

THE EASTERN SPINEBILL IN THE A.C.T.

By S.J.Wilson, Canberra.

Lane (1964) raises some most interesting problems regarding the Eastern Spinebill, Acanthorhynchus tenuirostris. The following notes continue and, to some extent, extend the information given by Lane, and are based mainly on banding in the A.C.T.

The Eastern Spinebill is widely distributed in the Australian Capital Territory and in nearby New South Wales. Prior to commencing banding by the use of mist nets I too was of the opinion that the population was sparse, and with little movement from place to place. Migratory movement had not been reported but it was my impression that the species was less numerous in winter than at other times.

Banding in the botanical gardens.

An area of some 80 acres is under development as a botanical gardens in Canberra and this is located on the lower eastern slope of Black Mountain about 1½ miles west of Civic Centre. By courtesy of the Director of Parks and Gardens, Mr. D. W. Shoobridge, I have been banding regularly in this area which is not yet open to the general public.

The Canberra botanical gardens consist entirely of Australian native plants. The older area of the development consists of wide long beds, often devoted to a single genus, with broad areas of native grasses, in lieu of formal lawns, between.

One area of the gardens has a small planting of well developed banksia shrubs, particularly Banksia ericifolia, Banksia marginata (a shrub form 10' high), and Banksia collina. Well advanced grevilleas grow in other parts of the area.

The winter in the A.C.T. is very cold with an average of over 100 frosts annually. Natural food for honeyeaters is scarce at this season and it was found that the flowering banksias and grevilleas of the gardens acted as a magnet for honeyeaters as they provide abundant nectar. Only Banksia marginata is native to the A.C.T. but it is found along the foothills of the ranges well to the west and south-west of Canberra.

Mist netting commenced in the gardens in 1961 and an average of 6 visits was made to the area over the winter/spring periods of 1961, 1962 and 1963.

Twelve species of honeyeaters have been banded there including such local rarities as the Scarlet Honeyeater (Myzomela sanguinolenta) and the Yellow-tufted Honeyeater (Meliphaga melanops), but the most common bird feeding on the nectar is the Eastern Spinebill. Flowering of banksias and grevilleas commences about April and, while the flowers last (till about September or October), the gardens area provides a remarkable study area for this bird. After the flowering is finished the honeyeaters of various species disperse to the breeding areas and cannot be mist netted so readily in this particular location.

The following are details of bandings of Spinebills in the area and subsequent retraps:-

<u>Year</u>	<u>Banded</u>	Number retrapped on subse- quent visits	No. of occasions on which birds re- trapped	Percentage retrapped in subse- quent seasons	Percentage of 1961 birds re- trapped in 1963
1961	67	41	87	25	12
1962	63	31	56	18	-
1963	101	57	113	-	-

Note: The year refers to calendar year as banding in this area extends from April to October.

Of the 1961 bandings, 12 were retrapped in 1962 and a further 5 in 1963, making 17 recovered in subsequent seasons. It is probable that work in the area during 1964 may increase the percentage of 1962 birds recovered subsequent to that year.

Retrap figures quoted above appear to indicate the possibility that the gardens winter population is a gathering of the immediate local breeding population. The retrap figures for later years do not appear to support a theory of movement from any distance though this possibility cannot yet be excluded.

The contrast of recovery rates with those of Lane can be readily explained by the fact that the nets are placed in proximity to all banksias and grevilleas in the area. As this is probably the only nectar available there is a reasonable chance of catching any bird feeding in the area on the day, though it is, of course, realised that not all birds present on one day can ever be taken. It is also highly probable that some birds may wander a considerable distance from the area during the season and would not spend all their time in the gardens area.

The figure of 25 per cent of 1961 birds recovered in subsequent years, with 12 per cent recovery in 1963, is considered most satisfactory for a passerine.

Because of the concentrated feeding area the number of occasions on which some individuals have been retrapped is high. The following is a selection of individual case histories:

<u>Band Number.</u>	<u>Date Banded</u> (a)	<u>Date last Retrapped</u> (b)	<u>Number of Retrappings Between dates (a) & (b)</u>
010-33158 (A-M)	12.6.61	1.9.63	1-1963
010-33713 (A-M)	12.6.61	15.7.62	4-1961, 3-1962
010-33714 (A-F)	12.6.61	1.9.63	2-1961, 1-1963
010-33228 (A-M)	24.6.61	14.9.63	3-1963
010-33231 (A-F)	24.6.61	18.8.63	1-1962, 1-1963
010-33716 (A-F)	12.6.61	1.9.63	2-1961, 1-1963
010-42883 (A-M)	23.4.62	30.5.64	2-1962, 3-1963, 1-1964
010-41554 (A-M)	23.4.62	25.4.64	1-1962, 3-1963, 1-1964

A-M = Adult Male A-F = Adult Female.

A feature of each of 4 of these case histories is the period of a full season during which the bird was not retrapped and its reappearance in the following year.

Period required to attain adult plumage.

The question of the time required to attain adult plumage is an intriguing one and while some of my information confirms Lane's hypothesis that adult plumage is attained within a few months, further research is desirable. The banding of nestlings and their later retrapping would be desirable to determine this question with exactitude.

