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many hiding places, that unless you are prompt in your attack, they are
likely to escape you. Their galleries do not run under ground like those
of the shrew mole, or the mischievous pine-mouse, (of Leconte.) but
extend along the surface sometimes for fifty yards.
The food of this species consists principally of roots and grasses.
During summer it obtains an abundant supply of herds-grass, (Phleum
pratense,) red-top, (Achimenes vulgaris,) and other plants found in the
meadows; and when the fields are covered with snow it still pursues its
summer paths, and is able to feed on the roots of these grasses, of which
there is always a supply so abundant that it is generally in good con-
dition. It is also fond of bulbs, and feeds on the meadow-garlic, (Allium
Canadense,) and red lily, (Lilium Philadelphicum.)
We doubt whether this active little arvicola ever does much injury
to the meadows; and in the wheat-fields it is not often a depredator, as
it is seldom seen on high ground. Still, we have to relate some of its
habits that are not calculated to win the affections of the farmer. In
very severe winters, when the ground is frozen, and there is no covering
of snow to protect the roots of its favourite grasses, it resorts for a sub-
stance to the stems of various shrubs and fruit trees, from which it
peals off the bark, and thus destroys them. We possessed a small but
choice nursery of fruit trees, which we had grafted ourselves, that was
completely destroyed during a severe winter by this Meadow-Mouse, the
bark having been gnawed from the wood for several inches from the
ground upwards. Very recently our friend, the late Dr. Wright, of
Troy, sent us the following observations on this species:—
"Two or three winters ago several thousand young fruit trees were
destroyed in two adjoining nurseries near our city; the bark was
gnawed from them by some small animal, for the space of several
inches, the lowest part of the denuded surface being about ten inches
from the ground. I examined the premises the following spring. The
ground had been frozen very hard all winter, owing to the small
quantity of snow that had fallen. I supposed that some little animal that
loves to feed on the roots of grasses, had been cut off from its ordinary food
by the stony hardness of the ground, and had attacked the trees from
the top of the snow. I looked around for the destroyer, and found a
number of the present species, and no other. I strongly suspect that this
animal caused the mischief, as it is very abundant and annoys the
farmer not a little.
"A few years ago a farmer gave me permission to upset some stacks
of corn on a piece of low land: I found an abundance of this species in
Wilson's Meadow-Mouse. Shallow holes under them, and discovered some distance up between the stalks, the remains of cobs and kernels, showing that they had been doing no friendly work for the farmer.

We suspect, however, that the mischief occasioned to the nursery by this species is infinitely greater than that arising from any depredations it commits on wheat or corn-fields.

The nests of this arvicola are always near the surface; sometimes two or three are found under the same stump. We have frequently during summer observed them on the surface in the meadows, where they were concealed by the overshadowing grasses. They are composed of about a double handful of leaves of soft grasses, and are of an oval shape, with an entrance on the side.

Wilson's Meadow-Mouse swims and dives well. During a freshet which covered some neighbouring meadows, we observed several of them on floating bunches of grass, sticks, and marsh weeds, sitting in an upright posture as if enjoying the sunshine, and we saw them leaving these temporary resting places and swimming to the neighbouring high grounds with great facility; a stick thrown at them on such occasions will cause them to dive like a muskrat.

This species does not, in any part of the United States, visit dwellings or outhouses, although Richardson states that it possesses this habit in Canada. We have scarcely ever met with it on high grounds, and it seems to avoid thick woods.

It produces young three or four times during the summer, from two to five at a birth. As is the case with the Florida rat and the white-footed mouse, the young of this species adhere to the teats, and are in this way occasionally dragged along by the mother. We would, however, here remark, that this habit, which is seen in the young of several animals, is by no means constant. It is only when the female is suddenly surprised and driven from her nest whilst suckling her young, that they are carried off in this manner. The young of this species that we had in confinement, after satisfying themselves, relinquished their hold, and permitted the mother to run about without this incumbrance.

