These recent sightings, which involved more or less sedentary birds in immature or imperfect adult (winter?) plumages, all occurred in far northern Australia between late November and early February. It therefore seems likely that they reflect an expansion of the 'wintering' range of the species.

My sighting is remarkable in its contrast to these recent sightings and its extreme similarity to the 1905 report. Both this bird and the original one were mature males in immaculate breeding plumage. Both were found in June (breeding season in the northern hemisphere) at sites only about 150 kilometres apart in south-eastern Queensland, some 800 kilometres south of the known wintering range. Although the bird in 1905 was collected so that its status is unknown, the bird on Heron Island was apparently in transit.

Blackwell and Yates (1979) reported a Yellow Wagtail from Richmond, NSW, in April 1979. This bird was also in breeding plumage but lacked any superciliary stripe. The authors assigned it to *M.f. thunbergi,* a European subspecies that winters as far south-east as Burma, and suggested that it might have made an error of 180° in navigation. This raises the possibility that the nearly identical sighting of *M.f. tschutschensis* in 1905 and 1979 may have resulted from some systematic irregularity in pre-breeding migration.

M.f. tschutschensis winters very close to the equator in the Sundas and Moluccas, migrating in a north-easterly direction to eastern Siberia and Alaska. The straight line between winter and summer ranges would have to be reflected across the equator or rotated approximately ninety degrees to pass over south-eastern Queensland. It is difficult to reconcile this with the theories of reverse migration reviewed by Rabφl (1976), viz an error of 180° in a single coordinate orientation or a reversal along the great-circle path toward a goal in the bi-coordinate navigational system. One possibility would be a shift of 180° along only one axis in a bi-coordinate system (i.e. the bird uses the correct eastern component vector but reverses the northern component). This hypothesis would be tenable if very different cues were used to establish position along the two axes (e.g. magnetic and celestial). Alternatively, if orientation were basically north-south and navigation were effected by correction to a baseline such as a sea-coast, a bird making an initial error of 180° might still reach south-eastern Queensland.

Clearly the present data are insufficient for anything more than generating hypotheses about extralimital occurrences of Yellow Wagtails. However, because Australia lies south of the wintering grounds of several subspecies and the species is rare enough south of 18° S latitude to attract attention, systematic irregularities in migration might appear as patterned observations. It is important, therefore, that the change in status on the RAOU checklist, which reflects a different phenomenon, does not inhibit full reporting of sightings that do not conform to the pattern of most recently published reports.

I should like to thank Dr. D. D. Dow and Mary J. Whitmore for reading and criticizing an earlier draft of this manuscript.

REFERENCES

ANON. 1905. Notes and exhibits. Proc. Linn. Soc. NSW 30: 574-579.

BLACKWELL, G., and N. YATES. 1979. A Yellow Wagtail near Richmond. Aust. Birds 14: 35-36.

CONDON, H. T. 1967. Ninth supplement to the official checklist of the birds of Australia (second edition). Emu 67: 139-141.

CRAWFORD, D. M. 1972. Birds of Darwin Area, with some records from other parts of Northern Territory. Emu 72: 131-148.

——, and S. A. PARKER 1971. First record of the Yellow Wagtail in the Northern Territory. Emu 71: 142.

GILL, H. B. 1976. The Yellow Wagtail *Motacilla flava* in northern Queensland. Emu 66: 369-371.

LINDGREN, E., and P. SLATER 1961. Yellow Wagtail (*Motacilla flava*) at Derby. West. Aust. Nat. 8: 36-38.

RABφl, J. 1976. The orientation of Pallas' Leaf Warbler *Phylloscopus proregulus* in Europe. Dansk orn. Foren. Tidsskr. 70: 5-16.

