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Letters to the Editor

Editor's Note

In this issue we initiate a "Letters to the Editor" section for *Physiological Psychology.* Readers are encouraged to send letters regarding substantive matters in the field, methodological issues, or perhaps even plain biased opinions. The "Letters" section will appear if and when we receive letters.

Richard F. Thompson
Editor

Comment on "Otitis media in laboratory rats"

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This letter points out that the incidence of otitis media in rats, as reported by Daniel et al (1973), most probably resulted from inadequate conditions of animal supply and care.

The purpose of this letter is to comment on the findings and conclusions of Daniel, Means, Dressel, and Loesche (1973) in their article, "Otitis media in laboratory rats," which appeared recently in *Physiological Psychology.* These authors report (Fig. 1) that the incidence of otitis media in Long-Evans rats increases as a function of age up to 50% at 8-9 months and then declines to 25% at 10 months of age. They advise that "the use of older rats for auditory studies seems unwarranted due to the high incidence of the disease in older animals [p. 8]."

However, a very large body of evidence accumulating since the early 1930's (Nelson & Gowen, 1931) strongly indicates that otitis media in rats is a disease which can be prevented by various methods of animal supply and care which protect the animals from infectious microorganisms (Lindsey, Baker, Overcash, Cassell, & Hunt, 1971).

To state the case as briefly as possible, otitis media in rats is part of a syndrome commonly called murine chronic respiratory disease (CRD). The organisms responsible for CRD and the exact mechanism of middle ear involvement in rats (or in humans, for that matter) are not well known at present (Lindsey et al, 1971; Karma, 1972).

Nonetheless, it is well known that the incidence of CRD and otitis media depends critically upon the specific conditions of animal supply and husbandry used in the laboratory (Nelson & Gowen, 1931; Retzlaff, Rogols, & Pasamanick, 1960; Giddens, Whitehair, & Carter, 1971). For example, Retzlaff et al (1960) reported a 10% incidence of otitis media in rats maintained under good conditions of animal care. Furthermore, the incidence showed an age dependency similar to that of Daniel et al (1973). The simple expedient of requiring all personnel to wear rubber surgical gloves when handling the rats entirely eliminated the disease from the colony! The obvious interpretation of this finding is that infectious microorganisms carried on the skin of the handlers infected the rats with CRD and otitis media.

Therefore, it is possible to interpret the results of Daniel et al (1973) and those of Retzlaff et al (1960), taken together, to indicate that otitis media in rats occurs as a function of age in the manner shown by these authors *when inadequate procedures are employed for the supply and care of the animals.* When proper procedures are employed, there is no incidence of CRD or otitis media at any age.

The problem of the quality of laboratory animal supply and husbandry extends far beyond the issue of otitis media in rats. Today, techniques for the provision of healthy laboratory animals are well developed and extensively documented. Many universities employ veterinarians who specialize in laboratory animal medicine, and the basic requirements for high quality animal care are now specified by law (Animal Welfare Act of 1966, as amended) for all facilities housing warm-blooded animals.

In view of this abundance of information and the availability of expert consultation, the occurrence of otitis media, CRD, and other diseases in laboratory rodents is no longer a necessary research complication. Even in animal facilities which are not yet in strict physical compliance with the law, these diseases can be eliminated by changes in suppliers and in animal procedures without marked increases in cost. [See Crowley (1971) for specific suggestions for the detection and prevention of otitis media in rats.]

However, to take advantage of these resources, an