

Essay Descriptive of the Quadrupeds of British North America  
Charles Fothergill 1830  
Hand-written Manuscript, Unpublished

Introduction:

The Montreal Natural History Society (MNHS) was founded in Montreal in 1827. At its founding the MNHS was the first important natural history society in Canada. The founding Council was interested in furthering the study of natural history in Canada and in the Montreal area which was then one of Canada's largest and fastest growing cities. By 1830 the MNHS had 25 honorary members, 93 ordinary members and 70 corresponding members, 48 in Canada, and 32 in America and Europe. By the late 1820s the Society had formed the largest natural history museum in Canada. It also called for essays on original Canadian natural history research for which they offered a Silver Medal. The first essay topic they chose was the Quadrupeds of Canada.

Charles Fothergill's paper which he entitled *Essay Descriptive of the Quadrupeds of British North America* was awarded the Society's first Silver Medal in 1830. The original hand-written copy of *Quadrupeds* was never published. Eventually the MNHS copy of the manuscript was donated to the Blacker-Wood Library of Ornithology at McGill University. A microfilm copy was made for the Thomas Fisher Rare Book Library (TFRBL) at the University of Toronto. The Fisher Library holds virtually all the original unpublished Charles Fothergill materials in its Manuscript Collection #140. Charles Fothergill's own copy of *Quadrupeds* has never been found.

The Montreal Natural History Society did not publish any papers written and submitted in the early years of its existence. As a result Fothergill's *Quadrupeds* remained unknown to naturalists during the 1840s and 1850s, the foundation years for Canadian and American natural history institutions.

*Quadrupeds* forms only a part of the mammal writings of Charles Fothergill. Fothergill emigrated to Canada from England in 1816, and settled in southern Ontario in 1817. He set down in his many unpublished manuscripts extensive notes on the birds, mammals, herps and plants of his adopted country. Unfortunately, on his death in 1840, his manuscripts and artwork on natural history were divided among family members and lost from public view. They were unknown to the key young Toronto-born naturalist and ornithologist, William Allan, and to the newly-arrived English immigrant naturalists and ornithologists who founded Toronto's natural history museums in the late 1840s and early 1850s.

Most of Fothergill's *Quadrupeds* relates to wild animals. Perhaps a fifth of the manuscript contains passages on domestic animals including horses, sheep, oxen, goats and dogs which likely hold little interest to contemporary Canadian naturalists. When reading Fothergill's species accounts readers will see considerable speculation about the validity of the species and lack of knowledge of their ranges. This is a product of the knowledge of mammals at that time and the fact that Fothergill did not travel outside of southern Ontario. To complete his work he relied

extensively on his contacts with many prominent men known to him in Upper and Lower Canada. He also relied on personal discussions with contemporary explorers, hunters and fur traders. Some of his sources supplied him with information which was inaccurate or erroneous. One must see *Quadrupeds* as a time-pieced, what one educated naturalist, working in the relative isolation of Toronto, knew about the mammals of Canada.

I have transcribed *Quadrupeds* in its entirety, verbatim, with no editorial changes except to occasionally provide slightly better sentence structure, and introduce occasional paragraphs to improve the flow of the text. There are some instances where I have not been able to decipher Fothergill's words or may have misunderstood his meaning. In a few places readers will find [ ] where I have indicated the words are unclear or missing. In these cases I am of course entirely responsible for any errors in the transcription. Readers will notice numbers at the beginning of sections of text. These refer to the original page numbers which in the Fothergill manuscript appear at the bottom of the page. Page numbers have been added for those who may want to examine the hand-written version.

In a second paper I have combined Fothergill's writings on wild animals in *Quadrupeds* with all of his many interesting mammal writings from his Clendenan (TFRBL 140:25) and MacGillivray (TFRBL 140:20) manuscripts. This work forms a separate volume entitled *Mammals of Canada 1840* found elsewhere under Fothergill on this website. These amalgamated Fothergill mammal writings are compiled under each species and placed in modern taxonomic order in the same manner. A third paper, a companion volume, prepared in the same manner as the preceding, combining all of Fothergill's ornithological writings entitled *Birds of Upper Canada 1840* will also be found under Fothergill on this website.

Fothergill's mammal writings are an important component of early Canadian natural history next in importance to John Richardson's *Fauna Boreali Americana, Volume One: Zoology* (1829) and a scientific article by Anthony Gapper *Observations on the Quadrupeds found in the district of Upper Canada extending between York and Lake Simcoe, with the view of illustrating their geographical distribution, as well as describing some Species hitherto unnoticed.* in the *Zoological Journal of London.*(1830)

Fothergill did not provide a proper Table of Contents or Index for *Quadrupeds*. To provide better access to this volume I have created both. The Table of Contents, which shows the families of mammals in order of presentation, is immediately here under. I also include a detailed Index, based on the Table, to provide easier access to individual species accounts. This will be found at the end.

Jeff Harrison  
Montreal  
2020

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Essay  
Descriptive of the Quadrupeds of  
British North America  
with Their Generic and specific character and modes of life and the uses to which they can be applied

By Charles Fothergill Esq.

“A patient pursuit of facts and a cautious combination and comparison of them, is the drudgery to which man is subjected by his Maker, if he wishes to attain sure knowledge.”

1830

To the Members of the Natural History Society of Montreal

Gentlemen

Conformable to public notice, I have given the title proposed by your Society, to this Essay, although more comprehensive, perhaps, than the contents of the following pages will be found to justify — To perform all that is implied by the title would require, indeed, a much more serious labour than it is present in my power to bestow; and, if a choice had been mine, I should have preferred the less responsible cognomen of “A Descriptive Catalogue of the Quadrupeds of British North America” — : however such as it is, I have great pleasure in laying this Essay before the Society; not so much from the hope of approval, as for the opportunity it gives me in congratulating the Members upon their institution and the progress they have already made towards elucidating the Natural History of the Country as yet but little known to the natural philosophers and literati of Europe —

When I state that from infancy I have been strongly attracted to the pursuits which are now so liberally and effectually fostered by your Society, and that I have been for more than thirty years engaged in clearing up doubtful points in the Natural History of the British Empire; and, further, that it is chiefly with this view I came to the Canadas, as an extensive and important part of that great and glorious dominion; it may be readily imagined how delighted I was to find that such a Society was formed —

If I have been backward in hailing its institution some tribute of respect, before this time, I can only plead the want of leisure and opportunity, and a diffidence as to what in my power might be most acceptable —

This little Essay, such as it is, is my first, but, should it be approved I hope not my last, offering; and, in the earnest hope that the Society will flourish to the utmost extent of all our wishes, and be the means of discovery and bringing to light some of the immense treasures of Nature, in all her three Kingdoms: Animal, Vegetable and Mineral, which are doubtably to be found in her great store-house upon this continent — and particularly in the Canadas.

I have the honor to subscribe myself the Society’s obliged and most obedient humble servant.

The Author

Ontario Cottage U.C.

Feb’y 1, 1830

## 5 Preliminary Remarks

British North America, in its most extended limits, from the eastern shores of Newfoundland and Labrador on the Atlantic, to the Columbia River on the Pacific; and, from Point of Pelee on Lake Erie to the Polar Seas; is more extensive than all Europe; and, contains every description of soil and scenery, if not climate;— with its woods and mountains, its vallies and plains; — rocks, seas, lakes and rivers immeasurable, so vast a region may be readily supposed adequate to the sustenance of great variety of living creatures; and, to enumerate as many Quadrupeds as are to be found in either of the more ancient and better known quarters of the globe; — but, whether equally valuable to civilized man, time and further observation and experiment must determine. The fur yielding animals, the sable alone, perhaps excepted, are unquestionably superior; and, those have given rise to an extensive and very lucrative branch of commerce. I know not, indeed, that we ought to except the Sable, since our shores and larger rivers on the Pacific give us the Sea Otter, whose fur exceeds in fineness, richness and costliness, that of all others —

6 As I do not understand it to have been within the intention of the Society to treat the Extinct Animals, or of those supposed to be extinct, in the Essay for which the honorary medal has been proposed — I have not included them in the following catalogue, although there are many reasons for supposing that some of the animals attributed by Cuvier, and others, to a former world, exist in the northern, or northwestern, and unexplored regions of this continent. Of these the Mammoth, and Great Elk of the Antediluvian World are the more interesting, and whose actual existence all enthusiasts in the pursuits of Natural History are still unwilling wholly to disbelieve. As these subjects may hereafter occupy the attention of the Society in a manner most satisfactory. I may be excused for hinting, on the present occasion, at the most likely region in the known world for successful results to such an inquiry; — and that region is undoubtedly our northwestern territory on this continent — ; a region much less known than the northern parts of Europe and Asia which have been hitherto conjectured as the scenes where those stupendous creatures moved, when in life; and where their skeletons, some of them clothed with flesh, and even wit hair, have been found.

7 Indian traditions and rumours are as yet strong and lively as to the actual existence of the Mammoth; though it must be confessed some of the supposed strongest indications have been found to originate from another cause; these are the enormously large tracks sometimes observed on the partially frozen surface of the snow, far away in the north-west towards the Rocky Mountains, and which are now known to be occasioned by the Grizzly Bear — whose foot is very large not infrequently being found nearly twelve inches long, by nine or ten inches wide. When this huge and ferocious animal treads on the glassy surface of the particularly frozen snow or ice, that is incapable of sustaining his weight, he breaks down the surrounding incrustation to a considerable extent, leaving an impression quite sufficient to induce the supposition that an animal of much larger bulk had passed that way. These tracks have frequently been attributed to the Mammoth by our Indians in the interior, which have, however, many other proofs to adduce for the existence of that vast quadruped. It is not long since, indeed, that a letter dated Prairie du Chien, and which was published in many of the American Newspapers, actually announced his appearance not far from a stream called the New-wood River, which empties into St. Peters.

8 From the gentleman connected with the Hudson's Bay, and North-west, company, resident in Montreal; and by holding out these facilities, reward and honours which it is within the powers of the Society to bestow, much light may be thrown upon these , at present dark and highly interesting subjects. — and, should the Society, even after a long series of years, do nothing more than to give Zoology, the living Mammoth and the Antediluvian Elk, and perhaps the huge Megatherium; and to Agricultural Manufactures and Commerce, the domesticated Bison, and Big-horned Sheep of the Rocky Mountains — all of which (the two last being quite practicable) it may be possible for ought that is known, to do; — should the Society. I say, accomplish these things, alone, it would be rendered justly famous throughout the world.

As to the Antediluvian Elk I am not ashamed to confess that to search for it was one of my objects in visiting the portion of our empire, being satisfied that it is here, We have the best chance of discovering it in a living state. Hitherto it has been found only as a fossil, and chiefly in the bogs of Ireland though it has been occasionally dug up in England, France, and Germany; — and during my sojournment in the Isle of Man, I had the good fortune to see a very perfect specimen that was discovered in a marble-pit near Kirk-Michael in that Island.

9 At first only the head appeared, but afterwards, the entire skeleton, though in detached parts, was found, and, in such a position as to show that the animal had perished in the act of swimming. This specimen was so fine and perfect, and, comparatively so recent, as to be scarcely fossilized. Of its skull and horns I made an exact drawing, with the measurements of its various parts; — and as the figure given in the Philosophical Transactions, and even that which is engraven in a splendid work of Cuvier, as well as every other representation of this majestic species, that I have seen, is extremely inaccurate, and, as it may facilitate and further designs which the Society may entertain towards a discovery of the living specimen, I beg leave to present its members with a pencil sketch taken from my drawing, although it is to be engraven for my “Memoirs of the Natural History of the British Empire” now preparing for press. The sketch is sufficiently accurate and will accompany this Essay. Larger specimens, some of them to the extent of fourteen feet from tip to tip, between the horns, have been discovered in Ireland. (See Wright’s Louthiana) but I have neither seen, nor heard, of any more perfect than those of which I now send the drawing.

