Engraved on Stone by H. T. T. T.

Common American Shrew Mole.

Male & Female.

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

Printed by Neale & Wm. J. J. J.

GENUS SCALOPS.—CUVIER.

DENTAL FORMULA.

$$\text{Incisive } \frac{2}{4}; \text{ Molar } \frac{3-3}{3-3}; \text{ False-Molars } \frac{6-6}{3-3} = 36.$$

OR

$$\text{Incisive } \frac{2}{4}; \text{ Molar } \frac{6-6}{6-6}; \text{ False-Molars } \frac{4-4}{3-3} = 44.$$

Head, long, terminated by an extended, cartilaginous, flexible, and pointed muzzle; eyes and ears, concealed by the hair, and very minute. Hind-feet, short and slender, with five toes and delicate hooked nails; fore-feet (or hands) broad; claws, long and flat, fitted for excavating the earth.

The name Scalops is derived from the Greek *σκαλλω*, (*skallo*,) and from the Latin *scalpo*, I scrape.

The various species included in this genus, which approaches very closely to the genus *TALPA*, of Europe, (European mole,) are, we believe, confined to North America. There are, so far as we have been informed, only five species known at the present time.

SCALOPS AQUATICUS.—LINN.

COMMON AMERICAN SHREW MOLE.

PLATE X.—MALE AND FEMALE.

S. magnitudine Talpæ Europæ similis; corpore cylindrato, lanugine sericea, argenteo-cinereo induto

CHARACTERS.

Size of the European mole, (Talpa;) body, cylindrical; fur, velvety; colour, silvery-grayish-brown.

SYNONYMES.

- SOREX AQUATICUS, Linn. Syst. Nat., 12th ed. corrected, vol. i., p. 74.
 TALPA FUSCA, Pennant, Brit. Zool., Quadrupeds, 314.
 SCALOPE CANADENSIS, Desm., Mam., p. 115.
 SCALOPE DE CANADA, Cuv., Règne Animal, p. 134.
 SHREW MOLE, Godman, Nat. Hist. vol. i., p. 84, pl. 5, fig. 3.
 SCALOPE CANADENSIS, Harlan, Fauna, p. 32 Young.
 " PENNSYLVANICA, Harlan, Fauna, p., 33. Adult.
 " CANADENSIS, Emmons, Report on Quads. of Mass., p. 15.
 " AQUATICUS, Bachman, Observations on the Genus Scalops, Boston Jour
 Nat. Hist., vol. iv., No. 1., p. 28, 1842.
 " AQUATICUS, Dekay, Nat. Hist. of the State of New-York, p. 15.

DESCRIPTION.

Adult:—Teeth 36, corresponding with the first dental formula of this genus, given on the preceding page; incisors of moderate size, rounded on their front surface and flattened posteriorly. Immediately behind the incisors, two minute teeth on each side, crowded together—succeeded by four large false-molars, of a cylindrical shape, and pointed; the fourth smallest, the fifth a little larger and slightly lobed, and the sixth, which is the largest, more conspicuously lobed; followed by three true molars, each furnished with three sharp tubercles.

In the lower or inferior jaw, sixteen teeth; the two posterior incisors very small, succeeded on each side by another much larger, pointed, and extending forward; three false-molars which succeed these are pointed, and the third and largest slightly lobed; three true molars composed of two parallel prisms, terminated each by three points, and "presenting one of their angles on the outer side, and one of their faces on the internal surface; the two first of equal size, the other somewhat smaller." Part of the above description is in the words of Dr. GODMAN, from his very correct and interesting article on the Shrew Mole, (vol. i., p. 82,) which corresponds exactly with the results of our own investigations of the teeth of this animal, made at various times, during a period of several years.

Young.—We have found in specimens less than a year old, that the two small thread-like teeth inserted behind the incisors in the upper jaw were entirely wanting, as also the fourth lateral incisor on each side, leaving vacant spaces between them, and presenting the appearance ascribed to them by Baron CUVIER and by DESMAREST; the last mentioned teeth are first developed, the former appearing when the animal is full grown and all the edentate spaces between the molars are filled up.

