MUS DECUMANUS.—PALL.

BROWN OR NORWAY RAT.

PLATE LIV.—MALES, FEMALE, AND YOUNG.

Mus, cauda longissima squamata, corpore setoso griseo, subtus albedo.

CHARACTERS.

Grayish-brown above, dull white beneath, tail nearly as long as the body, feet not webbed ; of a dingy white colour.

SYNONYMES.

- MUS DECUMANUS, Pallas, Glir., p. 91–40.
 “ “ Schreber, Saugthiere, p. 645.
 “ “ Linn., Syst. Nat. ed. Gmel., t. p. 127.
 MUS AQUATICUS, Gesner's Quadr., p. 732.
 MUS DECUMANUS, Shaw's Genl. Zool., ii., p. 50 t. 130.
 SURMULAT, Buff., Hist. Nat. viii., p. 206 t. 27.
 MUS DECUMANUS, Cuv., Regne Animal, 1, p. 197.
 “ “ Godman, vol. ii., p. 78.
 “ “ Dekay, p. 79.
 MUS AMERICANUS, Dekay, American Black Rat, p. 81.

DESCRIPTION.

Body, robust ; head, long ; muzzle, long, but less acute than that of the black rat ; eyes, large and prominent ; moustaches, long, reaching to the ears ; ears, rounded and nearly naked ; tail, generally a little shorter than the body, (although occasionally a specimen may be found where it is of equal length,) slightly covered with short rigid hairs. There are four toes on each of the fore-feet, with a scarcely visible rudimental thumb, protected by a small blunt nail ; five toes on each of the hind feet ; the feet are clothed with short adpressed hairs. The fur seldom lies smooth, and the animal has a rough and not an inviting appearance.

COLOUR.

Outer surface of the incisors, reddish-brown ; moustaches, white and black ; the former colour preponderating ; the few short scattered hairs along the outer edges of the ear, yellowish brown ; eyes, black ; hair on

On Stone by Wm. E. Hitchcock

Brown or Norway Rat.

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

Life, Printed & Col'd by J. T. Bowen, Phil.

the back, from the roots, bluish-gray, then reddish-brown, broadly tipped with dark brown and black. On the under surface, the softer and shorter hair is from the roots ashy-gray broadly tipped with white.

VARIETIES.

1st. We have on several occasions, through the kindness of friends, received specimens of white rats which were supposed to be new species. They proved to be albinos of the present species. Their colour was white throughout, presenting the usual characteristics of the albino, with red eyes. One of this variety was preserved for many months in a cage with the brown rat, producing young, that in this instance all proved to be brown.

2d. We have at different times been able to procure specimens of a singular variety of this species that seems to have originated in this country. For the first specimen we were indebted to our friend Dr. SAMUEL WILSON of Charleston. Two others were sent to us from the interior of South Carolina. One was presented to us by a cat, and another was caught in a trap. In form, in size, and in dentition, they are precisely like the brown rat. The colour, however, is on both surfaces quite black. In some specimens there is under the chest and on the abdomen, a longitudinal white stripe similar to those of the mink. The specimens, after being preserved for a year or two, lose their intense black colour, which gradually assumes a more brownish hue. We examined a nest of the common brown rat containing 8 young, 5 of which were of the usual colour, and 3 black. The specimen obtained by Mr. BELL of New-York and published by Dr. DEKAY, New-York Fauna, p. 81, under the name of *Mus Americanus*, undoubtedly belonged to this variety, which appears to have of late years become more common in the Southern than in the Northern States. This is evidently not a hybrid produced between *Mus Decumanus* and *Mus Rattus*, as those we have seen present the shape and size of the former, only differing in colour.

DIMENSIONS.

	Inches.
From point of nose to root of tail, - - - -	10
Tail, - - - - -	9
From point of nose to ear, - - - -	2½
Height of ear, - - - - -	¾

HABITS.

