CABI Training Materials

Invasive Species Compendium (ISC)

User Guide

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Contents

Introduction

The Invasive Species Compendium (ISC) is an encyclopaedic resource that brings together a wide range of different types of science-based information to support

decision-making in invasive species management worldwide. It comprises detailed datasheets that have been written by experts, edited by an independent scientific organization, peer reviewed, and enhanced with data from specialist organizations, images, and maps, a bibliographic database and full text articles. New datasheets and data sets continue to be added with content reviewed and updated regularly, and scientific literature added on a weekly basis. The ISC has been resourced by a diverse international Consortium of Government departments, Non-governmental organizations and private companies. The ISC provides the following content types:

Full Datasheets: Compiled by experts, datasheets provide detailed, referenced and peer-reviewed information sources on the taxonomy, identification biology, distribution, impact and management of invasive species and major animal diseases.

Basic Datasheets: Contain summary information for additional invasive species and for related topics such as threatened species, pathways, habitats and countries.

Abstracts records: Indexed records from a subset of the CAB Abstracts database relating to the subject of invasive species.

Full text articles: Links to the complete scientific record for scholarly articles hosted on the CAB Direct database.

Library: The Library is a collection of specially selected full text articles which complement the more structured information on the individual species datasheets.

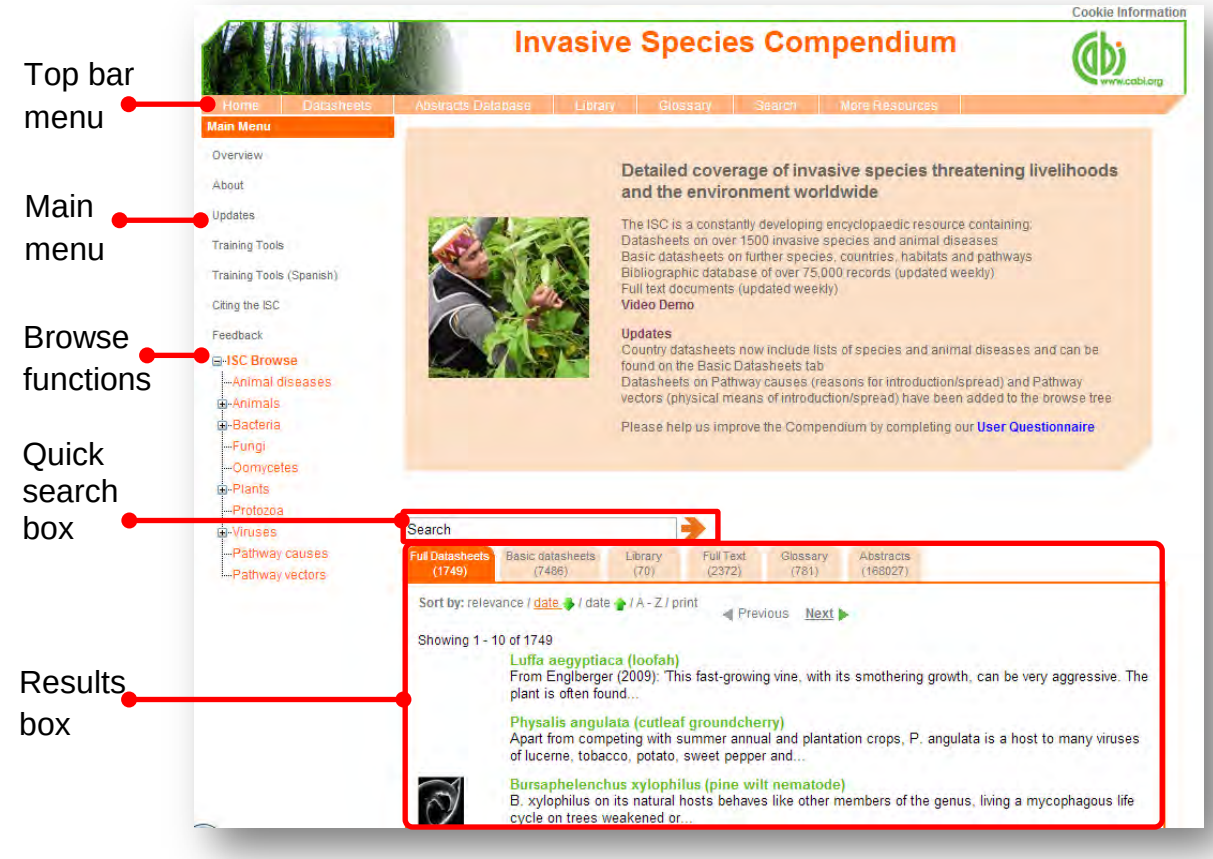
Glossary: Over 780 terms and their definitions have been compiled from various cited sources.

The following guide has been designed for all users of the ISC to highlight various features available and enable our customers to easily navigate the interface. It will also introduce various search techniques for new users of online databases and explain various strategies that can be used when searching to return the most relevant results.

Navigating the interface

The ISC has been designed to enable quick and comprehensive content searches.

Below shows an image of the ISC homepage and the various features displayed.

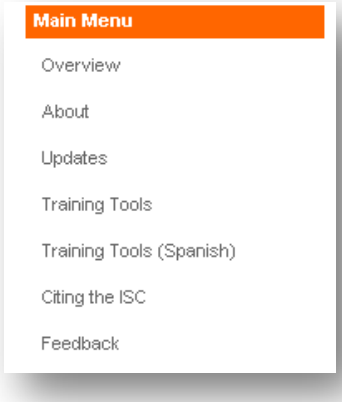


Top Bar Menu

The top bar menu provides access to both predefined pages for specific content contained in the database and links to CABI related products.

Main Menu

The Main Menu options allow users to learn more about the site and access the support and feedback aspects of the site. These include:



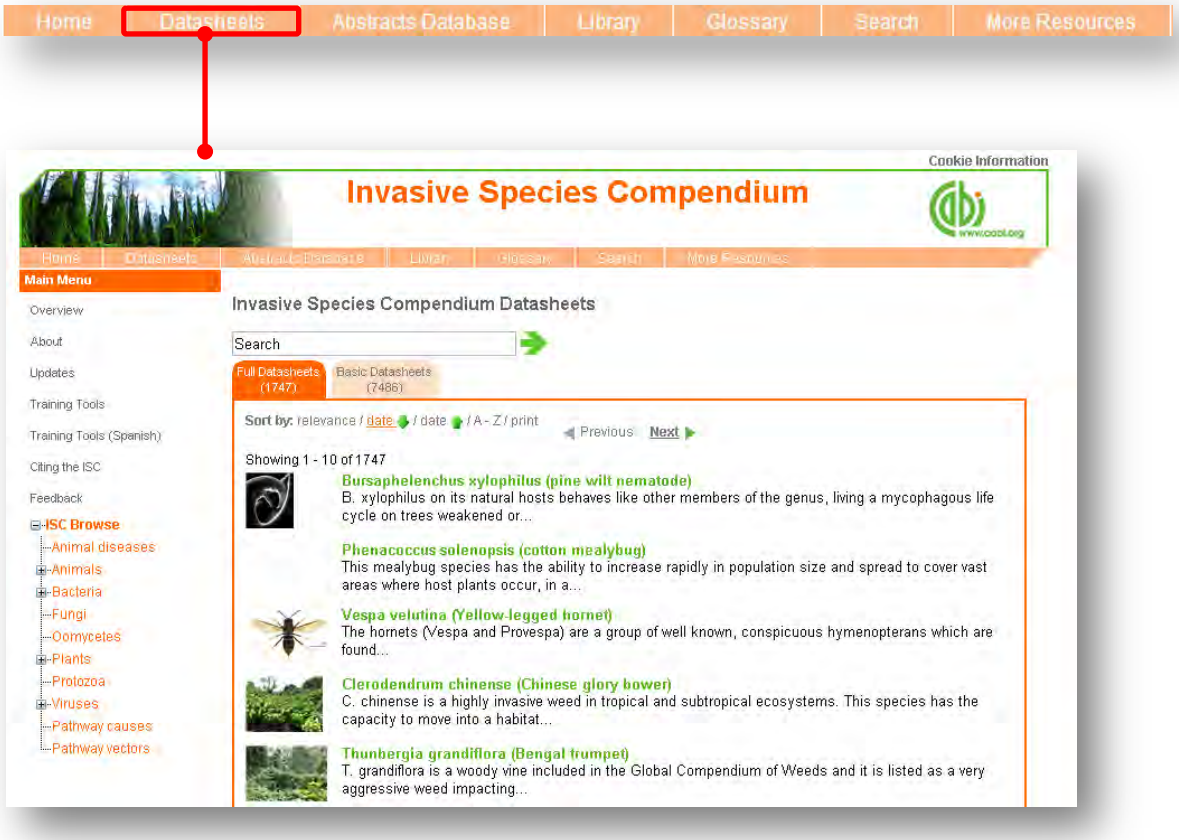
Overview:	This includes the consortium history members and project partners and a list of contributors
About:	Find out about the different content types and the sources and terminology used. Guidance on usage and copyright is also provided.
Updates:	Provides a quarterly list of full datasheets that have been added or updated.
FAQ's:	A list of Frequently Asked Questions for product features, usability and development
Training tools:	A link to all our training resources relating to the ISC platform
Feedback:	Contact details for help and feedback queries
Subscribe:	An email options for a trial request for unsubscribed visitors
Citing the ISC:	Instructions for researchers wishing to cite resources from the ISC platform

Browse functions

The browse menu provides an expandable list of broad subject areas. Simply expand the subjects using the ⊞ icon and select a category from the list by clicking on the link. This will return a list of datasheets for that category.

