

General Field Notes

Will Cook

North Carolina Editor
418 Sharon Road
Chapel Hill, NC 27514
cwcook@acpub.duke.edu

Dennis M. Forsythe

South Carolina Editor
Department of Biology
The Citadel
Charleston, SC 29409
forsythed@citadel.edu
Fax: (803)-953-7084

Sanderlings Exploit Beached Animal Carcasses as a Source of Fly Larvae

Gilbert S. Grant

Department of Biological Sciences
University of North Carolina
Wilmington, NC 28403

Several species of shorebirds are opportunistic feeders on dead fish and crustaceans (Bent 1927,1929; Gochfeld and Burger 1980). Sharp-tailed Sandpipers (*Calidris acuminata*), Pacific Golden Plovers (*Pluvialis fulva*), and Ruddy Turnstones (*Arenaria interpres*) frequented the seal-killing fields in Alaska, feeding on flies, larvae (maggots), and other insects that associate with carrion (Bent 1927, Bent 1929, Gabrielson and Lincoln 1959). Bent (1927) also reported that Sanderlings (*Calidris alba*) catch flies and feed on fly larvae, but did not indicate whether these prey were associated with carrion. In this note I document several instances of Sanderlings feeding on and defending bird carcasses on North Topsail Beach, Onslow County, North Carolina.

Between 0914 and 0924 on 31 December 1991 I watched a Sanderling vigorously probing in the sand around a partially buried immature Laughing Gull (*Larus atricilla*). During this time it captured and swallowed 8 maggots. The Sanderling probed and ploughed through the sand to a depth of about 2-4 cm, on some occasions appearing to "bulldoze" sand with its forehead and bill as it probed. This Sanderling probed an irregular area of 0.22 m² around the exposed wing of the gull. Some prey were captured as much as 25 cm from the gull. This Sanderling then flew to the edge of the waves and probed and drank for several minutes. At 0939 it returned to the gull carcass and continued probing until 1006, at which point I left the area.

At 0936 on this date I watched another nearby Sanderling (Figure 1) feeding in the vicinity of a partially-buried decomposing immature Northern

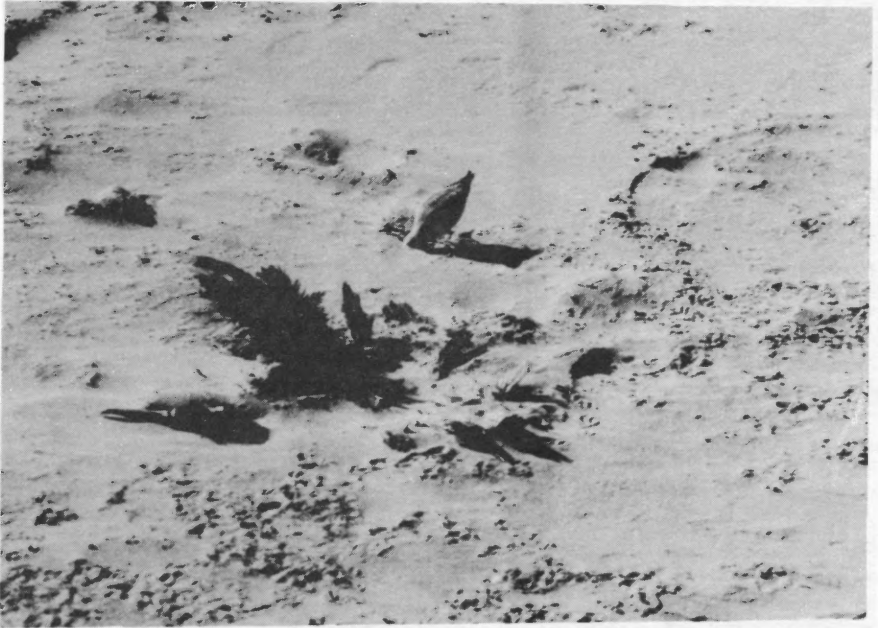


Fig. 1. Sanderling feeding near gannet carcass

Gannet (*Morus bassanus*). From 0937 to 0943 this Sanderling captured and swallowed 21 maggots (3.5 larvae per minute). This bird stopped feeding for about 6 min. It began probing again at 0949 and captured another fly larva. At 0950 a Black-bellied Plover (*Pluvialis squatarola*) walked to within 1 m of the gannet carcass and the Sanderling. The Sanderling flexed its legs and sat down with its ventral plumage in contact with the sand. Shortly thereafter it ran at the plover and both flew off. The Sanderling returned at 1006 and resumed probing and feeding near the gannet carcass. This Sanderling probed most frequently from 0.1 to 0.6 m from the carcass, where maggots were readily encountered and captured. Surprisingly, the Sanderling spent relatively little time actually probing the carcass or the sand within a few centimeters of the carcass.

