nesting on the tops of muskrat lodges (Berger, 1961. "Bird Study." pp. 212–213). This latter reference was from my unpublished field notes.—WALTER P. NICKELL, *Cranbrook Institute of Science, Bloomfield Hills, Michigan, 12 February 1965.*

Observations on a captive Northern Phalarope.—On 31 August 1962 I captured a live Northern Phalarope (*Lobipes lobatus*) at a brine pond in a *Salicornia* marsh on the west shore of San Francisco Bay at Belmont, San Mateo County, California. The bird was in immature plumage and had suffered a gash about one-half inch long over the left shoulder, and was unable to fly.

The phalarope was placed in a washtub partly filled with freshwater. An anchored wooden platform served as a roost and for feeding. Later, when the bird was strong enough to fly, the washtub was covered with a metal grate. The bird was kept captive for 13 days (31 August–12 September) and then set free.

The following observations were made while it was in captivity.

Posture and locomotion.—The phalarope normally stood with its legs straight and the feet slightly "pigeon-toed," and its neck was not extended. Its body was so carried that the posterior end drooped slightly. It did not appear hunched over like many plovers and it did not teeter at any time like some other shorebirds do. It waddled slightly and pumped its neck while walking. When placed on a lawn for a few seconds, it ran swiftly toward some shrubbery. It kept its wings tightly folded against its sides, and when pursued, it ran in a zigzag course, maneuvering skillfully.

It was unable to perch securely on a narrow, rounded surface such as a pencil or finger because of a lack of flexibility in its toes.

Defensive behavior.—When frightened while on a solid surface, the captive immediately lay flat. Such a reaction probably reflects a response characteristic of the species for escaping detection when on land. As the area of confinement was too small to allow flight, the bird, when frightened on the water, swam rapidly to the dry surface and ran with much wing-flapping to a corner while continually looking in the direction of the disturbance.

It was silent unless disturbed. When I picked it up in order to change the water, it emitted often only one but sometimes two or three short, rasping squawks of low volume. This was the only type of sound I ever heard it utter.

Feeding.—During its first day of captivity, it quickly ate its food, either live or freshly killed insects, which was placed on the surface of the water. The bird would eat food placed either on the dry platform or on the water, but, in the latter case, the food had to be floating. Once, the bird was fed while the water was too shallow to permit swimming. Some cottage cheese was consumed from the platform but, in the process, small chunks fell into the water. Wading in the water, the bird spied a piece of cheese. The water was deeper than the total length of the bird's bill and while the phalarope attempted to pick up the cheese it would not submerge its bill past the nostrils. After several attempts, it gave up.

When eating, the bird had to cock its head to one side since its eyes were placed far back on the sides of the head. Food was grasped between the tips of the jaws and never speared. Small moths could be swallowed in a single gulp, but large noctuid moths and skipper butterflies (*Hesperia columbia*) were manipulated without use of the substrate as a brace until they were oriented headfirst and then were swallowed by means of several gulps.

The bird frequently sipped water by dipping only the tip of the bill and always

followed the ingestion of any solid food with water. It was supplied with fresh tap water to which salt was never added.

The appetite of the captive was enormous. Particularly relished were live or freshly killed insects (adult flies, maggots, small butterflies, and moths), chopped raw meat, boiled egg yolk, and cottage cheese. The cottage cheese was more readily accepted if slightly soured, and was consumed after other foods were eaten. The bird either nibbled on or totally ignored chopped salad greens, chopped fruit, egg white, and canned dog food.

This successful retention of a Northern Phalarope suggests that the species may prove hardy in captivity, and thus available for laboratory studies in behavior and physiology. (See also Johns, 1964. *Condor*, 66:449–455.)

I would make the following suggestions as to the equipment necessary for retention of phalaropes in captivity: (1) confinement area of at least 2 square feet per individual; (2) water for swimming and drinking; (3) apparatus to allow the necessary frequent cleaning of quarters; and (4) large amounts of fresh food, live or freshly killed, or prepared material of animal origin.—SANFORD R. LEFFLER, *Museum of Natural History, University of Kansas, Lawrence, Kansas. (Present address: 1398 Geneva Street, San Carlos, California.)* *21 November 1964.*

Comparison of the sexual responses of Common Grackles to normal females and to mounts of soliciting females.—The sexual behavior of the Common Grackle (*Quiscalus quiscula*) elicited by models is compared to studies of the natural reactions of the same population (Ficken, 1963. *Auk*, 80:52–72) with the purpose of emphasizing the necessity for caution in basing conclusions about normal behavior on observations using only abnormal conditions (e.g., mounts).

Stuffed female birds in the Soliciting posture were placed near colonies on grassy openings or tree limbs and the differences and similarities between reactions to the mount and the natural situation were recorded. Reactions to stuffed females in the Soliciting posture differed from all observed under natural conditions in the following ways: (1) more than one mounting occurred in a particular sequence (as many as 104 by a single male in 73 minutes); (2) males often mounted without preliminary display; (3) they pecked the model in various places; (4) they bit the model's head and bill; (5) they pulled out feathers; (6) they lifted the bill and wings of the mount with their bills; (7) *females* were attracted to the mount and occasionally directed Head Held displays at it; (8) males mounted the stuffed female when other males were standing a foot or two away; in fact, males mounted up to five times in a row although they were attacked each time by a nearby male; (9) two males defended the mount against other males by advancing toward the opponents with their bills lowered at an angle of about 15° below the horizontal and 15° to the side. *This posture was not seen in any other context.* It was associated with persistent and repeated advances toward other males up to 30 feet from the mount which invariably caused them to retreat. No nictitans blinking or eye closure common in threatening was associated with this, but rather the advancing bird seemed to "stare down" his opponents with his eye.

There were similarities between reactions to Soliciting female mounts and sexual interactions between wild males and females as follows: (1) the Head Down displays, mounting, and copulation were much the same; (2) females did not give any sexual responses to the model; (3) males defended the model against other males; (4) if a male mounted and another male was near, the other male was almost always attacked;