

DUSKY WOODSWALLOWS *Artamus cyanopterus* COLLABORATE TO KLEPTOPARASITIZE A RESTLESS FLYCATCHER *Myiagra inquieta*

GRAHAM R. FULTON

School of Natural Sciences, Centre for Ecosystem Management, Edith Cowan University, 100 Joondalup Drive, Joondalup, Western Australia 6027, E-mail: grahamf2001@yahoo.com.au

Received: 25 January 2005

Kleptoparasitism in birds is typically considered the piracy of food from one bird by another. This is an account of collaborative kleptoparasitic attacks by Dusky Woodswallows (*Artamus cyanopterus*) on a Restless Flycatcher (*Myiagra inquieta*). The two woodswallows worked collaboratively to steal arthropod prey from the flycatcher with one woodswallow feeding the other with the stolen prey. The repetition of this collaborative behaviour indicates that the woodswallows targeted the flycatcher in a systematic theft and not simply as an opportunistic hunting or stealing attack.

INTRODUCTION

Kleptoparasitism generally refers to intra- and inter-specific food-theft. It is derived from the Greek *kleptes*, a thief and *parasitos*, where one eats at the table of another (Delbridge *et al.* 1988); although, the term has also been applied to the theft of spatial resources such as nest cavities (Kappes 1997) or nesting material (Ley *et al.* 1997).

Kleptoparasitism among birds is typically associated with predatory species such as raptors and gulls and has only been occasionally reported in Passeriformes (Brockmann and Barnard 1979). Dusky *Artamus cyanopterus* and Black-faced Woodswallows *A. cinereus* have previously been reported as kleptoparasites of other passerine birds (Robinson 1993; Bamford cited in Recher and Davis 2005; Recher and Davis 2005). Recher and Davis (2005) highlighted that for more than 600 observed prey attacks by woodswallows they observed only three kleptoparasitic events indicating that the behaviour is uncommon. They concluded that the kleptoparasitic behaviour observed by them were examples of opportunistic behaviour, where the woodswallow simply responded to the sight of prey.

I describe an instance of collaborative kleptoparasitism by Dusky Woodswallows: one in which the behaviour appeared premeditated and not opportunistic.

METHODS AND RESULTS

Field site

Observations were carried out at Dryandra Woodland (Lat. 32°48'S, Long. 117°0'E), which is a 27 000 hectare woodland remnant in the western and southern section of the Western Australian wheat-belt (Department of Conservation and Land Management 1995). The study site was situated in wandoo woodland *Eucalyptus wandoo*, with a grassy and herbaceous understorey and scattered *Gastrolobium* and *Astroloma* spp. shrubs. There had been an unusually dry period during September (15 mm) prior to my observations on 21 September 2004. This is compared to a September mean of 61 millimetres at nearby Wandering (Bureau of Meteorology 2005). Weather conditions on the day were colder than usual: the overnight

minimum was -0.5°C compared to the mean minimum temperature for September of 4.2°C (caretakers' records).

Field techniques

My observations were made while undertaking a larger study consisting of 318 surveys at 12 sites, which encompassed the monitoring of nesting birds, aggression between birds and recording all birds present in each survey.

Surveys were generally undertaken each day throughout the breeding season (August through January) for three years, 2002 through 2004, usually for 4 hours in the morning and 4 hours in the evening but often for longer periods when necessary.

Kleptoparasitic observations

Dusky Woodswallows were detected in 73 per cent of all surveys. Kleptoparasitism by this species was recorded during one survey. A pair of Dusky Woodswallows made three attempts to steal large arthropod prey from a Restless Flycatcher *Myiagra inquieta*, which was perched on ground-wood. The woodswallows used a distraction tactic where one woodswallow flew to a perch less than a metre above the flycatcher and called distracting the flycatcher. The other woodswallow then flew at the flycatcher and attempted to snatch the prey from its beak. On the first and second attempts, the woodswallows were unsuccessful while the flycatcher was handling a scorpion (approximately 4 cm in length). The flycatcher moved three times with the scorpion to avoid the woodswallows and eventually consumed the scorpion.

Approximately two minutes later the flycatcher was perched approximately 30 centimetres from the ground, when startled by one woodswallow, which flew to a perch less than a metre above it and 'squawked'. The flycatcher dropped a larva and the other woodswallow flew in below the flycatcher and snatched the larva from the ground. Both birds flew to a common perch where the snatcher fed the distracter. On each occasion the distracting woodswallow did not attempt to snatch from the flycatcher, but simply

distracted the flycatcher while the second bird attempted to steal the prey. I could not determine if the individual woodswallows undertook the same role in each event.

