

Pest risk analysis to decide immediate action to be taken on interception of a pest in an EPPO country.

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Species of *Dendrolimus* (Lepidoptera: Lasiocampidae) occurring in Siberia and in the Far East

Siberia: *Dendrolimus sibiricus* L. (= *superans* Btlr.)

Far East: *D. houi* Lajonquiere, *D. kikuchii* Matsumura, *D. punctatus* Wenshanensis, *D. punctatus* techangensis, *D. monticola* Lajonquiere, *D. rex* Lajonquiere, *D. angulata* Gaede

1. Is the intercepted pest on the national quarantine list of the importing country?
No!

2. Does it occur in the importing country?
No!

4. Has it been intercepted before and been shown to present no risk?
No!

Does it belong to a taxonomic group, or has it followed a pathway, which is currently considered to present a phytosanitary risk?
No!

5. According to its present distribution and known dispersal potential, is it likely to spread to the importing country by natural means in any case?
No!

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No!

7. Compile the following information in order to make assessments under headings 8-11 below:

- (1) **Host plants:** *Pinus* spp., *Larix* spp., *Picea* spp., *Abies* spp., *Juniperus* spp.;
- (2) **Geographical distribution:** Siberia, the Far East;
- (3) **Reported losses caused:** complete defoliations of conifer forests of hundreds of thousands of hectares, sometimes over a million hectares;
- (4) **Basic biological and control information:** see the Appendices!

8. Assess its status in relation to host plants:

Large areas of conifer forests could be completely defoliated by *Dendrolimus* moths, thereby, a potential for serious destructive epidemics in European conifer forests;

9. Assess potential for establishment:

Species of *Dendrolimus* in the Far East are distinctly separated in their geographical distribution from the two other species, *D. pini* and *D. sibiricus*. These two latter species have an overlapping range of occurrence the former being a very common forest pest also in Europe extending its distribution to east in Siberia, whereas the latter species is widely distributed in Siberia. It is possible that the Far Eastern species of *Dendrolimus* have not spread to Europe in

the past because of the Asian mountains and deserts. Being southern species in their origin they might well turn out to be significant forest pests in the warmer parts of Europe, particularly in the Mediterranean countries upon an accidental introduction into the region.

10. Assess its known capacity to cause loss:

In their native range *Dendrolimus* moths are causal agents of periodic defoliations of large uniform areas of conifer forests. As a consequence of these defoliations trees' defensive reactions to other pests and diseases become debilitated predisposing trees to attack by these other organisms. Successive defoliations of trees by species of *Dendrolimus* may by themselves bring about death of the trees. Hundreds of thousands of hectares of conifer forests may be affected;

11. Assess its biological potential as a pest:

- *Dendrolimus* moths are strong flyers, thus, a potential for rapid dispersal from one forest plot to another;
- Female *Dendrolimus* lays her eggs on tree trunks, for instance, thus egg masses can be transported in trade of conifer wood from infested to uninfested areas;
- Because of the production of a very powerful pheromone the females and males find each other for copulation purposes even at very low population numbers;
- Female *Dendrolimus* can lay several hundred eggs during her life span;
- All the basic elements of the Siberian and the Far Eastern species of *Dendrolimus* moths biological requirements are in place in Europe including a potential for a perfect synchrony with the development and growth phases of its host species;

12. Does the pest present at least one positive reply under each of headings 8-11?

Yes!

13. **A careful evaluation should be made of the balance of positive replies in some areas and negative replies in others.**

APPENDICES

1. Annala Erkki. 1998. *Hylobius radicis*, *H. pales* ja *H. warreni* sekä *Dendrolimus* sp. lajien vaarallisuudesta Euroopan metsille. Lausunto, Metsäntutkimuslaitos/23.11.1998, 3 s.
2. *Dendrolimus pini* L., Kiefernspinner, Große Kiefernglucke (Lepidoptera , Lasiocampidae). <http://www.forst.unimuenchen.de/LST/ZOO/HEITLAND/DETINVERT/LEPIDOPTERA/LASIOCAMPIDAE/DENDROLIMUS/dendrolimus.pini.html>