregon.

Subfamily ALCINAE: AUKS and MURRES

Genus AUSTRALCA Brodkorb

Australca BRODKORB, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 25. Type, by original designation, *Australca grandis* Brodkorb.

Australca grandis BRODKORB

Australca grandis BRODKORB, Florida Geol. Surv. Rep. Invest. No. 14, November 1955, p. 27, figs. 24, 29.

Pliocene (Bone Valley formation): Near Brewster, Polk County, Florida.

Genus URIA Brisson

Uria BRISSON, Orn., 1760, vol. 1, p. 52; vol. 6, p. 70. Type, by tautonymy, *Uria* Brisson = *Colymbus aalge* Pontoppidan.

Uria aalge (PONTOPPIDAN): **Common Murre**

Colymbus aalge PONTOPPIDAN, Danske Atlas, vol. 1, 1763, p. 621, pl. 26.

Modern form reported from late Pleistocene (Palos Verdes sand): Playa del Rey, and Mussel Rock, San Mateo County, California.

Uria affinis (MARSH)

Catarractes affinis MARSH, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 259.

Pleistocene: Railroad cut on bank of Penobscot River, near Bangor, Maine.

Uria antiqua (MARSH)

Catarractes antiquus MARSH, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 213.

Miocene: Tarboro, Edgecombe County, North Carolina.

Genus MIOCEPPHUS Wetmore

Miocepphus WETMORE, Journ. Morph., vol. 66, Jan. 2, 1940, p. 35. Type, by monotypy, *Miocepphus mcclungi* Wetmore.

Miocepphus mcclungi WETMORE

Miocepphus mcclungi WETMORE, Journ. Morph., vol. 66, Jan. 2, 1940, p. 35, figs. 11-14.

Miocene (Calvert formation, zone 12): Near the mouth of Parker Creek, Calvert County, Maryland.[8]

Genus BRACHYRAMPHUS Brandt

Brachyramphus M. BRANDT, Bull. Sci. Acad. Imp. Sci. St.-Pétersbourg, vol. 2, No. 22, Mar. 19, 1837, col. 346. Type, by subsequent designation, *Colymbus marmoratus* Gmelin (Gray, 1840).

[8] Two records.

Brachyramphus pliocenum HOWARD

Brachyramphus pliocenus HOWARD, Carnegie Inst. Washington Publ. 584, June 22, 1949, p. 191.

Middle Pliocene (San Diego formation): Washington Boulevard Freeway, San Diego, California.

Genus SYNTHLIBORAMPHUS Brandt

Synthliboramphus M. BRANDT, Bull. Sci. Acad. Imp. Sci. St.-Pétersbourg, vol. 2, No. 22, Mar. 19, 1837, col. 347. Type, by subsequent designation, *Alca antiqua* Gmelin (Gray, 1840).

Synthliboramphus antiquum (GMELIN): **Ancient Murrelet**

Alca antiqua GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 554.

Modern form reported from late Pleistocene (Palos Verdes sand): San Pedro, California.

Genus PTYCHORAMPHUS Brandt

Ptychoramphus M. BRANDT, Bull. Sci. Acad. Imp. Sci. St.-Pétersbourg, vol. 2, No. 22, Mar. 19, 1837, col. 347. Type, by monotypy, *Uria aleutica* Pallas.

Ptychoramphus aleuticum (PALLAS): **Cassin's Auklet**

Uria Aleutica PALLAS, Zoogr. Rosso-Asiatica, vol. 2, 1811, p. 370.

Modern form reported from late Pleistocene (Palos Verdes sand): San Pedro, Los Angeles County, California.

Genus CERORHINCA Bonaparte

Cerorhinca BONAPARTE, Ann. Lyc. Nat. Hist. New York, vol. 2, 1828, p. 427. Type, by monotypy, *Cerorhinca occidentalis* Bonaparte = *Alca monocerata* Pallas.

Cerorhinca dubia MILLER

Cerorhinca dubia L. H. MILLER, Carnegie Inst. Washington Publ. 349, August 1925, p. 115, pl. 2.

Middle Miocene (Temblor, *Turritella ocoyana* zone): Lompoc, California.

Family MANCALLIDAE: LUCAS AUK and ALLY

Genus MANCALLA Lucas

Mancalla LUCAS, Science, n.s., vol. 13, Mar. 15, 1901, p. 428. Type, by original designation, *Mancalla californiensis* Lucas.

Mancalla californiensis LUCAS

Mancalla californiensis LUCAS, Science, n.s., vol. 13, Mar. 15, 1901, p. 428.[9]

Pliocene: Third Street Tunnel, Los Angeles (type locality), and Newport Bay. Middle Pliocene (San Diego formation): San Diego, San Diego County, and Corona del Mar, Orange County, California.

Mancalla diegense (MILLER)

Pliolunda diegense L. H. MILLER, Trans. San Diego Soc. Nat. Hist., vol. 8, Dec. 15, 1937, p. 376, 2 figs.

Middle Pliocene (San Diego formation): Market Street, near Euclid Avenue (type locality), and Mission Hills district, San Diego, California.

Order COLUMBIFORMES: SAND-GROUSE, PIGEONS, AND DOVES

Suborder COLUMBAE: PIGEONS and DOVES

Family COLUMBIDAE: PIGEONS and DOVES

Subfamily COLUMBINAE: PIGEONS and DOVES

Genus COLUMBA Linnaeus

Columba LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 162. Type, by subsequent designation, *Columba oenas* Linnaeus (Vigors, 1825).

Columba fasciata SAY: **Band-tailed Pigeon**

Columba fasciata SAY, in Long, Exped. Rocky Mountains, vol. 2, 1823, p. 10.

Modern form reported from late Pleistocene: Stone Man Cave, Shasta County, Rancho La Brea, Los Angeles, and Carpinteria, Santa Barbara County, California. Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Columba micula (WETMORE)

Chloroenas micula WETMORE, Proc. U. S. Nat. Mus., vol. 64, art. 5, Jan. 15, 1924, p. 13, figs. 8-9.

Early Pleistocene: Curtis Ranch, 12 miles southeast of Benson, Arizona.

Genus ZENAIDURA Bonaparte

Zenaidura BONAPARTE, Compt. Rend. Acad. Sci. Paris, vol. 40, January 1855, p. 96. Type, by original designation, *Columba carolinensis* Linnaeus.

[9] See also Lucas, Proc. U. S. Nat. Mus., vol. 24, Sept. 27, 1901, pp. 133-134, figs. 1, 2.

Zenaidura macroura (LINNAEUS): **Mourning Dove**

Columba macroura LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 164.

Modern form reported from Upper Pliocene (Rexroad fauna): Meade County, Kansas. Pleistocene: San Josecito Cave, Aramberri, Nuevo León; Seminole Field, Pinellas County, Florida. Late Pleistocene: Carpinteria, Santa Barbara County, McKittrick, Kern County, and Rancho La Brea, Los Angeles, California; Meade County, Kansas (Vanhem formation, Jones fauna).

