

vultures at the food site during each test. Coconut, it appears, ranks low on this scale of preference. It does, however, form the bulk of the vultures' diet, because Jamaica has very few native mammals and dead farm animals or fish are usually picked up by human inhabitants before the cautious vultures approach.—ROGER C. CRAFTS, JR., *Department of Biology, Earlham College, Richmond, Indiana, 16 June 1967.*

The egg tooth of some charadriiform birds.—In their useful reviews, Clark (1961. *Wilson Bull.*, 73:268–278) and Parkes and Clark (1964. *Wilson Bull.*, 76:147–154) have emphasized the need for additional information on the occurrence and structure of egg teeth in some families of birds, particularly the Scolopacidae, and for data on the loss of the egg tooth. Most of the following data were gathered at Churchill, Manitoba, in the summers of 1964, 1965, 1966, and 1967. My research at Churchill was sponsored by the Frank M. Chapman Memorial Fund, The University of Michigan, the National Science Foundation, and the San Diego Society of Natural History.

Charadriidae.—A small deciduous egg tooth occurs on the culmen near the tip of the upper mandible in *Charadrius semipalmatus* and *Pluvialis dominica*. This structure adheres to the culmen until the soft tissues of the bill have dried, at which time it is simply sloughed off. Often the egg tooth is lost by the time the chicks are dry; almost invariably it disappears before the chicks leave the nest. Birds that retain the egg tooth after leaving the nest dislodge it as soon as they begin feeding.

An egg tooth on the tip of the lower mandible has been reported in *Vanellus vanellus* (see Clark, 1961:271). I have found no trace of a similar structure in *C. semipalmatus* chicks that I have removed from the egg or in pipping chicks of *P. dominica*.

Scolopacidae.—Parkes and Clark (1964:150) recorded several apparent variations in the occurrence of egg teeth in this family. Yet, chicks of all the species that I have examined (*Numenius phaeopus*, *Limosa haemastica*, *Totanus flavipes*, *Tringa solitaria*, *Gallinago gallinago*, *Limnodromus griseus*, *Philohela minor*, *Erolia alpina*, *Erolia minutilla*, *Ereunetes pusillus*, *Micropalama himantopus*) are so similar in possessing an egg tooth on both the upper and lower mandibles (Fig. 1) that I suspect the two egg-toothed condition is characteristic of the Scolopacidae. The upper egg tooth caps the entire tip of the rhamphotheca and extends ventrally to the tomium; the cutting surface is a thickened projection from the culmen that points anterodorsally or anteriorly. The egg tooth of the lower mandible consists of a thin, apparently calcareous, sheet that covers the entire tip of the bill. In some individuals this sheet is slightly elevated and thickened at the tip of the bill (e.g., Fig. 1). I do not have sufficient data to determine the extent of inter- or intraspecific variation in this structure.

As in the plovers, sandpiper egg teeth are lost as soon as the bill dries. The thin lower egg tooth is usually sloughed off within a few hours of hatching. Most chicks retain the thicker upper egg tooth for eight to twelve hours after hatching, but I have seen Short-billed Dowitcher (*Limnodromus griseus*) chicks four hours old, whose down was still wet, that had already lost both egg teeth. Six American Woodcock chicks (*Philohela minor*) that I hatched in an incubator lost their egg teeth within 12 to 18 hours of hatching. Wetherbee and Bartlett (1962. *Auk*, 79:117) reported that the woodcock chicks they studied did not lose the egg teeth until two or three days after hatching.

The significance of the double egg tooth in the Scolopacidae deserves further study. In the few species that I have watched hatching, the lower tooth plays no obvious role in rupturing the egg shell or membrane. Rather, its sole function appears to be to protect the delicate tip of the lower mandible. To term this structure an egg tooth may therefore be a misnomer. Since the tip of the upper egg tooth projects anteriorly in

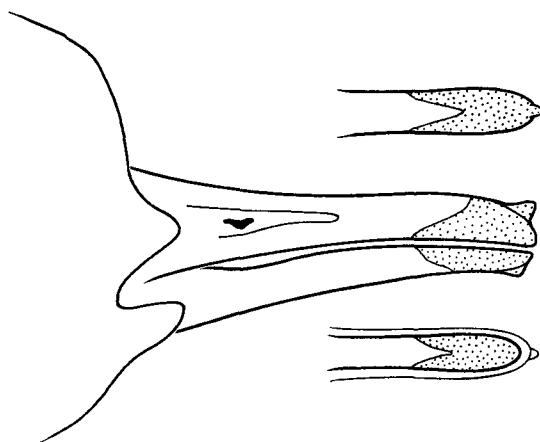


FIG. 1. Egg teeth of *Tringa solitaria*. Drawing made from a chick removed from a pipped egg.

sandpipers, one would expect that many pipping movements are short jabs directed anteriorly. Because the lower and upper mandibles in scolopacids are nearly of equal length, the tips of both must be subjected to constant jarring during the hatching process. Possible damage to the bill tip could be reduced by a protective cap; this may explain the presence of a lower egg tooth in this family, as well as the encompassing of the entire tip of the upper mandible by the base of the upper egg tooth. An egg tooth on the lower mandible also occurs in the Sterninae (Clark, 1961:272) and Phalaropodidae; in these groups the lower and upper mandibles are also relatively straight and of approximately equal length. In gulls, jaegers, and plovers, which lack a lower egg tooth, the tip of the lower mandible may be protected by the overhanging tip of the premaxilla. In these groups the single egg tooth does not extend to the tip of the bill.

