



NUMBER 11

MARCH 4, 1942

OCCASIONAL PAPERS OF THE MUSEUM OF
ZOOLOGY

LOUISIANA STATE UNIVERSITY

BATON ROUGE, LA.

LOUISIANA STATE UNIVERSITY PRESS

A NEW BARN SWALLOW FROM THE GULF COAST
OF THE UNITED STATES

By THOMAS D. BURLEIGH

In the course of a detailed study of the bird life of the Mississippi Gulf Coast, one of the many interesting problems encountered concerning distribution was the presence of breeding Barn Swallows on several of the outlying islands. The A.O.U. Check-List (1931) gives the breeding range of this species in the eastern United States as "... northern Arkansas, Tennessee, northern Alabama and North Carolina . . ." There are several recent records of single pairs of these birds nesting near Memphis, but nowhere in Mississippi other than on the coastal islands has the Barn Swallow been found during the summer months. Thus, for a distance of over three hundred miles north of the coastal islands, this species has never been known to breed. This is a case of isolation unique insofar as the bird life of the eastern United States is concerned. To determine the effect of this isolation, several breeding males were taken on June 4, 1938, from one of the colonies on Ship Island, sixteen miles offshore from Gulfport. It was at once apparent that they represented a distinct and undescribed race. Further collecting over a period of several years confirmed this original conclusion, and with the material now on hand, it appears advisable to give these Barn Swallows subspecific recognition as follows:

HIRUNDO RUSTICA INSULARIS new subspecies

GULF COAST BARN SWALLOW

Subspecific characters.—This well-marked race resembles *Hirundo*

*rustica erythrogaster*¹ Boddaert,² but is decidedly paler. In the adult male, the forehead, chin and throat are light cinnamon-rufous rather than chestnut; the rest of the under parts are almost white, being but lightly washed with vinaceous-cinnamon, and in this respect resembling closely *Hirundo rustica rustica* Linnaeus.³ This pale coloration of the forehead and under parts is equally apparent in the adult female. There is no perceptible difference in size as all specimens examined fall within the measurements as given by Ridgway⁴ for *Hirundo rustica erythrogaster*.

Type.—Male, adult; No. 364873, United States National Museum collection; Ship Island, lying sixteen miles offshore from Gulfport; June 4, 1938; Thos. D. Burleigh (original number 5113).

Measurements.—(adult male type): wing, 119 mm.; tail, 85; exposed culmen, 8.5. Twelve adult males: wing, 118-122 (average, 120); tail, 79.0-97.5 (87.2); exposed culmen, 7.8-8.5 (8.1). Six adult females: wing, 114-119 (average, 116.1); tail, 71.5-81.0 (76.0); exposed culmen, 7.7-8.3 (8.0).

Range.—The islands on the Gulf Coast of the United States from southeastern Louisiana east to western Alabama. Breeding colonies have been found on Isle au Pitre, Louisiana, Cat Island and Ship Island, Mississippi, and at Fort Morgan, Alabama.

Specimens examined.—In all, 19, from the following localities: MISSISSIPPI: Ship Island, 12, Cat Island, 2. LOUISIANA: Isle au Pitre, 2. ALABAMA: Fort Morgan, 3.

Remarks.—Recognition of this insular race of the Barn Swallow involves the consideration of factors which cannot be evaluated in the case of most new subspecies. One of these factors is the presence throughout the breeding season of individuals indistinguishable from mainland specimens and which were at first thought to be part of the insular breeding colonies. However, the first such specimen taken, a

¹ For a synopsis of other hitherto recognized races of *Hirundo rustica*, Cf. H. C. Oberholser, "Birds of Anamba Islands," *U. S. Nat. Mus. Bull.*, 98, 1917: 28-32.

² *Hirundo erythrogaster* Boddaert, Table Pl. Enl., 1783: 45 (type locality: Cayenne).

³ [*Hirundo*] *rustica* Linnaeus, *Syst. Nat.*, ed. 10, vol. 1, 1758: 191 (type locality: Sweden).

⁴ "Birds of North and Middle America," *U. S. Nat. Mus. Bull.*, 50, pt. 3, 1904: 80.

