

Grey Butcherbird killing an adult Little Lorikeet and a review of adult avian prey of butcherbirds and Pied Currawongs

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There are few published records of predation of adult birds in Australia by animals other than raptors and introduced carnivorous mammals. This note provides photographic proof of the first known instance of a Grey Butcherbird *Cracticus torquatus* attacking and killing a wild adult parrot, a Little Lorikeet *Glossopsitta pusilla*. While the median mass and size (based on wing length) of the Little Lorikeet are 40% and 72%, respectively, of those of the Grey Butcherbird, four of the 27 currently known adult bird prey species have a higher mass than the Butcherbird, the heaviest being the Spotted Dove *Spilopelia chinensis*. In comparison, only one of the 30 known adult bird prey species of the Pied Currawong *Strepera graculina* has a mass exceeding that of the Currawong. The median mass and wing length of all adult bird prey species (combined) of the Grey Butcherbird equate to 24% and 59%, respectively, of the Butcherbird, whereas the same morphometrics for the Pied Currawong's prey equate to 9% and 38% of its median mass and wing length, respectively. This demonstrates that relative to its own size, the Grey Butcherbird takes larger bird prey than those taken by the Pied Currawong, despite the Butcherbird weighing only about one-third the mass of the Currawong. The predation of pigeons and doves by three species of butcherbirds, as well as the Pied Currawong, suggests that they may be more vulnerable to predation than other similar-sized birds.

Keywords: predation, mass, wing length, doves

INTRODUCTION

While the literature on predation of birds' eggs and nestlings is voluminous owing to the ability of observers or cameras to monitor nests continuously, comparatively little is known about the predation of adult birds, which occurs unpredictably in space and time (Pettingal 1976; Fulton 2006; Lima 2009). In Australia, the best-known avian predators of adult birds are raptors, notably goshawks and falcons (Marchant & Higgins 1993; Olsen *et al.* 2006). Although renowned as nest predators (Major *et al.* 1996; Fulton and Ford 2001; Guppy *et al.* 2017; Fulton 2019), currawongs and butcherbirds (Artamidae: Cracticini) also prey upon adult birds, at least occasionally (Tarr 1961; Jasper 1964; Tarburton 1991; Prawiradilaga 1994; Bayly and Blumstein 2001).

The Grey Butcherbird *Cracticus torquatus* is a predator of adult and nestling birds (e.g. Jasper 1964), but most records of predation of the former involve small passerines (Higgins *et al.* 2006). This note describes an instance of a breeding Grey Butcherbird attacking and killing a Little Lorikeet *Glossopsitta pusilla*. I also review the diversity of known adult avian prey of butcherbirds and currawongs in terms of their mass and wing length. As all prey species were recorded only once, I used the median of the mass and wing length ranges given in Menkhurst *et al.* (2017), but for the Grey Butcherbird I used the median of the means for adult males and females of the race *C. t. leucopterus*, as given by Higgins *et al.* (2006).

OBSERVATIONS

On 19 September 2021 at 07:38 hrs, I was watching a group of Rainbow Lorikeets *Trichoglossus haematodus*, Scaly-breasted Lorikeets *T. chlorolepidotus*, and Little Lorikeets feeding on the blossom of a flowering Forest Red Gum *Eucalyptus tereticornis*



Figure 1. Grey Butcherbird hanging from foliage after attacking Little Lorikeet (hidden from view), while watched by Rainbow Lorikeet.

Photo: R. Noske

on the edge of Wolston Creek Bushland Reserve in Riverhills, a suburb of western Brisbane. Approximately 30 s later, a Grey Butcherbird suddenly attacked one of the Little Lorikeets foraging in the canopy, and held it for at least 1 min while hanging upside down with one wing spread (Fig. 1), allowing me time to retrieve my camera from my backpack and secure some photographs. The commotion attracted the attention of Noisy Miners *Manorina melanocephala* and Rainbow Lorikeets, which approached the preoccupied Butcherbird to within 1 m (Fig. 1). The Butcherbird soon dropped to the ground, where I was able to take photographs of it stabbing and killing its prey (Fig. 2). After about 1 min, the Butcherbird flew off with the lorikeet in its bill.



