

**Behavioral Response of Three Predator
Beetles to Hemlock Woolly Adelgid
(*Adelges tsugae*) and Eastern Hemlock
(*Tsuga canadensis*)**

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fluorescent lights will be positioned above the tray at equal distance and height and covered with mesh to provide diffused light. This would prevent any response from the beetle to move towards the light.

Three components of hemlocks and or adelgids, such as hemlock bark,

assessing establishment in the field or assist in the collection of these predators from their natural habitat.

Besides the important information this study can provide it would also lend additional information to multiple experiments going on at the NGCSU predator beetle lab. At NGCSU two experiments are being conducted, an olfactory experiment and an Ln emergence study. The olfactory experiment would use these beetles to determine if they react, positively or negatively, to the smell of the eastern hemlock and adelgid while this behavioral study would also include their ability to visually choose (or not choose) a specific component. In relation to the other study, *Laricobius* species spend the summer underground and emerge in the fall. In the Pacific Northwest this emergence is synchronized with the adelgid breaking its own summer dormancy. However, the Georgia summers are quite different and this synchrony

Supplies:

Item	Quantity	Price	Shipping and Handling	Total
Wards Behavior Tray	10	\$31.00		\$310.00
Stop Watch	3	\$12.95	\$41.86	\$38.85 \$41.86
Field Scale, 1000g	3	\$43.80	\$11.29	\$131.40 \$11.29
Acetone	1 Liter	\$90.37	N/A	\$90.37
Transparency Paper	1 box of 50	\$39.99	N/A	\$39.99
Small A/C Unit	1	\$249.00	N/A	\$249.00
Humidifier	1	\$24.99	N/A	\$24.99