

BIRDS IN RELATION TO THE PINE FORESTS OF THE SOUTH EAST OF SOUTH AUSTRALIA

by C. K. PAWSEY

INTRODUCTION

The demand for softwood in South Australia will continue to rise through many decades yet, as judged from highly advanced communities elsewhere. Therefore it is essential that softwood afforestation in the South East be accelerated. This is leading inexorably to the almost total replacement of our rather unproductive native forest by exotic pines.

The substitution of virtually monospecific coniferous stands for the complex of trees, shrubs, and herbs comprising our several forest types constitutes, for most of the fauna concerned, a most violent change of environment. It is of interest to learn which species can adapt themselves to the changed habitat.

This article is based on observations made during the past twenty-five years, mainly at Mt Burr Forest, near Millicent. It compares the bird population of the pine forests in 1965 with that in 1950 and aims thus to indicate recent differences which may suggest future trends.

OBSERVATIONS

In Table 1 are listed the species recorded within the "closed" pine woods, either permanently or periodically. This excludes those juvenile stands wherein a canopy has not yet formed and also any relatively large unplanted areas other than the usual firebreaks.

The tabular statement is amplified by the following comments on the distribution and

frequency of the twenty-one species concerned.

1. Common Bronzewing (*Phaps chalcoptera*)

Not abundant; found in well thinned stands where seed production is appreciable, also in juvenile stands still containing wattles, etc.

2. Yellow-tailed Black Cockatoo (*Calyptorhynchus funereus*)

Abundant—in flocks which commonly unite to total several hundred. Found in any stands bearing cones. This bird has adopted a staple diet of pine seeds which are prized out of the maturing cones rather than sought on the ground. Presumably, it reverts to its original diet during the breeding season for this is not spent among the pines, but in a district that offers hollow spouts.

3. Crimson Rosella (*Platycercus elegans*).

Fairly common—in thinned stands, clearings and fire-breaks, feeding on fallen pine seeds and, more often, on seeds of composites and grasses. Obviously, this bird also is obliged to breed outside the pine forests.

4. Fantailed Cuckoo (*Cacomantis pyrrhophanus*)

Fairly common—chiefly conspicuous from late winter to mid-summer, in sapling and adult stands.

5. Horsfield Bronze Cuckoo (*Chrysococcyx basalís*)

Fairly common—usually from September, in sapling and adult stands.

6. Blackbird (*Turdus merula*)
Fairly common—in closed unthinned stands.
7. Ground Thrush (*Turdus dauma*)
Not abundant; this bird also possibly prefers unthinned stands.
8. Brown Thornbill (*Acanthiza pusilla*)
Very common in most stands, ascending into the upper crowns of even the tall trees.
9. Yellow-tailed Thornbill (*Acanthiza chrysorrhoa*)
Occasional parties on fire-breaks and in clearings.
10. White-browed Scrub Wren (*Sericornis frontalis*)
Very common in sapling stands and in stands having persistent bracken to provide low cover.
11. Superb Blue Wren (*Malurus cyaneus*)
Fairly common both in well thinned stands and in those having persistent bracken, also on fire-breaks and in clearings.
12. Scarlet Robin (*Petroica multicolor*)
Fairly common in well thinned stands and on fire-breaks.
13. Yellow Robin (*Eopsaltria australis*)
Not plentiful; found in both sapling and thinned stands.
14. Grey Fantail (*Rhipidura fuliginosa*)
Common in adult stands mainly, particularly in the well thinned ones.
15. Golden Whistler (*Pachycephala pectoralis*)
Fairly common in both sapling and adult stands; plentiful in some areas; especially noticed in spring and summer for its ecstatic singing.

Table 1.

Birds of the closed pine woods as recorded in 1950 and in 1965 and classified according to feeding habits.

