

## ON THE LOCAL DISTRIBUTION OF SOME TAS- MANIAN ANIMALS.

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BY MORTON ALLPORT, F.L.S., F.Z.S.

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EVERY person who takes the slightest interest in our natural history must have observed many instances of local distribution, of birds especially, which are often unaccountable, but which, nevertheless, carry with them very useful lessons as to the difficulties of establishing new forms of animal life, in a country already occupied, without great danger to the original occupants.

Many of the Fellows of this Society must have noticed the absence (till lately) from our suburbs of the black and white or whistling Magpie (*Gymnorhina organicum*), the Miner (*Myzantha garrula*), and the Rosella parrot (*Platycercus eximius*). From the earliest days of Hobart Town till a few years ago, these three birds were unknown, as residents, on the Hobart Town side of the Derwent, from Glenorchy to the Huon, although much of the country lying between these places is apparently similar to that inhabited by the same birds at a distance. So marked was this absence in the case of the Magpie and Rosella that Mr. Gould, the celebrated ornithologist, specially refers to it in his recently published handbook on the birds of Australia.

In 1860 a pair of Miners established themselves at New Town, and since that year several whistling Magpies and more Miners have built their nests in the domain. Rosella parrots are now frequently seen there also, but I have not yet ascertained whether they are more than casual visitors.

The long absence of these birds from country apparently well adapted for them cannot be accounted for by the mere presence of houses in the neighborhood, as the same rule would apply to country towns and farm houses generally, yet all three birds are found in great numbers in such situations.

The Surveyor-General, Mr. Calder, to whom I am greatly indebted for information as to the habits of many of our native creatures, and who has at one time or another visited almost all parts of the island, has remarked the very narrow range of locality occupied by numbers of our animals, in some cases evidently due to the different physical aspect of the country as regards climate, soil, vegetation, &c., but in many

others as unaccountable as in the three instances first mentioned.

For example, the Diamond Snake is never found in the country lying west of the Upper Derwent and Lake St. Clair, though other species are numerous. The large and beautiful Mountain Duck or Shieldrake (*Casarca tadornoides*) breeds in large numbers on one small salt water swamp near Swanport, and is never seen except in pairs as casual visitors in other swamps to our perceptions the very counterparts of that at Swanport. The little mountain rivulets running through New Town, Glenorchy, and Hobart Town, possess two species of small fish from the sea upwards for two or three miles, which species then gradually give place to a closely allied third species, not found in the lower streams, no difference in the food, temperature, or other physical aspects of the water being apparent to our senses.

The large fresh water fish known to northern colonists as the "Black Fish," and the great river Crayfish abound in streams flowing to the northern and western coasts, and are wanting in those flowing to the eastern and southern. Although in the case of the Gordon, flowing west, and the Derwent, flowing east and south, some of the sources of each river approach very near to the same spot, and the crustaceans might actually walk through swamps from one to the other.

The large Freshwater Mussel is present in the Macquarie, and absent in the Jordan, though the rivers are of much the same character. And the graceful Forrester rat (*Hypsi-prymnus apicalis*), plentiful all over the Bagdad tier, is never seen on the hills round Hobart Town, possessing the same climate and vegetation. So I might go on drawing instances innumerable from many sections of the animal kingdom, but those adduced will be sufficient for my present purpose.

With reference to the Magpie, Miner, and Rosella, Mr. Calder wrote me some time ago that he had been in the habit of frequently walking in the domain for 35 years past, and had never seen any of those birds there till the two preceding years, and concluded by asking what could cause their absence formerly or their presence then?

My own belief is, that the well-being of living creatures in their wild state often hangs upon a very slender thread, and that in such case but a slight alteration in the balance already established by nature may produce effects infinitely greater than any one would be, at first sight, prepared to admit. Is it not certain that the gradual destruction of any one creature, and the consequent increase of the food upon which that creature preyed, will make room for neighboring animals preying upon the same food?

In the earlier days of Hobart Town dense scrubs extended down the courses of the rivulets from Mount Wellington close to the town, and these scrubs were inhabited by large numbers of predaceous birds, now almost wholly absent. I allude to the large Chestnut-faced Owl (*Strix castanops*), the small spotted Owl (*Spiloglaux maculatus*), the Owlet Night-jar (*Egotheles Novæ Hollandiæ*) and the Mopehawk (*Podargus Cuvieri*). Till within the last few years these birds scoured the open country in their immediate neighborhood every night, the three last for insects, and the first for insects, birds, and small mammals. With the destruction of their daily hiding places these night-birds have gradually disappeared, and the insects on which they fed have proportionately increased, offering, I have little doubt, tempting inducements to the Magpies and other insectivorous birds to extend their range over the ground heretofore scoured by the night-feeders.

This alone may possibly account for the gradual introduction of the Magpie, and probably had a direct influence on the Miners and Rosellas, for both the latter birds are occasionally torn off their roosts by the large Owls, in the stomach of one of which I once found the greater part of a Magpie.

If I am right in my supposition as to the cause of the gradual appearance of these birds in country hitherto unoccupied by them, and that it takes so slight a change in the natural balance of creatures to settle the question of presence or absence of particular forms of life, it behoves all those interested in the cause of acclimatization to study well the natural history and capabilities of the countries to which they wish to introduce new creatures before spending much time or much money in their experiments. Wherever the destruction of indigenous creatures has been carried to such an extent as to amount virtually to extirpation, the acclimatizer may do good service in introducing and protecting animals of similar habits to those driven out, but where no such extirpation has taken place we may rely upon it that the successful establishment of new creatures can only be accomplished at the expense of those already in possession of the ground, and we should therefore be especially careful that the forms to be introduced are better worth having than those already existing.

With regard to the vegetable kingdom, if a man wishes to establish new plants he first proceeds to clear his ground of the existing vegetation, and would consider the attempt useless without this precaution. Is it not more than probable that the same natural laws, in this instance, govern both the animal and vegetable kingdoms?

The difficulties to be overcome in any attempt by man to alter the existing natural balance of animal life are felt to be so great by most scientific naturalists in England, that they look upon many of the acclimatization projects as likely to result in utter failure, and our salmon experiment especially has been frequently regarded as a waste of money, except as a warning to others. But the objecting naturalists have overlooked the fact that the tidal waters of the Derwent have unintentionally, but none the less certainly, been admirably prepared for the introduction of new fish by the indiscriminate and wholesale destruction of the indigenous species, carried on for 30 years past, thus removing powerful enemies on the one hand, and on the other increasing the quantity of food, which formerly went to support vast shoals of native fish, but which will now furnish an abundant supply to our grilse and salmon.