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Races, Colonisation and Migration in the Silvereye

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Introduction

Few city dwellers do not know the Silvereye, nor orchardists either for that matter. But as one moves inland, away from the dense, thickets and undergrowth of the coast, he becomes quite a rare bird. In fact, only in the Murrumbidgee Irrigation Area would he seem to be a common bird west of the range. By contrast, he is a common bird in suburban parks and gardens, and I have seem them contentedly feeding away on aphids in a peach tree in the heart of a Sydney slum. His commonness and trustfulness make him, in fact, the ideal bird for the city dweller to study. I would not like to guess when I first became interested in Silvereyes, but certainly one of my earliest introductions to ornithology was being held up to look down on the three blue eggs and dainty nest in a garden orange tree.

The Geographic Races

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One of the first things I attempted, when starting a scientific investigation of the Silvereye, was a study of geographic variation, for many animal species have races differing in appearance, just as does the human being. Over a period I obtained specimens of the Silvereye from all parts of the species range - south-Western Australia, Adelaide and Melbourne, Tasmania, Sydney, southern Queensland and north to Cairns. Later, at the American Museum in New York, I saw examples of Zosterops from Fiji, the New Hebrides, and New Caledonia. Within the Australian continent (and beyond) it was found that the Silvereye populations varied quite a lot, and I was able to confirm earlier work on the subject. The race gouldi from south-Western Australia differs from all others in having a completely green back. The others, by contrast, have green heads and the lower part of the back is also green - the centre of the back, however, is grey. The Tasmanian birds, and those from South Australia, have grey or olive throats. The former alone of all races have a deep brown on their sides - and this was the start of proving something not previously suspected, that the Tasmanian stock migrates northward into Victoria and New South Wales in autumn. On the Capricorn Islands near Rockhampton, the birds are distinguished by long bills, whilst around Cairns they have bright yellow under the tail. The fact that these different colour forms have developed tells one interesting thing - that though the birds may move around somewhat there is not really a great deal of interchange of individuals from one region to another. The Tasmanian stock, moreover, always returns to the south to breed and does not pair with birds from coastal New South Wales. *(A fairly high proportion of the birds that breed around Melbourne are of the Tasmanian type).*

Colonisation of New Places

One is used to hearing of humans colonising new countries, but that animals sometimes do it is not generally appreciated. The Silvereye, moreover, has the distinction of having established itself in a new area after one of the longest colonisation flights known. In the 1850s, British settlers in New Zealand suddenly noticed a small, greenish bird, with white eye ring, for the first time. They asked the Maoris about it and found that they had a name for it, the meaning of which was "stranger". Somehow or other a flock of Silvereyes had made their way across the 1,200 miles wide Tasman Sea to establish themselves in a new country. It was an amazing flight for a small bird used to living in trees. It is presumed that a flock must have been caught in a high wind, or else were able to rest on a ship after having been blown out to sea. Interestingly enough, too, when one studies specimens of the New Zealand Silvereye, they are found to belong to the brown-sided Tasmanian race, the same one that has a seasonal migration into New South Wales.

In 1904 Dr Metcalfe of Norfolk Island, who used to correspond regularly with the Australian Museum, wrote that a new bird had just arrived on Norfolk Island, and that he was sending two specimens to the Museum. They proved to be the common Silvereye, the brown-sided Tasmanian one. Obviously it had come from New Zealand. Today this Silvereye (there are also other species on Norfolk Island) is quite common there. Again, the story is presumably one of a flock being caught up in a wind and swept out to sea - and the hardy adventurers flew until land came into sight. And we have the exact date of it - one of the very few instances so recorded.

Apart from the spectacular oceanic crossings the Silvereye has undoubtedly been spreading out within Australia since the days of first settlement. If one crosses the Dividing Range into the drier, more open savannah country, one soon leaves the Silvereye behind. Even Armidale and Tamworth are surrounded by forest rather too dry and open for it. But many of the country towns on the western slopes have parks and gardens in which thick, shrubby trees are grown. Such towns now have their own populations of permanent residents. Gilgandra, Armidale, and Inverell are examples, though in the case of the last-named the orchards and vineyards that provide extra cover and a certain amount of food have a lot to do with it. The bird is also common in the Griffith-Leeton area. When samples are studied, it is found however that they do not resemble the birds in coastal New south Wales, but are pallid versions of those along the lower Murray and about Adelaide. It would seem that the development of agriculture along the Murray and Murrumbidgee have led to a slow spread of the birds upstream, and, like the M.I.A., these are now permanent residents and breed in the area. Other intermediate towns are visited by the birds only periodically, however. Hay is apparently such an example.

