

**PENGARUH CIPLUKAN (*Physalis angulata* L.) TERHADAP
KEMAMPUAN REPRODUKSI DAN PERKEMBANGAN LALAT BUAH
(*Drosophila melanogaster*)**

ABSTRAK

Pengaruh tanaman obat ciplukan (*Physalis angulata* L.) dapat menghambat kemampuan reproduksi dan perkembangan lalat buah (*Drosophila melanogaster*). Aspek kemampuan reproduksi yang diamati meliputi kepadatan dan morfologi sayap, sedangkan aspek perkembangan yang diukur adalah rasio jenis kelamin jantan dan betina. Daun ciplukan berupa serbuk (SR) yang dibandingkan dengan ekstrak air (EX). Kedua percobaan ini (SR dan EX), secara terpisah, terdapat 25 pasang lalat buah yang digunakan dan kemudian dibagi menjadi 5 kelompok dengan masing-masing 5 pasang. Kelompok 1 yaitu kontrol, kelompok 2, 3, 4, dan 5 diberi perlakuan dengan SR dan EX dengan 5 pengulangan. Setelah 9 hari pengamatan, percobaan (SR dan EX) tidak berpengaruh terhadap kepadatan. Namun, SR lebih efektif daripada EX ($p > 0,05$). Secara signifikan, jumlah jantan lebih rendah dibandingkan dengan betina yang berbeda dengan kontrol (jantan : betina = 1:1). SR juga mempengaruhi morfologi sayap pada jantan yang bentuknya lebih kecil. Hasil ini menunjukkan bahwa rasio abnormal keturunan dan sayap mungkin akan menurunkan kemampuan adaptasi dan kelangsungan hidup lalat buah di lingkungan.

Kata Kunci : Ciplukan, *Drosophila*, tanaman obat, rasio keturunan

**THE EFFECT OF CIPLUKAN (*Physalis angulata* L.) ON
REPRODUCTIVE ABILITY and DEVELOPMENT OF FRUIT FLIES
(*Drosophila melanogaster*)**

ABSTRACT

Inhibiting effect of medicinal plant Ciplukan (*Physalis angulata* L.) leaves on reproductive ability and development of fruit flies (*Drosophila melanogaster*) was evaluated. The reproductive ability aspects observed included density and morphology of the wings, while the developmental aspect measured was female and male ratios of the offspring. Ciplukan leaves in form of powder (PO) was compared with those of aqueous extract (AE). For these two experiment sets (PO and AE), separately, a total of 25 pairs of fruit flies were used and then divided into 5 groups of 5 pairs each. Group 1 was a control, groups 2, 3, 4, and 5 were treated by PO or AE onto the food with concentration 0.5 g, 1 g, 1.5 g, and 2 g respectively with 5 replications. After 9 days observation, unfortunately the experiments (PO and AE) did not effect to the density. However, PO was more effective than AE ($p > 0.05$). Significantly, number of males were lower than female which is contrast with the control (female:male = 1:1). PO also affected the morphology of individual male wings only which is slightly smaller. These results indicated that the abnormal ratio of offspring and the wings will probably decrease the adaptability and survival of fruit flies in the environment.

Keywords: Ciplukan, *Drosophila*, medicinal plant, ratio of offspring