In a work that was published towards the latter end of the 17<sup>th</sup> century

10 (the exact date I forget, having lost my copy, but I think it was the year 1661, and the book was a small one with wooden cuts) and entitled: — “New England Rarities” - a species of Deer is described as inhabiting the eastern States of what is now the Union, that was twelve feet high! If so superb an animal ever had existence in the New England States. We are at least not far from the country where we ought to look for it, and we must allow that it is only animal of some such dimensions that could be able to support horns so great a magnitude as those now alluded to — horns that might sweep the entire breadth of a common turnpike road of all opponents. It is true the eminent Cuvier tells us — “there is very little chance indeed of our ever finding alive those which have only been seen in a fossil state: — (in his Theory of the Earth); and Professor Jamieson, his commentator, further says of the last Elk we are alluding to, — “it is most certainly a different species from any of those that at present live on the earth’s surface, and may therefore be considered extinct” — But I say let “*nie desperandum*” be our motto. We ought not to despair seeing this superb Cervus in propria persona. Wright says they were destroyed in Ireland, by a “pestilential murrain” but he gives us no proofs and a similar cause has been adduced for their extermination in Lapland.

11 We know, indeed, that all deer are subject to a contagious disorder which has been termed a murrain, and the deer in question may have been so cut off in Europe, but it does not follow that the whole race has been so exterminated in America; and, if there is any truth in the existence of the uncommonly large deer of “New England’s Rarities” or that mentioned in Charlevoix’s “diverting tradition” as he calls it (see p. 199 Vol. 1, of this work on Canada) which is described as being so Great and Elk, that in comparison with him all others are “as pismires” these may be taken as suggestions of the actual existence of an enormous Deer upon this continent too imposing, in conjunction with other facts, to be hastily relinquished, especially as Indian reports and traditions are seldom without some truth for their foundation. The nearest approach in size, perhaps, to the animal looked for, is the Wapati Deer of this Essay, which, at first sight, I really thought was the long sought Elk of Ireland, particularly as the specimens I saw, although still very young, had gained the height of nearly 15 hands, or 5 feet, with proportionate height, giving he magnitude, strength, and appearance of ordinary-sized horses, they had great muscular power, and were quite capable of wielding horns of unusual magnitude.

Something must now be said of the classification, order and arrangement

12 adopted in this Essay. Buffon was apt to ridicule his celebrated and more scientific rival, Linnaeus, for what he thought was too close an adherence to arbitrary rules and distinctions, in the science which has been so essentially advanced by their respectively labours; and, as being always pedantic and sometimes ridiculous. But notwithstanding the censure of the eloquent naturalist of France the world has done ample justice to the accurate Swede, whose merits stand on a foundation as durable as will be that of all literature and science.

Neither of these men, however, are without great and glaring faults; many of which have been pointed out from time to time by other naturalists who have improved on their systems. To say nothing of Ray, our countryman, who preceded them, and whose merit was very great, we have had Pennant whose distribution of Quadrupeds, in particular, I think greatly preferable to the arrangement of any other writer; and I have, therefore, for the greater part pursued his method, by adopting his four divisions of hooted, digitated, pinneated and winged quadrupeds.

I Those that are either whole hoofed, or that are cloven-hoofed; —but the horse only has a hoof of one entire piece.

Generic Enumeration

1. Horse
2. Ox
3. Sheep
4. Goat
5. Antelope, or stag
6. Hog

13

- II Those which have but divided into toes, and are classed in sections according to their different formations and propensities: — those that are rapacious have 6 or more cutting teeth in each jaw, with large canine teeth separated from them; — and those that are herbivores, or frugivores, and which have no canine teeth — and only 2 cutting teeth in each jaw

Generic Enumeration

- 7 Dog
- 8 Cat
- 9 Bear
- 10 Badger
- 11 Opossum
- 12 Weasel
- 13 Otter
- 14 Hare
- 15 Beaver
- 16 Porcupine
- 17 Marmot
- 18 Squirrel
- 19 Jerboa
- 20 Rat
- 21 Shrew
- 22 Mole
- 23 Hedgehog

- III Or, Pinneated, living chiefly in water, and preying partly on fish, and partly on herbage.

24. Walrus
25. Seal

- IV Winged, or the connecting link between quadrupeds and birds

26. Bat

14 I have taken the above twenty-six genera to illustrate the four divisions because they are all found in the British Dominions on this continent. So much of the Linnaean method, as appeared indispensable, is also adopted in the following pages, but no more for, as necessary to touch on the condition of the human aborigines of our Canadian forests, in this Essay (which is confined to Quadrupeds) I may with the greater propriety, reject the first Linnæan order (Primates) from these pages, and in this rejection I won I have much satisfaction because I am of opinion with those who consider it absurd to rank men, and bats, and whales, in the same order, merely because they are suckers of milk, when in a state of infancy; and, because otherwise they have some slight organic resemblances. As the natural and legitimate lord of creation we can have no objection to stand first on the list of animated beings; but, whilst there are elephants, and horses, and many other creatures highly gifted, as to their intellectual capacities, and general usefulness, and importance, in the scale of creation, it seems preposterous to give a flying mouse, or a fish

(no matter how large) the same rank with ourselves. I have therefore placed the Bats where I think they ought to be, and with the Cetacea, we have nothing to do in this Essay.

But whatever may have been the errors of the illustrious Swede if, indeed, errors they can be termed, they are not to be compared

15 with those fallen into by the fanciful, but eloquent Frenchman throughout his celebrated work; but no where more conspicuously, than in his comparison of animals common to both continents, of the old and new world. In his dissertation upon this subject, which teems with aspirations as unscientific as they are remote from truth, he says that all animals transported from Europe to America, including those that are domestic, as well as those that are force naturae, immediately become smaller and otherwise degenerate, summing up with these singularly vague and untrue, yet eloquent periods\*

\* What a different parallel between the Old and New Worlds has been drawn by his equally distinguished countryman, the Abbe Raynal!

“In the New World, therefore, there is some combination of elements and other physical causes, something that opposes the amplification of animated Nature: there are obstacles to the development, and perhaps the formation of large genus. Even those which, from the kindlier influences of another climate, have acquired their compleat form and expansion, shrink and diminish under a niggardly sky and an unprolific land, thinly peopled with wandering savages, who, instead of using this territory as a master, had no prosperity or empires and having subjected neither the animals nor the elements, nor conquered the seas, nor directed the motions of rivers, nor cultivated the earth, held only the first rank among animated beings, and existed as creatures of no consideration in Nature, a kind of weak automatons, incapable of improving

16 or seconding her intentions. She treated them like a step-mother rather than a parent by denying them the invigorating sentiments of love, and the strong desire to multiplying their species:.....”

(here follows a long tissue of absurdities) and then again,

“hence man makes no exception to what has been advanced. Nature, by denying him the faculty of love, has abused and constructed him more than any other animal. But before examining the causes of this general effect, it must be allowed that if Nature has diminished all the Quadrupeds in the New World, she seems to have cherished the reptile and enlarged the insect tribes ...”

One more specimen and I am done with Buffon’s famous dissertation on the animals common to both continents at least for the present.

“In these melancholy regions (of North America) nature remains concealed under her old garments and never exhibits herself in fresh attire; being neither cherished nor cultivated by man, she never opens her fruitful and beneficent womb. Here the earth never saw her surface adorned with those rich crops which demonstrate the fecundity, and constitute the opulence of polished natives. In this abandoned condition every thing languishes, corrupts, and proves abortive. The air and the earth overloaded wit humid and noxious vapours, are unable either to purify themselves or to profit by the influence of

17 the sun, who darts in vain his most enleavening rays upon the frigid mass, which is not in a condition to make suitable returns to his ardure. Its flowers are limited to the production of moist places, reptiles and insects, can afford nourishment only to cold men and feeble animals”

What can be more unphilosophical and absurd!

Thee assertions have been ably rebutted in that clever, sensible, philosophical and now scarce little work entitled “Notes on Virginia” by Thos Jefferson, formerly President of the United States, and I should scarcely have noticed them in this place, had it not been necessary to notice, and abut, them, still further, in various passages of this Essay. After all that has been said of the foibles of he greatest of French Naturalists, however, we must all agree, with Jefferson, that he who could thus speak, is entitled to impartial honor. — “J’aime autant une personne qui m’apprend

une verite, parce qu'en effect, une erreur corrigee est une verite.”

And so spoke Buffon!

Fearing to go beyond the limits of what should be prescribed upon an occasion like the present, I must hasten to solicit the indulgence of the Society

18 in respect o the manner, brevity, and style of the Essay now submitted for your approval. After some debate with myself, as to the general plan, I decided it best to follow the outlines of a small work on British Birds published by myself for the use of Museums, and Collectors of Subjects in Natural History, more than thirty years ago; because that arrangement had been approved by those best qualified to judge, and had now the test of experience; besides, it is one that can be readily enlarged upon at any future period, by those who may have the necessary inclination, leisure, and opportunity. Had more time been at my own command, at the present juncture, I could certainly have rendered this work much more perfect and comprehensive than it is. But, with large concerns pressing upon me, and demanding my constant and unwearied application, to say nothing of the serious legislative duties which at the present moment I have to perform, I have found it no small matter to steal a sufficient number of hours (and those chiefly in the night) from other duties, to throw together, and arrange, the contents of these pages; which, such as they are, I humbly present to the Montreal Natural History Society, as an unworthy but a very sincere offering; and so far from being chagrined, or disappointed, by any want of success this hasty production

19 may experience, in the full consciousness that it might have been rendered far more worthy of their acceptance. I shall rejoice to hear that a more successful candidate has been found.

“Viva, vale: si quid novisti rectus istis, Candidus inparti; si non, hist utere mecum.”

[Editorial Note: Pages 19 and 20 are blank]

## An Essay Descriptive of the Quadrupeds of British North America

## Class Mammalia

## Division I

Comprehending those that are either whole-hoofed: but the horse only as a hoof of one entire piece

## Order I Belluce

Having obtuse front teeth in both jaws. Feet armed with hoofs that are entire in some species, and sub-divided in others. The greater part subsist on vegetables.

## Genus I Equus

## Generic Characteristics

Those that are either whole hoofed, or that are cloven-hoofed; — but the horse only has a hoof of one entire piece.

## Species

- |    |                |                        |
|----|----------------|------------------------|
| 1. | Equus Caballus | improved Arabian horse |
| 2. | Equus Asiinus  | the ass                |
| 3. | Equus Mulus    | the Mule               |

## 1. Of the Horse

Well is this noble animal entitled to the first place in our catalogue of animals; magnanimous, generous, brave, affectionate and without a single bad quality unless it is such as may have been incident to an erroneous education, he is of the first utility to man, and is capable of the most extraordinary executions, both as to space? And strength and endurance, and he is alike serviceable in peace and war.

The horses of Canada have not descended from the same original stock but may be divided into two distinct families. Those of the Lower Province have been derived chiefly from the original French stock brought into the country at its first settlement, more than two hundred years ago. Although these may be considered as more ponies, seldom exceeding 14 hands high, they are large horses in a small company, being what is termed square-built, or broad sett, very strong, active hardy and particularly excellent in harness. After no small experience of their worth, I can say it is my belief that, for their size, they are the best horses in the north and east, I am very sure they are surprising for all useful purposes, to our best Scotch and Welsh ponies, which have been so justly esteemed in Europe.

The horses of Upper Canada have been imported chiefly from the

23 United States and are of larger growth than those of the Lower Provinces. These do not appear to be in any wise inferior to the stock from which they have sprung. I have now a Stallion in my stud (American-bred) that would be deemed a superior horse, even in Yorkshire.

