

Saperda tridentata - risks associated with trade of wood of *Ulmus* spp.

Assignment

It is suggested that *Ulmus* spp. should be regulated as a “High Risk Plant” in the new PHR, due to its association with *Saperda tridentata*, and that it should be regulated through a temporary import ban. We were requested by the Swedish board of Agriculture to perform a quick literature search on what is known about the risk of introduction of *S. tridentata* through trade of wood as well as if this pest may be a significant threat for Sweden/EU. If no previous risk assessments have been done for *S. tridentata* we were also requested to estimate how long time it would require to perform an express PRA for this species.

Evaluation

There does not appear to be any risk assessment available on *S. tridentata*. There is however information available regarding the biology of the species and other data which are relevant in the context of assessing the risk of introduction and the potential threat the pest may cause in Sweden/EU. The key information is listed below:

- *Saperda tridentata* (common name: elm borer) is a known pest on *Ulmus* spp. native to North America (Solomon 1995). This longhorn beetle is 9-17 mm long. Damage is caused when the larvae feeds in the region between the inner bark and outer layer of the sapwood. Only the pupal cells extends down into the sapwood (4-8 mm).
- There are in total 4 or 5 interceptions reported of *Saperda tridentata* in EUROPHYT (2018), all of them made in Italy and all of them in commodities from USA. In 2016, the pest was intercepted on ‘Product: wood and bark’ of *Juglans nigra* and on ‘Product: wood and bark’ of *Ulmus rubra*. It is however unclear if this refers to two individuals from two different commodities or one individual found in a commodity

containing both tree species. In 2017 three interceptions was reported on three different occasions (February, May and October) all on 'Product: wood and bark' of *U. rubra*.

- The native range of *S. tridentata* extends from southeastern Canada in the north, to Texas in the south (Salomon, 1995). It is reported as particularly common in the northeastern states of United States, e.g. New York and Massachusetts (Salomon, 1995). This native distribution range covers cold and temperate Köppen-Geiger climate types which are also found in large parts of the EU including the southern part of Sweden (Peel et al. 2007). Potential hosts in Europe are the three native elm species, *U. laevis*, *U. glabra*, *U. minor*, whose distribution together covers almost all of Europe.
- Damage on Elm caused by *S. tridentata* is reported to be associated with stressed and weakened trees. During massive attacks the pest may girdle and kill the trees. There are several reports that this pest may cause mortality of elms in cities (Felt and Joutel 1904, Pechuman 1940, Tucker 1907). However, we did not find a single quantitative assessment of the extent of damage that this species can cause.
- The main host plants are American elm (*U. americana*), slippery elm (*U. rubra*) and cedar elm (*U. crassifolia*), which are native to North America. There also reports stating that other *Ulmus* species may be attacked (Krischik and Davidson 2013). There are also a report stating that English and Scotch elms are not attacked (Felt and Joutel 1904). However, the last two statements need confirmation.

In conclusion: This quick evaluation indicates that there is currently a high risk of entry of *S. tridentate* (several recent interceptions). It is uncertain whether *S. tridentata* is a significant threat for Sweden/EU mainly since it is not known whether it attacks the *Ulmus* spp. growing here. Since there are no previous risk assessments done on this species it seems reasonable to perform an express PRA. Due to other obligation we will unfortunately not be able to perform an express PRA before the PAFF meeting the 20th-21th of Mars but should be able to deliver it on 31th of Mars.

References

EUROPHYT (2018). Available for authorized users only at:

https://ec.europa.eu/food/plant/plant_health_biosecurity/europhyt_en (accessed March, 2018).

Felt, E. P., & Joutel, L. H. (1904). Monograph of the genus *Saperda* (No. 311). University of the State of New York.

Krischik, V., Davidson, J. (2013) IPM (Integrated Pest Management) of Midwest Landscapes, University of Minnesota, <http://cues.cfans.umn.edu/old/ipmbook.htm>

Pechuman, L. L. (1940). Notes on the feeding and breeding habits of *Saperda tridentata* Oliv. *Bulletin of the Brooklyn Entomological Society*, [35\(4\)](#).

Peel MC, Finlayson BL & McMahon TA (2007). Updated world map of the Köppen-Geiger climate classification, *Hydrol. Earth Syst. Sci.*, 11, [1633-1644](#).

Solomon J. D. (1995). Guide to insect borers of North American broadleaf trees and shrubs. [USDA For. Serv. Agric. Handbook 706. 735 pp.](#)

Tucker, E. S. (1907). Concerning some insects collected and bred from dead and dying elm. [Transactions of the Kansas Academy of Science \(1903-\), 21, 158-162.](#)

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