

A POSSIBLE TERRITORIAL AND NESTING ASSOCIATION BETWEEN PIED AND GREY BUTCHERBIRDS *Cracticus nigrogularis* and *C. torquatus* AND THE YELLOW-THROATED MINER *Manorina flavigula*

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This study demonstrated that Yellow-throated Miners *Manorina flavigula* are aggressive birds that exclude other species of birds from their territories. However, they did not exclude Grey Butcherbirds *Cracticus torquatus* or Pied Butcherbirds *C. nigrogularis* from two widely separated sites in Western Australia. Concurrently active nests of Yellow-throated Miners and Pied Butcherbirds were found within 10–30 metres of one another at Westonia. Yellow-throated Miners, and Pied and Grey Butcherbirds perched close to each other without aggression. A territorial and nesting association between these species is unexpected since both genera are aggressive towards other species. Pied and Grey Butcherbirds may benefit from abundant arthropod resources that are not exploited by miners, and in return, miners may benefit from the aggressive ability of the butcherbirds to repulse larger nest-predators when miners cannot. The grouping of nests may aid all species in defending their territories and may enhance their nesting success.

INTRODUCTION

Species in the genus *Manorina* have been identified as birds that exclude other species from their territories, sometimes leading to sole occupancy of a site (Dow 1977; Loyn *et al.* 1983; Higgins *et al.* 2001). Inter-specific territoriality has been reported in Bell Miners *Manorina melanophrys* (Loyn *et al.* 1983; Clarke and Schedvin 1999), Noisy Miners *M. melanocephala* (Dow 1977; Grey *et al.* 1998), Yellow-throated Miners *M. flavigula* (Starks 1987) and Black-eared Miners *M. melanotis* (Starks 1987; McLaughlin 1990).

Despite the wealth of knowledge available on the Noisy Miner and Bell Miner, and the rapidly expanding data on the Black-eared Miner, there has been surprisingly little published on the agonistic behaviour of the Yellow-throated Miner, despite its wide distribution across Australia. Yellow-throated Miners have been described as aggressive to other birds (Mellor 1919), aggressive near the nest (Chandler 1937), or less aggressive than Noisy Miners (Jeffery 1955).

Butcherbirds *Cracticus* spp., catch live prey including birds as large as Common Blackbirds *Turdus merula* and Spotted Turtle-Doves *Streptopelia chinensis* (Pizzey and Knight 1997). They are nest-predators identified by photography (Major *et al.* 1999), and have been observed taking nestlings and adult birds (Hobbs 1981; Tarburton 1991).

This study recorded inter-specific aggression and nest positioning in two populations of Yellow-throated Miners, in Western Australia, to establish if they are less aggressive towards butcherbirds than other birds and to detect if nesting together might provide any mutual benefit.

METHODS

Field sites

Two field sites, Ejah and Westonia, were chosen with butcherbirds and Yellow-throated Miners present at each. The sites were 563 kilometres apart to test if any territorial associations, between the two genera, applied over a broad geographical area.

Ejah is an outcamp at Mileura Station, about 800 kilometres northeast of Perth; 26° 24' S, 117° 11' E. Mileura is a sheep and cattle station on the Murchison Plains in the (semi-arid) mulga zone of Western Australia (see Davies 1970, 1986). Ejah is a mesic area because of the runoff from an escarpment and is one of the few productive sites (with denser vegetation) in the area. Observations were made over a four-hectare area: upon and immediately adjacent to an escarpment (breakaway), up to and at a dry ephemeral creek. The creek was approximately 150 metres south of the breakaway and had denser vegetation than the surrounding area. The flora of the creek area comprised *Eremophila* spp., *Acacia* spp. and *Hakea* spp. The dominant vegetation near the breakaway consisted of *Acacia* spp. and *Eremophila* spp..

Westonia (31° 18' S, 118° 42' E) is located approximately 300 kilometres east of Perth on the eastern side of the central wheatbelt in Western Australia. It is situated in 5 600 hectares of remnant bushland, known as Westonia Commons. Observations were recorded, over a four-hectare area, on the edge of the small township in a suburban area and in adjacent Salmon Gum *Eucalyptus salmonophloia*, Gimlet *E. salubris* and Red Morrel *E. longicornis* woodland. Yellow-throated Miners nested at both ends of this study area and Pied Butcherbirds nested at one end with Yellow-throated Miners.