Genus ECTOPISTES Swainson

Ectopistes SWAINSON, Zool. Journ., vol. 3, No. 11, September-December 1827, p. 362. Type, by subsequent designation, *Columba migratoria* Linnaeus (Swainson, 1837).

Ectopistes migratorius (LINNAEUS): **Passenger Pigeon**

Columba migratoria LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 285.

Modern form reported from Pleistocene: Cave deposits of Tennessee. Late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus GEOTRYGON Gosse

Geotrygon GOSSE, Birds Jamaica, 1847, p. 316. Type, by subsequent designation, *Columba cristata* Latham = *Geotrygon sylvatica* Gosse = *Columbigallina versicolor* Lafresnaye (Reichenbach, 1852 = 1853).

Geotrygon larva (WETMORE)

Orcopelcia larva WETMORE, Proc. Biol. Soc. Washington, vol. 33, Dec. 30, 1920, p. 79, pl. 3, figs. 1-2.

Recent (extinct):[10] Cave deposits in Cueva Clara (type locality) and Cueva Catedral, near Morovís; Cueva Toraño, near Utuado; kitchen middens near Mayagüez, and at Barrio Cañas, near Ponce, Puerto Rico.

Order PSITTACIFORMES: LORIES, PARROTS, PARAKEETS, and MACAWS

Family PSITTACIDAE: LORIES, PARROTS, and MACAWS

Subfamily PSITTACINAE: PARAKEETS and MACAWS

Genus ARA Lacépède

Ara LACÉPÈDE, Tableaux Ois., 1799, p. 1, Type, by subsequent designation, *Psittacus macao* Linnaeus (Ridgway, 1916).

[10] Included here as it has not been found in living form, being known only from bones.

Ara tricolor BECHSTEIN: **Cuban Macaw**

Ara tricolor BECHSTEIN, in Latham, Allg. Uebers. Vög., vol. 4, Th. 1, 1811, p. 64, pl. 1. (Cuba.)

Modern form recorded from late Pleistocene: Baños de Ciego Montero, Santa Clara Province, Cuba.

Ara autocthones WETMORE

Ara autocthones WETMORE, Journ. Agr. Univ. Puerto Rico, vol. 21, No. 1, January 1937, p. 12, pl. 1, figs. 8, 9.

Recent (extinct):[11] Prehistoric kitchen midden deposits at Concordia, near Southwest Cape, St. Croix, Virgin Islands.

Genus RHYNCHOPSITTA Bonaparte

Rhynchopsitta BONAPARTE, Rev. et Mag. Zool., ser. 2, vol. 6, March 1854, p. 149. Type, by monotypy, *Macrocercus pachyrhynchus* Swainson.

Rhynchopsitta pachyrhyncha (SWAINSON): **Thick-billed Parrot**

Macrocercus pachyrhynchus SWAINSON, Philos. Mag., n.s., vol. 1, No. 6, June 1827, p. 439.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Genus CONUROPSIS Salvadori

Conuropsis SALVADORI, Cat. Birds Brit. Mus., vol. 20, 1891, pp. 146, 203. Type, by original designation, *Psittacus carolinensis* Linnaeus.

Conuropsis fratercula WETMORE

Conuropsis fratercula WETMORE, Amer. Mus. Nov., No. 211, Mar. 11, 1926, p. 3, figs. 5-6.

Middle Miocene (*Merychippus primus* zone, lower Sheep Creek beds): Snake Creek Quarries, Sioux County, Nebraska.

Order CUCULIFORMES: PLANTAIN-EATERS and CUCKOOS

Suborder CUCULI: CUCKOOS, ROADRUNNERS, and ANIS

Family CUCULIDAE: CUCKOOS, ROADRUNNERS, and ANIS

Subfamily NEOMORPHINAE: GROUND CUCKOOS

Genus GEOCOCCYX Wagler

Geococcyx WAGLER, Isis von Oken, vol. 24, Heft 5, May 1831, col. 524. Type, by monotypy, *Geococcyx variegata* Wagler = *Saurothera californiana* Lesson.

[11] Included here since it has not been found in living form, being known only from bones.

Geococcyx californianus (LESSON): **Roadrunner**

Saurothera californiana LESSON, Compl. Oeuvres Buffon, vol. 6, 1829, p. 420.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, McKittrick, Kern County, and Carpinteria, Santa Barbara County, California.

Geococcyx conklingi HOWARD

Geococcyx conklingi HOWARD, Condor, vol. 33, No. 5, Sept. 15, 1931, p. 208, figs. 49-50.

Pleistocene: Conkling Cavern (type locality), and Shelter Cave,[12] Pyramid Peak, Organ Mountains, Dona Ana County, New Mexico; San Josecito Cave, Aramberri, Nuevo León.

Order STRIGIFORMES: OWLS[13]

Family PROTOSTRIGIDAE: PROTOSTRIX

Genus PROTOSTRIX Wetmore

Protostrix WETMORE, Amer. Mus. Nov., No. 680, Dec. 4, 1933, p. 3. Type, by original designation, *Aquila lydekkeri* Shufeldt.

Protostrix lydekkeri (SHUFELDT)

Aquila lydekkeri SHUFELDT, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 16, Aug. 4, 1913, p. 298.

Eocene (Bridger formation): Lower Cottonwood Creek, Wyoming.

Protostrix saurodosis (WETMORE)

Minerva saurodosis WETMORE, Proc. Acad. Nat. Sci. Philadelphia, vol. 73, 1921 (Apr. 6, 1922), p. 455, figs. 1-2.

Eocene (Bridger formation): Near Lodgepole Trail Crossing on Dry Creek, about 10 miles from Fort Bridger, Wyoming.

Protostrix leptosteus (MARSH)[14]

Bubo leptosteus MARSH, Amer. Journ. Sci., ser. 3, vol. 2, August 1871, p. 126.

Eocene (Bridger formation): Grizzly Buttes, near Fort Bridger, Wyoming.

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[12] Possibly of Recent period.

[13] *Aquila antiqua* Shufeldt, type of the genus *Minerva* Shufeldt, formerly considered an owl, proves to be a mammal. See Wetmore, Amer. Mus. Nov., No. 680, Dec. 4, 1933, pp. 1, 2.

[14] See Wetmore, Condor, 1937, pp. 84-85.

Protostrix mimica WETMORE

Protostrix mimica WETMORE, Proc. U. S. Nat. Mus., vol. 85, Jan. 17, 1938, p. 27, figs. 4-5

Lower Eocene (Wasatch): South side of Ten Mile Creek, 12 miles northwest of Worland, Wyoming.

