

MorphBank 2.5 User Manual



MorphBank...an
open web repository
of biological images



This manual includes general information about MorphBank and detailed directions for using and populating the MorphBank online database. Changes to the website made after August 31, 2006 will not be reflected in this document.

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Introducing MorphBank

MorphBank is an open web repository

of images serving the biological research community. It is currently being used to document specimens in natural history collections, to voucher DNA sequence data, and to share research results in disciplines such as taxonomy, morphometrics, comparative anatomy, and phylogenetics. MorphBank can serve as a virtual reference collection of named organisms or a resource for comparative morphological study; new use cases are continuously added. Each image in the database is associated with fully searchable text information, and images can be downloaded in several different formats.

MorphBank is open to any biologist

interested in storing and sharing digital images of organisms. A major advantage of MorphBank is that images and data associated with them are maintained in a system based on open standards and free software, facilitating the development of tools for image uploading, retrieval, annotation, and related tasks. The MorphBank team is currently working on a range of such tools. The MorphBank team is also working together with other developers on connecting their software to the MorphBank system.

MorphBank was established in 1998

by a Swedish-Spanish-American consortium of systematic entomologists and is currently housed at the School of Computational Sciences (SCS) at Florida State University and mirrors at other institutions around the world will soon be available. The images are currently stored on two separate systems on the FSU campus, each a 1 TB RAID with tape backup and the other with a 5 TB RAID with backup. Software used in the current MorphBank system includes PHP, ImageMagick, MySQL, Apache, Java, and Javascript.

The MorphBank team at FSU is working together with others under the auspices of TDWG to develop a metadata standard for biological images. We're also teaming up with other image database projects in developing the interoperability of web repositories of biological images.



Advantages of Becoming a MorphBank Member

- MorphBank is a secure data and image repository.
- MorphBank offers access to cutting edge research.
- MorphBank provides instant collaborations with other researchers in the same field.
- MorphBank membership is restricted to research professionals.
- MorphBank provides globally available images and data that can be easily searched and discovered.
- MorphBank is associated with the Tree of Life project (TOL).
- MorphBank provides increased exposure for active members seeking grant funding.
- MorphBank is a well funded program with a full staff of professional support personnel.
- MorphBank is a real-time database where updates to data can be seen instantly while new features are continuously being added.



System Requirements

MorphBank currently uses ports 80/8080. To view the database, client systems must be able to connect to these ports.

Windows® Operating System

- **Computer:** PC with at least a Pentium-class or equivalent processor.
 - Microsoft® Windows® XP, or NT 4.0
 - Minimum of 128 MB (RAM) memory minimum (512 or higher recommended).
 - Minimum of 70 MB of available hard disk space. The actual amount of disk space required is dependent upon how your machine is configured to store temporary internet files.
 - Recommend a high speed internet connection.
- **Monitor:** SVGA color monitor; minimum 102X768x600 screen resolution or higher recommended; minimum of 256 colors
- **Printer:** Not required
- **Additional Software**
 - **Web Browser:** Microsoft Internet Explorer (MSIE), version 6 or higher or Mozilla Firefox™ version 1.06 or higher
 - **Settings:** MorphBank employs the use of pop-up screens to display various data screens. Pop-ups and cookies must be enabled for this site. Also, Java™ and Javascript™ must be enabled in order to gain full functionality. The newest versions of this software can be downloaded at <http://java.com/> and <http://javascript.com/>
 - **Adobe®Reader®:** Version 7.0 or higher. The Reader can be downloaded at <http://www.adobe.com/>.
 - **Media Player:** Windows(r)

Macintosh® OS X Operating System

- **Computer:** an Apple® Macintosh or compatible capable of running Macintosh OS X operating system 10.2 or newer
 - Mac OS X 10.2 or newer
 - Memory: Minimum required by the operating system
 - Hard Disk with 40-50 MB available disk space.
 - Recommend a high speed internet connection



- **Monitor:** SV-GA capable 13" or larger, Macintosh compatible Screen Resolution: 1024x768 or higher recommended; minimum 256 color depth recommended.
- **Printer:** Not required
- **Additional Software**
 - **Web Browser:** Safari[®] (OS X Default), or a Mac OS X compatible version of Netscape[®] Navigator or Communicator, Mozilla Firefox[™], or Microsoft[®] Internet Explorer (MSIE). A web browser is needed to access MorphBank.
 - **Adobe[®] Reader[®]:** Version 7.0 or higher. The Reader can be downloaded at <http://www.adobe.com/>
 - **Settings:** MorphBank employs the use of pop-up screens to display various data screens. Pop-ups and cookies must be enabled for this site. Also, Java[™] and Javascript[™] must be enabled in order to gain full functionality. The newest versions of this software can be downloaded at <http://java.com/> and <http://javascript.com/>
 - **Mac Media Player** version 10.0

How to Submit Data to MorphBank

There are several ways in which a user or a group of users can upload images to MorphBank:

1. **Using the existing web interface**-Images are uploaded separately along with their associated text information by filling out a web form. This requires a user name and password.
2. **Automatic uploading from an image**-In the fall of 2006, MorphBank will offer a convenient uploading of images from a platform-independent client developed in Java. We're also working together with several development teams in designing project-specific clients that can help research teams to upload images to MorphBank as part of their normal workflow.
3. **Delivered uploading** -MorphBank offers a service called delivered uploading. We provide an already prepared Excel Data Entry workbook and the corresponding user's manual. The submitters can deliver to MorphBank a CD or DVD containing images and an excel data entry workbook populated with information.

How to save and deliver the files

For each image set with different release dates create separate folders. Name each folder: ImageCollection1, ImageCollection2, etc. Inside each folder, place the excel file named mBdet.xls and all associated images. Be sure to have the correct image file names as they appear in mBdet.xls. You can deliver your data to MorphBank admin team two ways:

Save all image collection files on a CD or DVD (make certain the CD is finalized so MorphBank can retrieve the images from the disk [read/write accessible]). Label the outside of the disk with contributor name (person authorized to release images) and project. Send to the MorphBank admin team by land mail (See the address below). Make sure to keep a backup copy for yourself and send with proper postage and protection.



Land Mail Address for delivered uploading

MorphBank Admin. Group
C/O Karolina Maneva-Jakimoska
Mail Code 4120
Florida State University
Tallahassee, FL 32306-4120

- MorphBank provides a secure ftp upload service as an alternative to mailing CDs/DVDs. Registered MorphBank users may email mbadmin@scs.fsu.edu for an ftp upload password, username and address. Although you should be familiar with ftp, only minimal experience is necessary to use this service. The MorphBank server may be accessed through any graphic ftp program, terminal or the command line.

Once a MorphBank administrator has sent account information, users may begin uploading. Be sure to use **ftp (file transfer protocol)**, not **sftp (simple file transfer protocol which is a mail transfer protocol for email messages)** as the transfer protocol. There is no limit on the number of files uploaded at one time. Once the images are on the server, notify mbadmin@scs.fsu.edu of the completion; include a message requesting that the account remain open if needed. If the account is not requested to remain open, MorphBank will delete the files off the server once they have been received and the account password changed.

This service may be used once or many times depending on the users specific needs.

Note: Users should only release data into MorphBank that is appropriate for world-wide release. For example, if an image of an endangered or protected specimen includes annotations as to its specific locality, that information should be masked before sending the image to MorphBank. When propagating the “add locality” screen of that specimen, care should be taken to avoid precise locality details (i.e. enter the collection county as apposed to the exact area within that county where the specimen was collected.



MorphBank Copyright Policy

MorphBank is an open web repository of images serving the biological research community. MorphBank is designated as a Fair Use Web Site. The objective of MorphBank is not to reward the labor of authors, but to promote the Progress of Science. The images in MorphBank that are not password protected can be used for private, education, research or other non-commercial purposes for free, provided that the source and the copyright holder are cited. Any commercial use requires consent from the copyright holder. The images in MorphBank that are password protected are considered "work in-progress" and are not released to the public. These images may not be used without specific written authorization from the copyright holder. Contributors to MorphBank agree to these terms.

Users and Their Privileges

User Login: MorphBank users who wish to access, add and modify data will be required to login into the system with a valid username and password issued by MorphBank. To obtain a username and password contact the MorphBank admin. group at mbadmin@scs.fsu.edu. Once logged into the system, groups to which they are members will appear. Without login, only information that can be browsed or searched by the casual user (specimen, image, or view data) can be seen.

- **Privilege TSN:** Members are assigned a Privilege TSN at the time their account is created. This Privilege TSN is the highest Taxonomic Name for which they have expertise and is primarily used in identifying which groups for which they may have membership.
- **Primary TSN:** Members are assigned a Primary TSN at the time their account is created. This identifies the specific area of expertise for which the user is considered an expert.
- **Secondary TSN:** Members are assigned a Secondary TSN at the time their account is created. This TSN identifies the area in which the user has an alternate area of expert knowledge.
- **Groups:** Groups are comprised of users of the MorphBank system that share a common interest in a specific taxonomic area. Members in groups have access to data owned by the group. Prior to the data release date, only group members are allowed to view and comment on it. A MorphBank user may belong to more than one group but membership in a group is limited to the user's privilege TSN. No one may be assigned to a group that has a Privilege TSN outside that specified for the group. For instance, someone with a Privilege TSN of Hymenoptera may not belong to a group in the Plant Kingdom. Only MorphBank administrators and group coordinators have access to the group module that manages group membership.

Roles: users will be assigned one of many roles within groups. Users may have different roles in different groups but may only have one role in each group for which they are members.

- **Guest** has read only access. No login is required for this user role. A guest user is only allowed to view information that has passed the release date. This applies to biological data only. The casual user cannot browse group or user information and may not make any data entries or annotations.
- **Scientist** has the authorization to add/modify/delete Specimen, Image, View, and Locality as well as annotate released images within their taxon or images not released and owned by the group they belong to.
- **Lead Scientist** has the same privileges as scientist but on all objects owned by the group. A lead scientist can also be a coordinator or group manager and therefore manage users and their permissions in a group. For now, a lead scientist sends a request to the MorphBank Team for creation of a group.
- **Coordinator** has the same privileges as Lead Scientist and each group may only have one Coordinator. In order to be assigned a Group Coordinator, you must have lead scientist privileges for that group or have been assigned by the MorphBank administration. A coordinator can add and remove members from the group, change a user's role, as well as request spin-off groups to be developed with assigned coordinators. The coordinator can appoint another lead scientist in the group as a coordinator. Coordinators have access to the group module and members who fall in the taxonomic range assigned to the group.
- **Administrator:** There are very few individuals given Administrator privileges. An Administrator has complete access to all data and in addition can add/modify and/delete news, base or master tables. Only someone with administrative privileges can add new users and create groups for which there is no associated taxon. Those with administrative privileges have all rights in all groups and are responsible for managing the entire MorphBank system.

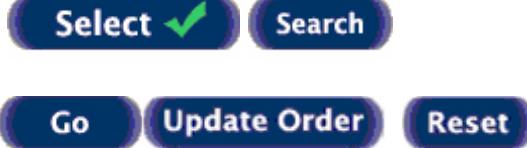


Submit: Access to input and modify data to the MorphBank database will be controlled by login access in accordance with the security module. Users who have at least the role of scientists can add images, views, taxonomic names, localities, and specimens. Those with roles of at least a scientist can modify their own data while group coordinators and lead scientists may modify data owned by any member of their assigned group. Users with this privilege must state which group to which they are assigned before making such modifications.

- **Browse:** All users may browse images and data that has been released, but only users with authorization through login will have the options to select images, specimens and views for update and annotation.

- **Collections:** Login and group selection is required for all users who wish to make, edit, or annotate a personal collection or view, edit or annotate collections from other members of the same group.

Guide to Graphic Buttons

	Select this button to show associated list of images.
	Show information about this item.
	Mail this object link to an email address.
	Selecting this button will display the taxonomic hierarchy tree.
	Add a new object.
	Delete this object.
	Select this object.
	Examples of various instructional buttons, that when selected, will perform the function displayed on the button.

	Select to show the next taxonomic level.
	Show alphabetically all taxonomic names stored in MorphBank.
	Select edit to alter data. This option is only available to those authorized users through login permissions.
	Select item to annotate. This option is only available to authorized users through login permissions.
	This icon is found next to fields where it is desirable/mandatory to select an entry from a list to insure accuracy. Click this icon to redirect to the appropriate list.
	Page scroll bar. Arrow pointing left "advance to first page", first arrow pointing right "advance one page", second arrow pointing right "advance to last page", or select any number to advance to that page.
	Select for on-screen instruction

	When this symbol is located next to the description of a user input text box, it signifies that the input information is required to proceed.
	Used in “browse” to expand or contract taxon hierarchy lists
	Used in “collections” and “browse-collections”-- Meaning: “make a copy of this collection”. This option is only available to those authorized through login permissions.
	Click on to delete a collection in the “collection manager”. Must register by clicking on “update” button to make permanent.

MorphBank Terms and Definitions

ABCD

Stands for Access to Biological Collection Data. A naming schema to be used by MorphBank in future versions.

Administrator

There are very few individuals given administrator privileges. An administrator has complete access to all data and in addition can add/modify and/delete news, base or master tables. Only someone with administrative privileges can add new users and create groups for which there is no associated taxon. Those with administrative privileges have all rights in all groups and are responsible for managing the entire MorphBank system.

Angle

In **Views** section, the location of the camera with respect to the specimen for photographing

Basis of record

At the time of collection, the specimen was categorized as an observation, a living organization, a specimen, a germ plasm/seed

Browse

Traverse the database tree by taxon hierarchy, alphabetical taxon name, view, specimen or locality.

Collection name

Name given to a collection by the collection's creator

Collections

Groups of specimen images assembled from the MorphBank database by MorphBank members for the purpose of manipulating, viewing, or storing for future use.

Collector name

Person(s) who collected the specimen that is referenced in MorphBank.

Contributor

Person having the authority to release the images for publication into MorphBank.

Coordinator

Associated with roles within a group, a coordinator has the same privileges as Lead Scientist and each group may only have one Coordinator. In order to be

assigned a Group Coordinator, you must have lead scientist privileges for that group or have been assigned by the MorphBank administration. A coordinator can add and remove members from the group, change a user's role, as well as request spin-off groups to be developed with assigned coordinators. The coordinator can appoint another lead scientist in the group as a coordinator. Coordinators have access to the group module and members who fall in the taxonomic range assigned to the group.

Date collected

The date the specimen was collected

Delivered uploading

MorphBank offers a service called delivered uploading. We provide an already prepared Excel Data Entry workbook and the corresponding user's manual. The contributors can deliver to MorphBank a CD or DVD containing images and an excel data entry workbook populated with information.

Determination

The taxonomic category of the specimen

Developmental stage

Growth phase of specimen

Download

The user receives data from a remote computer.

External links

References the ability of the MorphBank database to store URL website links associated MorphBank objects.

Fair Use Web Site

The images in MorphBank that are not password protected can be used for private, education, research or other non-commercial purposes for free, provided that the source and the copyright holder are cited. -

Form

As it pertains to a specimen's stage of existence. Examples would be adult, pupa, juvenile, etc. need more

ftp, smtp

File Transfer Protocol (used for transferring files over the internet), Simple Mail Transfer Protocol (used for transferring email from one server to another)

Group id, User id, Specimen

MorphBank issued, unique, identifying numbers

**id, View id, Locality id,
Image id, Publication id,
Annotation id**

Groups

Groups are comprised of users of the MorphBank system that share a common interest in a specific taxonomic area.

Guest

user role that has read only access privilege in the group where they have the “Guest” role. .

