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## THE NAMES OF THE LARGE WOLVES OF NORTHERN AND WESTERN NORTH AMERICA

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## THE NAMES OF THE LARGE WOLVES OF NORTHERN AND WESTERN NORTH AMERICA

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Examination of the skulls of the American wolves of the subgenus Canis in the U.S. National Museum, shows that the general region lying west of the Mississippi River and Hudson Bay, and north of the Platte and Columbia rivers, is inhabited by animals of three well defined types: (a) The timber-wolf type, distinguished by extremely large size (condylobasal length of skull in largest males about 265 mm.); (b) the plains-wolf type, moderate in size (condylobasal length of skull in largest males about 240 mm.), rostrum broad, palate wide in proportion to its length; and (c) the tundrawolf type of the Arctic coast region, size as in the plains-wolf, but rostrum slender and palate narrow in proportion to its length. While the material at hand is not sufficient to form the basis of a detailed monograph of the northern and western wolves, it has enabled me to trace the history of the ten names which have been applied to the animals. So far as I am aware, no previous attempt has been made to allocate these names.

Albus.—Canis lupus—albus Sabine, Franklin's Narr. Journ. Polar Sea, p. 655, 1823. Type locality, Fort Enterprise, MacKenzie, Canada. This name has been used for the Barren Ground wolf by Preble (North Amer. Fauna, No. 27, p. 213, October 26, 1908), though the great size of the animal mentioned by Sabine makes it appear probable that the type specimen was an albinistic timberwolf. The name is preoccupied by Canis lupus albus Kerr, 1791 (Anim. Kingd., p. 137), applied to a Siberian wolf.

<sup>&#</sup>x27;As the Barren Ground wolf has received no other name, it may be known as *Canis tundrarum*. Type: adult male (probably), skull No. 16748, U. S. National Museum. Collected at Point Barrow, Alaska, by Lt. P. H. Ray. Size much less than in the northern timber-wolf, the skull and teeth about as in the plains-wolf of the northern United States, but rostrum and palate narrower. Color said to be frequently white or whitish. Condylobasal length of skull, 241.5; zygomatic breadth, 37. Specimens examined (all skulls): Point Barrow, 2; northwest of Fort Yukon (about 100 miles), Alaska, 1; Peel River, Yukon, 1. Three skulls from Fort Chimo, Ungava, appear to represent the same animal. This wolf is decidedly larger than *Canis lycaon* 

Ater.—[Canis lupus, occidentalis] var. E. Lupus ater Richardson, Fauna Boreali Americana, Vol. 1, p. 70, 1829. Applied to the melanistic individuals supposed by Richardson to occur throughout the range of the American Canis lupus. The name ater is therefore a synonym of occidentalis.

Gigas.—Lupus gigas Townsend, Journ. Acad. Nat. Sci. Philadelphia, N. S., Vol. 2, p. 75. Type locality, "one and a half or two miles west of Fort Vancouver," Washington. This is the first name applied to the timber-wolf of the northwest coast. A skull from Puget Sound (No. 3438) indicates an animal differing from the timber-wolf of the interior region in less great size and in less enlarged teeth.

Griseo-albus.—Canis occidentalis var. griseo-albus Baird, Mamm. North Amer., p. 104, 1857. This name was used by Baird to indicate the normal color variety of the American wolf, the diagnosis of which is: "Color, pure white to grizzled gray." It is thus exactly equivalent to his occidentalis.

Griseus.—Canis lupus—griseus Sabine, Franklin's Narr. Journ. Polar Sea., p. 654, 1823. Type locality, Cumberland House, Keewatin, Canada. This is the first name based on the northern timberwolf. As pointed out by Bangs (Amer. Nat., Vol. 32, p. 505, July, 1898), it is preoccupied by Canis griseus Boddaert 1784, a synonym of Urocyon cinereoargenteus.

