

favourite resort for wounded birds between Peggy's Cove and Dover, which is thence called the "hospital." There is also a well-known "hospital" for sick and wounded fish about a quarter of a mile outside of Peggy's Point. It is a narrow gulch or ravine with a muddy bottom, thirty fathoms deep, bounded on each side by a sort of rocky cliff fifteen fathoms from the surface. Healthy fish, observing ordinary rules, are found on the rocky bottom at each side of this ravine, but in the muddy valley itself none but the sick and wounded are taken. There they are caught of large size, but what are called "logy fish"—many of them wounded with deep gashes, not such as are generally made with any of man's contrivances, and all wretchedly thin. On either side of this hospital hake will not take bait in day time, but in the "sick bay" itself—"*necessitas nullas habet leges*,"—they will bite at all times. They are hungry, and therefore likely convalescent, but not sufficiently strong to defend themselves or take their ordinary prey at proper seasons outside.

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ART. VII.—SOME ADDITIONS TO THE GAME OF NOVA SCOTIA.

BY J. H. DUVAR.

(*Read Feb. 6, 1865.*)

"NATURAL HISTORY in the olden time" would be an excellent subject for the pen of any member of this Institute, who combines with his knowledge of Natural History a taste for dipping into history proper. In following his liking for the latter pursuit, the naturalist would stumble on records that would astonish the scientific men of the present day. While it is impossible to withhold our meed of admiration from the early travellers and missionaries who, led by the spirit of adventure, or zeal for their order, made their way into the most savage lands, and brought back not unfaithful accounts of manners and customs, it is yet astonishing how credulous they were in all that pertained to natural history. I have in my possession a tracing of a Jesuit map of Lake Superior, made in 1670, which agrees in almost every detail with the modern chart, yet of the same date, when their topography was so reliable, the reports of the good fathers on animated nature were

not such as have been confirmed by later investigations. In these days of minute and exact research, it may not be uninteresting, from the stand point to which the waves of progress have wafted us, to pause and look back to the landmarks that indicate the ebb and flow of the great ocean of Truth, on the shores of which this generation and those past have alike been picking up shells.

Navarette, for instance, describes, in the empire of China, an alligator, three fathoms thick, in which were found three men's heads, with some daggers and bracelets. Nevertheless there was an herb which enabled the possessor to ride this formidable creature with safety, as Waterton rode the cayman. The unicorn is described, among other qualities, as being "a merciful beast." The mermaids of the Gambia are reputed, when fried, to resemble pork. A singular efficacy against falling sickness resides in the leg of the elk, *which* leg is discovered by knocking the animal down, and observing with which foot he scratches his ear. There is a variety of goat in Nankin, that has ears and nose, but no mouth, and lives upon the air. A still more extraordinary animal must be described in the author's own words. "There are two other strange and remarkable creatures in China. The one is called *Lang*; its forefeet are very long, and the hinder ones short. The other beast is named *Poei*, or *Poi*, whose hind feet are long and the fore feet short, whence it follows that they cannot go singly apart from one another. Their Maker taught them how they should go from place to place to feed and seek their sustenance. Two of them join, and one helps the other, so that one sets down the long fore feet, and the other hind feet, so they make one body that can walk: thus they get their food and live. The Chinese call miserable poor wretches that cannot live by themselves *lang poi*, to signify that they want some assistance to get a living. This is not unlike a lame and a blind man, one finds eyes and the other feet, and then they help one another and walk." The same or another observer met with a fowl the size of a chicken, which laid, a yard deep in the sand, eggs "bigger than the bird itself, so that no man living would judge that the eggs could be contained within it." In the vegetable kingdom, the curate of Labaun saw a tree whose leaves falling to the ground turned into mice. And in Lower Germany are found on the sea shore trees whose leaves, dropping into the water, are converted into ducks.

These examples may suffice to mark the distinction between the natural observers of two centuries since and those of even this little Institute,—being, as it is, an outlying post, or rather vidette, on the extreme edge of the intellectual field of the century.

Coming down from these worthy travellers who trustingly accepted the most incongruous appearances as merely so many manifestations of the Creator's power, through the later periods of close observance and accurate classification, we find that the studies of the naturalist in the present day are mainly given to utilize the mass of facts which he and his predecessors have garnered up; hence acclimatization, fish-culture, improvement of domestic stock, and search for animals and plants that may contribute either to man's wants or luxury.