This species is easily caught in wire-traps baited with a piece of apple, or even meat; we have occasionally found two in a trap at the same time. When they have become accustomed to the confinement of a cage they are somewhat familiar, feed on grass and seeds of different kinds, and often come to the bars of the cage to receive their food. They frequently sit erect in the manner of marmots or squirrels, and while in this position clean their faces with their paws, continuing thus engaged for a quarter of an hour at a time. They drank a good deal.
ARVICOLA PENNSYLVANICA.—Ord

Wilson’s Meadow-Mouse.

PLATE XLV.—Two figures.

A. supra, cervinus; subtus, subalbicans; auriculis abreviatis rotundatisque.

CHARACTERS.

Brownish fawn-colour above; beneath, grayish-white; eyes, small; ears, short and round.

SYNONYMS.

Short-tailed Mouse, Forster, Phil. Trans., vol. lxii., p. 380, No. 18.
Meadow Mouse, Pennant’s Arctic Zoology, vol. i., p. 133.
Arvicola Pennsylvanica, Ord, Guthrie’s Geography.
“ “ in Wilson’s Ornithology, vol. vi., pl. 50, fig. 3.

DESCRIPTION.

Body, robust, cylindrical, broadest across the shoulders; diminishing towards the loins; fur, on the whole body, long and fine, but not lustrous; on the upper surface (in winter specimens) half an inch long, but not more than half that length beneath.

Head, large and conical; forehead, arched; nose, rather blunt; incisors, projecting; eyes, small, situated equidistant from the auditory opening and the point of the nose; the longest whiskers, about the length of the head; nostrils, lateral; nose, bilobate, clothed with short hairs; lips, fringed with longer hairs; mouth, beneath, not terminal; ears, large, rounded, membranous, concealed by the fur, naked within, except along the margins, where they have a few long soft hairs; auricular
opening, large. The neck is so short that the head and shoulders seem united, like those of the shrew-mole.

Fore-feet slender, having four toes and a thumb, which is furnished with a sharp nail; nails, small, compressed, slightly hooked and sharp. The toes have five tubercles; the second toe from the thumb is longest, the third a little shorter, the first still shorter, and the outer one shortest.

The hind-feet are a little longer than the fore-feet; the third and fourth toes from the inner side are nearly of equal length, the second toe is a little shorter, the fifth still shorter, and the first is shortest. The soles of the hind-feet have five distinct tubercles; all the feet are clothed with short, adpressed hairs. The tail is short, scaly, cylindrical, slightly clothed with rigid hair extending beyond the vertebrae.

**COLOUR.**

Teeth, dark orange; fur, from the roots to near the tips, on every part of the body, dark plumbeous. The colour differs a shade or two between winter and summer. It may be characterized as brownish-gray above, a little darker on the back. The lips, chin, throat, and abdomen, are light bluish-gray. Feet, dark-brown; tail, brown above, and a shade lighter beneath; eyes, black; whiskers, white and black.

**DIMENSIONS.**

<table>
<thead>
<tr>
<th>Length of head and body</th>
<th>-</th>
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<th>5 inches.</th>
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<tr>
<td>&quot; tail</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>1½ do.</td>
</tr>
</tbody>
</table>

Another specimen.

| Length of head and body | - | - | - | - | 5½ do. |
| " tail (vertebra)       | - | - | - | - | 1½ do. |
| " including fur         | - | - | - | - | 1½ do. |

**HABITS.**

We have had opportunities in New-York, Pennsylvania, and the New-England States, of learning some of the habits of this species. It is, in fact, the common Meadow-Mouse of the Northern and Eastern States.

Wherever there is a meadow in any of these States, you may find small tortuous paths cut through the grass, appearing as if they had been partially dug into the earth, leading to the roots of a stump, or the borders of some bank or ditch. These are the work of this little animal. Should you dig around the roots, or upturn the stump, you may find a family of from five to ten of this species, and will see them scampering.
off in all directions; and although they do not run fast, they have so many hiding places, that unless you are prompt in your attack, they are likely to escape you. Their galleries do not run under ground like those of the shrew mole, or the mischievous pine-mouse, (of Leconte,) but extend along the surface sometimes for fifty yards.