Datasheets

The datasheets tab in the top bar menu provides a link to the two datasheets tabs as shown below. These lists are initially sorted to display the most recently updated datasheets.



Datasheets provide key, concise information on species, animal diseases, pathways, habitats and countries. There are two categories of datasheets available on the ISC:

Full Datasheets: Written by a range of chosen subject specialists from over 50 countries. After editing by subject specialists they are sent to additional experts for peer review and updating as required**.**

Basic datasheets: Contain summary information in tabular format. They have been compiled mainly by data mining various sources (CAB ABSTRACTS and other selected databases). The content has not been manually checked by experts and should therefore be treated with caution. Users should consult the original sources before use or referencing.

Species datasheets are subject specific and the table on the next page shows which types of datasheets are available in the ISC with an outline of the topics covered in each. These topics are displayed in pages which are viewable in a tabular format at the top of the page for easy referral. All datasheets include mandatory pages additional to the topic pages that are specific for each datasheet type which includes a cover page with datasheet summary and highlight information, an image bank page (if available), a references page (for full datasheets only) and a report page.

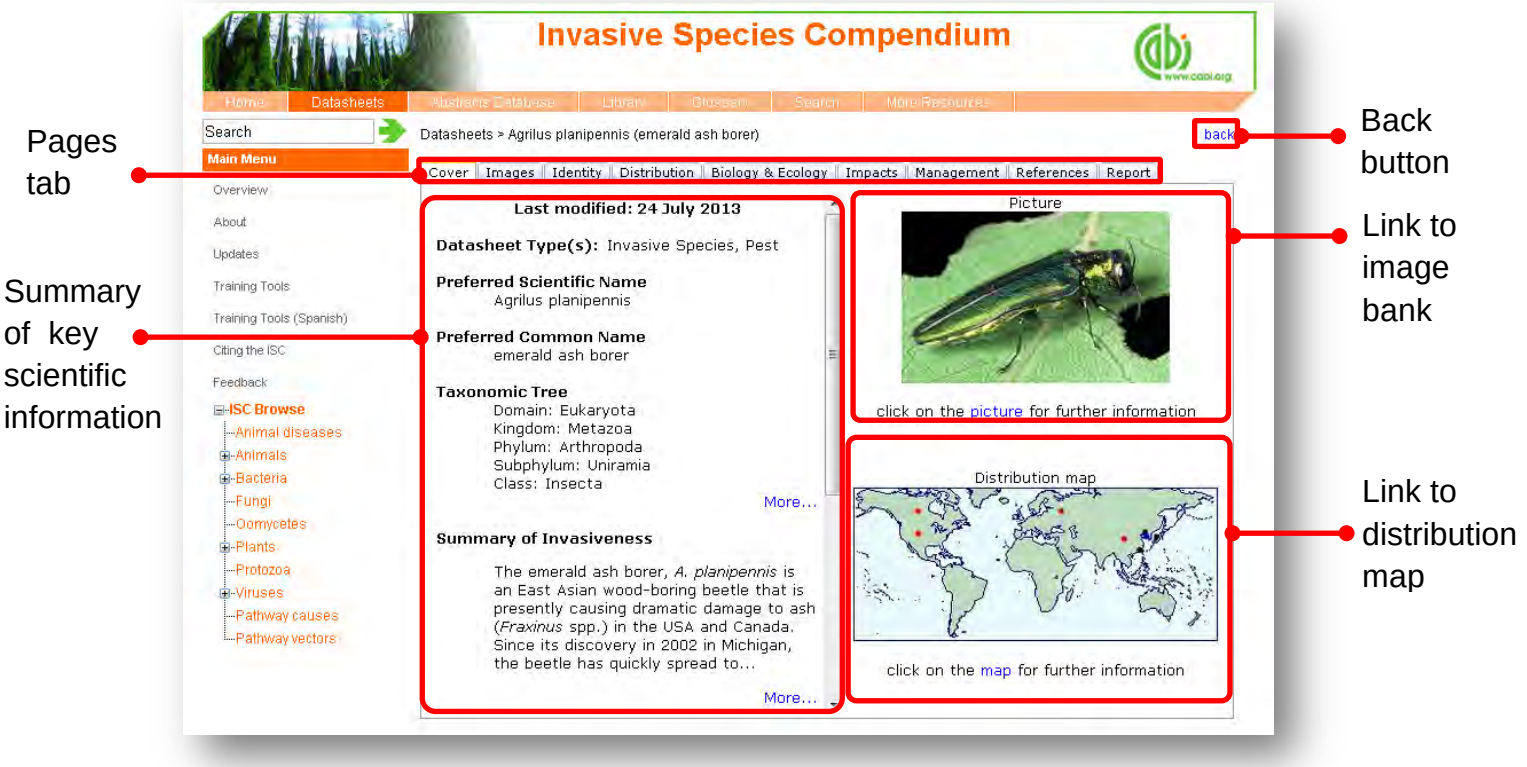
Datasheets follow a common format with a coverage on the first tab displaying summary information, an image and a world map; further tabs provide more information on the identity, distribution, biology and ecology, impacts and references. A report tab is included to enable you to create your own datasheet in html format with selected sections for saving or printing. Below describes the various datasheet types available:

Datasheet type	Description
Invasive species	The scope of the ISC includes invasive species, of all taxa, affecting natural and managed ecosystems, except human pathogens.
Documented species:	Species that have little or no evidence associated with them to class as invasive species. They have been included either because they are considered to represent an economic or environmental threat if introduced to new areas, or because they have been listed as invasive species elsewhere.
Animal Diseases:	Datasheet providing information covering approximately 300 infectious diseases. Over 120 animal diseases and the associated pathogens are covered, with extensive information on diagnosis, epidemiology, economic impact, management and control.
Vectors	Datasheet on the vectors that are known to introduce a pest or disease. There are two types; vector of Animal Disease and vector of plant pests

Datasheet type	Description
Pest:	Datasheets containing the same sections as the Invasive species datasheets but, although these species are clearly plant pests, there is little or no evidence that they are invasive species as they have not been reported to cause significant damage outside their native range.
Threatened species	Datasheets providing further information on species that are currently under threat from an invasive species
Habitat	Sample datasheets on habitats are included, providing information on risk of species invasion, impacts and management of invasive species.
Pathway:	Datasheets on pathways for introduction and dispersal are divided into two categories Pathway causes and Pathway vectors
Country:	Datasheets covering over 490 countries and geographic regions.

Cover page

The cover tab of the datasheet gives an overview and summary of the key scientific information relating to the subject of the datasheet. For example, below shows the cover image for the pest species *Agrilus planipennis*. The datasheet displays its preferred scientific name (emerald ash borer), taxonomic information and a list of host species. The cover page also notes the date for the last amendments or modifications to the datasheet.



Clicking on the cover image will direct you to the image bank page while clicking on the distribution map will take you to an expanded and interactive global map.

Images bank page

Clicking on the image tab will take you to the image bank for the datasheet. Here will display all the related pictures for the subject of the datasheet. Click on the image to view the full sized image and the image metadata. Once opened, pictures can be copied and pasted into other documents.

