

## THE EXTINCTION OF ANIMALS.

### INDIA'S NEED OF GAME LAWS.

It is hard for even the scientist to realise the immensity of the changes effected by human agency in the fauna of the world. Man has, as it were, turned nature upside down. He alone of all the wingless terrestrial animals has devised a method of crossing the ocean, nature's greatest barrier to migration. He has taken his domestic animals with him in his wanderings. Hence it is that barren rocks and islands of which the lizard is the highest indigenous animal can to-day boast of quite a mammalian fauna. The rabbit, the sheep, the dog, and the horse are now quite at home in Australia, a country far removed from their original birthplace. In short, man has changed the whole geographical distribution of animals. Then, again, the breeder has produced many new animals and totally altered the characters of others.

But the greatest of the effects produced by man, and the one which alone concerns us here is the extinction of many species. Not that nature was ever stationary. Before the advent of man, old species were, owing to natural causes continually disappearing, to be replaced by new ones more fitted to hold their own in the struggle for existence. Man, on the other hand, causes a species to become extinct without being able to supply another in its place. The huge flying reptiles—the pterodactyles and dinosaurs—are now no more. Nature caused their destruction only to replace them by birds and mammals. But what is to take the place of the whale and the elephant if they are swept off the face of the earth by man? In this there lies the essential difference between extinction due to natural causes and that brought about by man.

Man has many victims. The elephant, the rhinoceros, the whale, the walrus, the tiger, the lion, the ibex, and the bear will ere long be nothing but a memory. Nay more, it is not too much to assert that, but for recent legislation, before the twentieth century had closed all wild animals of any size, which have a commercial value or which are shot by the sportsman, would have ceased to exist. We may go yet further, and say that in a couple of hundred years there would not have been a single large animal left wild upon the earth. The present fauna would have been replaced by a set of pigmies.

Let us look for a moment at some of the destruction of animal life for which man is responsible.

Quite recently, geologically speaking, huge elks, reindeer, mammoths, hairy rhinoceroses, bears, lions, and wolves flourished in the British Isles. So completely extinct have they become in Great Britain that, but for the discovery of their fossil remains, we should never have known for certain that they existed there. The Irish elk and the mammoth have entirely disappeared from off the face of the globe; while the reindeer, the wolf, the bear, and the lion have become comparatively restricted in their distribution. They, too, are doomed as surely as was the mammoth.

In other parts of the world many creatures have become extinct within recent historical times. Of these we may mention the dodo, the great auk, the rhytina, and the moa, man in each instance being the main agent in effecting their destruction. Take the case of the great auk. In a quaint work upon Newfoundland published in 1620, we read that these birds were very plentiful, "and they multiply so infinitely, upon a certain flat island, that men drive them from thence upon a board, into their boats by hundreds at a time, as if God had made the innocency of so poor a creature, to become such an admirable instrument for the sustentation of man."

"On Funk Island," writes Pycraft, "these birds were discovered in 1534, and could then be reckoned by thousands. For more than two hundred years they were subjected to a ceaseless persecution, till at last they were exterminated. On this island, it is said, it was the custom for the crews of several vessels to spend the summer for the sole purpose of killing 'sure-fowl' (an alias of the great auk) for the sake of their feathers. Stone-pens were erected into which the birds were driven like sheep, to be slain by millions, and their bodies left to rot where they lay."

Look where we will, we see everywhere the same thing. Writers of fifty years ago describe the veldt of South Africa as a paradise of varied life. To-day, that part of the world is rather characterised by the absence of animals. This change is due solely to the carelessness and wastefulness of man, of which two examples, cited by Mr. Buxton in a recent number of *Nature*, must suffice. One culprit was "a gentleman wearing her Majesty's uniform, who killed approximately a score of wild beast in a day and left them rotting on the ground." In another case "an Englishman sold in Mombassa for £8,000 the ivory he had acquired in a single trip. In order to have obtained this thousands of elephants, must have been slaughtered"—of course, not all by the Englishman, since he purchased from natives most of his ivory. In America it is the same story; birds and beasts are alike disappearing. Mr. Cummings in a recent speech before the American House of Representatives, pointed out how twelve years ago the Susquehanna Valley was made joyful by the song of such birds as the yellow cherry, the ground chippy, the yellow hammer, and many others. Now not one of them is to be found in the valley. In Iowa the wild pigeon is a thing of the past. Prairie chickens are nearly extinct, and the wild duck is being rapidly exterminated. This slaughter is the result of women wearing feathers in their hats. The same speaker saw recently in a Philadelphia newspaper an advertisement for the skins of thirty thousand birds. The advertisement has been answered and a man has contracted to procure them all from the little state of Delaware. So great is the destruction of bird life in America that most of the United States have now protective laws. The quadrupeds of America are faring little better than their winged brethren. Not long ago the wapiti was common in nearly all parts of the United States, Mexico, and South Canada. It is now only to be found in mountain fastnesses or in the great forests of British America. The moose or American elk is fast disappearing on account of its being slaughtered wholesale for the sake of its hide.

If we turn to the sea, we find that even it is not exempt from the ravages of man. The whole is doomed to destruction. Mr. Beddard's "Book of Whales" contains a table compiled by Captain Lyell, showing that during the years 1870 to 1886 the whalers of Dundee used to catch annually as many as one hundred and ninety whales; while in 1899 such vessels only succeeded in capturing nine of these Cetacean monsters.

