



Drawn on Stone by R Trembly

Marsh Hare

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

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LEPUS PALUSTRIS.—BACHMAN.

MARSH-HARE.

PLATE XVIII.—Male and Female.

L. corpore supra flavo-fuscente, subtus griseo, L. sylvatico minore auribus capite in multum brevioribus, oculis aliquantulum parvis, cauda brevissima, cruribus curtis varipilis.

CHARACTERS.

Smaller than the gray rabbit; ears, much shorter than the head; eyes, rather small; tail, very short; legs, short; feet, thinly clothed with hair; upper parts of body, yellowish-brown; beneath, gray.

SYNONYMES.

LEPUS PALUSTRIS, Bach., Jour. Acad. of Natural Sciences, Philadelphia, vol. vii., pp. 194, 366, read May 10, 1836.

LEPUS DOUGLASSII, Gray, read, Zoological Society, London, Nov. 1837.

LEPUS PALUSTRIS, Audubon—Birds of America, first edition—pounced upon by the common buzzard, (*Buteo vulgaris*.) Ornithological Biography, vol. iv., p. 510.

DESCRIPTION.

Upper incisors, longer and broader than those of the gray rabbit, marked like all the rest of the genus with a deep longitudinal furrow; the small accessory incisors are smaller and less flattened than those of the gray rabbit, the molars are narrower, and a little shorter. The transverse measurement of the cranium is much smaller, the vertical, about equal. Orbits of the eyes one-third smaller.

This last is a striking peculiarity, giving this a smaller and less prominent eye than that of any other American hare of equal size with which we are acquainted.

The zygomatic processes of the temporal bone run downwards nearly in a vertical line, whilst those of the gray rabbit are almost horizontal. Head, rather large; forehead, slightly arched; whiskers, numerous, rigid; nose, blunt; eyes, rather small; ears, short, rounded, broad, clothed on both surfaces with short hairs. Neck, moderately long; body, short,

thick, and of rather a clumsy shape; hairs, rather long and much coarser than those of the gray rabbit. Legs, short, and rather small; feet so thinly clothed with hair, that the nails in most of the specimens are not covered, but project beyond the hair; the feet leave a distinct impression of the toes and claws on the mud or in moist places where their tracks can be seen. Heel, short, thinly covered with hair; nails, long, stout, and very acute; tail, short; scarcely visible whilst the animal is running.

COLOUR.

Teeth, yellowish-white; eyes, dark-brown, appearing in certain lights quite black. Upper part of the head, brown, and grayish-ash. Around the orbits of the eyes, slightly fawn-coloured; whiskers, black; ears, dark grayish-brown. Back, whole upper-parts, and upper-surface of the tail, yellowish-brown intermixed with many strong black hairs. The hairs, when examined singly, are bluish-gray at the roots, then light-brown, and are tipped with black. Throat, brownish-gray. Outer-surface of fore-legs, and upper-surface of thighs, reddish-yellow. The fur beneath, is light plumbeous; under the chin, gray; belly, and under-surface of tail, light-gray; the fur beneath, bluish, giving it a dark yellowish-brown appearance. Under-surface of the tail, ash-colour, edged with brown. During winter the upper surface becomes considerably darker than in summer, and the under-parts of the tail in a few specimens become nearly white.

DIMENSIONS.

A specimen in the flesh.

Length from point of nose to insertion of tail	-	13 inches.
do. of tail, (vertebræ,)	- - - - -	1 "
do. do. do. including fur	- - - - -	1½ "
Height from end of middle claw to top of shoulder		7 "
Length of head	- - - - -	3½ "
do. ears	- - - - -	2½ "
do. hind-foot	- - - - -	3 "

Weight, 2½ lbs.

HABITS.

The Marsh-Hare chiefly confines itself to the maritime districts of the southern States, and is generally found in low marshy grounds that are sometimes partially inundated, near rivers subject to freshets that occasionally overflow their banks, or near the large ponds called in Carolina

"reserves," which are dammed up or otherwise made to retain the water intended to flood the rice-fields at the proper season.

