



PEST REPORT - THE NETHERLANDS

Finding of *Apriona cf japonica* (Thomson); Coleoptera, Cerambycidae, Lamiinae, Batocerini on *Enkianthus* (Ericaceae) tree in a greenhouse in The Netherlands

Plant Protection Service of
the Netherlands
Division of Plant Health Advice &
International Affairs

Geertjesweg 15
6700 HC Wageningen
P.O.Box 9102
6700 HC Wageningen
www.minlnv.nl

Introduction

This report concerns the first official finding of 1 larva of *Apriona japonica* (Mulberry borer) in a greenhouse in the Netherlands on an *Enkianthus* tree, as a result of a survey on *Anoplophora chinensis*. The trees were imported from Japan. The finding was detected on 29 October 2009 in a greenhouse in 'De Kwakel' (close to Aalsmeer). Furthermore, the Netherlands has intercepted *Apriona germari* in wood packaging material from China in 2008 and 2009. *Apriona spp.* (longicorn beetles) are not listed as harmful organisms in the EU directive 2000/29/EC nor on the EPPO A1 or A2 or EPPO alert list. Species of *Apriona spp.* pose a serious risk for both nurseries and forest areas, because the host range includes important wood species. It is not sure whether *Apriona spp.* is able to establish outdoor in The Netherlands. The Netherlands has decided to take appropriate emergency action on the detection of *Apriona spp.* as being pests posing a potential threat to the Netherlands in line with Art. VII-6 of the IPPC. Precautionary measures will be taken to prevent the introduction of *Apriona spp.*, including destruction or refusal of infested consignments coming from other countries. A pest risk analysis will be made for the most harmful *Apriona* species, with emphasis on the risk of establishment in The Netherlands, and on the impact of establishment. The Netherlands will decide on the basis of this PRA whether it will propose regulation for *Apriona spp.*



Apriona japonica

Pest status: Absent, isolated finding, intercepted only.

Host plant range

Species of *Apriona spp.* are polyphagous and can be a serious pest for many plant species, including species that are common and important in European forest and public green areas.

A. japonica: Aceraceae: *Acer*; Celtidaceae: *Celtis*; Fabaceae: *Robinia*, Fagaceae: *Fagus*; Moraceae: *Ficus*, *Morus*, *Artocarpus*; Rosaceae: *Eriobotrya*, *Malus*, *Prunus*; Salicaceae: *Populus*, *Salix*; Ulmaceae: *Zelkova* - (Esaki, 2007; Hill, 2008; Ohashi, 2005; Yamanobe, 2002; Yamashita, 1999).

A. germari: *Aleurites fordii*, *Artocarpus chaplasha*, *A. integra*, *Broussonetia papyrifera*, *Craetaegus cordata*, *Cajanus cajan*, *Celtis sinensis*, *Citrus aurantium var. nobilis*, *Eriobotrya japonica*, *Ficus carica*, *Ficus hispida*, *Ficus infectoria*, *Ficus retusa*, *Lagerstromia indica*, *Morus alba*, *Morus acidosa*, *M. laevigata*, *Platycarya sternoptera*, *Pyrus malus*, *Salix babylonica*, *Salix purpurea amplexicaulis*, *S. sieboldiana*, *Salix tetrasperma*, *Trema amboinensis* (Duffy, 1968), *Malus*, Jackfruit (*Artocarpus heterophyllus*), *Persea*, *Ficus* and *Ficus spp.* (Hill, 1983) *Populus tomentosa* (Cheng et al., 2006)

Geographical distribution

Apriona japonica: Japan

Apriona germari: Asia: Myanmar, Bangladesh, China, India, Japan, Korea, Laos, Malaysia, Nepal, Pakistan, Taiwan, Thailand, (Duffy, 1968), Vietnam (CPC, 2008)

Biology

Eggs are laid at the end of the summer, individually in crevices bored in live branches and hatch after about 7-10 days. The larvae bore vertical galleries (two to three metres long) and can even reach the roots of young trees. Larval development under warm conditions takes 9 – 10 months but under cooler conditions it is thought that nearly two years or more may be required. Pupation takes place at the end of the larval tunnel, which is blocked by wood fragments. Adults emerge mainly in the spring and early summer. Adults feed on the tender bark of young branches. They feed on foliage as maturation feeding. Male and female adults may live for several months.

Detection and identification

Apriona japonica is a dark grey / greenish beetle, 4 – 6 cm in length with conspicuous blackish tubercles at the bases of the elytra. The males are distinctly smaller than the females but have longer antennae. Larvae are similar to *Batocera* larvae (Batocerini larvae have tubercles on the pronotum).

Origin of the finding

Apriona japonica: *Enkianthus* trees imported from Japan. The infested lot was found in a production facility in De Kwakel that is under official control because of the finding of *Anoplophora chinensis* in *Acer* sp in Germany, delivered from this company. The *Enkianthus* lot infested with *Apriona japonica* has been destroyed by the grower.

Apriona germari: wood packaging material from China.

Means of movement and dispersal

Plants for planting and wood packaging material can be infested with larvae of *Apriona* spp. and import of these plants and materials may lead to the introduction and spread of the species, similar to *Anoplophora* spp. The import of wood packaging material is regulated and in case living organisms are found, measures are taken. The import of plants for planting of host plants is regulated, but not for *Apriona* spp.