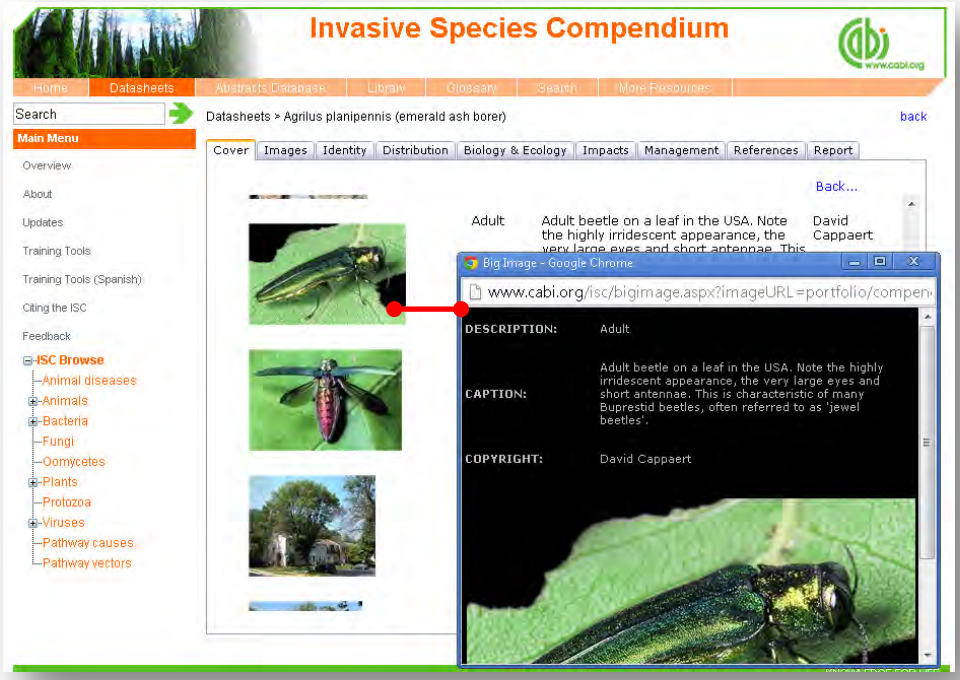


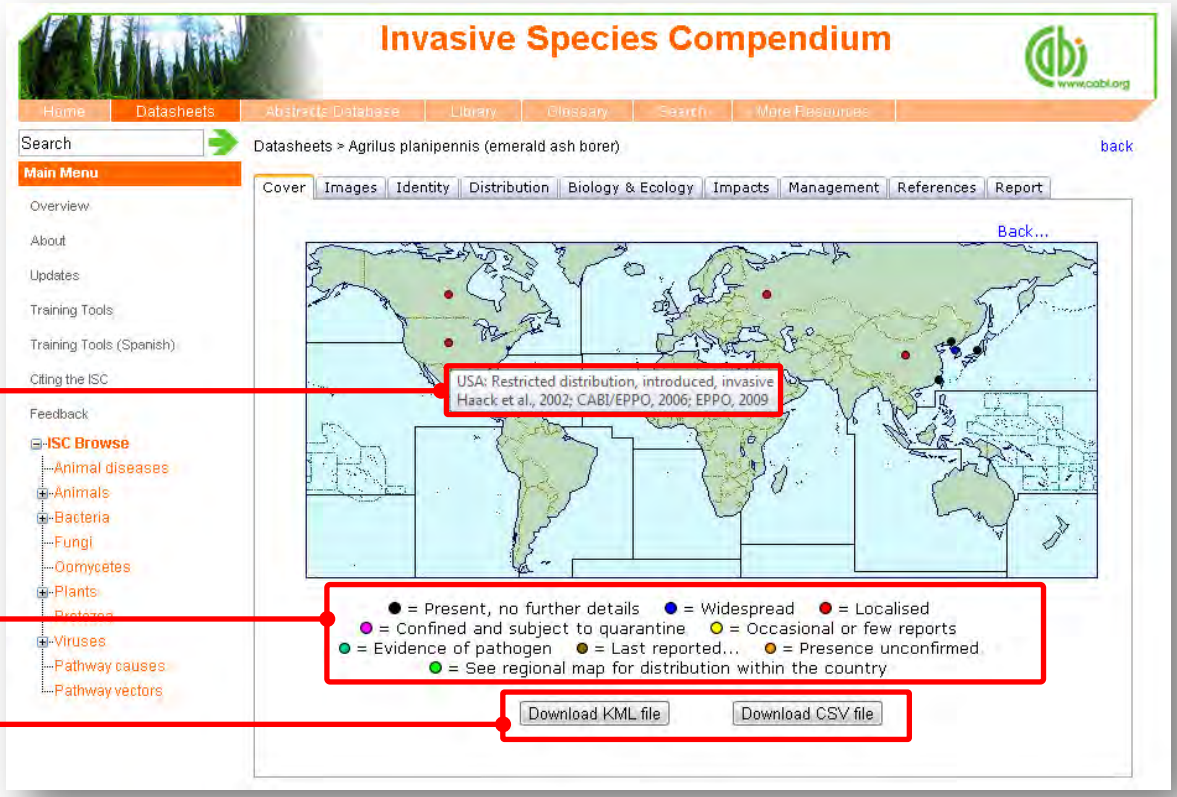
Image copyrights

Picture copyrights are not necessarily owned by CABI. Use of illustrations, along with other materials in the Compendium is covered in the 'Fair Use' statement. This allows use of materials in the Compendium in the making of documents tailored by the user, for example, in reports and teaching materials, so long as the reuse of the materials is not for financial gain. The copyright holder should be contacted for permission to use their pictures.

Distribution maps

The distribution maps give detailed geographic data on the distribution of the datasheet subject. In full datasheets, geographic distributions of tree species and pests have been researched by individual contributors or obtained from information provided by the EPPO or OIE. They are based on distribution data found in academic literature.

The map below shows the distribution of emerald ash borer. Each distribution point displayed on the map represents a record for that country or state. These distribution points are colour coded to indicate the nature of the occurrence and the key for this is displayed under the map image. By hovering over an individual point further details including the reference are displayed.

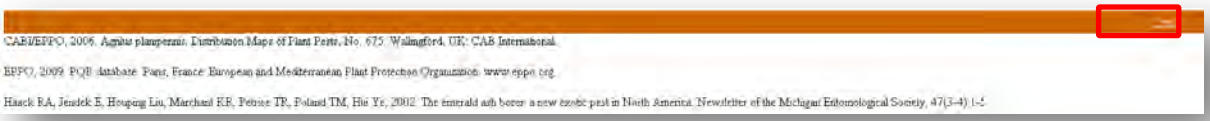


Statement of occurrence

Key for distribution status

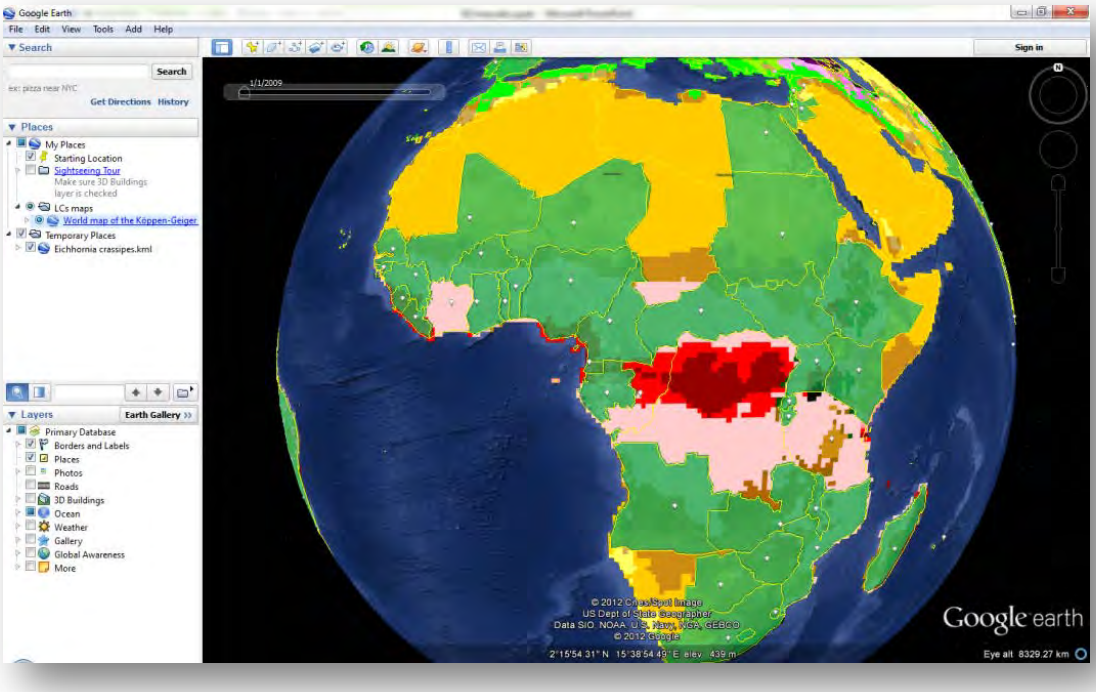
Export options

Clicking on a distribution point will display the reference from which the distribution data was sourced as shown below.

