

Mini data sheet on *Phaedon brassicae*

Added in 2006 - Deleted in 2010

Reasons for deletion:

Phaedon brassicae has been included in EPPO Alert List for more than 3 years and during this period no particular international action was requested by the EPPO member countries. In 2010, it was therefore considered that sufficient alert has been given and the pest was deleted from the Alert List.

Phaedon brassicae (Coleoptera: Chrysomelidae)

Why	The NPPO of Italy notified the EPPO Secretariat of the first record on its territory of <i>Phaedon brassicae</i> , a polyphagous pest of Asian origin. In the Palearctic region, the genus <i>Phaedon</i> includes 35 described species. In Europe, only <i>P. cochleariae</i> and <i>P. armoraciae</i> are pests of cabbages, rape mustard (<i>Brassica rapa</i>) and watercress (<i>Nasturtium officinale</i>). Although the distribution of <i>P. brassicae</i> is still very limited in Italy, it was felt that it could present a risk to the EPPO region.
Where	EPPO region: Italy (1 nursery at Parabiago, Lombardia). Many adults were collected at Parabiago on bonsai plants recently imported from Asia. Adults were collected on <i>Zelkova serrata</i> and <i>Ficus retusa</i> in 2000, on <i>Bambusa ventricosa</i> in 2001 and on <i>Pinus pentaphylla</i> in 2003. In 2003, weeds growing under the benches of the infested glasshouses were examined. Larvae and adults were observed feeding on a weed, <i>Cardamine hirsuta</i> (Brassicaceae). Larvae were only collected inside the glasshouses, whereas adults were also found outside. Although the first specimens of <i>P. brassicae</i> were collected on different bonsai plants, these are most probably occasional hosts, as the insect was feeding only on <i>C. hirsuta</i> .
On which plants	Asia: China, Japan, Taiwan, Vietnam. Polyphagous insect. It is reported on cultivated plants: <i>Allium cepa</i> , <i>Beta vulgaris</i> , <i>Brassica chinensis</i> , <i>Chrysanthemum coronarium</i> , <i>Daucus carota</i> , <i>Lactuca sativa</i> , <i>Raphanus sativum</i> , or weeds such as <i>Capsella bursa-pastoris</i> and <i>Rorippa atrovirens</i> . In Southern China, it is reported as an important pest of Brassicaceae, such as <i>Brassica alboglabra</i> , <i>B. juncea</i> var. <i>foliosa</i> , <i>B. chinensis</i> , <i>Brassica pekinensis</i> , <i>Nasturtium officinale</i> , and <i>Raphanus sativus</i> .
Damage	Adults and larvae feed on leaves, perforating them. Adults are oblong, convex, metallic beetles about 3-5 mm in length (male: 3 mm - female: 5 mm). They are lucifugous and during the day they remain still on the lower leaf surface. In Italy, mating was observed at the end of July. Eggs are laid on the lower leaf surface. In Chinese experiments, at 25 °C, HR 65-75% and photoperiod 12L:12D, the larval stage lasted 10 days. Mature larvae live close to the ground on the upper leaf surface, and they feed more intensively in the dark. Pupae are 5 mm long, bright yellow. From the literature, it is not clear whether pupation takes place in the soil or on lower leaf surface. Details are lacking on the biology of the insect and its damage.
Dissemination	No data is available on the natural dispersal of the insect. Over long distances, movements of host plants could spread the pest. In Italy, it is obvious that bonsai plants have transported the pest but it is not entirely clear how this was achieved (adults hidden in the pots, in the soil, feeding on host weeds growing in the pots?).
Pathway	Plants for planting of host plants of <i>P. brassicae</i> , bonsai plants, soil?
Possible risks	Brassicaceae are widely grown in the EPPO region but data is lacking on the economic impact of <i>P. brassicae</i> in its area of origin. More data would also be needed on the biology of the pest, especially on its host range and its potential for establishment in the EPPO region. Data is also lacking on control measures (biological control is mentioned in the literature with the use of <i>Bacillus thuringiensis</i> and <i>Steinernema carpocapsae</i>). Although other <i>Phaedon</i> species are

already reported as pests of Brassicaceae in the EPPO region, it is desirable to avoid the introduction of an additional species which may present a risk to many crops.

Source(s)

Kimoto S (1962) Descriptions of immature stages of Japanese Chrysomelinae belonging to the generic groups *Chrysolina*, *Gonioctena*, *Potaninia*, *Phola* and *Phaedon* (Coleoptera). *Journal of the Faculty of Agriculture, Kyushu University* 12(2), 89-104.

Limonta L, Colombo M (2004) Record in Italy of *Phaedon brassicae* Baly (Coleoptera Chrysomelidae Chrysomelinae) *Bollettino di Zoologia Agraria e di Bachicoltura Serie II* 36(3), 369-371.

NPPO of Italy, 2005-10.

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