

The Yellow-faced Honeyeater (Meliphaga chrysops) is a common summer resident in the Australian Capital Territory, particularly along the Murrumbidgee River and in the western ranges. It also passes through in autumn and spring in extremely large numbers. On migration it appears to move along suitable lines across an extremely broad front between the coast and the western boundary of the A.C.T. and possibly beyond.

This species is sometimes accompanied by others, e.g. the Fuscous Honeyeater (Meliphaga fusca) a somewhat rare bird in the area, and the White-naped Honeyeater (Melithreptus lunatus). The latter also forms its own migrating flocks. Other resident honeyeaters associate with the migrant birds.

Very few Yellow-faced Honeyeaters remain in the A.C.T. during winter though large numbers have been seen, and some banded, on the coastal range just south of the Shoalhaven River near Nowra, N.S.W. about 100 miles from Canberra.

Prior to the 1962 spring season, the following figures had been recorded for this species (mist-netting was commenced in October, 1960):

	<u>New Birds</u>	<u>Retraps</u>
1960/61	29	2
1961/62	235	35

In the 1962 spring season the migration of the Yellow-faced Honeyeater through the A.C.T. was in remarkable numbers and flocks were noted almost daily in suitable weather from early September until early November. They were mist-netted in a variety of locations in the A.C.T. and nearby. The areas in which birds were netted was as follows:

Botanical Gardens. An area of cultivated native plants on the slopes of Black Mountain.

Narrabundah. The home area. A new residential suburb developed over the last three years with correspondingly new gardens. Grevillea juniperina and other native plants are in the home garden.

Mount Tidbinbilla. Thirty miles south of Canberra. Eucalypt scrub at the edge of the mountain forest area.

Pine Island. On the Murrumbidgee River. Netting was associated with stands of G. juniperina.

American Embassy. A well developed suburban garden.

Lake George, N.S.W. Tall eucalypts with blackberry and briar rose scrub.

Murrumbidgee Bridge. An area of G. juniperina near the junction of the Murrumbidgee and Cotter Rivers.

Lee's Creek Road. A regenerating forest area 30 miles west of Canberra. Altitude 2200 feet.

New Chum's Road. On the eastern slopes of the Brindabella Range, 35 miles west of Canberra. Altitude 3500 feet.

Bandings of Yellow-faced Honeyeaters for the 1962 spring season were :

Date	Place	New Bandings
1962		
September		
5	Botanical Gardens	13
10	" "	1
15	Narrabundah	28
16	"	42
17	"	23
18	"	14
19	"	4
20	"	11
22	"	4
23	Mount Tidbinbilla	2
25	Narrabundah	3
26	"	1
28	"	10
29	"	1
October		
1	Pine Island	61
1	Narrabundah	1
2	"	1
4	"	2
6	"	1
6	Lee's Creek Road	2
7	Narrabundah	2
9	"	3

<u>Date</u> 1962		<u>Place</u>	<u>New</u> <u>Bandings.</u>
October	13	Lake George	13
	20	American Embassy	6
	21	Murrumbidgee Bridge	149
	27	Pine Island	130
	28	New Chum's Road	3
November	3	Lee's Creek Road	8
	4	Murrumbidgee Bridge	37
	10	New Chum's Road	<u>1</u>
<u>Total</u>			<u>577</u>

Small numbers were netted after 10.11.62 but these appeared to be resident birds. There was no evidence of migration after the first week in November.

Retraps of this species during the same period were as follows:

