

Tool-Use in the American Crow (*Corvus brachyrhynchos*) in an Illinois Suburb

By Sean C. Lyon

On 8 April 2020 around 13:48 local time, I was taking a birding walk around northeast Oak Park, Illinois (Lyon 2020). The day was sunny and calm, with an ambient temperature of 68 F (20 C) and low traffic activity. While I was birding, I heard a faint tapping coming from the upper branches of a Silver Maple (*Acer saccharinum*; Fig. 2B), and began looking for a bird, expecting to see a woodpecker (*Picidae* spp.). However, the source of the sound was an adult American Crow (*Corvus brachyrhynchos*) perched in the fork of the tree. This crow was holding a twig in its beak, positioned in line with the direction of its beak (Figure 1), and was hammering at the branch on which it was standing. This forceful probing at the bark occurred at approximately 40 feet (12.2 m) above the ground. Silver Maple trees have shaggy bark from the base of the trunk to the upper branches, so presumably the crow was seeking to extract a food item from within a crevice in the bark. The intentional maneuvering of the twig and prolonged and deliberate manner in which the crow probed indicate that the crow was using the twig as a rudimentary tool, rather than picking up the stick for some other use, such as nesting material. The twig that the crow used was slightly longer than the length of its beak, which in adult crows of *C. b. brachyrhynchos* ranges from 1.2-1.7 inches (31-44 mm; Verbeek and Caffrey 2020). I did not observe any food obtained as a result of the probing, so I cannot say with certainty that there was not some other goal in its use. In addition to probing with the twig in its beak, the crow also used its foot to stabilize the process; the end of one toe was visible in photographs obtained during the observation (Figure 2A). The observed tool-use stopped when the crow took flight with the twig in its beak, apparently distracted by trying to catch a nearby butterfly, and dropped the twig before flying away. During this time, no other American Crows were seen, nor were there any vocalizations from the tool-using crow.

Tool-use in crows (*Corvus*) is extensively studied as a feat of avian cognition, with New Caledonian Crows (*C. moneduloides*) and 'Alalā (*C. hawaiiensis*) the best-documented, with much of the described tool-use occurring in captivity (summary in Cole 2004). Caffrey (2000) observed an American Crow modifying and using a long splinter of wood as a probing tool in Oklahoma. Tool-use in American Crows has never before been publicly documented in Illinois, though some people have set up feeders that can only be opened by American Crows or another species of North American Corvid, Blue Jays (*Cyanocitta cristata*) (E. Secker, pers. comm.). Tool-use in American Crows merits further investigation. Topics of interest for future studies may include which food items are acquired during tool-use, the material (natural or manmade) used for tools, the geographic extent of this behavior in the Midwest, and whether in this population it is an individually-acquired or group-learned behavior. ■

Sean C. Lyon

*Bird Collections, Science and Education
Field Museum
1400 S Lake Shore Drive
Chicago, IL, USA 60605*

LITERATURE CITED

Caffrey, C. 2000. Tool modification and use by an American Crow. *Wilson Journal of Ornithology*. 112(2):283-284.

Cole, PD. 2004. The ontogenesis of innovative tool use in an American crow (*Corvus brachyrhynchos*). Halifax (NS): Dalhousie University. <https://dalspace.library.dal.ca/bitstream/handle/10222/54636/NQ94024.PDF?sequence=1>.

Lyon, S. 2020. eBird Checklist S66834237: <https://ebird.org/checklist/S66834237>. eBird: An online database of bird distribution and abundance [web application]. Ithaca (NY): eBird, Cornell Lab of Ornithology. [accessed 2020 8 Jul]. <http://www.ebird.org>.

Verbeek, NA, Caffrey C. 2020. American Crow (*Corvus brachyrhynchos*). Ver. 1.0. *Birds of the World*. Poole AF, Gill FB, editors. Ithaca (NY): Cornell Lab of Ornithology. doi:10.2173/bow.amecro.01.

Thanks to Jacob C. Cooper, Josh Engel, Holly M. Garrod, L. Kristen Page, and David E. Willard for feedback on this manuscript.



FIGURE 1. American Crow holding the twig used as a tool. Notice that the twig is aligned with the bill.



FIGURE 2. A. American Crow using twig as tool, while bracing the twig with its foot. **B.** Silver Maple (*Acer saccharinum*) in which the tool-using crow was observed in Oak Park, IL.