GUI

“Pronounced gooie” -stands for globally unique identifier (or graphical user interface).

GUID

“Pronounced goo id” – stands for globally unique identifier.

Imaging

Technique used to capture photo of specimen such as auto montage, transmitted light; bright field, etc.

ITIS

Integrated Taxonomic Information System-database maintained by the US Department of Agriculture and used by MorphBank as the main taxonomic name server.

Jpg (jpeg), .tif (tiff)

Joint Photographic Experts Group (pronounced jay-png) tagged image file format--MorphBank accepted file formats for images.

Lead Scientist

Same privileges as scientist but on all objects owned by the group to which the user belongs. A lead scientist can also be a coordinator or group manager and therefore manage users and their permissions in a group. For now, a lead scientist sends a request to the MorphBank Team for creation of a group.

Locality

Detailed information about where a specimen was collected or observed.

Login

Enter in a MorphBank issued user id and password for the purpose of adding /modifying or viewing restricted data.

LSID

Life Science Identifiers -- the GUID widely used identification scheme for the Life Science domain.



Modified Darwin Core Standard	A naming standard currently used by MorphBank.
MorphBank	Open web repository of images serving the biological research community.
NCBGI accession numbers	National Center Biotechnology Information
Object	Referring to an image, specimen, locality, collection, annotation, etc.
Primary TSN	MorphBank issued taxonomic serial number identifies the specific area of expertise for which the user is considered an expert.
Privilege TSN	MorphBank issued taxonomic serial number representing the highest Taxonomic Name for which a MorphBank member has expertise. It is primarily used in identifying which groups for which they may have membership.
Published	Referring to MorphBank related objects such as an image, specimen, locality, collection, etc. When an object is released for worldwide viewing.
Roles	Categories of users within Morphbank groups such as guest, scientist, lead scientist, coordinator, and administrator. Roles are used to determine privileges that a user has within a MorphBank group.
Scientist	User role that has the authorization to add/modify/delete Specimen, Image, View, and Locality as well as annotate released images within their taxon or images not released and owned by the group they belong to.
Search	Find specific data through queries using keywords or id numbers
Secondary TSN	MorphBank issued taxonomic serial number representing the area in which the user has an alternate area of expert knowledge.
Sex	Gender of specimen
Sort	Arrange or order groups of information with a common interest into a sequence.

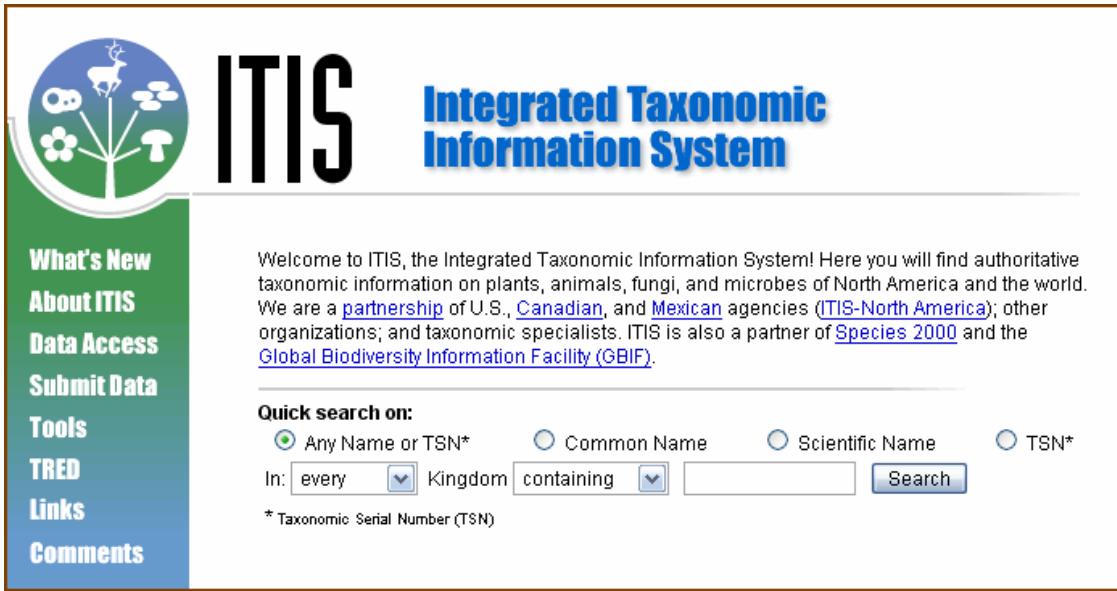


Specimen part	Pertains to a view that contains a portion of a specimen
Stage	Developmental growth phase of a specimen
Submit	Upload data to a remote computer. (E.g. clicking the "submit" button on the Add Image screen will upload the image to the MorphBank database.)
Submitter	Person entering the data into MorphBank (may be the same person as the contributor).
Tab or comma delaminated text files	ASCII data files where the fields are separated by a tab or comma character. Used for upload of data into MorphBank.
Taxon	Scientific name of the specimen
Tools	Button in MorphBank directing the user to, browse, search, submit, edit, collections and annotations
TSN	Taxonomic serial number. Used to identify a taxonomic identification in the ITIS database.
TWiki	A structured Wiki site. One is currently used by MorphBank developers to gather information about future version requirements.
Type Status	Specimen that is universally accepted as being a clear example of its species
Upload	The user sends data to a remote computer.
View	A view specifies the criteria (the type of taxa, view angle, preparation technique, etc.) under which a photograph was taken.
Wiki	a type of website that allows users to add, remove, or otherwise edit and change all content very quickly and easily, sometimes without the need for registration (defined from http://en.wikipedia.org/wiki/Main_Page)

Integrated Taxonomic Information System (ITIS)

The [Integrated Taxonomic Information System \(ITIS\)](#) database maintained by the United States Department of Agriculture (USDA). ITIS was selected as the taxonomic name server for MorphBank in 2004 because it represented the most complete comprehensive taxonomic name service available at the time. Also, the entire database could be downloaded locally making access to the data quick and efficient.

ITIS is a consistent service. It has a high level of stability and a rigid review system. Since ITIS is maintained by the USDA, the probability that the service will be persistent for several years is high. Taxonomic names are entered into the system and panel of experts periodically review the names for quality assurance.



The screenshot shows the ITIS homepage. On the left, there's a vertical navigation bar with a green gradient background containing links: "What's New", "About ITIS", "Data Access", "Submit Data", "Tools", "TRED", "Links", and "Comments". Next to it is a circular icon depicting a tree, a flower, and a mushroom. To the right of the icon, the word "ITIS" is written in large, bold, black letters. Below "ITIS", the full name "Integrated Taxonomic Information System" is written in blue. Underneath this, a welcome message is displayed: "Welcome to ITIS, the Integrated Taxonomic Information System! Here you will find authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world. We are a partnership of U.S., Canadian, and Mexican agencies (ITIS-North America); other organizations; and taxonomic specialists. ITIS is also a partner of [Species 2000](#) and the [Global Biodiversity Information Facility \(GBIF\)](#).
Quick search on:

Any Name or TSN* Common Name Scientific Name TSN*

In: every Kingdom containing Search

* Taxonomic Serial Number (TSN)

The MorphBank development team recognized early in the development of the system, the need for a Taxonomic Name Server that would supply the scientific names needed in determination of species. However, there were none available that contained all of the recognized names. ITIS was chosen because it contained the most complete set, had a formal method for adding new names, and because the system is supported by the USDA ensures the longevity of the system. Because the addition of new names does take some time, the MorphBank team established a method to add temporary names and update

them whenever they are added by the USDA. This allows scientist to add specimens whose scientific determination has not been added to ITIS.

Add New Taxonomic Serial Number

Adding a new taxonomic name to the temporary ITIS table maintained in MorphBank is a serious undertaking and should only be done by qualified research biologists who are experts in that particular portion of the taxonomic tree. Scientists who add new taxon names agree to also submit the new names to the United States Department of Agriculture, Integrated Taxonomic Information System Office for inclusion into the ITIS database.

What is the affect of adding temporary taxonomic names? The names are made available to scientists to use for adding specimens, establishment of user and group privileges, and determination annotations. **Temporary Taxonomic Serial Numbers (TSNs)** can be identified because they have a number greater than 999,000,000. If the name is eventually added by the USDA to the ITIS table, MorphBank replaces the temporary TSN with the valid ITIS TSNs.

Who can add temporary taxonomic names? To add a new taxonomic name the user must have a privilege TSN that identifies the highest level of expertise. For example, if the privilege TSN is 152741 (Order of Hymenoptera), users have the privilege to add temporary TSNs to all wasps, bees, ants, and saw flies.

At what level can new taxonomic names be added? New taxonomic names can only be added at the **family level** or below at this time. The system is designed to only allow names to be added at one level at a time and only to a level that is appropriate. For example, if adding a new name starting at the family level, you can only add **family, superfamily, infraorder, or suborder**. All subordinate taxonomic names, if needed, also need to be added.

When can temporary taxonomic names be added? The **Add New Taxon Name button** is visible on screen for any authorized MorphBank user during anytime the user is searching for a taxonomic name and they have reached at least the family level.

CAUTION: The MorphBank system does not check the accuracy of the information entered by the scientist. New names must be added with great care. The temporary taxonomic names can only be deleted by MorphBank administrators.

The **Add TSN** screen displays the taxonomic name path where the new name will be added.

Add TSN

Life /Animalia /Arthropoda /Hexapoda /Insecta /Pterygota /Neoptera /Hymenoptera

Unit indicator 1	
Unit Name 1*	
Unit indicator 2	
Unit Name 2	
Unit indicator 3	
Unit Name 3	
Unit indicator 4	
Unit Name 4	
Venacular (Common Name)	
Usage	valid
Unaccepted Reason	Temporary MorphBank Number
Credibility Rating	No Review: untreated NODC data
Completeness Rating	unknown
Currency Rating	unknown
Rank Identification*	Suborder <input type="button" value="▼"/>

* - Required

Note: For every taxon that you add, be sure to submit all the required forms to Integrated Taxonomic Information System (ITIS)

Submit **Return**

Adding a New Taxonomic Name

Adding a new taxonomic name on the MorphBank database (The data items and definitions were taken directly from the ITIS database.):

- **Unit Indicator 1:** This is only applicable to the kingdom Plantae. This is an indicator of a plant hybrid at the generic level.
- **Unit Name 1:** For monomials this will be the only name field entered. or binomials/polynomials, this field will be used for the first part of the name. The names in this position require the initial letter to be capitalized. This is a singular or first part of a scientifically accepted label for an occurrence of Taxonomic Units.
- **Unit Indicator 2:** A category indicator positioned between the first and second parts of a binomial/polynomial taxonomic name.

- **Unit Name 2:** For binomials, this will be the last field populated for the name. For trinomials and quadrinomials, this will be the second position populated. This is the second part of a scientifically accepted label for a binomial/polynomial occurrence of Taxonomic Units.
- **Unit Indicator 3:** This element applies only to the kingdom Plantae. This is a category indicator located within a polynomial taxonomic name.
- **Unit Name 3:** For trinomials this field will be populated with the last part of the taxonomic name. For quadrinomials and hybrid formulas this field will be populated with the third part of the name. This is the third portion of a scientifically accepted label for a polynomial occurrence of Taxonomic Units.
- **Unit Indicator 4:** Applicable to the Plant kingdom. This is a category indicator located within a polynomial taxonomic name.
- **Unit Name 4:** This is the final position populated for quadrinomials or hybrid formulas. This is the fourth part of a scientifically accepted label for a polynomial occurrence of Taxonomic Units.
- **Venacular:** This is the common name associated with the unit names 1, 2, 3, and 4.
- **Usage:** Values should be accepted or not accepted for the Plantae kingdom or valid or not valid for the Animalia Kingdom.. This defaults to valid but should be changed to the proper entry.
- **Unaccepted Reason:** The system enters “Temporary MorphBank Number” in this field as an additional indicator that this record was added into the local copy of the ITIS database. However, scientist may enter one of the following ITIS accepted values appropriate for the particular kingdom:

<u>Animalia and Plantae</u>	<u>Plantae</u>	<u>Animalia</u>
Database Artifact	Excluded	Incertae sedis
Misspelling	Homonym	Junior homonym
Nomen nudem	Horticultural	Junior synonym
	Illegitimate	Nomen dubium
	Invalid	
	Misapplied	
	Nomeninvalidum	
	Nomina utique rejicienda	
	Orthographic variant	
	Other, see comments	
	Pro parte	
	synonym	

- **Credibility Rating:** A subjective rating designation as determined by the Taxonomic Work Group reflecting the level of review and the perceived level of accuracy for an occurrence of Taxonomic Units and its associated attributes. The default value of “No Review: untreated NODC data” should not be changed unless that actual ITIS rating is known.
- **Completeness Rating:** This element will be populated for occurrences of the Taxonomic Units table for which the rank is genus or above. Different ratings may occur for different rank levels. Since this element is populated by the TWG. We suggest the user leave the default value of “Unknown” unless the actual ITIS rating is known. This rating designation reflecting the extent of taxonomic completeness for a group.
- **Currency Rating:** This element will be populated for rows within the Taxonomic Units table for which the taxon's rank is genus or above. Different ratings may occur at different rank levels. A rating designation reflecting the year of revision/source for a group. Unless the actual currency rating is known, we suggest the user leave the default value of “Unknown”
- **Rank Identification:** A drop down lists that allows the user to select the appropriate rank to which the new name belongs. Examples: (family, suborder, suprafamily, genus, species, etc).

Information can be found about the most current taxonomic names and instructions on how to submit the data for new names can be found on the ITIS web site <http://www.itis.usda.gov/>.