Colonisation of new areas is probably by first-year birds, for it has been found that the larger autumn aggregations that converge on vineyards near Sydney are mostly composed of such birds. That is to say, it is apparently the younger birds that represent the "dispersive phase"; it is apparently they that are to be found further afield in the autumn than is normal for the species. I base this on a number of experiences. There is a vineyard near Cabramatta that, because it is on the bend of a stream and is surrounded by dense vegetation, it is hard-hit by Silvereyes (which love grapes) in February and March. Large numbers are trapped as they enter the vines, but throughout the grape season they keep moving into this area. I visited this vineyard frequently, not only to study what the birds were actually doing to the grapes, but to obtain specimens to keep in an aviary, and to study the birds generally. ∠During the time I handled hundreds of the birds in the traps, and not one was adult. Every one was a young bird-of-the-year. I assumed, of course, that the adults were to careful to be trapped, so, over a period I shot birds in the surrounding area and listened carefully for a particular call-note that only the adults give. No adults were ever seen in the immediate area. Further investigation showed that most of the adults were still, at this time at least, dispersed through the areas in which they breed, though frequently accompanied by the young of the last brood. On other occasions I have collected Silvereyes in autumn in areas somewhat to the west of the usual range. On each occasion they have been immature birds. One May I collected a considerable number of the Tasmanian variety near Narooma (already distinguishable on their brown sides and grey throats). All, in this particular group, proved to be the younger ones. Apart from this, there is evidence that the bulk of the old birds stay in their general breeding areas throughout the winter.

When it comes to spreading to new areas, then, it would appear that the process is as follows: Immature birds gather into parties in late summer and wander about in search of food. At this time their travels take them into the drier country, where they find nectar-bearing blossoms and, presumably, insects brought on by summer rain. If they find an area of dense thickets suitable for breeding they remain; if not they return towards the coast. It is not my purpose in this article to discuss the food of the Silvereye, but it is relevant to note a very interesting fact. These birds love berries of certain introduced plants (or "weeds"). Amongst them are the inkberry, the nightshade, Solanum opacum, the lantana, the blackberry, the boxthorn and others. When one feeds captive birds on these seeds and then tests their viability (which the NSW Department of Agriculture was good enough to do for me) it is found to be quite high. That is to say, the seeds do not suffer from having passed through the bodies of the birds. From this it is a reasonable assessment that the birds actually spread their food plants by carrying the seeds from place to place. It is well-known that these introduced plants do not grow to any extent if dropped in natural forest - but they quickly germinate if dropped in fringe zones where the natural cover has been removed. That is why one finds inkberries and nightshade growing along the sides of the roads and the edges of fences.

Migration

One interesting result of the study of geographic races in the Silvereye was that it was established that there is a northward migration of Tasmanian birds in autumn. A considerable time ago Sydney ornithologists noted that in summer all the Silvereyes had yellow throats and pale fawn-coloured sides, but that in winter most had grey throats and flanks of a deep chestnut-brown. From this it was assumed that there was a summer and a winter plumage, and when studies by the ornithologist A. J. North showed that there was both an autumn and a spring mount this was accepted.

The writer was keen on taking this matter further, as he had previously noted that only some members of the Sydney population had brown sides in winter, suggesting that age or some other factor may have been involved. Accordingly, a couple of dozen were installed in an aviary with specimens of the Tasmanian race obtained from Flinders Island, the whole individually marked with coloured leg rings. Over a two-year period neither changed colour, each remained true to type. It was then noted that the brown-sided birds did not appear until late April in the Sydney area, long after the mount of the local birds was complete, and hence must belong to a distinct group. Many of them were first-year birds, whilst others were adult. There were both old and young yellow-throated, brown-sided birds were migrants to Tasmania, and did not belong to the local breeding race at all.

In subsequent years it was possible to get a fairly good idea of the arrival and departure times (late April and early May, and late June, early August respectively). Tasmanian individuals have been found wintering as far north as the Manning River on the coast and Armidale on the mountains. They are also noted along the central Murray (J. Hobbs). There are now a few records of the birds passing north in the early hours of the morning at this time of year. A feature of the migration is that is is not complete, a considerable number of the birds remaining behind (even in the colder parts of Tasmania) all winter. The numbers appearing in the Sydney area also vary considerably from winter to winter.