Family TYTONIDAE: BARN OWLS

Subfamily TYTONINAE: BARN OWLS

Genus TYTO Billberg

Tyto BILLBERG, Syn. Faunae Scand., vol. 1, pt. 2, 1828, tab. A. Type, by monotypy, *Strix flammea* auct. = *Strix alba* Scopoli.

Tyto alba (SCOPOLI): **Barn Owl**

Strix alba SCOPOLI, Annus 1, Historico-Naturalis, 1769, p. 21.

Modern form reported from Pleistocene: Cavern deposits near Lecanto, Florida;[15] San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Carpinteria, Santa Barbara County and Rancho La Brea, Los Angeles, California.

Tyto cavatica WETMORE

Tyto cavatica WETMORE, Proc. Biol. Soc. Washington, vol. 33, Dec. 30, 1920, p. 80, pl. 3, figs. 3-6.

Recent (extinct):[16] Cave deposits in Cueva Toraño, near Utuado, Puerto Rico.

Tyto ostologa WETMORE

Tyto ostologa WETMORE, Smithsonian Misc. Coll., vol. 74, No. 4, Oct. 17, 1922, p. 2.

Recent (extinct):[16] Cave deposits in Grotte San Francisco near St. Michel (type locality), and caves near L'Atalye, Haiti.

Tyto pollens WETMORE

Tyto pollens WETMORE, Bull. Mus. Comp. Zoöl., vol. 80, No. 12, October 1937, p. 436, figs. 10-16.

Recent (extinct):[16] Cave deposits on Great Exuma Island, Bahama Islands.

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[15] The record from Vero (stratum 3) is now considered to be of Recent age. See Cooke, Florida Geol. Surv., Geol. Bull. 29, 1945, pp. 306-307.

[16] Included here as it has not been found in living form, being known only from bones.

Family STRIGIDAE: Typical Owls

Genus OTUS Pennant

Otus Pennant, Indian Zool., 1769, p. 3. Type, by monotypy, *Otus bakkamoena* Pennant.

Otus asio (Linnaeus): Screech Owl

Strix asio Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 92.

Modern form reported from Pleistocene: Cavern deposits near Lecanto, Florida; cave deposits of Tennessee; San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Potter Creek Cave, Shasta County, Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Otus flammeolus (Kaup): Flammulated Owl

Scops (*Megascops*) *flammeola* Kaup, in Jardine, Contr. Orn., 1852 (1853), p. 111.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León. Late Pleistocene: Samwel Cave,[17] Shasta County, California.

Otus trichopsis (Wagler): Whiskered Owl

Scops trichopsis Wagler, Isis von Oken, Heft 3, March 1832, col. 276.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Genus BUBO Duméril

Bubo Duméril, Zool. Analytique, 1806, p. 34. Type, by tautonymy, *Strix bubo* Linnaeus.

Bubo virginianus (Gmelin): Horned Owl

Strix virginiana Gmelin, Syst. Nat., vol. 1, pt. 1, 1788, p. 287.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; Samwel Cave, Shasta County, Carpinteria, Santa Barbara County, McKittrick, Kern County, and Rancho La Brea, Los Angeles, California. Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Bubo sinclairi Miller

Bubo sinclairi L. H. Miller, Univ. California Publ., Bull. Dept. Geol., vol. 6, No. 16, Oct. 28, 1911, p. 393, figs. 4-5.

Late Pleistocene: Samwel and Potter Creek (type locality) caves, Shasta County, California.

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[17] Recorded originally as *Micropallas whitneyi*. See Miller, L. H., Trans. San Diego Soc. Nat. Hist., vol. 7, No. 19, Mar. 31, 1933, pp. 209-210.

Genus GLAUCIDIUM Boie

Glaucidium Boie, Isis von Oken, Bd. 2, 1826, col. 970. Type, by subsequent designation, *Strix passerina* Linnaeus (Gray, 1840).

Glaucidium gnoma Wagler: **Pygmy Owl**

Glaucidium Gnoma Wagler, Isis von Oken, vol. 25, Heft 3, March 1832, p. 275.

Modern form reported from late Pleistocene: Samwel Cave, Shasta County, Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Genus SPEOTYTO Gloger

Speotyto Gloger, Hand- und Hilfsbuch Naturg., 1842 (1841), p. 226. Type, by monotypy, *Strix cunicularia* Molina.

Speotyto cunicularia (Molina): **Burrowing Owl**

Strix Cunicularia Molina, Sagg. Stor. Nat. Chili, 1782, p. 263.

Modern form reported from late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Genus CICCABA Wagler

Ciccaba Wagler, Isis von Oken, Heft 11, 1832, col. 1222. Type, by monotypy, *Ciccaba huhula* = *Strix huhula* Daudin.

Ciccaba virgata (Cassin): **Mottled Owl**

Syrnium virgatum Cassin, Proc. Acad. Nat. Sci. Philadelphia, vol. 4, 1848 (1850), p. 124.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Genus STRIX Linnaeus

Strix Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 92. Type, by tautonymy, *Strix stridula* Linnaeus = *Strix aluco* Linnaeus.

Strix varia Barton: **Barred Owl**

Strix varius Barton, Fragm. Nat. Hist. Pennsylvania, 1799, p. 11.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Melbourne, and cavern deposits near Lecanto, Florida.

Strix occidentalis (Xántus): **Spotted Owl**

Syrnium occidentale Xántus, Proc. Acad. Nat. Sci. Philadelphia, 1859 (Jan. 10, 1860), p. 193.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Strix brea HOWARD

Strix brea HOWARD, Condor, vol. 35, No. 2, Mar. 15, 1933, p. 66, fig. 15.

Late Pleistocene: Rancho La Brea, Los Angeles, California.

Strix dakota MILLER

Strix dakota A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, No. 4, June 22, 1944, p. 95, fig. 8.

Lower Miocene (Rosebud formation): Flint Hill, 9 miles west-southwest of Martin, Bennett County, South Dakota.

Genus ASIO Brisson

Asio BRISSON, Orn., 1760, vol. 1, p. 28. Type, by tautonymy, *Asio* Brisson = *Strix otus* Linnaeus.

Asio otus (LINNAEUS):[18] **Long-eared Owl**

Strix Otus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 92.

Modern form reported from late Pleistocene: Samwel Cave, Shasta County, McKittrick, Kern County, and Carpinteria, Santa Barbara County, California.[19] Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Asio flammeus (PONTOPPIDAN): **Short-eared Owl**

Strix flammea PONTOPPIDAN, Danske Atlas, vol. 1, 1763, p. 617, pl. 25.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus AEGOLIUS Kaup

Aegolius KAUP, Skizz. Entw.-Gesch. Eur. Thierw., 1829, p. 34. Type, by monotypy, *Strix tengmalmi* Gmelin = *Strix funereus* Linnaeus, 1758.

Aegolius funereus (LINNAEUS): **Boreal Owl**

Strix funerea LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 93.

