

How to use the EPPO Global Database?

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INTRODUCTION

The EPPO Global Database (GD) is a freely accessible web-based database which is maintained by the Secretariat of the European and Mediterranean Plant Protection Organization (EPPO).

Objective

The main objective of the database is to provide National Plant Protection Organizations (NPPOs) of EPPO member countries with a rapid and easy access to all pest-specific information that has been produced or collected by EPPO.

A few milestones

The development of the database was initiated by the EPPO Secretariat in 1984 to collect data on the host plants and geographical distributions of quarantine pests. The first database appeared in 1990, as an internal tool for the EPPO Secretariat. It was then suggested that it could also be a useful resource for EPPO member countries, and in 1991 the first version of the database was released to the NPPOs and called PQR (Plant Quarantine data Retrieval system). From 1991 to 2007, several PQR versions were distributed to NPPOs on different computer media (e.g. disks and CD-Roms). In April 2007, the EPPO Executive Committee agreed that the database should be made freely available on the EPPO website, as a downloadable piece of software. In parallel and since 1996, the EPPO Secretariat has also been maintaining the Bayer coding system in a separate database called EPPT (EPPO Plant Protection Thesaurus). EPPT contained scientific names, synonyms, common names and computer codes (now called EPPO Codes) for a large number of plants, pests and microorganisms of interest to agriculture, forestry and the environment. In 2014, a new web-based interface gathering the whole contents of EPPT and PQR, as well as EPPO pest-specific documents (e.g. datasheets and Pest Risk Analyses) was launched and called the 'EPPO Global Database'. In 2019, dynamic and revised datasheets on regulated pests were first published in the database to provide readers with automatically updated sections on pest identity, host plants and geographical distributions. Major improvements to lists of host plants were initiated in 2019 with the addition of bibliographic sources to individual host plant records and continued in 2020 with the simplification of host plant categories. In 2021, a harmonized classification based on the EPPO Standard PP 1/248 *Harmonized classification and coding of the uses of plant protection products* was included in the EPPO Global Database and is being maintained by an Expert Working Group. In 2023, data on vectors of regulated pathogens were added to the database. In 2024, links between biological control agents listed in EPPO Standard PM 6/3 *Biological control agents safely used in the EPPO region and their targets* were included in the database. Finally, links to other EPPO Databases, namely EPPO-Q-bank (diagnostics), EPPO Platform on PRA (Pest Risk Analysis documents) and EPPO Platform on communication material were added.

Frequency of updates

The database is constantly updated by the EPPO Secretariat in a 'real-time' mode. In practice, changes are made to the database almost every day.

Main contents

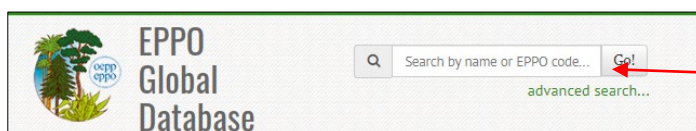
GD was designed to provide free access to the following information:

- Basic information for species of interest to agriculture, forestry and plant protection: plants (cultivated and wild) and pests (including pathogens and invasive alien plants). For each species: scientific names, synonyms, common names in different languages, taxonomic position, and EPPO Codes are given.
- Detailed information for pest species that are of regulatory interest (EPPO and EU listed pests, as well as pests regulated in other parts of the world). For each of these pests: geographical distribution (with a world map), host plants, vectors (of regulated pathogens), biological control agents (only those included in the EPPO Standard PM 6/3 Biological control agents safely used in the EPPO region) and categorization (quarantine status) are given.
- EPPO datasheets and PRA reports.
- EPPO Standards.
- Pictures of plants and pests.
- Articles of the EPPO Reporting Service (free monthly newsletter on events of phytosanitary concern, such as new pest outbreaks, new host plants).
- Links to other EPPO databases (EPPO-Q-bank, EPPO Platform on PRA, EPPO Platform on communication material).
- EPPO harmonized classification and coding of the uses of plant protection products (tree view | main categories).

HOW TO SEARCH AND NAVIGATE

Search tools

To search GD and obtain information on a pest or a plant, a simple search tool is available at the top of the page.



Enter a scientific name, a common name, or an EPPO code.

An advanced search tool is also available for more complex types of searches, such as searching for a string of characters, a given type of organism, a taxonomic group, a specific language, or searching in the EPPO Reporting Service issues (full text search). Deactivated codes can also be viewed by ticking a box.

All necessary instructions on how to use the advanced search tool are provided online.

Green bar menu



This green bar menu provides a rapid access to:

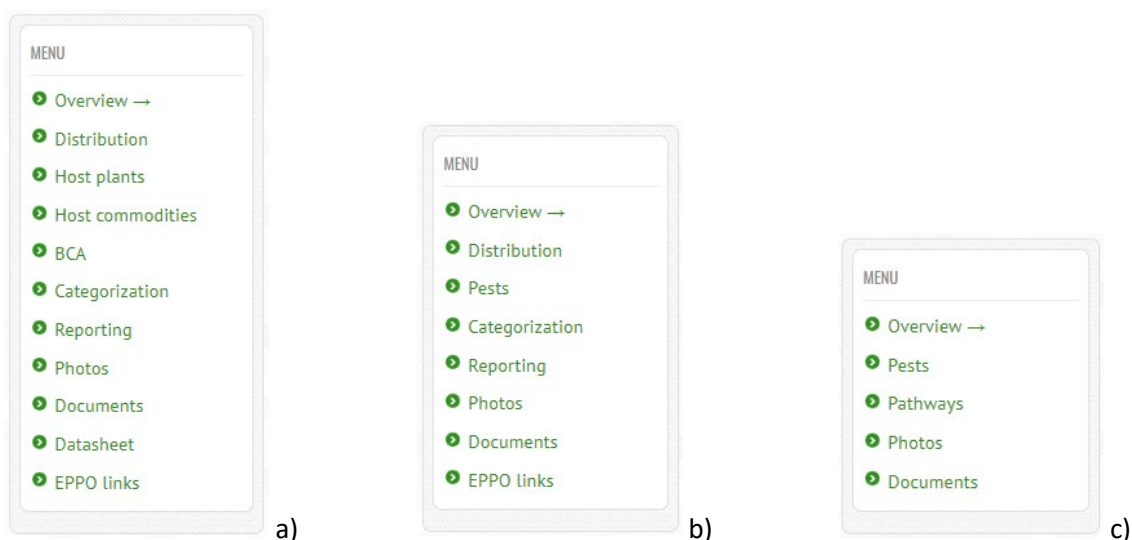
- Lists of EPPO **Standards**.
- Lists of **Photos** included in GD and presented by types of organisms (acari, bacteria, chromista, fungi, insecta, nematoda, plantae, rodentia, viruses and viroids).
- Lists of all EPPO **Reporting Service** issues (back to 1974).

The '**Explore by**' button allows users to obtain information, not starting with a pest / plant name, but with:

- Countries: to view lists of organisms present (or absent), lists of regulated organisms, articles of the EPPO Reporting Service for a given country.
- Regional Plant Protection Organizations / EU (European Union) / EAEU (Eurasian Economic Union): to view the same type of information as above.
- Data Sheets: to view a list of available EPPO data sheets.
- Taxonomy explorer: to view the taxonomic tree.
- PPP uses classification: to view the EPPO harmonized classification of plant protection products uses as a tree.