The geographical distribution of animal life does not strictly follow the isothermic lines of the globe. Hence there is an increased range for stocking the temperate zone with the products of other zones, especially of the warmer belts, which are more prolific of varieties than the colder, and, moreover, it is well recognized that animals adapt themselves better to change of climate when removed from a higher to a lower degree of temperature, than from a lower to a higher. This fact indicates to us more than one inhabitant of southern latitudes, which, by a little attention, might be induced to naturalize in our colder air;—the alpaca, for instance, which, already imported into Spain, finds on the slopes of the Pyrenees the summer and winter climate of Nova Scotia. M. Saint Hilaire\* very learnedly shows that man, who calls himself the lord of creation, is really lord of only forty-seven specimens, all told, of beasts, birds, fishes and insects. His list is interesting. Here it is, omitting the dates of domestication:—

**MAMMALIA**: The Ox, Buffalo, two varieties of Camels, Goat, Sheep, Zebu, Yak, Lama, Alpaca, Reindeer, Arnu, Joyal, Horse, Ass, Dog, Pig, Cat, Guinea Pig, Rabbit, Ferret,—total, twenty mammals.

**BIRDS**: The Pigeon, Poultry Fowl, common Pheasant, Peacock, Game Fowl, common Duck, Swan, Ring Turtle-Dove, Chinese Goose, Canary, Turkey, Muscovy Duck, Golden Pheasant, Silver Pheasant, Ring Pheasant, Canada Goose,—sixteen Birds.

**INSECTS**: The Mulberry Silkworm, Bee of southern Europe,

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\* *Acclimatation et Domestication des Animaux Utiles*:

common Bee, Egyptian Bee, Cochineal, Almond Silkworm, Ailanthus Silkworm,—seven insects.

FISHES : The Carp, Goldfish,—two fishes.

REPTILES : None.

Total, 21 mammals, 16 birds, 7 insects, 2 fishes—46 in all, instead of 47.\* Of these 47, M. St. Hilaire says fifteen are wanting in France and thirteen in Europe;† and he adds, “is this a sufficient conquest of nature? Is it enough to have in our court yards only three species so valuable as that of the gallinacæ?—or only one of the rodentiæ, so remarkable for its fecundity, the precocity of its development, and the excellence of its flesh? Among the large herbivorous mammalia, is it enough to possess only four alimentary species?” I would add, is it enough for our sportsmen to possess, in a Province such as Nova Scotia, of which so large a portion must ever remain in lake, moorland and forest, so few varieties of swimming, flying, and running game?

It will be noticed that M. St. Hilaire’s catalogue of domesticated animals is more than arbitrary, and somewhat less than complete. Some of the animals mentioned can only, by a latitude of language, be said to be domesticated, while others, equally under the subjugation of man, are omitted from the list. The immediate business of this paper is not, however, with the domestic animals of man, but with the semi-domesticated or “GAME,” which, living untended in our wilds, supply the sportsman at once with amusement and food. Not to trespass on time, I will do little more than indicate such as might find in Nova Scotia the conditions of climate, covert, and food, and by reproduction increase the number and varieties of our objects of the chase. Of course, it would be a mistake to introduce any new game until the legislature and the people at large have found the way to preserve what we have. The Inland Fisheries and Game Protection Society, recently organized, have taken the initiatory step, and it is to be hoped that their endeavours will be seconded by the influential in the community, until the public

\* The one omitted is probably the tench, introduced into Britain with the pond carp and goldfish. It may be the Pike, according to the old rhyme :

“Turkeys, carps, hoppers, piccarel and beer,  
Came into England all in one year.”

† Fourteen are wanting in Nova Scotia. The others, including the gold and silver pheasant and the common English pheasant, adapt themselves well to the climate. In lieu of the silkworm the cecrops is abundant.

mind is educated up to a proper pride in the maintenance of our forest life.