Body, thick and cylindrical: neck, short, so that the head appears almost

as if attached directly to the shoulders; snout, naked, cartilaginous, and very flexible, extending five lines beyond the incisors; the under surface projects a little beyond the nostrils, which are oblong and open on the upper surface near each other; mouth, large, and when open resembling somewhat (although in miniature) that of the hog; eyes, concealed by the fur, apparently covered by an integument, and so minute that they can with great difficulty be found. The orifice in the skin in which the eye is placed is not of larger diameter than would admit a bristle. No external ear; there is, however, a very small circular aperture leading to the ear, about three quarters of an inch behind the eye. The fore-arms are concealed by the skin and the palms only are visible, they are broad, and might be thought not unlike hands; they are thinly clothed with hair, and bordered with stiff hairs; the fingers are united at the base of the claws; nails, large, slightly curved, nearly convex above, and flattened on the inner surface; hind-feet, small and slender, naked on the under surface, and apparently above, although a close inspection shows the upper surface to be covered with fine short hairs; nails, small, a little arched, and compressed; tail, short, round, appears naked, but is very sparingly clothed with short adpressed hairs. On the inside of the thighs, near the tail, is a gland about half an inch long, from which a disagreeable musky odour issues, which makes the animal offensive to delicate olfactories. All our other shrew moles possess similar glands, and we have perceived the musky smell still remaining strong in skins that had been prepared and stuffed several weeks.

COLOUR.

Snout and palms, in the living animal, pinkish flesh-colour; chin, feet, and tail, dull white; hair on the body, about five lines in length, very soft, smooth, and lustrous; for three-fourths of its length, plumbeous; tips light-brown, giving the surface of the hair, above, a dark-brown colour, which varies in different lights, sometimes exhibiting black, silver-gray, or purple, reflections.

There are many variations in the colouring of different individuals of this species, but none of them permanent: we possess some specimens which are nearly black, and others of a light cream-colour; we also have a specimen, the tail of which is clothed with short hairs, with a considerable tuft at the extremity. From these and similar differences in various other animals, it is not surprising that authors have described in their works many as new, which, on being closely examined afterwards, prove to be mere accidental varieties of some well-known species.

DIMENSIONS.

Adult male.

								Inches.	Lines.
From nose to root of tail	-	-	-	-	-	-	-	5	8
Tail	-	-	-	-	-	-	-	0	8
Breadth of palm	-	-	-	-	-	-	-	0	5

A specimen from Carolina.

From nose to root of tail	-	-	-	-	-	-	-	4	7
Tail	-	-	-	-	-	-	-	0	9
Breadth of palm	-	-	-	-	-	-	-	0	6

HABITS.

Whilst almost every farmer or gardener throughout the Northern and Eastern States is well acquainted with this curious animal, as far as the mere observation of its meandering course through his fields and meadows, his beds of green peas or other vegetables, is concerned, but few have arrived at proper conclusions in regard to the habits of the Shrew Mole; and it is generally caught and killed whenever practicable; the common idea being, that the Mole feeds on the roots of tender plants, grasses, &c.; while the fact that the animal devours great quantities of earth-worms, slugs, and grubs, all hurtful to the fruit trees, to the grasses, and the peas and other vegetables, seems to be unknown, or overlooked.

In justice to the farmer and gardener, however, we must say, that the course taken occasionally by this species, directly along a row of tender plants, throwing them out of the earth, as it does, or zig-zag across a valuable bed or beautiful lawn, is rather provoking, and we have ourselves caused traps to be set for moles, being greatly annoyed by their digging long galleries under the grass on our sloping banks, which during a heavy shower soon filled with water, and presently increased to large gutters, or deep holes, requiring repairs forthwith. At such times also, a Mole-track through loose soil where there is any descent, will be found by the gardener, perchance, to have become a miniature ravine some twenty or thirty yards in length, and a few (anticipated) bushels of carrots are destroyed. In neglected or sandy soils, one of these gutters becomes deep and wide in a short time, and we may perhaps not err in hazarding the opinion that some of the unsightly ravines which run almost through large estates, occasionally might be traced to no higher origin than the wandering of an unlucky mole!

We kept one of this species alive for some days, feeding it altogether upon earth-worms, but we soon found it difficult to procure a suffi-

cient supply; forty or fifty worms of moderate size did not appear too much for its seemingly insatiable appetite. At the expiration of four days, another of this species which we had in confinement would not touch any vegetable substances, although the cage was filled with clods covered with fine clover, pieces of sweet apples, bread, &c.