Left hand-side menu

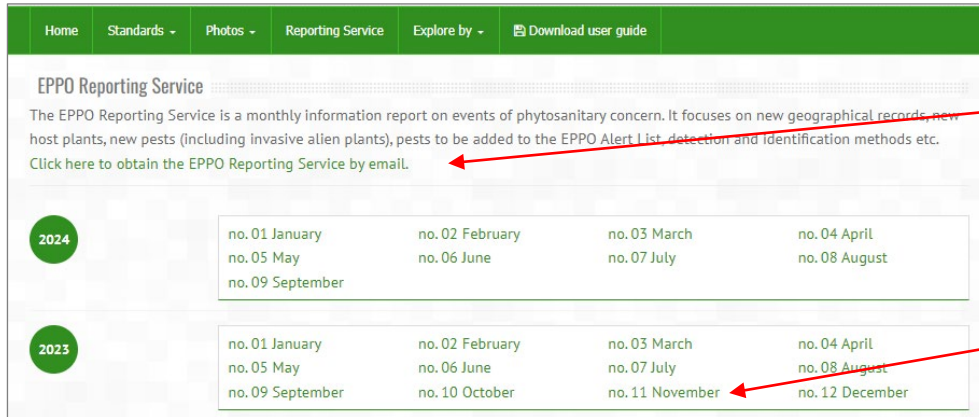
The left hand-side menu is a contextual menu where buttons appear only if information is available. The menu may be different for pests or plants (e.g. 'host plants' & 'host commodities' to reflect the fact that pests are associated with their host plants and parts of them; 'pathways' to reflect the fact that plants can transport pests).



See above examples of menus for: a) a regulated pest - *Popillia japonica*; b) an invasive alien plant - *Pontederia crassipes*, c) a cultivated plant - *Citrus x limon*.

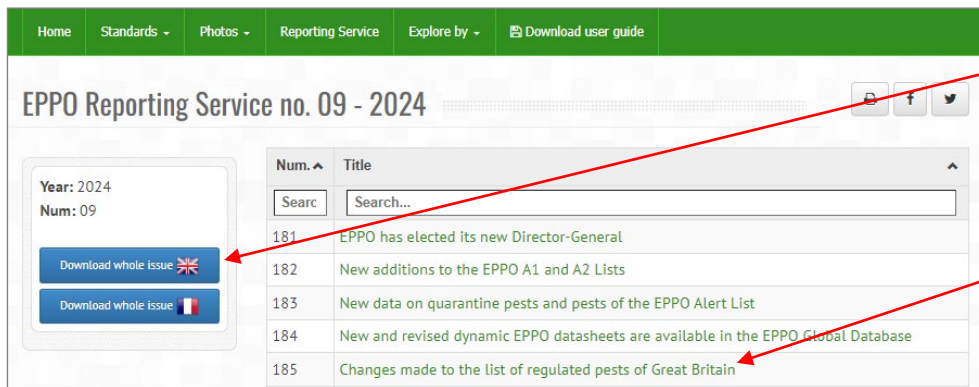
Additional information about the green bar menu ‘Reporting Service’

Each issue of the EPPO Reporting Service is stored in the database in English and French (as PDF files and back to 1974). In addition, every month and after being sent to all subscribers by email, individual articles of the EPPO Reporting Service (English version only) are transferred into GD by the EPPO Secretariat.



Click on this link to get more information on how to subscribe to the EPPO Reporting Service.

Click on the EPPO Reporting Service issue you are interested in.



Download the EPPO Reporting Service (PDF) in English or French.

Click on the links to read the individual articles (in English only).

In the following chapters, the main contents that can be found under the different buttons of the left hand-side menu are presented with guidance on how to search data.

OVERVIEW

In the 'Overview' section, the database provides basic information on individual species (or other higher taxa). As of October 2024, more than 97 800 species are included in GD:

- 58 400 plant species (cultivated, wild, weeds);
- 27 500 animal species (e.g. insects, mites, nematodes, rodents), biocontrol agents;
- 11 900 microorganism species (e.g. bacteria, phytoplasmata, fungus, viruses, viroids and virus-like).

For each species, GD contains:

- A preferred scientific name (with authorities, if appropriate);
- Synonyms or other scientific names (also with authorities, if appropriate);
- Common names in different languages;
- Taxonomic position;
- EPPO Codes ([for more information see the EPPO website](#)).

The screenshot displays the 'Overview' page for *Popillia japonica* (POPIJA). The page is divided into several sections:

- Basic information:** EPPO Code: POPIJA, Preferred name: *Popillia japonica*, Authority: Newman.
- Common names:** A table listing names in various languages.
- Taxonomy:** A hierarchical list of taxonomic ranks from Kingdom to Species.

Name	Language
japanbille	Danish
Japanese beetle	English
hanneton japonais	French
scarabée japonais	French
Japankäfer	German
popillia	Italian
scarabeo giapponese	Italian
mame-kogane	Japanese
マメコガネ	Japanese

The taxonomy section lists the following hierarchy:

- Kingdom: Animalia (1ANIMK)
- Phylum: Arthropoda (1ARTH)
- Subphylum: Hexapoda (1HEXAQ)
- Class: Insecta (1INSEC)
- Order: Coleoptera (1COLEO)
- Family: Scarabaeidae (1SCARF)
- Genus: Popillia (1POPIG)
- Species: Popillia japonica (POPIJA)

Basic information contains the EPPO Code, the preferred scientific name with the authority (when appropriate).

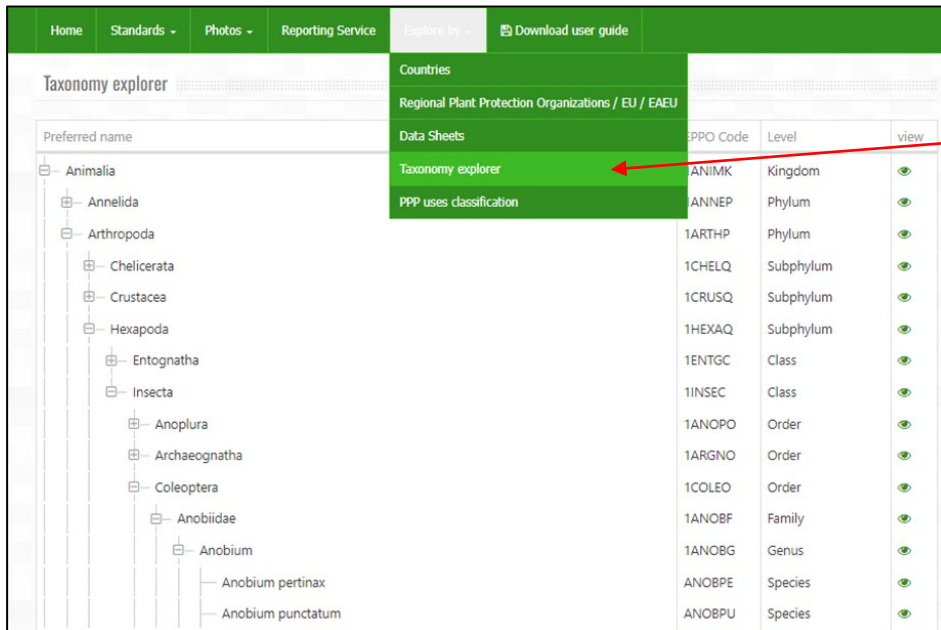
Elements of taxonomy.

Non-exhaustive list of common names in different languages.

When appropriate, a list of synonyms or other names (e.g. acronyms for viruses) is indicated under 'Other scientific names'. Notes on the taxonomy or any other elements concerning the pest / plant concerned can also be inserted in the species 'Overview'.

Tip to view the taxonomic tree

You can also view and navigate through the taxonomic tree. In the green menu bar, choose 'Explore by' and click on taxonomy explorer.



The screenshot shows the EPPO Global Database interface. The top navigation bar includes 'Home', 'Standards', 'Photos', 'Reporting Service', 'Explore by', and 'Download user guide'. The 'Explore by' dropdown menu is open, showing options: 'Countries', 'Regional Plant Protection Organizations / EU / EAEU', 'Data Sheets', 'Taxonomy explorer' (highlighted), and 'PPP uses classification'. Below the menu, a taxonomic tree for 'Animalia' is visible, showing a hierarchy from Kingdom to Species. A table on the right lists taxonomic levels with their corresponding EPPO codes and 'view' icons. A red arrow points from a text box to the 'Taxonomy explorer' menu item.

