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Sampling strategies for *Monochamus sutor* – a potential vector of the pine wood nematode

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According to the European Commission Decision 2012/535 all EU countries are required to conduct detection and delimitation (if detected) surveys for the pine wood nematode (PWN). In more northern areas, where development of pine wilt disease is unlikely, the two most efficient survey methods for PWN is to sample dispersing *Monochamus* beetles by traps (baited with attractants) and wood substrates colonized by *Monochamus* (easily identified due to characteristic larval galleries). The aim of this project was to develop sampling strategies, based on these two approaches, for *Monochamus sutor* in Sweden. In addition, an identification key based on male genitalia was developed for the European *Monochamus* species (Wallin *et al.* 2013). Trap catches of *M. sutor* were compared among three different stand types: fresh clear-cuts, old clear-cuts and pine stands. Catches were of the same magnitude on fresh and old clear-cuts, but 5 – 6 times higher on clear-cuts compared with in pine stands. Thus, clear-cuts should be used for trap locations if possible. Logging residues on clear-cuts and thinnings constitute the major breeding substrate for *M. sutor* in Sweden. Thus, surveys of average densities of colonized tops and branches on clear-cuts and thinnings provide a method to plan the number of samples required for achieving a certain statistical significance at which PWN can be stated to be absent. The identification key provides a reliable method for discerning between *M. sutor* and *M. galloprovincialis*. In addition, no difference between male genitalia of *M. sartor* and *M. urusovi* were found. Thus, we regard *M. urusovi* as a subspecies of *M. sartor*.

REFERENCES

Wallin H; Schroeder M; Kvamme T (2013). A review of the European species of *Monochamus* Dejean, 1821 (Coleoptera, Cerambycidae) – with a description of the genitalia characters. *Norwegian Journal of Entomology* 60, 11-38.