In these situations—to which few persons like to resort, on account of the muddy nature of the ground, and the many thorny and entangling vines and other obstructions that abound near them; and which, besides, continually exhale from their stagnant waters a noxious vapour, which rapidly generates disease—surrounded by frogs, water-snakes and alligators, this species resides throughout the year, rarely molested by man, and enabled by its aquatic habits to make up for any want of speed when eluding the pursuit of its enemies.

It winds with great facility through miry pools, and marshes overgrown with rank weeds and willow bushes, and is quite at its ease and at home in the most boggy and unsafe parts of the swamps.

We have met with this animal a few miles from Columbia, South Carolina, one hundred and twenty miles north of Charleston, along the muddy shores of the sluggish rivers and marshes; but on arriving at the high grounds beyond the middle country, where the marshes disappear, it is no longer to be found.

In its movements it is unlike most of our other hares; it runs low on the ground, and cannot leap with the same ease, strength and agility they display. From the shortness of its legs and ears, and its general clumsy appearance as we see it splashing through the mud and mire, or plunging into creeks or ponds, it somewhat reminds us of an over-grown Norway rat endeavouring to escape from its pursuers.

The Marsh-Hare is so slow of foot, that but for the protection afforded it by the miry tangled and thorny character of its usual haunts, it would soon be overtaken and caught by any dog of moderate speed. We have observed the negroes of a plantation on a holiday, killing a good many of them by first setting fire to the half-dried grasses and weeds in a marshy piece of ground during a continued drought, when the earth had absorbed nearly all the moisture from it, and then surrounding the place, with sticks in their hands, and waiting until the flames drove the hares from their retreats, when they were knocked down and secured as they attempted to pass. Several gray-rabbits ran out of this place, but the men did not attempt to stop them, knowing their superior speed, but every Marsh-Hare that appeared was headed, and with a loud whoop set upon on all sides and soon captured.

The feet of the Marsh-Hare are admirably adapted to its aquatic habits. A thick covering of hair on its feet, like that on the soles of other species, would be inconvenient; they would not only be kept wet for a considerable length of time, but would retard the animal in swimming.

Quadrupeds that frequent the water, such as the beaver, otter, musk-rat, mink, &c., and aquatic birds, have nearly naked palms; and it is this peculiar structure, together with the power of spreading out its feet, and thus increasing the space between each of its toes, that enables this animal to swim with great ease and rapidity. Its track when observed in moist or muddy situations differs very much from that of other species. Its toes are spread out, each leaving a distinct impression like those of the rat. Some of the habits of this Hare differ greatly from those of others of the genus; it seeks the water, not only in order the easier to escape from its pursuers, but when in sportive mood; and a stranger in Carolina should he accidentally see one amusing itself by swimming about, if unacquainted with the habits of the animal, would be puzzled by its manœuvres.

When the Marsh-Hare is startled by the approach of danger, instead of directing its flight toward high grounds like the gray rabbit, it hastens to the thickest part of the marsh, or plunges into some stream, mill-pond, or "reserve," and very often stops and conceals itself where the water is many feet deep, among the leaves of lilies or other aquatic plants.

After a heavy rain had produced a flood, which inundated some swamps and rice-fields near us, we sallied forth to see what had become of the Marsh-Hares: and on beating the bushes, we started many of them which ran from their hiding places, plunged into the water, and swam off with such rapidity that some escaped from an active Newfoundland dog that we had with us. Several of them, supposing they were unobserved, hid themselves in the water, about fifteen yards from the shore, protruding only their eyes and the point of their nose above the surface; when thus almost entirely under the muddy water, with their ears pressed back and flat against their neck, they could scarcely be discovered. On touching them with a stick, they seemed unwilling to move until they perceived that they were observed, when they swam off with great celerity.

A few evenings afterwards when the waters had subsided and returned to their ordinary channels, we saw a good many of these Hares swimming in places where the water was seven or eight feet deep, meeting, or pursuing each other, as if in sport, and evidently enjoying themselves.

When the gray-rabbit approaches the water, it generally goes around or leaps over it, but the Marsh-Hare enters it readily and swims across.