EPPO Code	Level	view
ANIMK	Kingdom	
ANNEP	Phylum	
1ARTH	Phylum	
1CHELQ	Subphylum	
1CRUSQ	Subphylum	
1HEXAQ	Subphylum	
1ENTGC	Class	
1INSEC	Class	
1ANOPO	Order	
1ARGNO	Order	
1COLEO	Order	
1ANOBF	Family	
1ANOBG	Genus	
ANOBPE	Species	
ANOBPU	Species	

Choose 'Explore by'
Taxonomy explorer



Important note about the taxonomy displayed in GD: the database is NOT a primary source for taxonomy (classification and nomenclature) and should not be considered as such. The EPPO Secretariat follows different sources (literature, databases) to provide some elements of taxonomy to its users. However, it does not attempt to provide all levels of the taxonomic tree or exhaustive lists of accepted taxa.

For a smaller sub-set of species (more than 1 900), GD provides data on their geographical distribution, host plants, categorization, and documents. These species mainly correspond to:

- pests of the EPPO A1 and A2 lists and of EU Plant Health legislation;
- pests of the EPPO Alert List;
- plants of the EPPO List of invasive alien plants and of EU concern;
- other quarantine pests and invasive plants of interest to other regions of the world.

DISTRIBUTION

Home Standards Photos Reporting Service Explore by EPPO GD Desktop

Popillia japonica (POPIJA) Last updated: 2019-04-05

MENU

- Overview
- Distribution
- Host plants
- Host commodities
- Categorization
- Reporting
- Photos
- Documents

TOOLS

- Save map as png
- Save map as svg
- Save list as excel file
- Save list as csv file

Legend: Present Transient

Continent	Country	State	Status
- select -	- select -	- select -	- select -
America	Canada		Present, restricted distribution
America	Canada	British Columbia	Present, few occurrences
America	Canada	New Brunswick	Present, restricted distribution

Dynamic world map (updated as soon as new/revised data is entered into GD). Buttons are available to print (top right), enlarge and reduce it.

List of countries which can be sorted or filtered (use small arrows and boxes).

Click here to view more details for individual countries (or states/provinces for large countries).

Tools to export the map itself or the distribution list into different file formats (png, svg or excel, csv).

Distribution details in Italy

Situation

Current pest situation evaluated by EPPO on the basis of information dated 2014: **Present, few occurrences**

First recorded in: 2014

Pest status declared by NPPO: Present, subject to official control (2014-10)

Comments

EPPO Reporting Service (2014/179) : first found by a naturalist in July 2014 along the river Ticino, within the Ticino Valley Natural Park, on wild plants (Rubus, Ulmus, Rosa, Populus, Vitis) and soybean crops (Glycine max). Under official control.

References

- * NPPO of Italy (2014-10).
- * Pavesi M (2014) Popillia japonica specie aliena invasiva segnalata in Lombardia. L'Informatore Agrario no. 32, 53-55.

Situation in neighbouring countries

Country	State	Status
Slovenia		Absent, confirmed by survey
Switzerland		Transient, under eradication

Pest situation evaluated by the EPPO Secretariat.

Pest status provided by the NPPO (if available).

Short summary of the EPPO Reporting Service article (if any) and link to full article.

Sources of information used.

Access data for neighbouring countries (if distribution data is available).

As shown in the screen capture above, the distribution of a pest in a specific country is evaluated by the EPPO Secretariat on the basis of the different pieces of information that are available at a given date (which is specified).

In order to ensure consistency within the database, a small number of presence/absence categories are being used. The current distribution categories are as follows:

- Present, no details
- Present, widespread
- Present, restricted distribution
- Present, few occurrences
- Transient*
- Absent, pest no longer present
- Absent, pest eradicated
- Absent, intercepted only
- Absent, invalid record
- Absent, unreliable record
- Absent, no pest record
- Absent, confirmed by survey

* In 2022, it was agreed to change the former category 'Transient, under eradication' into 'Transient', as information on phytosanitary measures (e.g. eradication or any other phytosanitary measures) can be reflected in other fields: 'Pest status declared by NPPOs' and/or 'Comments' (see below).

Pest status declared by NPPO: when NPPOs are providing the EPPO Secretariat with an official pest status. Pest status is included under this field. As this is a text field, the exact wording provided by the NPPO can be inserted here. NPPOs are encouraged to follow the guidance given by ISPM 8¹.

In the past, when a NPPOs did not communicate any 'official pest status' but only provided a general statement, the information was summarized in another field called '**From NPPO**' which displayed a summary of the pest situation using the standard presence/absence categories (legacy from PQR).

First recorded: when the date of first detection of a pest in the country is known, this is indicated.

Eradication in: when the date of eradication of a pest is known, this is also indicated.

From CABI Pest (or Disease) Map number x (date): EPPO and CABI have a long-standing exchange of information about pest distributions. In particular, EPPO collaborates with CABI in the preparation of the CABI distribution maps of plant pests and distribution maps of plant diseases. Therefore, when a CABI map exists for the pest concerned, the information that is provided by the CABI map is indicated in this particular field (with the number of the map and its year of publication).

Comments: under this section, the EPPO Secretariat can add any comment that is felt useful to better describe the pest distribution in a country. In particular, when an article published in the EPPO Reporting Service provides some additional details, an active link is included. By clicking on this link, the EPPO Reporting Service article can be viewed in full.

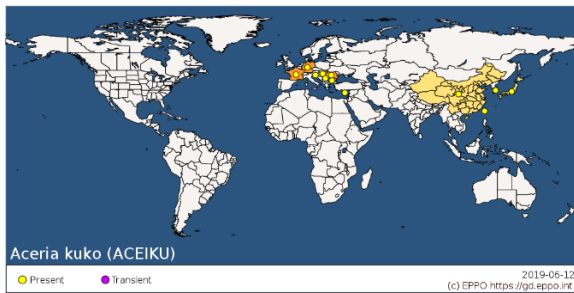
References

All references that have been used to describe the pest distribution are listed under 'References'. They can be bibliographic references, Internet sources and declarations/official notifications made by NPPOs (with a date). Some very short notes may be attached to some references, for example to indicate that it is a first published record, or that it provides detailed names of localities or of particular host plants.

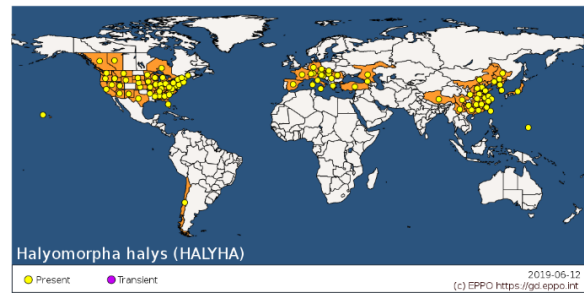
¹ ISPM 8 Determination of pest status in an area. <https://www.ippc.int/en/publications/612/>

NOTES about world maps:

- 1) On world maps, only data on presence is shown by displaying a bright yellow dot on the 'centre' of each country together with an orange background. If it is considered that the pest is transient, this is indicated by a purple dot.
- 2) For large countries (e.g. Australia, Brazil, Canada, China, India, Russia, USA), geographical data is given as far as possible at provinces/states level. However, there may be cases where information is only available at country level. In such cases, the whole country is shown in pale orange instead of orange on the map (see example below).

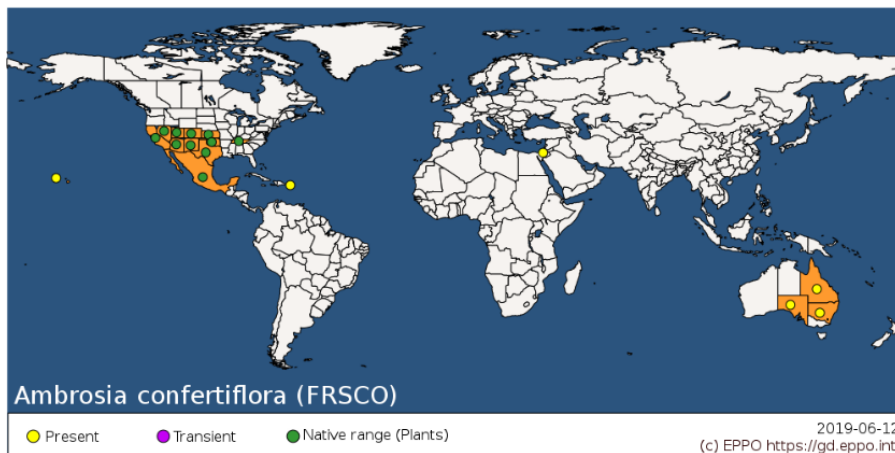


In this example, as the EPPO Secretariat could not obtain information for individual Chinese provinces, the entire territory of China appears in light yellow with a single dot.



