

## TRANSACTIONS

OF THE

## Nova-Scotian Institute of Natural Science.

ART. I. ON THE MAMMALIA OF NOVA SCOTIA. BY J. BERNARD  
GILPIN, M. D., M. R. C. S.

NO. II.

[Read November 6, 1864.]

HAVING in my first number given the members of the Soricinæ family inhabiting this Province, as identified by myself, I now proceed with the Mammalia, at least those that I have identified myself.

## GENUS, CONDYLURA.

*Condylura cristata*.—A rather large specimen from alcohol, taken at Annapolis Royal, 1862, during summer, measured—extreme length,  $8\frac{1}{4}$  ins.; length of tail,  $3\frac{1}{2}$  ins.; diameter of tail,  $\frac{1}{4}$  in. Colour—dark blue-black above and below, nails flesh colour, the tail covered with scales that are concealed by stiff hairs, compressed at base, swelling out suddenly about two-thirds of an inch from base and then narrowing to a fine pencil at point, at its largest part at least a quarter of an inch in diameter; the nose with twenty-two points or rays; the fore feet very broad, oval shaped, fringed with stiff hair and covered above and below with fine scales or scale-like points, the base of each finger excepting the outside one with a pointed peculiar fringe of two or three points like a cock's comb, the nails each  $\frac{1}{4}$  of an inch long, the hind feet longer and narrower than the fore, and covered above by the same scales, the soles with three or four irregular tubercles; the star-like rays of the nose, and the fringe at the base of the forefingers, seem peculiar to this animal. It is rather common in the Province, and seems to represent the true moles to which it is allied, and which I have never identified here. All specimens that I have had belonged to

one species. I think the tail swells during the sexual period, and when the animal is fat, at other times diminishes.

#### GENUS, LASIURUS.

Having neglected to describe the Bats, in their usual place, before the Soricinæ, I place them here. I have identified but two species myself, but I have little doubt that several more species inhabit the Province.

*Lasiurus, cinereus*, (*Hoary Bat*.)—I have seen but two specimens of this bat taken here. One from Sambro, the other taken from the foretopsail of a brigantine in Halifax harbour, and therefore I consider it rare. These specimens answered in every respect *V. pruinus* of Richardson, DeKay and Say. This latter naturalist, supposing himself the discoverer of it, gave it the specific "*pruinus*,"—but Dr. Allen in his monograph of North American bats, quotes a catalogue of Peale's Museum, 1796, by M. Palisot de Beauvois, who describes it under the name *cinereus*.

*Vespertilio subulatus*.—Two specimens measured—total length, 3ins.; total spread, 9ins.; they both agreed with DeKay's description of northern specimens, their colour being darker and ears longer than those of New York. Dark about head; dark brown olive on back; yellow mixed white beneath; yellow down extending a little way under rib of each wing; the ears not so hairy as DeKay's. They are very common.

#### GENUS, LYNX.

*Lynx, Canadensis*, (*Loupcervier*.)—A very handsome but not large skin in winter pelage, from Mr. Coleman's, Halifax, measured—length to tip of tail, 3ft. 2in.; length of tail, 3½ins.; of pencil to ears, 1½ins. Colour, dusky brindle on the back, an indistinct but decided dark line down the centre of the back, end of tail deep black; sides and belly yellowish rusty, inside of legs yellowish white, no spots, but three indistinct dusky bars inside fore leg, black tips and pencils to the ears, and a large collar yellowish white alternating with black stripes beneath the throat—a general hoary tint over all. The fur was very long and loose. The legs and feet very robust and well furred, with thick yellowish white fur, and the pads covered. This true boreal species, reminding us of the alpine hare, the ptarmigan, the spruce grouse, and the

