from the Natural Sciences and Engineering Research Council, Canada, and Brandon University.—RICHARD C. ROUNDS AND HUGH L. MUNRO, *Dept. Geography, Brandon Univ., Brandon, Manitoba, R7A 6A9 Canada.* *Accepted 5 Mar. 1981.*

Wilson Bull., 94(2), 1982, p. 223

Interspecific plumage similarity: the Mockingbird and Loggerhead Shrike.—Interspecific deception may be widespread in animals. For example, avian vocal mimics often produce sounds similar to those of large, aggressive or predatory species, and such mimicry might dissuade rivals from living in that locality by making it appear to be inhabited by predators and/or competitors (Rechten, Anim. Behav. 26:305–306, 1978). We suggest that the Mockingbird (*Mimus polyglottos*) exhibits plumage similarity with a predator, the Loggerhead Shrike (*Lanius ludovicianus*). The Mockingbird looks very much like a shrike, the two species being of similar size, although the shrike is somewhat chunkier. Even Robbins' bird guide states that the shrike is "often confused with the mockingbird" (Robbins et al., Birds of North America, Golden Press, New York, New York, 1966). Plumage similarities include gray back, lighter breast, white patches on the wings and dark gray tail edged with white. The chief differences are more subtle: the shrike has a black line through the eye and a hooked bill. Both commonly use elevated perches in open habitat. Hailman (Wilson Bull. 72:106–107, 1960) observed Barn Swallows (*Hirundo rustica*) mobbing a Mockingbird and suggested that the swallows mistook the Mockingbird for a shrike.

The similarity between these two species might be considered a case of mimicry in which selection favored Mockingbirds that looked like the predaceous shrike. Almost complete range overlap occurs for the two species. However, outside the shrike's range other mockingbird species occur that are very similar in plumage to *M. polyglottos*, e.g., Tropical Mockingbird (*M. gilvus*), Patagonian Mockingbird (*M. patagonica*) and White-banded Mockingbird (*M. triurus*). Therefore, we think that the similarity between *M. polyglottos* and *L. ludovicianus* is not a result of selection for plumage resemblance.

The Mockingbird is well known for its pugnacity in defending year-round territories (Bent, U.S. Natl. Mus. Bull. 1948). Apparently, Mockingbirds face intense interspecific competition in winter with other frugivores and sometimes respond aggressively to them (Moore, Behav. Ecol. Sociobiol. 3:173–176, 1978). No studies have investigated interspecific competition during the breeding season. We hypothesize that despite the origins of plumage similarity of Loggerhead Shrikes and Mockingbirds, the Mockingbird may benefit from the similarity because other species are sometimes deceived by the resemblance, reducing the probability of their remaining in an area so populated with "predators." Perhaps other cases of resemblance that have been considered mimicry may simply be the outcome of convergent evolution.

We thank K. Apel and R. Balda for their comments. Contribution No. 30 of the University of Wisconsin-Milwaukee Field Station.—ROBERT W. FICKEN AND MILLICENT S. FICKEN, *Dept. Zoology, Univ. Wisconsin–Milwaukee, Milwaukee, Wisconsin 53201.* *Accepted 3 Sept. 1981.*

Wilson Bull., 94(2), 1982, pp. 223–225

Head wind promotes skimming in Laughing Gulls.—The evolutionary origin of skimming behavior in skimmers (Rynchopidae) such as the Black Skimmer (*Rynchops niger*) is uncertain. Observations of the occurrence and conditions promoting similar behavior in

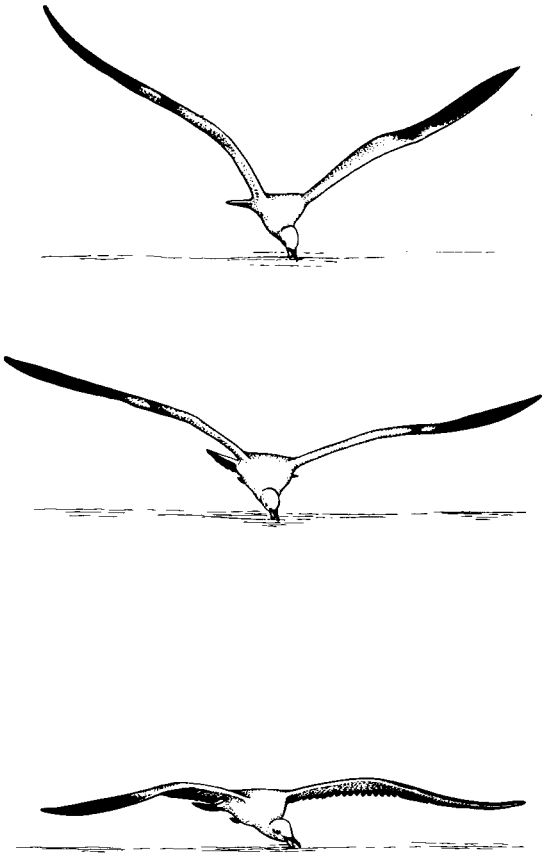

FIG. 1. Wing positions of skimming Laughing Gulls drawn by Cheryle Hughes from photographs by J.P.H. The first two examples are from a skimming sequence of a single bird; the third is from another sequence and may represent a different individual.

other larid species are therefore useful clues to the origin of skimming. Here we report the first observations of skimming in the Laughing Gull (*Larus atricilla*) and the wind conditions that promoted it.

