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COMMON LOON ATTACKS ON WATERFOWL

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Abstract.—Observations of Common Loons (*Gavia immer*) harassing and killing waterfowl in Northern Minnesota suggest an impact on breeding waterfowl by affecting foraging and courtship as well as brood disturbance and duckling mortality. Possible benefits to loons from such interspecific attacks are discussed.

ATAQUE A PATOS POR PARTE DE SOMORMUJOS (*GAVIA IMMER*)

Sinopsis.—En un estudio que se llevó a cabo en la parte norte de Minnesota, se observó a somormujos (*Gavia immer*) atacar e incluve causarle la muerte a patos. Se sugiere que estos ataques pueden afectar la reproducción de los patos al interrumpir patrones de forrajeo y cortejo, ademas d perturbar y causar la muerte a polluelos. Se discuten los posibles beneficios que puede derivar de estos ataques los somormujos.

Waterfowl mortality attributed to the Common Loon (*Gavia immer*) (see Table 1) has been documented by Meinertzhagen (1941) and Zicus (1975), while Jones and Obbard reported an incident involving an Arctic Loon (*Gavia arctica*) (1970). In addition, Munro (1939) presented indirect evidence of duckling mortality caused by loons and other authors (Anderson 1970, Kennedy 1981) have reported Common Loons harassing waterfowl broods. I present evidence that these episodes are more than just sporadic events suggested by the previous published accounts.

In June of 1983, I observed 2 separate attacks on duck broods by 2 adult Common Loons on a 30 ha bog lake 5 km north of Bemidji, Minnesota. The loons remained on the lake throughout most of the summer, however, no nest was found after intensive searching. On 24 June, I watched 2 loons attack a female Common Goldeneye (*Bucephala clangula*) with a brood of 7 one-week-old ducklings. As the loons attacked, the ducklings skittered and dove in all directions while the hen called and flapped about. At one point, I saw one of the loons with a duckling in its bill. The loon quickly flung the duckling back into the water and dove after another duckling. The episode ended after about 2 minutes and the loons swam away when the female goldeneye and brood escaped to a floating sedge island. After the loons left the area, I paddled a canoe out to try to determine the fate of the brood. On the lake, I observed the female goldeneye and 5 ducklings swimming in a close group. I searched the area and found 2 dead ducklings. Laboratory examination showed that one had a large hematoma covering nearly the entire ventral side of the abdomen; no other wounds were discovered. The second duckling suffered numerous injuries including a large hematoma on the neck and head near the left pinnae, a fractured left femur and puncture wound entering the left thigh and running through the

thigh muscle into the abdomen just behind the last rib. On 22 June I observed a similar attack on another female goldeneye with a brood of 5 one-week-old ducklings. On this occasion, no mortality occurred as the hen led the loons away from the brood which was hidden on a small floating sedge island.

In 1984, loons killed more ducklings on this same lake. A pair of loons nested on the lake and successfully hatched a single chick on 24 June. On 24 May, 2 loons attacked and killed 4 of 6 one-week-old goldeneye ducklings (S. K. Hennes, pers. comm.). Three of the ducklings were retrieved and examined in the laboratory. All three died from internal injuries evidenced by large abdominal hematomas. On 11 July, I observed a loon kill a one-week-old Ring-necked (*Aythya collaris*) duckling. The incident was similar to past observations. The loon approached underwater, surfaced next to the brood and grabbed one of the ducklings in its bill while the rest of the brood scattered. The hen continually called and flapped across the water while twice charging the loon which held the duckling. The loon then dropped the duckling and followed the hen as she flapped across the water while the other loon remained some 100 m distant tending the chick. This duckling also had a large abdominal hematoma and a fractured right femur.

I examined an additional goldeneye duckling believed to have been killed by a loon on Movil Lake, 8 km north of Bemidji. On 28 July 1983, a lakeshore resident heard a commotion on the water a short distance from shore and observed a loon less than 10 m from an injured seven-week-old goldeneye duckling. The duckling died within minutes and was bleeding from the mouth when retrieved. Upon dissection, I found a single puncture wound entering the medial portion of the left thigh extending forward through the thigh muscle into the rib cage and piercing the body cavity. The angle and direction of the wound indicated a puncture from behind and beneath the water surface.

My observations of loon attacks were not limited to ducklings or hens with broods. On the previously mentioned bog lake, loons were seen harassing the resident goldeneye pairs. On 2 May 1984, while observing goldeneyes foraging, I suddenly noticed what appeared to be a dead adult male floating on the pond. After retrieving the bird I discoverd that it had just died, was bleeding from the mouth and had 2 large puncture wounds in its abdomen. This bird was believed to be paired to a color marked female whose nest was being monitored. The hen began incubating her clutch the following day and abandoned the nest 10 days later (M. C. Zicus, pers. comm.). On 22 May 1985, an individually marked adult female goldeneye was observed feeding when a loon surfaced from underneath the bird causing it to leave the lake. Later the same day a group of courting Mallards (*Anas platyrhynchos*) was disrupted when one of the two loons on the lake surfaced in the middle of the group scattering the birds (M. C. Zicus, pers. comm.).