In this example, as information is available for individual Chinese provinces, yellow dots and orange backgrounds are displayed on each province.

- 3) For invasive alien plants (only) and when the native area is known, this is indicated by a green dot on individual countries.



HOST PLANTS

The screenshot shows the EPPO Global Database interface for *Popillia japonica* (POPIJA). The main content area is titled 'Hosts' and contains an important note about the classification of host plants. Below the note is a table of host plants with columns for 'Organism' and 'Type'. The table lists several host plants, including *Acer palmatum* (ACRPA), *Acer platanoides* (ACRPL), *Actinidia* (IATIG), *Aesculus hippocastanum* (AECHI), *Alcea rosea* (ALGRO), *Alnus glutinosa* (ALUGL), and *Alnus japonica* (ALUJA). The 'Type' column for all listed plants is 'Host'. There are also callout boxes pointing to the 'Save list as excel file' and 'Save list as csv file' buttons, and a box pointing to the 'Acer palmatum' row.

Important note about the classification of host plants in GD:
Categories have been assigned by the EPPO Secretariat on the basis of available data at the time of entry. They correspond to a qualitative evaluation of the importance of the host plant for the pest concerned and remain indicative only.
Further explanation of categories is available in the guide.

Organism	Type
<i>Acer palmatum</i> (ACRPA)	Host
<i>Acer platanoides</i> (ACRPL)	Host
<i>Actinidia</i> (IATIG)	Host
<i>Aesculus hippocastanum</i> (AECHI)	Host
<i>Alcea rosea</i> (ALGRO)	Host
<i>Alnus glutinosa</i> (ALUGL)	Host
<i>Alnus japonica</i> (ALUJA)	Host

Tools to export the list of host plants into different file formats (excel, csv).

List of host plants which can be sorted or filtered (use small arrows and boxes).

View bibliographic references.

The pest/host plant combinations are classed in the following seven categories:

- **Major host:** a host plant which is important for the pest, or on that plant the pest is considered to be important. This category is assigned by the EPPO Secretariat, resulting from a qualitative judgement, and using available information (e.g. the plant is frequently considered in the literature as an important host, significant damage is observed). The fact that the host status has been demonstrated (full cycle, Koch's postulate completed) or that the plant is a preferred host (choice studies) will be indicated together with the bibliographic references whenever data is available.
- **Host:** the plant is listed as a host in the literature. The fact that it is a confirmed host, or a preferred host will be indicated together with the bibliographic references whenever data is available. Similarly if the plant is only used by certain pest stages (adult/larval feeding) or has been shown to be a poor host (e.g. as used in nematology) this could also be indicated if known.
- **Alternate:** this category is used for organisms which need distinct hosts to complete their life cycle (e.g. some aphids, some rusts).
- **Wild/weed:** self-explanatory.
- **Experimental:** the plant has been shown to be a host only in inoculation studies or under laboratory conditions, but there are no records of infection in the field or the environment.
- **Doubtful host:** the information provided is weak or subject to controversy.
- **Non-host:** the plant has clearly been shown NOT to be a host. The main objective of this category is to be able to correct past errors, close controversy (similarly to the category 'Absent, invalid record' for geographical records in GD), or to be able to clearly state that a plant is not a host.




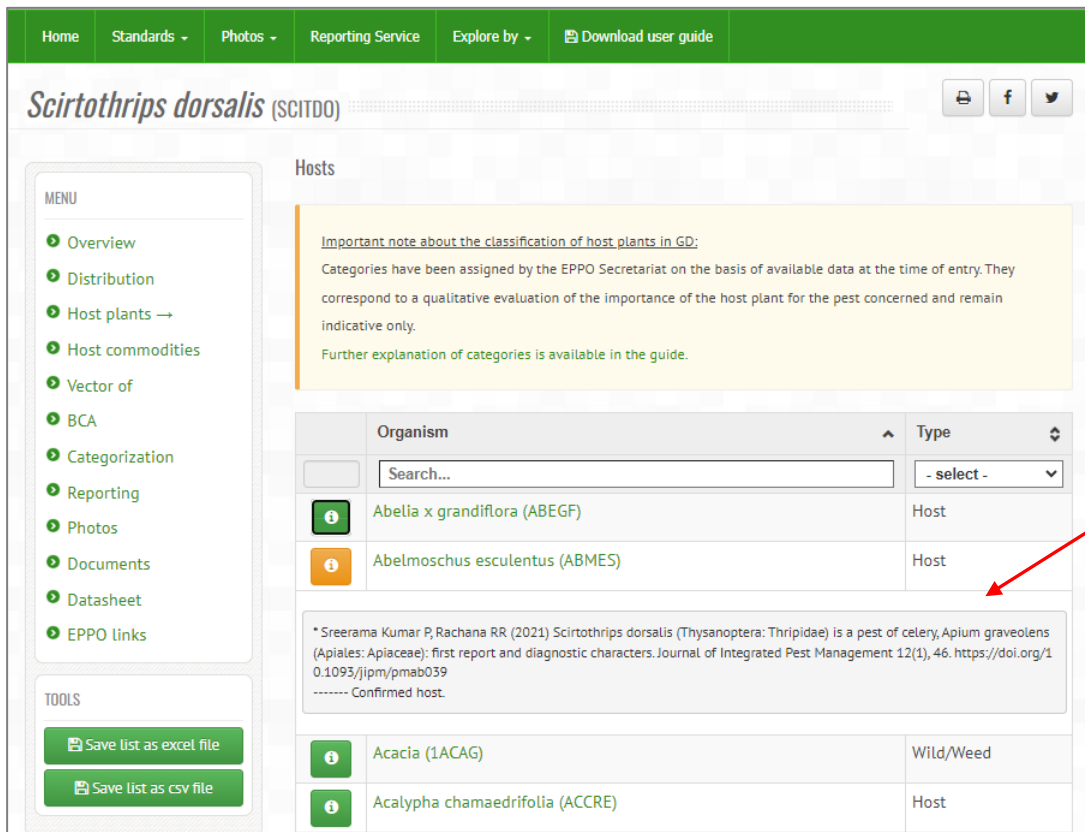
Important note about the classification of host plants in GD:

Important note about the classification of host plants in GD: Categories have been assigned by the EPPO Secretariat on the basis of available data at the time of entry. They correspond to a qualitative evaluation of the importance of the host plant for the pest concerned and remain indicative only.





Addition of references for host plant records

Since September 2019, references to scientific papers or other sources are given for host plant records. Concerning the past content of GD, the missing sources are gradually being added to the database, but as this represent a large volume of data (more than 12 000 entries) this can only be done over several years of work.

When references are available for a host plant, this is indicated by a small green icon . References can be viewed by simply clicking on the green icon (see example below).



The screenshot shows the EPPO Global Database interface for *Scirtothrips dorsalis* (SCITDO). The page includes a navigation menu on the left with options like Overview, Distribution, Host plants, etc. The main content area is titled 'Hosts' and contains a table of host plants. A yellow box at the top of the 'Hosts' section contains an important note about the classification of host plants. Below the note is a table with columns 'Organism' and 'Type'. The table lists several host plants, including *Abelia x grandiflora* (ABEGF), *Abelmoschus esculentus* (ABMES), *Acacia* (1ACAG), and *Acalypha chamaedrifolia* (ACCRES). A reference box is visible below the table, containing a citation: '* Sreerama Kumar P, Rachana RR (2021) Scirtothrips dorsalis (Thysanoptera: Thripidae) is a pest of celery, Apium graveolens (Apiales: Apiaceae): first report and diagnostic characters. Journal of Integrated Pest Management 12(1), 46. https://doi.org/10.1093/jipm/pmab039 ----- Confirmed host.' A red arrow points from a 'References' label to this reference box.

