Drawn on Stone by R. Trembly.

Carolina Grey Squirrel.
Male & Female.

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

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SCIURUS CAROLINENSIS.—GMEL.

CAROLINA GRAY SQUIRREL.

PLATE VII.—MALE AND FEMALE.

S. griseus supra, subtus albus, colorem haud mutaris, *S. migratorii*, minor. Cauda corpore brevior, *S. migratorii* angustior.

CHARACTERS.

Smaller than the Northern Gray Squirrel, (Sciurus Migratorius,) tail narrower than in that species, and shorter than the body; above, rusty gray; beneath, white; does not vary in colour.

SYNONYMES.

ECUREUIL GRIS DE LA CAROLINE, Bosc., vol. ii., p. 96, pl. 29.

SCIURUS CAROLINENSIS, Bach., Monog., Proceedings Zool. Soc., London, August, 1838, Mag., Nat. Hist., 1839, p. 113.

DESCRIPTION.

This species, which has been many years known, and frequently described, has been always considered by authors as identical with the Gray Squirrel of the Northern States (*Sciurus migratorius*). There are, however, so many marked differences in size, colour and habit, that any student of nature can easily perceive the distinction between these two allied species.

Head shorter, and space between the ears proportionately broader than between those of the Northern Gray Squirrel; nose sharper than in that animal. Small anterior molar in the upper jaw permanent, (as we have invariably found it to exist in all the specimens we have examined;) it is considerably larger than in *S. migratorius*, and all our specimens which give indications of the individual having been more than a year old when killed, instead of having a small, thread-like, single tooth, as in the latter species, have a distinct double tooth with a double crown. The other molars are not much unlike those of *S. migratorius* in form, but are shorter and smaller,—the upper incisors being nearly a third shorter.

Body, shorter and less elegant in shape, and not indicating the quickness and vivacity by which *S. migratorius* is eminently distinguished.

The ears, which are nearly triangular, are so slightly clothed with hair on their interior surfaces, that they may be said to be nearly naked; externally they are sparsely clothed with short woolly hair, which however does not extend as far beyond the margins as in other species. Nails shorter and less crooked; tail shorter, and without the broad distichous appearance of that of the Northern Gray Squirrel.

COLOUR.

Teeth, light orange; nails, brown, lightest at the extremities; whiskers, black; on the nose and cheeks, and around the eyes, a slight tinge of rufous gray.

Fur on the back, for three-fourths of its length, dark plumbeous, succeeded by a slight indication of black, edged with yellowish-brown in some of the hairs, giving it on the surface a dark grayish-yellow tint. In a few specimens there is an obscure shade of light brown along the sides, where the yellowish tint predominates, and a tinge of this colour is observable on the upper surface of the fore-legs, above the knees. Feet, light gray; tail, for three-fourths of its length from the root yellowish-brown; the remainder black, edged with white; throat inner surface of the legs and belly, white.

This species does not run into varieties, as do the Northern Gray Squirrel and the Black Squirrel; the specimens received from Alabama, Florida and Louisiana, scarcely present a shade of difference from those existing in South Carolina, which we have just described.

DIMENSIONS.

Length of head and body	-	-	-	-	-	9 $\frac{1}{2}$ inches.
“ tail (vertebræ)	-	-	-	-	-	7 $\frac{1}{3}$ do.
“ “ to end of hair	-	-	-	-	-	9 $\frac{1}{2}$ do.
Height of ear	-	-	-	-	-	$\frac{1}{2}$ do.
Palm to end of middle claws	-	-	-	-	-	1 $\frac{1}{4}$ do.
Heel to end of middle nail	-	-	-	-	-	2 $\frac{1}{2}$ do.
Length of fur on the back	-	-	-	-	-	$\frac{1}{2}$ do.
Breadth of tail (with hair extended)	-	-	-	-	-	3 do.

HABITS.

This species differs as much in its habits from the Northern Gray Squirrel as it does in form and colour. From an intimate acquaintance with

the habits of the latter, we are particularly impressed with the peculiarities of the present species. Its bark has not the depth of tone of that of the Northern species, and is more shrill and querulous. Instead of mounting high on the tree when alarmed, which the latter always does, the *Sc. Carolinensis* generally plays round the trunk, and on the side opposite to the observer, at a height of some twenty or thirty feet, often concealing itself beneath the Spanish moss (*Tillandsia Usneoides*) which hangs about the tree. When a person who has alarmed one of these Squirrels remains quiet for a few moments, it descends a few feet and seats itself on the first convenient branch, in order the better to observe his movements.