Modern form reported from Pleistocene:[20] Shelter cave, Pyramid Peak, Organ Mountains, Dona Ana County, New Mexico.

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[18] *Asio wilsonianus* (Lesson) of the preceding list.

[19] According to a communication from L. H. Miller records formerly cited from Rancho La Brea are erroneous.

[20] Possibly of Recent age.

Aegolius acadicus (GMELIN): **Saw-whet Owl**

Strix acadica GMELIN, Syst. Nat., vol. 1, pt. 1, 1788, p. 296.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California. Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Order CAPRIMULGIFORMES: OILBIRDS, GOATSUCKERS, and ALLIES

Suborder CAPRIMULGI: GOATSUCKERS, POTOOS, and FROGMOUTHS

Family CAPRIMULGIDAE: GOATSUCKERS

Subfamily CAPRIMULGINAE: GOATSUCKERS

Genus PHALAENOPTILUS Ridgway

Phalaenoptilus RIDGWAY, Proc. U. S. Nat. Mus., vol. 3, 1880, p. 5. Type, by original designation, *Caprimulgus nuttallii* Audubon

Phalaenoptilus nuttallii (AUDUBON): **Poor-will**

Caprimulgus Nuttalli AUDUBON, Birds Amer., octavo ed., vol. 7, 1844, p. 350, pl. 495.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Order PICIFORMES: JACAMARS, BARBETS, TOUCANS, and WOODPECKERS

Suborder PICI: WOODPECKERS and WRYNECKS

Family PICIDAE: WOODPECKERS, WRYNECKS, and PICULETS

Subfamily PICINAE: WOODPECKERS

Genus COLAPTES Vigors

Colaptes VIGORS, Trans. Linn. Soc. London, vol. 14, pt. 3, 1826, p. 457. Type, by original designation, *Cuculus auratus* Linnaeus.

Colaptes cafer (GMELIN): **Red-shafted Flicker**

Picus cafer GMELIN, Syst. Nat., vol. 1, pt. 1, 1788, p. 431.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; Samwel and Potter Creek caves, Shasta County, Hawver Cave, Eldorado County, McKittrick, Kern County, Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Colaptes chrysoïdes (MALHERBE): **Gilded Flicker**

Geopicus (*Colaptes*) *chrysoïdes* MALHERBE, Rev. et Mag. Zool., ser. 2, vol. 4, December 1852, p. 553.

Modern form reported from Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Genus DRYOCOPUS Boie

Dryocopus BOIE, Isis von Oken, Bd. 2, 1826, col. 977. Type, by monotypy, *Picus martius* Linnaeus.

Dryocopus pileatus (LINNAEUS): **Pileated Woodpecker**

Picus pileatus LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 113.

Modern form reported from Pleistocene: Cave deposits of Tennessee. Late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus ASYNDESMUS Coues

Asyndesmus COUES, Proc. Acad. Nat. Sci. Philadelphia, vol. 17, No. 1, January-March (June 11), 1866, p. 55. Type, by original designation, *Picus torquatus* Wilson = *Picus lewis* Gray.

Asyndesmus lewis (GRAY): **Lewis' Woodpecker**

Picus Lewis GRAY, Gen. Birds, vol. 3, 1849, app., p. 22.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, and Carpinteria, Santa Barbara County, California.

Order PASSERIFORMES: PERCHING BIRDS

Suborder PASSERES: SONG BIRDS

Family ALAUDIDAE: LARKS

Genus EREMOPHILA Brehm

Eremophila BREHM, Isis, vol. 21, pts. 3-4, 1828, p. 322. Type, by subsequent designation, *Alauda alpestris* Linnaeus (Sharpe, 1890).

Eremophila alpestris (LINNAEUS): **Horned Lark**

Alauda alpestris LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 166.

Modern form reported from late Pleistocene: McKittrick and Rancho La Brea, Los Angeles, California.

Family PALAEOSPIZIDAE: PALAEOSPIZA

Genus PALAEOSPIZA Allen

Palaeospiza ALLEN, Bull. Geol. Geogr. Surv. Terr., vol. 4, No. 2, May 3, 1878, p. 443. Type, by monotypy, *Palaeospiza bella* Allen.

Palaeospiza bella ALLEN

Palaeospiza bella ALLEN, Bull. Geol. Geogr. Surv. Terr., vol. 4, No. 2, May 3, 1878, p. 443, pl. 1, figs. 1-2.

Oligocene (Florissant lake beds):[21] Florissant, Colorado.

Family HIRUNDINIDAE: Swallows

Genus PETROCHELIDON Cabanis

Petrochelidon CABANIS, Mus. Hein., vol. 1, October (after Oct. 23), 1851, p. 47. Type, by subsequent designation, *Hirundo melanogaster* Swainson (Gray, 1855).

Petrochelidon pyrrhonota (VIEILLOT): **Cliff Swallow**

Hirundo pyrrhonota VIEILLOT, Nouv. Dict. Hist. Nat., nouv. éd., vol. 14, September 1817, p. 519.

Modern form reported from late Pleistocene: McKittrick, California.

Family CORVIDAE: Jays, Magpies, and Crows

Subfamily GARRULINAE: Jays and Magpies

Genus CYANOCITTA Strickland

Cyanocitta STRICKLAND, Ann. Mag. Nat. Hist., ser. 1, vol. 15, No. 98, April 1845, p. 261. Type, by original designation, *Corvus cristatus* Linnaeus.

Cyanocitta stelleri (GMELIN): **Steller's Jay**

Corvus stelleri GMELIN, Syst. Nat., vol. 1, pt. 1, 1788, p. 370.

Modern form reported from late Pleistocene: Samwel Cave, Shasta County, Hawver Cave, Eldorado County, Rancho La Brea, Los Angeles, and Carpinteria, Santa Barbara County, California.

Genus APHELOCOMA Cabanis

Aphelocoma CABANIS, Mus. Hein., vol. 1, sign. 28, Oct. 15, 1851, p. 221. Type, by subsequent designation, *Garrulus californicus* Vigors (Baird, 1858).

Subgenus APHELOCOMA Cabanis

Aphelocoma coerulescens (BOSC): **Scrub Jay**[22]

Corvus coerulescens BOSC, Bull. Soc. Sci. Philom. Paris, vol. 1, pt. 1, 1795, p. 87.

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[21] Recent studies indicate that the age may be Oligocene.

[22] Recorded as *Aphelocoma californica* (Vigors), California Jay, in the preceding check-list.

Modern form reported from late Pleistocene: McKittrick, Kern County, Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Genus PICA Brisson

Pica Brisson, Orn., 1760, vol. 1, p. 30; vol. 2, p. 35. Type, by tautonymy, *Pica* Brisson = *Corvus pica* Linnaeus.