Anglo-Indians will not need to be told that in this country the destruction of game proceeds apace. We have lately heard much about the enormous destruction of river fish caused by native poachers. These men kill dozens of fish for every one they catch, so that rivers which were once the delight of the angler are now practically devoid of fish. Unfortunately what has been said upon the subject is not exaggeration, and we cannot too earnestly exhort the Local Governments to take measures for the protection of the Indian fisheries before it is too late. "Our feathered friends" are suffering the same fate. As Sir Charles Lawson has pointed out so ably in the

*Madras Mail*, in some regions as much as one-fourth of the cotton crop is lost from the ravages of an insect called *Depressaria* *rossi*. The increase of this pest has hitherto been checked by insectivorous birds; but these are now being killed wholesale for the sake of their plumage. Thus not only is the number of birds rapidly diminishing, but the insect pests are increasing in like proportion, so that grain and cotton fields are in many cases left at the mercy of these insects. Hence arises "a deplorable sacrifice of human food and the materials of human raiment, besides inflicting penury on individuals and a great loss of the State." If the proposed Society for the Protection of Birds in India be founded, it will have plenty of work to do.

In quite recent books upon Indian game we are told that black buck abound in India, and are often seen in herds, numbering over a thousand head. This was no doubt true at the time when it was written, and may even now be the case in certain parts of India, but in the N.-W. P. a herd of a thousand would be a truly wonderful phenomenon. The writer has repeatedly walked for miles through districts in the N.-W. P. without seeing game, big or small, of any sort. Some parts seem to have been literally "denuded of animal life, and this not through cultivation. So long as soldiers are allowed to go out with gun and rifle and shoot at every bird and beast they see, we may expect to notice a very rapid diminution in the numbers, not only of game, but of all animals. The instance of the black buck is by no means a solitary one. Nilgai and "pig" are far less numerous than they used to be, while the tiger, the panther, and the bear will soon be extinct in this country.

Those in authority might with profit remember that the rapid increase in population, coupled with the extensive clearings that are in progress, must necessarily cause a great diminution in the quantity of game. Civilisation is the most ruthless enemy of the wild animal. Then, again, the continually increasing facilities for travel give increased impetus to the destruction of wild animals. Each year a larger number of sportsmen come to India to shoot. Each winter sees a greater influx of visitors. The larger the number of "globe-trotters" visiting India, the greater the incentive of natives to kill black buck and other antlered game in order to secure the horns to act as handles of toasting-forks, legs of tables, etc. These mementos of the destruction of animal life which are displayed in such numbers in all the larger towns, seem to be eminently suited to the tastes of the American visitors. In most cases the antlers used in the manufacture of such articles are disgracefully small.

Then our game laws are practically non-existent. A European needs no gun license; he is in no way restricted as to what he shoots. There is, indeed, a close season fixed for the various kinds of game, but little or no attention is paid to it; probably not one sportsman in a dozen could say when the close season for any one animal begins or ends. How, then, can we possibly hope to preserve our game? Other countries whose game laws are, comparatively speaking, stringent, have to deplore the approaching extinction of their game. Take the case of British East Africa. There, in spite of laws, the diminution in the numbers of game during the last few years has been very marked. A little consideration of the course of events in that country will not be out of place here, for it will result in our fully realizing the catastrophe by which our game are threatened, and will suggest the method by which the disaster may be averted.

Some years ago certain game laws were made for British East Africa. A £25 license was imposed upon strangers and one of £5 on residents and officials as a necessary condition of shooting, while the license were limited to two specimens in the case of the elephant, rhinoceros, hippopotamus, buffalo, and giraffe. The penalties for breach of these laws were a fine up to Rs. 500 and two months' imprisonment. The rules proved totally inadequate. The destruction of big game proceeded apace. Consequently an international Convention was convened last summer to effectually secure the protection of African wild animals. The countries represented were Great Britain, Germany, Spain, France, Portugal, Belgium, and the Congo State. The area dealt with was defined, and the animals within it to be protected were divided into two classes. The first class contains those animals of which none are to be destroyed on account of either their rarity or utility. Under this category come vultures, secretary birds, and other animal scavengers; also the giraffe, gorilla, chimpanzee, mountain zebra, and many others. The second class includes such animals as the elephant, rhinoceros, buffalo, etc. Of these, the females and the young are not to be killed, and only a limited number of adult males. Further, certain reserves were fixed within which no animals of any kind are to be destroyed, close seasons were appointed. No one is to be allowed to shoot or hunt except under a license granted by the local Government. An export duty is to be imposed on hides and horns, and all elephants' tusks weighing less than 11 lbs. are to be confiscated.

In our opinion, it is imperative that there should be legislation on these lines in India, and no sportsman should rest until the laws necessary for the preservation of wild animals in India are made. Licenses should be required for both gun and rifle, and it would be an excellent thing if license-holders could be made to submit lists of game killed. This would often stay the hand of the thoughtless. Close seasons should be fixed and rigidly adhered to, offenders being heavily fined. The license should prohibit absolutely the killing of the females and young of the larger animals and limit the number of males killed in a season. Last, but not least, officials should be appointed whose sole duty it is to see that these laws are enforced. The fees for the gun licenses would go a considerable way towards meeting the extra expense that the adoption of the foregoing proposals would entail.

It is our conviction that, unless something be done, the day is not far off when India will no longer contain big game, and her small game will be as rare as in England, where shooting is a luxury only within reach of the rich. The mischief is not yet irreparable, but it soon will be. Let, then, the Government take speedy action, and let every European do all in his power to assist them, and thereby preserve to India her game and other wild animals.

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