Screen Use Tips

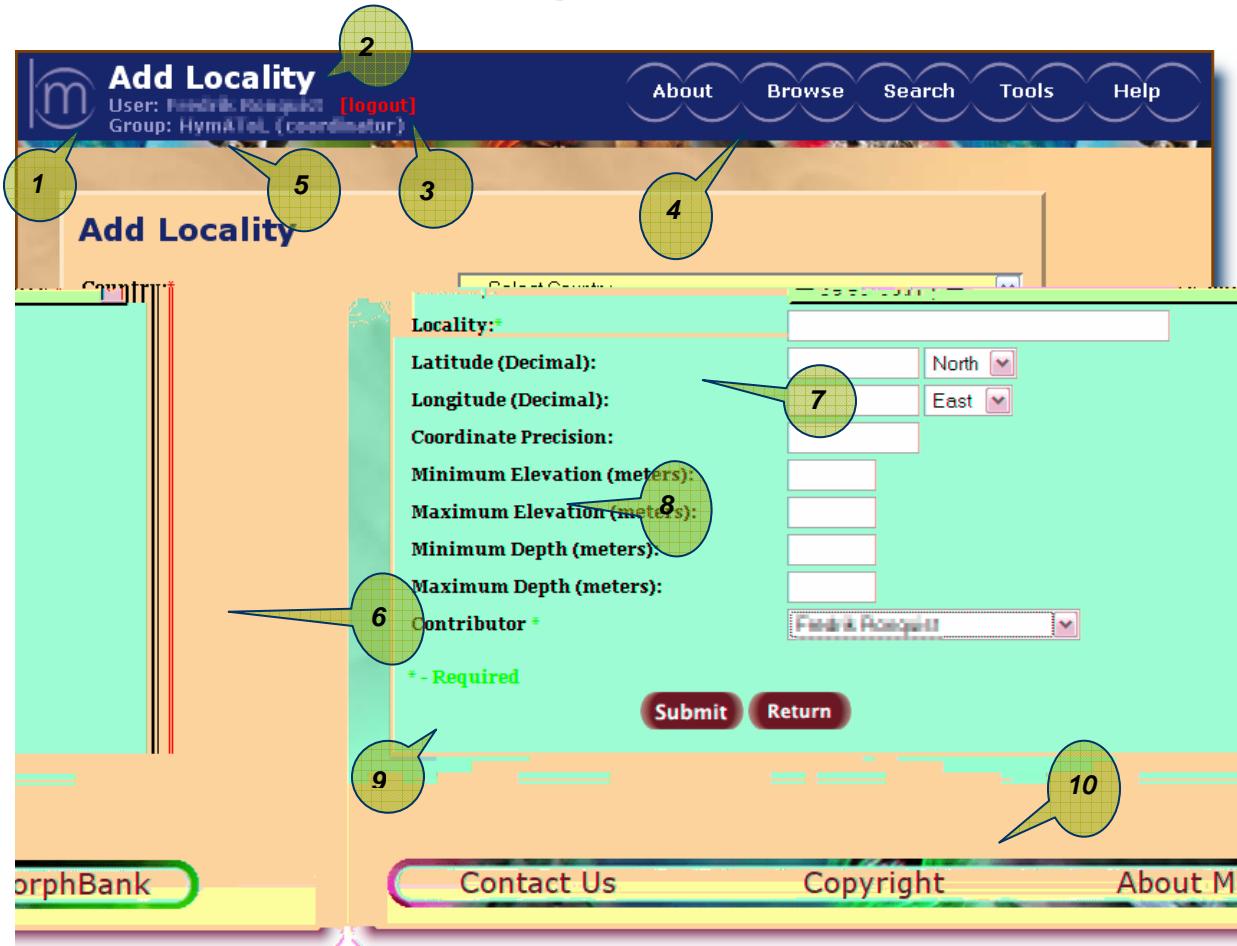


Figure 1 Anatomy of a MorphBank Page

Tag descriptions for Figure 1

- Tag 1 -Click on logo to return to the homepage at any time.
- Tag 2 -Page Name.
- Tag 3 -Click to logout. (Only visible after login).
- Tag 4 -Banner with selectable drop-down lists that will advance/return the user to other areas within MorphBank.
- Tag 5 -User name and group to which the user logged in with (Only visible after login).
- Tag 6 - "*" fields are required
- Tag 7 -Select to reveal drop-down list.
- Tag 8 -Entry boxes for user to input appropriate data.
- Tag 9 -Click on buttons to perform various tasks in MorphBank ("see guide to graphic buttons" section in this manual).
- Tag 10-Redirect to the corresponding area within MorphBank.

Information Linking

Internal -- The **Show** feature was created to provide easy, direct access via Uniformed Resource Locators (URLs) to reference data objects in MorphBank that may be used by other data repositories. Example: scientists may cite the MorphBank web site and display images and data in journal, conference, and workshop research papers. A person outside of MorphBank may then use that referenced URL to directly link directly back to the data or image located on the MorphBank database.

External-- MorphBank has the ability to store external URLs with each object in the database (**external linking**). This can be done either at the time the object was created or added later during an edit session. Example: Users may add an image to the database and point to a museum web site where the original specimen is located. The museum URL is added as an external link to the image record.

MorphBank Show

MorphBank is a large complex relational database with an intricate matrix of inter-related tables. Easily finding and showing information in MorphBank is a necessity.

Early in the requirements phase of the MorphBank project, scientists expressed a desire to cite the MorphBank web site and display images and data in journal, conference, and workshop research papers. Other researchers expressed a desire to reference data in MorphBank using external URL addresses. Rather than performing complex queries each time the data is requested, MorphBank developers came up with a more efficient method to display this data.

Every MorphBank object, that can be referenced externally, is identified by a unique integer string (up to 18 digits) and other pertinent information. Collectively the information listed below is cataloged in the MorphBank baseObject table:

- MorphBank Identifier
- Object type (which table the record is in)
- User Id (Id of the user who created the object).

- Group Id (references the group that owns the object)
- Date the object was created.
- Date the object was last modified
- Date the object will be published
- Description of the object
- Person who submitted the object (if different from the owner).

Since each MorphBank object can be uniquely identified by its id number alone; the MorphBank developers have created a simple method to reference any MorphBank object through this unique number. This method is called **Show**.

What does the MorphBank Show URL look like?

<http://morphbank.net>Show/index.php?id=32031> is an example of what a **Show** referenced image object looks like in MorphBank version 2.5

Where are object ids found within MorphBank? Use the **Browse** and **Search**



features of MorphBank to find the objects. The ids are listed next to each object.

Which MorphBank objects have this feature? As of the writing of this manual, **Specimen**, **Image**, **View**, **Locality**, **Annotation**, **Collection**, **User**, **Group**, **Publication**, and **News** have the **Show** capability. Some of the objects such as **Publication** currently do not have any data.

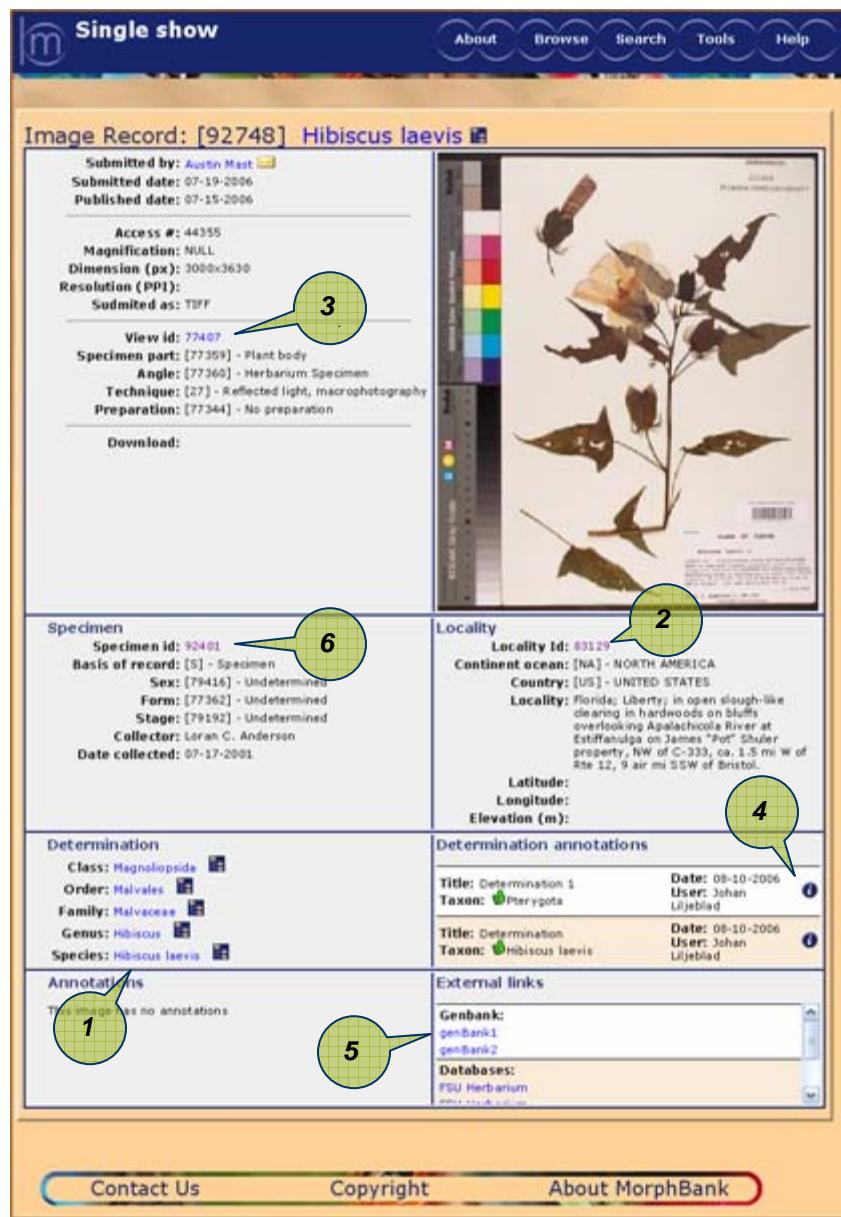
The data in these objects is quite different. How does MorphBank know how to show the data? Each MorphBank object that can be displayed using the **Show** function has its own unique display module. MorphBank reads the id number, looks up the type of object in the **baseObject** table, and calls the appropriate module.

What MorphBank objects can be seen? If a user is not logged in, only objects that have been released can be seen through **Show**. Users of MorphBank who wish to share their data in MorphBank through **Show** should ensure that the data has been released. Users who are logged into MorphBank can view any released object, objects they own, or objects owned by the group they are logged in with.

Where can the Show feature be accessed within MorphBank? **Show** can be accessed through the results of a **Browse** or **Search** by clicking on the **Information** button  , or on one of the thumbnail images in the results list. Also, selecting the **Object id** where it is listed in blue type i.e. in **Annotation Manager** or on another **Show** screen. Lastly, by selecting the **Annotation Id** in the **Annotation Manager** the **Single Show Annotation Record** is displayed which links to the **Single Show-Related Annotations** page. **Show** information is displayed on a popup screen.

Example: Single Show

In this example, the single show popup was accessed by clicking on the thumbnail image of 92748.



The screenshot shows the MorphBank 'Single show' interface for image record 92748, featuring a herbarium specimen of *Hibiscus laevis*. The page includes the following sections:

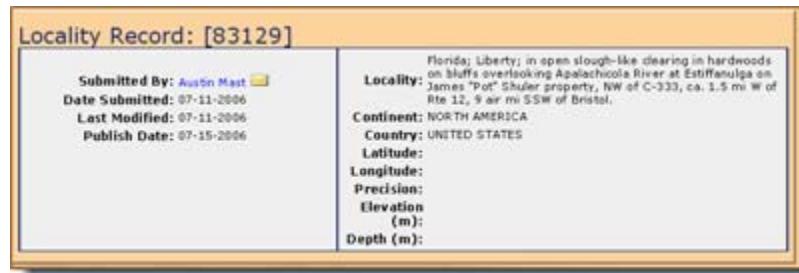
- Header:** Shows the MorphBank logo and navigation links for About, Browse, Search, Tools, and Help.
- Image Record Details:** Includes submission information (Austin Mast, 07-19-2006, 07-15-2006), access details (Access #: 44355, Magnification: NULL, Dimension (px): 3000x3630, Resolution (PPI): 300, Submitted as: TIFF), and a color calibration bar.
- Image:** A photograph of the *Hibiscus laevis* plant specimen, showing flowers and leaves.
- Specimen Information:** Lists specimen details such as Specimen id: 92401, Basis of record: [S] - Specimen, Sex: [79416] - Undetermined, Form: [77362] - Undetermined, Stage: [79192] - Undetermined, Collector: Loran C. Anderson, and Date collected: 07-17-2001.
- Locality:** Provides locality details including Locality id: 63129, Continent ocean: [NA] - NORTH AMERICA, Country: [US] - UNITED STATES, Locality: Florida, Liberty, in open slough-like clearing in hardwoods on bluffs overlooking Apalachicola River at Estefanida on James "Pot" Shuler property, NW of C-333; ca. 1.5 mi. W of Rte 12, 9 air mi SSW of Bristol.
- Determination:** Lists taxonomic ranks from Class (Magnoliopsida) down to Species (*Hibiscus laevis*).
- Determination Annotations:** Lists two annotations: "Determination 1" (Date: 08-10-2006, User: Johan Liljeblad, Taxon: Hibiscus laevis) and "Determination" (Date: 08-10-2006, User: Johan Liljeblad, Taxon: Hibiscus laevis).
- Annotations:** States "There are no annotations." (Tag 1).
- External Links:** Lists Genbank (genBank1, genBank2) and FSU Herbarium.

Figure 2 Example of Single Show (Image Record)

Tag Descriptions for Figure 2

Tag 1-Double clicking on any of the areas in blue type will lead the user to additional information.

Tag 2 –Information about the locality of the image. Clicking on the **Locality ID** will access the **Single Show** of the **Locality Record** displayed in a popup screen...



Tag 3 – Information associated with the view of this image. By clicking on **View 77407** the single show of the **view record** will display in a popup screen. As in other show screens, clicking on the blue highlighted type will display additional information. See [Figure 3](#)

Tag 4-List of published determination annotations associated with this image. Clicking on the information button  will access the annotation. Unpublished determination annotations will not be listed.

Tag 5 –Scrollable list of external links associated with this image. Clicking on the blue highlighted type will hyperlink to the appropriate external link.

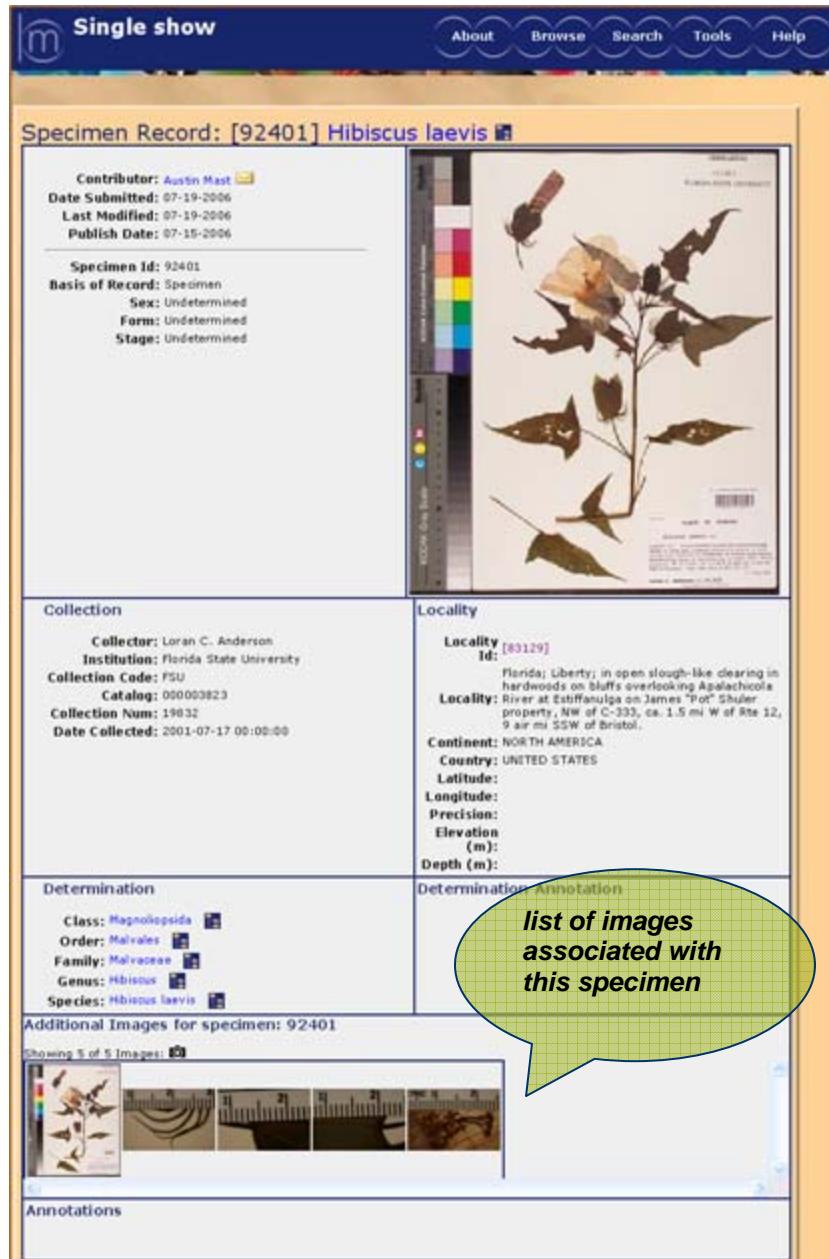


The screenshot shows a "Single show" interface with a header menu: About, Browse, Search, Tools, Help. The main content is titled "View Record: [77407] Applicable to Plantae". It displays a sample image record with "Submitted By: Debbie Paul" and "Date Submitted: 03-09-2006". Below this are fields for "Specimen Part: Plant body", "View Angle: Herbarium Specimen", and "Sex: Undetermined". A large image of a plant specimen is shown next to a ruler marked with numbers 2 and 3. A green callout bubble points to this image with the text "Sample image record for this view". Another green callout bubble points to the image list with the text "Camera will bring up list of images for view." At the bottom, there are links for "Copyright" and "About Morphbank". A small inset window titled "Browse - Images" shows a list of images with checkboxes and a search bar.