Organism	Type
 <i>Abelia x grandiflora</i> (ABEGF)	Host
 <i>Abelmoschus esculentus</i> (ABMES)	Host
 <i>Acacia</i> (1ACAG)	Wild/Weed
 <i>Acalypha chamaedrifolia</i> (ACCRES)	Host

HOST COMMODITIES AND PATHWAYS

GD distinguishes between the host plants of a regulated pest (i.e. the plants which it can attack and damage in its area of distribution) and the plant commodities/pathways (e.g. plants for planting, fruits, seeds, cut flowers) liable to carry this pest in international trade. Historically, the host plant information mainly derived from the EPPO datasheets on quarantine pests, while the commodity information came from the EPPO pest-specific phytosanitary requirements (EPPO Standards PM2 – no longer updated but used in the early developments of the database), Annex IV of the EU Directive, and results of EPPO PRAs (Pest Risk Analyses).



As a case by case analysis based on the conclusions of PRAs (or other studies) has to be done by the EPPO Secretariat, **the 'host commodities' and 'pathways' lists are available only for the EPPO/EU listed pests.**

Type	Host
bark	Abies (1ABIG)
bark	Cedrus (1CEUG)
bark	Larix (1LAXG)
bark	Picea (1PIEG)
bark	Pinus (1PIUG)
bark	Pseudotsuga (1PSTG)
cut flowers or branches	Abies (1ABIG)
cut flowers or branches	Cedrus (1CEUG)
cut flowers or branches	Larix (1LAXG)
cut flowers or branches	Picea (1PIEG)
cut flowers or branches	Pinus (1PIUG)

List of host commodities which can be sorted or filtered (use small arrows and boxes).

In the database, the following categories are available (some cannot be searched for, as they are not attached to a specific plant species, e.g. agricultural machinery):

- Agricultural machinery
- All commodities
- Bark
- Bulbs or tubers
- Cut flowers or branches
- Fruits or vegetables
- Manufactured articles
- Non-squared wood
- Packaging material
- Plants for planting
- Plant waste
- Pollen
- Seeds
- Soil/growing medium
- Squared wood
- Stored products

Information on host commodities is included at genus level to avoid generating too long lists. However, search tools in GD allow to reflect the fact that species belonging to a genus that is considered to be a host commodity may also act as pathways (see example below).

Pseudomonas syringae pv. actinidiae (PSDMAK)

MENU

- Overview
- Distribution
- Host plants
- Host commodities →
- Categorization
- Reporting
- Photos
- Documents
- Datasheet
- EPPO links

Host Commodities

Type	Host
plants for planting	Actinidia (IATIG)
pollen	Actinidia (IATIG)

Plants for planting and pollen of *Actinidia* can be host commodities of *P. syringae pv. actinidiae*.

Actinidia chinensis (ATICH)

MENU

- Overview
- Pests
- Pathways →
- Documents

Pathways

Filter by country

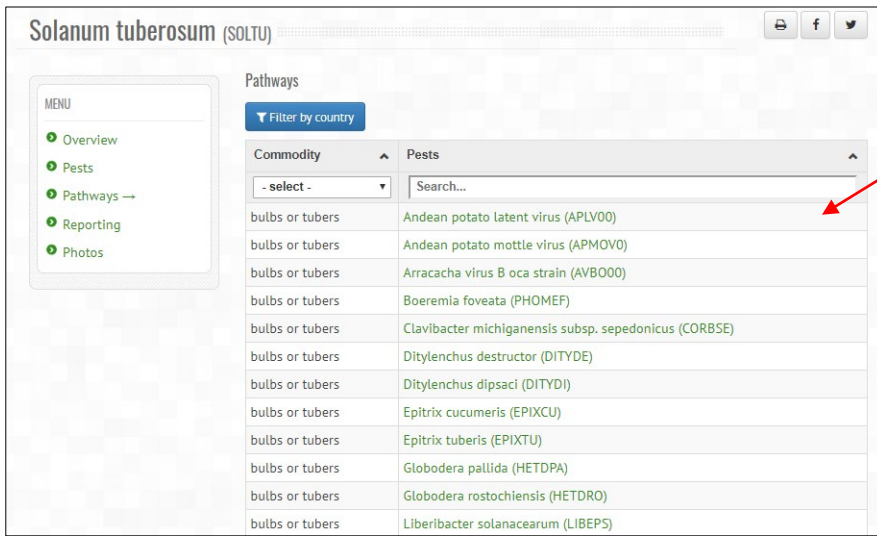
Commodity	Pests
plants for planting	<i>Pseudomonas syringae pv. actinidiae</i> (as Actinidia) (PSDMAK)
pollen	<i>Pseudomonas syringae pv. actinidiae</i> (as Actinidia) (PSDMAK)

Actinidia chinensis (plants for planting and pollen) can be a pathway for moving *P. syringae pv. actinidiae* as it belongs to the genus *Actinidia*.

Search tips

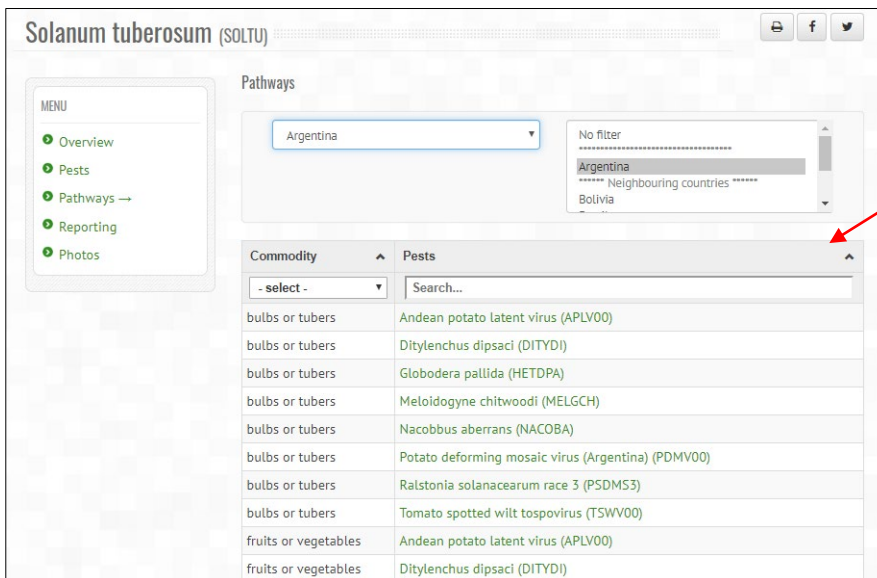
- 1) To get a list of host plants for a given pest: start your search with a pest and click on 'host plants'.
- 2) To get a list of host commodities for a given pest: start your search with a pest and click on 'host commodities'.
- 3) To get a list of pests associated with a plant: start your search with a plant and click on 'pests'.
- 4) To get a list of **pathways** (associated with a plant) that can transport pests: **start your search with a plant** and click on 'Pathways'. **This list can be filtered by a country, in order to obtain a list of pests that are associated with the different plant commodities AND that are present in the country chosen.** See our example below.

1st step: Get a list of commodities liable to carry potato pests. Start your search with 'potato' and click on 'Pathways'.

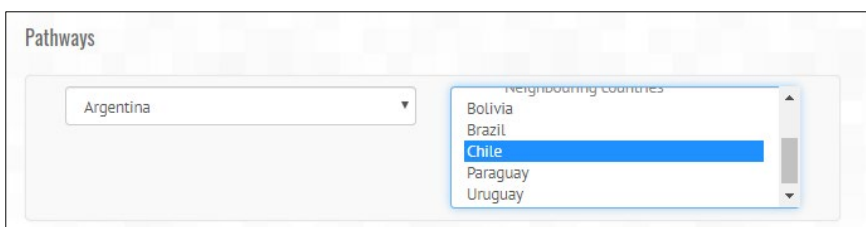


In this example, GD provides a list of pests that can be transported by different potato commodities (e.g. seed and ware potatoes, plants for planting, true seeds, contaminating soil).