Nubilus.—Canis nubilus Say, Long's Exped. Rocky Mts., Vol. 1, p. 169, 1825. Type locality, Engineer Cantonment, near present town of Blair, Washington County, Nebraska. The first name applied to the plains-wolf of the central United States and adjoining portions of Canada.

Occidentalis.—Canis lupus, occidentalis Richardson, Fauna Boreali Americana, Vol. 1, p. 60, 1829. A name first applied to the northern wolves, but subsequently used for widely different animals. The essential part of Richardson's original account, so far as geography is concerned, is as follows:

The Common Wolves of the Old and New World have been generally supposed to be the same species—the Canis lupus of Linnæus. The American

(for use of this name for the eastern timber-wolf, see Miller, Proc. Biol. Soc. Washington, Vol. 25, p. 95, May 4, 1912), and the narrowing of the rostrum is not carried to so great an extreme. The type agrees in size and in the character of the teeth with the specimen from northwest of Fort Yukon marked male by McKay.

<sup>1</sup> In a note recently published (Proc. Biol. Soc. Washington, Vol. 25, p. 95, May 4, 1912), I came to the same conclusion by a different course of reasoning.

naturalists have, indeed, described some of the northern kinds of Wolf as distinct; but it never seems to have been doubted that a Wolf, possessing all the characters of the European Wolf, exists within the limits of the United States. The wolf to which these characters have been ascribed, seems to be the "large brown Wolf" of Lewis and Clark, and, according to them, inhabits not only the Atlantic countries, but also the borders of the Pacific and the mountains which approach the Columbia River, between the Great Falls and rapids, but is not found on the Missouri to the westward of the Platte. I have seen none of these Brown Wolves; but if their resemblance is so close to the European Wolf as Major Smith states it to be, I have no hesitation in saving that they differ decidedly from the Wolf which inhabits the countries north of Canada. . . . I have, therefore, in the present state of our knowledge, considered it unadvisable to designate the northern Wolf of America by a distinct specific appellation, lest I should unnecessarily add to the list of synonyms, which have already overburthened the science of Zoölogy. The word occidentalis, which I have affixed to the Linnæan name of Canis lupus, is to be considered as merely marking the geographical position of the peculiar race of Wolf which forms the subject of this article. I have avoided adopting, as a specific name, any of the appellations founded on color, because they could not with propriety be used to denote more than casual varieties of a species, in which the individuals show such a variety in their markings.

In a later article (Rep. Brit. Asso. Adv. Sci., Vol. 5, pp. 145-146, 1837) Richardson says: "The Lupus occidentalis travels northward to the islands of the Arctic Sea, but its southern range cannot be defined until its identity with the common wolf of the United States be proved or disproved." It is evident from this that the name was intended to apply to the Canadian wolves met with by the author. Richardson visited parts of the ranges of all three types of northern wolves (see Preble, North Amer. Fauna, No. 27, pp. 57-60, October 26, 1908). There is nothing in his first account or in his subsequent allusions to the animal, that can be used to gain further insight of his intention, or to allocate the name artificially. The application of the name must, therefore, be determined by subsequent revision. Up to the present time, however, no one has in a technical sense acted as reviser; the name has merely been applied to various animals, frequently unknown at first-hand to Richardson, and without definite knowledge on the part of the persons so using it of the three types of central Canadian wolves.1

<sup>&</sup>lt;sup>1</sup> As examples of such applications may be cited: to *Canis lycaon* by DeKay in 1842 (Nat. Hist. New York, Vol. 1, p. 42); to a combination of *C. gigas* and *C. lycaon* by Peale in 1848 (U. S. Expl. Exped., Vol. 8, p. 26); to *C. nubilus* by Townsend in 1850 (Journ. Acad. Nat. Sci. Philadelphia, N. S., Vol. 2, pp. 77-79); to a probable combination of *C. lycaon* and *C. tundrarum* by Bangs in 1898 (Amer. Nat., Vol. 32, p. 505, July, 1898); to the timber-wolf of the northern interior region by Preble in 1908 (North Amer. Fauna, No. 27, p. 211, October 26, 1908).

