Hearing Research, 19 (1985) 151–155
Elsevier

HRR 00631

Sound localization in wild Norway rats (*Rattus norvegicus*)

Henry E. Heffner and Rickye S. Heffner

Laboratory of Comparative Hearing, Bureau of Child Research, University of Kansas, Parsons, KS 67357, U.S.A.

(Received 22 January 1985; accepted 2 July 1985)

The ability of three wild Norway rats to localize sound was determined for single clicks and 100-ms white noise bursts. Chance level localization thresholds were 12° for clicks and 9.7° for white noise. A comparison of these results with published localization thresholds for the domestic albino rat yielded no significant differences. It appears that the combined effects of domestication and albinism have not affected the ability of the laboratory rat to localize sound. Instead, the relatively poor localization acuity of these rats appears to be part of the normal variation in sound localization acuity found among different species of mammals.

albino rat, wild Norway rat, sound localization, domestication

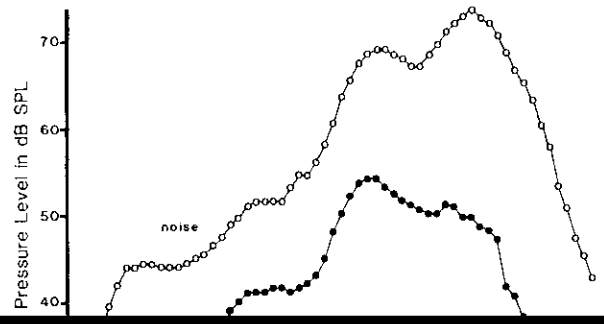
Introduction

bino rat even though no specific auditory

Subjects

Three rats (*Rattus norvegicus*) trapped in Labette County, KS, were used in these tests. The animals weighed 280, 320 and 350 g and their interaural distances (as measured around the head from the opening of one auditory meatus to the other) were 42, 45 and 43 mm, respectively. Each

loudspeakers. Each dual loudspeaker consisted of a 3-inch (7.6 cm) paper cone speaker mounted in a 500 ml enclosure and a piezoelectric tweeter with a 3-inch (7.6 cm) horn mounted directly above such that the centers of the speakers were 3.5 inches (8.9 cm) apart. To produce the clicks, square waves of 25 μs duration were produced by a pulse gener-



allow an animal sufficient time to return to the water spout.

For the purpose of quantifying an animal's response, the duration of spout contact was measured in 0.02 s increments beginning 1.8 s after stimulus onset until 0.2 s later at the end of the trial. This measured 'time in contact' was then averaged separately for the right or (S) trials and the left or warning (W) trials for each angle of

[redacted]

noise localization, the noise localization threshold

2 Bock, G.R. and Steel, K.P. (1984): Use of albino animals