2nd step: Filter by country (Argentina in this example) to get a list of potato commodities liable to carry pests from Argentina. You can also get similar information for neighbouring countries (see top right box).



In this example, GD provides a list of pests that can be transported by different potato commodities from Argentina.



VECTORS

If relevant, a list of known or potential vectors of plant pathogens is given. References are also provided. Searches can start either with the pathogen or the vector.



Information on vectors and their associated pathogens is a new feature of the database (April 2023). Data will gradually be entered by the EPPO Secretariat and will focus on regulated (quarantine) pests.

Example 1: List of vectors of '*Candidatus Liberibacter asiaticus*'.

Important note on vectors:
Information on vectors and their associated pathogens is a new feature of the database (April 2023). Data will gradually be entered by the EPPO Secretariat and will focus on regulated (quarantine) pests.

Organism	Type
Diaphorina citri (DIAACI)	Known vector
Trioza erytreae (TRIZER)	Known vector

References for Diaphorina citri (DIAACI):
 * Ajene JJ, Khami FM, van Asch B, Pietersen G, Seid N, Rvomushana I, Ombura FLO, Momanyi G, Finyange P, Rasowo BA, Tanga CM, Mohammed S, Ekesi S (2020) Distribution of *Candidatus Liberibacter asiaticus* species in Eastern Africa, and the first report of *Candidatus Liberibacter asiaticus* in Kenya. *Scientific Reports* 10, 3919 <https://doi.org/10.1038/s41598-020-60712-0>
 * Gottwald TR (2010) Current epidemiological understanding of citrus huanglongbing. *Annual Review of Phytopathology* 48, 119-139.
 * Lopes SA, Cifuentes-Arenas JC (2021) Protocol for Successful Transmission of *Candidatus Liberibacter asiaticus* from Citrus to Citrus Using *Diaphorina citri*. *Phytopathology* 111(12), 2367-2374.

Example 2: List of pathogens transmitted by *Trioza erytreae*.

Important note on vectors:
Information on vectors and their associated pathogens is a new feature of the database (April 2023). Data will gradually be entered by the EPPO Secretariat and will focus on regulated (quarantine) pests.

Organism	Type
<i>Candidatus Liberibacter africanus</i> (LIBEAF)	Known vector
<i>Candidatus Liberibacter americanus</i> (LIBEAM)	Known vector
<i>Candidatus Liberibacter asiaticus</i> (LIBEAS)	Known vector

References for *Candidatus Liberibacter asiaticus* (LIBEAS):
 * Ajene JJ, Khami FM, van Asch B, Pietersen G, Seid N, Rvomushana I, Ombura FLO, Momanyi G, Finyange P, Rasowo BA, Tanga CM, Mohammed S, Ekesi S (2020) Distribution of *Candidatus Liberibacter asiaticus* species in Eastern Africa, and the first report of *Candidatus Liberibacter asiaticus* in Kenya. *Scientific Reports* 10, 3919 <https://doi.org/10.1038/s41598-020-60712-0>
 * Gottwald TR (2010) Current epidemiological understanding of citrus huanglongbing. *Annual Review of Phytopathology*, 48, 119-139.
 * Reynaud B, Turpin P, Molinari MF, Grondin M, Roque S, Chiroleu F, Fereres A, Delatte H (2022) The African citrus psyllid *Trioza erytreae*: an efficient vector of *Candidatus Liberibacter asiaticus*. *Frontiers in Plant Science*, 13:1089762, <https://doi.org/10.3389/fpls.2022.1089762>

BCA (BIOLOGICAL CONTROL AGENT)

The contents of the two appendices of the **EPPO Standard PM 6/3 (5) *Biological control agents safely used in the EPPO region*** have been transferred into GD. Appendix I provides a list of commercially or officially used biological control agents. Appendix II provides of a list of classical BCAs successfully established in the EPPO region. References to the appendices are also provided. Searches can start either with the biological control agent (BCA) or the target pests.

Example 1: List of pest(s) targeted by a biological control agent (BCA)

The screenshot shows the EPPO Global Database interface for *Tamarix dryi* (TAMDRD). The page title is "BCA of". Below the title, there is an "Important note on BCA of:" section stating: "The biological control agent is listed in EPPO Standard PM 6/3 Biological control agents safely used in the EPPO region. Please note that PM 6/3 is not exhaustive and other biological control agents may be available." Below this note is a search bar for the organism, which has "Trioza erytreae (TRIZER)" entered. A red box highlights a reference to the appendices concerned, which is: "* EPPO (online) Appendix 2 - Classical BCAs successfully established in the EPPO region. EPPO Standard PM 6/3 (5) Biological control agents safely used in the EPPO region. <https://gd.epppo.int/standards/PM6/>".

Reference to the appendices concerned

Example 2: List of BCAs which can be used against *Saissetia oleae*.

The screenshot shows the EPPO Global Database interface for *Saissetia oleae* (SAISOL). The page title is "BCA". Below the title, there is an "Important note on BCA:" section stating: "The biological control agent is listed in EPPO Standard PM 6/3 Biological control agents safely used in the EPPO region. Please note that PM 6/3 is not exhaustive and other biological control agents may be available." Below this note is a search bar for the organism, which has "Chilocorus bipustulatus (CHICBP)" entered. A red box highlights a reference to the appendices concerned, which is: "* EPPO (online) Appendix 1 - Commercially or officially used biological control agents. EPPO Standard PM 6/3 (5) Biological control agents safely used in the EPPO region. <https://gd.epppo.int/standards/PM6/>". Below this reference is a list of BCAs:

- Coccophagus lycimnia (as Coccidae) (COCULY)
- Coccophagus rusti (as Coccidae) (COCURU)
- Coccophagus scutellaris (as Coccidae) (COCUSC)
- Encyrtus aurantii (as Coccidae) (ENCYLE)
- Encyrtus infelix (as Coccidae) (ENCYIN)
- Exochomus quadripustulatus (EXOCQU)

Reference to the appendices concerned



It is important to note that the appendices of PM 6/3 are not exhaustive and that other biological control agents may be available.

CATEGORIZATION

This section provides information on the ‘quarantine status’ of a pest in different countries, as well as for the European Union and the Eurasian Economic Union. For individual countries, the indicated date corresponds to the publication date of the lists of regulated pests.

When appropriate, the status of a pest in the different EPPO lists (EPPO A1 and A2 Lists of pests recommended for regulation as quarantine pests, Alert List, List of Invasive Alien Plants) is also mentioned with the date of first addition, and eventually of transfer and deletion. For the other RPPOs, EPPO has compiled lists of pests recommended for regulation whenever these were available.

Country/NPPO	List	Year addition	Year transfer	Year deletion
Africa				
Egypt	A1 list	2018		
Morocco	Quarantine pest	2018		
Tunisia	Quarantine pest	2012		
America				
Argentina	A1 list	2019		
Brazil	A1 list	2018		
Canada	Quarantine pest	2019		
Chile	A1 list	2019		
Mexico	Quarantine pest	2018		
United States of America	Quarantine pest	1989		
Asia				
Bahrain	A1 list	2003		

Note that you can export the list in different file formats (excel, csv).

Search tips: To view lists of regulated pests for a given country, the EU or a Regional Plant Protection Organization, start your search by ‘Explore by countries’ (see Introduction – Green bar menu).



Lists of regulated pests are not available for all countries. It must be noted that the Secretariat is still in the process of incorporating quarantine lists that are being made available to EPPO, and it should be stressed that this only represents a small part of the information that is potentially available around the world.

REPORTING

When EPPO Reporting Service articles are available for a given pest, they can be retrieved in this section (back to January 1974). As explained earlier (in the chapter on how to search and navigate), every month and after being sent to all subscribers, all articles of the EPPO Reporting Service (English versions only) are transferred into GD and indexed by the EPPO Secretariat.

