RUST, H. J. 1915. An annotated list of the birds of Kootenai County, Idaho. Condor 17: 118–129.

WALLEN, R. L. 1987. Habitat utilization by harlequin ducks in Grand Teton National Park. M.S. thesis, Montana State University, Bozeman, Montana.

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House Sparrows open an automatic door.—House Sparrows (*Passer domesticus*) are notable for their behavioral plasticity. We here report a remarkably novel manifestation of House Sparrow behavioral adaptability.

On the morning of 29 December 1990, we saw House Sparrows repeatedly opening an automatic sliding door on the outside of the Hamilton, New Zealand, Intercity Bus Station. The Horizon® automatic door consisted of two glass panes, each ca 1.2 m in width, designed so that one slides past the other. The door connected a waiting room and small cafe with the bus platforms outside. Above the sliding door on both the inner and outer walls was mounted a small sensor, shaped like a rectangular box, slanted downward toward the space in front of the door to be triggered effectively by persons wishing to pass through. A small green light shone continuously from the front of the sensor, and an equally small red light shone twice for < one sec duration, separated by a one sec interval, when movement in front of the door was sensed. The top surface of both sensors (ca 4 × 10 cm) was covered with small bird droppings.

At least two males, but no females, employed similar techniques to cause the door to slide open. A bird either flew slowly past the sensor, at a distance of <10 cm, or hovered briefly in front of the sensor at a similar distance, or landed on top of the sensor, leaned forward, and bent its neck until its head triggered the sensor and the door opened. After a pause of one to several sec, the bird then flew through the doorway. In about 45 min of observations (30 min from ca 07:00 to 07:30 and 15 min from 10:00 to 10:15), we saw sparrows open this door 16 times. A short return visit in the afternoon of the same day revealed several more instances. Female sparrows simply waited for persons to open the door for them, then flew through the doorway behind the person before the door slid shut. Occasionally, a female sparrow perched on the floor of the waiting room or on the tarmac outside, ca 2–3 m from the door, and appeared to wait for a person to activate the door. Male sparrows sometimes did the same.

The traffic supervisor, J. Price, informed us that the door had been installed only two months previously (there are still swinging doors at both ends of the sliding door). He was aware that sparrows had been opening the door and noted that they had learned this "very quickly" after the door had been installed.

There would seem to be at least two factors contributing to the learning of this remarkable behavior. Sparrows are tolerated around cafe tables in the bus station, as is true in similar circumstances throughout New Zealand. Indeed, they are certainly rewarded for their predisposition to scavenge crumbs from table tops and the floor beneath tables. Hence, there were both food rewards and time without persecution available to them inside the waiting

room's cafe. Sparrows had been flying through the open swinging doors before the sliding door was installed.

There are at least two possible ways by which door-opening behavior could have been learned by sparrows. First, the flashing red light may have become associated with the door sliding open and attracted a sparrow to the sensor. Then, random movement would have yielded the reward, and perhaps a single sparrow learned the association between its position in front of the sensor and the opening of the door. Alternatively, the sensor may have been approached simply as an appropriate, convenient perch. Once again, random movement may have then led to activation of the door and associative learning. Other sparrows may well have acquired the door-opening behavior through observational learning.

Early research (Porter, Am. J. Psychol. 15:313–346, 1904, Am. J. Psychol. 17:248–271, 1906) on the problem-solving abilities of sparrows included mention of sparrow persistence in solving problems in the laboratory, compared to other species of birds tested. Summers-Smith (The House Sparrow, Collins, 1963) emphasized the behavioral plasticity of sparrows and provided anecdotes of innovative behavior. He noted several aspects of the biology of House Sparrows that may contribute to the species' colonizing success. These include acceptance of a wide range of foods, tolerance of human proximity and disturbance, and general adaptability in possible nest sites.

It is somewhat surprising that problem-solving and behavioral plasticity in House Sparrows has not received more attention, considering the obvious success of sparrows as colonizers. We reiterate the emphases of Porter and Summers-Smith and suggest that additional research on learning and problem-solving by House Sparrows may further elucidate behavioral mechanisms contributing to the species' success.

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