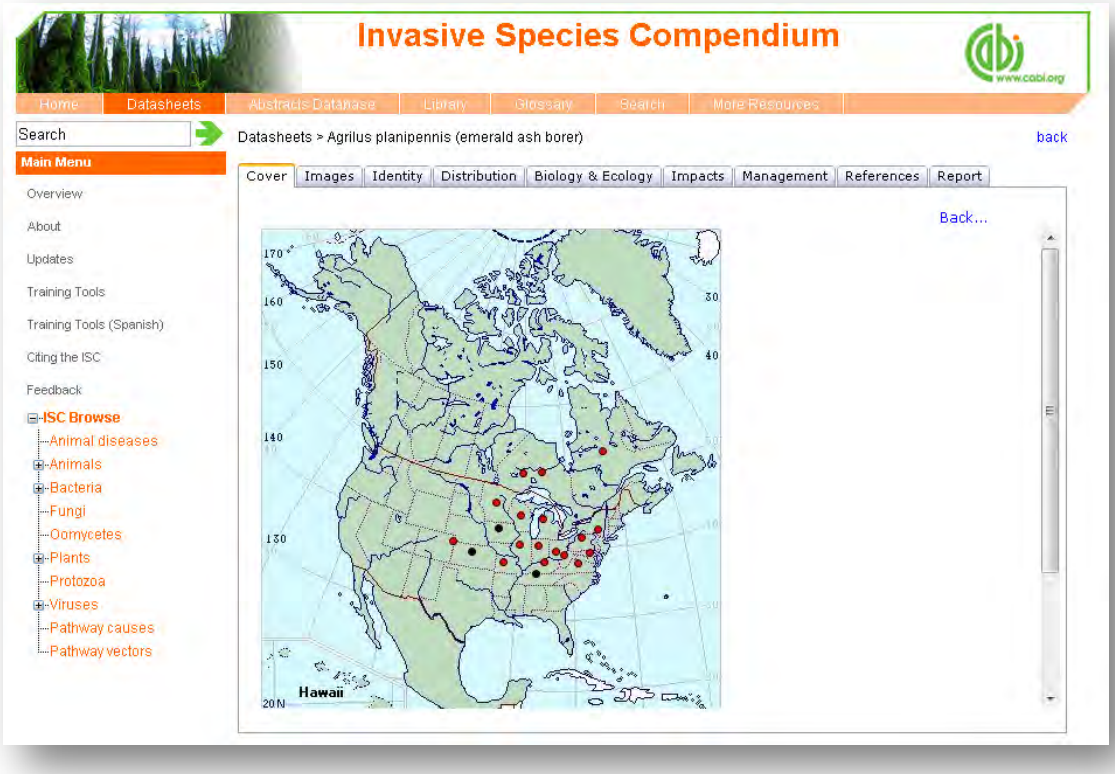


There are two export functions for downloading the distribution data to conduct further analysis outside of the compendium. The Download CSV file button allows you to view data in a spreadsheet format.

The Download KML file button allows you to download data that can be used in mapping programs such as Google earth to view distribution data as a layer on a global map. This is particularly useful for comparing different datasets as distribution data can be overlayed on to other data maps. For example, below shows the distribution map of water hyacinth displayed in Google Earth which has been overlaid onto a map showing the Köppen-Geiger Climate Classification.



By clicking on a continent section in the distribution map on the datasheet, a regional level map will be displayed as shown below. This will show more localised distribution data for a global region.

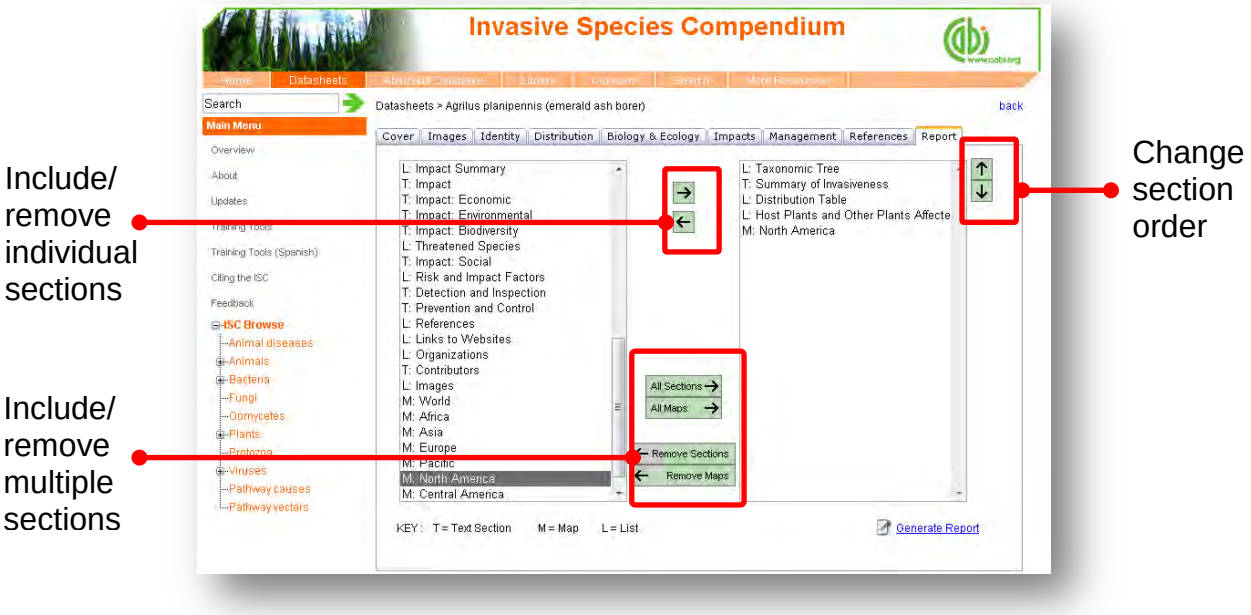


The distribution maps should be examined in conjunction with the Distribution table and text. This is available by clicking on the Distribution tab found at the top tabular menu of the datasheet.

Datasheet report

The report function allows all components of a datasheet (texts, tables, maps and pictures) to be collated and presented as a single HTML document for printing or cutting and pasting in to other documents. This can provide users with useful printed reference materials that can be used as study support materials or practical field reference notes. This is especially useful for users in countries or regions with limited internet access.

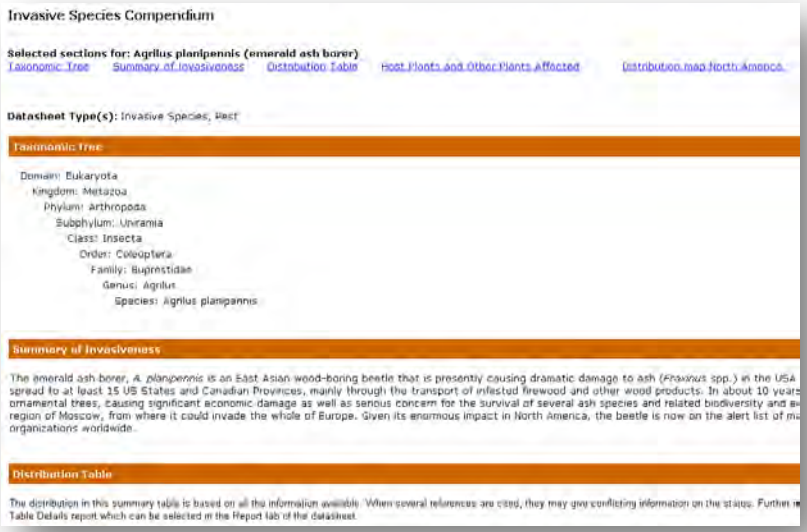
To access the report tool click on the Report tab in the top tabular menu of the datasheet. This will display the report page as shown below and allows the user to select specific information sections to create bespoke reports. The left hand column shows the title information sections available and displays the title and type of section (T = text, L = List, and M = Map). The right hand column displays the information sections you have selected to be included in your report. To include an information section in your report select the section of interest from the left hand column and click the → button to move it to the right hand column. To remove a section from your report simply select the section and click the ← to remove it from your report column. The ↑ and ↓ buttons can be used to change the order of information sections in your report.