Figure 2. Grey Butcherbird killing Little Lorikeet on the ground (left) and preparing to fly with it (right). Note blood stains on breast of Butcherbird.
Photo: R. Noske.

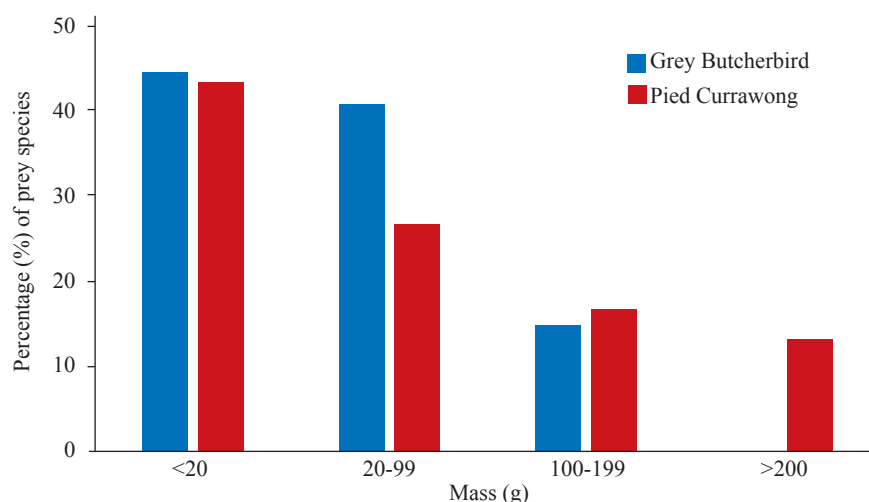


Figure 3. Percentage of prey species (adult birds) of different mass taken by Grey Butcherbirds and Pied Currawongs.

An attempt was made to locate the tree where the Butcherbird landed, in the hope of determining whether the lorikeet was eaten, or impaled or otherwise secured on a branch (as cracticines are known to do), but neither the Butcherbird nor its prey could be found. However, within 15 min of the predation event, an adult Butcherbird was seen alighting on its nest in the forked trunk of a Swamp Mahogany *Lophostemon suaveolens*, only c. 50 m from the flowering Red Gum. As it was not holding food, and promptly sat, the nest probably contained eggs. Less than 30 m away, a Noisy Miner was incubating its eggs in a tree on the edge of a large clearing.

DISCUSSION

Higgins *et al.* (2006) listed 20 bird species that have been recorded as adult prey of the Grey Butcherbird, while other observers have recorded seven additional species (Johnstone and Storr 2004; Stevens 2022; W.E. Boles, pers. obs). Six (22%) of these 27 species are non-passerines, comprising three dove species, a quail, a button-quail and a domestic parrot (Table 1).

While the median mass of all prey species combined is 21.0 g, equivalent to 24% of the mean mass of the Butcherbird (95 g), four species have a higher mass than the Butcherbird (95 g), the heaviest being the Spotted Dove *Spilopelia chinensis* (157.5 g), which also has a longer wing. The median wing length for all species combined is 83.5 mm, equivalent to 59% of that of the Grey Butcherbird. The median mass (40 g) and wing length (100.5 mm) of the Little Lorikeet are 40% and 72%, respectively, of those of the Grey Butcherbird.

Although widely known as predators of eggs and nestlings, most species of butcherbirds and currawongs also take adult birds, at least occasionally. Among its avian prey, the Pied Currawong *Strepera graculina* eats mostly nestlings and eggs, but has been recorded eating free-flying adults and juveniles of at least 30 bird species (Prawiradilaga 1994; Wood 1998; Bayly and Blumstein 2001; Debus and Rose 2005; Higgins *et al.* 2006). Of these 30 species, the only one whose median mass exceeds that of the Pied Currawong (313 g) is the White-winged

Table 1

Species recorded as adult bird prey of Grey Butcherbirds and Pied Currawongs, with their median mass and wing length (based on Menkhorst *et al.* 2017). Species listed in order of decreasing mass. Source of observations, Higgins *et al.* (2006) unless indicated with a symbol.