To those who may also a third race of horses; which are those of the plains, most of our Great Lakes and of the head waters of the Mississippi, and which are of Spanish origin, coming into the interior by the way of Mexico, and the isthmuse of Darien. They are light and agile, of great bottom, and extraordinary ?. The Indians of the plains, and some of those who dwell amidst the Rocky Mountains have large herds of them and are very determined in their

management. These horses have not been found further to the north than 54 degrees of latitude.

As the horse was originally a native of a warm climate (Arabia) and he is naturally averse to lows and wet grounds, or to any great degree of moisture, the climate of America, being generally dry, and in other respects favourable to his constitution, has proved propitious to breed of excellent horses, and

24 it may be doubted whether there are better horses, either for speed or bottom, in any part of the world. But this circumstance cannot be surprising when it is considered so that some of our very best English Race horses have been imported, at various times, into that country. First Jason, one of the most famous sons of the renowned Goodolphin Arabian, then Shar who won more money upon the turf than any other horse of his time, then Grey Diamed, once the property of his present Majesty, when Prince of Wales, then Phenomenon, and a host of others of nearly equal celebrity were imported, in succession, from England into Virginia, and other part of the Union at a vast expense serving in the end to raise the character of American Race Horses nearly, if not entirely, to a level with those of England.

AS to the ponies of Lower Canada they daily perform feats of strength and bottom that would scarcely be credited at a distance. Horses from 13 to 14 hands high may be seen not infrequently drawing from 1500 lbs to a ton weight up the precipitous Mountain Street at Quebec, and all strangers who attend at the wharves of that city and at those of Montreal, are struck with wonder at witnessing the performances of these extraordinary animals. Once upon an occasion of necessity I drove a small Canadian only that was barely 13 hands high and no more than three years old on a four wheeler-wagon containing luggage

25 to the weight of 600 lbs besides the driver through the worst roads I ever beheld the distance of 115 miles in something less than 22 hours, including stoppages and the delay that was occasioned by twice breaking down and I had the Sporting magazine of London can boast of no feat equal to this!!

I should have the pleasure in enlarging upon this subject, which is of great, indeed of national importance were the occasion fitting but I must now only add that these horses are highly valued in our West India Islands, and, that a very lucrative barter trade with them might be opened in that quarter.

By an actual assessment in Upper Canada, and from the best comparison that can be made in Lower Canada the number of horses now in both provinces amounts to about one hundred and ten thousand, of which Thirty-five thousand are in the Upper Province.

## 2.. Of the Ass

Asses are of rare occurrence in the Canadas. A few may be seen occasionally about Montreal and Quebec, but after a residence of nearly fifteen years I have never, by any chance, seen one in the Upper Province.

26

## 3. Of the Mule

The mule s also of infrequent occurrence in the British Provinces on this continent and it is not probable that either the ass or mule will ever be in much request in a country as lightly favourable to an excellent breed of horses.

It has been thought unnecessary to say anything of the specific characters and uses of animals so well known as those just enumerated.

Genus II            Bos\*

The Ox

Characteristics

Eight teeth in the lower jaw, none in the upper but in lieu thereof a callous membrane. Horns hollow and curved equally forward and upward. Ears large and flexible. Head and neck very powerful. Dew-lapped. Four mammae. Feet hoofed and divided or cloven. Chewing the cud is a striking characteristic of the ruminating family, but its characters are determined by the horns and teeth. The habits are essentially herbivorous.

\* This genus belongs to the Linnaean order of Pecora but is here ranked next to the horse from its being next in the scale of importance to man.

Species

- |    |     |           |                             |
|----|-----|-----------|-----------------------------|
| 1. | Bos | Taurus    | Domestic Bull               |
| 2. | Bos | Bonassus  | The Bison                   |
| 3. | Bos | Moschatus | Musk Oxen or the Musk Bison |

27

1. Of the Domestic Bull  
Bos Taurus

Every useful variety of this valuable quadruped has been imported from time to time into the United States both from Great Britain and Holland and from France into our Colonies. A few indeed have been brought direct from England, Scotland and Ireland and in no part of the world can they succeed better than in the Canadas provided a sufficient degree of skill is used in crossing the various breeds according to what may be required whether for the dairy, or for the grazing farm; and that sufficient care is taken to obviate the effects of our long winters. Some well-experienced dairymen from Cheshire who have lately arrived have selected their entire satisfaction not only with the soil and climate of that part of the Upper Provinces of Canada where they have settled (the Newcastle District) but also with the breed of cattle they have found observing that they can make as good cheese here as in any part of their native country in England!

All this is highly gratifying and when it is stated which can be done on the best authority that Bullocks of the self weight of from 2,000 to 2,500 lbs are not infrequently brought under the butcher's knife. Buffon's celebrated assertion alluded to in our preliminary remarks

28 that the domestic as well as the wild animals common to both the old and new continents degenerate in the latter and as he says "cela sans aucune exception" becomes what indeed it is an egregious error and an absurdity. Another of Buffon's erroneous assertions will be found in his asserting that the quadrupeds of America are comparatively few: whereas their number, I mean as to distinct species, will be found nearly equal to those of all the rest of the habitats in the Globe besides Buffon assumes the number of specifically distinct quadrupeds on the whole earth at about two hundred! This catalogue when is confined to those found within the British Possessions must exhibit a list of very nearly half that number without taking into consideration those that are fossils or which may have belonged to a former world and that many more remain to be discovered there can be little doubt.

Had the name of Buffon been of less authority than it is any allusion to his errors would have been avoided on the present occasion. But the more distinguished his character may stand as a naturalist the more necessary it is to remove the errors he may have fallen into.

While on the subject of Horned Cattle I may be excused for hinting that the old long-horned or Lancashire breed of Mulch-Cows will be found, on trial, more beneficial to Canadian Agriculturalists as being more hardy than the larger or short-horned breed.

## 2. Of the Bison Bos Bonasas

Although the Bison, of the interior (miss-named a Buffalo by the first European travelers and hunters on this continent) appears to differ in many particulars from the true Bonasas, or Bonasus of the ancients; if we may judge from the head that a figured by Gesner and by the description sent to that diligent naturalist by his learned friend Dr Say. Yet upon the whole it seems more nearly to resemble the animals described by Aristotle and Pliny and others under that name, than any other with which we are acquainted. I have therefore ventured to retain it in preference to many others of the synonyms of modern authors and perhaps hereafter I may be able to prove it to be the same animal altered only by accidental circumstances and that it is not specifically distinct.

The essential or specific characters of the American Bison are Horns, round, thick and wide at the base, directed at first laterally, from the sides of the head and then upwards, tapering rapidly to very sharp points, Head short, broad and thick, with fiery eyes, a large beard, and most ferocious aspect. His head, neck, shoulders and superior parts are clothed within a thick shaggy mane. His withers are high and projecting and his shoulders are very capacious, powerful and elevated. His back is arched and fleshy, forming a sort of hunch, highly prized by the Indians as an article of food. He is

30 deep and rather flat-sided, with short legs, his hinder parts are light and his tail short. He is formed rather for strength than speed, although very agile.

He is an animal of vast stature and of corresponding strength, from 5 feet to 5 feet 6 and even 5 feet nine inches high at the withers; and from 7 feet 9 inches even to 9 feet long; and everything more than 2,000 pounds; being so uncommon magnitude for the bulls of this species to attain. In the Fauna Americana it is stated that the largest weigh from 1,600 to 2,000 lbs, but instances have been known to their weighing no less than 3,00- lbs.

He is not naturally of a ferocious disposition but rather the contrary, avoiding the face of man and all the more sanguinary animals of the desert?; but when wounded or attacked in the rutting season he is most desperate and it is not then safe to meet his encounter. Their senses of hearing of sight and of smelling are all acute and their attachments are particularly strong.

No wild animal on this continent could be reclaimed with greater advantages to civilized man than the Bison. His vast strength enables him, on his single person, to accomplish more in the plough, or the draft, than the stouter pair of Oxen. This has been fully proven by experiments made in the neighborhood of Cincinnati, on the Ohio. He mingled readily with the common domestic breeds of horned cattle and his flesh as beef is not of the inferior quality. It is said that

31 this animal does not now exist in a wild state to the eastward of the Mississippi. But on the plains of the west to the feet of the Rocky Mountains and far into the regions of the north and north west Bisons are found in perfect regularity [ ] extending over the plains in vast herds as far as the eye could reach. It would not be a difficult matter therefore through an Indian agency to obtain as many of the young calves at the proper season as might be necessary to try the experiment of domestication on a broad and satisfactory scale; and, should the Society hereafter turn their attention this way, there is no doubt but an important or valuable and a lasting benefit would be conferred on the country.

## 3. Of the Musk-Ox Bos Moschatus

Following Blaisville, Dr. Harland has removed this species, in his Fauna Americana to a new genus under the name of Avibos, though I must confess without apparent reason, at least in my judgment. I have therefore retained the order nomenclature thinking it by no means advisable, in any point of view to multiply genera and species unnecessarily. The fewer the distinctions the greater the simplicity, and simplicity is, or ought to be, the soul of science.

Pennant, Gmellin, Shaw and Cuvier

32 have all considered this animal as Bos, and the trifling similarities which it has to the genus Ovis do not seem of sufficient importance to write the families. The animal, wolf, being of rare occurrence further south than the 65th degree of North Latitude seldom comes under the notice of zoologists but a most excellent description, together with ample particulars of its habits and manners will be found in Hearne's account of his journey to the mouth of the Coppermine River and it is probable that some further light may be thrown upon its natural history in Dr. Richardson's "Fauna Boreali Americana" a work I have not yet seen; but I am scarcely imagine a more ample or satisfactory account can be given of this animal than that which is contained in Hearne's book.

It might prove of service to the interests of agriculture, manufactures and commerce could some experiments be made on the long wool and hair of the singular quadruped to show how far it might be rendered valuable in a national point of view in situations for to the north where animals of the less hardy constitution would be unable to support existence. The musky flavour of the flesh is occasioned by a species of moss or lichen on which it feeds amongst the rocks and mountains that are its favourite haunts, and amongst which it roams in herds of twenty or thirty and sometime more, even to the borders of the Polar Sea.

33 The specific characteristics of the Bos Moschatus are a horny large in proportion to the size of the animal, united at their base, on the top of the head then falling down the sides of the face and turning suddenly upwards at the points. Ears short eyes small and remote from each other and from the nose, which certainly more nearly resembles that of the sheep than the muzzle of an ox. It may be said to be without a muzzle, mouth small, lips thick. Body deep and much elongated, covered all over with long black hair having a soft wool underneath of a fine ash colour that is equal in quality to the finest wool of Shetland and may hereafter prove serviceable in our manufactures. The legs are short and strong, the hooves larger before than behind, very strong and hard, the points converging towards each other and enabling the creature to hold a firm footing on the pointed rocks amongst which it springs and runs with surprising agility. The tail is short, and not easily discerned at a distance. The size of the animal is that of an ordinary cow.

Although the adults are scarcely fit for the table, the young calves afford a delicate food for man and there is no doubt that the place has been hitherto undervalued. It is altogether a most curious and interesting animal, well deserving the attention of the Society.

34

Genus III                      Ovis

The Sheep

Belonging to the order Pecora

Character of the Order

Furnished with several front teeth that are blunt and wedge-shaped, they have no front teeth in the upper jaw, and their feet have cloven hoofs. They have four stomachs, chew the cud, or ruminates, and feed entirely on vegetables.

Genetic Characteristics

Eight front teeth in the under jaw, no canine teeth. Facial fine usually crooked and without a muzzle. Horns concave, angular, wrinkled and commonly turned backwards. All the species are covered with wool and in some the wool is mixed with long hairs variously twisted and interwoven. Legs slender, feet hooved and pointed. They are herbivorous and granivorous.