The brown rat is unfortunately but too well known almost in every portion of our country, and in fact throughout the world, to require an elaborate account of its habits, but we will give such particulars as may we hope be interesting. It is one of the most prolific and destructive little quadrupeds about the residences of man, and is as fierce as voracious. Some cases are on record where this rat has attacked a man when he was asleep, and we have seen both adults and children who, by their wanting a piece of the ear, or a bit of the end of the nose, bore painful testimony to its having attacked them while they were in bed; it has been known to nibble at an exposed toe or finger, and sometimes to have bitten even the remains of the shrouded dead who may have been exposed to its attacks.

The Norway Rat is very pugnacious, and several individuals may often be seen fighting together, squealing, biting, and inflicting severe wounds on each other. On one occasion, we saw two of these rats in furious combat, and so enraged were they, that one of them whose tail was turned towards us, allowed us to seize him, which we did, giving him at the same time such a swing against a gate post which was near, that the blow killed him instantly—his antagonist making his escape.

During the great floods or freshets which almost annually submerge the flat bottom-lands on the Ohio river at various places, the rats are driven out from their holes and seek shelter under the barns, stables, and houses in the vicinity, and as the increasing waters cover the low grounds, may be seen taking to pieces of drift wood and floating logs, &c., on which they sometimes remain driving along with the currents for some distance. They also at such times climb up into the lofts of barns, smokehouses, &c., or betake themselves to the trees in the orchards or gardens. We once, at Shippingport, near the foot of the falls of the Ohio river, whilst residing with our brother-in-law, the late N. BERTHOUD, went out in a skiff, during a freshet which had exceeded those of many previous years in its altitude, and after rowing about over the tops of fences that were secured from rising with the waters by being anchored by large cross-timbers placed when they were put up, under the ground, to which the posts were dovetailed, and occasionally rowing through floating worm-fences which had broken away from their proper locations and were lying flat upon the surface of the flowing tide, we came to the orchard attached to the garden, and found the peach and apple trees full of rats, which seemed almost as active in running among the branches as squirrels. We had our gun with

us and tried to shoot some of them, but the cunning rogues dived into the water whenever we approached, and swam off in various directions, some to one tree and some to another, so that we were puzzled which to follow. The rats swam and dived with equal facility and made rapid progress through the water. Many of them remained in the orchard until the freshet subsided, which was in the course of a few days. Whether they caught any fish or not during this time we cannot say, but most of them found food enough to keep them alive until they were able once more to occupy their customary holes and burrows. During these occasional floods on our western rivers, immense numbers of spiders and other insects take refuge in the upper stories of the houses, and the inhabitants find themselves much incommoded by them as well as by the turbulent waters around their dwellings. Such times are, however, quite holidays to the young folks, and skiffs and batteaux of every description are in requisition, while some go about on a couple of boards, or paddle from street to street on large square pine logs. When the flats are thus covered, there is generally but little current running on them, although the main channel of the river flows majestically onward, covered with floating logs and the fragments of sheds, haystacks, &c., which have left their quiet homes on the sides of the river many miles above, to float on a voyage of discovery down to the great Mississippi, unless stopped by the way by the exertions of some fortunate discoverer of their value, who rowing out among the drifting logs, roots and branches, ties a rope to the frail floating tenement, and tows it to the trunk of a tree, where he makes it fast, for the water to leave it ready for his service, when the river has again returned to its quiet and customary channel. Stray flat boats loaded with produce, flour, corn and tobacco, &c., are often thus taken up, and are generally found and claimed afterwards by their owners. The sight of the beautiful Ohio thus swelling proudly along, and sometimes embracing the country with its watery margin extended for miles beyond its ordinary limits, is well worth a trip to the West in February or March. But these high freshets do not occur every year, and depend on the melting of the snows, which are generally dissolved so gradually that the channel of the river is sufficient to carry them off.

In a former work, (*Ornithological Biography*, vol. 1, p. 155,) we have given a more detailed account of one of the booming floods of the Ohio and Mississippi rivers, to which we beg now to refer such of our readers as have never witnessed one of those remarkable periodical inundations.

