

jective) are recorded in the Kimberleys when knowledgeable observers increase. Dr. W. D. L. Ride (Director of the W.A. Museum) has suggested to me that the two mysterious pittas from the Kimberleys (which Mathews described as a new species but which Whittell and I dismissed as probably imported by human agency as pets) may quite well be ranked in this category. The birds, as hinted by Mathews in his original description, are the Blue-winged Pitta (*Pitta brachyura*), which is a partial migrant in the Indo-Malayan region.

I am indebted to Dr. G. F. Mees (of the W.A. Museum) and Mrs. Enid Wylie (of the C.S.I.R.O. Wildlife Survey Section) for assistance in literature references.

Stray Feathers

Hybrid between Yellow and Crimson Rosellas.—On May 27, 1958, at Tocumwal, New South Wales, I saw a parrot which was undoubtedly a cross between a Yellow Rosella (*Platycercus flaveolus*) and a Crimson Rosella (*P. elegans*). The bird was with a flock of about ten normal-plumaged Yellow Rosellas.

My attention was first drawn to it by its obvious redness as it flew overhead. At close quarters it was possible to see that all the head, apart from the blue cheeks, was red. This red, as in the remainder of the plumage, was not the vivid red of *elegans* but a brick red. It faded slightly down the nape, becoming browner before meeting the mantle. The whole of the under-parts, other than a thin strip immediately below the closed wing, was red, deepest at the throat, under the blue patch, and across the breast, fading slightly on the abdomen around the legs, where a slight admixture of yellow gave a scaly effect, and then deepening again on the undertail coverts. The rump was tinged reddish, giving it a dirtier appearance than in the Yellow Rosella. The remaining upper-parts were the typical yellow and black of the Yellow Rosella. I have lived in 'Yellow Rosella country' for some years and am familiar with the variations in this species and the amount of red in this bird far exceeded that in any I had seen before. It had an appearance identical with that of the Adelaide Rosella (*P. adalaidæ*) which I had seen in the Adelaide area a fortnight earlier.

A local aviculturist informed me some time ago that *elegans* used to appear each winter in the Tocumwal and Finley area and that he had seen it at Mulwala only a few years ago. I have not seen the bird in the area despite two special trips to Mulwala. However, G. W. Bedggood (*Emu*, vol. 58, p. 72) has recorded it as an irregular visitor to the Mooroopna district, which is only 40 miles south of Tocumwal. *P. elegans* is known to move out of high country during winter, and there is no reason why some birds should not

follow the timber along the River Murray. Possibly these winter visitants may occasionally stay and pair with *flaveolus*, or even take *flaveolus* back with them (*Emu*, vol. 56, p. 212). The adherence of *flaveolus* to its red gum habitat gives rise to an insurmountable barrier between the main breeding populations of the two species, and the very infrequent inter-breeding which could arise from nomadic *elegans* could not produce an intergrade population like *adelaidæ* in South Australia.—J. N. HOBBS, Finley, N.S.W., 17/8/58.

Feathers in the Lining of Lyrebirds' Nests.—The nests of Superb Lyrebirds (*Menura novæ-hollandiæ*) are lined with filamentary feathers plucked from the flanks of the brooding bird. The task of incubation is performed by the hen bird alone, and she is often away from the nest foraging for several hours, in which period, no doubt, the feather-lining provides some warmth for the egg. Nevertheless, the egg becomes quite cold, despite the presence of numerous feathers.

A more important factor than warmth may be concealment, for, a few days after the egg has been laid, the feathers are in such numbers that they more or less cover it. Possibly they may also act as a deterrent to sniffing predators, such as native cats or rats, whose noses would be irritated and tickled by the loose, downy feathers.

In some cases, at least, a few feathers may be placed in the nest shortly before the egg is laid. However, most of the feather-lining is added after the egg has been deposited. Incubation normally takes about six weeks, but it is not known at what stage during that period the female ceases to add feathers to the nest-chamber.

Recently (July 1958) an egg that had been brooded for at least a month in a Lyrebird's nest at Bayview, near Sydney, was found to be broken. Shattered egg-shell was mixed with the feathers in the lining, and a portion of the shell was also found on the ground beneath the nest. All of the feathers in the nest were removed, counted and measured. The total number was 115: 50 per cent were 6 inches long, 9 per cent were 5 inches long, 8 per cent were 4 inches long, 13 per cent were 3 inches long and 20 per cent were from 1½ to 2 inches in length. Lengths of feathers from 3 to 6 inches long are approximate to within half an inch.

The feathers, when loosely placed together, formed a beautifully soft bed about 8 inches in diameter and some 2 inches deep. Only three of the feathers were other than the loose, downy type. The exceptions were short (less than 3 inches) normal contour feathers, which may have been inadvertently plucked by the bird when she was removing the filamentary feathers from her flanks.—K. A. HINDWOOD, Sydney, N.S.W., 29/8/58.