There are options to add or remove multiple groups of maps and information sections using the buttons as indicated above. Once you have selected all the sections you want to be included in you report click the Generate Report button found at the bottom right of the page.

The image below shows you the report that has been generated which is displayed as a single HTML document. The entire report can be printed using your web browser print options or by selecting “print” from the right mouse click menu. Sections of the report can also be copied across to other documents using standard

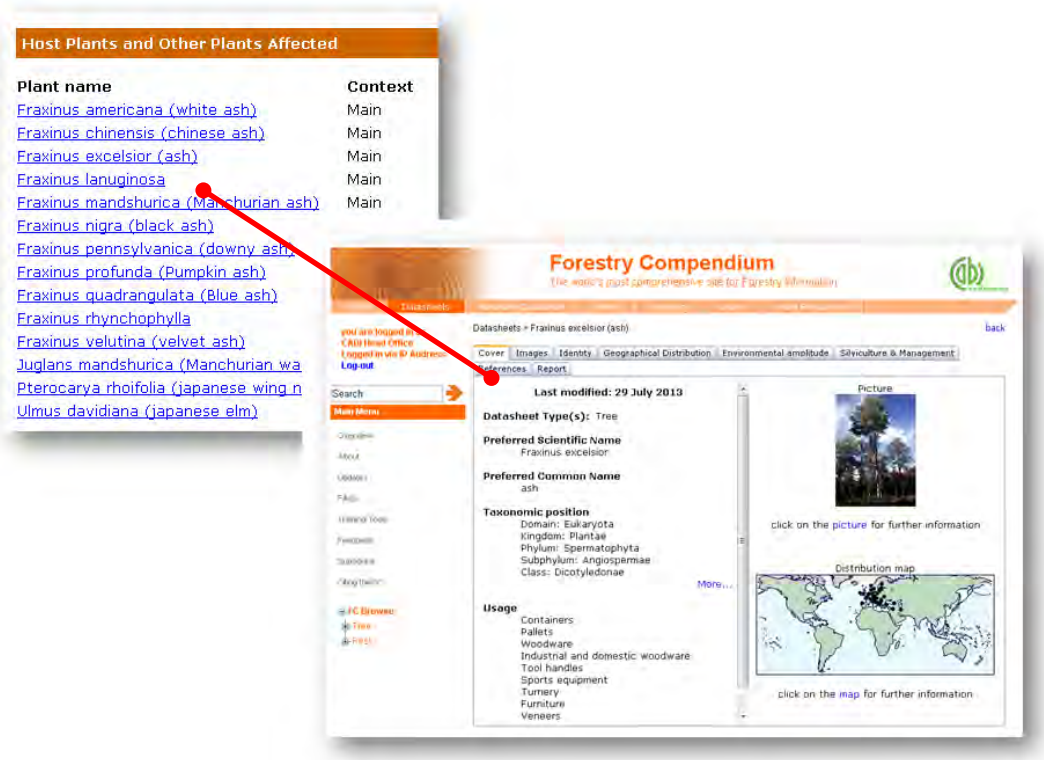
copy and paste functions in the right mouse click menu. The blue highlighted text menu displayed horizontally across the top of the report provides a contents menu for the report. These are anchored links so by clicking on the section you will be directed to the exact location of that section on the HTML page.



Lists and intuitive linking

One of the aims of the Compendium is to offer dynamic linking to related documents to assist information gathering.

The image below shows that our report on emerald ash borer has produced a list of host species that are affected by the pest. By clicking on the species Fraxinus excelsior (ash) we are directed to a datasheet for the species *Fraxinus excelsior (*ash).



Advanced datasheet search

By using controlled vocabularly and certain prefixes (index tags) before search terms it is possible to build more refined and accurate searches to generate lists of species or animal diseases with full datasheets. You can search for information on:

- Invasive species or animal disease distribution (including native and introduced range and invasive status)
- Crops/hosts of a particular pest/invasive species
- Pathways and vectors
- Habitat
- Risk and impact factors

To access the Advanced Datasheet search click on the search tab in the top bar menu and select the Advanced Datasheet search option as shown below:

The vocabulary and prefixes are available in as a PDF download from the advanced search help in the top bar menu or by clicking the following link controlled vocabulary list.

Please note that quotation marks must be used when searching using coding system and controlled vocabulary terms and brackets ( ) can be used to determine the search order

The table below shows the type of specific advanced searches that can be conducted for datasheets. Each example is specific for its function but it is important to note that these techniques can be combined together to achieve more specific searches using the Boolean operators **AND, OR** and **NOT.** For some large countries the ISC also compiles data at the state level and those states can be used in the advanced search.

Information required	Datasheet code	Example
All distribution list Invasive species/animal disease	"GEO country"	"GEO Australia"
Native distribution list Native distribution of species/animal disease	"NAT country"	"NAT Australia"
Introduced distribution list List of species/diseases reporting to have an introduction in a country	"INT country"	"INT Australia"
Invasive range list Find if a species has been reported as invasive for a certain country	"INV country"	"INV Australia"
Habitat list Find which species are present in certain habitats	"HAB habitat term from controlled vocabulary"	"HAB Littoral, Coastal areas"
Host lsit Find what invasive species and animal disease associated with a host species	"HOS scientific name of host"	"HOS water hyacinth"
Pathway/Vector Which species are transported by a pathway/vector	Terms from controlled vocabulary	"Ship/boat hull fouling"
Risk and impact factors Species that cause certain impacts to external environment	Terms from controlled vocabulary	"Changed gene pool"

When interpreting the results, please remember that the Advanced search currently only includes full datasheets and not the basic datasheets and not the basic datasheets. The data used is also updated less frequently than the datasheets themselves. When conducting a search for native, introduced or invasive speciesfor a country it is advisable to also look at the results of the braoder “GEO” seach. This is because compdendium has many records of presence for which further details are not available.

Abstracts and full text records

The ISC also contains a store of abstract records and full text relating to invasive species. This is a subset of the records contained in CABI's CAB Abstracts bibliographic database. To view abstracts or full text documents click on the appropriate tab above the results box either on the homepage or after conducting a search.

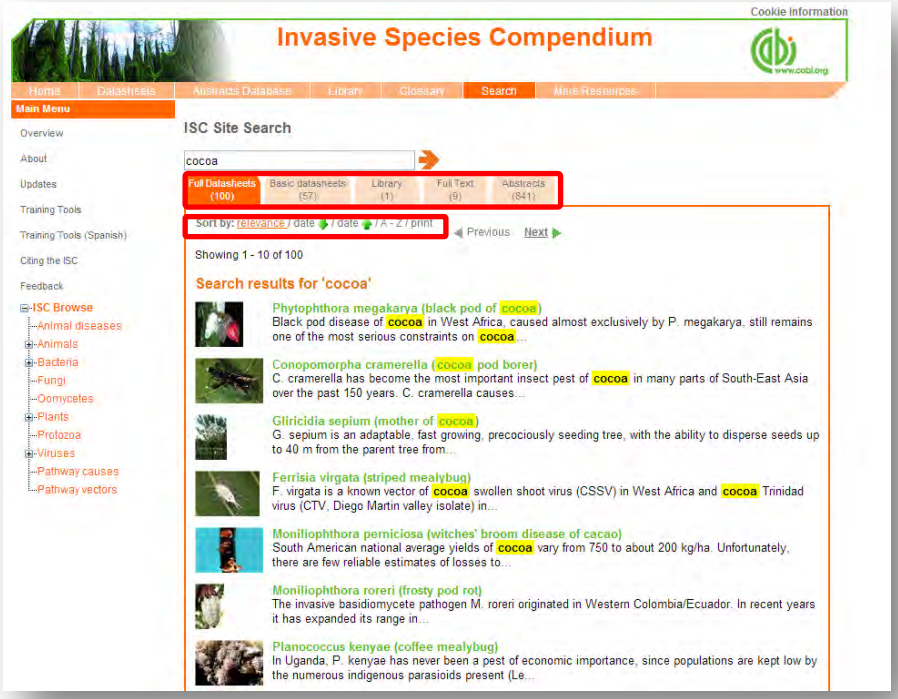
Simple searching

The ISC offers a simple site box on the home page to search content across the whole of the compendium. To conduct a simple search, enter a search term such as a species scientific name, common name, country or concept in to the box. The table below shows the various basic search techniques and operators that can be used. **Please note:** Any terms separated by a space without the use of quotation marks will automatically be searched using the AND operator.

