

developing into a regular occurrence, and that birds of this species may now have included Tasmania within the range of their nomadic wandering.

Birds Feeding on *Pittosporum* Seeds

By ROY P. COOPER, Melbourne, Vic.

One of the most common of the smaller trees grown in the home gardens of Sydney and Melbourne is the sweet pittosporum (*Pittosporum undulatum*). This tree, which is a native of East Gippsland and coastal New South Wales, is also widely used for hedges to serve as wind-breaks.

During the spring months the white, sweet-scented flowers are full of pollen and nectar, which attracts numerous insects. At such time of the year many birds feed on the insects, but few appear to take the nectar, which has a rank flavour.

In the autumn, the seed capsules, which are approximately one half-inch in diameter, burst open and a cluster of orange coloured seeds, set in a sticky substance, is revealed. Very few native birds will eat these seeds in any quantity. An exception appears to be the Silvereye (*Zosterops lateralis*).

Early in July 1958, while I was digging in the garden, a number of Silvereyes flew into a small pittosporum tree near where I was working. They commenced to feed on the berries and gradually worked their way through the tree until I was able to observe them from a distance of a few feet. They were feeding on the sticky substance that holds the seeds in the capsule, but they were also observed to swallow some of the seeds.

Mr. G. R. Gannon, when writing on 'Plants spread by the Silvereye', in *The Emu*, vol. XXXV. p. 314, states of pittosporum seeds that "Most seeds do not appear to have passed through the birds, for they may be seen scattered loosely over hessian covers, which, at times, I place over boxes containing seedlings. These seeds are very sticky, and the birds, in wiping their bills on small branches, no doubt deposit a lot of them on to the soil below."

Examination of the seeds in the droppings of the Black-bird (*Turdus merula*), discussed later in this paper, did not reveal any superficial difference from the seeds remaining in the capsules. It is possible that the same result would apply to the seeds passed through the Silvereye. These birds constantly wiped their bills on the nearby branches, but no seeds were left adhering to the twigs, nor were any seen to fall to the ground.

From these observations it would appear that most of the seeds were passed, unchanged, through the birds. Gannon further states that the seedlings were "constantly springing up under fruit trees". If the seeds were dropped by the birds wiping their bills on the branches, it would be necessary for

them to feed on the berries, fly to the fruit trees to wipe surplus seeds from their bills, return to the pittosporum and repeat the procedure—a most unlikely happening.

It can be reasonably accepted that most of the seeds are passed by the birds. In this case it is logical to assume that the birds were seeking the sticky substance that held the seeds in the capsules, and not the seeds.

Whilst most native birds may not like these berries, there are several introduced species that find this food acceptable, even if not palatable.

In Sydney in the autumn, it is a common sight to see Bulbuls (*Otocompsa emeria*) feeding on pittosporum seeds. They do not appear to eat large quantities, but apparently accept them in lieu of other food.

There is one introduced species, however, that eats them with great gusto. This is the English Blackbird, which is very common in the gardens around Melbourne. In the autumn they feed extensively on the berries of the ornamental shrubs, such as *Cotoneaster* and *Cratægus*. As the fruit ripens the birds will descend on to the tree and, in a short time, eat every berry. On one occasion I watched a Blackbird devour seventy-four berries off one of my *Cratægus* shrubs, with the same rapidity and action that is displayed by a domestic fowl eating wheat that has been thrown on to the ground.

A gardening expert recently stated, in a Melbourne newspaper, writing about a particular shrub, that it made a beautiful sight in the autumn, provided that some way was found to stop the Blackbirds from eating the berries.

When the berries are finished, that is eaten, as they would last for many more weeks on the shrubs if it were not for the Blackbirds, the capsules of the pittosporum are bursting. This is usually in June and July, and the birds now turn their attention to those seeds. For some weeks they do not appear to eat any other food, the worms in the lawns or under leaves in the gardens being unmolested. The entire contents of the seed capsules will be eaten.

The seeds are passed through the birds apparently intact, so that any nutriment must be obtained from the sticky substance which holds the seeds together. Droppings containing seeds will be seen everywhere—on the rails of fences, concrete paths in the gardens, the top of brick fences and the footpaths and roadways. On the top rail in one panel of my fence, twenty-six separate droppings were counted. These contained from thirty to sixty-two seeds in each, and all were still showing the bright orange colour.

Last year I planted all the seeds contained in one lot of droppings and over ninety per cent germinated.

Towards the end of July any seeds remaining in the capsules dry up and turn black. At this stage they are no longer eaten by the Blackbirds.