From 0905-0915 on 8 February 1992 I observed a Sanderling probing the sand around the carcass of a partially-buried Common Loon (*Gavia immer*). Some probe marks were up to 30 cm from the carcass (Figure 2). On 16 December 1994 I photographed probe-feeding marks similar to those of Sanderlings around the carcass of a Striped Burrfish (*Chilomycterus schoepfi*) and a Common Loon.

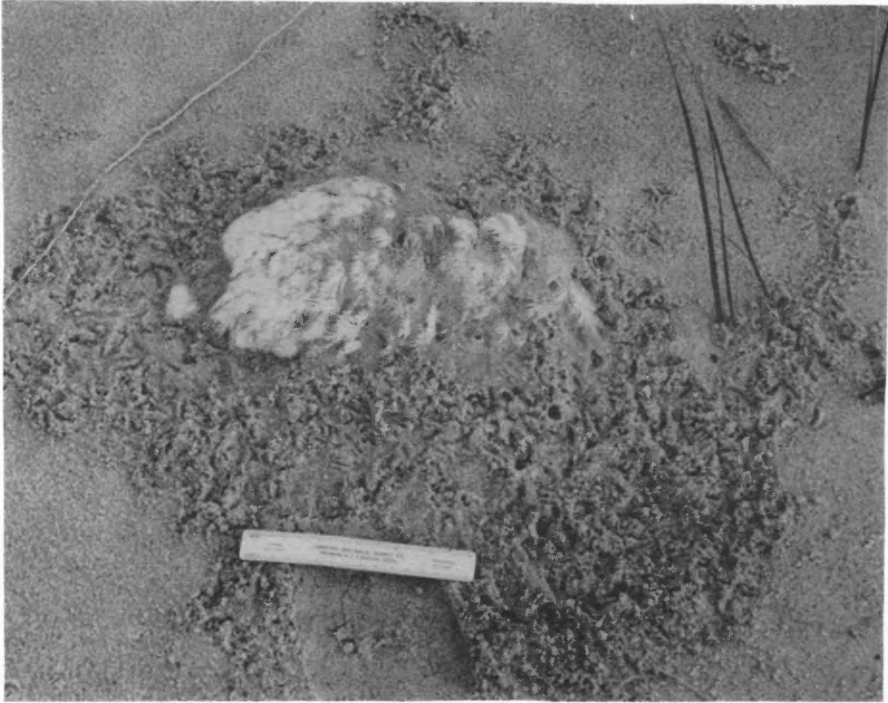


Fig. 2. Probe marks near loon carcass

I collected fly larvae from the vicinity of a Northern Gannet on 12 December 1994, a Common Loon on 16 December 1994, and another Common Loon on 25 January 1995. These were reared to adults and identified by David L. Stephan. A total of 98 flies of six species, representing two families (Muscidae, Calliphoridae) were identified (Table 1). Maggots generally were not visible on the exposed surface of the beached carcass, probably due to the harsh microclimate there (high salinity, cold temperatures, wind-blown sand). In milder microclimates, mature maggots frequently crawl away from the carrion on the surface of the soil. Mature larvae dispersed away from the decomposing carcass, perhaps to pupate in an area of lower humidity. Sanderlings exploited these larvae as they moved away from the carcass through the sand.

Table 1. Fly larvae identified from bird carcasses at North Topsail Beach, NC.

Species	Northern Gannet	Common Loon	Common Loon
	12 Dec 94	16 Dec 94	25 Jan 95
<i>Calliphora vicina</i>	6	56	1
<i>Calliphora livida</i>		12	
<i>Cynomyopsis cadaverina</i>		2	
<i>Phaenicia</i> sp. (<i>cluvia</i> ?)		3	
<i>Phormia regina</i>	1		
<i>Hydrotaea</i> sp.			17

Acknowledgments

I thank David L. Stephan, Department of Entomology, N.C. State University, for the identification of the flies.

Literature Cited

Bent, A.C. 1927. Life histories of North American shore birds. Part 1. USNM Bulletin 142.

Bent, A.C. 1929. Life histories of North American shore birds. Part 2. USNM Bulletin 146.

Gabrielson, I.N. and F.C. Lincoln. 1959. The birds of Alaska. Washington, DC: The Stackpole Co. and Wildlife Management Institute.

Gochfeld, M., and J. Burger. 1980. Opportunistic scavenging by shorebirds: feeding behavior and aggression. *Journal of Field Ornithology* 51:373-375.