Pica nuttallii (Audubon): **Yellow-billed Magpie**

Corvus nuttallii Audubon, Birds Amer. (folio), vol. 4, 1836, pl. 362, fig. 1.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Subfamily CORVINAE: Crows and Ravens

Genus CORVUS Linnaeus

Corvus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 105. Type, by tautonymy, *Corvus* = *Corvus corax* Linnaeus.

Corvus corax Linnaeus: **Common Raven** [23]

Corvus Corax Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 105.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; Hawver Cave, Eldorado County, Carpinteria, McKittrick, Rancho La Brea, Los Angeles, and Playa del Rey (Palos Verdes sand), Los Angeles County, California. Pleistocene: San Josecito Cave, Aramberri, Nuevo León.

Corvus cryptoleucus Couch: **White-necked Raven**

Corvus cryptoleucus Couch, Proc. Acad. Nat. Sci. Philadelphia, vol. 7, No. 2, May 20, 1854, p. 66.

Modern form reported from late Pleistocene: McKittrick and Rancho La Brea, Los Angeles, California.

Corvus brachyrhynchos Brehm: **Crow**

Corvus brachyrhynchos C. L. Brehm, Beitr. Vögelkunde, vol. 2, 1822, p. 56.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida. Late Pleistocene: Potter Creek Cave, Shasta County, and Rancho La Brea, Los Angeles, California.[24]

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[23] *Corvus shufeldti* Sharpe is a synonym of *C. corax*. See Howard, Carnegie Inst. Washington Publ. 551, Jan. 25, 1946, p. 189.

[24] Record formerly given from Carpinteria refers to *C. caurinus*.

Corvus caurinus BAIRD: **Northwestern Crow**

Corvus caurinus BAIRD, Rep. Expl. and Surv. R. R. Pac., vol. 9, 1858, pp. 559, 569.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Corvus ossifragus WILSON: **Fish Crow**

Corvus ossifragus WILSON, Amer. Orn., vol. 5, 1812, p. 27, pl. 37, fig. 2.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

Corvus pumilis WETMORE

Corvus pumilis WETMORE, Proc. Biol. Soc. Washington, vol. 33, Dec. 30, 1920, p. 81, pl. 2, figs. 3, 4.

Recent (extinct): [25] Cave deposits in Cueva San Miguel (type locality), near Morovís, Puerto Rico; Kitchen midden at Concordia, near Southwest Cape, St. Croix, Virgin Islands.

Genus GYMNORHINUS Wied

Gymnorhinus WIED, Reise Nord-Amer., vol. 2, 1841, p. 21. Type, by monotypy, *Gymnorhinus cyanocephalus* Wied.

Gymnorhinus cyanocephalus WIED: **Piñon Jay**

Gymnorhinus cyanocephalus WIED, Reise Nord-Amer., vol. 2, 1841, p. 22.

Modern form reported from Pleistocene: Conkling Cavern, Pyramid Peak, Organ Mountains, Dona Ana County, New Mexico.

Family SITTIDAE: NUTHATCHES

Subfamily SITTINAE: TYPICAL NUTHATCHES

Genus SITTA Linnaeus

Sitta LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 115. Type, by monotypy, *Sitta europaea* Linnaeus.

Sitta canadensis LINNAEUS: **Red-breasted Nuthatch**

Sitta canadensis LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, pp. 176, 177.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, California.

[25] Included here as it has not been found in living form, being known only from bones. Probably this small crow existed until modern times near Lares, Puerto Rico.

Sitta pygmaea VIGORS: **Pygmy Nuthatch**

Sitta pygmaea VIGORS, in Zool. Beechey's Voy., 1839, p. 25, pl. 4, fig. 2.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, California.

Family CHAMAEIDAE: WREN-TITS

Genus CHAMAEA Gambel

Chamaea GAMBEL, Proc. Acad. Nat. Sci. Philadelphia, vol. 3, No. 7, January-February (May 7), 1847, p. 154. Type, by original designation, *Parus fasciatus* Gambel.

Chamaea fasciata (GAMBEL): **Wren-tit**

Parus fasciatus GAMBEL, Proc. Acad. Nat. Sci. Philadelphia, vol. 2, No. 10, July-August (Dec. 5), 1845, p. 265.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, California.

Family MIMIDAE: THRASHERS and MOCKINGBIRDS

Genus TOXOSTOMA Wagler

Toxostoma WAGLER, Isis von Oken, vol. 24, Heft 5 (May) 1831, col. 528. Type, by monotypy, *Toxostoma vetula* Wagler = *Orpheus curvirostris* Swainson.

Toxostoma bendirei (COUES): **Bendire's Thrasher**

Harporhynchus bendirei COUES, Amer. Nat., vol. 7, No. 6, June 1873, p. 330.

Modern form reported from late Pleistocene: McKittrick, Kern County, California.

Toxostoma redivivum (GAMBEL): **California Thrasher**

Harpes rediviva GAMBEL, Proc. Acad. Nat. Sci. Philadelphia, vol. 2, No. 10, July-August (Dec. 5), 1845, p. 264.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus OREOSCOPTES Baird

Oreoscoptes BAIRD, in Baird, Cassin, and Lawrence, Rep. Expl. Surv. R. R. Pac., vol. 9, 1858, pp. XIX, XXXV. Type, by monotypy, *Orpheus montanus* Townsend.

Oreoscoptes montanus (TOWNSEND): **Sage Thrasher**

Orpheus montanus TOWNSEND, Journ. Acad. Nat. Sci. Philadelphia, vol. 7, pt. 2, Nov. 21, 1837, p. 192.

Modern form reported from late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Family TURDIDAE: Thrushes

Genus TURDUS Linnaeus

Turdus Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 168. Type, by subsequent designation, *Turdus viscivorus* Linnaeus (Gray, 1840).

Turdus migratorius Linnaeus: Robin

Turdus migratorius Linnaeus, Syst. Nat., ed. 12, vol. 1, 1766, p. 292.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, California.

Genus SIALIA Swainson

Sialia Swainson, Philos. Mag., n. s., vol. 1, No. 5, May 1827, p. 369. Type, by monotypy, *Sialia azurea* Swainson = *Motacilla sialis* Linnaeus.

Sialia mexicana Swainson: Western Bluebird

Sialia mexicana Swainson, Fauna Bor.-Amer., vol. 2, 1831 (February, 1832), p. 202.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, California.

Family BOMBYCILLIDAE: Waxwings

Genus BOMBYCILLA Vieillot

Bombycilla Vieillot, Hist. Nat. Ois. Amér. Sept., vol. 1, 1807 (1808), p. 88. Type, by monotypy, *Bombycilla cedrorum* Vieillot.

Bombycilla cedrorum Vieillot: Cedar Waxwing

Bombycilla cedrorum Vieillot, Hist. Nat. Ois. Amér. Sept., vol. 1, 1807 (1808), p. 88, pl. 57.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, and Rancho La Brea, Los Angeles, California.

