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***Anoplophora malasiaca* Thomson
(Coleoptera Cerambycidae Lamiinae Lamiini) in Europe^(*)**

Abstract - *Anoplophora malasiaca* Thomson is recorded for the first time in Italy. It is a xilophagous species present in Japan, Korea and Taiwan. It's a quarantine pest for Europe.

Riassunto - *Anoplophora malasiaca* Thomson (Coleoptera Cerambycidae Lamiinae Lamiini) in Europa

Viene segnalata la presenza di *Anoplophora malasiaca* Thomson in vivai del Nord Italia. La specie, xilofaga con più di cinquanta piante ospiti, è presente in Giappone, Corea e Taiwan. Risulta nell'elenco degli insetti da quarantena dell'EPPO.

Key words: *Anoplophora malasiaca*, white-spotted longicorn beetle, xilophagous, nursery, Italy, Europe.

INTRODUCTION

The trade of plants and fruits favours the spread of phytophagous insects. Phytosanitary barriers can be easily passed by insects for the small size or with different criptical strategies: mimicry with the vegetable or hiding in the plant (Tremblay, 1999).

Transferring plants from a Continent to another one in few hours or days involves the unavoidable risk that also noxious arthropods are moved (Tremblay, 1996). The case of cut flowers is significant. They are transferred in few hours for thousands of kilometres from the production countries. The temperature kept sufficiently low, permits to preserve not only the flower but also the pest, in excellent condition as far as the final destination.

Bonsai make exception among ornamental plants as they stay for over three weeks in air conditioned containers with their specific hosts, ready to colonise new areas.

On the other hand, as disinfestation on live plants can cause aesthetic damages, and as quarantine practice and the examination of plants in all their parts cannot be easily carried out, new species are introduced more frequently (Martelli *et al.*, 1983; Tremblay, 1996; 1999; Pellizzari

(*) Work published with the contribute of Regione Lombardia, according to the research project: "Use of Diptera in controlling insects noxious to plants cultivated in nurseries and discover of new Arthropods in Italy".

& Dalla Montà, 1997).

In some cases the new pests disappear spontaneously in the environments of arrival thanks to the unsuitable climatic or vegetational conditions; in other cases their presence is temporary and isolated, as the breeding of plants is generally limited to particular well localized environments, such as nurseries; a diffusion of the species, with a permanent presence, occurs when the ecosystem is favourable (Tremblay, 1999).

Starting from such considerations, a periodic monitoring was carried out in areas neighbouring companies which import plants from foreign countries, in particular bonsai from Asia.

FINDINGS

During a survey in the town of Parabiago, at the border between the provinces of Milano and Varese, in spring, big holes were discovered in the trunks of maples and beechs, probably due to the emerging of xilophagous insects.

Afterwards some adult individuals, male and female, of a longicorn of medium size, with a not striking but characteristic livery, were collected (Fig. 1).

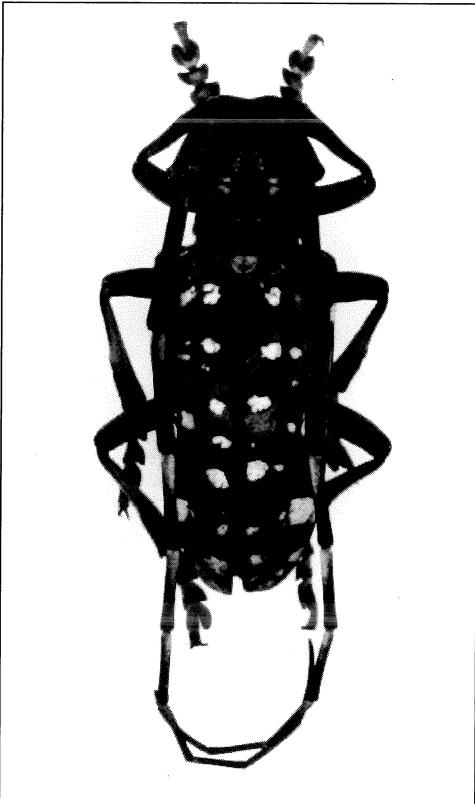


Fig. 1 – *Anoplophora malasiaca*, adult.

So it was possible to locate *Anoplophora malasiaca* Thomson, of new introduction and acclimatation for Europe, present in the list of the quarantine species of European and Mediterranean Plant Protection Organization (EPPO). The individuals collected with this first monitoring were captured during 2000: a male on 8th June and other two males and one female on 6th July.

We found another male, collected on 2nd June 1997 in the same area, in a Entomologic collection brought by a student to the Istituto di Entomologia Agraria. Another student supplied a further specimen; it was a male collected on 20th July 2000 in the same area where our individuals were found.

Therefore the adults are present in Lombardia during June and July.

The damages caused by the adults were verified during following inspections: they consist of the removal of part of bark from small apical branches, in particular of *Acer* spp. The diameter of such branches ranges from 0,3 to 1 cm. The erosion has always a longitudinal course, for a length varying from 1 to 7 cm (Fig. 2).

The plant produces callus of cicatrization, which do not completely cover the xylem.



Fig. 2 - Damages on *Acer* by *A. malasiaca* adults.

BIOLOGICAL NOTES

Anoplophora malasiaca Thomson is a Cerambycid xilophagous and poliphagous Beetle. It attacks more than 50 trees, among which *Platanus orientalis*, *Alnus* spp., *Acer* spp., *Citrus* spp., *Pirus* spp., *Malus* spp. (Kojima, 1978; Kojima & Hayashi, 1978), with serious damages to the botanic species belonging to the last 4 genera

It is present in Japan, Korea, China and Taiwan, where it is very noxious in the orchards. In 1999 it was noticed by the United States Department of Agriculture - Animal and Plant Health Inspection Service (USDA - APHIS). The insect was collected in a Wisconsin's nursery on bonsai of *Acer buergerianum*.

In the original area it completes the life cycle in one year or every 2 years, depending on the time of egg deposition. The 1-year life cycle type presents 7 or 8 larval instars; the 2-year life cycle type presents 12 or 13 larval instars. In the case of larvae which pupate in the spring after the oviposition, the last molt occurs before the wintering.

The larvae of the 2-years life cycle type stop feeding in December or January and they start again in March; they interrupt feeding in September, October or November, and pupate in May of the second year (Adachi, 1994).

The adults emerge from the beginning of June, with a peak in mid-June, followed by a

rapid decrease. The females feed on leaves and young branches for a period of, at least, 10 days. (Adachi, 1990). On the average they live 2 months and they lay on the whole about 200 eggs, with an average of 4-5 eggs a day, starting from the 10th day after the emerging.

The fecundity is directly proportional to the length of the body and to the longevity, the last eggs laid in the season result to be sterile. Oviposition follows a bell-shaped curve with a long rightward tail, as the female lays especially in the first half of its life. The female prepares with the mandibles scars at the base of the trunk, under the bark; eggs are singularly laid in these holes. Temperatures below 20°C cause a reduction in the number of oviposition. Larvae develop in the phloem and the xylem of living tree trunks, causing the weakening or even the death of the plant (Adachi, 1988).

AKNOWLEDGEMENTS

We thank dott. Carlo Pesarini of Museo di Storia Naturale of Milano for identifying the insect and Mr. Gianluigi Azimonti for helping in field work.

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Accepted 15 March 2001