We have on a few occasions seen this Hare take to a hollow tree when hard pressed by dogs, but (as we have just remarked) it usually depends more for its safety on reaching marshy places, ponds, or impenetrable thickets.

This species possesses a strong marshy smell at all times, even when kept in confinement and fed on the choicest food. Its flesh, however, although dark, is fully equal if not superior to that of the gray rabbit.

The Marsh-Hare never, that we are aware of, visits gardens or cultivated fields, but confines itself throughout the year to the marshes. It is occasionally found in places overflowed by salt, or brackish, water, but seems to prefer fresh-water marshes, where its food can be most conveniently obtained. It feeds on various grasses, and gnaws off the twigs of the young sassafras, and of the pond-spice (*Laurus geniculata*.) We have seen many places in the low grounds dug up, the foot-prints indicating that it was the work of this species in search of roots. It frequently is found digging for the bulbs of the wild potatoe, (*Apios tuberosa*,) as also for those of a small species of amaryllis, (*Amaryllis atamasco*.)

We kept an individual of this species in confinement, which had been captured when full-grown. It became so gentle in a few days that it freely took its food from the hand. It was fed on turnips and cabbage-leaves, but preferred bread to any other food that was offered to it. In warm weather it was fond of lying for hours in a trough of water, and seemed restless and uneasy when it was removed: scratching at the sides of its cage until the trough was replaced, when it immediately plunged in, burying the greater part of its body in the water.

This species, like all others of the genus existing in this country, as well as the deer and squirrels, is infested with a troublesome larva of an æstrus in the summer and autumn; which penetrating into the flesh and continually enlarging, causes pain to the animal and renders it lean.

The Marsh-Hare deposits its young in a pretty large nest, frequently composed of a species of rush, (*Juncus effusus*,) growing in convenient situations. The rushes appear to be cut by it into pieces of about a foot in length. We have seen these nests nearly surrounded by, and almost floating on the water. They were generally arched by carefully bending the rushes or grasses over them, admitting the mother by a pretty large hole in the side. A considerable quantity of hair was found lining them, but whether plucked out by the parent, or the result of the natural shedding of their coat, (it being late in the spring when these animals shed their hair,) we were unable to ascertain.

The young number from five to seven. They evidently breed several times in the season, but we have observed that the females usually produce their young at least a month later than the gray rabbit. Twenty-one specimens were obtained from the 9th to the 14th day of April; none of the females had produced young that season, although some of them would have done so in a very few days. On one occasion

only, have we seen the young in March. They bear a strong resemblance to the adult, and may almost at a glance be distinguished from those of the gray rabbit.

GEOGRAPHICAL DISTRIBUTION.

The Marsh-Hare has been seen as far north as the swamps of the southern parts of North Carolina. In South Carolina, it is in some localities quite numerous. Nearly all the muddy swamps and marshes abound with it. We have known two persons kill twenty in the course of a few hours.

In high grounds it is never seen; it continues to increase in numbers as we proceed southwardly. It is abundant in the swamps of Georgia, Alabama, and Louisiana. We received a living specimen from Key West, the southern point of Florida. We have seen it in Texas, from whence the specimen described by GRAY was brought, and we are inclined to believe that it will be found to extend into the northern part of Mexico.

GENERAL REMARKS.

As a remarkable instance of a species continuing to exist in a thickly settled country without having found its way into scientific works, we may refer to this very common hare. We obtained specimens in Carolina in the spring of 1815. It was called by the inhabitants by the names of Swamp, and Marsh, Hare, and generally supposed to be only a variety of the gray rabbit. We did not publish a description of the species until 1836. In the following year, GRAY, who had not then seen the Transactions of the Acad of Natural Sciences of Philadelphia, in which our description was contained, described it under the name of *Lepus Douglassii*.

This species may always be distinguished from our other hares by its colour, its rather short and broad ears, its short tail, which is never pure white beneath, by its narrow hind-feet, and by its aquatic habits.



Audubon, John James and Bachman, John. 1851. "Lepus Palustris, Marsh-Hare [Pl. XVIII, male and female]." *The quadrupeds of North America* 1, 151–156.
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