We were much interested in observing, that no matter how soiled its coat might have become in the cage, it would resume its beauty and glossiness after the mole had passed and re-passed through the earth eight or ten times, which it always accomplished in a few minutes. We frequently remarked with surprise the great strength of this animal, which enabled it to lift the lid or top of a box in which it was kept, although it was large and heavy; the box-top was not however fastened down. Seating ourselves quietly in the room, after putting back the mole into the box, the animal supposing itself no longer watched, very soon raised its body against the side of the box, which was partly filled with earth, and presently its snout was protruded through the small space between the box and the cover; and after a few efforts the creature got his fore-feet on to the edge of the box, raised itself over the latter, and fell upon a table on which we had placed the box. It immediately ran to the edge of the table, and thence tumbled on to the floor; this, however, did not at all incommode it, for it made off to a dark corner of the room at once, and remained there until again replaced in its prison.

When this Mole was fed on earth-worms, (*Lumbricus terrenus*), as we have just related, we heard the worms crushed in the strong jaws of the animal, with a noise somewhat like the grating of broken glass, which was probably caused by its strong teeth gnashing on the sand or grit contained in the bodies of the worms. These were placed singly on the ground near the animal, which after smelling around for a moment turned about in every direction with the greatest activity, until he felt a worm, when he seized it between the outer surface of his hands or fore-paws, and pushed it into his mouth with a continually repeated forward movement of the paws, cramming it downward until all was in his jaws.

Small-sized earth-worms were despatched in a very short time; the animal never failing to begin with the anterior end of the worm, and apparently cutting it as he eat, into small pieces, until the whole was devoured. On the contrary, when the earth-worm was of a large size, the Mole seemed to find some difficulty in managing it, and munched the worm sideways, moving it from one side of its mouth to the other. On these occasions the gritting of its teeth, which we have already spoken of, can be heard at the distance of several feet.

We afterwards put the Mole into a large wire rat-trap, and to our sur-

prise saw him insert his fore-paws or hands between the wires, and force them apart sufficiently to give him room to pass out through them at once, and this without any great apparent effort. It is this extraordinary muscular power in the fore-paws and arms, that enables the Shrew Moles to traverse the galleries they excavate with so much rapidity, in doing which they turn the backs of their palms or hands toward each other, push them forward as far as the end of their snout, and then open and bring them round backward, in the manner of a person moving his hands and arms when swimming. When running along on the surface of the ground, they extend the fore-legs as far forward as they will reach, turning the backs of the hands or paws (as just mentioned) towards each other, and placing them edge-wise, instead of flat on the earth as might be supposed, and in this manner they run briskly and without any awkward movement, crossing beaten-roads or paved walks, and sometimes running swiftly twenty or thirty feet before they can get into the ground.

The Shrew Mole varies somewhat in its habits, according to our observations: for while a solitary individual will occasionally for some weeks occupy and root up a large plot of grass or a considerable portion of a garden, and on his being caught in a trap, the place will remain free from fresh Mole-tracks for a long period, proving that all the mischief was the work of a single Mole, at other times we have caught several out of one gallery on the same day; and while excavating a root-house, the lower part of which was rock, four of these animals came during the night through one gallery and tumbled down into the pit, where, the rock preventing their digging a way out, they were found in the morning. No others ever came through that gallery while the cellar was in progress, and those thus caught may probably have been one family.

Although generally known to run through the same galleries often, so much so that the most common method of capturing them is to set a trap anywhere in one of these tracks to intercept them when again passing through it, we have known a trap to remain set in a fresh track for eleven days before the animal passed that way, when it was caught; and we are of opinion that many of their tracks are only passed through once, as this animal is known to travel from one field or wood to another, and probably the only galleries they regularly traverse are those adjacent to the spot they have selected for rearing their young. In relation to this subject, Dr. GODMAN says—

“It is remarkable how unwilling they are to relinquish a long frequented burrow; I have frequently broken down or torn off the surface of the same burrow for several days in succession, but would always find it repaired at the next visit. This was especially the case with one individual

whose nest I discovered, which was always repaired within a short time, as often as destroyed. It was an oval cavity, about five or seven inches in length by three in breadth, and was placed at about eight inches from the surface in a stiff clay. The entrance to it sloped obliquely downwards from the gallery about two inches from the surface; three times I entirely exposed this cell, by cutting out the whole superincumbent clay with a knife, and three times a similar one was made a little beyond the situation of the former, the excavation having been continued from its back part. I paid a visit to the same spot two months after capturing its occupant, and breaking up the cell, all the injuries were found to be repaired, and another excavated within a few inches of the old one. Most probably numerous individuals, composing a whole family, reside together in these extensive galleries. In the winter they burrow closer to the streams, where the ground is not so deeply frozen."