Taking the sportsman's definition of "fish, fur, and feathers," it is only among the Ruminants and Rodents that we can look for additions to our running game. Of the wolf we have but a rare visitor from the adjoining province of New Brunswick—and he, gaunt, solitary, and cowardly. Our hunters always know where to find a bear, or a loup-cervier (vulgar: *lucifée*). Moose and cariboo, if let alone, and especially if the Legislature would prohibit their being hunted for the next four years, would largely increase. But other furs are few. Naturalists, rather than sportsmen, must determine whether the white hare of Newfoundland, found also in this Province, is identical with the prolific Scottish mountain hare, or wherein either may differ from the bold and agile Irish hare (*lepus Hibernicus*). Should they be of different species there yet appears no reason why all should not thrive here. The common English hare (*lepus timidus*), would manage to maintain itself in the highly cultivated western portions of the Province, but as the thrifty farmers of that region would not care to burden themselves with its feed, there is not much hope of seeing it domesticated among them. Besides, the hare, as an object of pursuit, belongs to what may be called the advanced stage of sporting, and would serve, mainly, as an inducement for the breeding of the greyhound, "the regent of dogs,"—a title which, whether applied to his sagacity, courage, docility, and susceptibility of instruction, extending even (contrary to general opinion) to the education of his nose, experience of the animal amply verifies. Here let me mention, incidentally, that where the hare will find a form the English skylark will live, to cheer the sportsman's heart with its song. There is probably not one acclimation that could be more easily made in the agricultural districts of Nova Scotia than the songlark. The geographical range of the bird is extensive—from Southern Europe to Siberia. Larks can be bought in quantity in either England or Germany at trifling cost, and would survive the voyage hither. The grey rabbit or burrowing hare (*lepus cuniculus*), is another introduction that would naturalize itself, and would, doubtless, increase in a more rapid ratio than its enemies. Specimens of the house or domesticated rabbit, have escaped from con-

finement near Halifax, and have been afterwards seen, earning apparently a honest livelihood.

Suffering as our country is from the want of protection for its game, it may be too sanguine to hope for any increase in the variety of our deer. In wooded, sheltered and enclosed parks the fallow deer might be reared as an ornament to grounds, although unfitted to range for itself in the woodland. But the ordinary American or Virginia deer (*Cervus Virginianus*) has its range from the Gulf of Mexico to the borders of New Brunswick, increasing in size and beauty as it approaches the north. There can, therefore, be no possible hindrance to the introduction of this really valuable game into our coverts, where, according to the opinion of our best sportsmen and most practical naturalists, it would multiply and increase. The beautiful and hardy little roedeer of the Scottish highlands (*Capreolus capræ*) is another most desirable accession, nor do I think it would object to make itself a habitat in the fir copses of our secluded forests. A year or two of experimental acclimatization within enclosures would prove its adaptability for the woods.\* Another of the deer family which would, probably, naturalize more kindly, is the "wapiti," or Canadian elk (*Elaphus Canadensis*—RAY,) of which Sir John Richardson gives the northern range as the 56th or 57th parallel of north latitude. Previous to the late unhappy war in the States, the Wapiti was semi-domesticated in many parks in Virginia. The king of Italy has imported a herd which are reported here to have taken kindly to the hills of Lombardy. Beyond the ruminants named, the chances of increase to our deer are unlikely. Attempts have been made in the United States to extend the range of the pronghorn antelope and Pacific blacktail deer, under climatic conditions more favorable than ours, but without success.

In birds, there are a few likely to prove additions to our game, all being of the sub-family of the *Tetraoninae* or grouse. Commencing with the true ptarmigan—the *lagopus albus* of Linnæus—there could be little difficulty in introducing this fine although rather sluggish bird on our higher barren grounds. A member of the Institute states that it does exist (rare) on our hills. Indeed

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\*I have lain out, in Scotland, on the watch for these pretty creatures in weather quite as cold as it is in Nova Scotia in ordinary winters.

it ranges on the mountains from Iceland to the Alps.\* Everywhere in Nova Scotia are to be found those rugged granite wilds such as are its haunts in Scotland and Norway. The severity of our climate is not greater than its European experience. In summer, it would find varied sustenance on the moors, and in winter the birds, like other winged game, would sustain themselves with their proper food of buds, berries and leaves of trees. As they associate in flocks and may be taken in snares, there would be but slight difficulty in importing a sufficient number to experiment upon. A yet finer bird than the ptarmigan is the capercailzie (*Tetrao urogallus*), the very king of feathered game. This splendid fowl is still common in Sweden and Russia, and could be, and ought to be, a splendid addition to our birds of the chase. As it lays from eight to a dozen eggs, and the young are hardy as well as active in foraging for themselves, three or four years' protection should suffice to form the nucleus of a preserve, especially as man would be the chief enemy so large a bird would have to fear. An importation from Norway could be made without extraordinary expense. Should we ever have an acclimatization society in this Province, or should it fall within the scope of the Society for the Protection of Game, the capercailzie would probably be the first importation to which they would turn their attention with hopes of success. The black grouse (*Tetrao tetrix*) is another pleasing game bird, susceptible of naturalization here. The black grouse could live on the edge of our swamps and cranberry or blueberry barrens, and would put through the winter on juniper and beech buds and mast. For most part of the year they are wary, and afford capital sport. The principal British bird of game has yet to be noticed—the grouse proper (*lagopus scoticus*), the red grouse, locally called the muirfowl or gorcock. There are great doubts whether it would be possible to stock our barrens, even were its haunts as rigorously preserved as are the moors at home. True grouse seem to thrive nowhere but among the Scotch heather, the bells of which form their principal food,—although I have shot these birds when they were pilfering oats from late reaped fields on the edge of the moorland. Considering the almost impossibility of protecting them in a wild state, at the same time that they are quite susceptible of

