

Diurnal Fluctuations in Toxicity in Two Fish Species: *Gambusia affinis* and *Notropis ludibundis*

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The most convenient and direct method for measuring toxic effects of chemicals on organisms is the acute LC₅₀ test. Data obtained from these tests can provide both a rank order of chemical toxicity and relative susceptibilities of organisms to toxicants. Most acute toxicity tests are limited multi-day experiments designed so that termination occurs during working hours (e.g. daylight hours). Also, these tests do not routinely include a record of time of death of individuals during the acute exposure period; rather, total mortality at the end of the exposure period is the variable of interest. Consequently, there has been little opportunity or reason to note potential effects of photoperiod on sensitivity to chemicals. The results presented in this paper, which indicate diurnal variation in mortality, were obtained during a study designed to investigate the relationship between individual genetic variability and fluctuating asymmetry on an individual's tolerance to pesticide exposure. Because animals were screened for death at three hour intervals during a 96 hour exposure, data were available to test the null hypothesis of no photoperiod effect on mortality.