This species whilst beneath the earth's surface seems to search for food with the same activity and untiring perseverance that are observable in animals that seek for their provender above ground. It works through the earth not only in a straight-forward direction, but loosens it to the right and left, beneath and above, so that no worm or insect can escape it. When in contact with any one of the objects of which it has been in search, it seizes it with remarkable quickness both with its fore-feet and its sharp teeth, drawing itself immediately backward with its prize, upon which it begins to prey at once. The Shrew Mole passes through loose soil with nearly the same ease and speed that it displays in running, or "scrabbling" along above ground. It moves backward almost as rapidly as it goes forward. The nose is often seen protruded above the surface of the ground.

The snout of this species, although apparently delicate, is most powerfully muscular, as well as flexible; the animal can turn it to the right or left, upward or downward, and at times inserts it in its mouth, as if for the purpose of cleansing it, and then suddenly withdraws it with a kind of smack of its lips; this habit we observed three times in the course of a few minutes. The Shrew Mole is exceedingly tenacious of life; it cannot easily be put to death, either by heavy pressure or strangling, and a severe blow on the head seems to be the quickest mode of despatching it.

Although this species, as we have seen, feeds principally on worms, grubs, &c., we have the authority of our friend OGDEN HAMMOND, Esq., for the following example either of a most singular perversity of taste, or of habits hitherto totally unknown as appertaining to animals of this genus, and meriting a farther inquiry. While at his estate near Throg's Neck, on Long Island Sound, his son, who is an intelligent young lad, and fond

of Natural History, observed in company with an old servant of the family, a Shrew Mole in the act of swallowing, or devouring, a common toad—this was accomplished by the Mole, and he was then killed, being unable to escape after such a meal, and was taken to the house, when Mr. HAMMOND saw and examined the animal, with the toad partially protruding from its throat. This gentleman also related to us some time ago, that he once witnessed an engagement between two Moles, that happened to encounter each other in one of the *noon-day* excursions this species is so much in the habit of making. The combatants sidled up to one another like two little pigs, and each tried to root the other over, in attempting which their efforts so much resembled the manner of two boars fighting, that the whole affair was supremely ridiculous to the beholder, although no doubt to either of the bold warriors the consequences of an overthrow would have been very serious; for the conqueror would vent his rage upon the fallen hero, and punish him severely with his sharp teeth. We have no doubt these conflicts generally take place in the love season, and are caused by rivalry, and that some “fair Mole” probably rewards the victor. When approached, the Moles attempted to escape, but were both shot on the spot, thus falling victims to their own passions; and if we would read aright, affording us an instructive lesson, either as individuals, or in a national point of view.

The Shrew Moles are able to work their way so rapidly, that in soft or loamy soil it is almost impossible for the most active man to overtake and turn them out with a spade, unless he can see the spot where they are working by the movement of the earth, in which case they can be thrown out easily by sticking the spade in front of them or at one side of their gallery, and with a quick movement tossing them on to the surface.

They have been known to make a fresh track after rain, during one night, several hundred yards in length; oftentimes they proceed for a considerable distance in nearly a straight or direct line, then suddenly begin to excavate around and across a small space of not more than a few feet in diameter, until you could hardly place your foot on a spot within this subterranean labyrinth without sinking through into their track; at this time they are most probably in pursuit of worms, or other food, which may be there imbedded.

Although cold weather appears to us to put a stop to the movements of the Mole, we do not feel by any means certain that such is the case; and very probably the hardness of the ground when frozen, and the depth at which the Mole is then obliged to seek his food, may be a sufficient reason for our seeing no traces of this busy creature's movements during cold winter weather. We have, however, often perceived their tracks after a

day or two of warm weather in January, and have repeatedly observed them about during a thaw, after the first autumnal frosts had occurred. In Carolina there are not many weeks in a winter in which we are not able to find here and there traces of the activity of the Mole. We admit, however, that even in this comparatively mild climate, they appear to be far less active in winter than at other seasons.

From the foregoing facts we are inclined to think the Mole does not become torpid at any time; and in corroboration of this idea, we find that the animal is not at any season found in high Northern latitudes. Dr. RICHARDSON thinks "the absence of the Shrew Mole from these countries is owing to the fact that the earth-worm on which the Scalops, like the common Mole, principally feeds, is unknown in the Hudson's Bay countries."