It is, however, capable of climbing to the extremity of the branches and leaping from tree to tree with great agility, but is less wild than the Northern species, and is almost as easily approached as the chickaree, (*Sc. Hudsonius*.) One who is desirous of obtaining a specimen, has only to take a seat for half an hour in any of the swamps of Carolina and he will be surprised at the immense number of these squirrels that may be seen running along the logs or leaping among the surrounding trees. A great many are killed, and their flesh is both juicy and tender.

The Carolina Gray Squirrel is sometimes seen on high grounds among the oak and hickory trees, although its usual haunts are low swampy places or trees overhanging streams or growing near the margin of some river. In deep cypress swamps covered in many places with several feet of water during the whole year, it takes up its constant residence, moving among the entwined branches of the dense forest with great facility. Its hole in such situations may sometimes be found in the trunk of a decayed cypress. On the large tupelo trees, (*Nyssa aquatica*,) which are found in the swamps, many nests of this species, composed principally of Spanish moss and leaves, are every where to be seen. In these nests, or in some woodpecker's hole, they produce their young. These are five or six in number, and are brought forth in March; it is well ascertained also that the female litters a second time in the season, probably about mid-summer.

This species has one peculiarity which we have not observed in any other. It is in some degree nocturnal, or at least crepuscular, in its habits. In riding along by-paths through the woods, long after sunset, we are often startled by the barking of this little Squirrel, as it scratches among the leaves, or leaps from tree to tree, scattering over the earth the seeds of the maple, &c., which are shaken off from the uppermost branches as it passes over them.

This species is seldom, if ever, seen in company with the Fox Squirrel,

(*Sc. Capistratus*.) or even found in the same neighbourhood; this arises probably not so much from any antipathy to each other, as from the fact that very different localities are congenial to the peculiar habits of each.

We have observed the Carolina Gray Squirrel on several occasions by moonlight, as actively engaged as the Flying Squirrel usually is in the evening; and this propensity to prolong its search after food or its playful gambols until the light of day is succeeded by the moon's pale gleams, causes it frequently to fall a prey to the Virginian owl, or the barred owl; which last especially is very abundant in the swamps of Carolina, where, gliding on noiseless pinions between the leafy branches, it seizes the luckless Squirrel ere it is aware of its danger, or can make the slightest attempt to escape. The gray fox and the wild cat often surprise this and other species by stratagem or stealth. We have beheld the prowling lynx concealed in a heap of brushwood near an old log, or near the foot of a tree frequented by the Squirrel he hopes to capture. For hours together will he lie thus in ambush, and should the unsuspecting creature pass within a few feet of him, he pounces on it with a sudden spring, and rarely fails to secure it.

Several species of snakes, the rattle-snake, (*Crotalus durassus*.) black snake, (*Coluber constrictor*.) and the chicken snake, (*Coluber quadrivittatus*.) for instance, have been found on being killed, to have a Squirrel in their stomach; and the fact that Squirrels, birds, &c., although possessing great activity and agility, constitute a portion of the food of these reptiles, being well established, the manner in which the sluggish serpent catches animals so far exceeding him in speed, and some of them endowed with the power of rising from the earth and skimming away with a few flaps of their wings, has been the subject of much speculation. Some persons have attributed a mysterious power, more especially to the rattle-snake and black snake—we mean the power of *fascinating*, or as it is commonly called, *charming*.

This supposed faculty of the serpent has, however, not been accounted for. The basilisk of the ancients killed by a look; the eye of the rattle-snake is supposed so to paralyze and at the same time attract its intended prey, that the animal slowly approaches, going through an infinite variety of motions, alternately advancing and retreating, until it finally falls powerless into the open jaws of its devourer.

As long as we are able to explain by natural deductions the very singular manœuvres of birds and squirrels when "fascinated" by a snake, it would be absurd to imagine that anything mysterious or supernatural is connected with the subject; and we consider that there are many

ways of accounting for all the appearances described on these occasions. Fear and surprise cause an instinctive horror when we find ourselves unexpectedly within a foot or two of a rattle-snake; the shrill, startling noise proceeding from the rattles of its tail as it vibrates rapidly, and its hideous aspect, no doubt produce a much greater effect on birds and small quadrupeds. It is said that the distant roar of the African lion causes the oxen to tremble and stand paralyzed in the fields; and HUMBOLDT relates that in the forests of South America the mingled cries of monkeys and other animals resound through the whole night, but as soon as the roar of the Jaguar, the American tiger, is heard, terror seizes on all the other animals, and their voices are suddenly hushed. Birds and quadrupeds are very curious, also, and this feeling prompts them to draw near to strange objects. "Tolling" wild ducks and loons, as it is called, by waving a red handkerchief or a small flag or by causing a little dog to bound backward and forward on a beach, has long been successfully practised by sportsmen on the Chesapeake Bay and elsewhere.

