MUS LEUCOPUS.—RAFINESQUE.

AMERICAN WHITE-FOOTED MOUSE.

PLATE XL.—MALE, FEMALE, AND YOUNG.

Cauda elongata, villosa; auribus magnis; supra fulvo-fuscescens, subtus albus; pedibus albis.

CHARACTERS.

Tail, long and hairy; ears, large; yellowish brown above; feet and lower parts of the body, white.

SYNONYMES.

MUS SYLVATICUS, Forster, Phil. Trans., vol. lxii., p. 380.

FIELD-RAT, Penn., Hist. Quad., vol. ii., p. 185.

“ Arctic Zool., vol. i., p. 131.

MUSCULUS LEUCOPUS, Rafinesque, Amer. Month. Review, Oct. 1818, p. 444.

MUS LEUCOPUS, Desmar. Mamm., esp. 493.

MUS SYLVATICUS, Harlan, Fauna, p. 151.

MUS AGRARIUS, Godm., Nat. Hist., vol. ii., p. 88.

MUS LEUCOPUS, Richardson, F. B. A., p. 142.

ARVICOLA NUTTALLII, Harlan, variety.

ARVICOLA EMMONSII, Emm., Mass. Report, p. 61.

MUS LEUCOPUS, Dekay, Nat. Hist. N. Y., pl. 1, p. 82.

DESCRIPTION.

Head, of moderate size; muzzle, sharp pointed; eyes, large; ears, large, membranous, rounded above, nearly naked. There are a few short hairs on the margins, on both surfaces, not sufficient to conceal the integument. Whiskers, longer than the head.

The form of this species is delicate and of fine proportions; the fur (which is not very long) is soft and fine, but not lustrous.

Feet, slender, and clothed with short adpressed hairs, covering the toes and nails; there are four toes on the fore-feet, with six tubercles on each palm; the thumb is rudimentary, and covered by a very small blunt nail. The nails are small, sharp, and hooked; the hind-feet are long, especially the tarsal bones; the toes are longer than on the fore-feet. The tail is round, slender, tapering, and thickly clothed with short

Drawn on Stone by Wm. E. Hitchcock

White Footed Mouse.

Drawn from Nature by J.J. Audubon, F.R.S. F.L.S.

Lith. Printed & Col'd by J.T. Bowen, Philada.

hairs; no scales being visible like those on the common mouse, (*Mus musculus*.)

COLOUR.

Fur, from the roots to near the extremity, dark bluish-gray; on the upper parts, brownish yellow; being a little darker on the crown and back, and lighter on the sides; the colour of the cheeks and hips approaches reddish-brown. The above is the colour of this species through the winter and until it sheds its hair late in spring, when it assumes a bluish-gray tint, a little lighter than that of the common mouse. Whiskers, white and black; upper surface of the tail, the colour of the back. The lips, chin, throat, feet, legs, and the whole under surface of the body and tail, are pure white. On the sides, this colour extends high up along the flanks; there is a very distinct line of demarcation between the colours of the back and sides.

There are some varieties in this species; specimens which we examined, from Labrador, Hudson's Bay, and Oregon, were lighter in colour, and the white on the under surface extended farther toward the back, than on those from the Atlantic States; we also observed a striking difference in the length of their tails, some being longer than the body, whilst others were not much more than half the length. In size they also differ widely; we have seen some that are scarcely larger than the common mouse, whilst others are nearly double that size; they are considerably larger in Carolina than in the Eastern States.

DIMENSIONS.

Length of head and body	-	-	-	-	-	2 $\frac{1}{4}$ inches.
" " tail	-	-	-	-	-	2 $\frac{1}{2}$ do.
Another specimen.						
Length of head and body	-	-	-	-	-	3 $\frac{1}{2}$ do.
" " tail	-	-	-	-	-	3 $\frac{1}{4}$ do.

HABITS.

Next to the common mouse, this is the most abundant and widely diffused species of mouse in North America. We have received it (under various names) from every State in the Union, and from Labrador, Hudson's Bay, and the Columbia River. Being nocturnal in its habits, it is far more common than is generally supposed. In familiar localities, where we had never known of its existence, we found it almost the only species taken in traps at night.

The White-footed Mouse is an exceedingly active species. It runs, leaps, and climbs, with great facility. We have observed it taking up its abode in a deserted squirrel's nest, thirty feet from the earth; we have seen a family of five or six scamper from a hollow in an oak that had just been cut down; we have frequently found them in the loft of a corn-house or stable in Carolina; and at times have discovered their nests under stone-heaps or old logs, or in the ground.

In New-Jersey their favourite resorts are isolated cedars growing on the margins of damp places, where green briars (*Smilax rotundifolia* and *S. herbacea*) connect the branches with the ground, and along the stems of which they climb expertly.

When started from their nests in these trees, they descend along the vines in safety to the earth. When thus disturbed, however, if the nest is at some distance from the ground, they hesitate before they come down, and go out on a branch perhaps, to scrutinize the vicinity, and, if not farther molested, appear satisfied, and again retreat to their nests. They have been known to take possession of deserted bird's nests—such as those of the cat-bird, red-winged starling, song thrush, or red-eyed fly-catcher.