The idea commonly entertained by uninformed persons, that Moles have no eyes, is an error; although our own experience confirms the opinion of others, that they appear to possess the power of seeing only in a very limited degree. We must not forget, however, that a wise Providence has adapted their organs of vision to the subterraneous life they lead. Shut out from the light of the sun by a law of nature requiring them to search for food beneath the earth's surface, these animals would find a large pair of eyes one of the greatest of evils, inasmuch as they would be constantly liable to be filled with sand; thus causing inflammation, blindness, and eventually death.

It is not, however, beyond the reach of possibility, nor contrary to the economy of Nature, to suppose that during the night, when this species is seen occasionally above ground, or when engaged in running or fighting, or for purposes we have not yet discovered, this animal may have the power of expanding its minute orbs, and drawing back the hair that entirely conceals its eyes. This, however, is a mere conjecture, which we have thrown out for the consideration of those who are fond of investigating Nature in her minutest operations.

The inquiry has often been made, if the Shrew Mole does not feed upon the grains or roots of the corn, peas, potatoes, &c., planted in rows or in hills, why is it that this pest so ingeniously and so mischievously follows the rows, and as effectually destroys the young plants as if it had consumed them? We answer, it is not the spirit of mischief by which the Mole is actuated; it is the law of self-preservation. In the rows where these seeds have been sown, or these vegetables planted, the ground has been manured; this, and the consequent moisture around the roots of the plants, attracts worms and other insects that are invariably found in rich moist earth. To the accusations made against the Shrew Mole as a

destroyer of potatoes, and other vegetables, he might often with great truth plead an alibi. LECONTE's pine mouse, (*Arvicola pinetorum*,) is usually the author of the mischief, whilst all the blame is thrown upon the innocent Shrew Mole. We are, moreover, inclined to think that whilst the earth-worm is the general, it is by no means the only food of the latter, and we had an opportunity of discovering to our cost, that when in captivity, this species relishes other fare. We preserved one in a cage in Carolina, during a winter, for the purpose of ascertaining on what kind of food it was sustained, and whether it became dormant. It at no time touched grains or vegetables; the lower part of the cage was filled with a foot of moist earth, in which we occasionally placed a pint of earth-worms. It devoured pieces of beef, and for a week was engaged in demolishing a dead pigeon. Until the middle of January we found it every day actively running through the earth in search of worms. Suddenly, however, it seemed to have gone to winter quarters, as we could see no more traces of its customary burrowing. We now carefully searched for it in the box, to ascertain its appearance in a dormant state. But the little creature had forced itself through the wooden bars, and was gone. We examined every part of the room without success, and finally supposed it had escaped through the door. The cage of the Mole had been set on a box, full of earth, in which the chrysolides of some sixty or seventy species of rare butterflies, moths, and sphinges, had been carefully deposited. In this box we a few days afterwards heard a noise, and on looking, discovered our little fugitive. On searching for our choice insects we found not one left; they had all been devoured by the Shrew Mole. This greatly disappointed us, and put an end to all our hopes of reading the following spring a better lesson on entomology than ever could have been taught us—either by FABRICIUS, SPENCE, or KIRBY.

We had an opportunity on two different occasions of examining the nests and young of the Shrew Mole. The nests were about eight inches below the surface, the excavation was rather large and contained a quantity of oak leaves on the outer surface, lined with soft dried leaves of the crab-grass, (*Digitaria sanguinalis*.) There were galleries leading to this nest, in two or three directions. The young numbered in one case, five, and in another, nine.

Our kind friend, J. S. HAINES, Esq, of Germantown, near Philadelphia, informed us that he once kept several Shrew Moles in confinement for the purpose of investigating their habits, and that having been neglected for a few days, the strongest of them killed and ate up the others; they also devoured raw meat, especially beef, with great avidity.

GEOGRAPHICAL DISTRIBUTION.

The Shrew Mole is found inhabiting various parts of the country from Canada to Kentucky, in considerable numbers, and is abundant in Carolina, Georgia, Louisiana and Florida. It is, according to RICHARDSON, unknown in Labrador, the Hudson's Bay Territories, and probably North of Latitude 50°. We did not see any of them in our trip up the Missouri river, and there are none to be found on the dry prairies of the regions immediately east of the great Rocky Mountain chain. The figures in our plate were drawn from specimens procured near the City of New-York. We mention this locality because the colours differ a little from others that we have seen, and that have been described.