- |    |              |   |
|----|--------------|---|
| 1. | Ovis Aries   | Common Sheep and its varieties                                  |
| 2. | Ovis Ammon   | Mufflon; Argalo; Ibex; or Big Horn Sheep of the Rocky Mountains |
| 3. | Ovis Montana | The Silky haired goat of the Rocky Mountains                    |

## 1. Of the Common Sheep and its varieties

It cannot be necessary in a brief essay of this kind to say much on the value and importance of an animal so well known as the common sheep. At the same time however it may not be unimportant to seize this opportunity to remark that none of our domestic animals in the British Colonies require more improvement than the breed of sheep that has been introduced through mistaken notions amongst us.

There were but few of these valuable creatures in the Canadas when the rage for introducing the Merino breed into the United States became epidemic and extended to this country. It is true the wool of the Merino sheep is particularly fine, but when that is said, all is said, as to the value of the breed, to the farmer, and also to the consumer in these colonies our fine woolens will, for many years to come be imported as they ought to be, from the mother country and as wool is not one of our articles of import, nor likely soon if ever to be, the quality of the wool of our domestic sheep here is an inferior object of consideration to a fine form, having carcae, quick feeder and a better subject for the butcher's knife. The Merino ever was and still is, an ugly, ill-conditioned, mis-shapened, hardly-grazing animal.

36 and subject to more diseases than any other breed. Fortunately for us our climate and soil are particularly favourable to the health and good condition of sheep, and many of their diseases, so fatal in England especially the foot-rot and scab are nearly, if not altogether, unknown in this country. These favorable circumstances ought to make us more assiduous and attentive to a class of animals so extremely valuable in our domestic economy.

We have but few of the varieties so highly esteemed in England, in this country none of the New Leicester (except two or three important last summer) and none of the Improved Cheviot, which last in particular, I believe would prove an invaluable acquisition to our agricultural interests. It is a handsomely formed, long-bodied, short-legged, heavily carcased, quickly feeding animal, with a heavy fleece and long staple, which would much better suit our little domestic manufactures, here, than the light, fine, matter wool of the Merino. But neither the time, nor the occasion, is fitting for us to say more on this subject at present. Nevertheless it is of sufficient importance to merit the future consideration of the Society.

37

## 2. Otis Ammon

The Mufflon, Argali; Ibex or Big Horn Sheep of the Rocky Mountains and

Ovis Montana

The Silky-haired Goat of the Rocky Mountains

I must crave the liberty of coupling these two rare animals together, in the remarks I have to make upon them, not because I consider them of the same species, but because there is much confusion respecting them amongst the authors who have attempted to describe their characteristics, habits, and manners. The truth is their haunts are so remote and inaccessible that few and those for the most part ill-qualified to judge, have had the necessary opportunities to determine their specific characteristics.

Only one single individual of the O. Montana has found the way to London and that is on the Museum belonging to the Linnaean Society. The A. Ammon, if it is admitted, as most writers agree to admit, that it is the same animal with the argali of the older Continents is better known, though it is still a rare and valuable quadruped. Some authors and those two of a just celebrity rank these animals some with the sheep, some with the goat and others with the antelopes family. It is on account of this uncertainty, and because

38 their affinities seem more nearly to approach the sheep than either the goat or the antelope, that I have thought it best, for the present, to treat of them under the head where they are found. As I am taking some pains to elucidate their natural history I hope, hereafter, to be able to throw some important lights on the subject.

The horns of the male A. Ammon, are of enormous growth. They are curved first backwards, the forwards, and then upwards, with the points turned somewhat outwards or to one side. They are triangular at the base and are deeply wrinkled for nearly half their length, then smooth. I have heard of a pair of these horns weighing nearly 80 pounds and more than 3 ½ feet long. The female too has horns but these are much smaller, more slender and more nearly resembling those of a common goat. Ears broad, pointed and straight. Tail short. Body covered with hair of a grayish fawn colour, during winter, with a fine down or wool underneath. It is from 4 to 5 feet long. Height 3 feet 6 inches, to 3 feet 9 inches. Wonderfully active and swift, hardly shy, pugnacious. Habitat the Rocky Mountains from their southern extremity on the confines of California as far north as that tremendous chain of granitic rocks have been explored.

The specific characters of the A. Montana may be thus drawn:

Horns black, annulated, curved backwards, short and conical. Body much elongated, although short on the leg. In size rather exceeding the common sheep

39 horns long and pointed. Tail short and curved upwards. The whole body is covered with long, white, silky hairs, having their base thickly beset with a down or wool of the most exquisite softness, superior as it is said in fineness to the wool of any known animal not excepting the famous giant of Cashmere.

This species is not found so far to the southward, although it inhabits the same range of mountains as the A. Ammon, but is common from the 50<sup>th</sup> to the 60<sup>th</sup> parallels of north latitude. It is particularly numerous about the upper forks of the Colombia River in our country and the Society could scarcely confer a greater boon on modern zoology and perhaps on our agriculture, manufactures and commerce than by using their influence in obtaining specimens living as well as dead through the agency of the North-west, and Hudson's Bay Company and their servants and it is scarcely to be doubted that successful results must follow.

#### Genus IV

#### Capra The Goat

40

##### 1. Common Goat

Eight incisor teeth in the lower jaw, more in the upper, no canine teeth. Horns compressed, wrinkled and directed upwards and outwards. Ears pointed and straight, body rather flat-sided and slender and covered with long hair, without wool. Tail short and recurved upwards. Legs short and strong. Chin furnished with ?. Found in all the 4 quarters of the Globe.

40

##### 1. Capra Hircus

##### Common Goat

Is an animal too well known to need any particular description in this place. Although a few individuals are scattered over most parts of the British North American Colonies. It is nowhere very numerous nor is much attention paid to it. Nevertheless there are many parts of Nova Scotia, New Brunswick and Lower Canada in all the barren, mountainous and rocky regions, indeed, of those provinces, where this breed ought to be cultivated with as much advantage to the lower orders of people as the inhabitants of many parts of Wales and Ireland derive from the same source. Young kids afford the most delicate food and their dams yield an abundance of sweet milk and wholesome cheese and this description of stock has the advantage of being maintained at little or no cost.

Genus V Cervus

The Deer or Stag

Of the order Pecora, already characterized

Generic Characters

Horn at first fleshy, acutely sensible, cartilaginous, and covered with soft hair as down, afterwards solid, brittle and more or less branched, rugged and in some species palmated. They are annually renewed. Eight large teeth in the under jaw, no canine teeth. Eyes clear, large, full, sparkling. Body straight, light, and flat-sided. Legs most delicately formed, light, but strong and nervous. Remarkable for having no fall bladder. All the species are herbivores, though some will destroy and devour snakes. They are timid, salacious, affectionate. In habit both the old and new worlds.

41

Species

1.	Cervus Alces	Moose Deer or Elk
2.	Cervus Elephas	The Stag or Red Deer
3.	Cervus Major	The Wapiti Deer
4.	Cervus Canadensis Major	The Caribou
5.	Cervus Canadensis Minor	Lesser Caribou
4.	Cervus Macrobis	Great Eared or Black-tailed Deer
5.	Cervus Tarandus	Rein-Deer
6.	Cervus Virginianus	Virginian Deer
7.	Cervus Antilocapra	Common Antelope
8.	Cervus Caprelous	Roe-Buck

So great is the confusion of authors in respect of the various species of this elegant genus that it would require a volume of no small dimensions to treat satisfactorily of this interesting family alone. I have paid a good deal of attention to the subject for the last fifteen years and am only sorry that I have at present neither time nor space in this brief essay to explain with the fullness I desire, the reasons which have induced me to arrange the above nomenclature in the manner I have done, but that it is more correct than any specification to be found in any single work, at present extant, I am pretty well satisfied time will show a few remarks will serve to determine the different species, in the above examination

42. at least so many of [them] are known to other writers by their synonyms. Of the first species, there is no doubt its characters and habitats are well known and all authors have agreed upon its scientific and trivial name. It is found in Newfoundland, Cape Breton, Nova Scotia, New Brunswick, Labrador, Hudson's Bay, and Lower Canada, but although occasionally seen in the colder parts of Upper Canada, it is, in that province, now a rare animal.

2. C. Elephas Stag or Red Deer

This is the C. Canadensis of Brisson, Linnaeus and Gmelin. The Cerf du Canada of Perrault and Warden. The staff of America of Catesby, the C. Major of Ord, and the Wapiti of Barton, Mitchell, Leach and Warden and also of Curvier. I have preferred the Latin name that has been given to the common stag or Red-Deer of Great Britain, and many other parts of Europe because I am satisfied that the Deer I mean under this name and many of which I have discovered in small herds in various parts of our colonies, here, is precisely the same animal with the C. Elephas of Europe.

### 3. C. Major The Wapiti Deer

This is the Deer I have alluded to in my preliminary remarks and which has never been satisfactorily described. That Dr. Harland supposes it to be the same animal with the last mentioned species, in his Fauna Americana is obvious by the synonyms he has given. But the true Wapiti which is a rare animal and favoured only in the remote and unfrequented deserts in the west, and north-west where it roams in small herds

43 and is accordingly shy and of difficult approach, is a much larger quadruped than the common Stag. It is indeed the largest known deer, next to the moose and his horns are essentially different from those of the common Stag, being palmated, more or less, in the upper branches which is a character unknown to the C. Elephas whose antlers are uniformly round and pointed.

### 4. C. Canadensis Major

By the name I mean the true Caribou, or common Deer of Canada, an animal often mentioned and sufficiently common since the days of the first travelers on this continent, yet, to this hour, never described with any degree of accuracy notwithstanding the scientific and judicious Jefferson in his Notes on Virginia, long since expressed his wish "that naturalists who are acquainted with the renowned Elk of Europe, and who may hereafter visit the northern parts of America, would examine well the animals called there, by the names of grey and black moose, caribou, original and Elk". Etc etc. (see his valuable little work on Virginia). I have given the name of Canadensis because it is the commonest Deer of Canada and added the term Major because all our Indians and hunters agree there are two kinds, one much larger than the other and with a specific difference in the ramifications and direction of the horns, Nothing can show how little has been understood on this subject than the confounding this species with the Reindeer, an animal altogether unknown in the southern or settled parts of Canada, whilst the Caribou almost every where abounds.

44 The horns of the Caribou furnish a very distinguishing characteristic differing materially from the antlers of the [ ] kind rising near together in front immediately over the eyes. The stem retires backward over and behind the ears as if to protect the neck, then recurving forwards they bend inwards so far over the face that the last projecting points or antlers are perpendicular over the nose. The old bucks have no less than twenty antlers or branches and sometimes more, forming a beautiful crown over the head and the stems of the horns are so conveniently curved that the animal can readily bring all the sharp points to bear at once upon its enemy. In the old bucks a slight degree of palmation may be observed in the upper branches. There after I shall give a more full and particular account of this species many of which I have kept alive.

### 5. C. Canadensis Minor or Lesser Caribou

This species is also common throughout Canada and differs chiefly in having shorter and thicker legs in never attaining the same stature in the smaller size of the ears, and tail and in having its horns less branched and flattened and with fewer antlers.

### 6. C. Macrotis or Large Eared or Black-tailed Deer

The ears of this species are very large, and covered with long hair and much rounded at the top. The tail is so long when hanging down as to reach nearly to the rock. It is black above and white below and around it and is a strikingly distinguishing characteristic

45 although most numerous on the plains of the interior and in the most unfrequented places. I have found this species even in the settled parts of Upper Canada, but not frequently.