In the northern part of New-York we could always obtain specimens from under the sheaves of wheat that were usually stacked in the harvest fields for a few days before they were carried into the barn. We have also occasionally found their nests on bushes, from five to fifteen feet from the ground. They are in these cases constructed with nearly as much art and ingenuity as the nests of the Baltimore Oriole. There are several nests now lying before us, that were found near Fort Lee, New-Jersey. They are seven inches in length and four in breadth, the circumference measuring thirteen inches; they are of an oval shape and are outwardly composed of dried moss and a few slips of the inner bark of some wild grape-vine; other nests are more rounded, and are composed of dried leaves and moss. We have sometimes thought that two pair of these Mice might occupy the same nest, as we possess one, nine inches in length and eight inches in diameter, which has two entrances, six inches apart, so that in such a case the little tenants need not have interfered with each other. The entrance in all the nests is from below, and about the size of the animal.

When we first discovered this kind of nest we were at a loss to decide whether it belonged to a bird or a quadruped; on touching the bush, however, we saw the little tenant of this airy domicile escape. At our next visit she left the nest so clumsily and made her way along the ground so slowly, that we took her up in our hand, when we discovered

that she had four young about a fourth grown, adhering so firmly to the teats that she dragged them along in the manner of the jumping mouse (*Meriones Americanus*), or of the Florida rat. We preserved this little family alive for eighteen months, during which time the female produced several broods of young. During the day they usually concealed themselves in their nests, but as soon as it was dark they became very active and playful, running up and down the wires of their cages, robbing each other's little store-houses of various grains that had been carried to them, and occasionally emitting the only sound we ever heard them utter—a low squeak resembling that of the common mouse. We have been informed by WILLIAM COOPER, Esq., of Weehawken, New-Jersey, an intelligent and close observer, to whom science is indebted for many excellent papers on various branches of natural history, that this species, when running off with its young to a place of safety, presses its tail closely under its abdomen to assist in holding them on to the teats—a remarkable instance of the love of offspring.

The White-footed Mouse seems less carnivorous than most of its kindred species. We found it when in confinement always dragging to its nest any kind of meat we placed in the cage, but it was generally left there unconsumed. We have often caught it in traps set for larger animals and baited with meat. Its first object is to drag the meat to its little store-house of provisions; the bait, however, being tied with a string to the pan of the steel-trap is not so easily carried off; but without much loss of time the Mouse gnaws the string in two, and if not caught in the attempt, drags off the meat. Our friend, the late Dr. JOHN WRIGHT, of Troy, furnished us with information confirming the above; he says, "In trapping for a weasel last summer I tied bits of beef above each trap with twine. On my first visit to the traps I found the twine at one, cut, and the meat in the jaws of the trap. The next day the same thing was observed at one of the traps, but another held fast a specimen of the *Mus leucopus*. I am informed that the trapper is not unfrequently troubled in this manner."

We have known this Mouse to cut into pieces snares set for the ruffed grouse, placed in gaps left for the purpose in fences of brushwood.

In its wild state it is continually laying up little stores of grain and grass seeds. We have seen it carrying in its mouth acorns and chinquepins. In the Northern States, these little hoards are often composed wholly of wheat; in the South, of rice. This species, like all rats and mice, is fond of Indian-corn, from which it only extracts the choicest sweetest portions, eating the heart and leaving the rest untouched.

In thickly settled parts of the United States this Mouse avoids

dwelling, and even outhouses, and either confines itself to the woods, or keeps near fences, stone-heaps, &c.; but in partially deserted houses, or in newly formed settlements, it seems to take the place of the common mouse. RICHARDSON states that in the fur countries it becomes an inmate of the dwelling houses. Dr. LEITNER, an eminent botanist, who, whilst acting as surgeon in the army, was unfortunately killed in the Florida war, informed us that whilst on a botanizing tour through Florida a few years ago, he was frequently kept awake during a portion of the night by the White-footed Mice which had taken possession of the huts of the Indians and the log cabins of the early white settlers. We are under an impression that in these localities the common cat, and the Norway rat, were both absent; as we have reason to believe that this species deserts premises whenever they are frequented by either of the above animals. We kept a pair of white Norway rats (Albino variety) separated by a partition from an interesting family of white-footed mice, but before we were aware of it, the rats gnawed through the partition and devoured all our little pets.

This is a timid and very gentle species; we have seldom known it to bite when taken into the hand, and have observed that in a state of confinement it suffered itself to be killed by the very carnivorous cotton-rat (*Sigmodon hispidum*) without making any resistance.

We are disposed to believe that this species produces at least two litters of young in a season, in the Northern States, and three, in the Southern. In the State of New-York we have seen the young every month from May to September; and in Carolina a female that was kept in confinement had young three times, first having three, at a second litter five, and having six at a third.