	1950	1965
Foraging on the ground	Ground Thrush Scrub Wren White-winged Chough*	Common Bronzewing* Crimson Rosella* Scarlet Robin Yellow Robin Blackbird Ground Thrush Yellow-tailed Thornbill Scrub Wren Superb Blue Wren Grey Shrike-Thrush Goldfinch* Red-browed Finch* White-winged Chough* Black-winged Currawong*
Foraging among the foliage.	Brown Thornbill	Fantailed Cuckoo Horsfield Bronze Cuckoo Brown Thornbill Grey Shrike-Thrush Golden Whistler
Foraging on the trunks and branches	Yellow-tailed Black Cockatoo*	Yellow-tailed Black Cockatoo* Grey Shrike-Thrush White-throated Tree-Creeper
Foraging on the wing		Grey Fantail

N.B.—*Signifies wholly or partially seed-eaters.

16. Grey Shrike-Thrush (*Colluricincla harmonica*)

Common in most stands—feeding largely up the trees, like a tree-creeper, as well as on the ground.

17. White-throated Tree-Creeper (*Climacteris leucophaea*)

Rare so far, but at least one individual has been recently noted living wholly in the adult stands during several months.

18. Goldfinch (*Carduelis carduelis*)

Common wherever grasses and composites provide seed—as in well thinned stands and on fire-breaks.

19. Red-browed Finch (*Estrilda temporalis*)

Occasional parties on fire-breaks and in clearings.

20. White-winged Chough (*Corcorax melanorhamphus*)

Occasional parties in adult stands, thinned or unthinned.

21. Black-winged Currawong (*Strepera versicolor melanoptera*)

Not plentiful; perhaps restricted to areas within reach of patches of native forest, but habits not really known.

DISCUSSION

It is apparent from Table 1 that during the past fifteen years there has been a four-fold increase in the number of bird species associated with the pines. It is also seen that the increase is largely made up of purely insectivorous species, with only four seed-eaters.

This fact implies that there may have been an increase in the insect life within these pine forests. This is almost certainly true. Today there are more leaf-eating insects than formerly—some in such numbers as to cause sporadic defoliation more seriously and more frequently than was experienced even a couple of decades ago. These are chiefly lepidopterous larvae, some of which pupate on the foliage, some on the bark, others on the ground. Lace-wing moths also provide succulent larvae and pupae for the larger ground-feeding birds. Flies, wasps, aphides, and beetles swell the list, together with those pseudo—"insects"—the spiders. Such termites as occur are probably not accessible to our birds.

The increase in the insect population can be attributed partly, no doubt, to the increas-

ing proportion of thinned stands. For the first forty years the bulk of our pine forests grew in the unthinned condition—for lack of a market for small logs. Since World War II the situation has gradually approached the more normal state wherein successive thinnings prevent overcrowding. The reduced stocking commonly induces the appearance of a few grasses and herbs, especially composites, in so far as adequate illumination reaches parts of the forest floor.

The ultimate picture in South Eastern forestry might well be mainly a mixture of thinned woods and natural regeneration, without any appreciable areas either of "slash"—resulting from clear-felling, or of artificially established juvenile plantations. It is for this reason that these latter types of habitat are excluded from this discussion and the eventual bird-population of the pine forests can be expected to include only those species able to subsist without any appreciable fraction of the original flora.

The complete absence of Honeyeaters is bound to be permanent unless they develop the capacity to manage for the whole year without nectar. Again, the only additional seed-eaters in this district are several parrots and, in part, the Magpie. Therefore little further increase can be looked for in the number of species inhabiting these pine woods beyond, perhaps, the following:

other flycatchers, viz. Jacky Winter, Restless Flycatcher and Willie Wagtail; also the White-browed Babbler and the much less plentiful Grey-crowned Babbler; the Striated Thornbill, the Yellow-tailed Pardalote and/or the Striated Pardalote; and, just possibly, the Silvereye. These comprise the balance of our insectivorous forest birds.

On the other hand, birds of the open forest and forest margins—such as Hawks, the Raven and Kookaburra and the Dusky Wood Swallow should persist indefinitely to the extent that fire-breaks and other open spaces permit.

All told the picture is not of a black forest almost devoid of bird-life, but rather of a new habitat to which quite a sizeable proportion of the indigenous species, plus a couple of introduced foreigners, have become adapted or are in the process of so doing. Nevertheless there is still a desperately urgent need to conserve tracts of native forest.