

**Article IV.—DESCRIPTION OF A NEW SUBSPECIES
OF ORYZOMYS FROM THE GULF STATES.**

By FRANK M. CHAPMAN.

The type of the genus *Oryzomys* was discovered by Bachman in 1816 in the marshes of South Carolina. Twenty years later he sent a specimen with a description to Drs. Pickering and Harlan of the Academy of Natural Sciences at Philadelphia. Bachman named this new rodent *Arvicola oryzivora*, and requested that a comparison be made between his specimen and the *Arvicola riparia* of Ord, with which he was not familiar. The comparison was made by Dr. Harlan, who incidentally found a specimen of Bachman's new species in the Academy collection. This specimen was labeled as being taken near Fastland, near Salem, New Jersey, and Dr. Harlan, who was apparently unable to withstand the temptation of affixing his name to a new species, pigeon-holed Bachman's manuscript and himself described the New Jersey specimen under the name *Mus palustris*.¹

Dr. Harlan said of the habitat of this species: "Found in the fresh-water swamps of New Jersey and South Carolina. The present specimen was taken near Fastland, in the vicinity of Salem." And adds: "A similar specimen was sent me by Dr. Bachman, of Charleston, S. C.;" this being the only credit Bachman received for his discovery.

In commenting on this obviously unfair treatment, Bachman states² that Dr. Harlan made use of the head of the South Carolina specimen for an examination of the teeth. Harlan, however, makes no mention of Bachman's specimen beyond the brief remark just quoted, and the type locality of *Oryzomys palustris* is therefore New Jersey. It is true that the type is the only specimen known to have been taken in the State, but in view of the recent discovery by Messrs. Rhoads and Stone of *Synaptomys* and *Evotomys* in Southern New Jersey, we may conclude that

¹ Am. Journ. Sci. and Arts, XXXI, 1837, p. 385.

² Quad. N. Am., III, 1853, p. 216.

our knowledge of the mammalogy of the region may receive still further additions.

Several years ago I collected eight specimens of *Oryzomys* in Florida, and since then the Museum has received six apparently similar specimens from New Orleans (Gustav Kohn), one from Wharton County, Texas (Geo. B. Sennett), and one from Rockport, Texas (H. P. Attwater). Later the Museum received six specimens from Raleigh, N. C. (Brimley), and one from Frogmore, S. C. (Hoxie). Comparison of the Gulf States specimens with those from the Carolinas show that they belong to two well-marked races.

It is of course impossible to say whether the Carolina specimens would agree with an as yet uncollected series from southern New Jersey, but until such a series is forthcoming the name *palustris* is evidently applicable to the northern form, from which I propose to separate the Gulf States race under the name

***Oryzomys palustris natator*, subsp. nov.**

Char. Subsp. (Type, No. $\frac{1818}{1088}$, ♂, Am. Mus. Nat. Hist., collected by F. M. Chapman at Gainesville, Florida, Jan. 31, 1889).—Larger than North Carolina specimens, the pelage averaging heavier and always much darker. In Raleigh specimens the general color of the dorsal surface is not unlike that of *Mus decumanus*; in adults of the new race the dorsal surface more nearly resembles that of *Fiber zibethicus* in color, though it is by no means so dark as in that animal. The difference in size illustrates the law of increase in size toward the centre of distribution, and is shown by the following measurements taken in the flesh:

	<i>Length.</i>	<i>Tail.</i>	<i>Hind Foot.</i>
Five males from Raleigh, N. C.	2.37	1.20	30 mm.
Five males from Gainesville, Florida. . .	2.86	1.36	33 mm.

There are apparently no diagnostic cranial characters.

REMARKS.—There are two interesting points developed by the range of this new form. First, it is somewhat unexpected to find Texas specimens resembling those from Florida. For example, the Seaside Finches of Florida (*Ammodramus nigrescens* and *A. maritimus peninsulae*) are the darkest of the genus, while the race from Texas (*A. m. sennetti*) is the palest. Still *Oryzomys* inhabits the same marshes in which these Finches abound, and is apparently subjected to the same environmental influences. I say *apparently*, for a field experience in both Florida and Texas marshes gives

me reason to believe that while these localities are separated by a thousand miles, and are included in different faunæ, in the case of these Rats at least, the character of their haunts in Florida is in effect so like that in Texas that no real difference exists in their immediate surroundings. The Finches before mentioned, which show in their respective plumages the effects of climates characterized respectively by heavy and comparatively light rainfall, are diurnal inhabitants of the air, where they are exposed to the full force of climatic influences. The Rats, on the contrary, are nocturnal, and almost subterranean. That is, their runways are made beneath the dense mat of grasses which cover the marshes bordering the gulf. In these half-flooded situations there can be little difference in the humidity of their habitats; existing thus, under similar conditions, they exhibit similar phases of coloration.

To illustrate further the effect of environment I may instance a series of *Sigmodon* collected by myself at Corpus Christi, Texas, the same locality in which *Oryzomys* was observed. *Sigmodon* is very abundant there, inhabiting in large numbers both the dry, scrubby chapparal and swampy marshes. In the former case its runways were easily observable as well-worn paths; in the latter they led beneath the dense mat of marsh grass, indeed were the same as those used by *Oryzomys*. Series of *Sigmodon* were collected in both the chapparal and marsh, each specimen being labeled with its exact locality. On comparison these series are easily distinguishable from each other, the specimens from the marsh being darker, and thus showing the result of their more humid home and protection from the sun's rays afforded by their covered run ways.

Both this instance and the preceding show the importance of field-study.

The second point of interest in the range of *O. p. natator* is the near approach of its habitat to that of the very distinct *Oryzomys aquaticus* Allen.

Although I have but one specimen from the known southern limit of the range of *natator* (Rockport, Texas), I have examined several specimens caught at Corpus Christi, but which unfortunately were too decayed to preserve. They showed, however, no approach to *Oryzomys aquaticus*. This species is known only from

Brownsville, Texas, little more than one hundred miles south of Corpus Christi. It is apparently specifically distinct from *natator*, but as the probable gateway by which the genus gained entrance to the United States it will be exceedingly interesting to learn whether the United States form has become specifically distinct from its Mexican ancestors, whether it intergrades with *aquaticus* at some point between Corpus Christi and Brownsville, or whether it occurs in the same region with *aquaticus*. In the latter case their specific distinctness would of course be proven.