[Figure 3 Single Show View Record](#)

Tag 6 –Information pertaining to the specimen associated with this image. Click on the **Specimen Id** to access the **Single show** of the **Specimen**. The **Specimen Show** will present the user with details about the specimen as well as inform about associated **collections** or published **determination annotations** associated with the specimen. Included at the bottom of the **Specimen Single Show** is an image list of associated images for this specimen. The total number of images is listed and can be viewed through **browse-specimens** by clicking on the camera icon. Double clicking on a thumbnail image in this area will bring up the **Single Show** for the image.

Figure 4.



Specimen Record: [92401] *Hibiscus laevis*

Contributor	Austin Mast
Date Submitted	07-19-2006
Last Modified	07-19-2006
Publish Date	07-15-2006
Specimen Id:	92401
Basis of Record:	Specimen
Sex:	Undetermined
Form:	Undetermined
Stage:	Undetermined

Collection	Locality
Collector: Loran C. Anderson Institution: Florida State University Collection Code: FSU Catalog: 000003823 Collection Num: 19832 Date Collected: 2001-07-17 00:00:00	Locality Id: [83129] Florida; Liberty; in open slough-like clearing in hardwoods on bluffs overlooking Apalachicola River at Estifanagua on James "Pot" Shuler property, NW of C-333, ca. 1.5 mi W of Rte 12, 9 air mi SSW of Bristol. Continent: NORTH AMERICA Country: UNITED STATES Latitude: Longitude: Precision: Elevation (m): Depth (m):

Determination	Determination Annotations
Class: Magnoliopsida Order: Malvales Family: Malvaceae Genus: Hibiscus Species: <i>Hibiscus laevis</i>	<i>list of images associated with this specimen</i>

Additional Images for specimen: 92401

Showing 5 of 5 Images:






Annotations

Figure 4 Single Show for Specimen Record

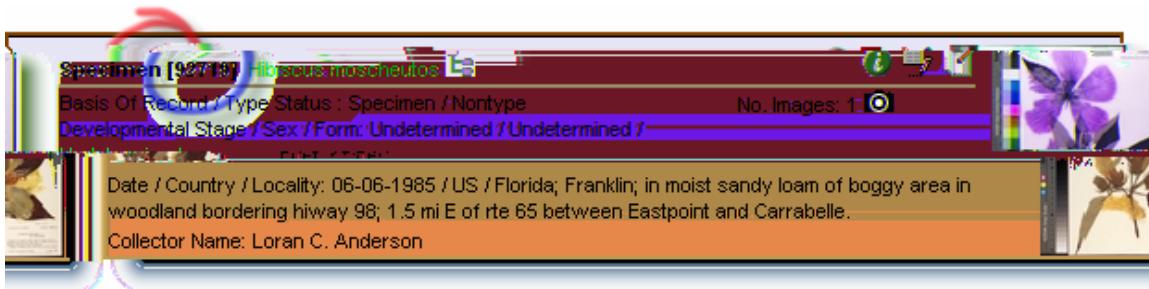
External Linking

MorphBank provides an option to link deposited images to any external link and link any site back to MorphBank. Published MorphBank images may be linked to any website or database for educational and non-profit purposes (see MorphBank copyright chapter in this manual or <http://morphbank.net/About/Copyright/>).

- Links may include other databases, NCBI accession numbers, location maps, etc.
- Links may be included at the time of image deposition in the Excel spreadsheet or on the MorphBank website or after the image data is deposited in MorphBank (will be available soon).
- For each link, a label must be provided describing the link. The label determines how the link will appear on the MorphBank **Single Show** page.
- Links may be associated with any MorphBank table; so they can appear in the **Specimen** record, **Image** record, **Locality** record, **View** record, etc.
- Images in MorphBank may also be linked to other websites, online keys, species pages, etc. using only the path that links to the .jpeg of that image (i.e. <http://morphbank2.csit.fsu.edu/images/jpeg/0/0/0/0/0/0/0/3/3840.jpeg>). This path can easily be found by clicking on the .jpg icon from a search results page, in the navigation bar of that page.

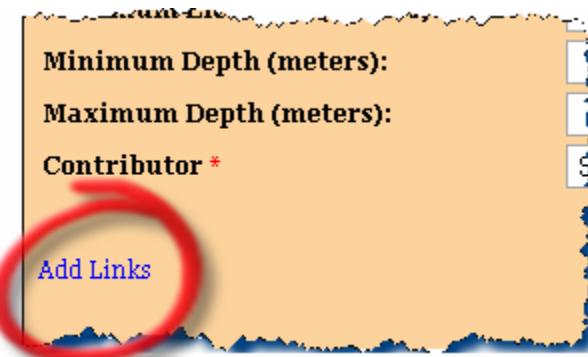
Supplying external links for images already deposited in MorphBank:

For images already deposited in MorphBank the label and link information will need to be associated with the actual MorphBank record id. This id is unique to each record and is located at the top of each MorphBank record



This feature will be available for use soon. The complete documentation will be accessible at that time.

Supplying external links for images during the submitting process



Click on the blue highlighted text, **Add Links**, from the **Submit Locality Specimen, View, or Image** page. This will bring up the external links submit form as seen below.

External Links	+	-	
Type	Label	Url *	Description
Other			

* - Required

 **Link Type:** Select from the drop-down list the appropriate link type. Selections might include **Other, Institution, GenBank, Publications, Google Maps**

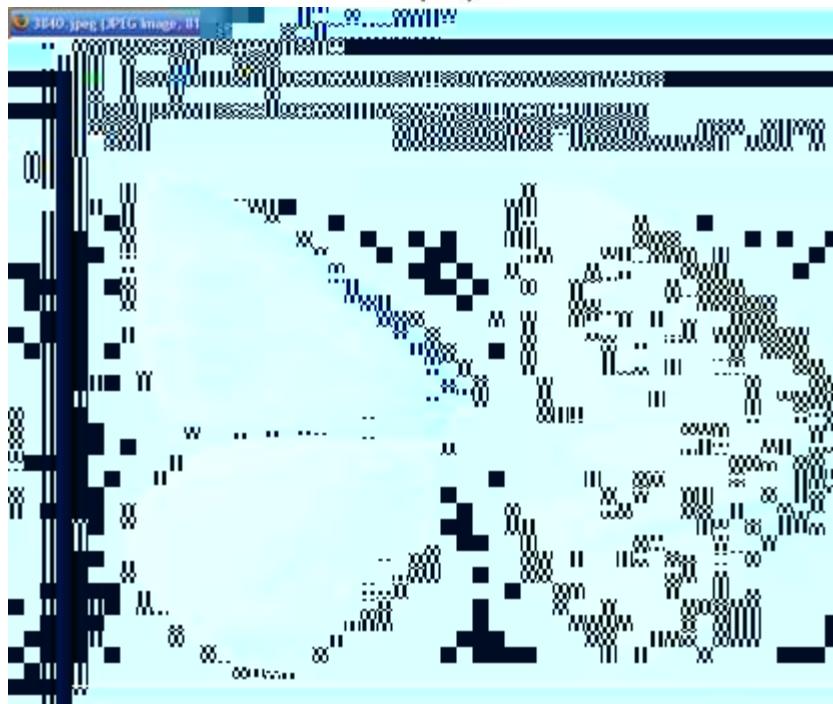
 **Link Label:** Type in a short, descriptive label. This label is the name of the link that will appear on the MorphBank record page. Appropriate labels would include the name of the institution that the link is going back to or the name of the gene region that is linking to an accession number. Examples: Google Map, CO1, AMNH. Make sure the label is brief.

 **Link Url:** Enter or cut and paste the Url where the link is located.

 **Link Description:** Free text entry about the link. Example: comment about the institution that is being linked to.

Linking to MorphBank:

The MorphBank Id for each record is unique, thus linking to a specimen record or image record only requires the base URL which is http://morphbank.net>Show/?id=_ plus the MorphBank Id which is variable depending on the record being linked. An entire link to one specific specimen record may look like this: <http://morphbank.net>Show/?id=64123>.



The source and copyright holder must be cited when images are used from MorphBank. To satisfy this requirement, it is highly encouraged and beneficial to link images back to the MorphBank record that contains this information. For example: Assuming the above image has been linked to a website, this image should be linked back to the specimen record.

The specimen record for the image above is:

<http://morphbank.net>Show/?id=65847>.

Image Record: [65847] Polyommatus (Agrodiaetus) surakovi	
Submitted by: Martin Wiemers Submitted date: 05-01-2004 Published date: 05-01-2004	
Access #: 3840 Magnification: NULL Dimension (px): 810x540 Resolution (PPI): 600 Submitted as: TIFF	
View id: 63977 Specimen part: [93] - Wings Angle: [41] - Left dorsal, right ventral Technique: [28] - Reflected light, scan Preparation: [77344] - No preparation	
Download:	
Specimen Specimen id: 64122 Basis of record: [S] - Specimen Sex: [98] - Male Form: [104] - Indeterminate Stage: [95] - Adult Collector: Martin Wiemers Date collected: 07-20-1998	Locality Locality Id: 64044 Continent ocean: [AS] - ASIA Country: [AM] - ARMENIA Locality: Gnyshik village (1800-2200 m) Transcaucasia Latitude: Longitude: Elevation (m): 1800-2200



Linking back to the MorphBank record provides a valuable increase in available information associated with the image to include data about the **locality**, **collector**, **specimen**, **contributor**, etc. This increases the value of the image to a webpage.

Note:

MorphBank is an Entrez LinkOut (<http://www.ncbi.nlm.nih.gov/entrez/linkout/>)
provider for the Nucleotide

(<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Nucleotide>) **and Taxonomy**
(<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Taxonomy>) **databases.**

MorphBank will provide NCBI with the accession numbers and ids that are sent for the purpose of linking GenBank back to images of voucher specimens on MorphBank. MorphBank also provides links for NCBI taxonomy using images deposited in MorphBank. These links are updated periodically.

FSI Viewer

This area is under construction.

Complete instructions on the use and features of FSI Viewer by Neptune
Labs coming soon

Guide to Browse, Search, Login, Submit, Collections, Data Edit and Annotations

To find a specific topic in this guide use the:

- **Table of contents** to find a chapter or area of interest
- **Figure guide** to find an illustrated guide to an area of interest
- **Figure captions** all figure references are hyperlinked to the figure caption they cross-reference (selecting the figure reference will hyperlink to that figure).
- **Chapter tabs** on the PDF screen (hyperlink directly to that chapter)
- **Search** feature in Adobe Acrobat to search for a word(s) in the document.
- **Browser keyboard shortcuts** to find a keyword (i.e. Internet Explorer, Mozilla Firefox use control-F) and type in keyword. These vary according to the machine and browser being used.

Getting Started

Enter the MorphBank website at <http://morphbank.net>

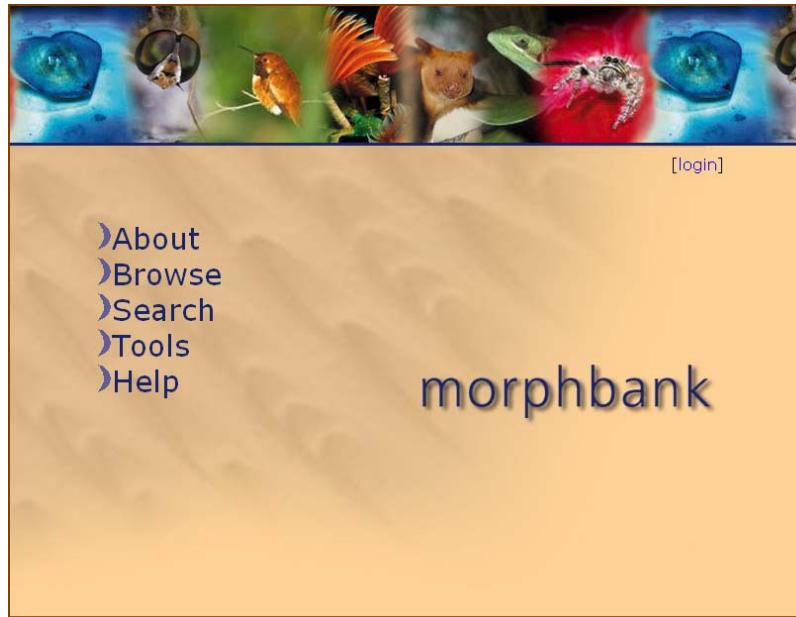


Figure 5 Opening Screen to morphbank.net

From the opening screen users can select:



annotations. Users have varied tools to access within browse based on user privileges assigned through login.

- **Login**- direct access to the login screen.
- **About** - find more detailed information about the history of MorphBank and view current news.
- **Browse** - traverse the database tree by images, taxon hierarchy, alphabetical taxon name, view, specimen, locality collections or
- **Search** - find specific data through the use of a simple search or search images by keywords or ids. Users have varied tools to access within search based on user privileges assigned through login.
- **Tools**- login; browse; search; access, add and modify data; access, add and modify collections, and access, add and modify annotations. Users will be required to login into the system with a valid username and password. Once logged into the system, authorized modules will appear. Without login, only some information that can be browsed or searched will be available.
- **Help** - access this user manual, the UML database schema, table descriptions, delivered uploading documents and user account application.

Browse

Select **Browse** when there is a need to scan a hierarchical tree or list. **Browse** is directly accessible through the **opening screen** or from the **Browse** area on any MorphBank page header.

