

tion. The genetic response to very unfavourable environments (extreme stresses) has been investigated and most of the results can be explained by relatively few genes having broad and mainly additive effects^{16,17}. However, the egg retention affects the ovarian activity, and limits to selection would presumably be more severely canalized than those for specific actions of chemicals like ethanol or insecticides. In our conditions, the poor substrate or the photophase cannot be considered as stressful factors since flies are normally submitted to photoperiod and are often deprived of oviposition sites as shown by their ovarian state in the field¹⁸.

The capacity to stop oviposition must be a muscular, voluntary closing of the genital duct, under the control of the nervous system, since most of the females in our experiments presented one egg in the uterus. The genetic bases of this egg-laying control need further investigation. Nevertheless, genetic variability between isofemale lines for both the oviposition rhythm and the response to an unsuitable substrate has been demonstrated already^{9,10}. Under natural conditions, the blocking capacity shows seasonal variations giving rise to an increasing frequency of flies with strong retention in the spring and in the autumn^{14,15}. Such observations express the great genetic plasticity of this behaviour, which seems to be selected by natural conditions (temperature...) in a few generations¹⁴.

The ability to control the oviposition process in response to various environmental factors, which can be as different as photoperiod or laying substrate, must allow

Drosophila females to adapt their response to environmental events, in particular by rapidly laying numerous eggs when conditions become more favourable. This trait might be particularly important for the population when the developmental sites are scarce and scattered, as is likely to be the case in temperate regions¹⁸.

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Announcements

Hildegard Doerenkamp and Gerhard Zbinden Foundation for Realistic Animal Protection in Scientific Research

Scientific Awards 1989 and 1990

A prize of DM 50,000.- each will be awarded for outstanding scientific contributions to the following topics:

Award 1989: "Alternatives for Animal Experimentation in the Neurosciences and in Epilepsy Research"

Applications should consist of published or unpublished reports on alternative methods replacing animal experimentation in the neurosciences and in epilepsy. New techniques that can reduce the number of higher animals used (primates, dogs, cats) or decrease experimental stress in these animal will also be considered.

All materials remain the property of the applicants and will be returned within three months after awarding of the prize. The jury reserves the right to split the prize among not more than three applicants. No special application forms are required.

Award 1990: "Anesthesia in Laboratory Animals – Management of Chronic Pain in Laboratory Animals"

Applications should consist of publications, manuscripts or audio-visual presentations, detailing concepts, application and success of new or refined methods leading to the reduction of pain and suffering of experimental animals in acute and chronic experiments.

Applications should be sent to:

Award 1989: Prof. Dr. Diether Neubert, Institut für Toxikologie und Embryopharmakologie, Freie Universität Berlin, Garystrasse 5, D-1000 Berlin 33. Deadline: February 28, 1990.

Award 1990: Prof. Dr. Kay Brune, Institute of Pharmacology, University of Erlangen-Nürnberg, Universitätsstr. 22, D-8520 Erlangen. Deadline: February 28, 1991.