

## STUDIES ON *DROSOPHILA MELANOGASTER* L. ROMANIAN ECOTYPES HIGHLIGHT THE DIFFERENCES AMONG *DROSOPHILA* ECOTYPES ASSESSING THE MORPHOLOGICAL TRAITS AFTER TRAPPING

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**Abstract.** In comparison with three standard *Drosophila* strains 19 Romanian ecotypes were investigated. The ecotypes were collected from areas differentiated by anthropic utilization and environmental conditions. Even though populations of *D. melanogaster* are not really isolated it has been identified phenotypic and genotypic evident polymorphism. There are compared the quantitative and behavior traits.

**Keywords:** *Drosophila* ecotypes; behaviour; fertility, body size

### Introduction

Concerns of knowledge and characterization of the ecotypes in Romania are few and sporadically were made (1; 2). In almost all works mutants or isogenic lines were used. In 1943 Radu in collaboration with Catsch and Kanellis (1943 and 1967) communicated the results of radiation on *Drosophila* lines (3). Tudose (1992) and Gavrilă (1996) used mutant genotypes of fruit fly as “model” for their studies. A tentative to collect and to characterize the Romanian *Drosophila* ecotypes was initiated on USAMVB Department of Genetics since 1984. Later in 2008 due to a research program (PNII - 52158 - TRICHOAS) the previous stock made Romanian ecotypes (5) and classical strains (5) were enriched with other 11 ecotypes.

For a cosmopolite organism as *Drosophila* the environment specificity is a frame in which it has to survive to adapt and to evolve or to extinct. The fruit fly physiological particularities are influenced by the environment changes and indicate its adaptability vs. vulnerability (4; 5; 6). The ability to colonize multiple sites is an indication of the biological success of many species as well as on *Drosophila*. For *Drosophila* usually the number of habitats within a geographical area is large. If there is a competition, however, it may be reduced by natural selection by means of adaptation in the available sites (7). In those new niches the fruit fly is obligated to adapt its phenotype and behavior to those specific conditions. This is the cause of the improved

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