### 7. C. Tarandus or Rein-Deer

AS I have already observed this species one of the most celebrated and remarkable of the family to which it belongs had been confounded with the Caribou by authors who ought to have known better. It is essentially different from

the Cariboo in having conspicuous brow-antlers on the horns on its entire form which is more heavy and clumsy and in the formation of its feet, which are broad, loose and spreading and comparatively flat whilst in the Cariboo the feet are high, narrow, firm, compact and very sharp-pointed. I very much doubt whether the rein-deer has ever been seen so low down as the northernmost shore of Lake Superior. It is so certain that the Cariboo has been mistaken for the true rein-deer that were it not for the testimony of some modern travelers of highly deserved consideration who have explored the Arctic regions belonging to the Crown of Great Britain on this continent and who say that the *C. Tarandus* is there found in the wild state. I should greatly doubt our having it at all. But of this I am well assured, it is nowhere found in the settled parts of British North America.

46

#### 8. *C. Virginianus* or Virginia Deer

This species, which is widely spread from Jame's Bay to Mexico approaches most nearly to the Fallow Deer of England than any other kind to be found in the colonies. It is the *Cervus* of Louisiane of Cuvier and has been well and often described.

#### 9. *C. Antilocapra* or Common Antelope

This animal is the link between the goat and the deer but having greater similitude to the last than the first. I have placed him amongst the cervi. His characters however are materially different. His horns, triangular and wrinkled transversely at the base rise in two prongs separating as they rise wider and wider inclining outwards and backwards at the extremities. About two thirds of their height is a short and sharp pointed antler projecting forward. His eyes are very large. Soft and full reddish brown in the back, white on the belly and inside of his legs and buttocks black on the sides, near the flank. Top of the head, cheeks, and lips white, face chestnut. There is also a white spot near the ear. He is a trifle larger than the roe-buck, being upward of three feet long from the ears to the root of the tail and nearly three feet high. He is airy, light agile and swift to a surprising degree and can outrun all the animals of the plains of the interior, where he is found as far as the feet of the Rock Mountains.

#### 10. *C. Capreolus* or Roe-Buck

The smallest and most rare of the family on

47 the continent. Notwithstanding what various travelers have asserted. I entertained many doubts, until the last two years that we really had the roe-buck amongst us but having heard much of a small deer by the report of the hunters to which they gave the name of Spike-Horn I became more particular in my inquiries and the result has been a conviction that the true *Capreolus* may be ranked amongst our Canadian Quadrupeds, although I have not yet obtained a perfect specimen I have a pair of very perfect horns, taken from the head of an adult of this species, killed in Saxony which may Indian hunter declares to be exactly similar to the species sometimes met with, though rarely in the remote hunting grounds in this province.

I have now gone hastily through the catalogue of this elegant and interesting family scarcely an individual of which is not serviceable to man, either as food or as contributing materials for clothing or for various kinds of domestic manufactures. Many of the larger species were formerly used, even in England and the draft and for agricultural purposes but such has been the increase of other animals better adapted for those purposes in modern time that we need scarcely call upon the deer of the forest to supply their place and it is probable in a few years many of the species [ ]

48

#### Genus VI *Sus*

The Hog

Belonging to the order *Belluce* already characterized

## Generic Character

Four cutting teeth in the upper and six in the lower jaw. The points standing forwards and converging. Two formidable tusks in each jaw those in the lower of greatest magnitude robust, triangular and standing outwards capable of inflicting the severest wounds. A long snout, prominent movable truncated. Feet armed with divided or cloven hoofs. The animal standing upon the extreme points

## Species

### 1. *Sus Scrofa* Domestic Hog

We have most of the varieties cultivated in Europe and these colonies are very favourable to their growth and improvement. In combating Buffon's theory Jefferson mentions a Hog in the United States that weighed 1,200 lbs and since his time I have heard of one at New York that weighed upwards of 2,000 lbs but the largest I have known this century did not exceed 800 lbs. As swine are suffered occasionally to run at large and acorns, nuts, berries, fruits and roots, their favourite food are all so abundant in our forests it is a little surprising we have not already had our Wild Boars as in Germany but this is an event we may scarcely look for. It is already the case in some of the Western States of the Union.

49

## An Essay

### Division II

48

As those which have feet divided into toes, and are classed in sections according to their different formations and propensities: — those that are rapacious have 6 or more cutting teeth in each jaw, with large canine teeth separated from them; — and those that are herbivores, or frugivores, and which have no canine teeth — and only 2 cutting teeth in each jaw

### Order III Fera

## Character

Having mostly 6 front teeth in the upper and under jaw somewhat conically shaped with sharp canine teeth on each side and grinders that terminate in pointed eminences. These have feet divided into toes that are armed with talons, so sharp crooked claws. Nearly all the animals in this order are rapacious and live principally on the flesh of other animals.

### Genus VIi *Canus* The Dog

## Generic Enumeration

Six front teeth in both jaws. Those on the sides are located and longer than the intermediate ones. Six grinders in the upper and seven grinders in the under jaw. Two dog teeth in each jaw one on each side and separated from the rest. These are strong curved and very sharp pointed.

50

## Species

- |    |                                  |                  |
|----|----------------------------------|------------------|
| 1. | <i>Canus Terra-novae reporti</i> | Newfoundland Dog |
| 2. | <i>Canus Indicus</i>             | Indian Dog       |
| 3. | <i>Canus Lupus</i>               | Common Wolf      |

4.	Canus Lycaon Major	Large Black Wolf
5.	Canus Lycaon Minor	Lesser Black Wolf
6.	Canus Latranus	Prairie Wolf
7.	Canus Nubilus	Dusky Wolf
8.	Canus Vulpes	Common Fox
9.	Canus Argentatus	Silver Grey Fox
10.	Canus Vulpes Niger	Black Fox
11.	Canus Vulpes Cruci-gera	Cross Fox
12.	Canus Vulpes Glacialis	Arctic or Icy Fox
13.	Canus Vulpes Griseus	Common Grey Fox
14.	Canus Vulpes Velox	Small Flying Fox of the Rocky Mountains
15.	Canis Vulpes Arcticus	Arctic or White Wolf

I find I have omitted in its proper place a small sized but very formidable species of wolf that is found in considerable numbers between the 60<sup>th</sup> degree of North Latitude and the Polar Sea. It's of a bluish grey in summer and quite white during winter. Daring, ferocious and destructive to the last degree and by no means afraid to attack man himself whenever any favourable opportunity occurs

[Editor's note: the above paragraph is found on a separate sheaf of paper added into the bound volume here]

#### 1. Canus Terra-novae reporti Newfoundland Dog

51 after which he is named. In size and strength and perhaps in courage perseverance and fidelity he is superior to all others. He is web-footed and has no competitor amongst dogs in the sea or whenever swimming or diving is required. His countenance is open, fine benevolent and his whole carriage and deportment noble. The strength and docility of this animal renders him superior to all other dogs as a beast of burden or in the draft and for all the sagacity of his tribe he is equally celebrated as for other good qualities.

The Canis Indicus or Indian Dog may have been originally derived from the dogs of Kamchatka. This I will neither dispute nor absolutely deny, but he had characteristics so peculiarly his own as to entitle him to a specific distinction. The Indian dogs have much of the aspect of a small and savage wolf. Their ears are erect and pointed, long and sharp nose, tail long and bushy usually of light and slender forms. Standing remarkably straight upon their legs. Colour varied from black to grey and white and sometimes pye-bald. They are very fierce and vigilant and have a remarkable antipathy almost insurmountable to Europeans or indeed any white man. The Indians sometimes allow their bitches to receive the embraces of the wolf and sometimes of the fox and the offspring bear a resemblance accordingly some being like wolves in miniature with all their propensities and other like foxes in their expressive eyes and ?? qualities.

52

#### 3. C Lupus Common Wolf

Of this well known destructive animals it is necessary to say anything in this place further than that I am sorry to remark its numbers have greatly increased in the Upper Province of late years and that some strong legislative enactment is absolutely necessary to preserve our farmers from their depredations.

#### 4. Canus Lycaon Major Large Black Wolf

a most formidable animal of this description capable of breaking the strongest traps of the hunter occasionally make his appearance in our settlements. He is much larger, stouter and longer than the common wolf, and is made more like a grey horse. He is covered with a coat of long, shaggy hair of an intense and shining black and is generally seen alone or at most two or three together. He is quite distinct from the common Black Wolf or C Lycaon-Minor and I believe an hitherto unsubscribed species. The brief description I have just given was taken from a more lengthy one drawn from a specimen killed within two miles of Hamilton Court House about ten years ago since which time I have only heard of two or three individuals being seen. Fortunately the animal is as rare as he is formidable when

met with.

5. Canus Lycaon Minor Lesser Black Wolf

This is the Loup Noire of Buffon, and the Lycaon of Linnaeus and Gmelin. It is also a rare animal in our North American Provinces though more common than the last

mentioned species. He is less than the common wolf and has more the appearance too, has a milder aspect than that of the wolf. He is inclined to rocky and mountainous districts and seldom make his appearance in the settlements. His fur is finer and more of a woolly nature than that of the common wolf and is not long and shaggy. It is of one entire black.

6. Canus Latrans or Prairie Wolf

This species is the most common and numerous in the extensive plains west of the Great Lakes extending to the Rocky Mountains and even beyond that stupendous range. General colour cinerous grey varied occasionally with black and sometimes with ferruginous. He has white lips and yellow eyes and the tip of his tail is black. He is somewhat larger than the common wolf. He is said to be the most sagacious of all wolves and when found in large packs is formidable even to the gigantic bison.

7. Canus Nubilus Dusky Wolf

This is also found in the same region with the last mentioned species. But he is much more robust and formidable. His colour is darker. His size is greatly superior either to the Prairie or Common Wolf some individuals having been found nearly six feet long including the tail and of a proportionate height. He emits an odour quite as disagreeable as that of the common fox. His aspect is most ferocious and he is altogether a .....

54

8. Canus Vulpes Common Red Fox

Of this well known animal nothing further need to be said in this place than that its numbers are found to increase in proportion to the number of settlements a fact that may be explained without much difficulty since their means of subsistence increase in proportion as the lands are cultivated and the early farmer in this country has something else to do than to go "a fox-hunting".

- |                            |                   |
|----------------------------|-------------------|
| 9. Canus Argentatus        | Silver Grey Fox   |
| 10. Canus Vulpes Niger     | Black Fox         |
| 11. Canus Vulpes Crucigera | Cross Fox         |
| 12. Canus Vulpes Glacialis | Arctic or Icy Fox |
| 13. Canus Vulpes Griseus   | Common Grey Fox   |

For my own part I have little doubt that but that these are entirely distinct species though I cannot be ignorant that many intelligent persons consider them more varieties. But no Indian or other hunter acquainted with the habits of the animals, nor will any dealer in fur consider them the same. A London price, current alone is almost sufficient to convince any one of the vast difference there is in the quality of the fur to say nothing of other variations as to form habits manners and instinct.

The fur of the Black Fox is the most rare and valuable next to this comes the Silver Grey; then the Cross-Fox; and lastly the common Grey Fox whose fur is so coarse as scarcely to deserve the name of fur and it is seldom worth carrying to market whereas the skin of a good

Black Fox sometimes brings the owner 15 or 20 pounds a good Silver Fox be 10 pounds and a Cross-Fox from 1 pound to 2 pound 10 and upwards whilst a common fox would not be worth more than 2/6 or 3/6.

If there is a mongrel amongst the species enumerated it is the Cross-Fox which it is not impossible may have been produced between a Silver Grey and a Red or a Black and a Silver-Grey or a Black and a Red Fox. But it is remarkable that they are all found in the same districts and yet remain unmixed keeping up their distinguishing characteristics. Their very names are sufficient to describe them with the exception perhaps of the Cross-Fox which is so named because of the black cross which passes over his shoulders and legs. His ears are also commonly black and his tail nearly so with white tips whilst his body and face are of a beautiful silver grey.

The Arctic Fox is the same with the Isatis of authors and is confined to the Arctic Circle and the shores of the Polar Sea. He is of a blue grey in summer and white in winter and is noted above all other foxes for his wonderful sagacity.