Breeding Notes on the Willie-Wagtail.—In the *Western Australian Naturalist*, vol. 1, p. 14, notes compiled by me

on the nesting cycle of the Willie-Wagtail (*Rhipidura leucophrys*) were somewhat inconclusive due to the absence of precise dates, as all nine nests observed were difficult of access. E. A. R. Lord's notes on egg-laying and hatching in *The Emu*, vol. 53, p. 254, did much to fill gaps in my observations.

It so happened that just prior to the publication of Lord's notes I located, at Wooroloo, a nest in an accessible position for daily observation. As the nest was destroyed my records are incomplete, but some significant dates were obtained as follows:

August 16, 1953—Bird observed shaping an apparently complete nest.

Aug. 25—Nest, which had become slightly disarranged, had been 'smoothed down'.

Aug. 26—One egg in nest at 9 p.m.

Aug. 27—Two eggs in nest at 9.35 a.m., and at 8.15 p.m. Bird brooding at both visits (brooding apparently commenced with the laying of the second egg).

Aug. 28—Three eggs at 9.15 a.m., and at 11 p.m. Bird sitting closely all day.

Brooding continued normally and the number of eggs remained unchanged until September 1, at 9.15 a.m., when I made a brief inspection. Immediately after my departure the birds 'scolded' a good deal although I could see no reason. Several times during the day I watched from a distance without seeing the birds at the nest. The following morning I found the nest in disorder, with one egg missing and one broken.

Two Indian Turtle-Doves (*Streptopelia chinensis*) often perched eighteen inches from the nest, and were present on September 1. Although the Willie-Wagtails appeared at no time disturbed by their presence, I have wondered whether the Doves had any connection with the nest destruction. The doves were not seen again in the vicinity of the nest.—ERIC H. SEDGWICK, Collie, W.A., 4/10/58.

Some Feeding Habits of the White-winged Chough.—These observations were made, in September 1956, near the River Murray, approximately twenty miles downstream from Mildura, on the Victorian side. We were camping two miles from the river, with an old fisherman, who had a permanent camp there. As this was the time of the big Murray flood, all the country between our camp and the river was under water. The flooded country carried chiefly red gums, with a sprinkling of various other eucalypts. Behind our camp mallee scrub stretched for miles.

A flock of nine White-winged Choughs (*Corcorax melanorhamphus*) was resident in the area, and I had opportunities to observe their habits. Although they were seen mainly on the ground, they were often seen hopping about in the

branches of the lower trees, especially the mallees. They were always on the move, making short flights from tree to tree, elevating their tail feathers and occasionally giving a low whistle.

Their feeding ground was a 'circular' area, with a radius of about half a mile. A number of feeding spots were situated within this circle, most of them being on small sandy spits above the flood-waters. One of these feeding places was situated a few yards from our camp. It was at this place that wheat was thrown for the few fowls that the fisherman kept. The whole flock visited this spot once a day, usually around mid-day. When the Choughs finished feeding in one place they would fly to the nearest low tree and conduct their 'antics'. After a time they would fly, tree by tree, to the next feeding ground, sometimes spending a few seconds in each tree. Almost without exception the flock was well strung out in their flights to the various feeding places. When the van of the flock reached our camp feeding spot, they would wait in the branches of the mallee trees until the other birds arrived. When the whole flock congregated around the camp, different birds would hop down on to the feeding areas, and commence hunting for scattered grains of wheat. The whole flock would not fly down to the feeding area together, but would go singly or in pairs. During this period, and the time they were feeding, the birds were very noisy. At no time could I distinguish between the two sexes of this species.—
REX ELLIS, McLaren Vale, S.A., 22/10/58.

Rufous Whistler Attacking Reflection.—Many people have observed the actions of birds which attack their reflection in a shining surface. My own experience has been with Superb Blue Wrens and Grey Thrushes, which have taken exception to their hub-cap replicas in the bush, and with Magpie-Lark, Superb Blue Wrens, Song Thrush and Black-birds against the house windows.

On October 23, 1957, a male Rufous Whistler began to attack his reflection in a large window on the side of the house, which faces an area of tea-tree scrub. He first came to the fence dividing the house from the scrub, and there he commenced his act—bouncing up and down, head raised and forced back (to show the white throat), tail cocked up, feathers fluffed out so that the legs were hardly visible, pouring out a loud and continuous stream of calls. In fact, the song was louder and more intense than any heard given by a Rufous Whistler in the bush. Then came a flight across the eight-foot driveway to the window, where he fluttered and pecked, still calling, for ten seconds or more. The height of activity was the first three weeks in November, when he returned every hour or so, for a stay of ten to twenty minutes—while, presumably, his mate was working to build a nest in the bush nearby. The greatest number of visits recorded in one day was nine.

During his frenzy the bird was so carried away that it was possible to stand within a foot of him as he bounced on the fence, and he seemed completely unaware of one's presence, flying to the window and back to alight immediately beside the observer. His behaviour caused great distress to a pair of Welcome Swallows which had nested on a porch a few feet from the window. During his assaults, the young Swallows crouched at the bottom of the nest, while the parents swept back and forth at the Whistler, just skimming his head, and chattering loudly, but he took absolutely no notice of their attacks.

