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# New Florida Localities for the Round-Tailed Muskrat

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# NEW FLORIDA LOCALITIES FOR THE ROUND-TAILED MUSKRAT

Classification of the round-tailed muskrat (*Neofiber alleni*) as a Species of Special Concern in Florida (Layne, 1979) indicates a need to define the range of the animal more precisely and to determine the status of populations. Recent descriptions of the species' range (Hall, 1981, Tilmant, 1979) show that it does not occur in Dixie, Levy, Citrus, Hernando, and western or north central Pasco counties, Florida. The westernmost record is east of the Apalachicola River in Franklin County. However, these reports are based primarily on the work of earlier authors (Porter, 1953; Schwartz, 1953) who overlooked *Neofiber* along the central and western Gulf Coast of Florida.

In August 1978, Richard Callahan, (personal communication) observed numerous *Neofiber* nests in the marshes on the former Cross Bar Ranch in north-central Pasco County (T 24 S, R 18 E, Sect. 36 and other nearby sections). During a mammalogy class field trip in February 1977, students from the University of South Florida investigated a population residing on the north edge of Simmons Prairie Lake (T 21 S, R 20 E, Sect. 27, 28 and 33) in north-central Hernando County.

The Simmons Prairie site is a circular bay of about 1.25 ha connected to the main body of the lake by a short, narrow channel. In February 1977, the bay contained water at depths up to 1 m and was choked with maidencane (*Panicum hemitomon*), pickerelweed (*Pontederia lanceolata*), arrowhead (*Sagittaria lancifolia*) and other emergents. *Neofiber* occupied spherical nests supported at water level by the vegetation. Construction and materials were similar to those reported for the species in Alachua County (Birkenholz, 1963) except that some nests contained 3 rather than 2 plunge holes. Single Conibear traps placed between plunge holes in 40 nests no closer than 5 m throughout the bay resulted in 18 captures in 1 night, approximating Birkenholz's findings of 1 *Neofiber* per 2 nests.

By April 1977, the lake's shoreline had receded about 100 m beyond the bay leaving it nearly dry. This rapid change in water level was probably the result of evaporation and water use by local mining and agricultural operations. A survey of the lake perimeter indicated that numerous nests had been abandoned as waters receded. In the bay alone, 187 nests were found. No newly constructed nests were observed among the water lilies (*Nymphaea* sp.) that then constituted the principal emergent vegetation in shallower portions of the lake. However, *Neofiber* had constructed a complex system of runways through fallen stands of formerly littoral plants and had burrowed into mucky areas of exposed lake bottom. Fresh activity was noted in damper areas of the bay.

By July 1977, the shoreline had receded another 50 m, and *Neofiber* activity had ceased in the bay and in other areas of exposed lakebed that had appeared occupied in April. In areas where the species was still active, more extensive tunneling and burrowing than previously observed was evident. Burrows were especially numerous in the knee-deep muck beneath stranded lily pads, probably reflecting an increased density of animals crowded at the water's edge. When the area was surveyed in November 1977, no changes were noted in either the lake's water level or the *Neofiber* population.

Apparently *Neofiber* colonies can adapt to seasonal or year-to-year water level fluctuations by becoming fossorial during low water when suitable

substrates are available and then reverting to nests and more aquatic existence as waters return. Birkenholz (1963), Hill (1974), Paul (1968), Porter (1953) and Schwartz (1951) have also reported tunneling, burrowing, or shifts from nests to fossorial homesites during low water. The long-term effects of water level fluctuations on *Neofiber* population numbers have not been documented.

In August, 1982, one specimen was collected in a coastal marsh on the northern shore of Choctawatchee Bay in Walton County. The locality is 7 km south of Freeport and 3.5 km northwest of the mouth of the Choctawachee River. This record represents a westward range extension of just over 60 km. Vegetation in this brackish marsh was dominated by sawgrass (*Cladium jamaicense*), black needlerush (*Juncus romerianus*), salt marsh bulrush (*Scirpus robustus*) and saltmeadow cord grass (*Spartina patens*). The habitat is much more saline than is typically preferred (Tilmant, 1979). Two houses were observed in the area where the specimen was taken. The individual was a nonreproductive female, 335 g, with measurements TL - 348 mm, T-136 mm, HF-43 mm. Skin and skull are deposited in the Florida State Museum (UF 18814).

Observations suggest that *Neofiber* may be more common in central Gulf Coast counties than previously realized, and that it may occur throughout the panhandle. Assessment of the status of the species should include further investigation in these and surrounding areas.

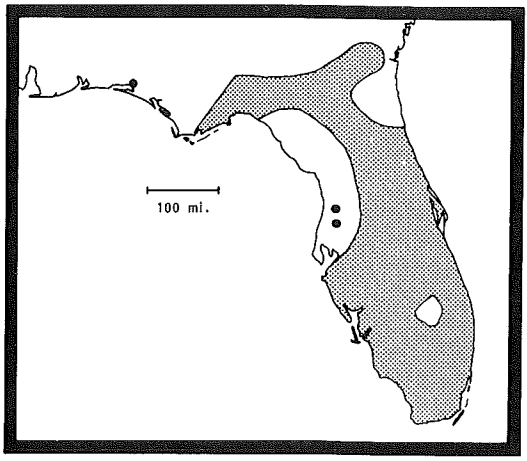


**Figure 1.** Distribution of *Neofiber alleni*. Shaded area represents the previously known range, adapted from Hall (1981). Dots represent new records.

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