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\*It is also found in Newfoundland.

domestication, they will not likely be ever found to multiply in Nova Scotia except as denizens of the aviary, or among the fancies of the poultry yard. Here let me contradict an error that is still going the rounds of English sporting works. In the "Field Book of the Sports and Pastimes of the British Islands," by the author of "Wild Sports of the West," (a recent edition,) it is stated, under the head of "American game," "The American grouse is precisely like the Scotch grouse. There is only here and there a place where they are found; but they are in those places killed in vast quantities in the fall of the year."\* Every body on this side the water knows that the American grouse—or partridge so called—are the birch† (*Tetrao umbellus*) or ruffed grouse, and the spruce spotted, or Canada grouse, both different from the red grouse of the British Isles.‡

As regards the family of pheasants, much may be said in their favour. The English pheasant (*phasianus colchicus*) has escaped from confinement and survived the winter in Nova Scotia. Golden and silver pheasants, now kept for luxury, have proved themselves capable of enduring the severest frosts. Indeed there are many varieties of pheasants, which, with the spread of agriculture in the future, may become the game of the country, and supersede, in the hedgerows and coppices, the now wilder winged ones of the woods.

One more splendid variety of game must be mentioned, which would multiply and flourish exceedingly, but the hope to see it in our woods is too utopian for this century. This bird is no other than the turkey; the half-bred bronzed being probably the best. We read that a flock of 2,000 were kept in Richmond Park in the time of George II., for the especial shooting of that monarch, but as the public surreptitiously joined in the sport, they were destroyed. The only drawback to their being naturalized as wild game in this Province is, that while one could be found, none of our backwoodsmen would want for a dinner.

Proceeding to the finny tribe:—

From the greater capacity of fish for bearing extreme variations of temperature, and from their adapting themselves so easily to

\* See Field Book, &c., page 9: London.

† It is the birch partridge (male only) that "drums."

‡ The willow grouse of Newfoundland, and the prairie hen, or pinnated grouse, have also been suggested to me, but I cannot speak of them from personal knowledge.

variations in the state of their natural element, whether it be rapid, sluggish, clear, or turbid, we should probably succeed with fish more surely than with any other game. Perhaps it is treason to hint that Nova Scotia is not so good a fishing country as many others. Several new varieties of fish have to be reared as stock on our aquatic farm before we can boast of much variety for *maigre* days. Omitting such of the game fishes of Europe and elsewhere as are manifestly unsuited to the Nova Scotian element, there are several of the *salmonidæ* that deserve passing enquiry. Thus the *salmo hucho* of the Danube, attaining the length of two feet, has attracted the attention of English fish-breeders. It can live wholly in fresh water; but as it is the most predatory of the tribe, the wisdom of introducing it here into our limited range of lakes may be questioned. The *salmo ferox*, or great lake trout—not to be confounded with the *salmo eriox*, or bull trout—is well adapted to our larger lakes, such as Rossignol, Grand Lake, &c, as it reaches nearly the weight of the true salmon (*salmo salar*), but does not migrate to salt water.\* It is found in all the mountain lakes of Scotland, Switzerland and Norway, and even in ponds without running water. It is decidedly ferocious. I am unable to say what relation the European fish bears to the great American lake trout, found in lakes Huron and Erie, but not in Ontario. Richardson, an American naturalist, calls the cis-Atlantic fish the *salmo Naymagush* (an Indian appellation), and describes its average weight as double that of the true salmon. Another of the tribe is named by the same authority, as the lesser lake trout, or *salmo adirondacus*, of four to six pounds weight, which does not rise, but is taken by trolling in deep water—therein differing from the Irish gizzard trout, or *gillaroo* (which answers its description), but which *does* rise to the fly, although its main food is small shell-fish. Yet another American member of the *salmonidæ* is found in New Brunswick, and is called the Schoodic trout; in appearance like a “grilse,” origin doubtful, being supposed by some to be a hybrid between the salmon and salmon trout.† It is permanent in the fresh water of the St. Croix River, and in the Schoodic lakes. It is called by Girard the *salmo Gloveri*. The delicate vendise or ven-

\*Col. Sinclair, A. G. M., captured a specimen which seems identical with the *salmo ferox*.