Under the circumstances, the name requires a definite restriction, and I shall follow Preble in limiting it to the northern timber-wolf. This animal is represented in the U. S. National Museum by skulls from Fort Simpson which show it to be the largest American wolf yet known.

Pambasileus.—Canis pambasileus Elliot, Proc. Biol. Soc. Washington, Vol. 18, p. 79, February 21, 1905. Type locality, Sushitna River, region of Mt. McKinley, Alaska. So far as can be judged from the description, this is a local form of Canis occidentalis not attaining the extreme size of the Canadian animal.

Sticte.—(Canis lupus, occidentalis) var. C. Lupis sticte Richardson, Fauna Boreali Americana, Vol. 1, p. 68, 1829. Like ater this name is a synonym of occidentalis.

Variabilis.—Canis variabilis Wied, Reise in das innere Nord Amerika, Vol. 2, p. 95, 1841. Type locality, Fort Clark, near present town of Stanton, Mercer County, North Dakota. A synonym of nubilus.

The forms that seem worthy of recognition are, with their synonyms, as follows:

1. CANIS TUNDRARUM Miller (Barren Grounds).

albus Sabine 1823. occidentalis Richardson 1829 (part). albus Preble 1908.

2. CANIS OCCIDENTALIS Richardson (Northern Interior Forests).

griseus Sabine 1823. occidentalis Richardson 1829 (part). ater Richardson 1829. sticte Richardson 1829. occidentalis Preble 1908.

- 3. CANIS PAMBASILEUS Elliot (Region of Mt. McKinley).
- 4. CANIS GIGAS Townsend (Region of Puget Sound). occidentalis Peale 1848 (not of Richardson).
- 5. CANIS NUBILUS Say (Interior Plains).

occidentalis Richardson 1829 (part). occidentalis Townsend 1850. variabilis Wied 1841.

<sup>&</sup>lt;sup>1</sup> Cranial measurements of adult male, No. 9001: condylobasal length, 266; greatest length, 282.5; zygomatic breadth, 155.5; mandible, 208; maxillary toothrow, exclusive of incisors, 116.5; mandibular toothrow, exclusive of incisors, 134.2; upper carnassial, 30.2 x 16.0; lower carnassial, 33.6 x 13.0.

Names which do not require consideration in this connection are: Canis floridanus Miller 1912 (Proc. Biol. Soc. Washington, Vol. 25, p. 95, May 4, 1912). Type locality, Horse Landing, on the St. John River, about 12 miles south of Palatka, Putnam County, Florida.

Canis frustror Woodhouse 1851 (Proc. Acad. Nat. Sci. Philadelphia, Vol. 5, p. 147). Type locality, Fort Gibson, at junction of Neosho and Arkansas rivers, Indian Territory.

Canis lycaon Schreber 1776 (Säugthiere, pl. 89.) Type locality, Eastern Canada.

Canis lupus var. rufus Audubon and Bachman 1851 (Quadr. North Amer., Vol. 2, p. 240. Type locality, Texas. (Canis rufus Bailey, North Amer. Fauna, No. 25, p. 174, October 24, 1905.)

Canis mexicanus Linnæus 1766 (Syst. Nat., Vol. 1, 12th ed., p. 60). Type locality, southern Mexico. The name was primarily based on the "Xoloitzcuintli" of Hernandez (Rerum Medicarum Novæ Hispaniæ Thesaurus, p. 479, 1628), an animal described as very similar to the European wolf and considerably larger than the "Coyotl." It inhabited the hot portions of Mexico (Hernandez, Hist. Anim. et Min. Nov. Hisp., Tractatus primus, De Quadr. Nov. Hisp., p. 7). Whether a true wolf ever occurred in this region is doubtful. Mr. E. W. Nelson informs me that the wolf of the southern end of the Mexican tableland became extinct about fifty years ago.