GENERAL REMARKS.

In restoring to this animal the specific name of its first describer, we have adhered to a rule, from which, to prevent the repetition of synonyms we should never depart unless under very peculiar circumstances. The name "*Aquaticus*," certainly does not apply to the habits of this species, as although it is fond of the vicinity of moist ground where the earth-worm is most abundant, yet it is nowise aquatic. The name of DESMAREST, however, viz., "*Canadensis*," is equally objectionable, as it is far more common in the Southern portion of the United States than in Canada.

Some differences of opinion are observable in the works of authors in regard to the number of teeth which characterize this species.

Although the genus was, until recently, composed of but a single acknowledged species (*Scalops Canadensis* of DESM.), its systematic arrangement has caused great perplexity among Naturalists. LINNÆUS placed it among the Shrews (Sorex), and PENNANT among the Moles (Talpa), Baron CUVIER finally established for it a new genus (Scalops), in which it now remains. The specimen, however, which he made the type of the genus, contained but thirty teeth. The upper jaw had but three lateral incisors or false-molars on each side; leaving considerable intermediate spaces between the incisors and true molars. In this dental arrangement he was followed by DESMAREST, Dr. HARLAN, GRIFFITH, and nearly all the Naturalists of that period. Subsequently, however, FREDERICK CUVIER gave a correct description of the teeth, which he found amounted to thirty-six. Dr. HARLAN finding a skeleton from the vicinity of Philadelphia, which in its dental arrangement corresponded generally with the characters given by FRED. CUVIER, considered it a new species, and described it under the name of *Sc. Pennsylvanica* (see Fauna Americana, p. 33).

Dr. RICHARDSON described a specimen which was obtained on the Columbia river (F. B. A., p. 9), which contained forty-four teeth, very differently arranged. This animal he referred to our common Shrew Mole, supposing that the difference in the dentition, as observed by different authors, was owing to their having examined and described specimens of different ages.

In 1840, Professor EMMONS (Report on the Quadrupeds of Massachusetts) characterizes the genus as having 44 teeth. In 1842, Dr. DEKAY (Nat. History of the State of New-York, p. 15) has very erroneously given as a character, its having from 34 to 46 teeth, and states that he had once seen the skull of one of this species containing 44 teeth.

In an article in the Boston Journal (vol. iv., No. i., p. 26, 1842), we endeavoured to explain and correct the contradictory views of former authors, and we feel confident we have it in our power to account for the skull seen by Dr. DEKAY containing forty-four teeth.

The specimens examined by Baron CUVIER, DESMAREST and Dr. HARLAN, each containing but 30 teeth, were evidently young animals, with their dentition incomplete. One half of the specimens now lying before us present the same deficiency in the number of teeth; they also exhibit the edentate spaces between the incisors and grinders remarked by those authors. We have, in deciding this point, compared more than fifty specimens together. Those on the other hand that were examined by F. CUVIER and Dr. GODMAN, and the skeleton of Dr. HARLAN's *Scalops Pennsylvanica*, containing 36 teeth, were adults of the same species. Dr. RICHARDSON's specimen was a new species (*Scalops Townsendii*), having 44 teeth, (see Journ. Acad. Nat. Sc., Philadelphia, vol. viii., p. 58). With regard to the skull seen by Dr. DEKAY, we have no doubt of its having belonged to *Scalops Brewerii* (see Bost. Journ. Nat. Hist., vol. iv., p. 32), which has 44 teeth, and is not uncommon in the State of New-York, as we obtained four specimens from our friend, the late Dr. WRIGHT, who procured them in the vicinity of Troy.

Audubon, John James and Bachman, John. 1851. "Scalops Aquaticus, Common American Shrew-Mole [Pl. X, male and female]." *The quadrupeds of North America* 1, 81–92. <https://doi.org/10.5962/p.322533>.

View This Item Online: <https://www.biodiversitylibrary.org/item/108513>

DOI: <https://doi.org/10.5962/p.322533>

Permalink: <https://www.biodiversitylibrary.org/partpdf/322533>

Holding Institution

Duke University Libraries (archive.org)

Sponsored by

Duke University Libraries

Copyright & Reuse

Copyright Status: Not provided. Contact Holding Institution to verify copyright status.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.