Recurvirostridae.—Pipping chicks of *Himantopus himantopus* that I have recently examined have a well-developed egg tooth on both the upper and lower mandibles. Although the tips of these teeth project anteriorly, neither they nor their bases extend as far forward as the tip of the bill. Parkes and Clark (1964) reported the probable occurrence of two egg teeth in *Recurvirostra*.

Phalaropodidae.—Höhn (1967. *Auk*, 84:234) reported that young *Steganopus tricolor* have an egg tooth at the tip of the bill. Two *Lobipes lobatus* chicks that I removed from pipped eggs had egg teeth on both mandibles. The upper egg tooth was like those found in the Scolopacidae. However, the lower egg tooth was much smaller than those of most sandpipers and consisted of a thin, transparent coating that was thickest at the tip of the bill. This egg tooth was lost almost immediately after the chicks hatched.

Stercorariidae.—A pipping chick of *Stercorarius parasiticus* had a typical deciduous egg tooth on the culmen near the tip of the premaxilla; there was no trace of an egg tooth on the lower mandible.

Laridae.—Chicks of *Larus philadelphia* possess a deciduous egg tooth on the culmen only. One chick had lost the egg tooth within 12 hours of hatching; some chicks retain it as much as 24 hours, and perhaps longer.

Study skins of chicks with the egg tooth still attached are needed for many species. Unfortunately, as with the live chicks, the egg teeth rapidly disappear from prepared specimens. Field workers can minimize this loss by briefly dipping the tip of the bill in Duco cement. I have found that specimens preserved in alcohol or formalin will retain the egg teeth until they are subjected to prolonged exposure to air.

I wish to thank Kenneth C. Parkes for commenting on the manuscript and Anne Acevedo for the drawing.—JOSEPH R. JEHL, JR., *Natural History Museum, Balboa Park, San Diego, California 92112, 1 August 1967.*

Willet nesting on Long Island, New York.—On 4 June 1966 the writer, together with Frank Bader and John Zarudsky, discovered a Willet's (*Catoptrophorus semipalmatus*) nest on a salt marsh island in the vicinity of Jones Beach State Park, Nassau Co., Long Island, New York. This island is approximately 1.4 miles ENE of the Jones Beach water tower and is due north of the east outlet of Zach's Bay.

The first nest found was situated in a tuft of beach grass (*Ammophila arenaria*) and contained four eggs, one of which was taken for preservation at the American Museum of Natural History. When examined the egg was apparently in an advanced stage of incubation.

On 12 June the three of us, plus Robert Johnson, visited another island about 2.5 miles east of the island on which we found the first Willet's nest. This island also supports a Common Tern (*Sterna hirundo*) colony of 250–300 pairs. While exploring along the edge of the tern colony, a second Willet's nest was discovered, hidden in a clump of beach grass and seaside goldenrod (*Solidago sempervirens*). This nest contained two eggs which felt cold to the touch and were slightly discolored. Possibly the nest had been deserted after heavy rains during the previous week.

On 30 June, the four of us returned to this second island. While scanning the marsh for nestling terns, we came upon an incubating Willet. The bird flushed, exposing a nest with four eggs, one of which was pipped. This nest was located about 80–100 yards east of the second nest.

These three nests represent the only known instances of Willets breeding in New York State, and the only known nesting records in recent years between Nova Scotia and southern New Jersey. John Bull (1964. *Birds of the New York area*. Harper and Row, New York, p. 199) states that the Willet "has increased considerably in recent years" and cites many June and July records which he labels "stragglers," as "no proof of summering is known." Bull also mentions that the Willet formerly bred on the coast of Massachusetts and very rarely in southern Connecticut. Griscom and Snyder (1955. *The birds of Massachusetts*. Peabody Museum, Salem, p. 97) state that it last bred there in 1877.

I am indebted to Frank Bader, John Zarudsky, and Robert Johnson for assistance in observations and for providing boat transportation; and to John Bull of the American Museum of Natural History for assistance in the preparation of this note.—THOMAS H. DAVIS, 8613-85 Street, Woodhaven, New York 11421, 30 June 1967.

The varied diet of the Gull-billed Tern includes a shrub-inhabiting lizard.—On 13 May 1964 we collected two Gull-billed Terns (*Gelochelidon nilotica*) near the new Pinellas Bayway, 2 miles south of Gulfport, Pinellas County, Florida, one of