The Indians attract the reindeer, the antelope, and other animals, until they are within bow-shot, by waving a stick to which a piece of red cloth is attached, or by throwing themselves on their backs and kicking their heels up in the air. If any strange object is thrown into the poultry-yard, such as a stuffed specimen of a quadruped or a bird, &c., all the fowls will crowd near it, and scrutinize it for a long time. Every body almost may have observed at some time or other dozens of birds collected around a common cat in a shrubbery, a tortoise, or particularly a snake. The Squirrel is remarkable for its fondness for "sights," and will sometimes come down from the highest branch of a tree to within three feet of the ground, to take a view of a small scarlet snake, (*Rhinostoma coccinea*), not much larger than a pipe-stem, and which, having no poisonous fangs, could scarcely master a grasshopper. This might be regarded by believers in the fascinating powers of snakes as a decided case in favour of their theories, but they would find it somewhat difficult to explain the following circumstances which happened to ourselves. After observing a Squirrel come down to inspect one of the beautiful little snakes we have just been speaking of, the reptile being a rare species was captured and secured in our carriage box. After we had driven off, we recollected that in our anxiety to secure the snake we had left our box of botanical specimens at the place where we had first seen the latter, and on returning for it, we once more saw the Squirrel darting backward and forward, and skipping round the root of the tree, eyeing with equal curiosity the article we had left behind; and we could not help making the reflection

that if the little snake had "charmed" the Squirrel, the same "fascinating" influence was exercised by our tin box!

Quadrupeds and birds have certain antipathies: they are capable of experiencing many of the feelings that appertain to mankind; they are susceptible of passion, are sometimes spiteful and revengeful, and are wise enough to know their "natural enemies" without a formal introduction. The blue jay, brown thrush, white-eyed fly-catcher, and other little birds, are often to be heard scolding and fluttering about a thicket in which some animal is concealed; and on going to examine into the cause of their unwonted excitement, you will probably see a wild cat or fox spring forth from the covert. Every one familiar with the habits of our feathered tribes must have seen at times the owl or buzzard chased by the smallest birds, which unite on such occasions for the purpose of driving off a common enemy; in these cases the birds sometimes approach too near, and are seized by the owl. We once observed some night-hawks (*Chordeiles Virginianus*) darting round a tree upon which an owl was perched. Whilst looking on, we perceived the owl make a sudden movement and found that he had caught one of them in his sharp claws, and notwithstanding the cries and menaces of the others he instantly devoured it.

Birds dart in the same manner at snakes, and no doubt are often caught by passing too near—shall we therefore conclude that they are fascinated?

One of the most powerful "attractions" which remain to be considered, is the love of offspring. This feeling, which is so deeply rooted in the system of nature as to be a rule almost without an exception, is manifested strongly by birds and quadrupeds; and snakes are among the most to be dreaded destroyers of eggs and young birds and of the young of small species of viviparous animals; is it not likely therefore that many of the (supposed) cases of fascination that are related, may be referred to the intrepidity of the animals or birds, manifested in trying to defend their young or drive away their enemy from their vicinity? In our work, the "Birds of America," we represented a mocking-bird's nest attacked by a rattle-snake, and the nest of a red thrush invaded by a black snake; these two plates each exhibit several birds assisting the pair whose nest has been robbed by the snake, and also show the mocking-bird and thrush courageously advancing to the jaws even of their enemy. These pictures were drawn after the actual occurrence before our eyes of the scenes which we endeavoured to represent in them; and supposing a person but little acquainted with natural history to have seen the birds, as we did, he might readily have fancied that some of them at least were fascinated, as he could not probably have

been near enough to mark the angry expression of their eyes, and see their well concealed nest.

Our readers will, we trust, excuse us for detaining them yet a little longer on this subject, as we have more to say of the habits of the rattle-snake in connexion with the subject we are upon.