Mr. OGDEN HAMMOND, formerly of Throg's Neck, near New-York, furnished us with the following account of the mode in which the Norway Rat captures and feeds upon the small sand clams which abound on the sandy

places along the East river below high water mark. He repaired to a wharf on his farm with one of his men at low water: in a few moments a rat was seen issuing from the lower part of the wharf, peeping cautiously around before he ventured from his hiding place. Presently one of the small clams buried in the soft mud and sand which they inhabit, threw up a thin jet of water about a foot above the surface of the ground, upon seeing which, the rat leaped quickly to the spot, and digging with its fore-paws, in a few moments was seen bringing the clam towards his retreat, where he immediately devoured it.

When any of these clams lie too deep to be dug up by the rats, they continue on the watch and dig after the next which may make known its whereabouts by the customary jet of water. These clams are about $\frac{3}{4}$ of an inch long and not more than $\frac{5}{8}$ of an inch wide; their shells are slight, and they are sometimes used as bait by fishermen.

The Brown or Norway Rat was first introduced in the neighbourhood of Henderson, Kentucky, our old and happy residence for several years, within our recollection.

One day a barge arrived from New-Orleans (we think in 1811) loaded with sugar and other goods; some of the cargo belonged to us. During the landing of the packages we saw several of these rats make their escape from the vessel to the shore, and run off in different directions. In a year from this time they had become quite a nuisance; whether they had been reinforced by other importations, or had multiplied to an incredible extent, we know not. Shortly after this period we had our smokehouse floor taken up on account of their having burrowed under it in nearly every direction. We killed at that time a great many of them with the aid of our dogs, but they continued to annoy us, and the readers of our Ornithological Biography are aware, that ere we left Henderson some rats destroyed many of our valued drawings.

This species migrates either in troops or singly, and for this purpose takes passage in any conveyance that may offer, or it plods along on foot. It swims and dives well, as we have already remarked, so that rivers or water-courses do not obstruct its progress. We once knew a female to secrete herself in a wagon, loaded with bale rope, sent from Lexington, (Ky.) to Louisville, and on the wagon reaching its destination, when the coils of rope were turned out, it was discovered that the animal had a litter of several young ones: she darted into the warehouse through the iron bars which were placed like a grating in front of the cellar windows. Some of the young escaped also, but several of them were killed by the wagoner. How this rat was fed during the journey we do not know, but as the wagons

stop every evening at some tavern, the probability is that she procured food for herself by getting out during the night and picking up corn, &c.

The Norway Rat frequently deserts a locality in which it has for some time remained and proved a great pest. When this is the case, the whole tribe journey to other quarters, keeping together and generally appearing in numbers in their new locality without any previous warning to the unlucky farmer or housekeeper to whose premises they have taken a fancy.

When we first moved to our retreat, nine miles above the city of New-York, we had no rats to annoy us, and we hoped it would be some time before they discovered the spot where we had located ourselves. But in the course of a few months a great many of them appeared, and we have occasionally had eggs, chickens and ducklings carried off by them to the number of six or more in a night. We have never been able to get rid of this colony of rats, and they have even made large burrows in the banks on the water side, where they can hardly be extirpated.

The Norway Rat is quite abundant in New-York and most other maritime cities, along the wharves and docks, and becomes very large. These animals are frequently destroyed in great numbers, while a ship is in port, after her cargo has been discharged, by smoking them; the fumes of sulphur and other suffocating materials, being confined to the hold by closing all parts, windows and hatches. After a thorough cleaning out, a large ship has been known to have had many thousands on board. Our old friend, Capt. CUMINGS, who in early life made many voyages to the East Indies, relates to us, that one of his captains used to have rats caught, when on long voyages, and had them cooked and served up at his table as a luxury. He allowed his sailors a glass of grog for every rat they caught, and as the supply was generally ample, he used to invite his mates and passengers to partake of them with due hospitality. Our friend, who was a mate, had a great horror of the captain's invitations, for it was sometimes difficult to ascertain in what form the delicate animals would appear, and to avoid eating them. Not having ourselves eaten rats, (as far as we know,) we cannot say whether the old India captain's fondness for them was justified by their possessing a fine flavour, but we do think prejudices are entertained against many animals and reptiles that are, after all, pretty good eating.