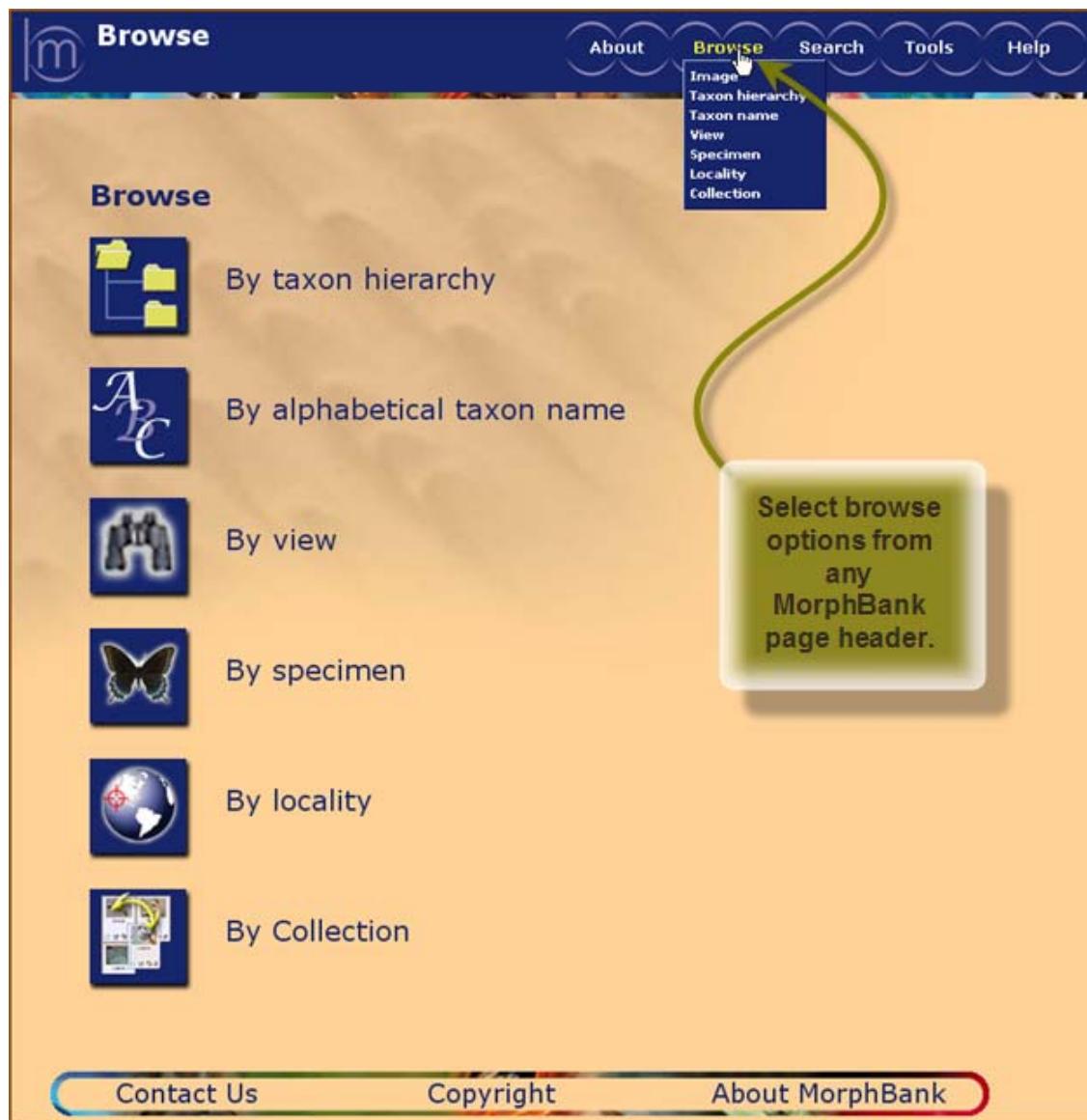
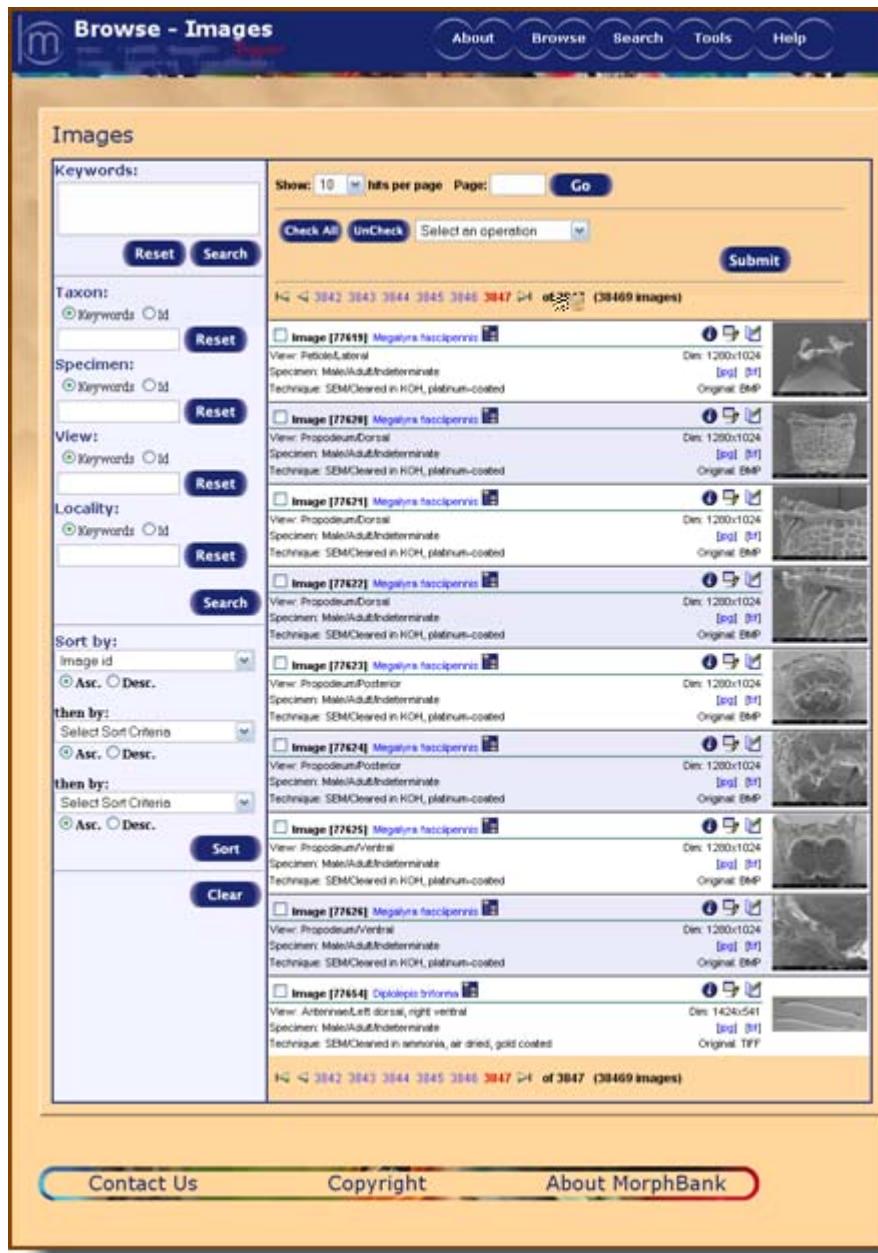


Figure 6 Browse

The **Browse** option does not require login, however, logged in users have varied tools accessible within **Browse** based on user privileges (e.g. **Collections**, **Edit**, **Annotate**). (Figure 6) The browse options include:

- **Images** (The user has the capability to view a sortable list of all images in the MorphBank database. The list of images can be restricted by use of **keyword** or **id** searches. If the user is logged in, other options such as edit, annotate, and collections might be available.)
- **Taxon hierarchy** (The user has the option of viewing all kingdoms from the top level of the taxonomic hierarchy or users can traverse the taxon hierarchy using only major categories.)
- **Alphabetical taxon name** (By choosing **all letters** a list of all taxonomic names associated with specimens and images within the database is available. By selecting **One Letter** a list of names is displayed that begins with only the letter selected.)
- **View** (The user is presented with the choice of searching for views based on a **keyword** or a sortable list of all the registered views within the database)
- **Specimen** (The user is presented with the choice of searching for specimens based on a **keyword** or a sortable list of all the specimens currently located on the MorphBank database.)
- **Locality** (The user is presented with the choice of searching for localities based on a **keyword** or a sortable list of all the available localities within the database.)
- **Collections** (The user is presented with the choice of searching for existing collections based on a **keyword** or a sortable list of all the available collections within the database.)

Browse-Images



The screenshot shows the 'Browse - Images' page of the MorphBank website. The left sidebar contains search filters for Keywords, Taxon, Specimen, View, Locality, and Sort by. The main area displays a grid of image thumbnails for *Megalura fuscipennis*, each with a checkbox, a link to the image details, and download links for original BMP and TIFF formats. The images show various views of the specimen, including lateral, dorsal, and ventral perspectives. At the bottom of the main area, there is a navigation bar with 'Contact Us', 'Copyright', and 'About MorphBank'.

Figure 7 Browse-Images

By selecting the **Browse- Images** option, the user will be presented with a list of all images registered in the MorphBank database.

Browse Using Keywords

A general or specialized keyword search can be used in **Browse-Images** to reduce the display list down to a more desirable list of images.

- General keyword search
A general keyword search performs a search based on a user name, taxonomic name, catalog number, form, sex, developmental stage, type status, imaging technique, imaging preparation technique, part, or image identifier.
- Specialized keyword search
Use this search when the browse is desired on a specific group of images.

Taxon name performs a search based on the taxonomic name of the specimen.

Specimen performs a search based on the categories of sex, form, basis of record, type status, collector name, institution code, collection code, catalog number and taxonomic name.

View performs a search based on the imaging technique, imaging preparation technique, part, angle, developmental stage, sex or form.

Locality performs a search based on the image's locality, continent/ocean or country.

To display a list of images based on a keyword(s) search, type the keyword(s) in the box(es) separated by a space and select **Search**. For example, to browse for all images pertaining to *Gelsemium sempervirens* (taxonomic name), plant body (part) reflected light (imaging technique); perform a specialized keyword search by typing in ***Gelsemium sempervirens*** in the **Taxon Name** keyword box and **plant body reflected light** in the **View** keyword box and select **Search** (Figure 8).

Screen Use Tips:

Separate more than one keyword with a space. **Search** is not case sensitive. Proper spelling will assure the best search however, typing a partial word, will result in a corresponding search containing those letters. (e.g. if searching for taxon braconidae, typing the letters "braco", or "conidae" will result in a list of braconidae data, but entering "idae" would return a list that contained more than just braconidae data. Therefore, the more complete the search word(s) is, the more accurate the search results will be.)

The **reset** button will revert back to the keyword(s) that produced the list of images currently on the screen.

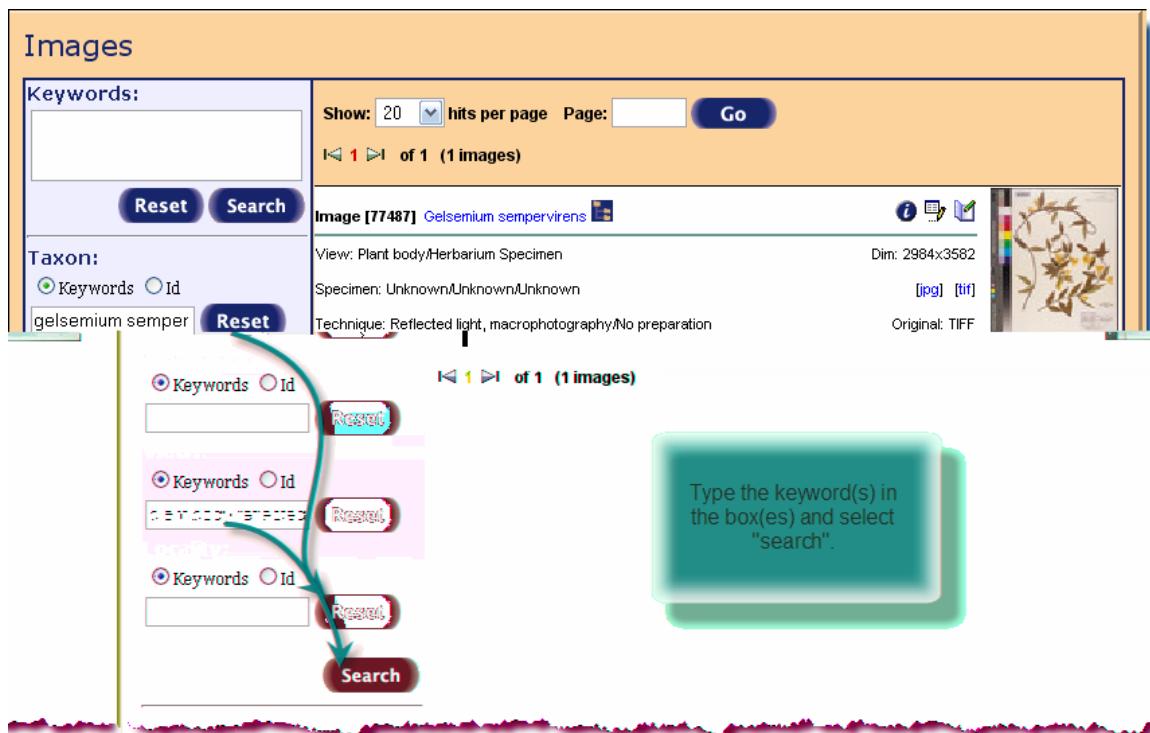
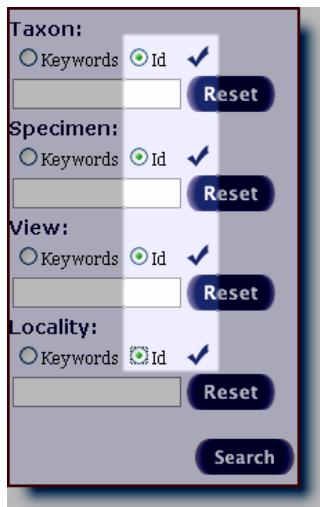


Figure 8 Browse-Images-Keywords

Browse Using Ids

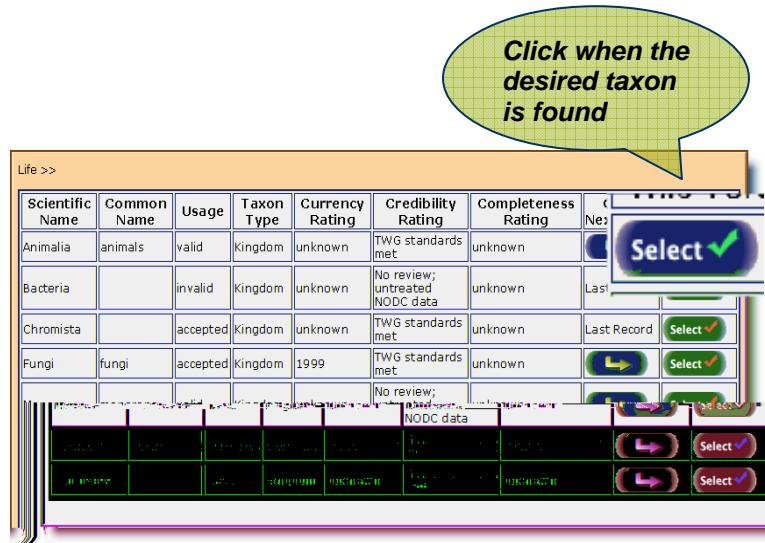
A specialized id search can be used in **Browse-Images** to reduce the display list down to a more desirable list of images.



This screenshot shows the 'Taxon' search section. It includes fields for 'Taxon', 'Specimen', 'View', and 'Locality', each with 'Keywords' and 'Id' radio buttons. The 'Id' radio button is selected for all categories, indicated by a checkmark icon. Below each category are 'Reset' and 'Search' buttons.

When the **Id** radio button is selected, a ✓ button appears. To maintain accuracy, the desired id number(s) will need to be selected from a list by clicking on the ✓ icon.

Taxon id –To insure accuracy, taxonomic identifiers need to be selected ✓ from the taxonomic names selection screen. Traverse through the levels ↵ until the appropriate scientific name is found. Then click the select icon  , it will automatically direct the user back to the **Browse-Images** screen and the appropriate name will be filled in.



If a new taxon name needs to be added select the **Add New Taxon** button that is visible from the family level. The **Add TSN** screen will popup. (This option is only available for authorized users.) For complete instructions on this process see the [ITIS, Add New Taxon](#) section of this manual.