Phytosanitary measures

A preliminary pest risk analysis has been conducted to assess the risk of *Apriona* spp. for the Netherlands. From this analysis, it is uncertain if *Apriona* spp. can establish in the cool Dutch climate. However, there is a possible risk for establishment with considerable economic and environmental impact in The Netherlands. A more detailed pest risk analysis will, therefore, be made to assess its potential for establishment in the Netherlands. Meanwhile, precautionary measures will be taken in case *Apriona* spp. is found during inspections. These measures will include post-entry quarantine measures until final decision about the quarantine status has been made based on the PRA, OR destruction of the infested lot, OR sending back the infested lot.

References

- NPPO The Netherlands
- Cheng, Z.G., Huang, D.Z., Li, H.P., Zheng, J.W., Zhang, A.M., Kang, F.Q., 2006. Influence of *Apriona germari* on wood quality of damaged *Populus tomentosa*, Journal of Northeast Forestry University, 34(6), p. 13-14, 25;
- Esaki, K., 2005, Deterrent effect of weed removal in *Zelkova serrata* nursery on oviposition of *Apriona japonica* Thomson (Coleoptera: Cerambycidae), Appl. Entomol. Zool. 41 (1): 83-86 (2006)
- Esaki, K., 1995, Ovipositional characteristics of *Apriona japonica* Thomson (Coleoptera: Cerambycidae) in a *Zelkova serrata* Makino plantation, J. Jpn. For. Soc. 77: 596-598
- Esaki, K., 2007, Management of *Apriona japonica* Thomson (Coleoptera: Cerambycidae) Adults by Spraying Feeding Trees with Fenitrothion, J. Jpn. For. Soc. 89: 61-65
- Hill, D., 2008, Pests of Crops in Warmer Climates and Their Control, p. 298

- Ohashi, A, 2005, Damage of *Enkianthus perulatus* by the mulberry borer, *Apriona japonica* Thomson, Forest Pests, Vol.54, no.8,p. 159-162
- Yamashita, K., *et al.* 1999, Damage Analysis of Fig Trees by Mulberry borer *Apriona Japonica* Thomson, Effect of Permethrin Aerosol Application on the Pest Control and Detection of the Residual Pesticide on Fig Fruits, Bull. of the Prefectural Agricultural Institute, Vol. 47, p. 63-67
- Yananobe, T., Hosoda, H., 2002, High survival rates of longicorn beetle, *Apriona japonica* (Coleoptera, Cerambycidae) Thomson in beech trees (*Fagus crenata* Blume) planted in lowlands, Jpn, J. Appl. Entomol. Zool., 46 (4), p. 256-258
- Booth, R.G., Cox M.L., Madge R.B., 1990. ICI Guides to insects of importance to man, p.124;
- Chang, S.C., 1963. The Longicorn beetles destructive to apple trees in Taiwan, Plant Prot. Bull.,5(3) p. 213-223;
- Crop Protection Compendium www.cabicompendium.org;
- DAFF, 2003. Import of Asian ('Shandong') pear (*Pyrus pyrifolia* (Burm.) Nakai and *P. ussuriensis* var. *viridis* T. Lee) fruit from Shandong Province in the People's Republic of China http://www.daff.gov.au/__data/assets/word_doc/0004/24682/dft_pear_china.doc
- Duffy, E.A.J., 1968. A monograph of the immature stages of Oriental timber beetles (Cerambycidae). British Museum (Natural History) London, p. 268-270;
- EPPO Reporting Service 2000/02, Pest Report, 2000/038, EPPO report on selected intercepted consignments;
- Haack, R.A. 2006. Exotic bark and wood boring Coleoptera in the United States: recent establishments and interceptions, Can. J. For. Res. ,36,p. 269-288
- Gao, R.T., Li, G.H., Song, H.W., Shen, F.Y., Huang, W.Z., Liu, J.L.,2000, further studies on the habits of the adult of *Apriona gemari* (Coleoptera:Cerambycidae), Forest Research, 13(6), p. 634-640
- Hill D.S., 1983. Agricultural Insects Pests of the Tropics and their control, p. 446,447;
- Müller-Sanmann, I., 2004. 2004 Overview of alternatives for the disinfection of solid-wood packing material (SWPM). Presentation at International Conference on Alternatives to Methyl Bromide / Lisbon, 27-30 September 2004. [Http://ec.europa.eu/environment/ozone/conference/lisboa/quarantine/4.pdf](http://ec.europa.eu/environment/ozone/conference/lisboa/quarantine/4.pdf)
- Sharma, B., Tara, J.S., 1985. Insect Pests of Mulberry plants *Morus* sp. in Jammu Region of Jammu and Kashmir state India, Indian Journal of Sericulture, 24(1),p. 7-11
- Yoon, H.J., Park, I.G., Mah, Y.I., Lee, S.B., Yang, S.Y., 1997. Ecological characteristics of mulberry longicorn beetle, *Apriona germari* Hope, at the hibernation stage in mulberry fields, Korean Journal of Applied Entomology, 36(1), p. 67-72;
- Zhao, T.H., Zhao, W.X., Gao, R.T., Zhang, Q.W., Li, G.H., Liu, X.X., 2007. Induced outbreaks of indigenous insect species by exotic tree species, Acta Entomologica Sinica, 50(8), p. 826-833;