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GENETIC ANALYSIS OF THE NICTATION BEHAVIOR OF DAUER LARVAE

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In unfavorable environmental conditions *C. elegans* larvae can enter a facultative larval stage, the dauer stage. Dauer larvae (dauers) are specialized for long-term survival and dispersal through changes in physiology, morphology and behavior specific to the dauer stage. Dauers display a unique behavioral repertoire. They are lethargic, often motionless and suppress pharyngeal pumping. However, dauers are capable of active movement, respond to touch stimuli and have the tendency to climb up objects, stand on their tails and thrash vigorously. The latter behavior has been called *nictation* or *winking* (Croll, N.A. and Matthews, B.E. (1977) *The Biology of Nematodes*, Halsted Press, New York) and is thought to facilitate dispersal through attachment to passing insects.

To identify changes in the *C. elegans* nervous system that underlie the altered behavior of dauer larvae we have begun a genetic anaylsis of the nictation behavior. We are analyzing mutations known to affect neuronal function for effects on dauer behavior, and we are performing screens to identify new genes that affect dauer behavior.