snow owl, in his well-furred limbs, is abundant in the Province. He loves the thick covers and dense spruce-pine woods of the midland counties of King's and Annapolis, in which he hunts the varying hare, and surprises the dusky grouse, and from which he descends at night to the barns and sheepfolds in the cleared land. He is very destructive to sheep. He rarely is found near the sea-board, or amongst the scanty cover of the granite hills where the red cat abounds, and never like the latter comes out in the open, or into the town in daylight. When pursued, he runs in a high awkward gallop, with an arched back, leaving a very broad trail upon the snow, and soon takes refuge in a tree. About twenty-five years ago the country about Annapolis Royal was infested with them, when Mr. George Hardwicke, a young farmer, with a love for hunting, introduced hunting them with a fox-hound. Mounting his horse by day-break of a winter morning, he would ride ten or twelve miles into the forest, dismount, and beat the woods for game. In half an hour the hound would find, and in about twenty minutes more have treed the Lynx in the fork of a spruce-pine tree. Following at his leisure the track on the snow, he easily tumbled her out of the tree by a charge of buckshot, as she hissed and glared at him like an angry cat, with erect fur and arched back. He took twenty during the winter, sometimes two in a day, and a right pleasant sight it was to see him return home, at the close of a short winter's day, with one, if not two, hanging across his croup, as he rode his mare into the settlement, his snowshoes, axe and gun crossing his broad shoulders, all making a pretty woodland scene with the white snow and dark firs beyond. Though cowardly and skulking when opposed to man, one who has witnessed his sudden pounce upon his prey can readily understand his ravages among sheep.

*Lynx, rufus, (Wild Cat).*—A very large male, shot by Mr. Stayner as he was prowling about the environs of Halifax in 1861, measured—from tip of nose to end of tail, 3ft. 4ins.; to end of hind leg, 4ft. 4in.; from tip to tip of ear, over forehead, 10ins.; tail, 7ins.; the colour above rusty, with a general hoary tint; inside of fore legs, belly, and beneath tail whitish; obscurely spotted with red on flanks and outside paws, and two or three black bars inside fore leg; ear black, with a peculiar half-moon white patch on the

back, and a very small pencil to the tip; some very obscure dusky lines along the top of back, and a few dark lines diverging from the inner corner of each eye to the forehead, and each side of the nose; the soles of fore and hind feet nearly black, the pads naked, and the tail with several obscure dusky annular marks around it, the tip black above, white beneath. A small summer skin from Mr. Thomas, Halifax, now before me, is bright reddish brown on back and sides, a deep brown mark down centre of back, outside of fore and hind legs light reddish; belly, throat and inside of leg whitish, with black bars; the same markings on ears and forehead as in winter skin; scarcely a pencil to tip of ear; the fur short and stiff, except on the belly, where it is fine and loose. This animal is finer and more handsome in its figure and slenderer in its legs than the Loupcervier; its head is finer and bolder, and altogether it has less of the stealthy, awkward gait of the latter. It loves the seaboard and the sterile granite hills. Where it abounds few or no Loupcerviers are seen. Its food is the same, and it is equally destructive to sheep. Its bolder nature brings it down into the open country, and often into the small towns and villages. Perhaps forced by hunger it then prowls about yards, seizing poultry in open day, and is soon shot by a crowd of men and boys.

In studying and comparing our Lynxes, we find that one, the Loupcervier, is a true boreal animal with a limited range. Its short tail, large collar, long pencil to the ear, and furred foot, its large pale yellow eye, (the onyx eye of the ancients,) are all typical of the Lynx of the Old World. On the other hand, the Wild or Red Cat has become indigenious at a far later period. Its naked foot, pencil disappearing in summer from the ear, finer fur, smaller collar, and its ringed and longer tail, all give it a more southern centre of origin, as they also approximate it to the genus "*Felis*." Baird and Audubon both give it a range from Mexico to the Rocky Mountains, where they are smaller and redder and the pencil disappears on the ear, yet all preserve the peculiar half-moon white patch on the ear, which Baird justly considers typical. It is curious, too, that the less boreal animal is the more abundant—the Wild Cat skin being exported at the rate of five hundred and fifty or more and still abundant, whilst the Loupcervier is becoming scarce and is exported at the rate of about two hundred and fifty.