J. DAVID MOFFATT, *Department of Zoology, University of Queensland, St Lucia, Q 4067.*
18 October 1979.

DIET OF THREE INSECTIVOROUS BIRDS ON BARROW ISLAND, WA

A recent survey of the birds of Barrow Island, sixty kilometres off the north-western coast of Western Australia (20°50′S, 115°24′E), showed a small avifauna with few land-birds (Sedgwick 1978). During tenure of the WAPET 1979 Barrow Island Research Grant, we compared the diets of the three most common birds on the island: Singing Honeyeater *Meliphaga virescens,* Spinifexbird *Eremiornis carteri* and Black-and-white Fairy-wren *Malurus l. leucopterus.* These species were widespread among the spinifex and its emergent shrubs and, apart from a few cuckoos and pipits, were the only birds that exploit insects on the ground and round vegetation. Flying insects were taken by Welcome Swallows *Hirundo neoxena,* Tree Martins *Petrochelidon nigricans* and White-breasted Woodswallows *Artamus leucorhynchus,* which were not studied.

Contents of the guts of some birds, taken under licence for genetic studies, were examined. Other birds were kept briefly, before release, to obtain faecal samples from which insect food was identified (Davies

TABLE I
The frequency (in percentage) of prey and sizes of prey of the three main insectivorous birds caught on Barrow Island during July 1979 and the morphological characters of the birds.

	Singing Honeyeater	Spinifexbird	Black-and-white Fairy-wren
Sample			
Birds	22	14	8
Insects	88	55	21
Frequency (%) by type of prey			
Coleoptera	38	56	81
Hymenoptera	40	16	5
Diptera	11	7	5
Blattodea	1	6	0
Lepidoptera	3	2	0
Larvae	4	2	0
Araneae	0	6	0
Other	3	5	9
Size of prey (length of insect – mm)			
<3	22	24	59
4–8	39	33	23
>8	39	44	18
Weight (g)	24.6	12.2	6.1
Length (mm) wing / tarsus	$\frac{90.5}{27.6}=3.3$	$\frac{54.0}{17.7}=3.1$	$\frac{45.6}{20.9}=2.2$
Bill: length (mm) / depth	$\frac{17.4}{4.8}=3.6$	$\frac{13.0}{3.8}=3.4$	$\frac{9.6}{2.8}=3.4$

1976). The results from these two techniques, which both underestimate soft-bodied prey, were very similar and the information from them has been combined. Table I shows that both Singing Honeyeaters and Spinifexbirds took a wide range of insects but that the Fairy-wrens specialized on beetles. The Honeyeater caught many insects by hawking, as shown by the large proportion of hymenopterans and dipterans in its diet. Each pair of Spinifexbirds remained in a small territory, which was defended vigorously by song (Wooller and Bradley 1981), presumably feeding opportunistically on all suitable insects encountered. Parties of Fairy-wrens travelled much greater distances looking for beetles. On three separate occasions Spinifexbirds were seen to drive off Fairy-wrens trying to feed in the same bush. Rather surprisingly, the Spinifexbird was closer to the Honeyeaters than to the Fairy-wren in its diet. However, the Honeyeater ate nectar, pollen and fruit as well as insects and required trees or shrubs, whereas the Spinifexbird was also found in unbroken spinifex country, as was the Fairy-wren.

Measurements of the three species showed that their weights formed a geometric series with a ratio of two between species (Table I). Such a Hutchinsonian series (Hutchinson 1959) in co-existing species is usually thought to result from competition for resources in which species have achieved the tightest possible packing in a single aspect of their niche, viz size of prey. As Table I shows, the smallest species, the Fairy-wren, did indeed take significantly smaller items of food than the intermediate Spinifexbird ($\chi^2=9.18$; $P<0.02$). However, although the larger Honeyeater tended to take larger prey than the Spinifexbird, this difference was not significant, probably because the Honeyeater was only partially insectivorous and did not compete directly with the other two species.

Other morphological ratios (Table I) reflect the foraging habits of the species (Hespenheide 1973). The more aerial hawking Honeyeater has relatively long wings and short legs compared with the long-legged short-winged Fairy-wren, which is a hopping gleaner. The long thin bill of the Honeyeater is needed to probe for nectar whereas the two specialist insectivores have shorter bills of identical shape but different sizes.

The West Australian Petroleum Pty Ltd provided excellent support throughout this study and the Western Australian Wildlife Authority kindly allowed us to work on Barrow Island. The experience, knowledge and encouragement of the WAPET Conservation Consultant, Mr W. H. Butler, was invaluable throughout. We thank Stuart Bradley and Ian Rowley for their comments on the manuscript.