This snake, the most venomous known in North America, subsists wholly on animal food; it digests its food slowly, and is able to exist without any sustenance for months, or even years, in confinement; during this time it often increases in size, and the number of its rattles is augmented. In its natural state it feeds on rabbits, squirrels, rats, birds, or any other small animals that may come in its way. It captures its prey by lying in wait for it, and we have heard of an instance in which one of these snakes remained coiled up for two days before the mouth of the burrow of the Florida rat, (*Neotoma Floridana*,) and on its being killed it was found to have swallowed one of these quadrupeds.

As far as we have been able to ascertain, it always strikes its intended prey with its fangs, and thus kills it before swallowing it. The bite is sudden, and although the victim may run a few yards after it is struck, the serpent easily finds it when dead. Generally the common species of rattle-snake refuses all food when in a cage, but occasionally one is found that does not refuse to eat whilst in captivity. When a rat is turned loose in a cage with one of these snakes, it does not immediately kill it, but often leaves it unmolested for days and weeks together. When, however, the reptile, prompted either by irritation or hunger, designs to kill the animal, it lies in wait for it, cat-like, or gently crawls up to it and suddenly gives the mortal blow, after which, it very slowly and deliberately turns it over into a proper position and finally swallows it.

We have seen a rattle-snake in a very large cage using every means within its power and exerting its cunning for a whole month, before it could succeed in capturing a brown thrush that was imprisoned with it. At night the bird roosted beyond the reach of the snake, and during the day-time it was too cautious in its movements, and too agile, snatching up its food at intervals, and flying instantly back to its perch, to be struck by the unwieldy serpent. We now added a mouse to the number of the inmates of the cage; the affrighted animal retreated to a corner, where the snake, slowly crawling up to it, with a sudden blow darted his fangs into and killed it; soon after which he swallowed it. About a week after this adventure, the snake again resumed his attempts to capture the thrush, and pursued it all round the cage.

This experiment offered a fair opportunity for the rattle-snake to exert its powers of fascination, had it possessed any; but as it did not exhibit

them, we do not hesitate to say that it was entirely destitute of any faculty of the kind.

After some hours' fruitless manœuvring, the snake coiled itself up near the cup of water from which the bird drank. For two days the thrush avoided the water; on the third, having become very thirsty, it showed a constant desire to approach the cup; the snake waited for it to come within reach, and in the course of the day struck at it two or three times; the bird darted out of its way, however, and was not killed until the next day.

If, notwithstanding these facts, it is argued, that the mysterious and inexplicable power of *fascination* is possessed by the snake, because birds have been seen to approach it, and with open wings and plaintive voice seemed to wait upon its appetite, we must be prepared to admit that the same faculty is possessed by other animals. On a certain day, we saw a mocking-bird exhibiting every appearance, usually, according to descriptions, witnessed when birds are under the influence of fascination. It approached a hog which was occupied in munching something at the foot of a small cedar. The bird fluttered before the grunter with open wings, uttered a low and plaintive note, alighted on his back, and finally began to peck at his snout. On examining into the cause of these strange proceedings, we ascertained that the mocking-bird had a nest in the tree, from which several of her younglings had fallen, which the hog was eating! Our friend, the late Dr. WRIGHT, of Troy, informed us that he witnessed a nearly similar scene between a cat-bird and a dog which had disturbed her brood, on which occasion the cat-bird went through many of the movements generally ascribed to the effect of fascination.

GEOGRAPHICAL DISTRIBUTION.

We have received a specimen of this Squirrel which was procured in the market at New Orleans, where it is said to be exceedingly rare. We have not traced it farther to the South. It is the most abundant species in Florida, Georgia and South Carolina. We have seen it in the swamps of North Carolina, but have no positive evidence that it extends farther to the northward than that State. We have obtained it in Alabama, and in Mississippi we are told it is found in the swamps. Nothing has been heard of it west of the Mississippi river.

GENERAL REMARKS.

This species was first described by GMELIN, and afterwards noticed and

figured by Bosc. The descriptions in HARLAN, GODMAN, and all other authors who have described this species under the name of *Sciurus Carolinensis*, refer to the Northern Gray Squirrel. We believe we were the first to observe and point out the distinctive characters which separate the present species from *S. migratorius*, the Gray Squirrel of the North.

Audubon, John James and Bachman, John. 1851. "Sciurus Carolinensis, Carolina Gray Squirrel [Pl. VII, male and female]." *The quadrupeds of North America* 1, 55–63. <https://doi.org/10.5962/p.322544>.

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