

Tool use by the Sandstone Shrike-thrush *Colluricincla woodwardi*

David B. Lindenmayer¹ and Karen L. Viggers

Fenner School of Environment and Society, The Australian National University, Canberra ACT 0200.

¹Corresponding author: David.Lindenmayer@anu.edu.au

Received: 14 October 2010

Tool use is widespread in primates but relatively rare in other groups of animals (Beck 1980). Within birds, tool use has been recorded in a range of species. Bark chips are used by the Brown-headed Nuthatch *Sitta pusilla* as part of foraging for insect prey on the island of Grand Bahama (Hayes *et al.* 2004). Sticks are used by the New Caledonian Crow *Corvus monoduloides* to assist in prey capture (Hunt 1996; Rutz *et al.* 2010). Twigs and cactus spines are employed by the Woodpecker Finch *Cactospiza pallida* on the Galápagos Islands to remove insect prey from tree-holes and crevices (Tebbich *et al.* 2002). Stones are used by the Egyptian Vulture *Neophron percopiterus* to break open the eggs of the Ostrich *Struthio camelus* (Van Lawick-Goodall and Van Lawick-Goodall 1966). Bait is used by the Green-backed Heron *Butorides striatus* to catch fish (Walsh *et al.* 1985). Tool use has been reported in a number of Australian species of birds. For example, males of the Satin Bowerbird *Ptilonorhynchus violaceus* use wads of bark to “paint” their bowers (Chaffer 1945). The Black-breasted Buzzard *Hamirostra melanosternon* uses stones to break into Emu *Dromaius novaehollandiae* eggs (Moriarty 1972). In addition, the Palm Cockatoo *Probosciger aterrimus* is famous for using sticks and nuts to make drumming noises (Wood 1984, 1988). In this short note we report an observation of apparent tool use by the Sandstone Shrike-thrush *Colluricincla woodwardi* at Purnululu National Park in the eastern Kimberley region of north-western Australia.

On 6 July 2010, we observed an adult Sandstone Shrike-thrush on the Echidna Trail at Purnululu National Park in the eastern Kimberley (17°32'S, 128°41'E). The bird used a five centimetre long stick in its bill to repeatedly probe, tap and scrape under rock crevices. Another individual Sandstone Shrike-thrush, this time at Tunnel Creek (17°36'S, 125°08'E) in the Kimberley region, was observed on the 20 July 2010 using a small stick to probe rock crevices and under logs, and a grub or larvae was dislodged and then promptly consumed.

The Sandstone Shrike-thrush is omnivorous and known to take an array of invertebrate prey from rock crevices, under logs and similar kinds of confined microhabitats (Higgins and Peter 2002). We believe that the birds we observed were using sticks as tools to assist in the capture of prey, enabling them to extract invertebrates from places that would otherwise be inaccessible. Such kinds of behaviour have been documented for a range of species of birds in other parts of the world (e.g. Hunt 1996; Tebbich *et al.* 2002; Hayes *et al.* 2004; Rutz *et al.* 2010), but we are unaware of any other Australian birds that use tools to

directly capture prey in the way we observed. Our observations of tool use by the Sandstone Shrike-thrush were early in the dry season. Some authors (e.g. Tebbich *et al.* 2002) have postulated that instances of tool use in some bird species may be more prevalent during dry periods because of shortages of food, when conventional foraging strategies may be supplemented by novel forms of capture of prey.

ACKNOWLEDGEMENTS

We thank Claire Shepherd and Bruce Lindenmayer for helping with background literature searches on tool use by birds.

REFERENCES

- Beck, B. (1980). 'Animal tool behaviour: The use and manufacture of tools by animals.' (Gurand STPM Press: New York.)
- Chaffer, N. (1945). The Spotted and Satin Bowerbirds. A comparison. *Emu* **45**: 161–181.
- Hayes, W. K., Barry, R. X., McKenzie, Z. and Barry, P. (2004). Grand Bahama's Brown-headed Nuthatch: a distinct and endangered species. *Bahamas Journal of Science* **12**: 21–28.
- Higgins, P. J. and Peter, J.M. (2002). 'Handbook of Australian, New Zealand and Antarctic Birds. Volume 6: pardalotes to shrike-thrushes.' (Oxford University Press: Melbourne.)
- Hunt, G. R. (1996). Manufacture and use of tools by Caledonian crows. *Nature* **379**: 249–251.
- Moriarty, T. K. (1972). Birds of the Wanjarri, WA (27°25'S, 120°40'E). *The Emu* **72**: 1–7.
- Rutz, C., Bluff, L. A., Reed, N., Troscianko, J., Newton, J., Inger, R., Kacelnik, A. and Bearhop, S. (2010). The ecological significance of tool use in New Caledonian crows. *Science* **329**: 523–526.
- Tebbich, S., Taborsky, M., Fessl, B. and Dvorak, M. (2002). The ecology of tool-use in the Woodpecker Finch (*Cactospiza pallida*). *Ecology Letters* **5**: 656–664.
- Van Lawick-Goodall, J. and Van Lawick-Goodall, H. (1966). Use of tools by the Egyptian Vulture, *Neophron percopiterus*. *Nature* **212**: 1468–1469.
- Walsh, J. F., Grunewald, J. and Grunewald, B. (1985). Green-backed Herons (*Butorides striatus*) possibly using a lure and using apparent bait. *Journal of Ornithology* **126**: 439–442.
- Wood, G. A. (1984). Tool use by the Palm Cockatoo *Probosciger aterrimus* during display. *Corella* **8**: 94–95.
- Wood, G. A. (1988). Further field observations of the Palm Cockatoo *Probosciger aterrimus* in the Cape York Peninsula, Queensland. *Corella* **12**: 48–52.