

## MOBBING OF A COMMON RAVEN BY MIGRANT ROSY-FINCHES

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Mobbing or harassment of predatory birds by other birds occurs under a variety of circumstances. Functional explanations for mobbing include:

- 1) advertising recognition of the predator;
- 2) cultural transmission leading to avoidance of an area by the mobbers; and
- 3) forcing the predator to leave by harassment (Curio 1978). Mobbing of predatory birds by passerines occurs most frequently during the breeding season, when parent birds defend nesting areas, eggs and young from predators.

Raptors are mobbed more often by passerines when hunting in the air or when carrying prey than when perched or soaring (Hamerstrom 1956; Cade 1967; Kruuk 1976; Watson 1977; Bildstein 1982). Corvids are often the victims of mobbing by smaller passerines during the breeding season, because they commonly prey on passerine eggs and young (Goodwin 1976). Mobbing of corvids occurs infrequently during non-breeding periods. In this note, I describe a case of migrant Gray-crowned Rosy-Finches (*Leucosticte tephrocotis*) mobbing a lone Common Raven (*Corvus corax*) during early autumn.

Between 22 and 25 September 1992, I observed migrant birds moving through alpine areas in the Cayoosh Range (50° 30'N 122° 22'W), southeast of Lillooet, British Columbia. On 22 September, I was positioned for three hours at 2,450 m. elevation, in a small and rocky knife-edged pass between two peaks. Small numbers of migrant Sharp-shinned Hawks (*Accipiter striatus*), American Kestrels (*Falco sparverius*), Bohemian Waxwings (*Bombycilla garrulus*) and Mountain Bluebirds (*Sialia currucoides*) were moving through the pass during early afternoon.

I observed a lone Common Raven flying parallel to the mountain side, about 50 m. below and 100 m. west of my position. The raven called twice as it approached. A flock of approximately 500 small passerines then lifted off the ground about 200 m. to the east and 100 m.

below my position. The flock rapidly gained elevation and flew towards the raven. Most birds within the flock flew erratically, creating a mass swirling effect. The flock then encountered the raven, seemingly enveloping it in a mass of milling birds. The flock then changed direction to follow the raven for about 10 seconds as it continued its direct flight eastward. No birds were observed to strike the raven; nor did the raven appear to respond to the mobbing by changing course or speed.

After disengaging from the raven, the flock flew directly to the pass in which I was positioned and began to land on the ground. As the flock landed, the birds flew in rapid clock-wise circles around the pile of rocks in which I was sitting, again creating a swirling whirlwind effect. As the flock settled, a Sharp-shinned Hawk bulleted past my shoulder and plunged downhill in an attempt to capture a bird. The flock flushed immediately and then flew off to the west, most flying out of sight. At this time, I identified the birds as Gray-crowned Rosy-Finches. A few remained perched on rocks beside me for several minutes.

Of the three explanations for mobbing proposed by Curio (1978), the incident reported here was most likely an attempt: 1) to harass an aerial predator into leaving the area, or 2) to advertise that the predator had been recognized. I believe that the latter possibility, that of advertisement, is the most likely explanation for this bizarre behaviour. Certainly, the raven was aware of the flock's existence, but apparently, paid little attention to it. Rosy-finches exhibit a socially coordinated escape response from predators which is related to their nomadic distribution patterns (Swenson *et al.* 1988; Lima 1993). Mobbing of the raven was not likely harassment because the advantage in causing a predator to leave an area would be low when the mobbing birds were migrating and were not likely to be present in the same area again. Although Gray-crowned and Brown-capped (*Leucosticte australis*) Rosy-Finches are known to attack corvids and raptors near nests (Twining 1940; Johnson 1965; Hendricks 1977), mobbing is not universal even at nests (Dixon 1936). Twining (1940) reported a case of mobbing by Gray-crowned Rosy-Finches "late in the season," while Leffingwell and Leffingwell (1931) reported mobbing in Washington in winter to be infrequent and "not very enthusiastic."

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Indirect evidence supporting my contention that the raven was mobbed for advertisement purposes was provided by other observations in the vicinity. During an aerial survey of the Cayoosh Range two days previously, I saw several large flocks (200-400 individuals) of rosy-finches flying in alpine habitat, indicating that many birds were migrating. During four days of ground observations, Golden Eagles (*Aquila chrysaetos*) hunting in alpine areas were observed several times to flush flocks of migrant rosy-finches and American Pipits (*Anthus rubescens*) from the ground. Mobbing of eagles was not observed, but the migrant passerines were clearly responding to the approach of the eagles. As mentioned above, migrant rosy-finches were apparently being hunted by migrant Sharp-shinned Hawks, and American Kestrels were also present. The fact that a flock of rosy-finches responded to the approach of a predatory species that would not likely be a major threat during non-breeding seasons (e.g. Common Raven), or during any season (e.g. Golden Eagle), suggests that the birds were reacting to the approach of any potential avian predator. If migrant rosy-finches were targeted frequently by migrant Sharp-shinned Hawks, then the birds may be sensitive to the approach of any predatory bird. Thus, such an approach would cause alarm within the flock and provoke an escape response, even though there was little chance that any predation would occur.

Further observations of the responses of migrant rosy-finches to potential predators are needed to document the extent to which this species will engage in mobbing behaviour.

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