

A white-backed Australian Magpie *Gymnorhina tibicen* in Sydney, New South Wales

Matthew Mo

59 Goulburn Street, Sydney NSW 2000, Australia
Email: matthew.sk.mo@gmail.com

Abstract. Australian Magpies in the coastal Sydney region of New South Wales are generally the subspecies *Gymnorhina tibicen tibicen*, which exhibits black-backed plumage. I report 14 sightings between June 2018 and March 2020 of a white-backed Magpie within a 150-m radius in a suburban area of southern Sydney, 350 km from where white-backed plumage forms are typically observed. Two plausible explanations for the occurrence of this individual are: natural dispersal or the individual originating from a captive source.

Introduction

The Australian Magpie *Gymnorhina tibicen* is an easily recognisable large, black-and-white passerine of the family Artamidae found over much of Australia and southern New Guinea (Kaplan 2019) and introduced to New Zealand (Morgan *et al.* 2012). It was previously considered three separate species (Serventy 1953) based on the observation of three geographically partitioned plumage forms (Dobson *et al.* 2012). The black-backed form typically exhibits a black saddle that extends from the white nape to the rump, whereas the white-backed form typically exhibits a white back that joins the white nape (Schodde & Mason 1999). The third form, sometimes referred to as the varied form, has males resembling male white-backed forms whereas females have a shortened white nape that progresses to a mottled black back because the black feathers are edged in white (Dobson *et al.* 2012).

Now classified as a single species (Ford 1969), nine subspecies of the Australian Magpie are recognised (Table 1). These subspecies are known to hybridise and

the geographical zones of intergradation remain poorly understood (Schodde & Mason 1999; Higgins *et al.* 2006). The black-backed form comprises the nominate subspecies, *G. t. tibicen*, and the subspecies *G. t. terrareginae*, *G. t. eylandtensis* and *G. t. longirostris*, which collectively occur over much of Queensland and New South Wales, north-western Victoria, eastern South Australia, the northern and eastern Northern Territory and northern Western Australia. The white-backed form comprises the subspecies *G. t. tyrannica*, *G. t. hypoleuca* and *G. t. telonocua*, which collectively occur in far south-eastern New South Wales, southern Victoria, southern South Australia, Tasmania and the Furneaux Group, Bass Strait. The varied form comprises the subspecies *G. t. dorsalis* and *G. t. papuana*, which occur in southern Western Australia and southern New Guinea, respectively (Toon *et al.* 2017).

Australian Magpies in the coastal Sydney region, New South Wales, are mainly the black-backed subspecies *G. t. tibicen* (Schodde & Mason 1999). Here, I report sightings of a white-backed Magpie in a suburban area in southern Sydney.

Table 1. Summary of geographical ranges and plumage forms of the nine subspecies of the Australian Magpie *Gymnorhina tibicen*.

Subspecies	Geographical range	Plumage form
<i>G. t. dorsalis</i>	Southern Western Australia	Varied
<i>G. t. eylandtensis</i>	Northern Australia from the Kimberley region, Western Australia, to north-western Queensland	Black-backed
<i>G. t. hypoleuca</i>	Tasmania and the Furneaux Group, Bass Strait	White-backed
<i>G. t. longirostris</i>	Pilbara region, Western Australia	Black-backed
<i>G. t. papuana</i>	Southern New Guinea	Varied
<i>G. t. telonocua</i>	South Australia from the Yorke Peninsula to the eastern edge of the Nullarbor Plain	White-backed
<i>G. t. terrareginae</i>	Much of Queensland and New South Wales mostly west of the Great Dividing Range, eastern Northern Territory, north-western Victoria and eastern and northern South Australia	Black-backed
<i>G. t. tibicen</i>	South-eastern Queensland and eastern New South Wales mostly east of the Great Dividing Range	Black-backed
<i>G. t. tyrannica</i>	Far south-eastern New South Wales, Victoria south of the Great Dividing Range, and south-eastern South Australia	White-backed

Observations

The white-backed Australian Magpie (Figure 1) was first observed in the suburb of Hurstville on 15 June 2018. Its nape and back were pure white and sharply demarcated from the glossy black parts of the plumage, indicating an adult male, as opposed to the greyish-white seen in females. A further 13 sightings of a white-backed Magpie, presumably the same individual, were made between June 2018 and March 2020. All 14 sightings occurred in the same general vicinity, within an area of radius 150 m (Figure 2). Ten of these sightings occurred within a radius of 100 m. The geography of this vicinity was a suburban landscape, mostly comprising single- and double-storey residential properties, with lawns and scattered trees. In most properties, the front yard contained sections of gardens. In eight of the sightings, the white-backed Magpie was observed foraging alongside a black-backed Magpie.