Click on the link to read the article

Num.	Title	year-month
2024/149	First report of <i>Popillia japonica</i> in Slovenia	2024-07
2024/067	Biological control of <i>Popillia japonica</i>	2024-03
2023/184	Update of the situation of <i>Popillia japonica</i> in Switzerland	2023-08
2023/176	New EU regulation for <i>Popillia japonica</i>	
2022/204	New data on quarantine pests and pests of the EPPO Alert List	
2022/165	New finding of <i>Popillia japonica</i> in Germany	
2022/081	Update of the situation of <i>Popillia japonica</i> in Italy	
2022/010	First finding of <i>Popillia japonica</i> in Germany	
2021/104	Update on the situation of <i>Popillia japonica</i> in Switzerland	
2021/007	<i>Popillia japonica</i> is absent from Germany	
2021/002	Update on the situation of quarantine pests in the Russian Federation	
2020/260	New and revised dynamic EPPO datasheets are available in the EPPO Global Database	

First report of *Popillia japonica* in Slovenia

The NPPO of Slovenia recently informed the EPPO Secretariat of the first finding of *Popillia japonica* (Coleoptera: Rutelidae – EPPO A2 List) on its territory. During the official survey programme for *P. japonica* carried out in 2024, one adult was found in a trap at a highway petrol station in Lukovica (Central Slovenia) on July 10th 2024. There is no production of plants for planting or garden centres in the vicinity (1 km) of the trap. Five additional traps were placed in the vicinity of the first finding, and visual inspections will be intensified. Public awareness will be carried out.

The pest status of *Popillia japonica* in Slovenia is officially declared as: **Transient, actionable, under eradication.**

Sources
NPPO of Slovenia (2024-07).

Search tips: by using the advanced search tools (at the top of the screen), you can search through the ‘full text’ of the EPPO Reporting Service articles. In the ‘Search for’ box, choose ‘Full text search’, and indicate the term (English only) you are interested in as shown below. You will then obtain a list of Reporting Service articles where the term chosen has been used (either in the title of the article or its full text).

Search results - 500 record(s) found

Reporting	Num	Title
08-2024	2024/164	New data on quarantine pests and pests of the EPPO Alert List
07-2024	2024/145	New data on quarantine pests and pests of the EPPO Alert List
05-2024	2024/108	<i>Globodera vulgaris</i> : a new cyst nematode found on potato in China
05-2024	2024/107	Update on the situation of <i>Meloidogyne chitwoodi</i> and <i>Meloidogyne fallax</i> in the Netherlands
03-2024	2024/049	New data on quarantine pests and pests of the EPPO Alert List
02-2024	2024/027	New data on quarantine pests and pests of the EPPO Alert List
01-2024	2024/015	First report of pepper ringspot virus in South Africa, damaging potato
01-2024	2024/001	New data on quarantine pests and pests of the EPPO Alert List

PHOTOS

The screenshot shows the 'Agrilus planipennis (AGRLPL)' page in the EPPO Global Database. The top navigation bar includes 'Home', 'Standards', 'Photos', 'Reporting Service', 'Explore by', and 'Download user guide'. The main content area is titled 'Agrilus planipennis (AGRLPL)' and includes a 'Photos' section. A left-hand menu lists various categories, with 'Photos' selected. Below the menu, there are 'TOOLS' and a 'Propose photos' button. The main content area contains a disclaimer, a filter section with tabs for 'All', 'Damage', 'Adult', 'Larva', and 'Egg', and a grid of photo thumbnails. Each thumbnail includes a caption and a credit to Daniel A. Herms, The Ohio State University (US).

Click on the tabs to view a selection of pictures (e.g. only larva).

Whenever pictures are available, they can be viewed together with the name(s) of the photographer(s) and a small legend. If you wish, you can enlarge each picture by clicking on the thumbnail image. Please note that all pictures can be used for educational purposes only. For publication in commercial journals, books, magazines, and websites, permission should be obtained from the original photographers and copy in EPPO.

The EPPO Secretariat warmly thanks all photographers who have kindly provided their photos (as of October 2024, more than 15 000 photos are included in GD). As more pictures of plants, pests and diseases are always welcome, online tools have been developed to allow users to submit photos ([see our guide on how to submit photos](#)).

DOCUMENTS

The screenshot shows the EPPO Global Database interface for *Agrilus anxius* (AGRLAX). The navigation menu on the left includes: Overview, Distribution, Host plants, Host commodities, Categorization, Reporting, Photos, Documents → (highlighted with a red box), Datasheet, and EPPO links. The main content area is divided into two sections: 'Associated EPPO Standards' and 'Associated documents'.

Associated EPPO Standards

Number	Title	Download
PM1/002(35)	EPPO A1 and A2 Lists of pests recommended for regulation as quarantine pests (2024)	Download
PM3/087(1)	Monitoring and consignment inspection of wood chips, hogwood and bark for quarantine pests	Download
PM8/006(1)	<i>Betula</i>	Download

Associated documents

EPPO PRAs

Lang	Title	Download
	PRA record for <i>Agrilus anxius</i>	Download
	PRA report for <i>Agrilus anxius</i>	Download

In this section, you can retrieve all pest-specific documents (as PDF files) that EPPO has produced:

- All EPPO Standards (except PP1²);
- EPPO datasheets (PDF documents for datasheets which are still awaiting revision – see below);
- Mini datasheets of pests which were formerly included in the EPPO Alert List;
- EPPO PRAs only. Please note that the EPPO Secretariat is also maintaining another database on PRAs which contains more PRA documents (e.g. national PRAs, EFSA PRAs). See EPPO Platform on PRAs: <https://pra.epo.int>
- Prioritization documents prepared for invasive alien plants.

² EPPO Standards PP1 – Efficacy Evaluation of Plant Protection Products are maintained in a separate database. In this PP1 database, general Standards can be freely accessed but a subscription is required for specific Standards (i.e. fungicides/bactericides, insecticides/acaricides, herbicides, plant growth regulators, molluscicides, nematocides, rodenticides and side-effects).

DATASHEET

In 2019, EPPO datasheets on regulated pests started to be published in a dynamic format in GD. In the new dynamic datasheets, the information on pest identity, host plants and geographical distributions is directly generated by the database and automatically updated. This activity is part of a more general programme of revision of EPPO datasheets, and it is planned that dynamic datasheets will gradually replace the static PDF documents.

When searching the database with a pest, if a dynamic datasheet is available, this will be indicated in the left hand-side menu.

The screenshot shows the EPPO Global Database interface for *Potyvirus plumpoxi* (PPV000). The left-hand menu is visible, with 'Datasheet' highlighted in green and enclosed in a red box. A red arrow points from this box to the 'Other scientific names' table. A red box on the right contains the text 'A dynamic datasheet is available for the pest concerned.'

Name	Authority
Plum pox potyvirus	
Plum pox virus	
PPV	
Prunus virus 7	

To obtain a complete list of available datasheets, you can select 'Explore by' and then click on 'Datasheets' in the top green bar menu.

The screenshot shows the 'Data Sheets' page in the EPPO Global Database. The 'Explore by' menu is open, showing 'Data Sheets' selected. The main table lists various bacterial candidates with 'View' buttons for each.

Type	Title	Download	Dynamic DS
Bacteria	'Candidatus Liberibacter af...		View
Bacteria	'Candidatus Liberibacter americanus'		View
Bacteria	'Candidatus Liberibacter asiaticus'		View
Bacteria	'Candidatus Liberibacter solanacearum'		View
Bacteria	'Candidatus Phytoplasma aurantifolia'		View
Bacteria	'Candidatus Phytoplasma fraxini'		View
Bacteria	'Candidatus Phytoplasma mali'		View
Bacteria	'Candidatus Phytoplasma phoenicium'		View
Bacteria	'Candidatus Phytoplasma pruni'		View
Bacteria	'Candidatus Phytoplasma pyri'		View

Example of a dynamic datasheet.

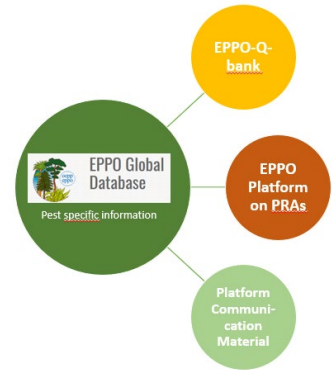
The three sections:
IDENTITY
HOSTS
GEO. DISTRIBUTION
 are dynamically generated by the database and are automatically updated.