It is to be hoped they will long be spared as fit denizens of our northern hills and pine forests.

#### GENUS, CANIS.

*Canis occidentalis*, (*the Wolf*).—I have identified this destructive animal as existing in Nova Scotia. A very large specimen, taken at Windsor, was exhibited in Halifax. I can only mention it to observe how very difficult it appears for some large species to find new habitations. In Nova Scotia the cover and the game are alike and equally abundant as in New Brunswick or Newfoundland, yet twice within this century a voluntary migration of Wolves has been made and both failed. About seventy years ago Wolves made their appearance, but were soon lost sight of. About twenty-years ago they again appeared simultaneously in every part of the Province. The mail courier had scarcely reported one crouching before his off leader in the gorge of the Cobequid hills, before one was trapped at Yarmouth. They seem to have trotted through the whole Province from north to the extreme south, and to have retreated on their tracks with equal stealth; since for twenty years no word has been heard of them. Their instinct taught them that it was no place to found a race in.

#### GENUS, VULPES.

*Vulpes fulvus*, (*Red Fox*).—I have identified but one species of Fox, though subject to varieties, as we will see, by a proneness to nigritism, on studying their skins.

A fine skin, in perfect winter condition before me, has the chin, throat, line down the breast and belly, narrow line along hind legs and tip of tail, white; back of ears, stripe in front of each leg, black; the tail with more or less sooty tips to the hair, inclining to black; a dusky spot on each side of the nose from where the moustachial hairs spring; all the rest of the body a rich lustrous fulvus red, with a slight dash of hoar upon the flanks.

Another skin before me has nose, face, backs of ears, chin, throat, belly, entire legs and tail (except white tip) generally black; shoulders and stripe down the back decided black; forehead, and part of shoulders and flanks, hoary grey, mixed with yellow; the rest of the skin pale yellow. This is the Cross Fox.

In another skin before me, the yellow has entirely disappeared;

belly and under parts, legs and tail (white tip excepted) black; the upper parts black with more or less white hair intermixed in a general hoary tint. This marks the Silver Grey Fox.

In another skin, with the exception of a few grey hairs on either flank, one lustrous jetty black relieved by the snowy tip of the tail, pervades the whole. This is the priceless Black Fox.

The hunter and the fur dealer make seven distinct varieties,—the red, the brander, the cross, the patch, the silver and the black. These are so many stages in the Red Fox becoming black.

In a red skin of the finest colour there are always a few scattering grey hairs upon the flanks, some sooty hairs upon the tail, and a tendency to black upon the belly. Whilst the grey hairs of the flanks are overrunning the whole body, the tail, (tip excepted,) the belly, chin, breast and legs become black. This is the brander,—a red grey fox, black beneath. When the black of the tail invades the back and shoulders, he becomes the cross-fox, or a red grey with a cross on his back. A little red still lingering about the back makes him a patch. When that has entirely disappeared, he becomes silver grey, and when one entire nigritism has pervaded the whole skin, except the snowy tip of the tail, he then becomes the peerless black fox, so seldom seen that he is almost a myth. Though I have seen one at least, which had as few as a dozen white hairs on the flanks. This description is based upon a series of skins, spread out and varying from red to black. Although I do not mean to assert that these changes take place in every one living specimen, yet it seems probable that as the cubs are born dusky, this tendency to nigritism exists, with more or less intensity in each individual at the birth, and prevents the red colour from appearing. At least we must accept this as a reason until we get more certain knowledge. All I mean to advance is that there is a general principle and order in the changes, and that in the reddest skin we find the germ of the blackest. This tendency to nigritism shared by the wolves, and in a less degree by the squirrels, seems to increase in northern latitudes—the proportion of silver and cross foxes in the Hudson Bay Company's list, being about one-third, whilst in Nova Scotia the proportion runs one in ten. I saw two that were taken when cubs at Annapolis. They were kept in confinement for several years, the female greyer than the male, but