The White-footed Mouse has many enemies. Foxes, wild-cats, and owls, destroy it frequently; the house-cat strays into the fields and along fences in search of it. In Carolina some domesticated cats live in the fields and woods in a partially wild state, avoiding houses altogether; these subsist on birds and the smaller rodentia, and this species furnishes a considerable portion of their food; but we are disposed to regard the ermine (common weasel) as its most formidable and voracious persecutor. We believe that the White-footed Mouse does not always dig a burrow of its own, but that it takes possession of one dug by some other small species; in the Northern States, generally that of the chipping squirrel. Be this as it may, it is certain, that wherever the White-footed Mouse can enter, the ermine can follow, and he not only feeds upon it, but destroys whole families. An ermine at one time made its escape from us, carrying with it a small portion of a chain fastened around

its neck: it was traced by a servant over the snow a mile into the woods, to a spot where it entered a very small hole. It was dug out, and the man brought us five or six Mice, of this species, that he found dead in the hole, having been killed, doubtless, by the ermine. From appearances, two only had been devoured; the remainder we observed had not been seized by the throat in the manner of the cat, but had the marks of the ermine's teeth in their skulls.

We do not regard this species as doing very extensive injury either to the garden or farm, in any of the Atlantic States of America. We suspect that its reputation in this respect, as well as that of the shrew-mole, has been made to suffer very unjustly, when in reality the author of the mischief is the little pine-mouse (*Arvicola pinetorum*, LE CONTE), or perhaps WILSON'S meadow-mouse, *Arvicola Pennsylvanica*, ORD, *A. hirsutus*, EMMONS, and DEKAY). The farmers and gardeners of the Northern and Eastern States, however, complain that this Mouse, which they generally call the "Deer-mouse," destroys many of their cabbage-plants and other young and tender vegetables, and gnaws the bark from young fruit trees; and if they have made no mistake in regard to the species, it must be much more destructive than we have heretofore considered it.

GEOGRAPHICAL DISTRIBUTION.

According to RICHARDSON, this species is found as far north as Great Bear Lake. We saw in the London museums several specimens from Hudson's Bay; it extends across the continent to the Columbia River on the Pacific, from whence Mr. TOWNSEND brought us several skins. We received specimens from Florida by Dr. LEITNER; we found it west of the Mississippi at Fort Union, where it commits depredations in the garden attached to the Fort, and we have received specimens from Arkansas and Texas.

GENERAL REMARKS.

That a species so widely distributed, and subject to so many varieties in size, length of tail, and colour, should have been often described under different names, is not surprising. We have ourselves often been in a state of doubt on obtaining some striking variety. The name *Hypudæus gossipinus* of our friend, Major LE CONTE, (see Appendix to McMURTRIE'S translation of Cuv. An. Kingd., vol. i., p. 434,) was intended for this species, as it is found in the Southern States. We were for several years disposed to regard it as distinct, and have, not without much hesitation,

and after an examination of many hundred specimens, been induced to set it down as a variety only.

We have adopted the name given to it by RAFINESQUE, in deference to the opinions of RICHARDSON, who supposed that it applied to this species. RICHARDSON himself, however,—not RAFINESQUE,—gave a true description of it.

GODMAN, in describing *Mus agrarius*, we feel confident, had reference to this species. He had, however, never seen the European *Mus agrarius* of PALLAS, else he would not have made so great a mistake; we have on several occasions in Denmark and Germany compared them, and found that they scarcely bear any resemblance to each other. *Mus agrarius* has a short tail and short hairy ears. FORSTER, and HARLAN, refer this species to *Mus sylvaticus* of Europe. FORSTER'S specimens came from Hudson's Bay at an early period, when it was customary to consider American species of Quadrupeds and Birds as mere varieties of those of Europe. HARLAN, instead of describing from an American specimen, literally translated DESMAREST'S description of the European *Mus sylvaticus* and applied it to our species, (see Mam. p. 301,) in doing which, by neglecting to institute a comparison, he committed a great error.

We were favoured with the privilege of comparing specimens of *Mus sylvaticus* and *M. leucopus*, through the kindness of Prof. LICHTENSTEIN at the Berlin museum. Although there is a general resemblance, a moment's examination will enable the naturalist to discover sufficient marks of difference to induce him to separate the species. *Mus leucopus* has a little longer tail. Its ears are longer, but not so broad. The under surface of the tail of *Mus sylvaticus* is less white, and the white on the under surface of the body does not extend as high on the sides, nor is there any distinct line of separation between the colours of the back and under surface, which is a striking characteristic in the American species. But they may always be distinguished from each other at a glance by the following mark: in more than twenty specimens we examined of *Mus sylvaticus* we have always found a yellowish line edged with dark-brown on the breast. In many hundred specimens of *Mus leucopus* we have without a single exception found this yellow line entirely wanting, all of them being pure white on the breast, as well as on the whole under surface. We have no hesitation in pronouncing the species distinct.

Audubon, John James and Bachman, John. 1851. "Mus Leucopus, American White-footed Mouse [Pl. XL, male, female and young]." *The quadrupeds of North America* 1, 300–306. <https://doi.org/10.5962/p.322492>.

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