Discussion

Sightings of a white-backed Australian Magpie in the Sydney region are significant. The subspecies *G. t. tyrannica* inhabiting the Far South Coast region of New South Wales (Schodde & Mason 1999; Higgins *et al.* 2006) is the white-backed subspecies closest to the Sydney region, 350 km away.

The Australian Magpie is generally understood to be sedentary (Farabaugh *et al.* 1992), which was reflected in the close proximity of the 14 sightings of this white-backed Magpie. The rate of juvenile dispersal from natal territories appears to vary geographically (Baker *et al.* 2000; Durrant & Hughes 2005). There has been evidence from previous studies that at least 40% of juveniles disperse from natal territories within the first year (Veltman 1984; Veltman & Carrick 1990), but others remain in their natal territories for life (Carrick 1972; Durrant & Hughes 2005). In juveniles



Figure 1. A white-backed Australian Magpie in a suburban area of Hurstville, New South Wales. Photo: Matthew Mo

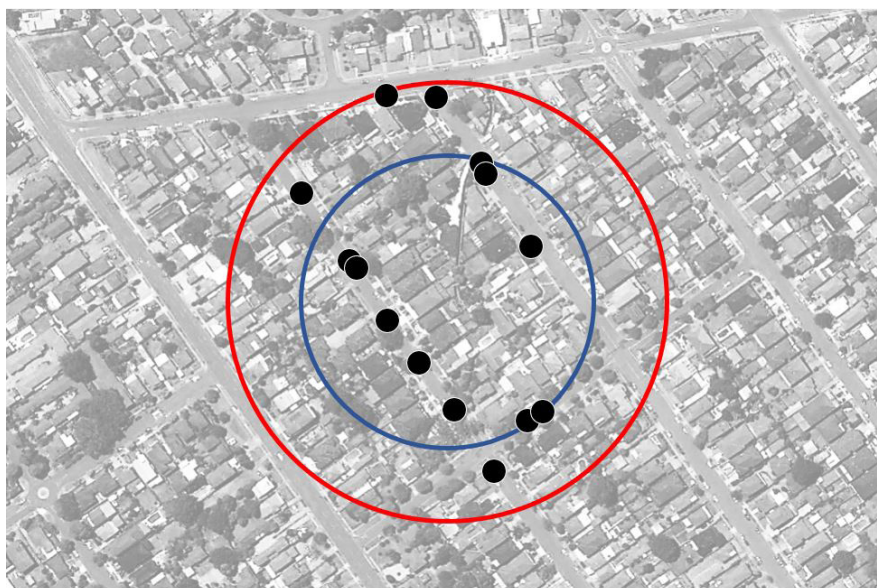


Figure 2. Locations of 14 sightings between June 2018 and March 2020 of a white-backed Australian Magpie in Hurstville, a suburb of Sydney, New South Wales. The blue circle denotes a 100-m radius area and the red circle denotes a 150-m radius area.

that leave natal territories, dispersal has been recorded over relatively short distances of up to 7 km (Baker *et al.* 2001). However, genetic sampling has found that Australian Magpie populations separated by distances >1500 km exhibit low to moderate genetic structuring, which implies that there is substantial gene flow over these large distances (Baker *et al.* 2001). There is some evidence from banding records of individual Magpies dispersing up to 360 km (Higgins *et al.* 2006), which is the approximate distance between the range of *G. t. tyrannica* and the Sydney region, though confirmed dispersals over such large distances are rare (Higgins *et al.* 2006). Based on this, it is plausible that the white-backed Magpie reached the Sydney region through natural dispersal.