Note: Great care must be taken when adding new taxon names to the local copy of the database. New names must be accurate and accepted in the biological community. Adding a new taxon name commits the user to the responsibility of submitting a change to the Department of Agriculture <http://www.itis.usda.gov/>.

Specimen id- To insure accuracy, specimen identifiers need to be selected ✓ from the specimen screen. Traverse through the list. Sort the list if needed (see [browse-specimen, sort](#) for instructions unique to this process). When the desired specimen is found, click on the  icon and the screen will redirect back to the **Browse-Images** page and the appropriate specimen identifier will be filled in.

Specimens

Specimen:
Keywords

Show: 20 hits per page Page:
 1 2 3 4 5 6 7 8 9 10 11 >> of 1921 (38402 specimens)

Specimen [105] Specimen / Nontype *Drosophila melanogaster*
 Developmental Stage / Sex / Form: Adult / Male / Indeterminate
 Date / Country / Locality: 00-00-0000 / US / Laboratory - FSU
 Collector Name: David Hodek
 No. Images: 1

Click when the desired specimen is found

View id- To insure accuracy, view identifiers need to be selected ✓ from the views screen. Traverse through the list. Sort the list if needed (see [browse-views, sort](#) for instructions unique to this process). When the desired view is found, click on the ✓ icon and the screen will redirect back to the **Browse-Images** page and the appropriate view identifier will be filled in.

Views

View:
Keywords

Show: 20 hits per page Page:
 1 2 3 4 5 6 7 8 9 10 11 >> of 16 (317 views)

View [101] Left forewing:Dorsal/Female
 Stage/Form: Adult/Indeterminate
 Technique: Transmitted light, brightfield/No preparation
 No. Images: 167

Click when the desired view is found

Locality id- To insure accuracy, locality identifiers need to be selected ✓ from the locality screen. Traverse through the list. Sort the list if needed (see [browse-locality, sort](#) for instructions unique to this process). When the desired specimen is found, click on the ✓ icon and the screen will redirect back to the **Browse-Images** page and the appropriate locality identifier will be filled in.

Locality

Locality:
Keywords

Show: 20 hits per page Page:
 1 2 3 4 5 6 7 8 9 10 >> of 10 (190 localities)

Locality [101] NORTH AMERICA / UNITED STATES
 Locality: Laboratory - FSU
 No. Images: 319

Click when the desired locality is found

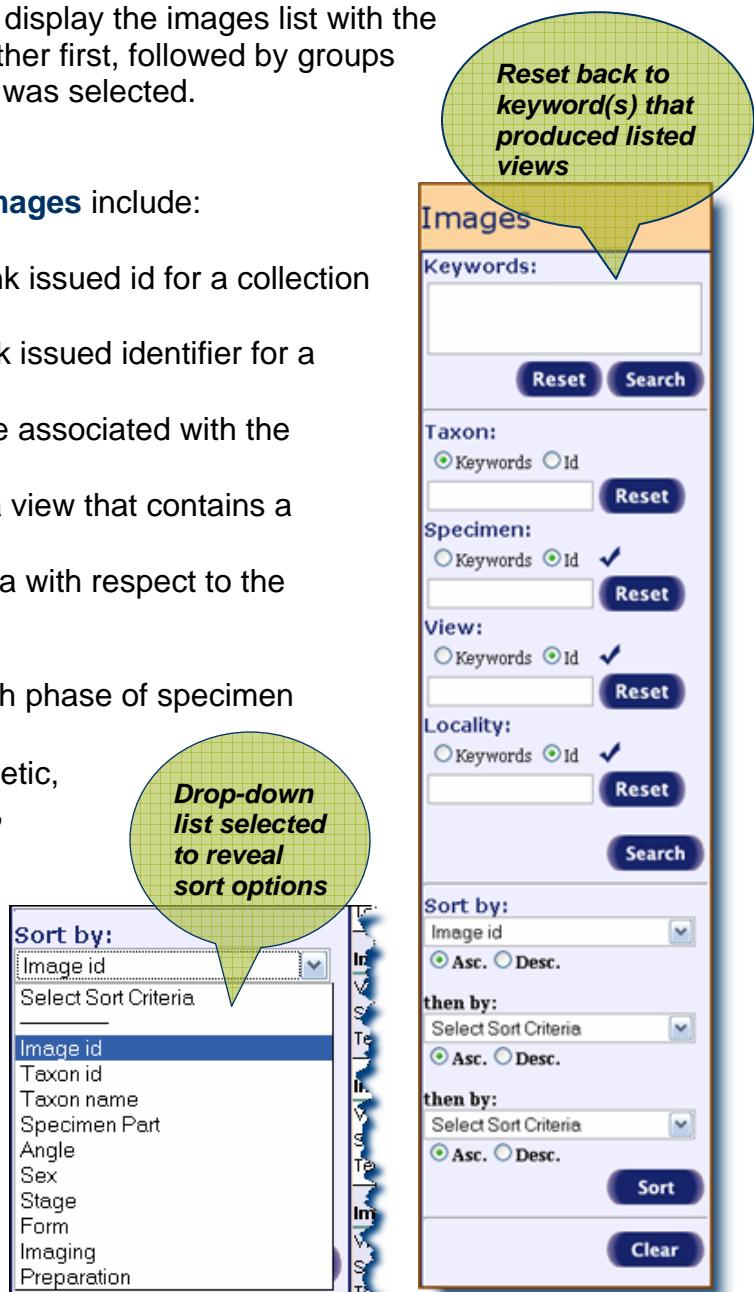
Sort the Results

To sort the list of images, select the **Sort By** criteria from the drop down list(s). The more criteria selected, (up to 3 levels) the more refined the browse will be (Figure 10). The resulting page will display the images list with the initial **Sort By** option grouped together first, followed by groups of any of the other sort criteria that was selected.

Sort criteria options for **Browse-Images** include:

- Image id: unique MorphBank issued id for a collection
- Taxon id: unique MorphBank issued identifier for a taxon name
- Taxon name: scientific name associated with the specimen and/or images
- Specimen part: pertains to a view that contains a portion of a specimen
- Angle: location of the camera with respect to the specimen for photographing
- Sex: of the specimen
- Stage: developmental growth phase of specimen
- Form: specimens may
- Have a form of parthenogenetic, indeterminate, ovulate cone, unknown, etc.
- Imaging: technique used to capture photo such as auto-montage, transmitted light; bright field, etc.
- Preparation: technique used on the specimen before photographing such as gold coated or pressed and dried, etc.

Use the **Clear** button to clear the **search** and **Sort By** boxes of all criteria.



Sort by:

Image id
Select Sort Criteria

Image id
Taxon id
Taxon name
Specimen Part
Angle
Sex
Stage
Form
Imaging
Preparation

Keywords:

Reset Search

Taxon:

Keywords Id Reset

Specimen:

Keywords Id ✓ Reset

View:

Keywords Id ✓ Reset

Locality:

Keywords Id ✓ Reset

Sort by:

Image id
Asc. Desc.

then by:

Select Sort Criteria
Asc. Desc.

then by:

Select Sort Criteria
Asc. Desc.

Sort Clear

Figure 9 Browse-Image-Sort Options

Figure 10 Browse-Image-Sort

Adding Images to a Collection

Logged in users have the option of adding a group of images to a **collection**. (If not logged in, this section does not appear onscreen.) A collection is a group of specimen images that are assembled from the MorphBank database by MorphBank members for the purpose of viewing and/or manipulating (e.g. rearranging the order, editing, and/or annotating, etc.) and storing the images for future use.

Note: In upcoming versions a collection will include images and other objects such as: annotations, groups, localities, publications, specimens, users or views.

- Collections must have at least one image/object. Deleting the last image will leave an empty collection. Do not delete it.
- Collections have an order based on the owner's criteria. The initial order will correspond to the order the objects were initially selected.
- Collections are identified by a unique internal id.
- Collections are published (viewable to the world) when released by the creator (default 6 months if not otherwise notified).

Once the desired group of images are collected and listed on the screen, the images can be tagged for inclusion in a **collection**. Select the desired images for a collection by clicking on the check box to the left of the image id on each image to be included. ([Figure 11](#))

Note: There are no restrictions as to the number of objects in a collection. However, due to speed considerations, the user should exercise caution not to exceed 100 high resolution images per collection.

If all the images listed on the screen are desired in the collection, select the **Check All** button. To undo all the checked boxes at one time click on the **UnCheck** button.

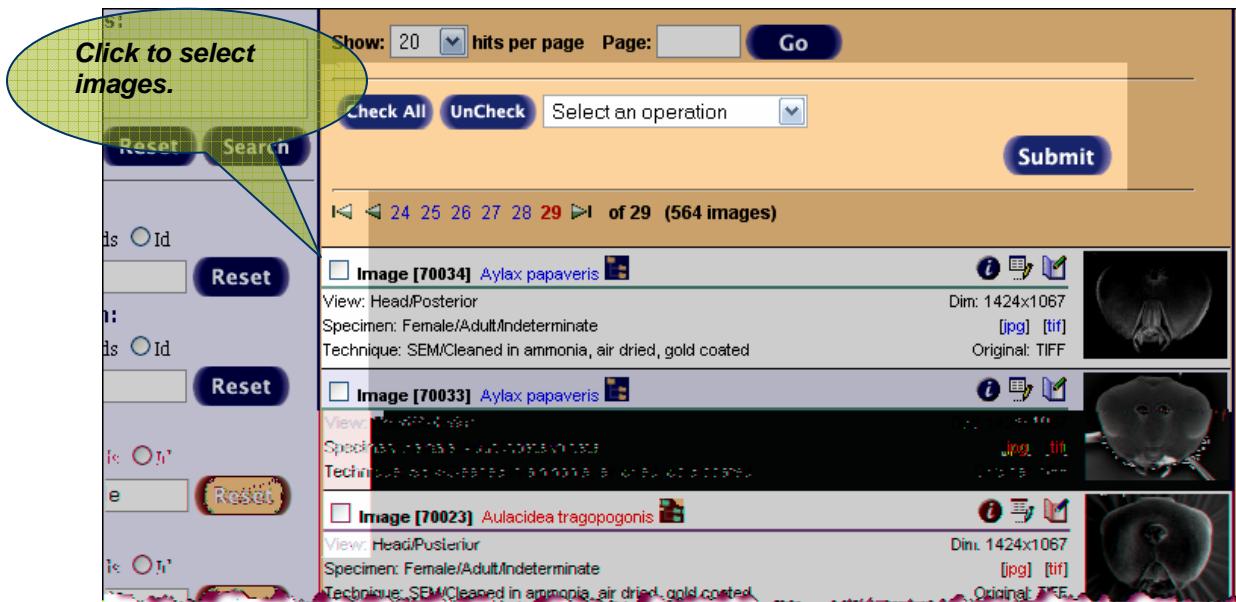


Figure 11 Check Boxes for Inclusion in Collection

From the **Select an Operation** drop down list, choose the desired operation followed by **Submit**. The **Collection Manager** will display a confirmation message before performing the operation.

Collections can be viewed, edited and annotated. Permission guidelines for these features and for detailed instructions on collections refer to the [Collections](#) section of this manual.

Screen Use Tips:

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go **Go** button ([Figure 7](#), [Figure 11](#)). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the information icon will display detailed information about that object (as in [Figure 12](#)). Selecting the tree of life symbol will list the taxonomic hierarchy of the Taxon name ([Figure 13](#)). Other options such as annotate and edit will be available only for those authorized through login permissions.

Example: Single Show-Image Record Page

This is an example of an image record page displayed from the information icon. MorphBank Single Show is an efficient way to display large amounts of information. For complete documentation on single show refer to [MorphBank Show](#) in the [Information Linking](#) section of this manual.

Image Record: [76408] *Alabagrus albispina*

<p>Submitted by: Michael Sharkey Submitted date: 07-20-2004 Published date: 07-20-2004</p> <hr/> <p>Access #: 5565 Magnification: NULL Dimension (px): 1351x1019 Resolution (PPI): 72 Submitted as: TIFF</p> <hr/> <p>View id: 75513 Specimen part: [56] - Head Angle: [35] - Anterior Technique: [25] - Auto-Montage Preparation: [77344] - No preparation</p> <hr/> <p>Download: tiff (0) jpeg (0)</p>	 <div style="position: absolute; top: 30px; left: 350px; background-color: #ffffcc; border-radius: 50%; padding: 10px; color: black; font-style: italic;">MorphBank issued image id</div>
<p>Specimen</p> <p>Specimen id: 75543 Basis of record: [S] - Specimen Sex: [97] - Female Form: [104] - Indeterminate Stage: [95] - Adult Collector: Michael Sharkey Date collected: 00-00-0000</p>	<p>Locality</p> <p>Locality Id: 75542 Continent ocean: [00] - UNKNOWN Country: [00] - UNKNOWN Locality: Latitude: Longitude: Elevation (m):</p>
<p>Determination</p> <p>Class: Insecta Order: Hymenoptera Family: Braconidae Genus: Alabagrus Species: <i>Alabagrus albispina</i></p>	<p>Determination annotations</p>
<p>Annotations</p>	<p>External links</p>

Figure 12 Example of Image Record

Example: Taxon Hierarchy Page

This is an example of an image record page displayed from the taxon hierarchy icon.

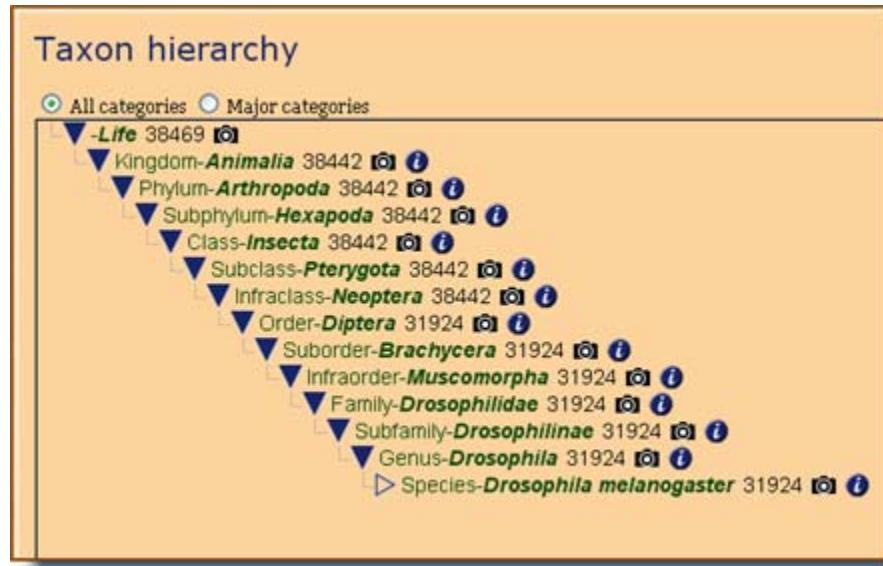
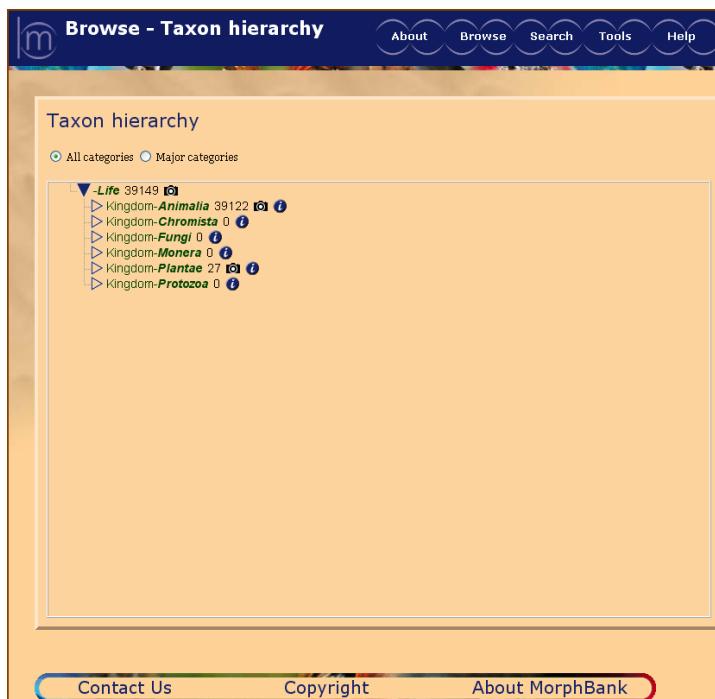


Figure 13 Example of Taxon Hierarchy

Browse -Taxon Hierarchy



The screenshot shows the 'Browse - Taxon hierarchy' page. At the top, there's a navigation bar with links for 'About', 'Browse', 'Search', 'Tools', and 'Help'. Below the navigation is a section titled 'Taxon hierarchy' with two radio button options: 'All categories' (selected) and 'Major categories'. A tree view shows the root node '-Life' with a count of 39149, expanded to show sub-nodes like 'Kingdom-Animalia' (39122), 'Kingdom-Chromista', 'Kingdom-Fungi', 'Kingdom-Monera', 'Kingdom-Plantae' (27), and 'Kingdom-Protozoa'. At the bottom of the page are links for 'Contact Us', 'Copyright', and 'About MorphBank'.