Export the datasheet as Word or PDF files

Expand sections by clicking on the icon

EPPO LINKS

The database includes external links to pest-specific information included in other EPPO databases. As of October 2024, links have been established with EPPO-Q-bank (specimens and sequences for diagnosis), the EPPO Platform on PRAs (Pest Risk Analysis documents), the EPPO Platform on Communication Material.

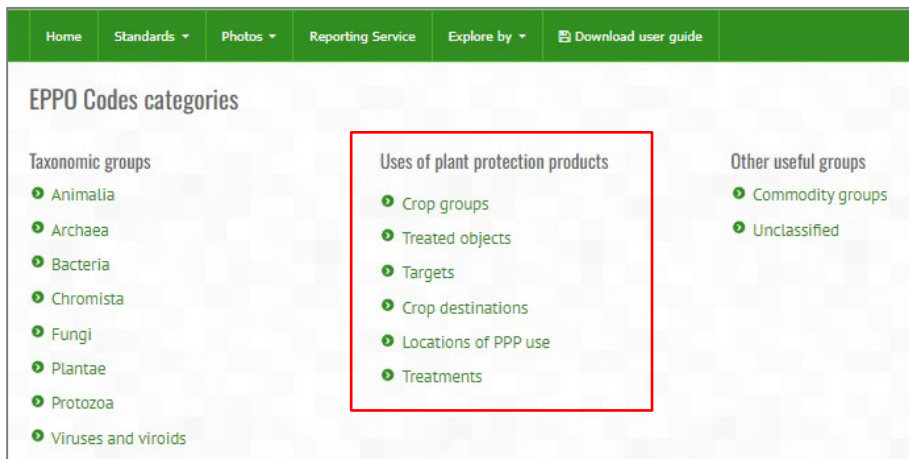


Example of links to other EPPO databases

NOTES ABOUT THE EPPO HARMONIZED CLASSIFICATION AND CODING OF PLANT PROTECTION PRODUCT USES

EPPO has developed a harmonized classification of plant protection product uses and its associated computer coding system. This is of particular relevance to registration authorities operating in the framework of the mutual recognition and zonal assessment called for in EU Regulation 1107/2009. The main elements of this classification have been specified in the EPPO Standard PP 1/248 *Harmonized classification and coding of the uses of plant protection products*. All associated computer Codes (unique identifiers) have been integrated into the EPPO Code system and are freely accessible via the EPPO Global Database. More information about this classification can be found on the EPPO website: https://www.eppo.int/ACTIVITIES/plant_protection_products/harmonized_classification_uses

To view the different elements of this classification (and their associated Codes) which can be used to characterize the use of plant production products, follow this link: <https://gd.eppo.int/taxon/>



Home Standards Photos Reporting Service Explore by Download user guide

EPPO Codes categories

Taxonomic groups

- Animalia
- Archaea
- Bacteria
- Chromista
- Fungi
- Plantae
- Protozoa
- Viruses and viroids

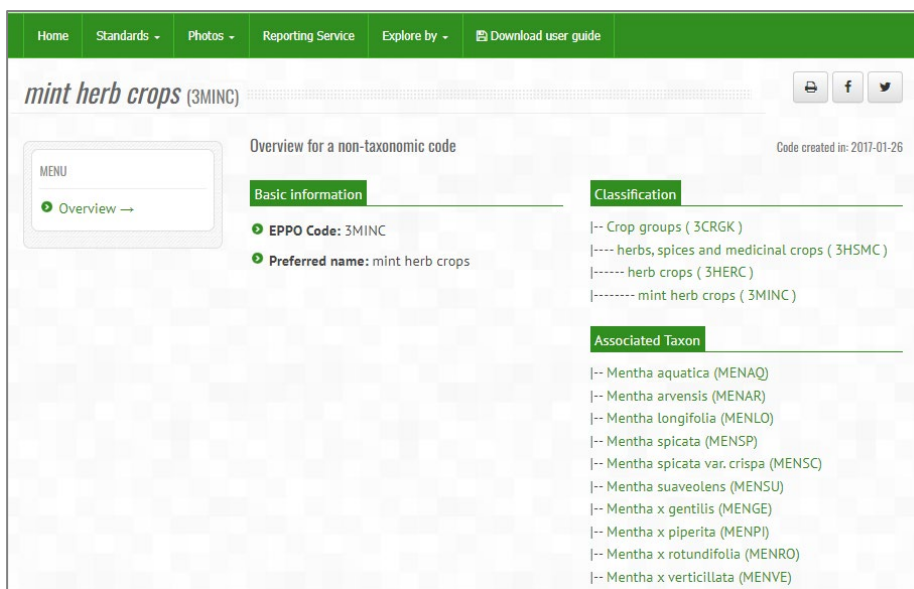
Uses of plant protection products

- Crop groups
- Treated objects
- Targets
- Crop destinations
- Locations of PPP use
- Treatments

Other useful groups

- Commodity groups
- Unclassified

Example of a crop group with its associated taxon



Home Standards Photos Reporting Service Explore by Download user guide

mint herb crops (3MINC)

Overview for a non-taxonomic code Code created in: 2017-01-26

MENU

- Overview →

Basic information

- EPPO Code: 3MINC
- Preferred name: mint herb crops

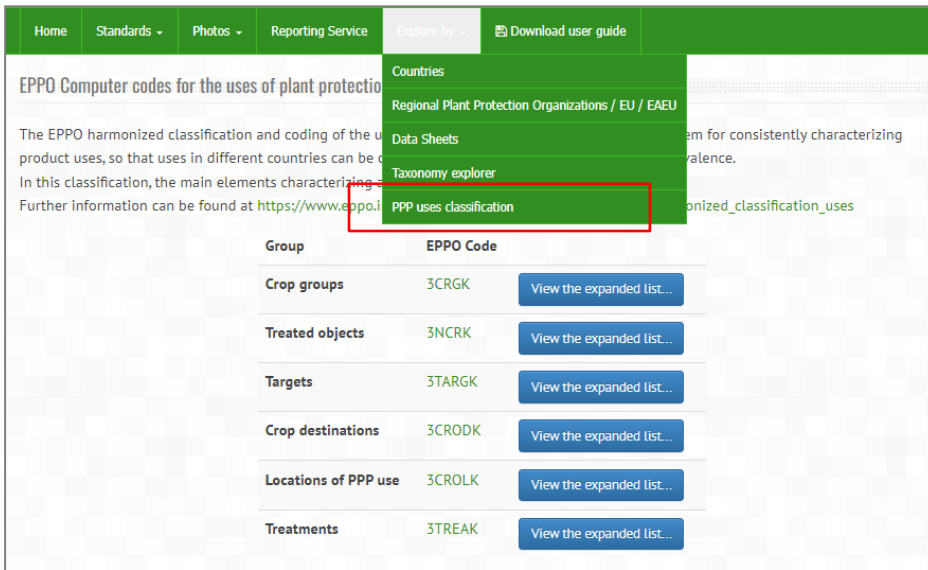
Classification

- |-- Crop groups (3CRGK)
- |---- herbs, spices and medicinal crops (3HSMC)
- |----- herb crops (3HERC)
- |----- mint herb crops (3MINC)

Associated Taxon

- |-- Mentha aquatica (MENAQ)
- |-- Mentha arvensis (MENAR)
- |-- Mentha longifolia (MENLO)
- |-- Mentha spicata (MENSPI)
- |-- Mentha spicata var. crispa (MENSCL)
- |-- Mentha suaveolens (MENSU)
- |-- Mentha x gentilis (MENGEX)
- |-- Mentha x piperita (MENPI)
- |-- Mentha x rotundifolia (MENRO)
- |-- Mentha x verticillata (MENVE)

For an alternative visualization of the classification (tree view), in the top green bar menu choose 'Explore by', then 'PPP use classification', and finally click on 'View the expanded list'



Tree view

