

## **POSSIBLE PREDATION OF GREAT GRAY OWL BY A BARRED OWL**

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Source: Journal of Raptor Research, 40(2) : 175

Published By: Raptor Research Foundation

URL: [https://doi.org/10.3356/0892-1016\(2006\)40\[175:PPOGGO\]2.0.CO;2](https://doi.org/10.3356/0892-1016(2006)40[175:PPOGGO]2.0.CO;2)

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## LETTERS

*J. Raptor Res.* 40(2):175

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### POSSIBLE PREDATION OF GREAT GRAY OWL BY A BARRED OWL

On 12 February 2005, we witnessed a Barred Owl (*Strix varia*) carrying a Great Gray Owl (*Strix nebulosa*) in Lester Park within the city limits of Duluth, St. Louis County, Minnesota. The Barred Owl flushed at 0855 H from the wooded edge of a suburban yard and flew laboriously with its large prey item across the road to a limb about 10 m above the ground in the adjacent wooded park. We approached the owls and observed them with 10 × 40 binoculars from a distance of 18–20 m for about 2 min. The Barred Owl had the head and neck of the Great Gray Owl pinned against the limb with its talons. The fully-feathered body of the Great Gray Owl was hanging downward at a 45° angle, its drooping left wing extended about three-quarters of full extension. Before we could photograph this incident, the Barred Owl carried the Great Gray Owl out of sight (>75 m) across the heavily-wooded ravine of Amity Creek.

Does this observation represent a predation event or was the Barred Owl merely scavenging a road-killed carcass or a bird that died of starvation? We searched unsuccessfully along the sparsely-traveled road and flanking snowbanks for signs of an owl-automobile collision. Finally, we located a patch (ca. 0.5 × 1.0 m) of loose feathers about 20 m upslope from the roadside near the flight path of the Barred Owl. A shallow oblong depression (ca. 8 × 12 cm) had been melted into the icy crust of the snow under the largest accumulation of feathers, which were wet and unfrozen despite the –3°C air temperature that morning. Two other small depressions adjacent to the largest mass of feathers had been melted by white fecal splotches. The feathers originated from the facial disk and head of a Great Gray Owl. Surprisingly, the mass of loose feathers also contained the mandibular and maxillary ramphotheca of a Great Gray Owl. These appeared to have been torn from the owl's skull. Bits of fresh, unfrozen muscle tissue and skin were attached to the bases of some feathers. There were no overt signs of a struggle or traces of blood at the scene. However, it was uncertain whether struggling owls (1–2 kg) would have broken the thick icy crust of the snow. It is possible that the Barred Owl killed or salvaged the Great Gray Owl at another location and carried the carcass to the melt depression site, which was most likely caused by the radiating heat of the owl's partially plucked head. It is doubtful that early morning sunlight absorbed by the dead owl's plumage could have melted the icy crust. The still flexible neck and partially-extended wing of the carcass held by the perched Barred Owl provided additional evidence that the Great Gray Owl was unfrozen and had been killed very recently. We considered the possibility that the Great Gray Owl could have been injured or killed by a vehicle collision, and then after a very short interval (to account for the melt depression), plucked and eaten by the Barred Owl. However, we carefully searched the roadbed and the flanking snowbanks for nearly 1 km in each direction of the kill site and found no loose feathers or other signs of a collision. Identification of the loose feathers and bill parts (cataloged as USNM 635058) was later confirmed through comparison with museum specimens in the National Museum of Natural History (USNM), Smithsonian Institution, Washington, D.C.

To our knowledge this is the first indication that Barred Owls may prey on Great Gray Owls. Although the Great Gray Owl (700–1700 g) appears to be substantially larger than the Barred Owl (468–1051 g), body masses of adults of the two species overlap (Bull and Duncan 1993, *in* A. Poole and F. Gill [Eds.], *The birds of North America*, No. 41. Academy of Natural Sciences, Philadelphia, PA and the American Ornithologists' Union, Washington, D.C. U.S.A.; Mazur and James 2000, *in* A. Poole and F. Gill [Eds.], *The birds of North America*, No. 508. Academy of Natural Sciences, Philadelphia, PA and the American Ornithologists' Union, Washington, D.C. U.S.A.). The Great Gray Owl, particularly small starving males, falls well within the weight range of prey regularly taken by Barred Owls (Mazur and James 2000). Our observation suggests that Barred Owls may be an occasional source of mortality for wintering Great Gray Owls during invasion years. We thank David L. Evans and Gregory D. Hayward for helpful comments on the manuscript.—**Gary R. Graves** (e-mail address: gravesg@si.edu), Department of Vertebrate Zoology, MRC-116, National Museum of Natural History, Smithsonian Institution, P.O. Box 37012, Washington, D.C. 20013-7012 U.S.A.; **Gerald J. Niemi**, Department of Biology and the Center for Water and the Environment, Natural Resources Research Institute, University of Minnesota, 5013 Miller Trunk Highway, Duluth, MN 55811-1442 U.S.A.

Received 25 February 2005; accepted 10 February 2006