Figure 14 Browse-Taxon Hierarchy

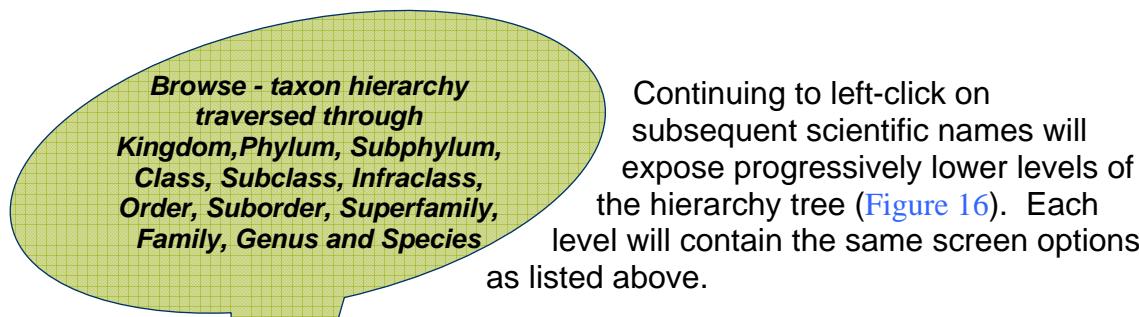


This screenshot shows the same 'Browse - Taxon hierarchy' page, but the 'Animalia' node under '-Life' is now expanded, revealing a detailed list of phyla: Acanthocephala, Annelida, Arthropoda, Brachiopoda, Chaetognatha, Chordata, Cnidaria, Ctenophora, Cyclopophora, Echinodermata, Echiura, Ectoprocta, Entoprocta, Gastrotricha, Gnathostomulida, Hemicordata, and Kinorhyncha. Each item in the list includes a camera icon and an information icon.

All levels below the Animalia Kingdom revealed.

To the right of each name is a number which indicates the approximate number of images in that category along with several icons. If images are available, the camera  icon appears. To view information about the particular name, users can select the information icon  which will display additional information.

Figure 15 Browse-Taxon Hierarchy Showing Levels



Browse - Taxon hierarchy

Taxon hierarchy

All categories Major categories

- ▼ -Life 38434
- ▼ Kingdom-Animalia 38407
- ▼ Phylum-Arthropoda 38407
- ▼ Subphylum-Hexapoda 38407
- ▼ Class-Insecta 38407
- ▼ Subclass-Pterygota 38407
- ▼ Infraclass-Neoptera 38407
- ▼ Order-Lepidoptera 1725
- ▼ Superfamily-Papilioidea 1723
- ▼ Family-Lycaenidae 1717
- ▼ Genus-Turanana 5
- Species-Turanana endymion 5

In this example the Species Turanana endymion contains 5 images

Figure 16 Browse-Taxon Hierarchy Showing Levels

Selecting the downward arrow ▼ on the **Taxon Hierarchy** screen advances the tree to the next taxon level. The open, right facing arrow ► signifies that the tree can be expanded further by selecting the desired scientific name.

Taxon hierarchy

All categories Major categories

- ▼ -Life 38434
- ▼ Kingdom-Animalia 38407

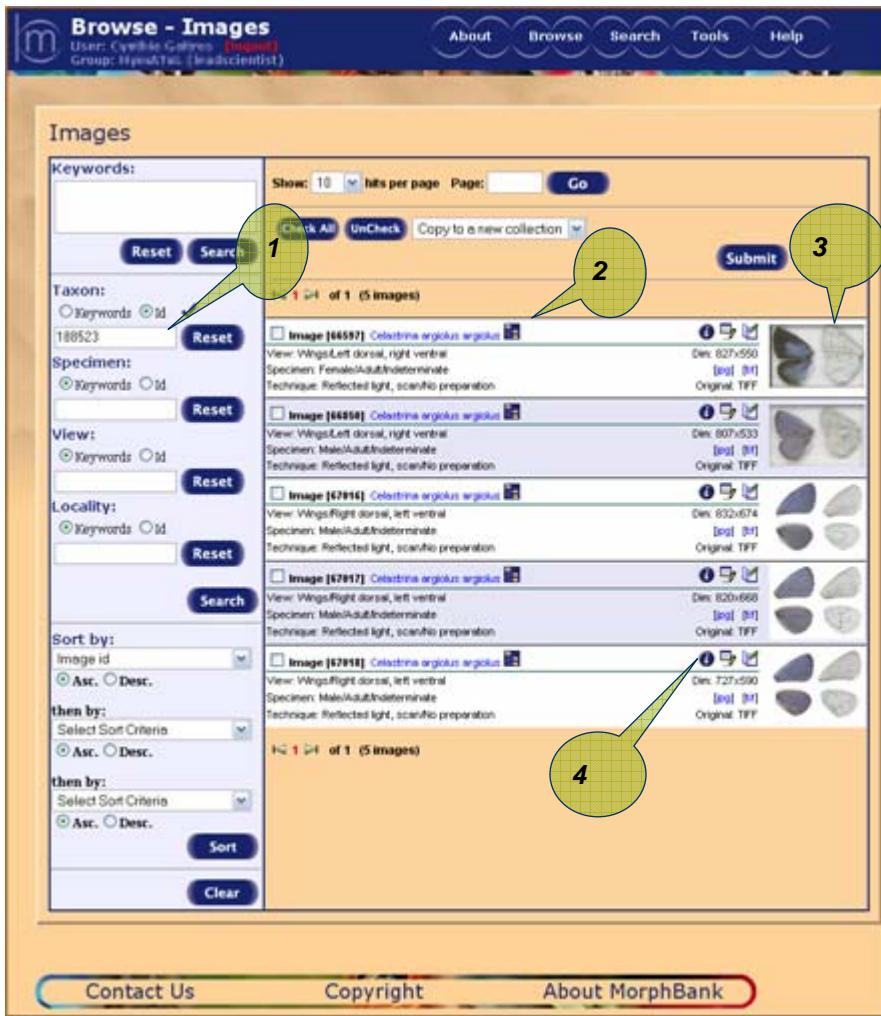
If the downward arrow ▼ that has lower hierarchy levels exposed is selected, the list is collapsed to that arrow which becomes a right facing arrow ► (Figure 17). Click the arrow again to return to the previous state.

Figure 17 Taxon Hierarchy All Levels Collapsed

Note: The number of images shown beside the taxon names may not be the actual count. Image counts are updated periodically. Values that remain constant over several hours can be assumed to be accurate. Images just submitted may take time to publish so image(s) may not be immediately viewable but may be listed in the count.

Example: Browse-Images Page

Displays list of images when camera  icon is selected from **Browse- Taxon Hierarchy** page ([Figure 14](#)).



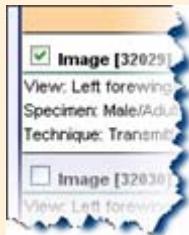
The screenshot shows the 'Browse - Images' interface. At the top, there are links for 'About', 'Browse', 'Search', 'Tools', and 'Help'. Below the header, a search bar allows users to enter keywords or IDs, with 'Reset' and 'Search' buttons. A dropdown menu for 'Taxon' is open, showing 'Keywords' and 'Id' options, with '188523' selected. Other dropdown menus for 'Specimen', 'View', 'Locality', and 'Sort by' are also present. The main area displays a table of five images for 'Celastrina argiolus argiolus'. Each row includes a checkbox, the image ID, the species name, a detailed description of the view (e.g., 'Wings-Left dorsal, right ventral'), the specimen ID, its status ('Female/Aut/Indeterminate'), and the technique used ('Reflected light, scientific preparation'). To the right of each image is a set of icons for annotation, editing, and information. Navigation controls at the bottom include 'Contact Us', 'Copyright', and 'About MorphBank'.

Figure 18 Example of Browse-Images

Tag descriptions for [Figure 18](#)

- Tag 1 -Taxonomic serial number and specimen name
- Tag 2 -Select to advance to hierarchy tree or to the alphabetical list of all taxonomic names in MorphBank
- Tag 3 -The list of five images for the species *Celastrina argiolus*
- Tag 4 -Annotation, edit and information icons

Screen Use Tips:



Use the check boxes (located left of the image id) to select images to add to a collection.

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go **Go** button). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the information icon  will display detailed information about the specimen. Other options such as annotate  and edit 

 will be available only for those authorized through login permissions. Any thumbnail image can be reproduced in its original format by selecting the **[jpg] or [tif]** option (images with other formats will list that option). Selecting the tree of life symbol  will list the taxonomic hierarchy of the Taxon name.

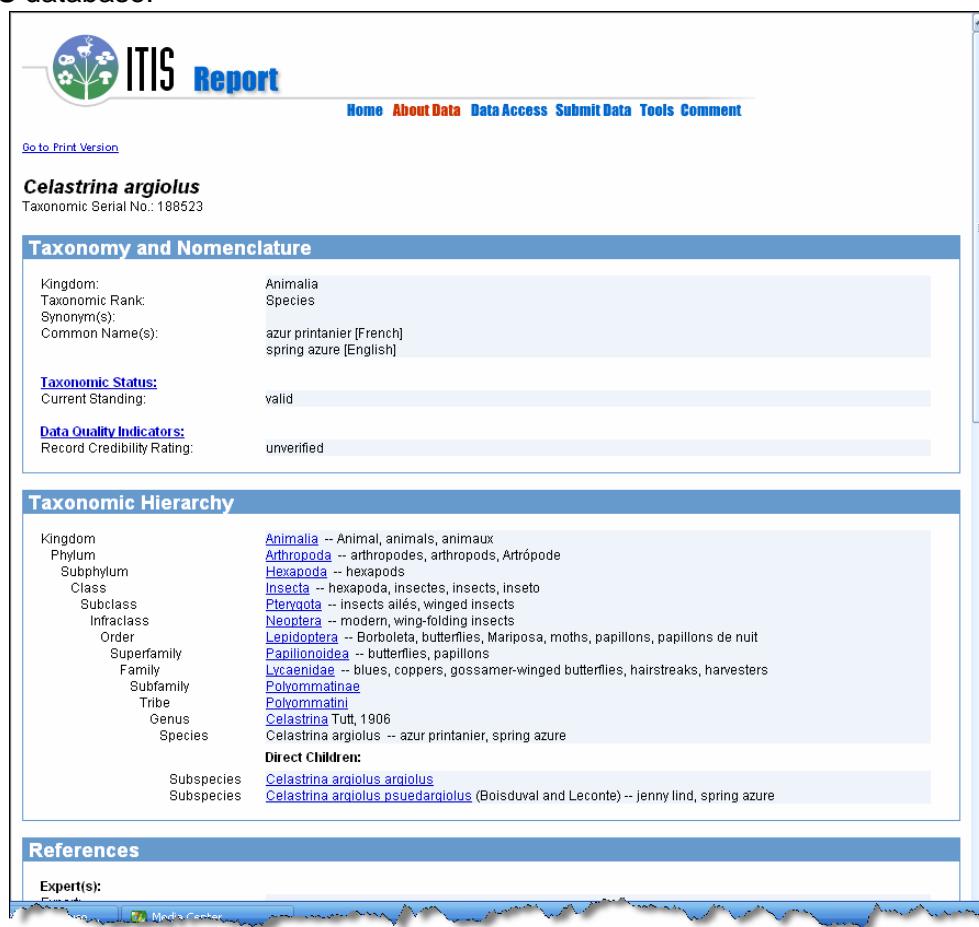
Example: ITIS Report

Displayed from Information  Icon, **Browse -Taxon Hierarchy** page (Figure 14).

This taxonomic classification page is provided by the [Integrated Taxonomic Information System \(ITIS\)](#) database maintained by the United States Department of Agriculture (USDA). ITIS was selected as the taxonomic name server for MorphBank in 2004 because it represented the most complete comprehensive taxonomic name service available at the time. Also, the entire database could be downloaded locally making access to the data quick and efficient.

ITIS is a consistent service. It has a high level of stability and a rigid review system. Since ITIS is maintained by the USDA, the probability that the service will be persistent for several years is high. Taxonomic names are entered into the system and panel of experts periodically review the names for quality assurance.

When a taxonomic Id has a value greater than [999000000] it is considered a temporary id. Temporary Ids are assigned to taxon names that have not been officially entered into the ITIS database.



Celastrina argiolus
Taxonomic Serial No.: 188523

Taxonomy and Nomenclature

Kingdom:	Animalia
Taxonomic Rank:	Species
Synonym(s):	
Common Name(s):	azur printanier [French] spring azure [English]

Taxonomic Status:
Current Standing: valid

Data Quality Indicators:
Record Credibility Rating: unverified

Taxonomic Hierarchy

Kingdom	Animalia -- Animal, animals, animaux
Phylum	Arthropoda -- arthropodes, arthropods, Artrópode
Subphylum	Hexapoda -- hexapods
Class	Insecta -- hexapoda, insects, insects, inseto
Subclass	Pterygota -- insects ailés, winged insects
Infraclass	Neoptera -- modern, wing-folding insects
Order	Lepidoptera -- Borboleta, butterflies, Mariposa, moths, papillons, papillons de nuit
Superfamily	Papilionoidea -- butterflies, papillons
Family	Lycaenidae -- blues, coppers, gossamer-winged butterflies, hairstreaks, harvester
Subfamily	Polyommatinae
Tribe	Polyommatusini
Genus	Celastrina Tutt, 1906
Species	Celastrina argiolus -- azur printanier, spring azure

Direct Children:

- [Celastrina argiolus argiolus](#)
- [Celastrina argiolus pseudargiolus](#) (Boisduval and Leconte) -- jenny lind, spring azure

References

Expert(s):

Figure 19 Sample ITIS Report-Partial Page

Example: Single Show-Image Record

Displayed from the information  icon, [Browse Images](#) page (Figure 18). This page displays Information unique to this image. MorphBank Single Show is an efficient way to display large amounts of information. For complete documentation on single show refer to [MorphBank Show](#) in the [Information Linking](#) section of this manual.

