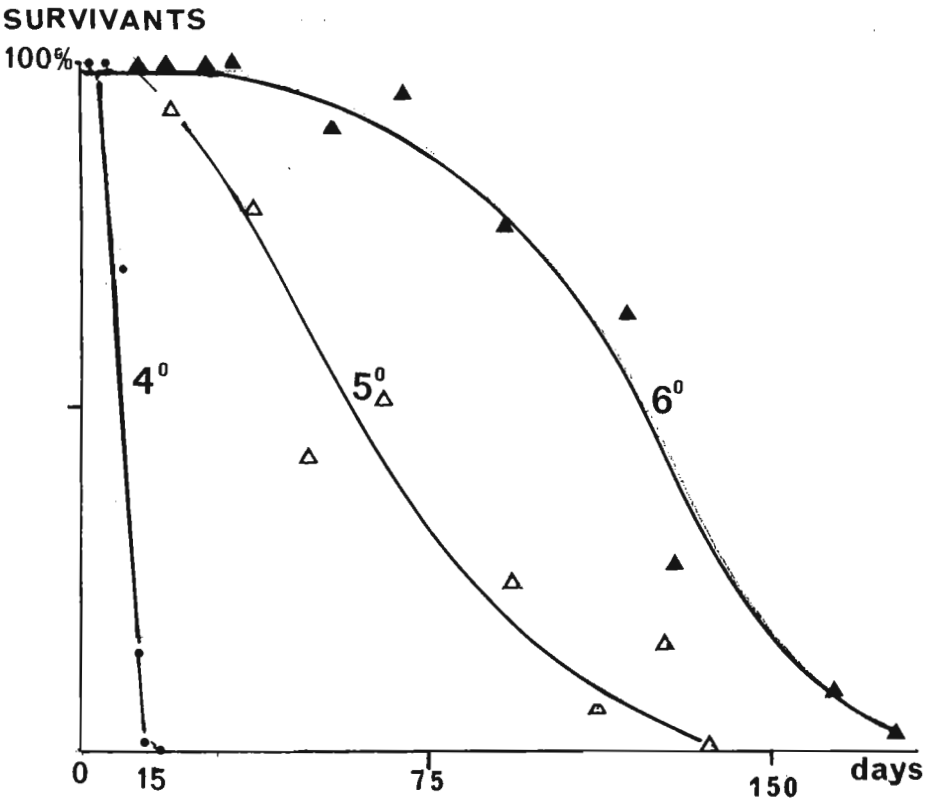
Anxolabehere, D. and G. Periquet. Faculté des Sciences, Paris. Cold resistance in D. melanogaster and its ecological implications.

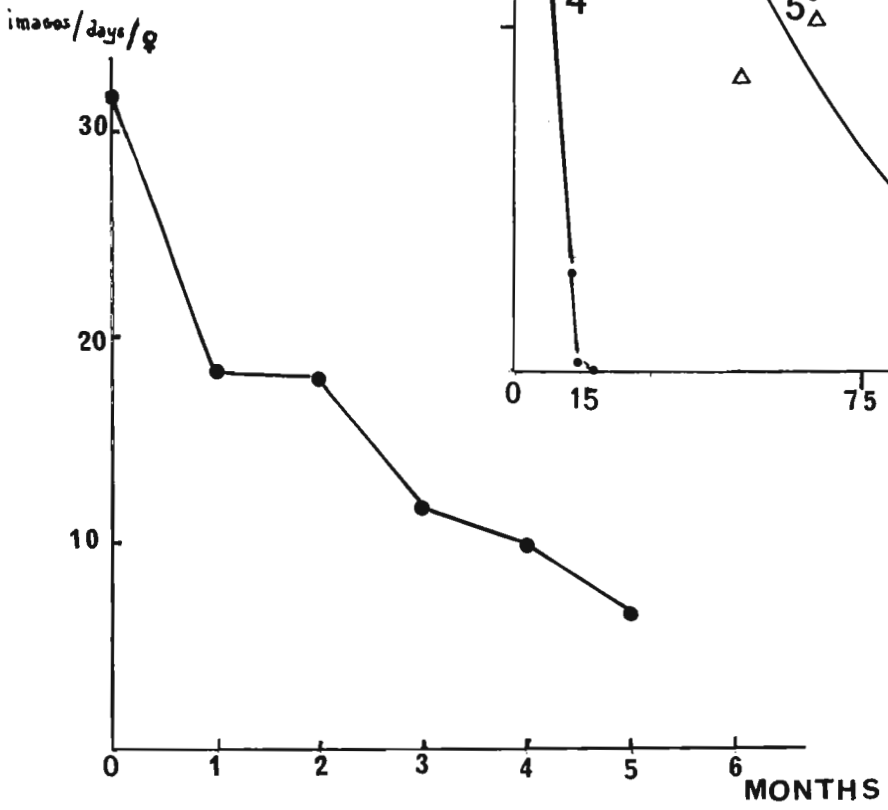
The characteristics of natural populations of D. melanogaster stay generally the same from one year to another. But the problem of the survival of the flies at low temperatures is unknown. We are now looking at the cold resistance of adults.

One sampling of a natural population (M 68) originally from the French Mediterranean coast was kept at 4°, 5° and 6°C. The percentage of survival was scored from time to time. The curve (No. 1) made with both sexes, shows the great resistance of imagos to low temperatures. At 5°, a greater resistance of the females may be noted after 3 weeks; at 6°, this greater resistance appears only after 4 months. Two days after the end of the cold treatment, the fertility of the females was measured; it becomes 1/2 after 3 months, 1/3 after 4 months (Curve No. 2).

It is quite remarkable that the mean temperature of the coldest month in the area where the strain lives, is 7°C. So the resistance to cold of the strain allows it to survive during winter and recolonise in the spring. Nevertheless, it is still evident that this laboratory model must be tested in the field.



(1)



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