

Daily mid-December populations of Oldsquaws in the inner harbor at Toronto, Ontario, average about 1500 individuals (Alison, M.Sc. thesis, Univ. Toronto, Toronto, Ontario, 1970). On 28 December 1978, at 10:23, while watching Oldsquaw behavior at about 1000 m from the 30 m Toronto Harbor Police observation tower with a 20× spotting scope, I observed an adult Herring Gull attack an adult male Oldsquaw. The gull dived at and struck the duck from a height of 20–30 m. Similar attacks were observed at 11:00, 11:19 and 11:55 and others may have occurred. The Oldsquaw was never observed diving or flying and swam only when attacked. At 12:06, all the Oldsquaws (>100 individuals) within 1500 m flocked and flew in a tight 50–100 m diameter circle above the stricken duck. The Herring Gull, having apparently killed the duck, was seen using its bill to bite and pick at the carcass, apparently feeding; after about 3 min the flock of circling Oldsquaws began to disperse. The gull alternately swam within 3 m of the Oldsquaw carcass or fed on it until 12:47, at which time the gull departed. At 13:01, either it or another Herring Gull landed beside the carcass and remained within 3 m of it occasionally feeding until 14:17, when the gull departed. No subsequent visits to the carcass were made by Herring Gulls or any other birds, and by 14:40 the duck was no longer visible. Presumably it sank; Schorger (*Wilson Bull.* 59:151–159, 1947) reported that Oldsquaws with completely water saturated plumage have negative buoyancy.

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**Red-legged Kittiwakes forage in mixed-species flocks in southeastern Alaska.**—The foraging behavior of Red-legged Kittiwakes (*Rissa brevirostris*) away from their breeding sites is virtually unknown. Between 1–7 September 1978, we observed adult and juvenile Red-legged Kittiwakes foraging in a mixed-species flock of adult Mew Gulls (*Larus canus*), juvenile Bonaparte's Gulls (*L. philadelphia*) and juvenile Glaucous-winged Gulls (*L. glaucescens*) in the lower Green's Creek drainage on Admiralty Island in southeastern Alaska.

During ebb tide the exposed delta mud flats at Green's Creek are used by thousands of gulls and shorebirds, particularly during spring and fall migration. The lower portion of Green's Creek is used by spawning salmon during late July through September: hundreds of humpbacked salmon (*Oncorhynchus gorbusche*) were present during our observations.

We observed 5 mixed-species flocks of about 50 individuals each at the open meadow bordering Green's Creek, always during ebb tide; never when the stream bank and adjacent meadow were flooded. The flock composition was nearly constant: Glaucous-winged Gulls, 10%; Mew Gulls, 25%; Bonaparte's Gulls, 35%; and Red-legged Kittiwakes, 30% (adults, 10%; juveniles, 20%). (The identification of the kittiwakes in the flocks was difficult at first; however, the juveniles were discriminated from juvenile Bonaparte's Gulls by the kittiwakes' well-marked, dark cervical collar, their dusky eyes, and unbarred tail. The adult kittiwakes differ from adult Mew Gulls by their solid black wing tips and red legs.) Glaucous-winged Gulls arrived first and remained near the deep, still water or the gravel shore, coming closest to the forest edge. Mew Gulls arrived next, followed soon by Bonaparte's Gulls. Red-legged Kittiwakes were the last to arrive, and they frequented the faster stream riffles and stayed farthest from the forest edge. Mew and Bonaparte's gulls always stayed between the Glaucous-winged Gulls and Red-legged Kittiwakes. None of the gulls or kittiwakes left the stream banks, nor flew into the forest. We observed no interactions between species.

Glaucous-winged and Mew gulls spent most of their time sitting on the water or the rocky shore. They pecked the exposed dorsal surface of the spawning salmon, but we could not confirm feeding. Bonaparte's Gulls and Red-legged Kittiwakes flew almost continuously and dived frequently. Bonaparte's Gulls appeared to be "pursuit diving," and the kittiwakes, "dipping" (terms from Ashmole, pp. 223-286 in *Avian Biology*, D. A. Farner and J. R. King, eds., Academic Press, New York, New York, 1971). Close observation showed that kittiwakes generally dived between salmon and ate something from the stream bottom, presumably salmon eggs. On at least 2 occasions, kittiwakes pecked at the exposed dorsal surface of salmon spawning in the stream. Although dead salmon were abundant on sand banks, we never saw gulls or kittiwakes eat any of them.

Adult and juvenile kittiwakes foraged similarly. No pattern of dominance, aggression, or indication of feeding hierarchy was detected. Juveniles foraged next to, and independent of, adults.

Red-legged Kittiwakes are commonly found near the Pribilof Islands during the breeding season; they are rare, post-breeding visitors to the northeastern Bering Sea and Aleutian Islands. There are a few accidental records in southeastern Alaska and the Yukon River (Kessel and Gibson, *Stud. Av. Biol.* 1:48-49, 1978), but they are usually seen at sea, if at all. They have only been reported to feed on small fish and cephalopoda in the waters south of the Pribilofs (Hunt, pp. 196-382 in *Environmental assessment of the Alaskan continental shelf*, Vol. 2, Natl. Ocean. Atmos. Admin. Environ. Res. Lab., Boulder, Colorado, 1977).

Bonaparte's and Mew gulls are common visitors to southeastern Alaska in fall, and the Glaucous-winged Gull breeds there—it probably is not unusual to find these 3 gulls foraging together (Bent, *U.S. Natl. Mus. Bull.* 113:65-73, 1921). Our observations are significant in that range extensions in both location and time are established for the Red-legged Kittiwake, and the post-breeding feeding habits in southeastern Alaska are described for the first time.

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**Ground-feeding methods and niche separation in thrushes.**—Recent papers by Clark (*Wilson Bull.* 83:66-73, 1971) and Henty (*Wilson Bull.* 88:497-499, 1976) have described a foraging method used by a number of species of birds, consisting of lateral sweeps of the bill to move aside loose material. They termed it "bill-sweeping" and reported its occurrence in several thrushes (*Turdus*), namely the White-necked Thrush (*Turdus albicollis*), European Blackbird (*T. merula*), American Robin (*T. migratorius*) and Songthrush (*T. philomelos*). I have recently observed such behavior, together with other foraging methods, in 2 additional species, the Fieldfare (*T. pilaris*) and European Redwing (*T. iliacus*) and incidentally in the European Blackbird. The intention of this note is to relate bill-sweeping to other principal foraging techniques used by thrushes when feeding on the ground, and to comment on niche separation in the genus.

Observations were made between October 1975 and February 1976 on wild birds in Cambridgeshire, England, using a hide or vehicle stationed at the edge of a field. Birds regularly approached to within 20 m, and sometimes to within 10 m of a concealed observer, providing detailed views of their searching and handling techniques.