

HOUSE WRENS FEEDING FISH TO THEIR NESTLINGS

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The House Wren (*Troglodytes aedon*) is a primarily insectivorous passerine that gleans most of its food from shrubs or trees (Kendeigh 1941, Guinan and Sealy 1987, 1989). Although the Winter (*Troglodytes troglodytes*) and Carolina (*Thryothorus ludovicianus*) Wrens have been reported to feed on vertebrates occasionally (Haslam 1844, Bent 1948, Huxley 1949, Bagnall-Oakley 1968), we found no reports in the literature of House Wrens feeding on vertebrates. We report here House Wrens feeding fish to their nestlings.

We established a grid of 50 nestboxes, placed at 50-m intervals, at Daniels Pass, 24 km east of Heber, Utah. The plot is located on an east-facing slope in a forest of Quaking Aspen (*Populus tremuloides*) with White Fir (*Abies concolor*). The understory is dominated by Mountain Snowberry (*Symphoricarpos oreophilus*). There is a seep north of the plot, and an intermittent stream runs to the southwest of it.

During the breeding seasons of 1987, 1988, and 1989, we monitored the nestboxes, used mainly by House Wrens and Tree Swallows (*Tachycineta bicolor*). The boxes were built to facilitate the attachment of a small video camera that could film the inside of the box. The camera hole was blocked with a cork when the camera was not attached. Before filming, we placed a plexiglass lid on top of the box to allow light into the box. After the camera was attached, we waited 10 to 15 minutes before beginning filming to allow the birds to adjust to the intrusion on their environment.

During the three-year study period, 51 House Wren nests were monitored. We filmed each nest at least once while it contained nestlings during all years. Seventy-three videotapes, averaging 1.8 hours in length, were made. Adult birds were mist-netted and banded with U.S. Fish and Wildlife Service bands and color bands so that we could identify individuals in the field. See Pennock (1990) for further details on the study site and methods.

During our study, we observed adult House Wrens feeding small fish to their nestlings on five occasions. One case each was recorded in 1987 and 1988. Three cases at the same nest were recorded in 1989. The fish were whole and in some cases moving, so they probably were not scavenged. In each case, the fish were fed whole to the nestlings. The lengths of the fish, as measured from the videotapes by means of an image-analysis program on an IBM AT microcomputer, were 3.14, 2.76, 2.36, 1.27, and 0.89 cm. As evidenced by the videos, the House Wrens fed their young primarily with larval and adult Lepidoptera. Coleopteran and hymenopteran prey were also identified (Pennock 1990).

House Wrens frequently nest near water (Kendeigh 1941). The three pairs that fed fish to their nestlings all had water within their territory, at distances of 20 to 50 meters from the nest. Twenty, or 39%, of the nests monitored were located within 50 meters of a water source.

Although five incidents in nearly 150 hours of videotape, showing about 20 feeding bouts per hour, are not very many, fish may be regular in the diet of some House Wrens. The behavior, shown by different individual birds each year, was recorded in all three years of the study. In both 1987 and 1988, only one film was made of each nestbox. If this behavior was extremely rare, the probability of its being recorded in a two-hour sample of a two-week nestling period would be very low. In 1989, the

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nestbox in which the parents fed fish to the nestlings was videotaped twice during the nestling period. Fish were fed to the nestlings during both taping sessions, and the activity was recorded twice during one of the sessions. These observations suggest the House Wren to be more plastic in its diet selection than may have previously been thought.

Funding during this project was provided by the Brigham Young University Zoology Department. Dr. Brian A. Maurer established the study plot and provided equipment for field work. Dr. Dennis K. Shiozawa provided equipment for analysis of the video tapes in his laboratory. Richard Jensen assisted in a comprehensive literature search.

LITERATURE CITED

- Bagnall-Oakley, R. P. 1968. Wrens feeding on small fish. *Br. Birds* 61:313-314.
- Bent, A. C. 1948. Life histories of North American nuthatches, wrens, thrashers and their allies. U.S. Natl. Mus. Bull. 195.
- Guinan, D. M., and Sealy, S. G. 1987. Diet of House Wrens (*Troglodytes aedon*) and the abundance of the invertebrate prey in the dune-ridge forest, Delta Marsh, Manitoba. *Can. J. Zool.* 65:1587-1596.
- Guinan, D. M., and Sealy, S. G. 1989. Foraging-substrate use by House Wrens nesting in natural cavities in a riparian habitat. *Can. J. Zool.* 67:61-67.
- Haslam, S. H. 1844. Anecdote of the Common Wren. *Zoologist* (I) 2:564.
- Huxley, J. S. 1949. Wren feeding young on fish. *Br. Birds* 42:185-186.
- Kendeigh, S. C. 1941. Territorial and mating behavior of the House Wren. III. *Biol. Monogr. Univ. of Ill. Press, Urbana.*
- Pennock, D. S. 1990. Seasonal distribution of hatching asynchrony and brood reduction in House Wrens. M.S. thesis, Brigham Young Univ., Provo, UT.

Accepted 9 March 1995