The question was given particular attention in 1963 during banding in the gardens area. Nineteen juvenile birds were banded and eleven of these were retrapped. The percentage of juveniles retrapped bears a close relation to the percentage of adult birds banded and retrapped in that year. The following case histories of the retrapped juveniles show apparent variation in the season of the year when full adult

plumage is assumed:-

010-	<u>29.6.63</u>	<u>20.7.63</u>	<u>18.8.63</u>	<u>1.9.63</u>	<u>14.9.63</u>	<u>29.9.63</u>	<u>13.10.63</u>
60810	J	J	A-F	A-F	-	-	-
60819	J	J	J	J	J	J	J
60827	J	J	-	-	-	-	-
60828	J	J	J	J	J	-	-
60837	J	J	-	-	-	-	A-M
60844	J	J	-	J	-	-	-
60846	J	J	J	J	-	-	-
60970	-	J	J	J	-	-	J
60980	-	J	J	J	-	-	-
61099	-	-	J	-	-	A-M	-
61231	-	-	-	-	J	-	J

J - Juvenile A-M - Adult Male A-F - Adult Female

In the above table birds are classified as juvenile until full adult plumage was attained.

Information is lacking regarding the breeding season of the species in the A.C.T. Taking a line from other local breeding species of honeyeaters it is considered probable that breeding is complete by the end of February. On this basis 010-60819 and 010-60970 would have been 7½ months old at least when retrapped in juvenile plumage on October 13, 1963.

Banding of Eastern Spinebills in the A.C.T. and N.S.W.

In addition to the banding in the botanical gardens, I banded good numbers of Eastern Spinebills during 5 visits in the winters of 1962, 1963 and 1964 in an area 25 miles southwest of Nowra, N.S.W. This too is a winter feeding area where several species of honeyeaters congregate because of the nectar of flowering banksias. These birds throw a little additional light on the question of the duration of juvenile plumage.

I have also mist netted this species at all seasons of the year at other places in the A.C.T. and at nearby Lake George (N.S.W.)

Figure 1 shows the percentage of birds in juvenile plumage banded -

- (a) in the A.C.T. and at Lake George N.S.W., and
- (b) in the Nowra area (N.S.W.).

Figure 2 shows the actual numbers banded in these areas.

My bandings during the period June 1961 to June 1964 inclusive are the basis of these two figures.

While there are notable exceptions, most Australian passerines attain adult plumage in their first year and the Eastern Spinebill on the evidence of figures 1 and 2, conforms to the normal rule. The fact that some birds are in juvenile plumage in all months of the year in the area can be explained by the breeding season of "the spring, summer and early autumn months" (Lane) together with a period of several months at least to attain adult plumage.

Juvenile Plumage.

Further to the remarks of Disney (1963) regarding the plumages of male, female and juvenile of the species, a good field guide in distinguishing the sexes is the fact that from eye to eye across the crown, the male plumage is uniform in colour, black with a slight greenish lustre, whereas in the female the black of the facial area contrasts **with the** grey of the crown.

The juvenile plumage depicted by Disney first changes gradually to adult plumage on the throat and breast areas and before full definition is attained there the deeper colour of the adult crown (male or female) starts to develop. Even one adult feather in the crown will faithfully indicate the sex of the bird. The juveniles can be correctly sexed in this manner some considerable time before full adult plumage is attained.

Indications of Movement.

At Pine Island on the Murrumbidgee River south of Canberra in April and May 1963, Max Murn and I banded 38 Eastern Spinebills on days when we were netting migrant species. In April and May 1964 the figure was again 38. No retraps were taken in 8 visits in these months in 1963 and only three in 1964 despite 10 trips to the area. The area is a narrow belt along the river and the netting area, only 100 yards long, would not support a resident population of the size indicated by the banding figures. It appears that the birds move **along** the Murrumbidgee River at the same time as the Yellow-faced Honeyeater (Meliphaga chrysops) and White-naped

FIGURE 1.
 Percentage of Juveniles Among Eastern Spinebills Banded
 During the Period June, 1961 - June, 1964 (Inclusive), Shown
 By Monthly Totals.

