

## Data Sheets on Quarantine Pests

# *Ips amitinus*

### IDENTITY

**Name:** *Ips amitinus* (Eichhoff)

**Synonyms:** *Tomicus amitinus* Eichhoff

*Ips duplicatus* Hlawka

*Ips amitinus* var. *montanus* Fuchs

**Taxonomic position:** Insecta: Coleoptera: Scolytidae

**Common names:** Small spruce bark beetle, eight-toothed spruce bark beetle (English)

Petit bostryche du pin (French)

Kleiner 8-zähniger Fichtenborkenkäfer (German)

**Bayer computer code:** IPSXAM

**EPPO A2 list:** No. 112 (formerly, deleted in 1996)

**EU Annex designation:** II/B

### HOSTS

*Picea abies* and *Pinus sylvestris* are the main hosts in the northern parts of Europe. In the central mountain region, other species of *Pinus*, such as *P. cembra* and *P. mugo* may also serve as important hosts. Galleries have also been recorded on *Abies alba* and *Larix decidua*.

### GEOGRAPHICAL DISTRIBUTION

**EPPO region:** Mainly in the mountains of central Europe, at elevations over 1000 m: Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Finland (slow spread over 30 years; Koponen, 1975), France (mainland, not Corsica), Germany, Hungary, Italy (mainland), Lithuania, Macedonia, Poland, Romania, Russia (Kaliningrad province only), Slovakia, Slovenia, Spain (no recent records), Switzerland, Ukraine, Yugoslavia. *I. amitinus* has been recorded but is not established in the UK and Netherlands. There is a surprising, and possibly doubtful record from Tunisia.

**Africa:** Tunisia (doubtful).

**EU:** Present.

**Distribution map:** See CIE (1975, No. 346).

### BIOLOGY

Flight starts in May/June. Males initiate galleries in weak or dying trees or in wind-fellings, and produce a pheromone consisting of ipsenol, ipsdienol and trans-2-methyl-6-methylene-3,7-octadien-2-ol (amitinol) (Francke *et al.*, 1980). The new generation emerges in June-August depending on latitude and altitude. Sister broods may occur (that is, when parent beetles leave trees after having successfully reproduced and form galleries at other sites). A second generation can develop in lowland districts. Beetles hibernate in the decaying vegetation on the forest floor (the 'duff').

## DETECTION AND IDENTIFICATION

### Symptoms

This species prefers to breed in smaller-sized material, often in the upper part of weakened trees or trees infested and killed by *I. typographus* (EPPO/CABI, 1996). Galleries are formed by the beetles beneath the bark of the attacked tree. There are three to seven females in a gallery, forming the female-galleries or egg-galleries as a star shape spreading out from the central nuptial chamber. The arms tend to bend and become longitudinal, running in opposite directions (Chararas, 1962).

### Morphology

Beetles are dark-brown, 3.5-4.5 mm long. The elytral declivity has four spines at each side, the third is largest and distinctly capitate. The declivity is shiny, with distinct punctures (Balachowsky, 1949; Grüne, 1979).

## MEANS OF MOVEMENT AND DISPERSAL

Laboratory experiments have shown that adult *Ips* spp. can fly continuously for several hours. In the field, however, flight has only been observed to take place over limited distances and then usually downwind. Beetles have been found in the stomach of trout in lakes 35 km from the nearest spruce forest, probably carried by the wind (Nilssen, 1978). Dispersal over longer distances depends on transportation under the bark of logs.

## PEST SIGNIFICANCE

### Economic impact

*I. amitinus* is of limited significance as a pest in its own right. Compared with *I. typographus*, a pest of the same hosts (EPPO/CABI, 1996), it is hardly mentioned in the scientific literature. However, because it occurs together with *I. typographus*, it may contribute to the killing of trees during epidemics.

### Control

Control measures are never used against this species.

### Phytosanitary risk

*I. amitinus* was the only European *Ips* sp. considered as an A2 quarantine pest by EPPO (OEPP/EPPO, 1981), but it was recently decided to delete it from the A2 list, because of its relative unimportance and the fact that too few countries attach any importance to it. It is not a primary pest and is only capable of attacking trees already suffering stress, either environmental or from other pests (usually *I. typographus*). *I. amitinus* is widespread through central Europe where *Picea abies* and *Pinus sylvestris* occur, but is mostly absent from the Nordic countries. Heliövaara *et al.* (1991) have attempted to analyse the environmental constraints limiting scolytids in Scandinavia, and concluded that *I. amitinus* was slowly spreading in Finland in relation to environmental change. No particular concern has been expressed about any risk arising from this spread.

The islands of Great Britain and Ireland remain as areas which may face a certain risk from this pest, with respect to recently planted *Picea* stands. *I. amitinus* is unlikely to spread there naturally, so phytosanitary measures could be justified. However, it should be stressed that *I. amitinus* is a very much less important pest than *I. typographus* (EPPO/CABI, 1996), and so presents a much lesser risk than that species.

## PHYTOSANITARY MEASURES

If it is judged necessary to take phytosanitary measures against *I. duplicatus*, those taken against *I. typographus* would be effective.

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