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Zak, N.B. Experimental Medicine and Cancer Research, Hebrew University-Hadassah Medical School, Jerusalem, Israel. A note on *tailup*.

Tailup (*tup*) is one of six loci whose zygotic expression is required for germband retraction of the *Drosophila melanogaster* embryo. The *tup* locus has not been cloned. Two ethyl methanesulfonate-induced *tup* alleles have been isolated and the locus was determined to be in map position 54.0. It was cytologically placed between 37A1-B1 and 37B2-8 because it is removed by *Df(2L)137 = Df(2L)36C2-4;37B9-C1* but not by *Df(2L)H68 = Df(2L)36B-C1;37A1-B1* or *Df(2L)TW158 = Df(2L)37B2-8;37E2-F4* (Nüsslein-Volhard *et al.*, 1984). Not surprisingly, we have observed that *tup* is removed by *Df(2L)TW3 = Df(2L)36F7-37A1;37B2-8*. We have tested three lethal loci, each representing one lethal complementation group that is uncovered by this deficiency, for allelism to *tup*. One of them, the ethyl methanesulfonate-induced mutation *l(2)37Aa*, is an additional *tup* allele. *l(2)37Aa* is also known as *l(2)E41*, which was placed in the genetic location 53.1-53.9 (Wright *et al.*, 1976). *l(2)02660r*, a P element insertion allele generated by Paul Lasko at McGill University, falls within the *TW3* interval but is not allelic to *tup*. *l(2)02660r* could serve as a good starting point for "local hopping" into the *tup* locus.

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Hodge, Simon[1,3] **and Paul Mitchell**[2] 1. Dept. of Entomology and Animal Ecology, PO Box 84, Lincoln University, Canterbury, New Zealand; 2. Biology Division, Staffordshire University, College Road, Stoke-on-Trent, ST4 2DE, UK; 3. Author to whom correspondence should be addressed. The concentration of urea in the larval resource and its effect on larval performance.

Introduction: The excretion of metabolic wastes and secretion of enzymes for external digestion by dipteran larvae can alter the biochemical nature of their environment. This habitat modification can have both negative and positive effects on the success of other larvae which simultaneously or subsequently use the resource (Weisbrot, 1966; Dawood and Strickberger, 1969; Budnik and Brncic, 1975; Mitchell, 1988).

Urea has been identified as an excretory product of *Drosophila*, and at high concentrations has been shown to slow down the developmental rate of *Drosophila melanogaster* and reduce larval survival (Botella *et al.*, 1985).

This paper describes the amounts of urea produced by *Drosophila* larvae and re-examines the effects of urea on larval performance.

Methods: All experiments used wild-type stocks of *Drosophila*: 'Kaduna' for *D. melanogaster* and stocks reared from British flies for *D. hydei*. A temperature of 25°C, relative humidity of approximately 45% and a 16:8 hours light:dark regime was used in all cases. The experiments were carried out using standard glass vials (75mm x 25mm diameter) stoppered with foam bungs.

Vials of resource medium were prepared by hydrating 1.0g of ground Instant *Drosophila* Medium (IDM; Blades Biological Ltd., UK) with 4.0ml of distilled water. The vials of IDM were then seeded with three densities of first instar larvae: 0, 25 and 50. At least six replicates of each density were initially set up for both *D. melanogaster* and *D. hydei* (actual replicate numbers for each treatment for each particular assay are given in the Results section). The vials were left until the majority of the larvae had pupated and no larvae were visible in the resource; more specifically 8 days for *D. melanogaster* and 12 days for *D. hydei*. The remaining medium was then freeze-dried and stored at 4°C.

The above procedure was also carried out using 5.0g of mashed banana instead of IDM to examine urea concentrations produced when larvae were reared on a natural resource. The development of the larvae was slightly