14. C. Vulpes Velox

This is a newly discovered and very small species inhabiting the Rocky Mountains and their immediate vicinity. He is scarcely half the size of the common [ ] Fox the [ ] colour

56 is ferrugineous mixed with grey and his fur is of the most exquisite softness. He receives his name from the extraordinary speed at which he runs which appears more like the flight of a bird than the motion of a quadruped. He burrows in the ground and never affect the cover of the forest. He is the burrowing fox of Lewis and Clark.

Genus VIII Felis The Cat

Generic Character

Six cutting teeth, all equal; with two tusks in each jaw, and three more tusks on each side of both jaws. The tongue has rough papillae which point backwards. The feet are armed with talons, or hooked claws, that are lodged in a sheath and can be projected or drawn in at pleasure. When thrown, or falling from a distance, these animals alight on their feet. The females have 8 paps, and are multifarious. Prey entirely on animal food, and are consequently eminently rapacious.

Species

- |    |                 |               |
|----|-----------------|---------------|
| 1. | Felis Concolor  | The Cougar    |
| 2. | Felis Cnca      | The Jaguar    |
| 3. | Felis Pardalis  | The Ocelot    |
| 4. | Felis Canadenis | Canadian Lynx |
| 5. | Felis Rufa      | Red Lynx      |
| 6. | Felis Fasciatus | Striped Lynx  |
| 7. | Felis Montana   | Mountain Lynx |
| 8. | Felis Aureus    | Yellow Lynx   |
| 9. | Felis Catus     | Common Cat    |

57 1 & 2 Species The Jaguar and Cougar are both of rare occurrence in Upper Canada, and I believe are unknown in the Lower Province. The Cougar is the most common of the two — and both are more frequent as we proceed westward towards the great plains of the interior. They are the Lion and the Tyger of this Continent and are in truth, most formidable animals. Since my residence in the Newcastle District a stout young man was struck by a Cougar, from the bough of a tree under which he was passing, and had a very narrow escape with his life: the accident occurred in the dusk of the evening, and in the Township of Hamilton. More recently a man was followed for some miles in the Township of Otonabee by one of these animals and escaped only by the ferocious beast seizing a bag that the man was carrying on his back instead o the man himself. I have not known of more than three or four instances of either of these creatures being seen within any of our settlements during the last fifteen years.

3. Felis Paradalis [Inserted page under which passages are missing on page 57]

The Ocelot I do not know that this animal has ever been seen in any of our settlements but individuals are

occasionally found, as stragglers, along the foot of the Rocky Mountains even as far as the 48<sup>th</sup> parallel of latitude; and have been shot by our hunters. They are called by them the Cat-a-Mountain, and are rarely met with, though common on the confines of Mexico, and towards California. It is said by the naturalists of the United States, that the Ocelot is not known to exist eastward of the Mississippi.

4 to 8

All of these are found in our Colonies, but the first species only is common, the others are all of rare occurrence and the Striped and Yellow species, have never been seen, that I have heard of, north of Red River Settlements, nor very far from the foot of the Rocky Mountains; westward of that range, towards the Pacific, they are more common. The Red and the Mountain Lynx or Mountain-cat as it is often called, have frequently been shot in Upper Canada especially in the western parts of this province. The Mountain Lynx has none of the pencils hair upon the tips of the ears which form so striking and well known a characteristic of the ordinary species. The Lynx Canadensis is commonly found in all parts of the British Provinces of America, generally alone, but sometimes in pairs. It is fierce and powerful, and very destructive of all kinds of game that it can master, not even the deer excepted. Its fur is not considered very valuable, the skin not being worth more than four or five shillings.

9. F. Catus Common Domestic Cat

This useful domestic cannot be dispensed with in a country so swarming with mice as the whole of Canada does from one extremity to the other and we have a sufficient number in most of our houses, though our woods are literally alive with mice. I mention the fact because it is surprising some of our cats have not become wild, from the facilities that are offered them; and yet, notwithstanding what authors affirm, we have no wild cat in Canada

59

Genus IX Ursus

The Bear

Generic Character

Six fore teeth in the upper jaw, alternatively hollow in the inside; there are also six in the under jaw, the two lateral ones being lobated. The dog teeth are strong, conical, and solitary. Eyes furnished with a nictitating membrane. Nose prominent, ears erect, body round and robust, legs muscular, joints remarkably flexible, feet armed with enormous claws, tail short.

Species

- |    |                            |                            |
|----|----------------------------|----------------------------|
| 1. | Ursus Cinereus             | Large Grey or Grizzly Bear |
| 2. | Ursus Aratus               | Brown Bear                 |
| 3. | Ursus Americanus Major     | Long-legged Black Bear     |
| 4. | Ursus Americanus Minor     | Short-legged Black Bear    |
| 5. | Ursus Maritimes            | Great White or Polar Bear  |
| 6. | Ursus Gulo                 | Wolverine                  |
| 7. | Ursus Meles-Vel Labradoria | American Badger            |
| 8. | Ursus Lotor                | Raccoon                    |

60

1. U. Cinereus Large Grizzly Bear, by far the most formidable animal on this continent, or perhaps, any where else. His invincible courage and ferocity and bloodthirstiness, integrated on a frame so powerful, that the strongest Buffalo or Bison has no chance in his paws makes him the dread of all other creatures, not excepting the lords of the forest themselves, who never dare to attack him single-handed. When a party of Indians determine on the encounter, they arm and paint themselves, as if for war, four or five or six join together in the combat, and even then are sometimes defeated with the loss of life. He is only found on the great plains of the interior, and is of vast

magnitude. Adults of this species are sometimes found 9 feet long, with six feet circumference of body, near the forearms, and four feet around the neck, feet 12 inches long, by 9 or 10 inches wide, armed with talons 4 inches long with jaws and teeth of frightful magnitude, and eyes flashing a red fire on its enemy. It has been named horribilis by some writers, for it is indeed a most terrible animal, cruel, vindictive, remorseless, and turns its back on no living creature. It is subject to much variety of colour, and never climbs trees: it is hibernating, differing from all other bears, (except the Great Sea or Polar Bear), it prefers animal food, but will prey occasionally on roots, vegetables, & fruits.

61

2. *Ursus Arcturus*. Brown Bear. This species is also confined to the western parts of our territory, and never appears in our settlements; but it is common in the interior, and towards the northwest; and, as far as has been observed, does not differ essentially from the Brown Bear of Norway, Germany, and Switzerland, and other parts of Europe.

3 & 4 The Greater and Lesser, or long legged and short-legged, Black Bears of America. These are the common Bears of the Country; and, in some seasons, according to the quality of wild fruits and nuts, are very numerous. It is certain there are two distinct species. The legs of the first are much longer, and the body lighter and more slim, than those of the second species, the nose is also longer and more uniformly of reddish brown. The two kinds do not associate and the long-legged kind are not so apt to climb trees as the other. These carnivorous propensities, also, seem stronger, and some of them attain an enormous size. A male of this species was killed not long ago in the Township of Monaghan that weighed upwards of 400 lbs.

5. *U. Maritimus*. Great White or Polar Bear. Found only on the shores of the Polar Sea, Hudson's Bay, and the Coasts of Labrador and Newfoundland. In no respect differing from the same species found in the Greenland Seas and the North of Europe.

62

6. *U. Gulo*. Wolverine. This animal, so famous for its gluttonous propensities, cannot be said to be a common species in any part of our colonies, and yet it is occasionally met with in almost every part of them. When famished, it is extremely venturesome, and has been known to enter towns in Upper Canada, of considerable magnitude. One of the last that was killed in this province, was detected in an orchard in the town of Brockville. Late writers on subjects of this nature have placed this animal in a new genus (*Gulo*) and designate it as the *Gulo Arcticus*, but I see no good reason why, on the present occasion, I should not follow the example of Linnaeus and Pallas.

7. *U. Meles*, vel *Labradoria* - American Badger. Until Sabine, in the index to Capt. Parry's Voyage to the Polar Sea proved this animal to be a distinct species, it was always considered to be the same with the Badger of Europe. It is by no means a common animal, and its habits render it difficult of observation, frequenting the most solitary places, and burrowing in the earth; it roams abroad only during the night, and preys on every description of food that comes within its reach.

8. *U. Lotor*. Raccoon. When it is considered that the French were the first European settlers of Canada; and maintained so close an intercourse with it for a century and a half, and carried on the fur trade very extensively, it is really surprising Buffon should have asserted that the Raccoon

63 is not found in this country, whereas scarcely any of our wild animals are more common, and it spends the whole year with us, hibernating in hollow trees. Several thousand of the skins of this animal are annually exported to Europe, and the United States of America, from the British Colonies and territories on this continent, and it must be needless to describe an animal so universally well known.

Genus XI *Didelphis*

*Opossum*

Generic Character

Seven fore teeth in the upper jaw, and eight in the under one. Two canine teeth in both jaws, one of each side, these are long. Head long, and conical; nose pointed, mouth wide, tongue ciliated, ears large, rounded, thin, and almost naked. Five separate toes on all the feet. Nails crooked. Tail long, round, and scaly. Hair inclined to be wholly. The tribe are furnished with a sort of pocket formed by a duplicature of the skin of the belly in which the dugs (usually 13 in number) are situated, and in which the young brood have a refuge.

64

1. *Draeolpus Virginiana*, Virginia Opossum, or Common Opossum of North America.

It is not from my own knowledge that I insert this animal in the present Catalogue; but from the report of others; and rather with the hope of exciting inquiry. I am told several individuals have been seen on our western frontier, and on the shores of Lake Erie, but having no certain knowledge of the fact I dare not insist further upon it. It is one of the most remarkable American Quadrupeds, but its propensities are so troublesome to its neighbours, that I see no reason why we should be ambitious to claim it as one of our indigenous animals.

Genus XII *Mustela*

The Weasel

Generic Character

Six cutting teeth in each jaw; those of the upper jaw erect, distinct, sharp pointed; those of the lower jaw are blunter, and appear as if huddled together, and two of them stand within the line of the rest. The molar teeth are conical and cutting. The open jaws of all the genus exhibit a fearful display of destructive teeth. Head small, oval, flat; Ears small; body much elongated; legs short, five toes on each foot armed with sharp crooked claws. The whole tribe carnivorous, ferocious, insatiable, preying chiefly in the night.

Genus XII *Mustela* The Weasel

65

Species

- |    |                           |               |
|----|---------------------------|---------------|
| 1. | <i>Mustela Canadensis</i> | The Fisher    |
| 2. | <i>Mustela Americana</i>  | The Skunk     |
| 3. | <i>Mustela Martes</i>     | The Marten    |
| 4. | <i>Mustela Latreda</i>    | The Sable     |
| 5. | <i>Mustela Vison</i>      | The Mink      |
| 6. | <i>Mustela Furo</i>       | The Ferret    |
| 7. | <i>Mustela Vulgaris</i>   | Common Weasel |
| 8. | <i>Mustela Inconstans</i> | The Stoat     |
| 9. | <i>Mustela Erminca</i>    | The Ermine    |

This specification presents a most formidable list of a most formidable and numerous family, which is most destructive to all the smaller quadrupeds; to birds, to reptiles, to fish; in short to animal life in every shape that can be over come by its members, who are all ferocious, cruel, vindictive and blood-thirsty, insatiable, leaving nothing alive it is in their power to destroy.