We observed approximately 40 skimming bouts in a minimum of six gulls in breeding plumage and four in winter plumage on 24 March 1980, at Eco Pond, 100 m north of the campground at Flamingo in Everglades National Park, Dade Co., Florida. From 08:45–10:15 EST we watched gulls flying at a height of 3–5 m descend to the water's surface and insert the distal one-third of their lower mandibles into the water one to several times, each time cutting a wake of 0.3–2 m. Frequently the bird suddenly depressed its tail or lowered its feet upon approach to the water, presumably to break its thrust. Thereupon it would fly slowly over the water with shallow wingbeats or glide parallel to the water's surface and skim. Our telephoto pictures show that the wing position varies from horizontal (with a noticeable bow

upward at the carpal joint) to a raised angle of about 40° with respect to the water (Fig. 1). The distance between bill immersions within a bout varied from about 2–20 m. After skimming birds typically flew up and circled widely to make another pass on the windward (south) side of the pond, performing this behavior over and over again. The sky was clear, the temperature was 29°C, and the wind 8–13 km/h (measured by a Dwyer wind meter); the wind caused ripples on the surface of the turbid water. All birds on all passes flew directly into the wind while skimming. On the following day, when the air was nearly calm, no gulls were skimming on the pond during the two check periods although many individuals were flying about the area.

As is often the case with the evolution of unusual behavior patterns, the specialized skimming of the Rynchopidae appears to have recognizable phylogenetic precursors in the simpler skimming of related species in other charadriiform families. One other gull is known to skim: a single Black-headed Gull (*Larus ridibundus*) was observed by J. P. H. (*in* Buckley and Hailman, Br. Birds 63:210–212, 1970) to rotate its head ventro-posteriorly and snap its bill together during 1 of 11 skimming bouts. Skimming-like behavior in terns has been interpreted by P. A. Buckley (Buckley and Hailman 1970) and F. G. Buckley and P. A. Buckley (Ibis 114:344–359, 1972) as drinking when they skimmed after being flushed from the nest during the heat of the day or bill-cleaning following prey capture. None of these observations report wind conditions at the time of skimming or skimming-like behavior.

Skimming in Laughing Gulls thus shows little similarity to skimming-like behavior of terns, in that the gulls were neither cleaning their bills after capture of prey nor drinking when flushed from the nest at mid-day. Rather, skimming by gulls resembles foraging by skimmers, with an important proviso: Black Skimmers can skim in calm air whereas the strong head wind appeared to provide the necessary lift allowing skimming by Laughing Gulls.

We thank Robert Howe and Richard Zusi for valuable comments on the manuscript.—JACK P. HAILMAN AND JONATHAN R. REED, *Dept. Zoology, Univ. Wisconsin, Madison, Wisconsin 53706.* *Accepted 31 Mar. 1981.*

Wilson Bull., 94(2), 1982, pp. 225–229

A lamp-booth for laboratory use.—The importance of using a reliable color standard for color evaluation is well known. Equally important is the quality of the light source under which it is used. Most artificial light sources, such as ordinary incandescent and typical daylight fluorescent lamps, are unsatisfactory for accurate color evaluation; some phase of natural daylight is usually preferred by people who work with color. Excellent simulated daylight enclosures and fixtures are available commercially, but often prove too costly for low-budget research projects.

Faced with unsuitable laboratory illumination as well as a restricted budget, I decided to devise a lamp-booth for use in my research on downy waterfowl. Two booths were built, using as a guide certain apparatus specifications in American Society for Testing and Materials pamphlet D 1729–69 (1974), "Standard method for visual evaluation of color differences of opaque materials." The larger booth (Fig. 1) has one pair of 48" (1219 mm) 40w 7400 K or 7500 K lamps, approximating north daylight, as well as an optional alternate pair of 48" 40w 5000 K lamps, approximating noon daylight (K = kelvin: unit of absolute temperature); the smaller booth, not shown, has two pairs of 24" (610 mm) 20w 5000 K lamps. Both booths have an optional, three-part curtain with head-sized viewing aperture (an accessory 45° viewing stage with styrofoam pinning surface for evaluating insect specimens is shown in a photograph of the larger booth by McKillop and Preston [Can.Entomol. 113:256,