Subspecific characters: Female similar to that of *Corapipo gutturalis gutturalis* (Linnaeus) [*Pipra gutturalis* Linnaeus, Syst. Nat., ed. 12, vol. 1, 1766, p. 340 (Cayenne).] but with the entire dorsal surface, sides, and flanks darker, duller green; throat, breast, and abdomen clearer white.

Measurements: wing 55.8, tail 27.6, culmen from base 8.9, tarsus 15.3 mm.

Geographic distribution: Known from Cerro Marahuaca, Amazonas, Venezuela; in the upper portion of the sandstone meseta.

Remarks:—An immature male was taken at the same time as the type, with the dark plumage of the adult appearing on the head and wing coverts, but otherwise like the female, is likewise characterized by dark coloration. The location marks a considerable extension of range for the species, that hitherto has been recorded from French, Dutch, and British Guiana. The new form is easily recognizable from its dark coloration. The known localities in French, Dutch, and British Guiana from which the typical form *Corapipo gutturalis* has been recorded are all located in the Tropical Zone, as far as I am aware. This new form is found in the upper limits of the Subtropics of Cerro Marahuaca where it inhabits the humid rain forests of the upper terrains. It is my belief that the drastic change of environment afforded by the upper portions of Cerro Marahuaca was the the main factor which determined the evolution of the newly discovered geographical race.

This bird is named for my wife Carmiña, who accompanied me in many of my collecting trips.

I wish to express my sincere appreciation to Dr. Alexander Wetmore for examining my specimens and for his critical comments relating to them, some of which are included in this work, and to Dr. Herbert Friedmann my sincere appreciation for his revision of my specimens from Mt. Duida and Mt. Marahuaca. VENTURA BARNÉS, JR., *Box 3293, Mayaguez, Puerto Rico.*

The Behavior of Birds Under Stress.—The study of animal behavior is one of the most primitive of human observations. Humans have been forced to study animal behavior for the procuring of food and at times for self preservation. The recorded behavior pattern dates back to antiquity, Aristotle [Thompson, D'Arcy W. (1910). The works of Aristotle 4, Historia animalium (Oxford)] wrote on the subject. More recently we have developed a most voluminous literature on the behavior of animals in their natural habitat as well as in the laboratory. The subject has been attacked by physiologists, endocrinologists, psychiatrists, and physiochemists, as well as zoologists, for the reports in this country as well as continental Europe show extensive studies in the natural habitat as well as many laboratory-controlled experiments.

The following field observation may be of interest in showing the unusual behavior of wild birds under stress. At my county place, a bird feeding station is in operation, and among the birds which visit it there is a large number of Red-wings. Fox squirrels and chipmunks also come to the feeding station. Much of the scratch feed is spread on the ground, and there is ample for all the visitors. On more than one occasion the birds and the chipmunks in particular have gotten along most harmoniously until my dog, a spaniel, was allowed out the side door of my cabin some 75 feet away. The dog sat still and did not make a dash for the birds or the chipmunks. The Red-wings under stress on the sight of the dog attacked the two chipmunks with whom they were feeding in harmony prior to the dog's appearance.

A few years ago, I visited a small island (Shoe Island) part of the Beaver Island group in Lake Michigan. The island is about 100 feet by 50 feet, about 3 feet above

the water level, and covered largely with gravel and a little grass. On this island there is a large colony of Caspian Tern (*Hydroprogne caspia*). Most of the eggs were hatched, and the young were everywhere. On the island, there were also two nests of the Herring Gull (*Larus argentatus*) with half grown young. The Herring Gull is the proverbial enemy of the Caspian Tern and is not adverse to destroying its eggs or young. Yet, these two families of different species had lived in harmony on the island. I was anxious to catch one of the young Herring Gulls to make some studies. As I approached the nest of the Herring Gull, however, two terns swooped down and thrust their bills through the heads of the Herring Gull babies causing instant death. This was performed in the presence of myself and my companion, Walter Hastings. Stress on the part of the terns caused them to attack the gulls. ALEXANDER W. BLAIN, M.D., *Detroit, Michigan.*

Evidence for Iron Staining as the Cause of Rusty Discoloration of Normally White Feathers in Anserine Birds.—A rusty color (generally a shade of orange or orange brown) of some of the feathers which are normally white is frequently found in individual Snow Geese (*Chen hyperborea*), Blue Geese (*Chen caerulescens*) and Ross's Geese (*Chen rossii*), particularly on the head, as well as in swans of various species. It is generally believed that this color is due to a deposition of iron oxides on the feathers assumed to take place when birds feed in water containing these salts in solution rather than to true feather pigmentation. I have heard the suggestion that the variable brownish color of the back of the Sandhill Crane (*Grus canadensis*) is of a similar nature resulting in this case from the birds' placing water weeds on the back. The Handbook of British Birds (Witherby *et al.*, 1943, London) states that this sort of coloration in swans is due to deposition of peroxide of iron. However, I am not aware of any evidence to substantiate this view and personally felt rather skeptical about it.

I therefore extracted some orange brown feathers from the face of a Lesser Snow Goose (*Chen hyperborea hyperborea*) in concentrated hydrochloric acid. The acid in a few minutes took on a yellow color while the feathers became decolorized. Similar acid extraction of white feathers or brown Mallard (*Anas platyrhynchos*) feathers yielded no color in solution. The acid extract of the brownish goose feathers was filtered and tested for iron by the thiocyanate and ferrocyanide tests; both of these tests proved to be positive. White feathers from the neck of the same goose similarly treated gave a positive ferrocyanide, but a negative thiocyanate test and presumably also contained some iron but in smaller amounts. Brown mallard primaries and brown secondaries of House Sparrows (*Passer domesticus*) similarly extracted gave a negative reaction for iron by both these tests.

Finally an attempt was made to produce the naturally observed orange brown discoloration artificially. Some mallard secondaries were immersed for a few days in a 3 per cent solution of ferric chloride. The white tips and edges of these feathers took on an orange brown discoloration which could not be removed by short periods of immersion in water. While the water to which birds naturally expose themselves probably does not contain ferric chloride but rather various iron salts, the discoloration probably results from the presence of ferric ions and would be identical in both cases.

These experiments therefore show that rust-colored Snow Goose feathers contain iron which is absent in Mallard and sparrow feathers and that the discoloration can be artificially reproduced by immersion in solution of a ferric salt.—E. O. HÖHN, *Department of Physiology, University of Alberta, Edmonton, Alberta, Canada.*