Search technique	Example	Description	Function	Reason to use
Single word search	water hyacinth	Search databases using a single word term	Returns a broad range of results for a particular word/topic	Provides a broad overview of a scientific area of interest
Phrase searching	"water hyacinth"	Use quotation marks before and after a multiple word phrase	Returns results only containing the entire phrase	Narrows searching to records that only contain the whole phrase
Boolean search	"water hyacinth" AND disease	Search databases using the operators AND, OR and NOT	Performs searches on multiple concepts that provides specific keyword searching for an area of interest that can include or exclude other concepts.	Allows the user to conduct more controlled searching. Can be used to omit homophones

Organising results display

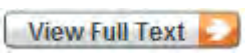
The returned search results are displayed in the results box which is displayed automatically by relevance. Clicking on the various tabs from the tabular menu at the top of the results box allows you to browse the results by material type. The darker coloured tab indicates the type of results that are currently displayed.



Additionally, you can sort the display of records by their publication date or by title. There is also the option to print a list of search results for future reference. To do this click on the relevant icon

The display box shows an article header for each bibliographic record on the library, full text or abstracts tabs. The information displayed in the article header may vary depending on the type of material viewed but generally will include:

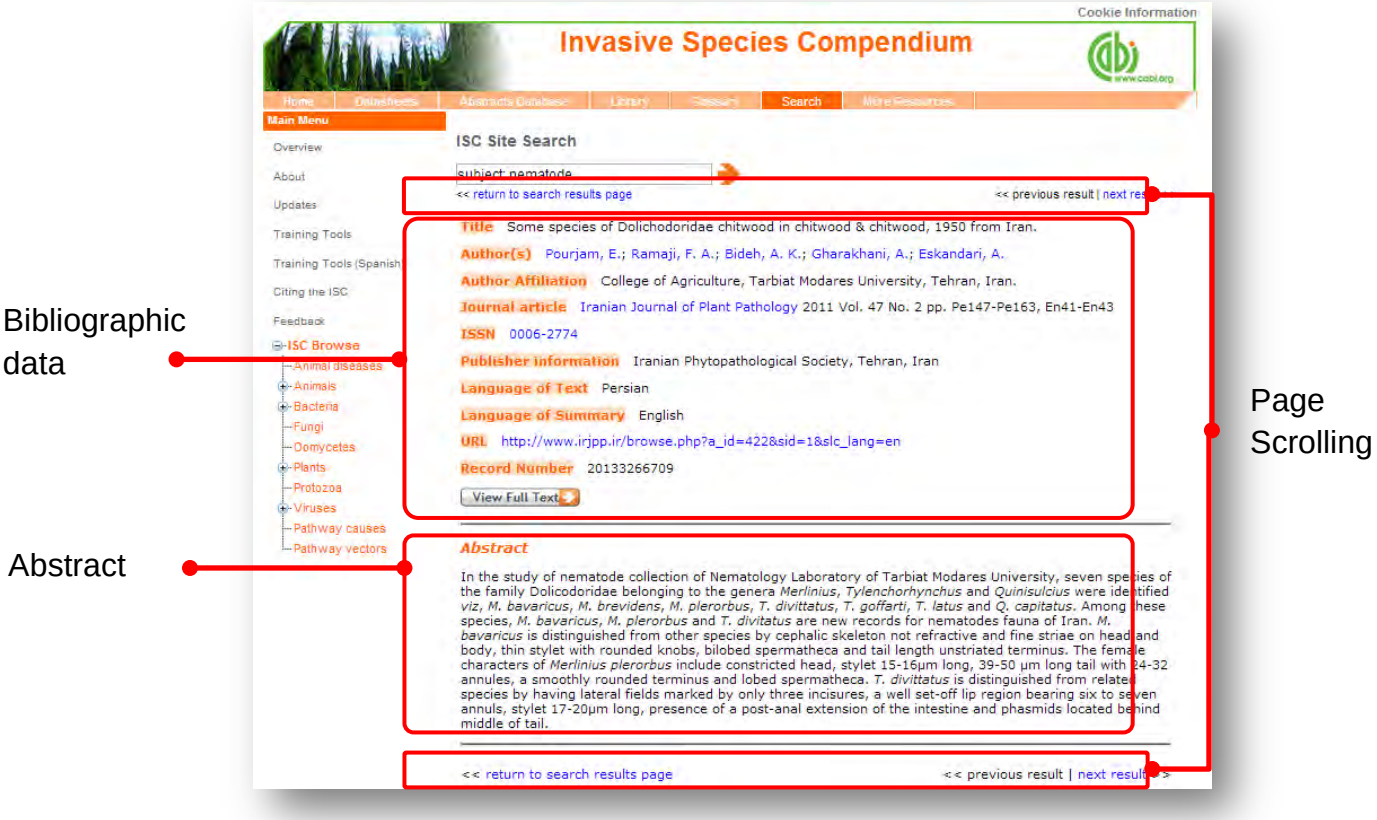
- Record title
- Authors
- Author affiliation
- Journal title
- Date of publication
- Source data (i.e. journal number, page number)

If CABI hosts the full text article of the record also displayed will be the 

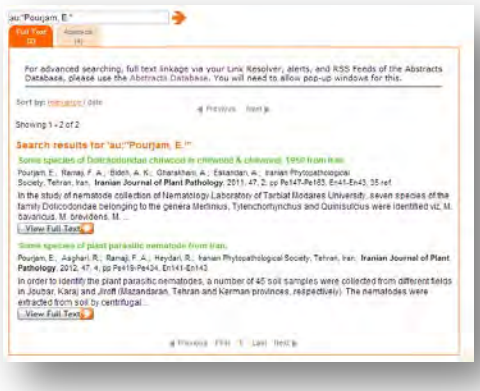
button. Click this link through to a PDF of the full text article.

Viewing records

To view the full details of the article record conduct a search and click on the green title displayed in the results box. This will direct you to the individual record page where the complete bibliographic information is listed including the full abstract summary (see example below). Again the View Full Text is also displayed on this page if the full text article is available.



As you can see from the example above some of the bibliographic information is displayed as blue linking text. For example in the Author field Pourjam, E. is displayed. This different colour text indicates intuitive linking so that when clicked it runs a further search for that keyword limited to its associated field. This can be useful to find more relevant content, such as articles written by the same author as shown in the example below.



Advanced searching of the Abstracts and Full text

Field searching

The search box for ISC also allows users to conduct advanced field searching using the index field tags. **Please note**: these techniques will return results for abstracts and full text articles.

Field searching is a technique by which users can search for keyword terms in specific indexing fields that are used when adding a bibliographic record to CABI's database e.g. Abstract title, author. Each indexing field has an associated field tag which can be used in conjunction with search keywords to return a more precise set of results. Below is a list of the indexing fields and their associated:

Common search fields

Description	Field Tag
Article title	title
Author	author
Abstract	ab
Author affiliation	aa
Descriptor	de
Organism Descriptor	od
Geographic Locator	gl
Broad term	up
Identifier	id
Subject term	subject
Publication source	do
Publisher	publisher
CABICODE	cc
Conference	ct
Language	la
Publication type	it
Year	yr
Record number	pa
DOI	oi
ISSN	sn
ISBN	bn

Additional search fields

Description	Field Tag
Additional Authors	ad
Author Affiliation	aa
CAS Registry Numbers	ry
Conference Dates	cd
Conference Title	ct
Corporate Author	ca
Country of Publication	cp
Descriptors	de
Digital Object Identifier	oi
Document Editors	ed
Document Title	do
Email	em
English Item Title	et
Non English Item Title	ft
Geographic Location	gl
Identifiers	id
ISBN	bn
ISSN	sn
Item Type	it
Language(s) of Summary	ls
Language(s) of Text	la
Location of Publisher	lp
Main Abstract	ab
Organism Descriptors	od
Pan Number	pa
Personal Author	au
Personal Author Variants	av
Publisher	pb
CABI Product Code	sc
Up-posted Descriptors	up
Web URL	ur
Year of Publication	yr

To conduct a field search type the associated field tag **(NOTE: these must be lowercase)** into the quick search box followed by a colon. Next enter your search term/s. Field searching can also be conducted using the variety of simple search techniques outlined previously such as multiple word searches using Boolean operators. Below show some examples:

Single word search: 

Multiple word search: 

Searching with phrases: 

To conduct field searches using the advanced search more simply and to access other advanced features users can access the CAB Direct platform.