These loon attacks were not isolated events unique to the lakes I was observing. A number of additional reports are listed in Table 1. These

TABLE 1. Reported loon attacks on waterfowl.

Species	Location	Observer/source	Date
Common Eider Brood* (*Somateria mollissima*)	Shetland Isle, Scotland	Meinertzhagen (1941)	August 1940
Adult Canada Goose*	McConnell River Northwest Territories, Canada	Jones and Obbard (1970)	June 1967
Mallard brood	Boot Lake Vilas Co. WI	Anderson (1970)	June 1972
Canada Goose brood*	Crex Meadow WMA Burnett Co. WI	Zicus (1975)	July 1973
Mallard brood	Ruth Lake Nr. Fort McMurray, Alberta Canada	Kennedy (1981)	July 1979
Common Goldeneye brood	Turtle River Lake, Beltrami Co. MN	S. J. Baltes M. L. Sperry	July 1980
Mallard brood*	27 ha bog lake, Beltrami Co. MN	J. E. Backer	June 1982
Adult Canada goose*	Big Sandy Lake, Aitkin Co. MN	D. O. Nordstrom J. W. Putnam	July 1982
Adult Common Goldeneye	Rainy River, Koochiching Co. MN	J. C. Schneeweis	May 1983
Common Goldeneye brood	Island Lake, Itasca Co. MN	M. C. Zicus	June 1984
Common Goldeneye brood	Gull Lake, Beltrami, Co. MN	S. S. Merchant C. O. Loggers	July 1984
Common Goldeneye brood	Turtle River Lake, Beltrami Co. MN	S. S. Merchant C. O. Loggers J. A. Heggeness M. L. Sperry	July 1984
Common Goldeneye brood	Island Lake, Itasca Co. MN	M. C. Zicus	July 1985
Ring-necked Duck brood	30 ha bog lake, Beltrami Co. MN	M. L. Sperry	July 1985
Adult Common Goldeneye*	30 ha bog lake, Beltrami Co. MN	R. T. Eberhardt	May 1986
Red-breasted Merganser	Lake Superior, St. Louis Co. MN	M. C. Zicus	May 1986

* Fatal encounter.

observations include one in which an adult Canada Goose (*Branta candensis*) was killed and a group of 5 Red-breasted Mergansers (*Mergus serrator*) was chased nearly to shore.

Attacks by loons may affect breeding waterfowl in several ways. Actively foraging pairs as well as courtship may be disturbed by loon at-

tacks. In one instance, one member of a pair was killed resulting in subsequent nest abandonment by a female apparently unable to maintain a feeding territory. Perhaps more significant is the disturbance of broods and the mortality of young. Most of the observations herein were made on a small lake which has been surveyed with weekly pair and brood counts by the Minnesota Department of Natural Resources Wetland Wildlife Research group since 1978. Since loons became resident on this lake in 1983, the number of goldeneye young fledged had declined from an average of 14 (range 10–25) during the years 1978–1982 to 7 (range 4–12) during the years 1983–1985 despite a breeding population that has only fluctuated from 4 to 5 breeding pairs (MN DNR files). Also, the central portion of the lake most often occupied by the loons appears to be used less often by waterfowl and their broods particularly goldeneyes. The impact of loon attacks may be greater on small lakes and ponds with resident loons where the likelihood of encounters between the loons and waterfowl are high. In northern Minnesota, Common Goldeneyes appear to be particularly susceptible because of their abundance and because they frequent deeper more open areas of lakes or ponds commonly used by loons.

The question arises as to why loons kill ducks. Murray (1971) stated that most cases of interspecific territoriality are usually misdirected intraspecific territoriality. It seems unlikely that loons mistake ducks as conspecifics. Nuechterlein and Storer (1985) gave accounts of interspecific killing by Flying Steamer-Ducks (*Tachyeres patachonicus*) that were similar to my observations of loon-waterfowl encounters. They speculated that due to the physical attributes of steamer-ducks, the cost of intense interspecific aggression is negligible and that even a small benefit may be sufficient to release such behavior. Livezey and Humphrey (1985) viewed interspecific aggression in steamer-ducks as secondary adaptations for protection of young, defense of food resources from marginal competitors, sexual selection, and practice for intrageneric combat. Perhaps the cost of interspecific aggression is also very low for loons and provides similar benefits.

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