One other plausible explanation for the white-backed Magpie occurring in the Sydney region is that it was an individual released from captivity. In New South Wales, members of the public may own an Australian Magpie as a pet provided that they hold an advanced class native animal keeper licence granted by the National Parks and Wildlife Service (Office of Environment & Heritage 2019). These regulations do not require owners to keep the subspecies native to their local area. Thus, any subspecies of Australian Magpie can be owned by a member of the public in the Sydney region and could potentially escape.

Acknowledgements

Useful comments from Alan Lill and Denis Saunders during the peer-review process helped improve the manuscript.

References

- Baker, A.M., Mather, P.B. & Hughes, J.M. (2000). Population genetic structure of Australian Magpies: Evidence for regional differences in juvenile dispersal behaviour. *Heredity* **85**, 167–176.
- Baker, A.M., Mather, P.B. & Hughes, J.M. (2001). Evidence for long-distance dispersal in a sedentary passerine, *Gymnorhina tibicen* (Artamidae). *Biological Journal of the Linnean Society* **72**, 333–343.
- Carrick, R. (1972). Population ecology of the Black-backed Magpie, Royal Penguin and Silver Gull. In: *Population Ecology of Migratory Birds*, pp. 41–99. Wildlife Research Report 2. Bureau of Sport Fisheries and Wildlife, Washington.
- Dobson, A.E., Schmidt, D.J. & Hughes, J.M. (2012). Sequence variation in the melanocortin-1 receptor (MC1R) does not explain continent-wide plumage color differences in the Australian Magpie (*Cracticus tibicen*). *Journal of Heredity* **103**, 769–780.
- Durrant, K.L. & Hughes, J.M. (2005). Differing rates of extra-group paternity between two populations of the Australian Magpie (*Gymnorhina tibicen*). *Behavioral Ecology and Sociobiology* **57**, 536–545.
- Farabaugh, S.M., Brown, E.D. & Hughes, J.M. (1992). Cooperative territorial defense in the Australian Magpie, *Gymnorhina tibicen* (Passeriformes, Cracticidae), a group-living songbird. *Ethology* **92**, 283–292.
- Ford, J. (1969). The distribution and status of the Australian Magpie in Western Australia. *Emu* **68**, 278–279.
- Higgins, P.J., Peter, J.M. & Cowling, S.J. (Eds) (2006). *Handbook of Australian, New Zealand & Antarctic Birds, Volume 7: Boatbill to Starlings, Part A, Boatbill to Larks*. Oxford University Press, Melbourne.
- Kaplan, G. (2019). *Australian Magpie: Biology and Behaviour of an Unusual Songbird*. CSIRO Publishing, Melbourne.
- Morgan, D.K.J., Waas, J.R., Innes, J.G. & Arnold, G. (2012). Native bird abundance after Australian Magpie (*Gymnorhina tibicen*) removal from localised areas of high resource availability. *New Zealand Journal of Ecology* **36**, 333–339.
- Office of Environment & Heritage (2019). NSW native animal keepers' species list 2016. Office of Environment and Heritage, Sydney. Available online: <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Licences-and-permits/nsw-native-animal-keepers-species-list.pdf>
- Schodde, R. & Mason, I.J. (1999). *The Directory of Australian Birds: Passerines*. CSIRO Publishing, Canberra.
- Serventy, D.L. (1953). Some speciation problems in Australian birds: With particular reference to the relations between Bassian and Eyrean 'species-pairs'. *Emu* **53**, 131–145.
- Toon, A., Drew, A., Mason, I.J., Hughes, J.M. & Joseph, L. (2017). Relationships of the New Guinean subspecies, *Gymnorhina tibicen papuana*, of the Australian Magpie: An assessment from DNA sequence data. *Emu* **117**, 305–315.
- Veltman, C.J. (1984). The Social System and Reproduction in a New Zealand Magpie Population and a Test of the Cooperative Breeding Hypothesis. PhD thesis. Massey University, Palmerston North, New Zealand.
- Veltman, C.J. & Carrick, R. (1990). Male-biased dispersal in Australian Magpies. *Animal Behaviour* **40**, 190–192.

Received 26 October 2022, accepted 15 December 2022,
published online 23 February 2023

