Title:	Drosophila melanogaster as a model organism to study impacts of microplastics on terrestrial organisms
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Abstract:	We investigated the effects of polystyrene microparticles in adult Drosophila melanogaster when exposed to both larval and adult stages of their life cycle. Even though there have been plenty of studies done on the impacts of microplastics on aquatic organisms, assessments of the same on terrestrial organisms are very scarce. Two independent studies were able to show intestinal damage, locomotor dysfunction, upregulation of HSP70 and significant changes in the daily activity of Drosophila melanogaster upon chronic exposure to polystyrene microparticles. We mixed polystyrene latex beads of size 0.8μm in Drosophila food to examine the effects on mating behavior, fecundity and other reproductive fitness characteristics of both male and female flies in control and microplastic treated flies. Two sets of experiments were done in which the first one was done in a way that drosophila larva was ingested with polystyrene and the adults eclosed from this were observed. In the second set, the adult fly was exposed with polystyrene for two days. Polystyrene ingestion did not cause a change in any of the traits (fecundity, mating behavior, body size, fluctuating asymmetry and sperm defense ability) that we assessed in both the types of experiments.
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