English name	Scientific name	Mass (g)	Wing length(mm)	Grey Butcherbird	Pied Currawong
White-winged Chough	<i>Corcorax melanorhamphos</i>	370	234.5		X
Rock Dove	<i>Columba livia</i>	290	227		X
Australian Magpie	<i>Cracticus tibicen</i>	287.5	250		X
Crested Pigeon	<i>Ocyphaps lophotes</i>	202.5	163.5		X
Gould's Petrel	<i>Pterodroma leucoptera</i>	190	225		X
Spotted Dove	<i>Spilopelia chinensis</i>	157.5	149.5	X	X
Crimson Rosella	<i>Platycercus elegans</i>	135	176.5		X
Common Myna	<i>Acridotheres tristis</i>	130	133		X
Bassian Thrush	<i>Zoothera lunulata</i>	117.5	134	X	
Laughing Dove	<i>Spilopelia senegalensis</i>	107	138	X	
Red Wattlebird	<i>Anthochaera carunculata</i>	107	155.5		X
Brown Quail	<i>Synoicus ypsilophorus</i>	100	97	X	
Painted Button-quail	<i>Turnix varius</i>	91	107	X	
Common Blackbird	<i>Turdus merula</i>	89.5	126	X	X
Common Starling	<i>Sturnus vulgaris</i>	87.5	123	X	X
Magpie-lark	<i>Grallina cyanoleuca</i>	81	178.5		X
Little Lorikeet	<i>Glossopsitta pusilla</i>	40	100.5	X	
Lewins Honeyeater	<i>Meliphaga lewinii</i>	38	95		X
Diamond Dove ‡	<i>Geopelia cuneata</i>	38.5	93.5	X	
Dusky Woodswallow*	<i>Artamus cyanopterus</i>	34.5	126	X	
Budgerigar (domestic)	<i>Melopsittacus undulatus</i>	30	98	X	X
Golden Whistler	<i>Pachycephala pectoralis</i>	30	94		X
House Sparrow	<i>Passer domesticus</i>	28.5	76	X	X
European Greenfinch	<i>Chloris chloris</i>	27	84.5	X	
Eastern Yellow Robin ‡	<i>Eopsaltria australis</i>	21	86.5	X	
Willie Wagtail	<i>Rhipidura leucophrys</i>	20	98		X
White-plumed Honeyeater	<i>Ptilotula penicillata</i>	19.5	82	X	
Fuscous Honeyeater	<i>Ptilotula fusca</i>	18.5	76.5		X
Yellow-faced Honeyeater	<i>Caligavis chrysops</i>	17.5	79		X
Canary (domestic)	<i>Serinius canaria</i>	17.5	86		X
White-naped Honeyeater	<i>Melithreptus lunatus</i>	15.8	75	X	X
Yellow-plumed Honeyeater**	<i>Ptilotula ornata</i>	15.3	71.5	X	
Welcome Swallow	<i>Hirundo neoxena</i>	15	113		X
European Goldfinch	<i>Carduelis carduelis</i>	15	74	X	X
Jacky Winter	<i>Microeca fascians</i>	14	83.5	X	
Horsfield's Bushlark	<i>Mirafra javanica</i>	14	71	X	
Striated Pardalote	<i>Pardalotus striatus</i>	12	65.5	X	
Silvereye	<i>Zosterops lateralis</i>	12	58	X	X
Superb Fairy-wren	<i>Malurus cyaneus</i>	12	51.5	X	X
White-browed Scrub-wren	<i>Sericornis frontalis</i>	10.5	58		X
Brown Honeyeater	<i>Lichmera indistincta</i>	10.3	66	X	
Red-browed Finch	<i>Neochmia temporalis</i>	10	52.5	X	
Yellow-rumped Thornbill	<i>Acanthiza chrysorrhoa</i>	9	57.5	X	
Spotted Pardalote	<i>Pardalotus punctatus</i>	9	56.5		X
Grey Fantail**	<i>Rhipidura albiscapa</i>	8.5	73.5	X	
Myiagra flycatcher	<i>Myiagra sp.</i>	6.6	76.5		X
Brown Thornbill	<i>Acanthiza pusilla</i>	6.5	51		X
Western Gerygone	<i>Gerygone fusca</i>	6	56.5		X
No. prey species				27	30

*Stevens (2022); ** Johnstone and Storr (2004); ‡ W.E. Boles (pers. obs.)