Long before I became acquainted wit any of the works of Drs Gall and Spurzheim, and other phrenologists; I had been struck, on dissecting various quadrupeds and birds, with the wonderful adaptation of certain parts and organs, to certain and particular ends, and was surprised to find the analogy run through nearly all the animals that came under my notice, even to the reptile tribes. I am not about to enter into any long or minute disquisition on this subject on the present occasion but it will be readily believed that with

66 this preliminary experience, I became speedily concert to a theory that has not with more ridicule, and slight,

than it merits. I mean the doctrine of Phrenology, and, whilst I am briefly noticing the *Mustela* family, I should scarcely be excused were I not to state, that no animals can furnish stronger confirmation of the truth of a part of this science, or theory, than every individual of the tribe, but some undoubtedly more than others. I am sorry I cannot at present lay my hand upon the skull of one of the larger species; but I take the liberty of enclosing, along with this essay, the skull of a mink, that happens to be within reach, together with the skull of a Musk-Rat, for the amusement of the Society, and I hope that they will arrive in an unbroken state.

As I have stated, the Mink, in common with the rest of the tribe, is cruel, vindictive, blood-thirsty, and insatiable, to the last degree. The Musk-Rat, on the contrary, is one of the most harmless and inoffensive of creatures, quarreling and interfering with no one, feeding on aquatic vegetables and roots, in the most sequestered spots, and chiefly underwater. Let the two skulls be placed in close comparison and it will immediately be seen that whilst the organ of destructiveness is larger, in proportion, in the Mink, perhaps, then could be discovered in any other animal, it is absolutely wanting in the harmless Musk Rat.

67 I hope the Society will pardon what may be considered a digression although in some measure connected with our subject.

The number of Fisher, Martin, and Mink Skins, annually exported from the British Possessions in North America, which together amount to nearly 60,000, sufficiently indicate how numerous these animals are in this part of the world.

Some authors and travelers have imagined that the Skunk had only recently made an appearance in the Canadas, but it is undoubtedly one of the aboriginals of the Upper Province, where it is common. Notwithstanding the abominable odour, which it can emit at pleasure, the flesh is said to be a palatable and delicate food.

I have inserted the sable in our list because some skins have been sent from the extreme parts in the North-West, which can only be attributed to that animal. They were sold by auction at one guinea, each, before their superior quality, and distinct character was observed by competent judges.

The Ferret exists, with us, only in a tamed or domestic state.

The Stoat, is not common. I have seen some four or five in a wild state, but not more. The Ermine, which is little more than half its size, is much more frequent, and is found to be dispersed over the whole of our possessions in North America.

68 Its fur is a silky texture, and of the most exquisite fineness. As I have received a highly ornamented saddle, and horse, accouterments from the interior, that belonged to a Chief of the Sioux Nation, in part trimmed with the fur of this beautiful little animal, I conclude that it extends over all the plains of the Mississippi, and of the Missouri. Could they be obtained in sufficient abundance, their skins would not fail to be an article of lucrative commerce.

Genus XIII Lutra The Otter

Generic Character

Six incisor teeth in both jaws, two canine teeth in each jaw, and ten grinders, or molar teeth in each jaw. The canine teeth much hooked. Head broad and flat, tongue somewhat passillous; Body long, stout, and low upon the legs, toes armed with hooked nails, and connected together, or webbed. The tail not quite so long as the body, but very strong, and depressed at the base. Body covered with soft fur. Carnivorous and amphibious.

Species

- |    |                  |              |
|----|------------------|--------------|
| 1. | Lutra Canadensis | Common Otter |
| 2. | Lutra Marina     | Sea Otter    |

Many authors have described our Canadian Otter as a different species from the common otter of Great Britain

69 It is certainly found of a much larger growth in these colonies than in Europe, and of a deeper brown or black, and its fur is of an infinitely greater degree of fineness than the European specimens; but I cannot find that the specific characters are essentially different.

The Sea Otter, which affords the finest and most costly fur in the whole world, is unknown on our northern, and Atlantic, coasts; but on the shores of the Pacific Ocean and within our territories, it is not infrequent, and furnishes the most valuable product, of all that country, to our traders.

Genus XIV Lepus The Hare

Belonging to the order Glires

Character of the Order

Having two front teeth in each jaw, usually very long, somewhat curved and large, but without any canine teeth. Their feet are furnished with claws, and they are formed both for running and leaping. Their diet is almost exclusively vegetable. One or two, out of ten genera which constitute this order, being found to use animal food in cases of distress or emergency.

Generic Character

Two fore teeth in each jaw; those in the upper are double, the interior ones being smallest. The fore feet have five toes each, and the hind feet but four. Their hind legs are much longer than the fore legs, whence arises their extraordinary speed, and bounding leaps.

70

Species

- |    |                  |                                       |
|----|------------------|---------------------------------------|
| 1. | Lepus Variabilis | Varying Hare or common hare of Canada |
| 2. | Lepus Glacialis  | Northern Hare                         |
| 3. | Lepus Cuniculus  | Common Rabbit                         |

The first of these is the common Hare of Canada, which becomes an entire white during winter, saving the tips of the ears, only, which remain dusky, or black. It never burrows, particularly affects groves of young pine trees, braves our severest winters without any other shelter than an old log, or root of a tree, and may be killed at all times. It is more numerous in the Upper, than the lower Province.

For a knowledge of the second species we are indebted to Captain Parry's Voyage to the Polar Seas. It is found



table; and that I have myself witnessed the power it has to throw its quills at pleasure from the tail, a fact greatly doubted by all modern writers that I have seen.

73

Genus XVII Arctomys Marmot

Generic Character

Two very strong front teeth in each jaw. No canine teeth. Eight simple molars in the lower jaw, and ten in the upper. Head huge, round, but flat above. Body thick and clumsy. Eyes large and full. Ears short and rounded. Feet strong, and formed for burrowing; four toes and the rudiment of a thumb, before, and five toes behind, all the toes are armed with strong, compressed, and slightly crooked nails.

Species

1.	Arctomys Monax	Canadian Marmot
2.	Arctomys Missourienis	Prairie Marmot
3.	Arctomys Empetra	Quebec Marmot
4.	Arctomys Tridecembineata	Striped Marmot
5.	Arctomys Franklinii	The Franklin Marmot
6.	Arctomys Richardsonii	Tawny Marmot
7.	Arctomys Pruinosa	Hoary Marmot
8.	Arctomys Parayii	Grey Arctic Marmot

The first needs no comment, it is common and well known over all the Provinces, by the name Wood-Chuck, or Ground Hog. When fat it makes a very tolerable dish for the table.

2<sup>nd</sup> Species: is known almost throughout the plains of the interior by the familiar name of Prairie Dog, so Lewis and Clark designated it in their Travels. It is a lively, sociable animal associating in large communities which are called Prairie Dog Villages by the hunters.

74 3<sup>rd</sup> Species: Quebec Marmot was long ago described by Pennant, but I have strong doubts of its identity, that is, until it is further and better determined. My present opinion is, that the A. Monax, the A. Empetia and the A. Pruinosa, are all of one and the same species, as I very well know that the common marmot of Canada is subject to great vicissitude as to size and colour. I happened to be with a party of Indians when the first Pruinosa fell into my hands and was congratulating myself on the discovery of a new species. The Indians smiled, and remarked that it was not unusual variety of the common species. I have in this catalogue continued the species separately out of deference to respectable authors, until the matter can be fully determined, which I hope shortly to be able to do myself.

4<sup>th</sup> Species: This name Tridecemlinea was, I believe, given to this beautiful and interesting species by Dr. Mitchell of New York and with great propriety, although he considered the animal belonging to the genus Sciurus, rather than Arctomys. Perhaps he has had reason to change that opinion, as the subject became better known. This species inhabits the northern parts of Canada, and the great plains, and the banks of the rivers, that intersect them as far as the Rocky Mountains, burrowing into the ground, and never ascending trees. It is distinguished by being of a deep chestnut colour, striped with six white lines, alternating with an equal number of longitudinal rows of white spots, and white beneath, producing a most pleasing effect.

75 The 5<sup>th</sup> and 6<sup>th</sup> Species are justly named after the two celebrated travelers Captain Franklin and Dr. Richardson. They are well described in the Linnaean Transactions of London by Sabine. They inhabit the northern parts of our territory on this continent.

7<sup>th</sup> Species. I have already stated my opinion on this species. A description of it will be found in Pennant, Gmelin, Shaw and Schreber. Nevertheless, I must consider it a mere variety of the common species.

8<sup>th</sup> Species. The authority for the specific distinction of the *A. Parqyii* is too good (Dr. Richardson) to be doubted. The animal was discovered many years ago, but not fully determined until late years. It has an extensive range in the northern parts of this continent.

Genus XVIII *Sciurus*\* Squirrel

\* Belonging to the Order Glires, already characterized

#### Generic Character

It has two fore teeth in each jaw, the superior ones shaped like wedges, and the interior ones sharp-pointed. Some of the species are provided with hairy membranes extended from the fore to the hind legs, by which they are enabled to bear themselves up in the air, and to float, as it were, from tree to tree. This genus may, therefore, with great propriety be separated into two divisions. Those with the membrane have been termed *Petauri* or Flying Squirrels; and those without it, *Sciuri Scandentes*, or Climbing Squirrels.

76

#### Species

1.	<i>Sciurus Cinereus</i>	Large Grey Squirrel
2.	<i>Sciurus Niger</i>	Black Squirrel
3.	<i>Sciurus Macrorus vel magnicaudatus</i>	Large-tailed Squirrel
4.	<i>Sciurus Quedrivittatus</i>	Little Striped Squirrel
5.	<i>Sciurus Lateralis</i>	Line-backed Squirrel
6.	<i>Sciurus Grammurus</i>	Line-tailed Squirrel
7.	<i>Sciurus Hudsonius</i>	Common American Squirrel
8.	<i>Sciurus Striatus</i>	Ground Squirrel
9.	<i>Sciurus Ludovicianus</i>	Broad-tailed Squirrel
10.	<i>Sciurus Volucella</i>	American Flying Squirrel

In so vast a region as North America where the forests are almost of interminable extent, and where there is almost every possible variety of situation it may be easily imagined that Squirrels must exist in great variety, and in countless numbers, and such will be the case. The foregoing specification of the species hitherto discovered in the British Possessions, on the continent, comprehend, within two or three species, all that are known on the whole continent of North America.

77

1. *S. Cinereus.*

This is remarkable for its nicety in the choice of situations. Its localities are limited to the particular districts and it has so great an antipathy to the immediate neighbourhood of the smaller species that the moment the latter become as numerous as themselves; and, as they imagine encroach on their borders they abandon the settlement and remove to other quarters. I do not know if they have ever been seen in Lower Canada and in Upper Canada they are confined to the London and Western Districts. With the exception of a few in the Niagara and Gore Districts. On the north side of Lake Ontario they are unknown. They are usually found in companies of 20, 30, or upwards in a troop, and are exceedingly destructive, so much so that it was found necessary at one time to offer a premium of 3d per head in the United States, these animals had increased in Pennsylvania when in a single year (1749) 1,280,000 were destroyed and the sum of L800 Sterling was paid for their destruction! They feed on all sorts of grain & nuts and many kinds of fruit. Their flesh is delicate and a choice morsel on the table.

2. S. Niger.

Black Squirrel, almost everywhere abounds in the Upper Province, but it is not so common in the Lower Province of Canada. There is a singular antipathy existing between this species and the common Red Squirrel and they always fight

78 whenever they meet, and what is extraordinary, the little Red Squirrel though not more than half the size of the Black Squirrel always proves victorious.

3. S. Macrorius, vel Magnicaudatis. Large-tailed Squirrel

It is not understood that this is the Ceylon Squirrel of Pennant because it has the same specific name, which is far more appropriate to the animal we claim for North America, the tail being larger and more voluminous, in proportion to the size of the body, in the American, than in the Ceylonese specimen. Total length of the American species is about one foot, seven inches, and a half, of which the tail alone is nine inches and a quarter. It is common on the banks of the great rivers of the plains, as high as the Saskatchewan, and perhaps higher.

