

HEIGHT PREFERENCE OF *SCOLYTUS SCHEVYREWI* SEMENOV, THE BANDED ELM BARK BEETLE OF AMERICAN ELM, *ULMUS AMERICANA*

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ABSTRACT

Scolytus schevyrewi Semenov, the banded elm bark beetle, was first detected in North America in April 2003 in Colorado and Utah by the Rapid Detection and Response Pilot Project sponsored by APHIS and USDA Forest Service, Forest Health Protection. It was captured in Lindgren funnel traps baited with *a-pinene*, ethanol, and the *Ips typographus* pheromone. After its detection, studies were initiated in June 2003 and are continuing on its biology and chemical ecology. Since April 2003, *S. schevyrewi* has been detected in 21 states. Current literature and research indicates that *S. schevyrewi* seems to be behaving much like *Scolytus multistriatus* Marsham, the smaller European elm bark beetle (Negrón et al. 2005).

S. schevyrewi is known to have a high reproductive potential. The female oviposits an average of 60 (ranging from 23 to 123) eggs per gallery (Li et al. 1987, Wang 1992). In addition, literature from research conducted in China states that the sex ratio is slightly female biased (females: males = 1.0:0.9). More females could give *S. schevyrewi* a competitive advantage over other species such as *S. multistriatus* that occupy

the same ecological niche. However, studies conducted in the United States have observed an even 1:1 female:male ratio (Negrón et al. 2005). With a higher reproductive potential and an earlier emergence in the spring, *S. schevyrewi* has the potential to displace of *S. multistriatus* (McElwey, unpublished data). This study evaluated the preferred attack site on American elm of *S. schevyrewi* and *S. multistriatus*. Trap height influenced beetle catches. Significantly more beetles were observed on sticky traps located at 5 and 8 ft above ground than traps located higher in the tree. For the statistical comparisons, pairwise comparisons were performed across treatment means of log-transformed data using Tukey adjustment. Overall, more *S. schevyrewi* were collected on the traps than *S. multistriatus*. An increased number of *S. schevyrewi* were collected on the traps situated 5 to 6 ft above the ground. Significantly more *S. schevyrewi* than *S. multistriatus* were collected on all of the other traps. Both *S. schevyrewi* and *S. multistriatus* prefer the same site for colonization of American elm.