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They frequently sit erect in the manner of marmots or squirrels, and while in this position clean their faces with their paws, continuing thus engaged for a quarter of an hour at a time. They drank a good deal
of water, and were nocturnal in their habits. During the day-time they constantly nestled under some loose cotton, where they lay, unless disturbed, until dusk, when they ran about their place of confinement with great liveliness and activity, clinging to the wires and running up and down in various directions upon them, as if intent on making their escape.

**Geographical Distribution.**

We have found this species in all the New-England States, where it is very common. It is abundant in all the meadows of the State of New-York. It is the most common species in the neighbourhood of Philadelphia. We have found it in Maryland and Delaware. It exists in the valleys of the Virginia Mountains; and we obtained a number of specimens from our friend, Edmund Ruffin, Esq., who procured them on the Pamunkey River, in Hanover county, in that State, where it is quite abundant. We have traced it as far south as the northern boundary of North Carolina; and to the north have met with it in Upper and Lower Canada. Forster obtained it from Hudson’s Bay, and Richardson speaks of it as very abundant from Canada to Great Bear Lake, latitude 65°.

To the west it exists along the banks of the Ohio, but we were unable to find it in any part of the region lying between the Mississippi and the Rocky Mountains.

**General Remarks.**

We are fully aware of the difficulty of finding characters by which the various species of this genus may be distinguished. We cannot speak positively of Wilson’s diminutive figure of the Meadow-Mouse, *Mus agrestis* of Linnaeus, and *Arvicola vulgaris* of Desmarest, to which Godman, (Nat. Hist., vol. ii., p. 88.) referred it. There is a strong general resemblance, but the species are distinct. The European animal has longer and narrower ears, protruding beyond the fur; its tail is
shorter, and the body is more ferruginous on the upper surface than in our species.

In the last work published on American quadrupeds, the writer endeavours to show that this species, (which he has named A. hirsutus,) differs from A. Pennsylvanica. The following remarks are made at p. 87:—"Upon the suggestion that it might possibly be the Pennsylvanicus of Ord and Harlan, it was shown to both those gentlemen, who pronounced it to be totally distinct." To this we would observe, without the slightest design of undervaluing the scientific attainments of the respectable naturalists here referred to, that it was taxing their memories rather too much, to expect them, after the lapse of fifteen or twenty years, during which time their minds had been directed to other pursuits, to be as well qualified to decide on a species as they were when they first described it, (with all the specimens before them,) and when the whole subject was fresh in their minds. In regard to Dr. Harlan, he candidly wrote in answer to our inquiries respecting this and several other species, that having been long engaged in other investigations, and never having preserved specimens, he could not rely on his present judgment with any degree of accuracy. His description, moreover, being contained in two and a half lines, cannot be depended on, and is equally applicable to a considerable number of species. In regard to referring subjects, requiring such minute investigation, to the memory, when the period at which the specimens were examined has long passed, we have in mind the reply of Johnson, the great philologist, to an inquiry for information in regard to the derivation of a word, and of Newton, when asked for a solution of some knotty point in the higher branches of science: the former referred the inquirer to his "Dictionary,"—the latter, to his "Principia." The description of Mr. Ord is full and accurate, and by this we are quite willing to abide. We, moreover, are perfectly satisfied, that when that gentleman has an opportunity of comparing specimens of the several species found in the vicinity of Philadelphia with his own description, he will refer the species described and figured as A. hirsutus to his A. Pennsylvanica.

The arvicola Albo-rufescens of Emmons is evidently a variety of this species. We obtained a specimen from a nest in the northern part of New-York, which answered in every particular to his description. From the same nest two others were taken, with white rings round their necks, and three marked like the common Arvicola Pennsylvanica, differing in no respect from Arvicola hirsutus.

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