Index Terms or "Descriptors"

If you are looking only for important papers on a particular subject, where you want a high level of relevance, you should restrict your search to one or more of the CABI indexing or Descriptor fields. Every record on the database is indexed with terms that describe all the important concepts within a paper. The index terms may be added to one of 5 different indexing fields. The indexing fields that CABI uses are:

Fields	Tags	Description	Example
Organism Descriptor	od:	The Organism Descriptor field is used for animal and plant names	od: Water hyacinth
Geographic Location	gl:	Geographic Location field is used for country and other geographic names	gl: Germany
Descriptor	de:	The Descriptor field is used for all the "other" terms that are neither animal, plant nor geographic	de: invasive alien species
Broad Term (Up-posted Term)	up:	The broad term is used to search for more general terms of a subject as defined in CAB Thesaurus	up: introduced species
Identifier	id:	This field is used for non-controlled index terms; terms that do not appear in the CAB Thesaurus such as new species or chemicals	id: cryptochrome

Please note: When searching the organism descriptor All animals, except for commonly managed livestock like Cattle, Sheep, Goats, etc., are indexed with their scientific names. However, plants are indexed with both their scientific and their common names

Super indexes

Super indexes allow users to search multiple indexes across related fields. They are useful tools for users if they are unsure which fields they need to specify when trying to conduct advanced field searching. They can be searched in the same way as other fields as the super indexes have their own field tag associated to them. ISC also has three super indexes.

The first two super indexes shown in the table below are used when searching bibliographic information relating to either the article title or the article authors. The table below shows the field tag, field indexes that are searched and an example of a search.

Super index field tag	Fields searched	Example
title:	English title Foreign title	
author:	Personal author Author variant Additional author Document editor Corporate author	

The third super index called the subject index is used when searching for the indexing terms or metadata that is recorded or assigned to each resource record. The table below shows the field tag, field indexes that are searched and an example of a search.

Super index field tag	Fields searched	Example
subject:	Descriptor Geographic location Organism descriptor Identifer	

CABICODES

In addition to adding index terms to a record, broad concepts are also “indexed” with a classification system known as CABICODES. The CABICODES are a hierarchical list of classification codes that divide the subject coverage of the CAB ABSTRACTS database into 23 major sections. Each section then includes a series of codes that divides that subject into more specific subjects. The codes themselves are typically used to code for subjects that would be difficult to describe with keywords alone. These CABICODES shown below display all the CABICODES for Plant sciences and their associated topic area. For a full list of CABICODES and their topic areas visit the **CABICODE list.**

FF000: Plant Science (General)
FF003: Horticultural Crops (New March 2000)
FF005: Field Crops (New March 2000)
FF007: Forage & Fodder Crops (March 2000)
FF020: Plant Breeding and Genetics
FF030: Plant Morphology and Structure
FF040: Plant Composition
FF060: Plant Physiology and Biochemistry
FF061: Plant Nutrition
FF062: Plant Water Relations
FF100: Plant Production
FF150: Plant Cropping Systems
FF160: Plant Propagation
FF170: *in vitro* Culture of Plant Material
FF400: Mycorrhizas and Fungi of Economic Importance; Symbiotic Nitrogen Fixation (Discontinued March 2000)
FF500: Weeds and Noxious Plants
FF600: Pests, Pathogens and Biogenic Diseases of Plants (Discontinued March 2000)
FF610: Viral, Bacterial and Fungal Diseases of Plants (New March 2000)
FF620: Plant Pests (New March 2000)
FF700: Plant Disorders and Injuries (Not caused directly by Organisms)
FF800: Plant Toxicology
FF900: Environmental Tolerance of Plants

The CABICODES can be searched just like any other field tag. Two field tags are assigned to the CABICODE field and these are described below. Please note, as other field tags these must be entered in lowercase.

Field tag	Definition	Example
cc:	Allows users to search the index of the alphanumerical assigned code e.g. FF003	**cc:FF003**
cabicode:	Allows users to search both the alphanumerical assigned code index as above and the CABI code title index e.g. Horticultural	**cabicode:FF003 or cabicode:Horticultural**

Accessing CAB Direct

Users of the compendium also have access to the CAB Direct interface for the ISC subset of bibliographic records. Such advanced features on the CAB direct platform include:

Advanced Searches: The complex search power of the CAB Direct search engine allows users to conduct complex searches and refine results by field type

Saving and combining searches: MyCABDirect allow users to save commonly used search strings for easy reference. The combine features also allows users to refine records performed across two searches.

Selecting and saving records: Mark and save records for future reference or export, print or share selections

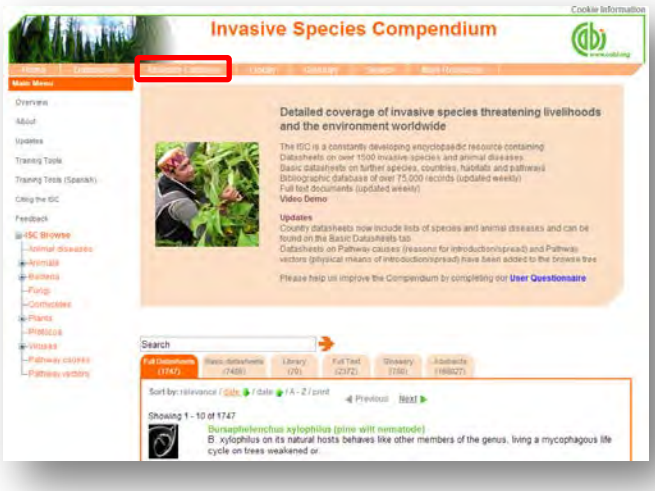
Alerts and RSS feeds: Create automatic e-alerts or RSS feeds from your saved searches for weekly updates of the latest research

Export options: Export records to a reference management software or download as selected articles as MARC records

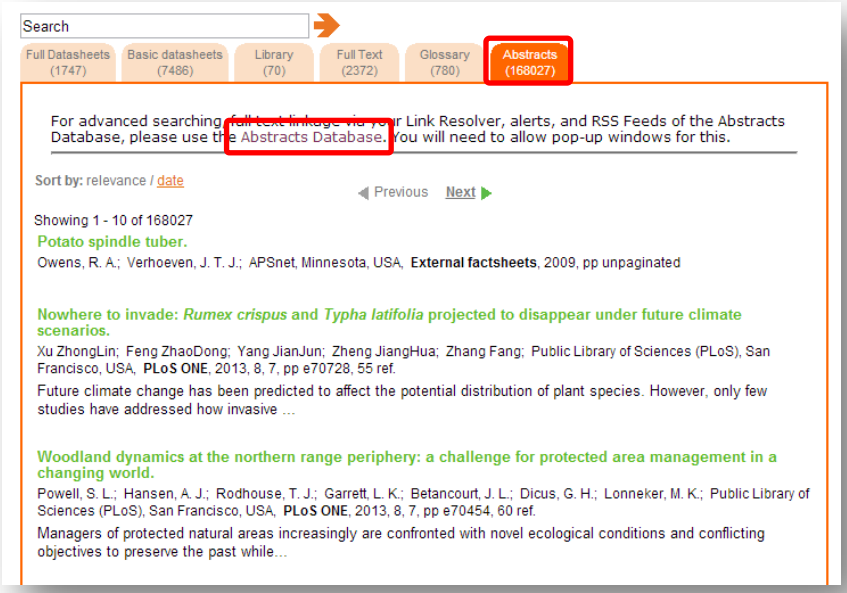
Integrated full text linkage: Integrate your full text holdings listed in your library catalogue via your Link Resolver

There are two ways to access the CAB Direct platform from the ISC. Either:

1. Click on the Abstracts Database button in the top menu



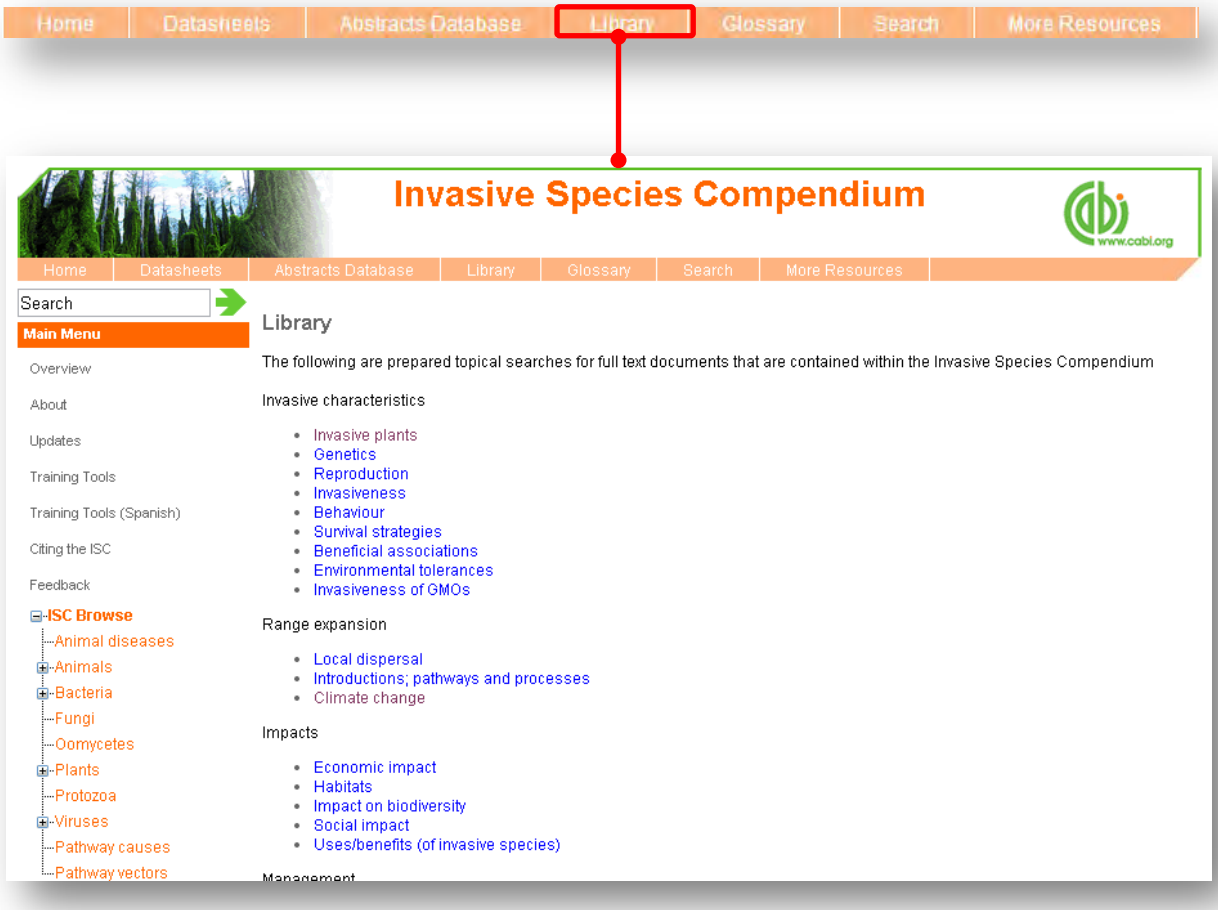
2. From the Full text Abstracts tab in the result display box select the Abstracts database link (shown below)



The CAB Direct search interface is also the subject of a separate more advanced set of video tutorials and user guides. For more information on how to perform these advanced features visit the **CAB Direct user guide.**

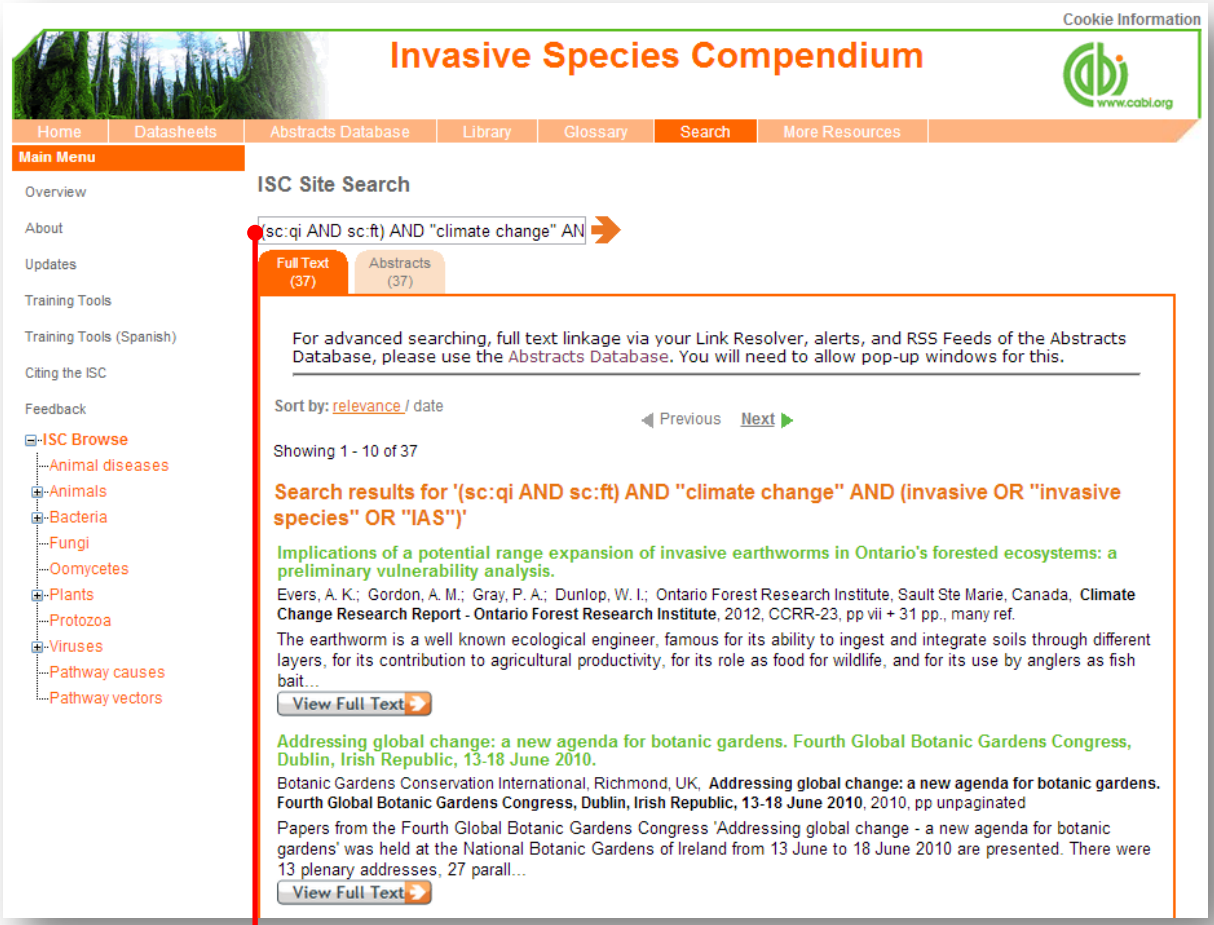
Library

The library page has been compiled by experts and includes specially commissioned and previously published information resources from internationally recognized sources. The Library is a collection of specially selected full text articles which complement the more structured information on the individual species datasheets. Clicking on the Library link in the top bar menu directs you to the Library contents page as shown below.



The library contents page is split in to subject specific categories which when clicked conducts a search for that subject category.

The image below shows the Library page for the topic “Survival strategies”. Once clicked the search engine will run the predefined search string and return a results page shown below. We can see that the page uses a predefined search string to return the required results for this topic.



Custom library page search string

(sc:qi AND sc:ft) "climate change" ("invasive species" OR "IAS")

To limit the searches further users can simply add keywords to the search string to refine the results returned. For example, by using the Boolean operator AND and adding the keyword “weeds“ to the end of the search string as shown below we can return more relevant results.

(sc:qi AND sc:ft) "climate change"("invasive species") "weeds"

Glossary

The glossary is a source of vocabulary covering scientific terms used in the reporting of invasive species. Over 780 terms and their definitions have been compiled from various cited sources.

Searching the glossary

Below shows the glossary page which is accessed from the top bar menu. To search the glossary use the search box or alphabetical menu to scroll through terms by letters.

When searching the glossary using the alphabetical menu click on the letter which is the first letter of the term you are searching for. You can then scroll through the list of results using the browse menu at the bottom of the page by clicking either the Next button or the numerical page.

More resources

The More Resources section of the site provides links to an range of external websites and databases that may be of use to researchers and practitioners associated with invasive species and their management.

Resources include:

- Identification keys
- Image libraries
- Resources with a regional focus

To access a list of resources for each topic area simply hover over More Resources tab in the top bar menu and click on the relevant area of interest as shown below. A list of resource and a brief description will then be displayed.