REFERENCES

DAVIES, N. G. 1976. Food, flocking and territorial behaviour

of the Pied Wagtail *Motacilla alba yarelli* Gould, in winter. J. Anim. Ecol. 45: 235-252.
HESPENHEIDE, H. A. 1973. Ecological inferences from morphological data. Ann. Rev. Ecol. Syst. 4: 213-229.
HUTCHINSON, G. E. 1959. Homage to Santa Rosalia or why are there so many kinds of animals? Am. Nat. 93: 145-159.
SEDGWICK, E. H. 1978. A population study of the Barrow Island avifauna. West. Aust. Nat. 14: 85-108.
WOOLLER, R. D., and BRADLEY, J. S. 1981. Consistent individuality in the calls of Spinifexbirds *Eremiornis carteri* on Barrow Island, WA. Emu 81: 40.

R. D. WOOLLER and M. C. CALVER, *School of Environmental and Life Sciences, Murdoch University, Murdoch, W A*
20 November 1979.

THE SUBFAMILY NAME OF THE MONARCH FLYCATCHERS

In a recent paper (Boles 1979, Emu 79: 107-110), I proposed segregating the Australo-Papuan flycatchers in a single family with two subfamilies. At that time I had not ascertained the authorities or dates of publication for the names used. I take this opportunity to correct these omissions.

The family of Australo-Papuan flycatchers takes the name Pachycephalidae Swainson 1832 (Fauna Boreali-Americana, pt 2: 492) with Pachycephalinae (robins and whistlers) being the nominate subfamily.

Although I designated the other subfamily (monarch flycatchers and fantails) as Monarchinae Beecher 1953 (Auk 70: 294), the name for this taxon should be Myiagrinae Cabanis 1850 (Museum Heineanum, pt 1, sig. 7: 56). Another junior synonym is Rhipidurinae Sundevall 1872 (Tentamen, pt 1: 25). Myiagrinae has clear priority but is an unused name in the sense of Article 23 (a-b) and 79 (b) of the International Code of Zoological Nomenclature; it has not been in use during the last fifty years or more. Application could be made to the International Commission of Zoological Nomenclature to suppress Myiagrinae under its plenary powers if the introduction of this name would 'disturb stability or universality or cause confusion.'

Rhipidurinae is in current use but I prefer to maintain Myiagrinae. Recent authors have applied various names to flycatchers with a number of different connotations. Because there is no universal application of family names of flycatchers, I do not feel there is a good case for the suppression of Myiagrinae to preserve the stability of Rhipidurinae.

The family Pachycephalidae Swainson 1832 is thus composed of the subfamilies Pachycephalinae and Myiagrinae Cabanis 1850.

WALTER E. BOLES, *Department of Ornithology, Australian Museum, 6-8 College Street, Sydney, NSW 2000.*
Received 21 November 1979; accepted 30 May 1980.

SEASONAL CHANGES IN A COMMUNITY OF HONEYEATERS IN SOUTH-WESTERN AUSTRALIA

During a study of Noolbengers *Tarsipes spenserae* in coastal heathland fifty kilometres east of Albany, on the southern coast of Western Australia, birds were caught to obtain pollen samples and changes in the numbers of honeyeaters were assessed.

Four mist-nets were set for two days in each of nine months during 1979, along a track through 2.5 hectares of *Banksia* thicket, which was isolated from other thickets by swamps. The thicket was three metres high, of similarly aged plants (the area was chained ten years earlier), and dominated by *Banksia coccinea,* with many *B. baxteri* and some *B. attenuata* and *B. grandis. Banksia coccinea* flowered in spring, *B. baxteri* in autumn and early winter; only a few flowers of *B. attenuata* and *B. grandis* were available during the summer.

All birds caught were nectarivores of seven species, except two Red-eared Firetails *Emblema oculata,* two Golden Whistlers *Pachycephala pectoralis* and a White-browed Scrubwren *Sericornis frontalis.* The numbers and types of birds caught may be affected by differences in the patterns of activity according to season and species. However, the nets were not used on days with strong winds or other extreme weather conditions, which might have influenced their success. Although the density of the thicket made censusing by the usual methods impossible, incidental observations made during six to ten days of trapping for Noolbengers during