From late January he performed frequently before an audience of his mate and one well-grown young bird, who sat on the fence and watched the act; occasionally they flew to the window as though trying to find the reason for the fuss, but made no attempt to attack their own reflection.

The final performance was given on March 28, 1958, and on April 13 the male bird was last seen, before his departure on migration north.—(MRS.) BARBARA E. SALTER, Black Rock, Vic., 13/6/58.

House Sparrow Breeding Away from Man.—In *The Emu*, vol. 55, p. 302, I recorded the fact that in the Deniliquin, New South Wales, area, the House Sparrow (*Passer domesticus*) was consistently breeding at sites some considerable distance from human habitation. A request was made for information regarding this habit elsewhere in Australia, but the response was practically negligible.

J. H. Calaby informed me that in December 1955 he found a flourishing colony on uninhabited Goose Island in Bass Strait, some ten miles from the nearest permanent human habitation on Cape Barren Island. W. Stewart McColl, as far back as 1908, found sparrows nesting in holes in trees some distance from homesteads in the Gippsland area of Victoria. E. F. Boehm (*The Emu*, vol. 57, p. 323) writing of the Mount Mary Plains area of South Australia, recorded the House Sparrow breeding to a limited extent in scrub away from townships and homesteads. B. L. Sage (*The Emu*, vol. 57, p. 350) gives the opinion that my Deniliquin record referred to an exceptional case.

Subsequent observations in many parts of the south-west of New South Wales demonstrate that that is not so and that the House Sparrow is a confirmed 'bush' bird wherever conditions are suitable. It requires a reasonably permanent supply of water, an open area of country in the near vicinity, often of a barren, arid type, and suitable nesting sites. Such conditions obtain around the more permanent swamps, some of the transitory lakes, along some of the creeks and around the isolated tanks. House Sparrows breed in substantial numbers, for example, at Dry Lake, Waldairra, situate in the middle of a wind-eroded plain in mallee country 20 miles

west of Balranald; at Dry Lake, Tchelery, in saltbush country 25 miles north-east of Moulamein; at Black Swamp, Wanganella, in saltbush country, 35 miles north of Deniliquin; at Cocketgedong Creek 15 miles east of Jerilderie, in grass-plain country. These indicate how widespread the bird is and there are numerous odd pairs or small colonies to be found at other places throughout the area. No houses are to be found within miles of the majority of these sites. In the more closely settled areas, such as the irrigation district around Finley, it is not possible to distinguish between birds spreading from the homesteads and genuine 'bush-dwellers'. Nevertheless, substantial numbers nest away from the farms and undoubtedly live as independently from man as do the birds in the more outback areas.

The majority utilize holes in dead trees as nest-sites, but the introduced African boxthorn is also a favourite site. At Black Swamp, some nest in lignum, and at two or three places the nests of Fairy Martins (*Hylochelidon ariel*) are used.—J. N. HOBBS, Finley, N.S.W., 4/2/58.

Reviews

The Genus *Amytornis*.—Perhaps no genus of Australian birds, in which there is noticeable specific diversity, is as little known in field habits as is *Amytornis*, the grass-wrens. As some species are known by only a few specimens and not one could be considered at all common, even little taxonomic work has been attempted. Therefore an assessment of species and geographical races within the genus by Dr. A. Keast—'Speciation in the Genus *Amytornis* (Passeres: Muscicapidae, Malurinae) in Australia', *Australian Journal of Zoology*, vol. 6, no. 1, pp. 33-52, 1958—will be received with interest. The author reduces the nine species of the *Official Checklist* (1926) to seven, placing *puarellii* and *whitei* as races of *textilis* and *striatus* respectively. Two species groups are involved: the *textilis* group (with simple colour pattern and no song) consisting of *A. textilis* (with five races), *A. modestus* (two subspecies) and *A. goyderi* (undivided), and the *striatus* group (with complicated colour pattern and a "sweet rippling song") with *A. striatus* (with four subspecies), *A. dorotheae*, *A. woodwardi* and *A. housei* (the last three with no races). A new subspecies of *A. textilis* is described—*A. t. everardi*, from the Everard and Musgrave Ranges, South Australia. The paper is well illustrated with five text-figures.

Amytornis (the words 'in Australia' in the title seem ambiguous as it is not represented outside Australia) is fundamentally a desert genus, with spinifex the basic habitat. Such inhospitable terrain must be considered primarily the reason for its scarcity in museums (only 172 specimens were examined by the author and 129 of them represented two species) and the shyness of its various species has been a major factor in the scarcity of published field observations. Indeed, four species (*housei*, *woodwardi*, *dorotheae* and *gyderi*) must be considered among the rarest in Australia. No Queensland-collected specimen is known, although the author has inadvertently given that State for the range of *A. dorotheae*.—A.R.M.

Guide to the Hawks of Australia.—The first edition of this popular booklet, written and illustrated by H. T. Condon, and published by the Bird Observers Club, Melbourne, appeared in 1949. A second re-