Family LANIIDAE: Shrikes

Subfamily LANIINAE: Shrikes

Genus LANIUS Linnaeus

Lanius Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 93. Type, by subsequent designation, *Lanius excubitor* Linnaeus (Swainson, 1824).

Lanius ludovicianus LINNAEUS: **Loggerhead Shrike**

Lanius ludovicianus LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 134.

Modern form reported from late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Family ICTERIDAE: MEADOWLARKS, BLACKBIRDS, and TROUPIALS

Genus STURNELLA Vieillot

Sturnella VIEILLOT, Analyse, 1816, p. 34. Type, by monotypy, Stourne, ou Merle à fer-à-cheval Buffon = *Alauda magna* Linnaeus.

Sturnella neglecta AUDUBON: **Western Meadowlark**

Sturnella neglecta AUDUBON, Birds Amer., octavo ed., vol. 7, 1844, p. 339, pl. 489.

Modern form reported from late Pleistocene: Carpinteria, McKittrick, Rancho La Brea, Los Angeles, and San Pedro (Palos Verdes formation), Los Angeles County, California.

Genus AGELAIUS Vieillot

Agelaius VIEILLOT, Analyse, 1816, p. 33. Type, by subsequent designation, Troupiale commandeur Buffon = *Oriolus phoeniceus* Linnaeus (Gray, 1840).

Agelaius phoeniceus (LINNAEUS): **Red-winged Blackbird**

Oriolus phoeniceus LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 161.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

Genus EUPHAGUS Cassin

Euphagus CASSIN, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, No. 5, November-December, 1866 (July 20, 1867), p. 413. Type, by monotypy, *Psarocolius cyanocephalus* Wagler.

Euphagus cyanocephalus (WAGLER): **Brewer's Blackbird** [26]

Psarocolius cyanocephalus WAGLER, Isis von Oken, vol. 22, Heft 7 (July), 1829, col. 758.

Modern form reported from late Pleistocene: Fossil Lake, Oregon; McPherson County, Kansas (Kentuck locality).

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[26] The record by L. H. Miller from the Pleistocene of Hawver Cave, Eldorado County, California (Univ. California Publ. Geol., vol. 6, Oct. 28, 1911, pp. 399, 400), was subsequently questioned by the same author (Condor, 1921, p. 130). In recent correspondence A. H. Miller writes that he has examined the material reported on from this cave and does not find this species represented. It is therefore omitted from the list. *Euphagus affiis* Shufeldt is a synonym of *E. cyanocephalus*.

Euphagus magnirostris MILLER

Euphagus magnirostris A. H. MILLER, Univ. California Publ., Bull. Dept. Geol. Sci., vol. 19, No. 1, Dec. 21, 1929, p. 14, pl. 1, figs. *f*, *h*.

Late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus CASSIDIX Lesson

Cassidix LESSON, Traité d'Orn., livr. 6, Feb. 1, 1831, p. 433. Type, by subsequent designation, *Cassidix mexicanus* Lesson = *Corvus mexicanus* Gmelin (Gray, 1840).

Cassidix mexicanus (GMELIN): **Boat-tailed Grackle**

Corvus mexicanus GMELIN, Syst. Nat., vol. 1, pt. 1, 1788, p. 375.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

Genus QUISCALUS Vieillot

Quiscalus VIEILLOT, Analyse, 1816, p. 36. Type, by subsequent designation, *Gracula quiscula* Linnaeus (Gray, 1840).

Quiscalus quiscula (LINNAEUS): **Grackle**

Gracula Quiscula LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 109.

Modern form reported from Pleistocene: Seminole Field, Pinellas County, Florida.

Genus PYELORHAMPHUS Miller

Pyelorhamphus A. H. MILLER, Auk, vol. 49, No. 1, January 1932, p. 39. Type, by original designation, *Pyelorhamphus molothroides* Miller.

Pyelorhamphus molothroides MILLER

Pyelorhamphus molothroides A. H. MILLER, Auk, vol. 49, No. 1, January 1932, p. 39, pl. 4.

Quaternary (? Pleistocene):[27] Shelter Cave, Pyramid Peak, Organ Mountains, Dona Ana County, New Mexico.

Genus PANDANARIS Miller

Pandanaris A. H. MILLER, Condor, vol. 49, No. 1, Feb. 6, 1947, p. 22. Type, by original designation, *Pandanaris convexa* A. H. Miller.

Pandanaris convexa MILLER

Pandanaris convexa A. H. MILLER, Condor, vol. 49, No. 1, Feb. 6, 1947, p. 22, fig. 4 a-d.

Late Pleistocene: Pit "A," Rancho La Brea, Los Angeles, California.

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[27] The deposits in which this extinct species was found are possibly of Recent age.

Family FRINGILLIDAE: Grosbeaks, Finches, Sparrows, and Buntings

Subfamily RICHMONDENINAE: Cardinals and Allies

Genus PHEUCTICUS Reichenbach

Pheucticus Reichenbach, Av. Syst. Nat., June 1, 1850, pl. 78. Type, by subsequent designation, *Pitylus aureoventris* Lafresnaye and d'Orbigny (Gray, 1855).

Pheucticus melanocephalus (Swainson): **Black-headed Grosbeak**

Guiraca melanocephala Swainson, Philos. Mag., n. s., vol. 1, No. 6, June 1827, p. 438.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Subfamily CARDUELINAE: Purple Finches, Goldfinches, and Allies

Genus HESPERIPHONA Bonaparte

Hesperiphona Bonaparte, Consp. Gen. Avium, vol. 1, sign. 64, 1850 (Feb. 3, 1851), p. 505. Type, by original designation, *Fringilla vespertina* W. Cooper.

Hesperiphona vespertina (Cooper): **Evening Grosbeak**

Fringilla vespertina W. Cooper, Ann. Lyc. Nat. Hist. New York, vol. 1, pt. 2, 1825, p. 220.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus CARPODACUS Kaup

Carpodacus Kaup, Skizz. Entw.-Gesch. Eur. Thierw., 1829, p. 161. Type, by subsequent designation, *Loxia rosea* Pallas (Gray, 1842).

Subgenus BURRICA Ridgway

Burrica Ridgway, Man. North Amer. Birds, 1887, p. 390. Type, by original designation, *Fringilla mexicana* Müller.

Carpodacus mexicanus (Müller): **House Finch**

Fringilla mexicana P. L. S. Müller, Natursyst., Suppl., 1776, p. 165.

Modern form reported from late Pleistocene: McKittrick, Kern County, California.

Genus SPINUS Koch

Spinus Koch, Syst. Baier. Zool., vol. 1, 1816, p. 233. Type, by tautonymy, *Fringilla spinus* Linnaeus.

Spinus pinus (Wilson): **Pine Siskin**

Fringilla pinus Wilson, Amer. Orn., vol. 2, 1810, p. 133, pl. 17, fig. 1.

Modern form reported from Pleistocene: Carpinteria and Rancho La Brea, Los Angeles, California.

