

SHORT NOTE

Observation of simple tool use in a southern black-backed gull (*Larus dominicanus*)

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At 1915 h on 4 December 2016 at Long Bay-Okura Marine Reserve, Auckland (36.6757°S, 174.7459°E), a southern black-backed gull (*Larus dominicanus*) was observed flying low over the intertidal zone of a beach with a stick (approximately 8-10cm in length) in its bill. After a short low flight from land the bird landed just above the waterline and immediately used the stick to prod at an object on the sand. I walked quickly to the site to observe what the object was that the bird was manipulating. The bird was disturbed by a person walking their dog and it stopped manipulating the object, dropped the stick, picked up the object in its bill and flew back inland. Though not possible to identify the object, it appeared to be soft and some sort of flesh, possibly of shellfish origin. The stick was sturdy and straight, possibly from a conifer tree, and appeared not to have been fashioned or modified in any way.

From a literature search, no published references were found from New Zealand in regards to black-

backed gulls using sticks as a tool. However, this species has been observed using grass as an object in displaying behaviour (Seabrook-Davison 2013). Henry & Aznar (2006) observed the closely related herring gull (*Larus argentatus*) using bread as bait to lure and catch goldfish. They considered that to be the first record of bait-fishing and the second record of complex tool-use for the superorder Charadrii under natural conditions. However, it is questionable that using bread is an example of complex tool-use when the bread was not fashioned into a tool for a specific use.

Tool use in birds has been widely recorded, especially New Caledonian crow (Hunt 1996; Hunt & Gray 2003; Rutz *et al.* 2012) and woodpecker finch (Tebbich *et al.* 2002). A common practice amongst some birds is to drop objects such as shellfish, bones or snails onto hard surfaces to extract food. Although a basic form of tool use, blackbird (*Turdus merula*) and song thrush (*Turdus philomelos*) smash garden snails on rocks and concrete surfaces to extract the snail body. Tudge (2008) refers to these stones that are regularly used as "thrush anvils."

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The author has observed these two species for many years using some garden edge rocks as anvils to extract snails from their shells. Lefebvre *et al.* (1997) suggest that tool use in Charadrii is mostly restricted to the common behaviour of gulls dropping food items on hard surfaces. The author has observed black-backed gull at Piha (36.9530°S, 174.4688°E) and red-billed gull (*Chroicocephalus scopulinus*) at Kaikoura (42.4008°S, 173.6814°E) dropping shellfish onto coastal rocks.

In a study of captive kea (*Nestor notabilis*), Auersperg *et al.* (2011) showed that after demonstration trials, the birds could use a stick to retrieve food from an experimental apparatus. In this experiment, the birds were given time to understand the apparatus and observe the material and colour of the sticks. The assertion by Auersperg *et al.* (2011) that kea are not known to use tools in the wild has recently been shown to be incorrect. Video footage (<http://www.stuff.co.nz/national/10417383/Sticky-beak-is-New-Zealands-tooled-up-kea>) taken by the New Zealand Department of Conservation has shown wild kea using sticks to trip stoat traps. From the footage, it is unclear whether the kea are trying to extract the bait or are just being inquisitive.

In conclusion, my observation of the gull prodding an object on the sand with a stick is consistent with an interpretation of simple tool use. Simple tool use is described as an animal using an object in its natural form that has not been modified (Shumaker *et al.* 2011). In comparison, the fashioning of tools from pandanus leaves by the New Caledonian crow is recognised as being consistent with complex tool use (Hunt 1996; Hunt & Gray 2002; Rutz *et al.* 2012).

Given the gull was observed flying directly to the object on the beach and prodding the object with the stick, further suggests that this particular gull may have used such a tool before. I can rule out that the stick was associated with nest building,

given the stick was not taken to a nest site, but instead used for foraging. As black-backed gull are widespread throughout New Zealand, it is recommended that further research is conducted to ascertain how widespread tool use is in the species.

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