

clearings, and on telegraph-poles where these are in the neighbourhood of opossum bushes. At the edges of clearings especially one often finds playing-grounds of opossums, where the grass is more or less trampled and marked by tufts of fur torn out in scuffling. In the bush itself regular runways are frequently found intersecting each other at various angles and extending over long distances. Opossum-dung lying about is often the first evidence of the presence of these animals.

VII. CATTLE, DEER, ETC.

I have not been asked to report upon the damage done by other animals than opossums, but I should consider myself failing in duty if I made no reference to the matter. In scenic reserves and on other Crown lands cattle are doing enormous damage. They eat and trample out the undergrowth, and their continued presence means death to the forest. Deer, when numerous, are almost as bad as cattle. Pigs are very harmful. In some cases rabbits do much damage. None of these animals should be allowed in forest reserves or in scenic reserves. It is not too much to say that in cases where bush is to be preserved not one head of cattle or deer should be allowed, and pigs should as far as possible be killed. The last Commission with regard to State forestry took much evidence on this point. Where the amount of fencing required is small, reserves should be protected by a fence on the sides on which they are open to invasion. In some respects more ranging, and perhaps the giving of power to rangers to destroy trespassing animals, would lead to the clearance of the forests. The cost of these measures could be met, in part at least, by revenue derived from opossums.

VIII. HABITS OF OPOSSUMS.

The opossum naturalized in New Zealand is the Australian opossum—*Trichosurus vulpecula*. Whether the short-haired Australian opossum—*Trichosurus canina*—is present or not I am uncertain.

Of the opossum naturalized in New Zealand there are two races—the grey, found in many parts of the Australian Continent, and the brown (or, as it is frequently called, the black, or the blue), especially characteristic of Tasmania. These two races are not distinct species, and there is little doubt that they have crossed in New Zealand. Some of the hybrids, at all events, appear to have fur intermediate in colour between the brown and the grey.

Opossums are nocturnal in habit, and during the day conceal themselves in hollow trees or in tufts of plants growing in the branches of trees, or frequently, as far as New Zealand is concerned at all events, under dry logs, or dry fern, or other plants. Their breeding-habits are of considerable importance in forming an idea of the rate at which they are likely to increase, and of what difficulty may be expected in getting rid of them if they should at any time prove altogether undesirable—a thing that, in my opinion, will never happen. Opossums breed once in each year, although occasionally there may be a second breeding. An opossum rarely produces more than one young animal at a birth, and never more than two. So rarely does it happen that two young are produced in one year that the departures from the normal state of things must be more than counterbalanced by occasional failure to breed and by mortality among the young animals. There need, therefore, be no fear that opossums can ever increase in numbers as the rabbit has increased in New Zealand.

Not only is the rate of increase slow, but the opossum is so easily trapped, snared, poisoned, or shot that man could check undue increase speedily and profitably, as is now done lawfully in some open districts, and unlawfully in protected districts. Probably no animal is more endowed with the curiosity that leads it into danger than the opossum, or is less gifted with the cunning to escape from danger, or even the sense to recognize it.

IX. POACHING.

In all protected districts in New Zealand in which opossums are present, and especially in those districts in which they have become numerous under protection, poaching is alleged to be carried on. There is in no case reason to doubt that the allegations are fully justified. In several districts the amount of poaching is undoubtedly great, and thousands—in some cases several thousands—are taken each year. This will continue until the trade is recognized as a legitimate one and is developed along well-controlled lines.

The evidence on which I have based my conclusions as to the state of poaching is not always evidence that I can produce, seeing that much of it has been given to me in confidence. I have had the pleasure of discussing the matter with many settlers who have considerable knowledge of the subject on which they speak, but who cannot, so far as their own personal experience is concerned, speak of opossums other than those incidentally caught in traps set for rabbits.

X. VOLUME OF TRADE.

The correspondence in the office of the Department of Internal Affairs, and that of the Department of Agriculture and other Government Departments, gives various estimates of the value of the opossum trade. The estimates vary from £20,000 to £200,000 or more a year. In no case could I find a basis upon which the estimates had been made. I therefore endeavoured to discover a basis for a fresh estimate, in discussion with men engaged in the trade or having first-hand knowledge of it.

It is to be borne in mind that in protected areas the law does not recognize the trade. I have become certain that the number of New Zealand skins that find their way on to the market is great, although I cannot quite say how great. Much of the information has been given to me by men who are engaged in the fur trade, who would like to see trade in New Zealand skins carried on under legal control, but who do not in the meantime see their way to refuse to handle skins when these are thrust upon them. If they did refuse to handle them, then they would stand on a much higher plane than that generally supposed to be occupied by business men, seeing that the thing is easy, the profits are large, and the illegality not very certain so far as the actual buyer of skins is concerned. It would be miraculous if all the members of the trade refused these obvious profits. It is even too much to expect that many should refuse them and so place themselves in a disadvantageous position in keen competition with less scrupulous competitors.