DISCUSSION

Recher and Davis (2005) suggested that Black-faced Woodswallows responded to prey caught by Crimson Chats *Epthianura tricolor* as they would to prey located independently. In my observations, collaboration was used by a pair of Dusky Woodswallows and was systematically repeated three times, concluding with the consumption of the kleptoparasitized prey.

Collaboration between hunting and kleptoparasitizing birds is rare (Hector 1986; Brown *et al.* 2003) and kleptoparasitism in Passeriformes has only been infrequently reported (e.g. Brockman and Barnard 1979; Clancy 1985; Etterson and Howery 2001; Llambias *et al.* 2001; Recher and Davis 2005). To my knowledge, there are no published accounts of collaborative kleptoparasitism within the Passeriformes and only once in the terrestrial non-Passeriformes. Brown *et al.* (2003) found Aplomado Falcons *Falco femoralis* were more successful at kleptoparasitizing other birds as pairs than as individuals. Aplomado Falcons relied on a systematic attack routine and superior flying skills to compensate for their lack of size. My observations indicate that Dusky Woodswallows are capable of collaborative kleptoparasitism and can mount systematic attacks involving co-operation.

Black-faced and Dusky Woodswallows have been identified as kleptoparasites (Robinson 1993; Recher and Davis 2005). As few observations have been provided for other species of Australian passerines future observers might watch for kleptoparasitic behaviour, particularly in woodswallow species, and be alert to the possibility of collaborative kleptoparasitism.

ACKNOWLEDGMENTS

I thank the Centre for Ecosystem Management, Edith Cowan University, and the Department of Conservation and Land Management, for supporting and funding my research. I wish to acknowledge the Nyoongar people, the traditional owners of the land where my observations were made. Special thanks to John Lawson and Lisa Richards, the caretakers at Dryandra Woodland, for the provision of meteorological data. Thanks to Greg Clancy and an anonymous referee for their comments as *Corella* reviewers and to Prof. Emeritus Harry Recher for his rigorous comments on this manuscript.

REFERENCES

- Brockman, H. J. and Barnard, C. J. (1979). Kleptoparasitism in birds. *Anim. Behav.* **27**: 487–514.
- Brown, J. L., Montoya, A. B., Gott, E. J. and Curti, M. (2003). Piracy as an important foraging method of Aplomado Falcons in Southern Texas and Northern Mexico. *Wilson Bull.* **115**: 357–359.
- Bureau of Meteorology. (2005). 'Climate averages for Australian sites — averages for Western Australia sites'. Retrieved 26 July, 2005, from http://www.bom.gov.au/climate/averages/tables/ca_wa_nos.shtml
- Clancy, G. P. (1985). An association between the Spangled Drongo and Cuckoo-shrikes. *Aust. Birds* **19**: 49–50.
- Delbridge, A., Bernard, J. R. L., Blair, D. and Ramson, W. S. (1988). 'The Macquarie Dictionary Second Edition'. (Macquarie University: Sydney.)
- Department of Conservation and Land Management. (1995). 'Dryandra Woodland Management Plan 1995–2005. Management Plan No 30.' (Department of Conservation and Land Management: Perth.)
- Etterson, M. A. and Howery, M. (2001). Kleptoparasitism of soil-foraging passerines by Loggerhead Shrikes. *J. Field Ornithol.* **72**: 458–460.
- Hector, D. P. (1986). Cooperative hunting and its relationship to foraging success and prey size in an avian predator. *Ethology* **73**: 247–257.
- Kappes, J. J., Jr. (1997). Defining cavity-associated interactions between Red-cockaded Woodpeckers and other cavity-dependent species: interspecific competition or cavity kleptoparasitism? *The Auk* **114**: 778–780.
- Ley, A. J., Olivier, D. L. and Williams, M. B. (1997). Theft of nesting material involving Honeyeaters (*Meliphagidae*). *Corella* **21**: 119–123.
- Llambias, P. E., Ferretti, V. and Rodriguez, P. S. (2001). Kleptoparasitism in the Great Kiskadee. *Wilson Bull.* **113**: 116–117.
- Recher, H. F. and Davis, W. E., Jr. (2005). A record of interspecific kleptoparasitism by an Australian passerine, the Black-faced Woodswallow *Artamus cinereus*. *Corella* **29**: 13–14.
- Robinson, D. (1993). Food piracy by Dusky Woodswallows. *Aust. Birdwatcher* **15**: 143–144.