In the account of the black rat in our first volume, (*Mus rattus*,) pp. 190, 191, and 192, we gave some details of the habits of the present species, and stated our opinion in regard to its destroying the black rat. Dr. GODMAN considered the Norway Rat so thorough an enemy of the black rat, that he says, (vol. 2, p. 83,) in speaking of the latter, that it is now found only in situations to which the Brown Rat has not extended its migrations.

According to the same author, who quotes R. SMITH, *Rat Catcher*, p. 5, 1768, (see GODMAN, vol. 2, p. 77,) the Brown Rat was not known even in Europe prior to the year 1750. RICHARDSON says, (probably quoting from HARLAN, *Fauna*, p. 149,) that it was brought from Asia to Europe, according to the accounts of historians of the seventeenth century, and was unknown in England before 1730. PENNANT, writing in 1785, says he has no authority for considering it an inhabitant of the new continent (America). HARLAN states that the Norwegian rat did not, as he was credibly informed, make its appearance in the United States any length of time previous to the year 1775. HARLAN does not give the Brown Rat as an American species, giving only what he considered indigenous species.

The Brown Rat brings forth from 10 to 15 young at a litter, and breeds several times in a year. Fortunately for mankind, it has many enemies: weasels, skunks, owls, hawks, &c., as well as cats and dogs. We have never known the latter to eat them, but they may at times do so. Rats are also killed by each other, and the weak ones devoured by the stronger.

This species becomes very fat and clumsy when living a long time in mills or warehouses. We have often seen old ones so fat and inactive that they would fall back when attempting to ascend a staircase.

We will take our leave of this disagreeable pest, by saying, that it is omnivorous, devouring with equal voracity meat of all kinds, eggs, poultry, fish, reptiles, vegetables, &c. &c. It prefers eels to other kinds of fish, having been known to select an eel out of a large bucket of fresh fish, and drag it off to its hole. In vegetable gardens it devours melons, cucumbers, &c., and will eat into a melon, entering through a hole large enough to admit its body, consuming the tender sweet fruit, seeds and all, and leaving the rind almost perfect. Where rats have gained access to a field or vegetable garden, they generally dig holes near the fruits or vegetables, into which they can make an easy retreat at the approach of an enemy.

We have represented several of these rats in our plate about to devour muskmelons, for which they have a strong predilection.

GEOGRAPHICAL DISTRIBUTION.

The *Mus Decumanus* is found in all the temperate parts of the world where man has been able to carry it in ships. It has not as yet penetrated into the fur countries, to the Rocky Mountains and California. The *Neotoma Drummondi* would probably be able to destroy it, being quite as fierce and much larger, should its wanderings lead it into the territory occupied by the latter. The Brown or Norway Rat is met with almost

every where from Nova Scotia to and beyond our southern range, except in the western and northern regions above mentioned, and there even it will soon be found in California, at the mouth of the Columbia river, and among the settlements in Oregon.

GENERAL REMARKS.

We had assigned to LINNÆUS the credit of having been the first describer of the Brown Rat. On turning however to his 12th edition, we find no notice of this species. In a subsequent edition published by GMELIN in 1778, a description is added. It had however been previously described by PALLAS in 1767 under the name which it still retains. He is therefore entitled to the priority.

Audubon, John James and Bachman, John. 1851. "Mus decumanus, Brown, or Norway, Rat [Pl. LIV, male, female and young]." *The quadrupeds of North America* 2, 22–29. <https://doi.org/10.5962/p.322489>.

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