<u>Band No.</u>	<u>Date</u> <u>Retrapped</u>	<u>Place</u>	<u>Date of</u> <u>Banding.</u>
020-			
33710	19.9.62	Narrabundah	15.9.62
33720	20.9.62	"	15.9.62
33848	25.9.62	"	22.9.62
	and 29.9.62		
33718	26.9.62	"	15.9.62
33732	29.9.62	"	15.9.62
33865	29.9.62	"	28.9.62
33871	29.9.62	"	28.9.62
27509	1.10.62	Pine Island	25.11.61
	and 27.10.62		
27468	6.10.62	Lee's Creek Road	11.11.61
27361	21.10.62	Murrumbidgee Bridge	7.10.61
27512	27.10.62	Pine Island	25.11.61
30313	27.10.62	" "	16.12.61
27389	28.10.62	New Chum's Road	8.10.61
27520	3.11.62	Lee's Creek Road	26.11.61
27449	4.11.62	Murrumbidgee Bridge	4.11.61
20452	4.11.62	" "	4.11.61
21987	4.11.62	" "	9.12.61
43148	4.11.62	" "	21.10.62
43152	4.11.62	" "	21.10.62
43159	4.11.62	" "	21.10.62
43197	4.11.62	" "	21.10.62
43266	4.11.62	" "	21.10.62
43268	4.11.62	" "	21.10.62
43372	4.11.62	" "	27.10.62

All retraps were at the banding place except one bird (020-43372), banded at Pine Island on 27th October and re-trapped at the Murrumbidgee Bridge on 4th November. This bird travelled  $\frac{9}{2}$  miles in a direct line (about 12 by the river) in a north-westerly direction at a time when the main flocks were following the river upstream in it's general southerly direction.

During the period discussed 11 birds banded in 1961 were retrapped. These would appear to be local birds which had returned to their breeding place after migration.

The small number of birds retrapped during the period is significant and would appear to show that the birds banded were indeed migrants. Some retrapping of birds of the day took place but these were less than 20% of those banded. Of the 61 birds banded at Pine Island on 1st October, none were retrapped when that area was again worked on 27th October. Somewhat similarly, of the 149 banded at the Murrumbidgee Bridge on 21st October, only 6 were retrapped on the next visit on 4th November. These 6 would appear to be individuals returning for the breeding season.

One peculiar aspect was that the movement ceased in the Narrabundah area on 9th October, whereas the largest numbers were taken along the Murrumbidgee on 21st and 27th October. Flowers were in bloom in the home garden many weeks before the same species bloomed in the bush. The garden plants were in flower long after the migrants left the area. There are no resident birds of this species in this particular area.

No roosting took place in the garden though the birds roosted in the grevilleas along the river.

Earlier observations of the migrations of the Yellow-faced Honeyeater indicated that the birds usually fly in flocks just over tree top height. These flocks are loose units with some birds joining as the flock proceeds while others drop into tall trees, presumably to rest. Sometimes the whole flock will pause in this manner. The impression has been gained of individual birds forming somewhat temporary flocks rather than of flocks proceeding as a unit for any distance. This form of "flock" migration has been observed in good weather in both spring and autumn.

Migration by flocks of this species occurs throughout the daylight hours, particularly between one hour after sunrise and noon. It usually follows a most haphazard line but is inclined in the general direction desired. Flocks generally follow any suitable line but never move far from tall trees.

Natural obstructions will cause detours and the birds have been seen to avoid the city of Goulburn, follow the shore of Lake George and to avoid open treeless areas. Surprisingly, two birds of this species were observed right at the summit of Mt. Kosciusko in April, 1962. It is not unusual during migration to see small groups flying directly in the reverse direction to the main flocks. This appears to be quite a feature of the movement and appears to be similar to the "reverse migration" reported in respect of some migrant species in other countries.

Autumn migration is preceded by the flocking of local birds and this appears to begin some weeks before movement starts. During the intervening period the birds appear to experience a mounting excitement and they fly in quite large groups between the largest trees, calling incessantly.

Good numbers of the species were mist-netted on blackberries during the 1962 autumn, and in this area blackberries appear to be a very important autumn food. However, the birds are also found at this time miles from these bushes.

The 1962 spring in the A.C.T. was wet, windy and cold, and this is confirmed by published weather details. Heavy rain fell during the period 15-17 October, 384 points being recorded. During this period the wind changed through all points of the compass as a storm passed. Wind velocities varied from nil to 42 m.p.h. during the same period. On these days the catch in the home area included 83 Yellow-faced Honeyeaters and small numbers of White-plumed (Meliphaga penicillata), White-naped and Fuscous Honeyeaters.

Most of the major catches were made on days when the weather was poor, for example on 21st October, heavy rain caused the furling of all nets for half an hour from 5.30 a.m., the most productive time of day. Rain fell lightly at other times during the morning. Notwithstanding the difficulties, the catch was 200 new birds (149 M. chrysops) and 14 retraps.