Spinus tristis (Linnaeus): **American Goldfinch**

Fringilla tristis Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 181.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus LOXIA Linnaeus

Loxia Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 171. Type, by subsequent designation, *Loxia curvirostra* Linnaeus (Gray, 1840).

Loxia curvirostra Linnaeus: **Red Crossbill**

Loxia Curvirostra Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 171.

Modern form reported from late Pleistocene: Carpinteria, Santa Barbara County, California.

Subfamily EMBERIZINAE: Sparrows and Buntings

Genus PALAEOSTRUTHUS Wetmore

Palaeostruthus Wetmore, Bull. Mus. Comp. Zoöl., vol. 67, May 1925, p. 192. Type, by original designation, *Palaeospiza hatcheri* Shufeldt.

Palaeostruthus hatcheri (Shufeldt)

Palaeospiza hatcheri Shufeldt, Bull. Amer. Mus. Nat. Hist., vol. 32, art. 16, Aug. 4, 1913, p. 301, pl. 55, fig. 28.

Middle Pliocene: Near Long Island, Kansas.

Genus PIPILO Vieillot

Pipilo Vieillot, Analyse, 1816, p. 32. Type, by monotypy, Pinson aux yeux rouges Buffon = *Fringilla erythrophthalma* Linnaeus.

Pipilo maculatus Swainson: **Spotted Towhee**

Pipilo maculata Swainson, Philos. Mag., n. s., vol. 1, 1827, p. 434.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, and Carpinteria, California.

Pipilo fuscus SWAINSON: **Brown Towhee**

Pipilo fusca SWAINSON, Philos. Mag., n. s., vol. 1, 1827, p. 434.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, and Carpinteria, California.

Pipilo angelensis DAWSON

Pipilo angelensis DAWSON, Condor, vol. 50, No. 2, Mar. 16, 1948, p. 39, fig. 16.

Late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus CALAMOSPIZA Bonaparte

Calamospiza BONAPARTE, Geogr. and Comp. List, 1838, p. 30. Type, by monotypy, *Fringilla bicolor* J. K. Townsend = *Calamospiza melanocorys* Stejneger.

Calamospiza melanocorys STEJNEGER: **Lark Bunting**

Calamospiza melanocorys STEJNEGER, Auk, vol. 2, No. 1, January 1885, p. 49.

Modern form reported from late Pleistocene: Meade County, Kansas (Jones fauna, Vanhem formation).

Genus AMMODRAMUS Swainson

Ammodramus SWAINSON, Philos. Mag., n. s., vol. 1, No. 6, June 1827, p. 435. Type, by monotypy, *Ammodramus bimaculatus* Swainson.

Ammodramus savannarum (GMELIN): **Grasshopper Sparrow**

Fringilla savannarum GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 921. (Jamaica).

Modern form reported from Pleistocene: Near Haile, 4 miles northeast of Newberry, Alachua County, Florida.

Genus POOECETES Baird

Pooecetes BAIRD, in Baird, Cassin, and Lawrence, Rep. Expl. Surv. R. R. Pac., vol. 9, 1858, pp. xx, xxxix. Type, by monotypy, *Fringilla graminea* Gmelin.

Pooecetes gramineus (GMELIN): **Vesper Sparrow**

Fringilla graminea GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 922.

Modern form reported from Pleistocene: Rancho La Brea, Los Angeles, California.

Genus CHONDESTES Swainson

Chondestes SWAINSON, Philos. Mag., n. s., vol. 1, No. 6, June 1827, p. 435. Type, by monotypy, *Chondestes strigatus* Swainson.

Chondestes grammacus (SAY): **Lark Sparrow**

Fringilla grammaca SAY, in Long, Exped. Rocky Mts., vol. 1, 1823, p. 139.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus AMPHISPIZA Coues

Amphispiza COUES, Birds Northwest, 1874, p. 234. Type, by original designation, *Emberiza bilineata* Cassin.

Amphispiza bilineata (CASSIN): **Black-throated Sparrow**

Emberiza bilineata CASSIN, Proc. Acad. Nat. Sci. Philadelphia, vol. 5, No. 5, September-October (Dec. 7), 1850, p. 104, pl. 3.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Amphispiza belli (CASSIN): **Bell's Sparrow**

Emberiza Belli CASSIN, Proc. Acad. Nat. Sci. Philadelphia, vol. 5, No. 5, September-October (Dec. 7), 1850, p. 104, pl. 4.

Modern form reported from late Pleistocene: McKittrick, Kern County, and Rancho La Brea, Los Angeles, California.

Genus SPIZELLA Bonaparte

Spizella BONAPARTE, Giornale Arcadico, vol. 52, October-December 1831 (1832), p. 205. Type, by monotypy, *Fringilla pusilla* Wilson.

Spizella passerina (BECHSTEIN): **Chipping Sparrow**

Fringilla passerina BECHSTEIN, in Latham, Allgem. Uebers. Vögel, vol. 3, pt. 2, 1798, p. 544, pl. 120, fig. 1.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus ZONOTRICHIA Swainson

Zonotrichia SWAINSON, in Swainson and Richardson, Fauna Bor.-Amer., vol. 2, 1831 (February 1832), p. 493. Type, by subsequent designation, *Fringilla pensylvanica* Latham = *Fringilla albicollis* Gmelin (Bonaparte, 1831).

Zonotrichia leucophrys (FORSTER): **White-crowned Sparrow**

Emberiza leucophrys J. R. FORSTER, Philos. Trans., vol. 62, art. 29, 1772, p. 426.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

Genus PASSERELLA Swainson

Passerella Swainson, Nat. Hist. and Class. Birds, vol. 2, July 1, 1837, p. 288. Type, by monotypy, *Fringilla iliaca* Merrem.

Passerella iliaca (Merrem): Fox Sparrow

Fringilla iliaca Merrem, Avium Rar. Icones et Descrip., vol. 2, 1786, p. 37, pl. 10.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, and Carpinteria, California.

Genus MELOSPIZA Baird

Melospiza Baird, in Baird, Cassin, and Lawrence, Rep. Expl. Surv. R. R. Pac., vol. 9, 1858, pp. xx, xl, 440, 476. Type, by original designation, *Fringilla melodia* Wilson.

Subgenus MELOSPIZA Baird

Melospiza melodia (Wilson): Song Sparrow

Fringilla melodia Wilson, Amer. Orn., vol. 2, 1810, p. 125, pl. 16, fig. 4.

Modern form reported from late Pleistocene: Rancho La Brea, Los Angeles, California.

INCERTAE SEDIS

Genus CIMOLOPTERYX Marsh [28]

Cimolopteryx Marsh, Amer. Journ. Sci., ser. 3, vol. 38, 1889, p. 83, footnote. Type, by monotypy, *Cimolopteryx rarus* Marsh.