† A very unlikely circumstance.

gis (*salmo marenula*) known as the fresh-water herring in Scotland, Switzerland and Silesia, would doubtless thrive here, as there, in deep shaded lakes. So would the char, which inhabit the lakes of the Tyrol. Mr. Astley Baldwin,\* a pleasing writer on fish and fishing, recently remarks: "a new species of salmon trout has lately been brought to perfection on the continent (Europe). It does not grow to a considerable size; it is, however, very palatable, and commands a good price. The name bestowed on it is *salmo salvelinus*. This fish is being introduced into the Danube, one of the best rivers for fish of all kinds in the whole of Europe."

The Danube is at present a source from which many fine varieties of fish are being drawn for propagation, among others, the huge *siluris glanis*, which reminds me that forty years since Sir Humphrey Davy, in his "Salmonia, or Days of Fly-fishing," speaking of that river, says:—

"The four kinds of perch, the *spiegel carpfen* and *siluris glanis*, all good fish, and which I am sorry we have not in England, where I doubt not they might be easily naturalized, and where they would form an admirable addition to the table in inland counties. Since England has become Protestant, the cultivation of fresh water fish has been much neglected. The *barbot* or *lotte*, which already exists in some of the streams tributary to the Trent, and which is a most admirable fish, might be diffused without much difficulty, and nothing could be more easy than to naturalize the *spiegel carpfen* and *silurus*; and I see no reason why the *perca lucio perca* and *zingil* should not succeed in some of our clear lakes and ponds, which abound in coarse fish. The new Zoological Society, I hope, will attempt something of this kind; and it will be a better object than introducing birds and beasts of prey."

After this extract from Sir Humphrey, time need not be wasted in particularizing other less important varieties of fish desirable for our waters, such as varieties of the bass, tench, and carp, and the most recent English suggestion of the mountain mullet from Jamaica.‡ Suffice it to say that none of the above suggested additions to our game would be subjected to any new climatic or physical conditions were they imported into Nova Scotia. The main objections are the expense and the difficulty of protection.

With permission let me conclude this paper by reference to a

\* Once-a-week, Decr. 24, 1854.

† Salmonia, page 258, Lond. 1828.

‡ The yellow perch (*perca flavescens*) will live every where in Nova Scotia, and wherever that useless fish is now found, the black bass (*centopristsens nigricans*) would flourish, as also the striped bass, which although a sea-fish is said to thrive and even to improve by being cut off from the salt water. The loch bass, another variety, has found its way from Lake Champlain, through the canal, into the Hudson, and plentifully stocked that river.

desirable importation, (a crustacean,) which though not game itself, is nevertheless a capital addition to a game supper, the *cancer pagurus*, or large edible crab so abundant on the shores of Britain, especially along the east coast of Scotland. Nothing could be easier than to stock our seaboard with this excellent shell-fish. The writer chanced about three years ago to be the fellow-passenger to Europe of some tubs of live lobsters, which were sent from the shores of Maine, *via* Halifax, to the emperor of France; and thought at the time it would be a good thing were the tubs returned to the governor of Nova Scotia, filled with live crayfish and edible crabs, in return for the lobster salads the French savans have doubtless ere this enjoyed from lobsters native to the coast of Acadia.

By the way, there is one other fish which ought to abound in every brook and rivulet, *viz.*, *Leuciscus phoxinus*, or true minnow. They have only to be thrown into any suitable water to increase and multiply for the angler's use. They may be drawn from several of the streams near Halifax to stock other breeding places.

In a pleasing book by an American sportsman occurs the following passage, not inappropriate to the subject of this paper:—\*

“There is a very erroneous impression, encouraged too, shame to say, that the wild creatures of the woods and waters must, in the nature of things, disappear before man. Now, although this is a lamentable fact, it is not a necessary consequence, and there is nothing in man's capturing fish and killing game, properly and reasonably, that will seriously diminish their numbers. Fish and birds prey on one another: for every large trout a man takes he saves a hundred small ones; for every hawk he catches hovering over his barnyard and hills, he saves a hundred quail, and thus, although he kills them himself, he preserves them from vermin, from one another, and from birds of prey. If he will add to this a very little care and protection of the young, he will increase the supply a thousand fold.”

In conclusion, I have only to add, that an increase in the number and variety of our game must be an object of interest to every one who takes pleasure in out-of-door life, and, I think and hope, is alike within the province of the sportsman and the naturalist.

Let me hope that these imperfect notes may lead to more practical investigation, and tend, in a slight degree, to show the value, as preserves, of our forests and rivers, in which the game at present is so mischievously and wantonly wasted.

\* *Game Fish of the North* : New York, 1862.