During the 1962 spring season it was noted that during threatening or wet weather, "flock" migration appeared to be abandoned in favour of a shrub height movement of individuals but the onward movement appeared to continue at such times. This "drift" movement was also observed between first light and an hour after sun rise in good weather and after that, on such days, the "flock" movements began. During the very wet period referred to, at Narrabundah, the "drift" movement continued all day with a few birds in the garden at all times but there was no concentration of birds. Somewhat similar observations were made in other areas in bad weather.

In the places where the largest catches were made the birds fed, with other species of honeyeaters, on relatively small patches of G. juniperina and this local native shrub appears to be a main source of nectar for local honeyeaters for about three months. This species and other grevilleas are in the home garden. Because of the somewhat small area of this shrub along the Murrumbidgee River it was possible to cover the localities by nets in an adequate manner. The "drift" movement through such areas appeared confirmed by the fact that at the time banding ceased on the particular days, a thorough check showed very much smaller numbers of birds than had been banded that day. The "drift" movement appeared always to be associated with feeding.

The attraction of the Yellow-faced Honeyeater to the nectar of G. juniperina is amazing. At Narrabundah unbanded birds were repeatedly observed to fly up the hill from the north-east and to approach over the nearby houses directly to these shrubs. It appeared that they were aware of it's presence before the plant could have been sighted.

Only small numbers were noticed migrating in the ranges and only small numbers were netted there. There is a very large and widespread resident summer population throughout the ranges. Large numbers of migrant birds have been noted in the ranges in autumn.

The practice was to have all nets in position by first light. Up to 15 nets were used but in the home garden it was usually two or three. In the "away from home" localities, from three to five operators were involved. On wet days birds were removed from the nets immediately and this is considered important as rain soon penetrates the plumage of a netted bird.

During September the spring calls of the species were seldom heard. The crisp "chip" which is a "flock" migration call was heard frequently. Feeding birds gave a harsh "kheer" with a downward inflection. Spring calls were heard more and more as October passed, presumably as breeding birds arrived back in their home territories.

Several factors appear to have contributed to the success of this banding effort:

- (a) Numbers of this species migrating through the A.C.T. appeared larger than normal. Certainly netting in the same areas at the same time in 1961 did not give comparable results, though more equipment and greater experience both helped in 1962:

- (b) Wet weather appeared to prevent "flock" migration to some degree this being replaced by "drift" movement at such times. As the "drift" occurs at very low levels, this brought large numbers within the range of the nets:
- (c) G. juniperina is a major food plant of honeyeaters in the A.C.T. in spring and the stands along the river and plants in the garden attracted large numbers.

Experience in netting this species this year emphasises the importance of associating mist netting with known food plants where this is possible.

We have much to learn regarding our migrant honeyeaters. What are the limits of the migration? Do all populations move or are the birds sedentary in certain districts? Why does the migration extend over such a long period? What factors trigger the movement? To what extent is the availability of food an influence? What effect has weather on the matter? Do all birds return to their breeding areas? How long does one bird take to move from winter quarters to the breeding area? These are just a few of the obvious questions that come to mind.

Any information from other members, particularly those who have banded the species and those who know the Yellow-faced Honeyeater in it's winter quarters would be greatly appreciated.

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#### NOTES ON BANDING RAINBOW BIRDS.

S.G.Lane, Lane Cove.

The Rainbow Bird (Merops ornatus) is found throughout most of Australia except Tasmania. It is a migratory species at least in the southern parts of the continent arriving in September or October to breed and departing in the autumn in March or sometimes as late as April. The range of the species extends to the islands to the north of Australia as far as the Celebes.

Little is known in detail of its movements and few have been banded. The Sixth Annual Report of the Australian Bird-Banding Scheme (July, 1959 to June, 1960) shows that 44 Rainbow Birds were banded to June, 1960. Two years later (June, 1962) the total was 102.

My banding of this species has been mainly carried out at Broke, about twenty miles south of Singleton in the Hunter Valley, N.S.W. This site is 96 miles from my home and unfor-