QUARANTINE PESTS

LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Agriculture,
de l'Alimentation et de la Viticulture

The adult Japanese beetle is no larger than a 1-cent coin. Alongside the beetle, its eggs are also visible (Andrea Tantardini; Martino Buonopane - gd.eppo.int).

INTRODUCTION

Quarantine pests and diseases pose a serious threat to global agriculture and natural ecosystems. To protect these vital resources, effective measures must be taken to prevent the introduction of harmful organisms, eradicate existing outbreaks, and contain their spread.

Any suspicion of occurrence, as well as the occurrence of any of the pests listed here, must be reported!

Quarantine pests are harmful organisms that pose a high risk to plants in regions where they are either absent or not yet widespread. These pests, often causing severe economic damage in their native habitats are subject to official monitoring and control measures to prevent their establishment or spread in vulnerable agricultural and forestry systems.

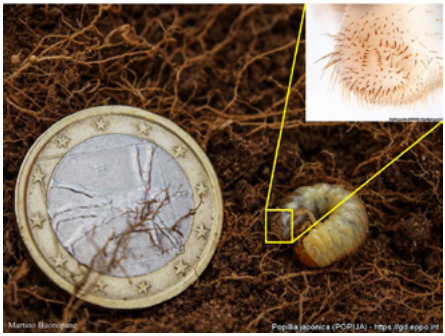
Below some important quarantine pests are described.

JAPANESE BEETLE

POPILLIA JAPONICA

The Japanese beetle can appear in large numbers and cause significant damage (Martino Buonopane - gd.eppo.int).

Feeding damage by Japanese beetles on grapevines (Matteo Maspero - gd.eppo.int).



Larva of japanese beetle with the characteristic V-shaped arrangement of bristles on the last abdominal segment (Martino Buonopane; Gilles San Martin - gd.eppo.int).

Host plants: more than 300 species; Trees: maple, oak; crops: corn, potato; Vegetables: tomato, beans; Fruit trees: apple, cherry, grapevines; Ornamentals: heather, dahlia, rose; Green spaces

Observation period: Main flight period is from mid-May to August

Origin: Japan

Occurrence: Russia, USA, Canada, India, Switzerland, Italy, isolated findings in other EU member states

Spread pathways: Soil and cultivation substrates with larvae or eggs, young plants, as a stowaway or natural flight

Appearance: 8-11 mm long, the pronotum shines golden green. There are five white hair tufts on each side of the body and two tufts on the last body segment

Symptoms: Feeding damage on leaves and fruits, dying turf due to larval feeding on roots

Possible confusions: adult beetles and larvae with garden chafer, rose chafer, May beetle or June beetle

EMERALD ASH BORER

AGRILUS PLANIPENNIS

Adult emerald ash borer
(Eduard Jendek - gd.eppo.int).

Larva of the emerald ash borer with its characteristic bell-shaped segments
(Eduard Jendek - gd.eppo.int).

The emerald ash borer's feeding galleries have a characteristic S-shaped winding pattern (Daniel A. Herms, The Ohio State University (US) - gd.eppo.int).

Characteristic D-shaped exit hole of the emerald ash borer (Eduard Jendek - gd.eppo.int).

Host plants: ash

Observation period: Symptoms on wood year-round; beetle flight period approximately mid-May to July

Origin: East Asia

Occurrence: USA, Canada, Ukraine, Russia, Japan, Korea, China

Spread pathways: plants for planting, firewood, packaging wood, raw wood

Appearance: emerald green, 8-15 mm long and 3.5 mm wide. The dorsal area under the elytra is reddish

Symptoms: sinusoidal larval feeding in wood, D-shaped exit holes, yellowing and thinning of leaves, dying of individual branches up to the death of the trees

Possible confusions: native jewel beetles like the oak buprestid, beech borer or agrilus ater

ASIAN LONGHORN BEETLE

ANOPLOPHORA GLABRIPENNIS

Adult Asian longhorn beetle
(M. Maspero – gd.eppo.int).

Exit holes of the Asian longhorn beetle
(Franck Hérard – gd.eppo.int).

Adult longhorn beetle emerging from its exit hole
(M. Maspero – gd.eppo.int).

Larva of the Asian longhorn beetle
(Wietse den Hartog – gd.eppo.int).

Host plants: maple, horse chestnut, birch, poplar, willow, beech, ash, apple, cherry, ...

Observation period: Symptoms on wood year-round; main flight period in July / August

Origin: China, Korean Peninsula

Occurrence: USA, Canada, Italy, France, Germany, Austria, Finland, Montenegro

Spread pathways: plants for planting, packaging wood, firewood, green waste

Appearance: about 35 mm long, shiny black with white spots on the elytra, antennae often twice as long as the body

Symptoms: pits under the bark with eggs, vertical feeding galleries, 10-15 mm round exit holes, feeding on leaves and young branches, wilting up to the death of the trees

Possible confusions: native longhorn beetles like the musk beetle, black spruce beetle or tanbark borer

RED-NECKED LONGHORN BEETLE

AROMIA BUNGII

Adult red-necked longhorn beetle (Matteo Maspero – gd.eppo.int).

Larva of the red-necked longhorn beetle (Raffaele Griffo – gd.eppo.int).

Larval feeding galleries of the red-necked longhorn beetle (Matteo Maspero – gd.eppo.int).

Damage symptoms and larvae (Raffaele Griffo – gd.eppo.int).

Host plants: stone fruit species of the genus Prunus: apricot, cherry, mirabelle, peach, plum, damson, ...

