



## ESA 2001 ANNUAL MEETING

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Oral Session #23: [Animal Ecology: Behavior and Sociobiology](#). Presiding:  
P. Brunkow.

Tuesday, August 7, 2001. 8:00 AM to 11:45 AM. Hall of Ideas E.

Oviposition site selection by the mosquito, *Culiseta longiareolata*, in response to chemical detection of a predator, *Notonecta maculata*.

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ABSTRACT- Natural selection should favor the ability of a female to avoid ovipositing where risk of predation is high for her progeny. In two outdoor pool experiments, we tested the oviposition responses of two dipteran species which have similar life cycle characteristics but differ in their vulnerability to the predator *Notonecta maculata*: a mosquito, *Culiseta longiareolata*, whose larvae are highly vulnerable to the predator and a midge, *Chironomus* sp., whose larvae have very low vulnerability to this predator. The experiments clearly showed that *Culiseta*, but not *Chironomus*, strongly avoids ovipositing in pools containing this predator. We further show that *Culiseta* oviposition avoidance is via a chemical cue from the predator. Under the conditions of our experiment, this chemical (or chemicals) showed sufficient activity to repel mosquitoes from ovipositing for about nine days. We are currently assessing how such a chemical, if applied, could affect populations of mosquitoes if applied to various proportions of natural breeding sites.

KEY WORDS: oviposition habitat selection, risk of predation, temporary pools