

Stowaways in Wood Packaging Material – Current Situation in Bavaria

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Abstract

The IPPC standard ISPM No. 15 for wood packaging material should protect countries from the introduction of invasive non-native species. Heat treatment or fumigation seem to be appropriate methods for reaching this goal. Despite these measures some beetles of the Cerambycidae and Bostrichidae are still successful in using wood as a means of transport. The Asian Longhorned Beetle *Anoplophora glabripennis* was found in Bavaria already in 2004. In 2007 the Citrus Longhorned Beetle *Anoplophora chinensis* and a wasp beetle, *Xylotrechus chinensis*, emerged from wood packaging material. Among the auger beetles it was *Heterobostrychus hamatipennis*, *Heterobostrychus aequalis*, *Sinoxylon anale* and *Sinoxylon conigerum*, which were imported alive.

Keywords: Wood packaging material, Cerambycidae, Bostrichidae

Kurzfassung

Blinde Passagiere im Holzverpackungsmaterial – Aktuelle Situation in Bayern

Der IPPC-Standard ISPM Nr. 15 für Holzverpackungsmaterial soll Staaten vor der Einschleppung invasiver, gebietsfremder Arten schützen. Hitzebehandlung oder Begasung scheinen geeignete Maßnahmen zu sein, um dies umzusetzen. Trotzdem gelingt es immer wieder Käfern aus den Familien Cerambycidae und Bostrichidae, Holz als Transportmittel zu nutzen. Der Asiatische Laubholzbockkäfer *Anoplophora glabripennis* wurde bereits 2004 in Bayern gefunden. Der Zitrusbockkäfer *Anoplophora chinensis* und der Wespenbockkäfer *Xylotrechus chinensis* schlüpfen 2007 aus Verpackungsholz. Auch die Bohrkäfer *Heterobostrychus hamatipennis*, *Heterobostrychus aequalis*, *Sinoxylon anale* und *Sinoxylon conigerum* konnten lebend einreisen.

Schlüsselworte: Verpackungsholz, Cerambycidae, Bostrichidae

Regulations and observations

Since 2005, in international trading the IPPC (International Plant Protection Convention) standard ISPM (International Standard for Phytosanitary Measures) No. 15 has to be observed. In most cases this implies a heat treatment or fumigation, e.g. with methylbromid, for wood packaging material. Spraying of pesticides is alternatively but rarely done. Anyway, the entry of living stages

and the hatching out of invasive non-native pests should be prevented at the place of destination. The worst case would be that an invasive species infests native plants, displaces native animals or causes other environmental damage. This is how the well-meant theory works!

The observations of the Plant Protection Service of Bavaria, of other German Federal States and of other European countries (Krehan 2007) are disillusioning. From time to time larvae, pupae or beetles in wooden material survive the treatment - whether actually done?! The cases recorded in the last years in Bavaria include longhorn beetles (family Cerambycidae) and auger beetles (family Bostrichidae).

Longhorn beetles (Cerambycidae)

The Asian Longhorned Beetle (ALB) *Anoplophora glabripennis* (Motschulsky, 1853) has been introduced in Bavaria since 2004 infesting living deciduous trees in Neukirchen/Inn. The infestation happened before the implementation of the ISPM No. 15. The season 2007 was quiet and nearly uneventful because only two maple trees had to be chaffed and burned.

In 2007 one report of the Citrus Longhorned Beetle (CLB) *Anoplophora chinensis* (Forster, 1771) was noticed in Weissenhorn near the town of Neu-Ulm. It was a female beetle and it emerged on the 5th of June from a wooden packaging box from China. The marking for methylbromid treatment was affixed to the box. A worker of the company caught the CLB, which was sitting near to the box on the ground and informed a forest officer. Later on, the single CLB was kept under conditions of



Figure 1: Citrus Longhorned Beetle *Anoplophora chinensis*, female

Abbildung 1: Zitrusbockkäfer *Anoplophora chinensis*, Weibchen



Figure 2: Wasp beetle *Xylotrechus chinensis*
Abbildung 2: Wespenbock *Xylotrechus chinensis*

quarantine at the Institute for Plant Protection in Freising. It lived for five months exactly. The CLB is similar in its appearance to the ALB but has rows of polished tubercles on the first third of the elytra (Figure 1).

A few days after *A. chinensis*, on the 15th and the 19th June 2007, two specimen of a wasp beetle, *Xylotrechus chinensis* (Chevrolat, 1852), Tribus Clytini, emerged from the wooden material of Weissenhorn. Soon after emerging the female and the male beetle began to copulate. On the elytra and the pronotum are characteristic bands (Figure 2). The body is quite large (15-25 mm), the antennae are short and widely separated. The beetles were kept also in cages and lived for three to four weeks.

Auger beetles (Bostrichidae)

The Chinese auger beetle *Heterobostrychus hamatipennis* (Lesne, 1895) is recorded in Northern Asia, South Asia and South East Asia, from Madagascar and Mauritius. In 2007, two cases attracted attention in Bavaria. First, some beetles emerged from a bamboo basket. The basket was sold in a garden centre in Munich. Secondly, some individuals escaped from wood packaging material of a shipment originating in Vietnam. Male beetles have conspicuous horns on the lateral margins of the elytral declivities (Figure 3). Females are without horns.



Figure 3: Chinese auger beetle *Heterobostrychus hamatipennis*, male
Abbildung 3: *Heterobostrychus hamatipennis*, Männchen



Figure 4: Oriental wood borer *Heterobostrychus aequalis*, male
Abbildung 4: *Heterobostrychus aequalis*, Männchen



Figure 5: False powderpost beetle, *Sinoxylon* sp.
Abbildung 5: *Sinoxylon* sp.

The Lesser auger beetle or Oriental wood borer *Heterobostrychus aequalis* (Waterhouse, 1884) is recorded in South Asia and South East Asia, also in Madagascar and Cuba. One case of *H. aequalis* introduction was reported from Bavaria in 2007. These beetles were found in wooden material in a shipment from India. They were travelling together with the False powderpost beetle genus *Sinoxylon*. The wooden material had the marking for IPPC Standard ISPM No. 15 treatment. The conspicuous tubercles of male beetles obliquely point upwards (Figure 4). Females have no tubercles.

The genus *Sinoxylon* is spread with about 50 species all over Asia and Africa, also in Central and South America and the Mediterranean basin. The species are quite difficult to distinguish from each other. Up to now two species could be determined in Bavaria: *Sinoxylon anale* Lesne, 1897 and *Sinoxylon conigerum* Gerstaecker, 1855. The body size range of both species is 3.5-6.0 mm. They have distinctive elytral juxtasutural spines or teeth (Figure 5). The beetles were introduced from Vietnam, but mainly from India. Six cases of *Sinoxylon* introduction could be detected in 2007. The wooden material was reportedly treated according to ISPM No. 15. Very fine powder, ejecting from exit holes and accumulating below wooden pallets, is an indication of infestation with Bostrichids.

Wood packaging material in the international trading as well as furniture and wooden presents like statuettes and masks seem to be a good vehicle for non-native pests to reach Europe. Phytosanitary authorities, together with shipping companies and producers of wood packaging material, have the duty and the challenge to find ways of improving this situation.

References

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