

# Largest Gray Wolf Skulls Found in Alberta

JOHN R. GUNSON<sup>1</sup> and RONALD M. NOWAK<sup>2</sup>

<sup>1</sup>Alberta Fish and Wildlife Division, 6909-116 St., Edmonton, Alberta T6H 4P2

<sup>2</sup>Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240

Gunson, J. R. and R. M. Nowak. 1979. Largest Gray Wolf skulls found in Alberta. *Canadian Field-Naturalist* 93(3): 308-309.

Measurements of greatest length and zygomatic width of five large skulls of *Canis lupus* from Alberta are reported. Three, all from the range of *C. l. occidentalis*, are larger than the previous largest specimen, also *occidentalis*.

Key Words: Gray Wolf, skull measurements, *Canis lupus*, size.

According to Goldman (1944) the largest subspecies of the Gray Wolf (*Canis lupus*) are found in Alaska and northwestern Canada. With respect to measurements in millimetres of greatest length (g.l.) and zygomatic width (z.w.) of skull, the four largest individuals that he listed (pp. 490-497), all males, were the following: United States National Museum 9001, *C. l. occidentalis*, Fort Simpson, Mackenzie, g.l. 292.8, z.w. 156.5; Royal Ontario Museum 33-9-20-5, *C. l. pambasileus*, White River, Yukon, g.l. 293.7, z.w. 151.5; Royal Ontario Museum 31-2-16-2, *C. l. pambasileus*, White River, Yukon, g.l. 292.8, z.w. 149.0; University of California Museum of Vertebrate Zoology 31043, *C. l. columbianus*, Iskut Summit, British Columbia, g.l. 288.9, z.w. 155.0. On the basis of both measurements, the specimen from Fort Simpson, which was collected in 1869, has been until now the largest reported skull of a North American Gray Wolf.

Several specimens of male *C. lupus* recently collected in Alberta have skull dimensions that approximate or surpass those of the above-mentioned material (Table 1). The largest of all, number Z78.104.1 in the collection of the Provincial Museum of Alberta (formerly 66-18 of the Alberta Fish and Wildlife Division), was taken at Roche Lake in the

Swan Hills area, about 155 km northwest of Edmonton. Two others, Z78.104.2 and Z78.104.3, taken during 1972-1974 in northwestern Alberta were also larger than the Fort Simpson wolf. All three were taken in areas within the original range of *C. l. occidentalis*, as was Z78.104.4. Specimen Z78.104.5 was collected in southwestern Alberta from an area within Goldman's original range of *C. l. irremotus*. Determination of the taxonomic position of that specimen and others recently collected from even more southerly locations in Alberta awaits the collection of additional data.

Several extensive regional collections of North American Gray Wolves have been assembled in recent decades, but with the exception of the Alberta Fish and Wildlife Division collection (12 measurements on each of 468 skulls), none have been thoroughly analyzed. One of us (Nowak) made cursory examinations of a collection from western Canada in the possession of the University of British Columbia and a collection from Alaska in the possession of the University of Alaska. No skulls were found that surpassed in size the larger of the above-described specimens, but one of the Alaska skulls of *C. l. pambasileus* may be the largest ever recorded for that state. The specimen (University of Alaska 40682) was

TABLE 1—Specifics of five large male *Canis lupus* from Alberta, Canada. PMA = Provincial Museum of Alberta; AFW = Alberta Fish and Wildlife Division

Specimen no.		Location	Date of collection	Greatest length (mm)	Zygomatic width (mm)
PMA	AFW				
Z78.104.1	66-18	54°46'N, 114°55'W	30 Jan. 1966	304.5	154.8
Z78.104.2	V441036	55° 4'N, 119°50'W	13 Feb. 1973	297.6	158.0
Z78.104.3	V441097	54°43'N, 113°17'W	Feb. 1974	288.8	162.5
Z78.104.4	V441057	54°48'N, 119°20'W	27 Feb. 1973	292.6	155.8
Z78.104.5	V441016	51°27'N, 114°50'W	28 Feb. 1973	285.3	160.4



collected in 1966 in the Wood River drainage of central Alaska, and its measurements (taken to the nearest millimetre) are g.l. 292, z.w. 153.