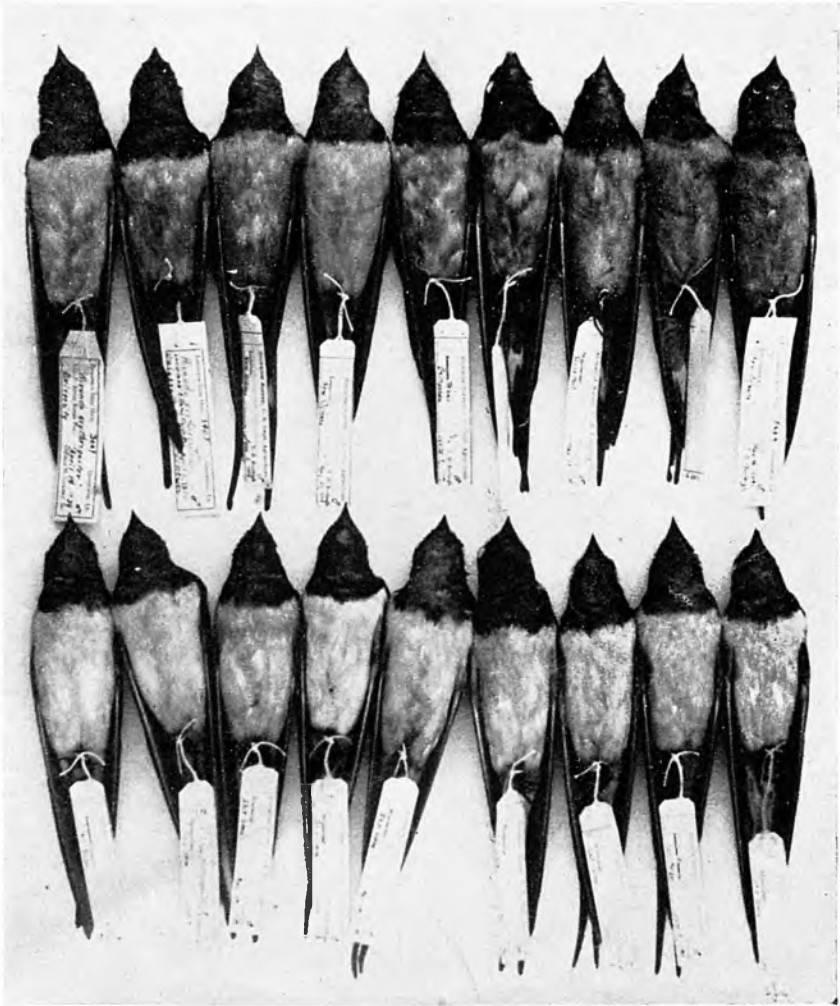
male on Ship Island on June 4, 1938, was found to have testes so minute that it obviously could not have been breeding there. In other words, an occasional non-breeding *erythrogaster* remains throughout the summer months on the coastal islands without any desire to go farther north. On the other hand, a breeding male referable to *erythrogaster* was collected on Isle au Pitre, Louisiana, on June 11, 1941. The reproductive organs indicated beyond any question that it was a breeding bird, but this need not be considered surprising, for from time to time, such an individual might be tempted to remain on the coast and mate with a female of the insular form.⁵ This possibly explains the lack of complete uniformity evident in the series of specimens taken. Although the under parts in the male are without exception distinctly paler, in several individuals the wash of vinaceous-cinnamon is noticeable. As the male taken on Isle au Pitre should be referred to *erythrogaster* rather than to *insularis*, this may be necessary with other individuals taken under similar circumstances in future years.

Another factor to be considered in determining the validity of this new race was the possible effect of environment on the insular breeding birds. The conditions which are possibly responsible for the paler coloration are worthy of consideration. It was necessary to determine whether this paleness was seasonal, and thus more pronounced in late summer than in early spring, or whether it was due to the long existence of the birds in this unusual environment and thus constant regardless of season.

Accordingly, one of the colonies on Ship Island was visited on May 1, 1940, within a few weeks after the arrival of the swallows from their winter home. A male collected on that date appeared characteristic of all other males noted that day. On comparison with the small series already on hand, the specimen was found to differ in no way from males taken in early June or July, indicating that the characters separating *insularis* from *erythrogaster* are hereditary, and not merely a seasonal bleaching effect of the intense sunlight reflected from the open water and the white sand of the beaches. I suspect, however, that just such factors as these in combination with various biological processes have, over a period of years, resulted in the gradual development of this pale race of the Barn Swallow.

⁵ A case comparable to this was reported by Van Tyne and Sutton ("The Birds of Brewster County, Texas." *Misc. Pub. Mus. of Zoology, Univ. of Mich.*, 37, 1937: 21) with respect to *Buteo jamaicensis calurus* and *B. j. suetsesi*.

Grateful acknowledgment is made to the following individuals: John T. Zimmer, of the American Museum of Natural History, for his critical comments on this new race and for the loan of specimens of *H. r. rustica*; to George H. Lowery, Jr., Museum of Zoölogy, Louisiana State University, for his assistance in the preparation of this paper and for the loan of comparative material; and to Mr. and Mrs. William A. Frantzen, of the U. S. Quarantine Station on Ship Island, for numerous courtesies extended during the course of field work conducted there.



Photograph indicating the differences between males of *Hivundo rustica erythrogaster* (upper row) and *Hivundo rustica insularis* (bottom row). Made in daylight with Finopan (no filters) by J. Harvey Roberts.