ARTICLE XI.—*On the Habits of the Round-tailed Muskrat (Neofiber alleni True).* By FRANK M. CHAPMAN.

Neofiber alleni was briefly described by True in *Science*,* this preliminary description being followed by one of a more detailed character,† while later the same author included the species in his provisional list of North and Central American mammals.‡

These references, so far as I am aware, comprise all that has been published concerning this interesting mammal, whose habits and distribution have since been a matter of uncertain speculation. It is with sincere pleasure, therefore, that I am able to present additional information on this subject, which, it is to be hoped, will eventually lead to a thorough knowledge of this animal's life-history and habitat.

Georgiana, the place of the original capture by Dr. Wittfeld, is situated near the southern extremity of Merritt's Island in Eastern Florida, while the region now under consideration is nearly thirty miles further south on the East Peninsula, opposite Micco, at "Oak Lodge," the residence of Mr. C. F. Latham, a locality visited during portions of February and March, 1889, with the probable capture of *Neofiber* in view.

At this point the peninsula is about half a mile in width, a fringe of outlying mangrove-bordered islands on the west shore increasing the distance from river to ocean to somewhat more than a mile. The growth on the peninsula proper is very dense and composed largely of cabbage palms and oaks, the sea coast being bordered by an unbroken line of saw-palmetto several hundred yards in width, while on the river side frequent inroads are made by large savannas caused by inflowing streams. On these savannas, which occur also in the interior of many of the islands before mentioned, *Neofiber alleni* may be found in abundance.

The growth here is largely restricted to the heavy fringe of red§ and black‖ mangrove and "sedge"¶ facing the water, with occasional black or "yellow mangroves" dotting the surface of the savannas irregularly throughout their entire extent. Though

* Science, IV, No. 75, 1884, p. 34.
† Proc. U. S. Nat. Mus., VII, 1884, p. 170.
‡ *Ibid.*, p. 596.
§ Rhizophora mangle.
‖ Avicennia nitida.
¶ Borrichia frutescens.

subject to frequent inundation the water rarely or never rises above the tangled mass of grass, which, at the time of my visit, was from two to three feet high and densely matted underfoot.

Of this grass *Neofiber* constructs a more or less woven nest, placing it frequently in hollow trunks or stumps of the black mangrove, occasionally in the open savanna, but generally about the bases of the "yellow mangrove," when in some cases, probably because they interfered in its construction, an intruding limb of the supporting bush was gnawed off at its base; the largest one treated in this manner which I observed measured about one inch in diameter.

Under the first-mentioned conditions the nest merely fills, without regard to form, the cavity in which it is placed, but situated in the open or about the "yellow mangroves," it has a more or less pyriform appearance, averages from ten to eighteen inches in height, and is nearly as large at its greatest diameter. In favorable localities it was not unusual to see ten or twelve of these nests from the same standpoint; probably, however, only a small percentage of them were occupied. Several of the many examined had openings above, perhaps the work of some marauding mammal, for with these exceptions the openings were restricted to two, invariably situated on opposite sides of the nest, leading from the single chamber within to the underground passages which are constructed just beneath the thick mat of grass, and ramify in every direction. Not infrequently they come to the surface, a small flattened pile of mud marking the exits, when the runway is sometimes continued above ground and may proceed to a neighboring pond. Here *Neofiber* finds what apparently is a favorite food, in a species of succulent grass, which grows to a height of three or four feet in water half as deep. To procure the younger and more tender portions of this grass he constructs a platform of the larger stalks, on which he sits and feeds at leisure on the shoots growing in his immediate vicinity, and the size of this supporting platform depends on the abundance of food growing near it, the harder, rejected portions of grass constantly adding to its bulk. The largest one observed measured about twelve by ten inches, and rested on the bottom in water one foot deep.

Occasionally, during a period of high water, an overhanging and submerged limb of black mangrove will furnish a basal support for this stand, which the receding water leaves suspended. In one instance the cigar-shaped shoot of a red mangrove, from which the bark had been partially gnawed, was found on a feeding platform, while the stomachs of the specimens examined contained only vegetable matter, which we may presume largely if not entirely composes the food of this species.

Though I was frequently on the water at night, both with and without a head-light, *Neofiber* was not once observed swimming, as we so often find the muskrat,—an observation confirmed by the experience of Mr. Latham, who has passed several years in the locality.

It is probable that *Neofiber* is much less aquatic than the last named species, a fact which would largely account for the differences observed in their habits.

That *Neofiber* is quite at home in the water, however, was clearly shown by the actions of a captured individual, which, placed in a tub of water, swam and dived readily; in swimming using the tail in a peculiar gyratory manner, the tip describing circles.

The unusually high water during my stay greatly interfered with successful trapping, and I succeeded in catching but four of these much desired mammals, one of which left me only a foot and leg as a souvenir; the remaining three are now in the American Museum Collection, and are included in the appended tables presented for comparison with Mr. True's measurements, which are given in the fourth column of the tables.

Remarks on Specimens.—No. 1841, an adult male, differs from the description of the type in having the underparts silvery white with only a faint rufescent tinge and a circular sooty mark covering the chin.

No. 1842, an immature female in a pelage before undescribed, is deep plumbeous above, the hairs concolor to their base, grayish white below, resembling thus the young of *Fiber zibethicus;* the belly, however, is whiter and the rufous tinge showing faintly in *F. zibethicus* is entirely wanting in *N. alleni.* The skull agrees

with that of young *F. zibethicus* in having the interorbital bridge flat and not produced into a ridge as it is in adult skulls of both species.

No. 1843, an adult male, agrees very closely with the description of the type, though I am unable to account for the apparent discrepancy in the length of the nasals shown in the measurements of both this and the two preceding specimens.

MEASUREMENTS OF SKINS.*

	No. 1841, ♂ ad. Mch. 8, 1889.	No. 1842, ♀ im. Mch. 19, 1889.	No. 1843, ♂ ad. Mch. 26, 1889.	Type. Sex not stated.
Total length	350	266	.....	.....
Tail	129	103	130	126
Hind foot (without claws)	39	35	38	39
Middle toe of fore foot (without claw)	9	7	.....	9
Middle toe of hind foot (without claw)	10	9	9	10
Longest claw of fore foot	6	5	.....	5
Longest claw of hind foot	7	6	7	6

* Measurements in millimeters.

MEASUREMENTS OF SKULLS.*

	No. 1841, ♂ ad. Mch. 8, 1888.	No. 1842, ♀ im. Mch. 19, 1888.	No. 1843, ♂ ad. Mch. 26, 1889.	Type. Sex not Stated.
Total length	48	43	47	47
Greatest width	30	25	29	29
Length of nasals	9	7	9	12
Length of tooth row	11	10	12	11
Front edge of first molar to posterior margin of incisors	16	14	15	16
Greatest width of muzzle	8	7	7	7
Width of interorbital bridge	5	6	6	5
Centre of occipital crest to line of hinder margin of orbits	18	19	19	19

* Measurements in millimeters.