Observation period: Symptoms on wood year-round; flight period from March to August

Origin: China, Japan, Korea, Mongolia

Occurrence: isolated infestations in Italy and Germany

Spread pathways: plants for planting, packaging wood, firewood

Appearance: 2.5 to 4 cm long, black head, long black antennae, black elytra, and a red pronotum. There are also individuals with a black pronotum.

Symptoms: boring dust, exit holes of about 12 mm. Larval feeding galleries, dying branches, crown areas, and trees

Possible confusions: native musk beetle, tanbark borer, infestation characteristics on the tree can be confused with those of the fruit tree bark beetle or the small oak longhorn beetle

ORIENTAL FRUIT FLY

BACTROCERA DORSALIS

Adult oriental fruit flies
(Marcel Silvius - gd.eppo.int).

Oriental fruit fly infestation on a mango
(Blandine DELBOURSE - gd.eppo.int).

Host plants: more than 300 species; citrus, apple, pear, plum, sour cherry, tomato, pepper, melon, cucumber, eggplant, ...

Observation period: summer

Origin: Southeast Asia

Occurrence: China, Oceania, Kenya, Sub-Saharan Africa, USA, isolated findings in France and Austria

Spread pathways: trade with infested fruits and vegetables

Appearance: about 8 mm long, black or dark brown with dark yellow areas, e.g., scutellum, two horizontal black stripes on the abdomen. Wings have continuous dark stripes on the front edge.

Symptoms: dark puncture holes on fruits, larvae or feeding tunnels in the fruit flesh, rotting fruits

Possible confusions: fruit flies or drill flies

PEPPER WEEVIL

ANTHONOMUS EUGENII

Adult pepper weevil
(Stefano Speranza - gd.eppo.int).

Adult pepper weevil and oviposition site on pepper fruit (Stefano Speranza - gd.eppo.int).

Damage symptoms of pepper weevil inside the fruit (Blandine Delbourse and Simone Formery - gd.eppo.int).

Host plants: pepper, chili, eggplant, physalis

Observation period: summer

Origin: Mexico, Central America

Occurrence: North America, isolated findings in the EU

Spread pathways: trade of infested fruits

Appearance: 2-3.5 mm long, about 1.7 mm wide and oval-shaped, gray-brown to black camouflage coloration. The snout is slightly longer than the head and pronotum. There are light scales on the elytra and pronotum.

Symptoms: round-oval holes in leaves, flowers, and fruits; early discoloration of fruits, leading to fruit drop.

Possible confusions: native weevils like the pear green weevil or the black cabbage stem weevil

BACTERIAL RING ROT OF POTATO

CLAVIBACTER MICHIGANENSIS SUBSP. SEPEDONICUS

Bacterial ring rot of potato (Central Science Laboratory, Harpenden (GB) - gd.eppo.int).

Yellowing of potato plant leaves
(Maria A. Kuznetsova - gd.eppo.int).

Decaying leaves on potato plants
(Maria A. Kuznetsova - gd.eppo.int).

Host plants: potato, tomato, beet

Observation period: year-round

Origin: North America

Occurrence: Europe, America, Asia

Spread pathways: plants for planting, mechanically (potato sacks, machines, equipment) and possibly vectors

Symptoms: On potato plants, only very nonspecific symptoms are visible, such as wilting or yellowing of the foliage. On the tubers, a discoloration of the vascular ring is visible, leading to browning. When the cut potato is squeezed, a slimy, milky white exudate emerges from the vascular ring.

Possible confusions: fungal diseases, drought

LEAF SCORCH DISEASE

XYLELLA FASTIDIOSA

Damage symptoms of Xylella fastidiosa on grapevines (J.Clark – gd.eppo.int).

Damage symptoms on olive trees (Camille Picard – gd.eppo.int).

Damage symptoms on almond tree (Donato Boscia – gd.eppo.int).

Damage symptoms on cherry tree (Donato Boscia – gd.eppo.int).

Host plants: more than 300 species; crops: grapevine, olive, cherry, plum, and citrus; ornamentals: oleander, lavender, and roses; trees: maple, oak, and plane tree

Observation period: summer

Origin: America

Occurrence: Italy, France, Spain, Portugal, West Asia, ...

Spread pathways: plants for planting, plant material, local natural spread by vectors (e.g. Meadow Froghopper)

Symptoms: wilting, chlorosis, deformation of new leaves, bronze discolorations, from the leaf edge / tip first watery, then brown, then dried out; sharply defined yellow border between necrotic and healthy tissue, dieback, stunting, dwarfism

Possible confusions: water deficiency, nutrient deficiency, stress

WHAT TO DO IN CASE OF INFESTATION

If you suspect you have seen a quarantine pest or notice clear signs of infestation, please contact the relevant plant protection service immediately. Ideally, take a photo of the beetle or symptoms and inform the plant protection service of the exact location where it was found. Only dead specimens may be collected and submitted to the plant protection service.

CONTACT DETAILS:

ASTA
Service de la protection des végétaux -Plant protection service

phytopathologie@asta.etat.lu

Tel : 457172-277 /-275

LEGAL BASIS:

EU: Regulation (EU) 2016/2031 of the European Parliament of the Council of 26 October 2016 on protective measures against pests of plants, amending Regulations (EU) No 228/2013, (EU) No 652/2014 and (EU) No 1143/2014 of the European Parliament and of the Council and repealing Council Directives 69/464/EEC, 74/647/EEC, 93/85/EEC, 98/57/EC, 2000/29/EC, 2006/91/EC and 2007/33/EC

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