Cimolopteryx rarus Marsh

Cimolopteryx rarus Marsh, Amer. Journ. Sci., ser. 3, vol. 38, July 1889, p. 83, footnote.

Upper Cretaceous (Lance formation): Niobrara County, Wyoming.

Cimolopteryx retusus Marsh

Cimolopteryx retusus Marsh, Amer. Journ. Sci., ser. 3, vol. 44, August 1892, p. 175.

Upper Cretaceous (Lance formation): Niobrara County, Wyoming.

[28] Lambrecht, Handb. Palaeorn., 1933, pp. 586-587, lists this genus at the end of the Ichthyornithiformes. He suggests that the two species belong in separate genera, possibly in different families. See also Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, pp. 11, 12, and 76.

Genus EOPTERYX Meyer

Eopteryx Meyer, Ber. Senckenberg. Nat. Ges. Frankfurt am Main, 1887, p. 14. Type, by monotypy, *Eopteryx mississippiensis* Meyer.

Eopteryx mississippiensis Meyer [29]

Eopteryx mississippiensis Meyer, Ber. Senckenberg. Nat. Ges. Frankfurt am Main, 1887, p. 14, pl. 2, figs. 22a-22c.

Eocene: Jackson, Mississippi.

(Genus uncertain)

Falco falconellus Shufeldt [30]

Falco falconella Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, p. 40, pl. 15, figs. 139-143.

Eocene (Bridger formation): Dry Creek?, Wyoming.

Genus FONTINALIS Lesquereux

Fontinalis Lesquereux, Rep. U. S. Geol. Surv. Terr., vol. 8, 1883, p. 135. Type, by monotypy, *Fontinalis pristin* Lesquereux.

Fontinalis pristina Lesquereux [31]

Fontinalis pristina Lesquereux, Rep. U. S. Geol. Surv. Terr., vol. 8, 1883, p. 135, pl. 21, fig. 9.

Oligocene (Florissant lake beds): Florissant, Colorado.

Genus HEBE Shufeldt

Hebe Shufeldt, Journ. Geol., vol. 21, October-November (Nov. 1), 1913, p. 644. Type, by monotypy, *Hebe schucherti* Shufeldt.

Hebe schucherti Shufeldt [32]

Hebe schucherti Shufeldt, Journ. Geol., vol. 21, October-November (Nov. 1), 1913, p. 644, fig. 10, *a*, *b*.

Eocene: [33] 5 miles west of Green River, Wyoming.

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[29] Described from a fragmentary vertebra.

[30] Not a falcon; relationships doubtful. See Wetmore, A., Proc. U. S. Nat. Mus., vol. 84, Nov. 3, 1936, pp. 77-78.

[31] Type a fragment of a fossil feather, described originally as a species of moss. See Knowlton, Proc. U. S. Nat. Mus., vol. 51, Nov. 24, 1916, p. 245, and Wetmore, Bull. Mus. Comp. Zoöl., vol. 67, May 1925, p. 184. Possibly of Oligocene age.

[32] Said to be a passeriform bird with four notches in the posterior border of the sternum; of uncertain affinity. *Hebe* Shufeldt, 1913, is preoccupied by *Hebe* Risso, 1826 (applied to a genus of crustaceans), so that should the form here under consideration be definitely identified it may require a new generic appellation. There is no necessity for action at this time in view of its uncertain relationships.

[33] From data furnished by Dr. M. R. Thorpe, of the Peabody Museum, Yale University.

Genus IGNOTORNIS Mehl

Ignotornis MEHL, Amer. Journ. Sci., ser. 5, vol. 21, May 1931, p. 443. Type, by monotypy, *Ignotornis mcconnelli* Mehl.

Ignotornis mcconnelli MEHL [34]

Ignotornis mcconnelli MEHL, Amer. Journ. Sci., ser. 5, vol. 21, May 1931, p. 444, fig. 1.

Cretaceous (Dakota sandstone): About 1½ miles northwest of Golden, Colorado.

Genus LAOPTERYX Marsh

Laopteryx MARSH, Amer. Journ. Sci., ser. 3, vol. 21, April 1881, p. 341. Type, by monotypy, *Laopteryx priscus* Marsh.

Laopteryx priscus MARSH [35]

Laopteryx priscus MARSH, Amer. Journ. Sci., ser. 3, vol. 21, April 1881, p. 341.

Upper Jurassic (Morrison formation): Quarry 9, Como Bluff, southern Wyoming.

Genus LAORNIS Marsh

Laornis MARSH, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 206. Type, by monotypy, *Laornis edvardsianus* Marsh.

Laornis edvardsianus MARSH [36]

Laornis edvardsianus MARSH, Amer. Journ. Sci., ser. 2, vol. 49, March 1870, p. 206.

Paleocene (Hornerstown marl): Near Birmingham, New Jersey.

Genus PALAEONORNIS Emmons

Palaeonornis EMMONS, Amer. Geol., pt. 6, 1857, p. 148. Type, by monotypy, *Palaeonornis struthionoides* Emmons.

Palaeonornis struthionoides EMMONS [37]

Palaeonornis Struthionoides EMMONS, Amer. Geol., pt. 6, 1857, p. 148, fig. 114.

? Triassic: Anson County, North Carolina.

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[34] Described from fossil impressions of 4-toed footprints, apparently with webs connecting the three anterior toes.

[35] J. D. Dana, Amer. Journ. Sci., ser. 5, vol. 12, July 1926, pp. 3, 4, considered the avian affinity of this supposed species as not definitely certain.

[36] Doubtfully related to Anseriformes. Lambrecht, Handb. Palaeorn., 1933, pp. 526-527, has placed it uncertainly after the Aramidae.

[37] Affinity doubtful: possibly not avian.

Genus UINTORNIS Marsh

Uintornis MARSH, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 259. Type, by monotypy, *Uintornis lucaris* Marsh.

Uintornis lucaris MARSH [38]

Uintornis lucaris MARSH, Amer. Journ. Sci., ser. 3, vol. 4, October 1872, p. 259.

Eocene (Bridger formation): Near Henry's Fork, Wyoming.

Genus YALAVIS Shufeldt

Yalavis SHUFELDT, Journ. Geol., vol. 21, October-November (Nov. 1), 1913, p. 649. Type, by monotypy, *Yalavis tenuipes* Shufeldt.

Yalavis tenuipes SHUFELDT [39]

Yalavis tenuipes SHUFELDT, Journ. Geol., vol. 21, October-November (Nov. 1), 1913, p. 649, figs. 11*c* and 12*c*.

Geologic age and locality of occurrence not known.

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[38] According to Shufeldt, Trans. Connecticut Acad. Arts Sci., vol. 19, February 1915, pp. 50-52, 77, pl. 6, fig. 42, this species is of uncertain affinity, and is not a woodpecker as suggested by Marsh.

[39] Said in the original description to be a passeriform bird of uncertain affinity.