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YELLOW WAGTAIL *MOTACILLA FLAVA* ON HERON ISLAND, QLD, WITH NOTES ON THE STATUS OF SOUTHERN INDIVIDUALS

On 27 June 1979 at 11:55 I observed a wagtail of the genus *Motacilla* on the north-eastern side of Heron Island, Great Barrier Reef, Qld. I approached to within twenty metres of where it was foraging in a grassy clearing where a walking track cuts the *Pandanus* and *Casuarina* vegetation of the shoreline. As I observed it with 9×21 binoculars, it approached within ten metres. Light conditions were excellent (full noon sun) and details of feathers could be easily discerned. From the following field description, the bird was diagnosed as an adult male Yellow Wagtail *M. flava* in breeding plumage:

Head:	medium grey with a clear-white superciliary line.
Underparts:	bright yellow from throat to under tail-coverts, possibly lighter on throat (but no white noted) with a very faint smudged grey 'necklace' across upper breast.
Back:	greenish with distinct contrast between head and back.
Wings:	greenish with two narrow but distinct yellowish wing-bars.
Tail:	dark with white outer feathers; bobbed constantly and somewhat faster than Richard's Pipit <i>Anthus novaeseelandiae</i>
Feet and bill:	dark slate grey.
Voice:	a single syllable, 'tcheep', given once or twice each time the bird took flight.
Habits:	most of the time spent gleaning food from grass and running erratically from one feeding site to another; occasionally stood erect and watched alertly for a few seconds.

After I had observed it for about two minutes, the bird flew to the other side of the clearing. As I approached it again at 12:00, it flushed and flew south along the beach.

At 12:15 I found the bird again at the original site and

took four photographs. These were of poor quality but were sufficiently clear to confirm all noted field marks and verify the identification. They further showed that the colour of the wings was a darker green than that of the back with some black in the flight-feathers and that the ear-coverts were darker grey than the rest of the head.

The bird became increasingly wary and flew between this patch and other small areas of grass on the shoreline as I followed it. I lost it at 12:35. At 14:30 I saw the bird for a third time, feeding about fifty metres from the original place. I visited these sites often and searched the shoreline daily for the next week with no sign of the bird. Five ornithologists were present on Heron Island until 26 June and would almost certainly have noticed this bird had it occurred before 27 June. The nights of both 26 and 27 June, when the bird apparently arrived and left, were clear with light to moderate south-easterly winds.

The Yellow Wagtail was first reported in Australia when H. G. Barnard collected an adult male at Bimbi on the Dawson River, Qld, on 10 June 1905. The specimen was proposed as holotype of a new species (Anon. 1905) but is now assigned to *M.f. tschutschensis* (Crawford and Parker 1971). The species was not seen again until Lindgren and Slater (1961) reported a bird in 'immature or winter plumage' at Derby, WA, on 7 December 1960. Since that time, a number of irregular summer sightings along the northern and far north-eastern coast (Gill 1967; Crawford and Parker 1971; Crawford 1972) have stimulated and subsequently confirmed the change of status for the species in the RAOU checklist from 'casual' to 'regular' visitor (Condon 1967).

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 Rabøl (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.

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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