

news THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT DALLAS

southwestern medical school ■ graduate school of biomedical sciences ■ school of allied health sciences

June 10, 1977

Contact: Ann Williams
Office: 214/688-3404
Home: 214/279-9402

******The sense of smell in the selection
of a sex partner may be vital to the
survival of the species.*

DALLAS--The sense of smell is important in choosing a sex partner--no one would deny that. The perfume industry bombards the public with the idea constantly.

Now some researchers believe smell and the selection of a sex partner may be vital to the survival of the species.

At a recent hamster symposium at The University of Texas Health Science Center at Dallas (UTHSCD), Dr. Robert O'Connell presented information on hamsters and pheromones. Pheromones are chemicals secreted by animals that cause a specific behavioral response in other animals of the same species. Insect pheromones have been studied for years. Now at Rockefeller University in New York City, Dr. O'Connell and his colleagues have isolated a hamster pheromone, the first pheromone to be identified in mammals.

This pheromone is essential to the hamster mating process. When the female is not in heat, she is hostile to males. When in heat, she secretes the pheromone which signals "welcome" to the male.

"It becomes important to the male to be able to detect this pheromone. Otherwise, he can be badly hurt or killed," said Dr. O'Connell. Another indication of the importance of smell to sex is the finding that hamsters in which the olfactory (smell) nerve has been clipped refuse to mate.

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first add smell

The secretion and perception of the pheromone are genetically determined, but many other factors are also involved in mate selection.

"We know that mice choose mates partly because of similarities in genes involved in graft rejection. This may be vital for reproduction since a fetus is a natural 'transplant,' containing the father's genes, which are foreign to the mother's body. Something in the mother's immune system keeps her from rejecting the fetus 'transplant,' " said Dr. Wayne Streilein, professor of cell biology and internal medicine at UTHSCD.

Since a pheromone has been identified in the hamster, it is a prime subject for the study of smell, mating selection and their possible relation to the genes involved in transplant rejection.

"It may be that pheromones are related to the recognition of compatible genes in mice, hamsters and even in man," said Dr. Streilein.

If so, there are implications for transplant rejection and also for the inability to conceive. But nobody wants to speculate on the effects of after-shave lotion on the survival of the species.

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