Screening potential pests of Nordic coniferous forests associated with trade of ornamental plants

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Plant pests moves along with the trade of ornamental plants

Invasive pests have caused extensive ecological and economic impacts worldwide and they are introduced into new areas especially via the trade of living plants.

In a recently published study (Marinova-Todorova et al., 2020), we screened plant pests potentially associated with the trade of ornamental plants to identify pests that could pose a high risk to the coniferous forests of Finland, Sweden and Norway.

Specifically, our aim was to identify pests that potentially could fulfil the criteria to become regulated as quarantine pests.

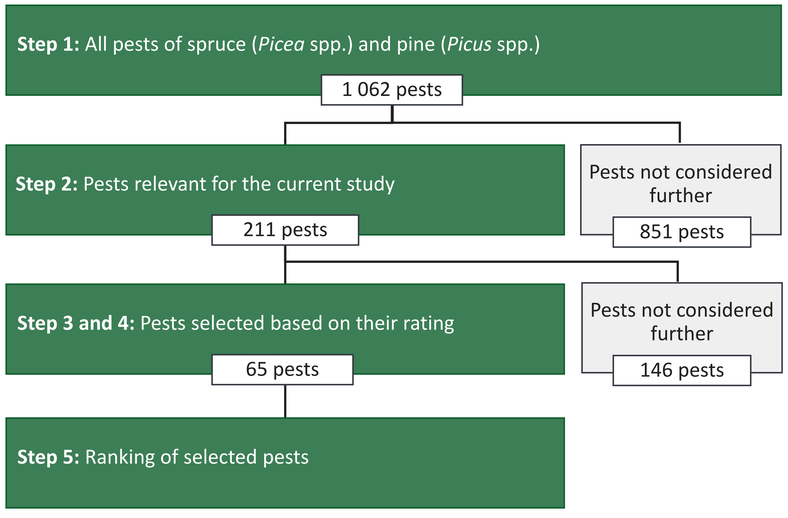
Pine needle scale, *Chionaspis pinifolia*, (Upper picture: William M. Ciesla, Forest Health Management International, Bugwood.org) and white-marked tussock moth, *Orgyia leucostigma*, (Lower picture: Karan A. Rawlins University of Georgia, Bugwood.org) were identified as potential threats to Nordic coniferous forests.

Several potentially significant pests were identified

We used an approach developed by the European and Mediterranean Plant Protection Organization (EPPO, 2016) for commodity studies, which includes several steps of screening, to identify the pests that are most likely to become significant pests of Scots pine (*Pinus sylvestris*) and Norway spruce (*Picea abies*).

From an initial list of 1062 pests, 65 pests were identified as potentially significant pests of *Picea abies* or *Pinus sylvestris* in the Nordic countries. These pests were ranked using the FinnPRIO pest risk ranking model (Heikkilä et al., 2016) and the hypervolume approach (Yemshanov et al., 2017), which resulted in a top list of 14 pests namely:

Chionaspis pinifoliae, Coleosporium asterum s.l., Cytospora kunzei, Dactylonectria macrodidyma, Gnathotrichus retusus, Heterobasidion irregulare, Lambdina fiscellaria, Orgyia leucostigma, Orthotomicus erosus, Pseudocoremia suavis, Tetropium gracilicorne, Toumeyella parvicornis, Truncatella hartigii and Xylosandrus germanus.



The screening was divided into four steps and an additional fifth step was used to rank the pests that were identified as potentially significant pests of *Picea abies* or *Pinus sylvestris* in the Nordic countries.

The follow-up actions

After our study four species from our top list, namely *Chionaspis pinifoliae*, *Lambdina fiscellaria*, *Orgyia leucostigma* and *Toumeyella parvicornis*, have been added to the EPPO Alert List.

We are currently, jointly with EPPO, conducting full pest risk assessments according to the International Standards for Phytosanitary Measures (ISPMs) for two of these pests, *Orgyia leucostigma* and *Chionaspis pinifoliae*.

The results of these assessments will provide support for decisions within the EPPO-region on whether the assessed pests should be regulated as quarantine pests.

References

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