Chough *Corcorax melanorhamphos* (370 g), despite the wing of the latter being considerably shorter (235 mm) than that of the Currawong (259 mm). None of the prey species has a wing length exceeding that of the Currawong (Table 1), although that of the Australian Magpie *Gymnorhina tibicen* (250 mm) is very similar. The median mass and wing length of all prey species combined is 29 g and 97 mm, which equates to 9.3% and 37.5%, respectively, of those of the Currawong.

These calculations suggest that, despite being less than a third of the Pied Currawong's mass, with wings that are just over half as long as those of the latter, the Grey Butcherbird takes larger adult bird prey in relation to its mass and size, than does the Pied Currawong. In particular, the Butcherbird appears to take more species having a median mass between 20 g and 100 g (Fig. 3), though the difference is not significant ($\chi^2 = 2.29$, $df = 2$, $P > 0.05$). Nevertheless, based on the above analysis, the predator: prey ratios for the Grey Butcherbird are 4.2 and 1.7 for median mass and wing length respectively, while those of the Pied Currawong are 10.8 and 2.7, indicating that the size disparity between the Butcherbird and its prey is much less than it is for the Currawong.

This difference between these two predators may relate to the size and morphology of their bills and feeding ecology. While both species prey on invertebrates and vertebrates, the Currawong is more omnivorous, often feeding on fruits, especially outside its breeding season (see Higgins *et al.* 2006). Relative to its body mass, the Grey Butcherbird has a bill that is 26.5% longer than that of the Pied Currawong, and has a hooked tip, which is usually a specialisation for tearing prey into small pieces. The bill of the Currawong, on the other hand, is deeper with a much less pronounced hook at the tip, which is presumably more suited to its generalised diet. The bill of the Pied Butcherbird *Cracticus nigrogularis* has the same shape as that of the Grey Butcherbird, but based on mensural data for the nominate race in Higgins *et al.* (2006), it is 12% shorter relative to its body mass than that of the latter.

The relatively short bill of the Pied Butcherbird may explain, at least in part, why adult birds are apparently less frequent in its diet than they are in the diet of the Grey Butcherbird. All three species listed by Higgins *et al.* (2006) as adult bird prey of the Pied Butcherbird are small passerines, two of which (House Sparrow and Silvereye) are listed in Table 1. The third species, the Double-barred Finch *Taenopygia bichenovii*, is similar in mass and wing length to the Red-browed Finch; however, Stevens (2022) reported a Pied Butcherbird *C. nigrogularis* (median mass and wing length: 128 g; 171 mm) persistently attacking a Peaceful Dove *Geopelia placida* (52 g; 102 mm) until interrupted by the observer, and probably the same Butcherbird was observed killing a Bar-shouldered Dove *G. humeralis* (129 g; 140 mm) on the following day. Two of the three known adult bird prey species of the Black Butcherbird *Melloria quoyi* (200 g; 195 mm) are also columbids: the Pacific Emerald Dove *Chalcophaps longirostris* (Higgins *et al.* 2006; 115 g, 139 mm) and Bar-shouldered Dove (McCrie and Noske 2015). Moreover, three of the six largest adult prey species of the Pied Currawong were columbids (Rock Dove, Crested Pigeon and Spotted Dove). The killing of columbids by three species of butcherbirds, of which the Grey Butcherbird is the smallest, as well as the Pied Currawong, suggests that pigeons and doves may be more vulnerable to predation by cracticines than most other large birds.

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