



Olfactory Behaviour and Learning in Native versus Lab-bred *Drosophila melanogaster*

• Farheen Tabassum • Neha Kumari • Rashmi Singh
• Shahla Yasmin

Received : November 2016

Accepted : March 2017

Corresponding Author : Shahla Yasmin

Abstract : The study was conducted to compare the olfactory behaviour of pure line *Drosophila melanogaster* (inbred upto 10 generation) and CsBz (inbred upto 1800 generation) with that of native *Drosophila melanogaster*. For this study, four experimental set-up were designed, named as control, experimental, avoidance and confirmatory set-up. Sixty larvae were used for each assay. Result showed that the larvae of native *D. melanogaster* were more attracted towards 10^{-2} concentration of Iso-Amyl Acetate than that of larvae of lab bred (inbred upto 10 generation) of *Drosophila melanogaster* and CsBz. Further, the learning and memory capacity of native *Drosophila melanogaster* was better developed than that of

larvae of lab bred (inbred upto 10 generation) of *Drosophila melanogaster* and CsBz strain of *D. melanogaster*.

Keywords: *Drosophila melanogaster*, CsBz, Pureline, Iso-Amyl Acetate, Olfaction.

Farheen Tabassum

B.Sc. III year, Zoology (Hons.),
Session : 2014-2017, Patna Women's College,
Patna University, Patna, Bihar, India

Neha Kumari

B.Sc. III year, Zoology (Hons.),
Session : 2014-2017, Patna Women's College,
Patna University, Patna, Bihar, India

Rashmi Singh

B.Sc. III year, Zoology (Hons.),
Session : 2014-2017, Patna Women's College,
Patna University, Patna, Bihar, India

Shahla Yasmin

Head, Dept. of Zoology, Patna Women's College,
Bailey Road, Patna-800 001, Bihar, India
E-mail : shahla_apex@yahoo.co.in

Introduction:

Drosophila melanogaster, also known as fruit fly or vinegar fly is a little insect about 3mm long, mostly found on spoiled, ripened or rotten fruit. Wild type fruit flies are yellow-brown with brick red eyes and transverse black rings across the abdomen. They exhibit sexual dimorphism, females are about 2.5 mm long, males are slightly shorter with darker backs.

Canton Special (CS) is one of the most-used wild-type strain in *Drosophila melanogaster* genetics studies. The CS stock was established by