4. S. Quadrivittatus Little Striped Squirrel

A beautiful species, distinguished by four white lines upon its head, on a ground colour of ferruginous brown. It is a small species, not exceeding, in its total length, including the tail, seven inches and a quarter. It is a native of the Rocky Mountains.

5. S. Lateralis Line-backed Squirrel

This is also a native of the Rocky Mountains. It is a ground Squirrel bearing some resemblance to the common species (Striatus) but is larger, and undoubtedly distinct.

6. S. Grammurus Line-tailed Squirrel

Another inhabitant of the Rocky Mountains where it dwells in hole or crevices of the rocks and feeds on the buds of the stunted shrubs which grow there. The fur is very coarse and it is remarkable for having 3 black lines on each side (of) the tail.

79

7. S. Hudsonius Common American Squirrel

This animal is universally spread over all the United States and the British Possessions in North America, and is too well known to require any particular notice here.

8. S. Striatus Common Ground Squirrel

The same remarks as have been made on the preceding, apply to this species.

9. S. Ludovicianus Broad-tailed Squirrel

This animal seems peculiar to the rivers, or rather to the banks of rivers which fall into Lake Winnipeg. The upper parts are dark grey, and the under parts a reddish-brown colour. The tail is longer than the body and is remarkable for its breadth.

10. S. Volucellus Flying Squirrel

This interesting and beautiful creature is much more frequent in the Upper, than the Lower, Province, Canada. It is,

indeed, there common and remains all the year about its usual haunts, hibernating in old trees. It loves to sport on the wing around an aged oak or other tree during the fine nights of summer when the moon is brilliant, making the while a sort of whistling or chirping noise.

Genus XIX Gerbillus Jerboa

79

#### Generic Character

Two incisors and six molar teeth in each jaw; Head elongated; cheeks projecting; fore feet very short & armed with claws, the hind feet very long, terminated likewise with clawed toes. Tails very long, and more or less, hairy.

80

#### Species

- |    |                        |                                  |
|----|------------------------|----------------------------------|
| 1. | Gerbillus Canadensis   | Canadian Jerboa or Jumping Mouse |
| 2. | Gerbillus Labradorious | Labradorian Jerboa               |

The first species is well known, having been often described as the Jumping Mouse of Canada; and, sometimes as the Fox Mouse, because of its colour. It is common throughout the woods and fields of the British American Provinces.

The second species is considerably larger than the first, of a darker colour, and not so extensively spread; though it is found in all the British Provinces.

Genus XX Mus The Rat

#### Generic Character

Upper fore teeth wedge-shaped. Three and sometimes only two grinders in each jaw; and the clavicles, or collar bones, are complete. Snout narrow, and elongated. Fore feet have four clawed toes, and a wart, having an obtuse nail, in place of a thumb. Hind feet have five clawed toes. Tail long, tapering, scaly, naked.

#### Species

- |    |                |                    |
|----|----------------|--------------------|
| 1. | Mus Ratus      | Black Rat          |
| 2. | Mus Decumanus  | Norway Rat         |
| 3. | Mus Cinereus   | Blue Rat           |
| 4. | Mus Sylvaticus | Common Field Mouse |
| 5. | Mus Canadensis | Sheer Mouse        |

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- |    |                |                     |
|----|----------------|---------------------|
| 6. | Mus Aquaticus  | Blue or Marsh Mouse |
| 7. | Mus Domesticus | Common House Mouse  |

This is one of the genera in which new discoveries may be expected. The forests of Canada abound with mice. The Black Rat is known only in a few solitary places as it is fast disappearing before the large Grey Norwegian species which I am sorry to say is rapidly spreading over the country. It has arrived as far west as Kingston and Niagara; carried by vessels and in packages of goods; but it has not yet surrounded the north side of Lake Ontario.

The Blue or Cinereus Rat, is a newly discovered and undescribed species, inhabiting the eastern side of the Rocky Mountains at their base. It is about the size of the Black Rat, with large membranous ears and a fine cinereus colour, much inclining to blue. It is an aboriginal of the country, and I believe peculiar to it.



84 Tail very short, anterior feet or fins like those of the seal, with five toes armed with very sharp nails. Hind feet in the same direction as the body with five toes united by a membrane. Body large and elongated like that of a seal.

Species

1. *Trichechus osmaris* The Morse (Note: Walrus)

This large animal sometimes attains a length of 10 feet. It was formerly common in the Gulf of St. Lawrence. It is now rare in that quarter but is still sufficiently common further to the North.

Genus XXIV *Phoca*

Generic Character (insert)

Incisors varied in form, sometimes triangular, sometimes conical, sometimes ground, and all more or less distinct from each other. Canines strong, conical and most frequently proportioned to the size of the head. The head is round with lips apparently swollen. Eyes very large, and staring, eye-lids slightly developed except the nictitating membrane. Ears wanting or very rudimentary. Feet five-toed, the posterior toes naked. Tail short and thick. Four abdominal mammae, hair short, stiff, glossy, recumbent. Whiskers very long and abundant. Amphibious and prey on fish. Living in troops.

Species

- |    |                           |                |
|----|---------------------------|----------------|
| 1. | <i>Phoca Cristata</i>     | Sea Lion       |
| 2. | <i>Phoca Vitulina</i>     | Common Seal    |
| 3. | <i>Phoca Groenlandira</i> | Greenland Seal |
| 4. | <i>Phoca Fetida</i>       | Stinking Seal  |
| 5. | <i>Phoca Barbata</i>      | Great Seal     |
| 6. | <i>Phoca Ursina</i>       | Sea Bear       |

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Division 4<sup>th</sup>

Winged, or the connecting link between Quadrupeds and Birds

Genus XXVI *Vespertallis* Bat

Generic Character

Teeth erect, sharp-pointed, approximated; hands palmated, with a membrane surrounding the body, and enabling the animal to fly. Tail long, and compressed in the inter femoral membrane. Fur soft and thick. Nocturnae. Insectivorous. Hibernating in caves and old trees; hanging by the hind claws; with the head downwards and the whole body enveloped in the wing or membranes.

Species

- |    |                                |                  |
|----|--------------------------------|------------------|
| 1. | <i>Vespertallis Pruinosa</i>   | Hoary Bat        |
| 2. | <i>Vespertallis Argutus</i>    | Large-headed Bat |
| 3. | <i>Vespertallis Marinas</i>    | Common Bat       |
| 4. | <i>Vespertallis Altirolans</i> | High-flying Bat  |

## Generic Character

Teeth erect sharp-pointed, approximated; Hands palmated with a membrane surrounding the body and enabling the animal to fly. Tail long and compressed in the interfemoral membrane. Fur soft and thick, Nocturnal. Insectivorous, hibernating in caves and old trees. Hanging with the hind claws with the head downwards and the whole body enveloped in the wing membranes.

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### 1. Notes

Containing some omissions and remarks

I would not have it understood that I assert the true Rein-Deer of the North of Europe is not found in America, but, that it is not found so lower down as any of our settlements south of Hudson's Bay; and, further, that the Cariboo, although bearing some similitude to the Rein-Deer is a distinct species. I am not without suspicions that the animal that I have named the Lesser Cariboo, and the Virginian Deer, are mere varieties of the same species.

I ought to have qualified my assertion respecting the Moose-Deer, some what more than I have done. They are found and killed every winter, in greater or lesser numbers, in the Ottawa District, but further to the westward they are certainly rare.

### The Morse

Some particulars respecting the Morse - hunting in the Gulph of St. Lawrence, will be found in Hakluyt's Voyages. In the year 1591. Fifteen hundred were killed by one small bark at Ramea.

### The Seals

The common seal sometimes ascends the St. Lawrence, and they have more than once been taken in Lake Ontario.

87 The larger kinds especially the *Phoca Cristata*, and *Barbata* and *Ursina* are found only in our northern Seas.

### Bat

I have frequently caught the common bat of England, in this country, also the Long-eared species and the *Altilcolans* or High-flying Bat. I have not yet met with the Horse-Shoe Bat, though I have been told of a variety which I take to be this species.

The *V. Pruinosis* is not common in the settled parts of Canada, but it is more frequent in the interior, and desert parts of the country, towards the west.

I have never seen more than one specimen of the Red Bat or *Vespertilio Rufus*. It was flying abroad at noonday, on the banks of the Don, near York, in the month of October; and at first sight I could not conceive what it was. I was, at the time, in pursuit of woodcocks, and shot it on the wing. It is a rare species in Canada. Although said to be common in Pennsylvania.

### Genus Omitted

I find I have omitted one of our most curious animals in its proper place. It is the *Mus Bursarius* of Linnaeus and the *Mus Saccatus* of Mitchell. Its peculiarities, however, both as to form and habits, clearly entitle it to a generic, as well as to a specific distinction; uniting as it does, some of the characteristics of the Hamsters, the Moles, and the Rats, yet differing from them all.

Genus *Pseudostoma*      Pouched Burrower

#### Generic Character

Two incisors, no canines and eight molar teeth in each jaw; the incisors, which are truncated, and very long and strong, are not covered by the lips, but remain always exposed to view. The molars of the upper jaw incline backwards, those of the lower jaw, forwards. Head and body large, producing a clumsy appearance. It has two enormous cheek pouches, exterior to but opening downwards, and towards, the mouth. They are concave, hairy, and separated by the ordinary integuments. Legs short, fore feet large and formed for burrowing; the hind feet are small.

#### 1.      *Pseudostoma Bursarius*      Pouched Burrower or Canada Rat; or Sand Rat or Pouched Rat

of a reddish brown colour, with white feet, large cheek pouches, covered with hair, both within and without. Eyes black, short ears, scarcely perceptible. Feet have five toes, middle nail of the fore feet much longer than the rest. Tail short and twisting, hairy at base, naked at the tip.

This animal burrows with a degree of expedition superior even to that of the Moles and Marmots and cannot easily be taken. It is indeed very rarely seen although it is by no means uncommon in the western parts of Canada, and the sandy parts of the great plains stretching towards the Rocky Mountains.

#### Recapitulation

By the preceding catalogue it will be seen that the British North American Possessions afford more than one half of all the Quadrupeds which Buffon allows to exist on the entire face of the globe. It is true many species here set down were unknown to that distinguished naturalist, and it is equally true that many more remain to be discovered. This remark is made no so much for the gratification of our national vanity as for the purpose of exciting still further inquiry.

Upon the whole we may congratulate ourselves that the ferocious animals bear so comparison either as member or formidably with those that are or may be rendered of utility to man. North America presents a wide field for observation research and experiment and it is highly gratifying to reflect on what may be accomplished by the exertions of two such respectable establishments as the Historical Society of Quebec and the Natural History Society of Montreal. These institutions deserve the thanks and best wishes of the Canadian Public

“Esto Perpetua”!

[Drawings]

No 1      Pencil sketch (tinted) of the fossil horns and head of the Antediluvian Elk found near Kirk Michael in the Isle of Man - 1814  
From Nature by C. Fothergill

No. 2      perpendicular or Bird’s-eye view of one of the horns of the Antediluvian Elk to show the degree and breadth of the palmation

Isle of Man 1814

C. Fothergill – delin:

[Editorial Index

The following Index has been created to allow easier access to the species accounts in *Quadrupeds*. It is not in alphabetical or taxonomic order and it does not provide Latin names. This simple index merely follows the mammalian order and pagination presented by Fothergill. In most cases I have used the species names Fothergill used in the order he presented them. However in numerous cases I have provided more typical common names such as “domestic” and “American” and in a few cases more contemporary names such as “Caribou” instead of “Cariboo” and “Donkey” instead of “Ass”.

As noted in the introduction many of the species discussed are not full species. In very few cases I have made some simple amalgamations e.g. colour varieties (e.g. Red Fox and Gray Squirrel) but otherwise I have not made any attempt to identify the species. I will leave it to someone better versed in the field to identify and provide appropriate common names.

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