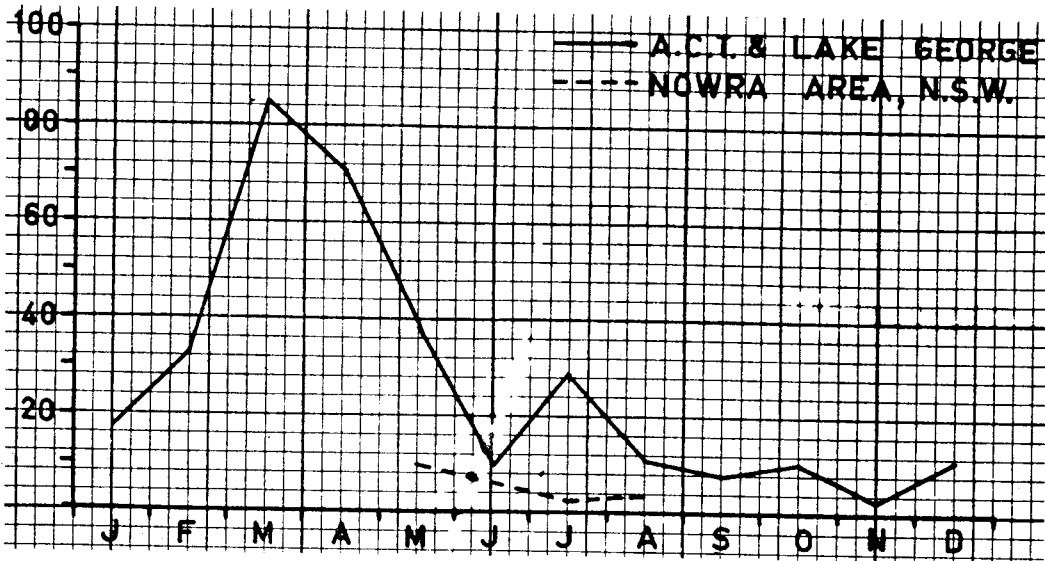
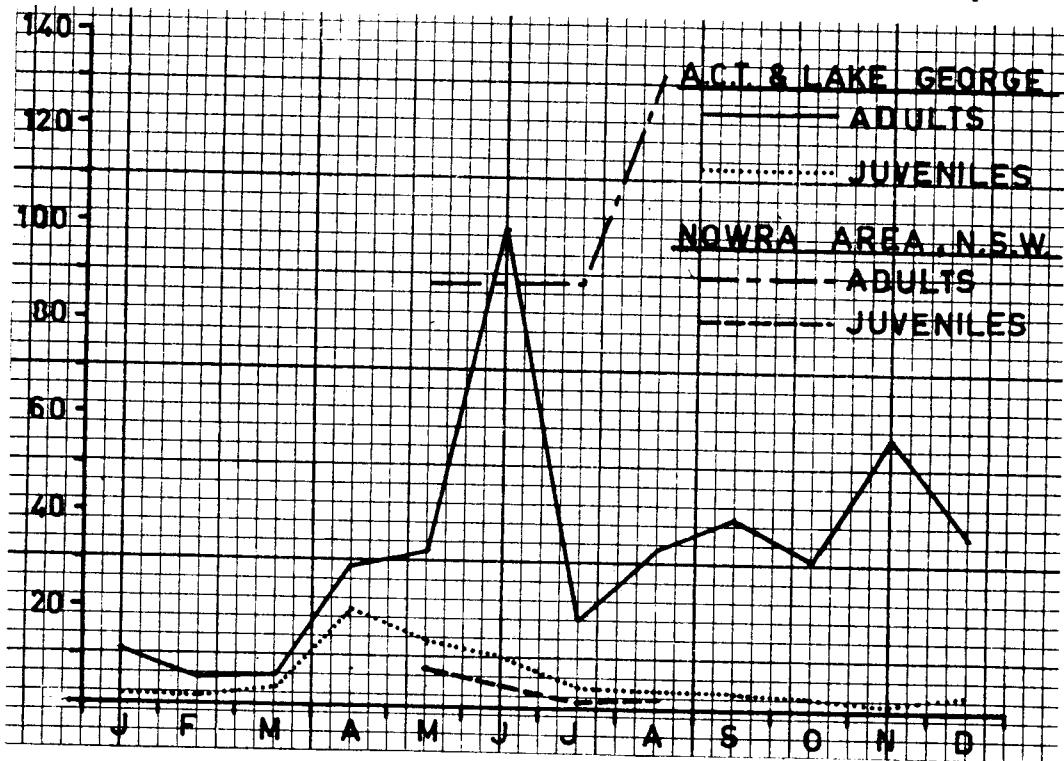


FIGURE 2.
 Numbers of Eastern Spinebills Banded During The Period
 June, 1961 - June, 1964 (Inclusive), Shown by Monthly Totals.



Honeyeater (Melithreptus lunatus), but not necessarily with those species. Pine Island offers no obvious advantage as a feeding area at this season. The extent of the movement of these Spinebills (if any) is not known.

I have no retrap records of movement of the species beyond distances of about 1 mile.

Conclusion.

My observations confirm Lane's conclusions regarding the dispersal drift of juveniles after the breeding season but I feel that adults as well may move more than is presently realised. It is probable that a drift of juveniles into the banding areas, e.g. Pine Island, in March and April accounts for the artificially high percentage of juvenile birds taken in those months (see figure 1) though the small samples taken (see figure 2) is a contributing factor.

Certainly much more information is required on the species and banders in the eastern States can assist with life history data and observations on concentrations and movements.

Our early morning winter work in the botanic gardens area (in temperatures down to (air) 18° and (grass) 15°) is continuing. This species is affected by cold if held for long in the net and every effort is made to release the birds caught as soon as possible.

Helpful suggestions regarding this paper were made by Warren Hitchcock, Don Lamm and Stephen Marchant.

References: Disney, H.J.de S. 1963 "Bird in The Hand", The Bird Bander, 1: 137 (September).

Lane S.G. 1964 "Banding Eastern Spinebills",
The Australian Bird Bander,
2: 8-11 (March).