Mean greatest length and zygomatic width for 83 adult male *C. lupus* taken in Alberta during 1965–1966 to 1977–1978 were 275.6 (range 251.3 to 304.5) and 150.7 (range 128.6 to 162.5). The following data on series of North American wolf skulls (Nowak 1973) are offered for purposes of comparison: 233 Recent male *C. lupus* from throughout northern and western North America, mean g.l. 259.6 (range 235–293), mean z.w. 141.1 (range 126–164); 20 male *C. l. pambasileus*, mean g.l. 271.4 (range 248–288), mean z.w. 145.4 (range 130–154); 62 *C. dirus* (unsexed) from late Pleistocene deposits at Rancho La Brea, California, mean g.l. 294.8 (range 258–316), mean z.w. 163.3 (range 148–177). In comparisons of skull dimensions of wolves from several areas in western North America, Skeel and Carbyn (1977) recorded largest mean g.l. and z.w. in specimens from Prince Albert National Park, Saskatchewan, within the range of *C. l. occidentalis* (Goldman 1944) or *C. l.*

*griseoalbus* (Hall and Kelson 1959).

Although there is no comprehensive analysis of specimens throughout North America, the wolves of the boreal-subalpine forest regions of Alberta and adjacent areas appear to be the largest of the North American Gray Wolves.

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Received 2 November 1978

Accepted 19 January 1979

## Aquatic Feeding by a Woodchuck<sup>1</sup>

D. FRASER

Ontario Ministry of Natural Resources, Wildlife Research Section, Box 50, Maple, Ontario L0J 1E0

Fraser, D. 1979. Aquatic feeding by a Woodchuck. Canadian Field-Naturalist 93(3): 309–310.

A Woodchuck (*Marmota monax*) was seen eating aquatic plants which it obtained by climbing on fallen trees on a lakeshore. An attraction to sodium-rich plants probably accounts for the behavior.

Key Words: Woodchuck, *Marmota monax*, aquatic plants, sodium, feeding behavior.

Although they feed on a variety of vegetation, Woodchucks (*Marmota monax*) are not generally known to eat aquatic plants. The following observations document such behavior.

On 30 June 1978, while canoeing on a small unnamed lake in Sibley Provincial Park, Ontario (48°27'N, 88°45'W), I watched through binoculars as an adult Woodchuck climbed among the tangled branches of fallen Eastern White Cedar trees (*Thuja occidentalis*) overhanging the water. The animal climbed to a location 1 to 2 m from shore where it clung, holding its head 1 to 3 cm above the surface of the water and its hindquarters slightly higher. Prominent light areas visible around the nipples indicated that it was a female. From this location the Woodchuck dipped its left front paw into the water and pulled vegetation into its mouth. It fed for about

1 min, then returned to shore, apparently because my canoe had drifted within 10 m of the location.

The Woodchuck returned to the water's edge about 8 min later, and walked about 1 m from shore along a half sunken log. There it stopped and chewed on three plants which it dipped from the water with a front paw. It then climbed to two sites among the fallen trees, eating submersed and floating-leaved vegetation at each location. The animal left to shore 16 min after it had reappeared.

The feeding sites were dominated by submersed *Hippuris vulgaris* and *Potamogeton zosteriformis*, floating-leaved *Nuphar variegatum*, and emergent *Sagittaria* sp., growing in 30 cm of water over a soft organic bottom. At the main feeding location were 10 *H. vulgaris* plants missing their upper portions, one uprooted specimen and one damaged fragment of

<sup>1</sup>Ontario Ministry of Natural Resources, Wildlife Research Section Contribution No. 78-22.





Gunson, J. R. and Nowak, Ronald M. 1979. "Largest Gray Wolf skulls found in Alberta." *The Canadian field-naturalist* 93(3), 308–309.

<https://doi.org/10.5962/p.346963>.

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