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POSSIBLE PREDATION OF A SPOTTED OWL BY A BARRED OWL

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The Barred Owl (*Strix varia*) has rapidly expanded its range into the western United States in the past century, moving westward across the northern Rocky Mountains and thence southward from the Pacific Northwest into California (Dark et al. 1998). Concern over adverse effects on the threatened Northern Spotted Owl (*Strix occidentalis caurina*) by invading Barred Owls has been raised because of the two species' ecological similarities (Taylor and Forsman 1976, Hamer 1988, Dunbar et al. 1991). Among the concerns are competition for habitat and prey (Hamer 1988), the Barred Owl's more flexible habitat selection (Dunbar et al. 1991), behavioral dominance (Hamer 1988, pers. obs.), and hybridization (Hamer et al. 1994, Dark et al. 1998). To this litany of potential negative interactions between the two species we add the possibility of predation of the Spotted by the Barred.

On 11 May 1997 at approximately 14:30 Leskiw found a freshly (blood fresh and wet) killed Spotted Owl along a trail in Redwood National Park, Humboldt Co., California. Two sets of feathers were found within 60 m of the body. The owl was decapitated, but the head could not be located. Additionally, what appeared to be several Spotted Owl feathers were seen in a tree 4 m above the ground. Finally, the ground litter was disturbed in a 2-m radius around the carcass, suggesting a struggle had occurred. Leskiw left the area and returned at approximately 15:30. When he returned to the kill site at 15:45, a Barred Owl spontaneously hooted nearby. He could not see the bird because of the dense understory. He played a tape of Barred Owl calls. The Barred Owl responded and changed its location twice but still could not be seen. He then imitated a Spotted Owl contact whistle (see Gutiérrez et al. 1995 for call description). The Barred Owl immediately flew in and landed 5 m from him. After several minutes it changed its location to 10 m up slope. At this point Leskiw could see whitish-brown mottled feathers clinging to the Barred Owl's left talons. He left the area while the Barred Owl continued to hoot an announcement series (i.e., "who cooks for you, who cooks for you all") and issue a nasal crying sound. A second Barred Owl was heard in the distance about this time.

Gutiérrez necropsied the Spotted Owl. The bird's head had been removed by disarticulation of the cervical vertebrae. The muscle from the left side of the bird's breast, side, and wing were eaten. All of this trauma occurred without a single broken or crushed bone as would be typical following mammalian predation or scavenging. No primary, secondary, or contour feathers were plucked in accipitrine fashion. Puncture wounds in the left side of the body had penetrated the chest and abdominal cavity, lacerating the lungs, liver, and heart. Lacerations on internal organs were thin and longitudinal, indicating talons, not teeth. Similarly, no ribs were broken from the side punctures. Four distinct punctures on the upper back and left side formed a pattern more similar to the arrangement of owl talons than of *Accipiter* talons. The diameters of the two most distinct puncture wounds were each 4.2 mm (the maximum diameter of the dead Spotted Owl's talons was 4.2 mm), similar to the diameter of a Barred Owl talon.

The dead Spotted Owl had been banded as an adult on 7 July 1993, 14.45 km north of the kill site. Neither it nor a possible mate had been detected subsequently, up

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to the end in 1996 of a banding study conducted by Gutiérrez, suggesting it was a nonterritorial "floater." The habitat at the kill site was old-growth redwood (*Sequoia sempervirens*) forest.

These lines of circumstantial evidence combine to suggest that a Barred Owl indeed killed and partially consumed this Spotted Owl. We could not discern whether the predation was the result of a territorial interaction or an actual foraging event, but clearly much of the Spotted Owl was eaten by the predator. Regardless, our observation suggests that adult Spotted Owls are vulnerable to predation by Barred Owls given the right circumstances. Thus, the Barred Owl's range expansion takes on another negative dimension with respect to the threatened Spotted Owl.

We thank Howard Sakai and Richard Tanner for checking their records for Goshawk and Great Horned Owl sightings in Redwood National Park. Peter Carlson, Eric Forsman, Alan Franklin, and Mark Seamans read an earlier draft of this paper. Susan Petersen provided confirmation to Leskiw's observations.

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Accepted 12 May 1998