they never bred. They seemed slenderer than the red foxes, with longer legs, but I have never seen any specific difference between them and the rest. They are found in the same litter. The white traces on the flank and white tip of tail are common to all, and had they power to found a race it would have been more numerous. The hunters tell you he is a solitary animal, ranging by himself, of a different manner and habit. But carrying twenty pounds on his back he is invested with a romantic interest; he is like a criminal, with blood money on him; he scarcely shows his brush but there is a general commotion; traps are set on his beat, poison, dogs and men beset his path. The fortunate captor carries his spoils to Halifax, and sometimes secures twenty-five pounds for a skin. Absorbed in the stock of the London dealers, it reappears at the great Leipsic fairs to be contended for by a Russian prince, Hungarian noble, or a Chinese mandarin, where they have reached the incredible price of forty or fifty pounds. The London public were amazed at the large prices attached to these skins at the Great Exhibition. With their proneness to nigritism the red fox abounds in our Province; they keep cover by day, hunting at night. When seen on the open by daylight, he exhibits every mark of caution, stopping, snuffing the air, crouching down, glancing on every side, then advancing, waving his tail from side to side. By-times again he allows an approach without the slightest fear. A young girl coming down the Granville Mountain captured a fox on the road, tied its legs with her garters, put it into her basket and fetched it home. I know another to have been stalked in open day and shot, without the slightest precaution. Doubtless it was this habit in the fox that caused the ancients to say he was affected by epilepsy.

He is a bitter and untiring thief, taking the goose from her nest one night and returning for the eggs the next. He is accused of killing lambs, and justly, as I have known him to have been seen pursuing sheep with full cry and breast erect like a hound. When these imported dainties are not within his reach he contents himself with wild eggs, small birds, hares, mice, and even shell fish and fresh water clams, as the margins of our inland streams quartered up in every direction by his tracks attest. Between two or three thousand skins are annually exported still, though their numbers are sadly diminishing. The red fox skins of Prince Edward Island,

compare favourably with those of Digby County. The beauty and lustre of their skins, either red or black, with their noble brush, relieved by its snowy tip, must be our apology for hoping, notwithstanding he is the prince of vermin thieves, that the day is far off when he will be extinct in our pine-fir covers, or that a mandarin may not expend his fifty guineas to gratify his semi-barbarous tastes.

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NOTE.—As this article is passing through the press, Capt. HARDY has given me a bat which from its inter-femoral membrane I think may be *V. evotis*. This will then give us three species.

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ART. II. ON PROVINCIAL ACCLIMATIZATION. BY CAPT. HARDY,  
R. A.

[Read December 5, 1864.]

THE very recent and ambiguous term, Acclimatization, implying the subjugation and domestication of wild races of animals; the transplanting of the useful or ornamental amongst nature's gifts in the animal or vegetable kingdoms, between various portions of the globe, for man's benefit; and the hybridization of species,—means but a continuation of the ceaseless efforts of civilized man to utilise and improve all things that were in the beginning created for his use, and placed under his dominion for that express purpose.

Accordingly we find that, in the most important branch of this wide field of experimental research—the domestication of animals,—nearly all the useful beasts, either of burden or for food, and in the various spheres most suitable to their existence in such a subordinate condition, have been thus turned to account from the remotest antiquity. In this branch, mediæval and even modern ages have witnessed no important additions to the classes of animals referred to, although the transplanting and interchange of species has taken place from time to time, and various breeds improved by crossing with foreign varieties. And so for a long time the civilized world rested on the successful, perhaps long-continued efforts of past ages, apparently content with its beasts of burden, its easily reared and fattened cattle, sheep and swine, its domestic poultry of ancient pedigree, and with the indigenous luxuries afforded by the game and