## **LETTERS**

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## PRAIRIE FALCON KILLS CANADA GOOSE

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In most of their range Prairie Falcons (Falco mexicanus) feed principally on ground squirrels (Urocitellus spp., Ictidomys tridecemlineatus) and small- to medium-sized birds (Sherrod 1978), although they take a wide variety of other vertebrates. Most of the prey species in the published reports weigh <500 g (Steenhof 2013). Adults of the largest prey species reported, the black-tailed jackrabbit (Lepus californicus), weigh up to 2344 g (Steenhof 1983), although juveniles probably are taken much more frequently than adults (Decker and Bowles 1930), and weigh no more than 500 g (Steenhof 1983). The largest birds regularly found in Prairie Falcon diets (e.g., Boyce 1985, Dekker and Lange 2001, Steenhof 2013) are Chukars (Alectoris chukar) and Rock Pigeons (Columba livia), which have mean body masses of 500-615 g (Christensen 1996) and 340-370 g (Lowther and Johnston 2014), respectively, depending on sex and time of year. Other large birds occasionally reported in the diet include Mallard (Anas platyrhynchos; Cameron 1907), Northern Pintail (Anas acuta; Dekker 1982), Green-winged Teal (Anas crecca; Cameron 1907), Ring-necked Pheasant (Phasianus colchicus; Porter and White 1973), White-tailed Ptarmigan (Lagopus leucura; Marti and Braun 1975), Sharp-tailed Grouse (Tympanuchus phasianellus; Cameron 1907), and American Coot (Fulica americana; Decker and Bowles 1930), species that range in maximum mass from about 450 g to 1500 g. We found one account of a wild Prairie Falcon pursuing and striking a Canada Goose (Branta canadensis) in the air, but that falcon failed to kill the goose (Anderson and Squires 1997). We also are aware of a report of a trained Prairie Falcon killing Canada Geese (see George 1979). Here, we report on a Prairie Falcon that killed a fully grown Lesser Canada Goose (Branta c. parvipes), which apparently is the largest avian prey item ever reported for a wild Prairie Falcon.

At 1651 H on 14 February 2019, DC was driving near Forsyth, Rosebud County, Montana (46°16.02'N, 106°34.74′W), when he saw a raptor stooping on a flock of about 1200 Canada Geese and about 100 Cackling Geese (B. hutchinsii) that were roosting in snow-covered wheat stubble that was 20-30 cm tall. DC parked within 50 m of the nearest geese and had an unimpeded view through 8.5 × 42 binoculars of the events that unfolded. The raptor was an adult Prairie Falcon that DC assumed was a female on the basis of its large size. It circled part of the flock and made repeated passes at individual geese, none of which flushed. Instead, most of them lowered their heads and flattened their bodies against the ground. The falcon flew no higher than 15 m above the ground, and after five or six passes over the flock, it landed on a fencepost and remained perched for about 1 min. Then it flew over the flock and made two or three low passes before it struck the head and neck of a goose about 50 m from DC. The goose was obviously wounded by the strike, as documented by a photograph that showed a prominent wound on its neck and blood on its bill. The goose remained motionless after being struck, with its head held partially up and drooped forward such that the bill was barely off the ground. After the falcon struck the goose, all but 16 flock members flushed and landed more than 500 m away. The falcon passed through the fleeing flock and struck a second goose on the ground, although that bird appeared unimpaired by the strike. The falcon then landed on the ground <5 m from the first goose, which did not appear to react to the falcon's presence. The falcon then hopped onto the goose, which struggled briefly and flapped its wings before lying still on its back, pinned down by the falcon (Fig. 1). During the struggle, the falcon steadied itself with its wings and grabbed with its talons and bit the goose on the upper body and head or neck to finish the kill. DC took one photograph of the falcon standing on the freshly killed goose and then drove off to avoid disturbing the falcon as it fed on the carcass. The entire sequence of events took 11 min, with 4 min elapsing between the time the falcon

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Figure 1. Prairie Falcon perched on a moribund Lesser Canada Goose, Rosebud County, Montana, 14 February 2019. The goose died shortly after the photograph was taken.

landed near the goose, and the time DC took the final photograph.

It is not unusual to see multiple flocks of 5000 or more geese wintering in the wheat fields adjacent to the Yellowstone River where these observations took place, and it is not surprising that avian predators are drawn to such concentrations. Yet, it was surprising to see a Prairie Falcon attack so large a potential prey item. The injured goose clearly was smaller than the Great Basin Canada Geese (B. c. moffitti) that made up the majority of the flock, but photographs revealed that its bill length and body size were consistent with those of a Lesser Canada Goose, rather than a Cackling Goose. The average body mass of a Lesser Canada Goose is about 2855 g for females and 3265 g for males (Mowbray et al. 2002), which is considerably larger than prey species normally attacked by Prairie Falcons. We are not aware of reports of wild Prairie Falcons killing adultsized geese, or of them commonly attacking prey that weigh >1000 g. Predation by Prairie Falcons on prey as large as Canada Geese appears to be extremely rare. Alternatively, it is possible that such behavior is more common than previously thought but has been missed, or else has been observed but not reported in the literature.

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## LITERATURE CITED

Anderson, S. H., and J. R. Squires (1997). The Prairie Falcon. University of Texas Press, Austin, TX, USA.

Boyce, D. A., Jr. (1985). Prairie Falcon prey in the Mojave Desert, California. Raptor Research 19:128–134.

Cameron, E. S. (1907). The birds of Custer and Dawson Counties, Montana. The Auk 24:241–270.

Christensen, G. C. (1996). Chukar (Alectoris chukar). In The Birds of North America (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://birdsna.org/Species-Account/bna/species/ chukar.

- Decker, F. R., and J. H. Bowles (1930). The Prairie Falcon in the state of Washington. The Auk 47:25–31.
- Dekker, D. (1982). Occurrence and foraging habits of Prairie Falcons, *Falco mexicanus*, at Beaverhill Lake, Alberta. Canadian Field-Naturalist 96:477–478.
- Dekker, D., and J. Lange (2001). Hunting methods and success rates of Gyrfalcons, Falco rusticolus, and Prairie Falcons, Falco mexicanus, preying on feral pigeons (Rock Doves), Columba livia, in Edmonton, Alberta. Canadian Field-Naturalist 115:395–401.
- George, R. R. (1979). Snow Goose taken by Peregrine Falcon. Raptor Research 13:88–90.
- Lowther, P. E., and R. F. Johnston (2014). Rock Pigeon (Columba livia). In The Birds of North America (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://birdsna.org/Species-Account/bna/ species/rocpig.
- Marti, C. D., and C. E. Braun (1975). Use of tundra habitats by Prairie Falcons in Colorado. The Condor 77:213– 214.

- Mowbray, T. B., C. R. Ely, J. S. Sedinger, and R. E. Trost (2002). Canada Goose (*Branta canadensis*). In The Birds of North America (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://birdsna.org/Species-Account/bna/species/cangoo.
- Porter, R. D., and C. M. White (1973). The Peregrine Falcon in Utah, emphasizing ecology and competition with the Prairie Falcon. Brigham Young University Science Bulletin, Biological Series 18:1–74.
- Sherrod, S. K. (1978). Diets of North American Falconiformes. Raptor Research 12:49–121.
- Steenhof, K. (1983). Prey weights for computing percent biomass in raptor diets. Raptor Research 17:15–27.
- Steenhof, K. (2013). Prairie Falcon (Falco mexicanus). In The Birds of North America (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://birdsna.org/Species-Account/bna/species/prafal.

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