Image Record: [102143] Ampulex compressa

MorphBank issued image id

Access #: 53077
 Magnification: NULL
 Dimension (px): 1350x1020 mmmm
 Resolution (ppi): mmuu
 Submitted as: TIFF

View id: 79922
 Specimen part: [94] - Whole body
 Angle: [38] - Dorsal
 Technique: [25] - Auto-Montage
 Preparation: [77344] - No preparation

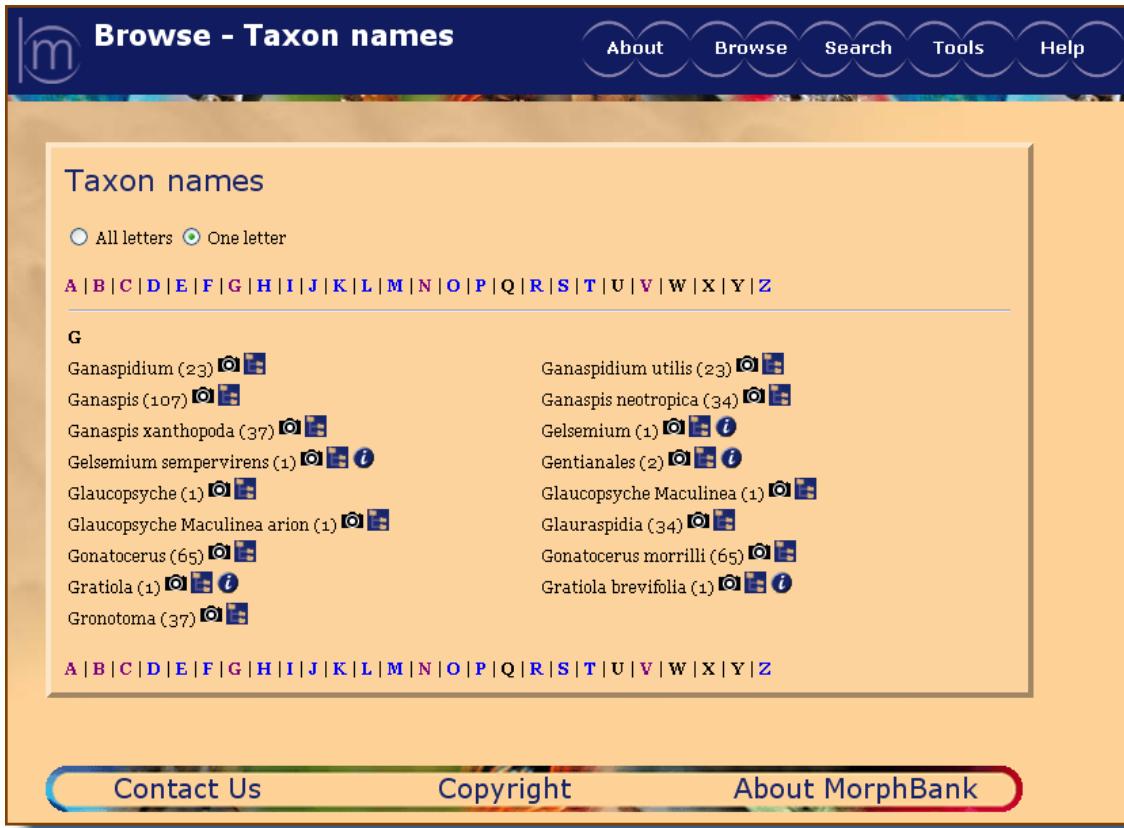
Download: tiff (0) jpeg (0)



Specimen <p>Specimen id: 102101 Basis of record: [S] - Specimen Sex: [97] - Female Form: [104] - Indeterminate Stage: [95] - Adult Collector: Reinhard Date collected: 04-00-1994</p>	Locality <p>Locality Id: 102049 Continent ocean: [AS] - ASIA Country: [LK] - SRI LANKA Locality: Koggala Latitude: Longitude: Elevation (m):</p>
Determination <p>Class: Insecta Order: Hymenoptera Family: Sphecidae Genus: Ampulex Species: Ampulex compressa</p>	Determination annotations <p>blue font is selectable to reveal additional information</p>
Annotations	External links

Figure 20 Example of Image Record

Browse - Taxon Names



The screenshot shows the 'Browse - Taxon names' interface. At the top, there is a navigation bar with links for About, Browse, Search, Tools, and Help. Below the navigation bar, a section titled 'Taxon names' displays a list of taxonomic names starting with the letter 'G'. The names listed are: Ganaspidium (23), Ganaspis (107), Ganaspis xanthopoda (37), Gelsemium sempervirens (1), Glauropsyche (1), Glauropsyche Maculinea arion (1), Gonatocerus (65), Gratiola (1), Gronotoma (37), Ganaspidium utilis (23), Ganaspis neotropica (34), Gelsemium (1), Gentianales (2), Glauropsyche Maculinea (1), Glauraspidia (34), Gonatocerus morrilli (65), Gratiola brevifolia (1). Below the list is a footer with links for Contact Us, Copyright, and About MorphBank.

Figure 21 Browse-Taxon Names –Using “One Letter” Option (G)

In this option, users can avoid possible spelling or name recollection difficulties by using the **Browse - Taxon Names** option. All taxonomic names are listed in alphabetic order. The default screen will list all alphabetized taxon names starting with the letter **A** and finishing with **Z**. To start the list with another letter,



This screenshot shows the same interface as Figure 21, but with a different selection. The 'One letter' radio button is selected, and the letter 'G' is highlighted in the list of letters below the 'Taxon names' section. This indicates that the user has chosen to see only taxon names starting with the letter 'G'.

select it from the letter strip above the list. For example, select **P** to start the list with the letter **P** and end with **O**.

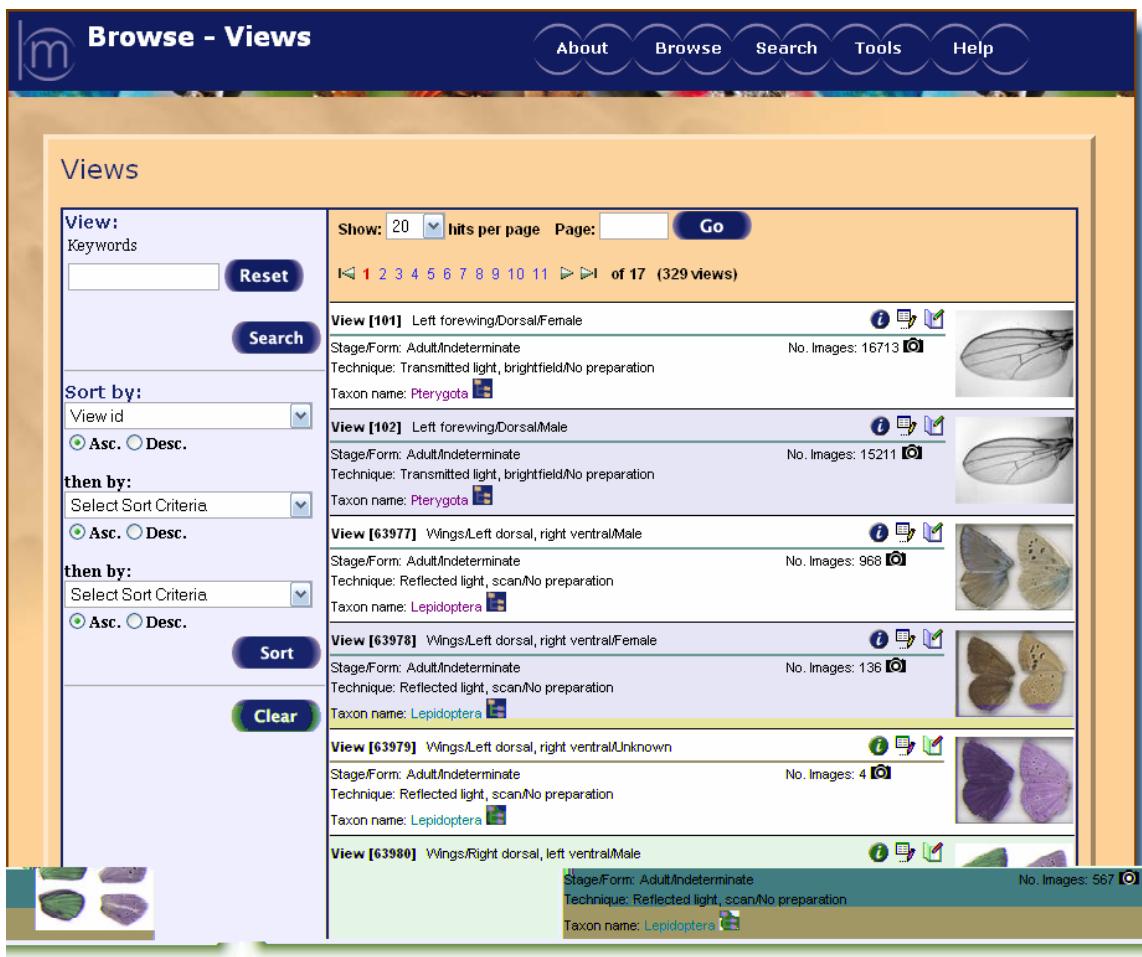
Another option, by **one letter**, is available for those who would like to see only those taxon names listed that begin with one selected letter at a time (Figure 21). For example, if the user selects the **one letter** option, and selects the letter **G** from the letter selection strip, only a list of taxon names beginning with **G** will result. Users may select the camera  beside a taxonomic name to display a

list of associated images (Figure 18). Selecting the tree of life symbol  will list the taxonomic hierarchy of the Taxon name (Figure 14, Figure 15, Figure 16).

Notes:

- *This taxonomic classification is based on the Integrated Taxonomic Information System (ITIS) database maintained by the United States Department of Agriculture.*
- *When a taxonomic Id has a value greater than [999000000] it is considered a temporary id. Temporary Ids are assigned to taxon names that have not been officially entered into the ITIS database.*
- *The number of images shown beside the taxon names may not be the actual count. Image counts are updated periodically. Values that remain constant over several hours can be assumed to be accurate. Images just submitted may take time to publish so image(s) may not be immediately viewable but may be listed in the count.*

Browse – Views



View:
Keywords

Sort by:
View id

then by:
Select Sort Criteria

then by:
Select Sort Criteria

View [101]	Left forewing/Dorsal/Female	No. Images: 16713
View [102]	Left forewing/Dorsal/Male	No. Images: 15211
View [63977]	Wings/Left dorsal, right ventral/Male	No. Images: 968
View [63978]	Wings/Left dorsal, right ventral/Female	No. Images: 136
View [63979]	Wings/Left dorsal, right ventral/Unknown	No. Images: 4
View [63980]	Wings/Right dorsal, left ventral/Male	No. Images: 567

Figure 22 Browse-Views

A view specifies the criteria (the type of taxa, view angle, preparation technique, etc.) under which a photograph was taken. By selecting the **View** option, the user is presented with a list of all the registered views within the database (Figure 22).

Browse by Keywords

Use **Keywords** to display a list of views based on imaging technique, imaging preparation technique, part, angle, developmental stage, sex and/or form. To display a list of views based on a keyword(s) search, type the keyword(s) in the box and select **Search**. For example, to browse for all views pertaining to the

dorsal side of a body (part) and gold coated (imaging preparation technique), type keywords **body dorsal gold coated** and select **Search** (Figure 23).

Screen Use Tips:

Separate more than one keyword with a space. **Search** is not case sensitive. Proper spelling will assure the best search however, typing a partial word, will result in a corresponding search containing those letters. (e.g. if searching for taxon braconidae, typing the letters "braco", or "conidae" will result in a list of braconidae data, but entering "idae" would return a list that contained more than just braconidae data. Therefore, the more complete the search word(s) is, the more accurate the search results will be.)

The **Reset** button will revert back to the keyword(s) that produced the list of views currently on the screen.

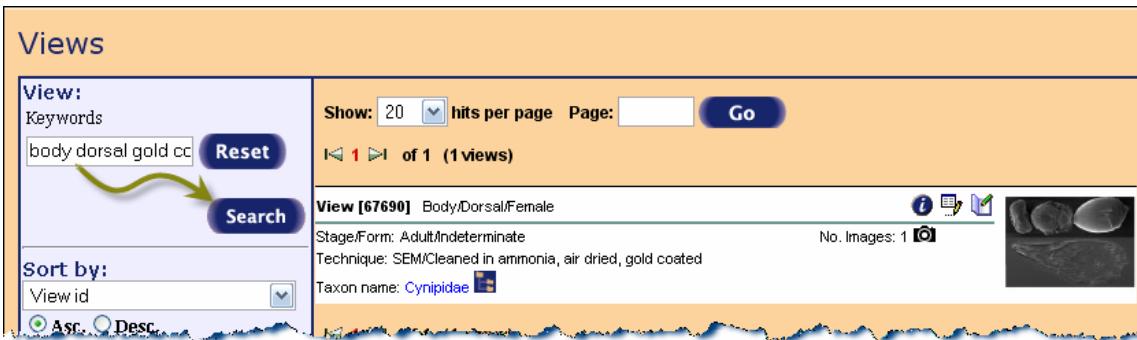


Figure 23 Browse-Views-Keywords

Sort the Results

To sort the list of views, select the **Sort By** criteria from the drop down list(s). The more criteria selected, (up to 3 levels) the more refined the browse will be (Figure 24, Figure 25). The resulting page will display the view list with the initial **Sort By** option grouped together first, followed by groups of any of the other sort criteria that was selected.

Sort criteria options for **Browse-Views** include:

- View id: Unique MorphBank issued identifier for a view
- Specimen part: pertains to a view that contains a portion of a specimen
- Angle: location of the camera with respect to the specimen for photographing
- Sex : present for specimens when known or applicable
- Stage: developmental growth phase of specimen
- Form: specimens may have a form of parthenogenetic, indeterminate, ovulate cone, unknown, etc.
- Imaging: technique used to capture photo such as auto-montage, transmitted light; bright field, etc.
- Preparation: technique used to prepare the specimen for photographing such as dissected, air dried and gold coated etc.
- Taxon: scientific name of the specimen
- Number of images: pertaining to one specimen

Use the **Clear** button to clear the **Search** and **Sort By** boxes of all criteria.

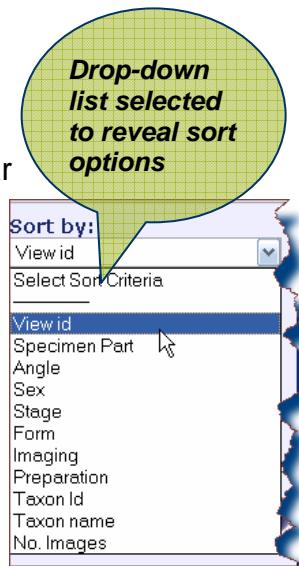


Figure 24 Browse-View-Sort Options

Figure 25 Browse-View-Sort

Screen Use Tips:

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go  button ([Figure 22](#), [Figure 23](#)). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the camera  will display all images associated with that view regardless of their taxonomic value ([Figure 26](#)) or selecting the information icon  will display detailed information about that view. Selecting the tree of life symbol  will list the taxonomic hierarchy of the Taxon name. Other options such as annotate  and edit  will be available only for those authorized through login permissions.

Example: Browse-Images Page

Displays list of images when camera  icon is selected from **Browse-Viewpage** (Figure 22).

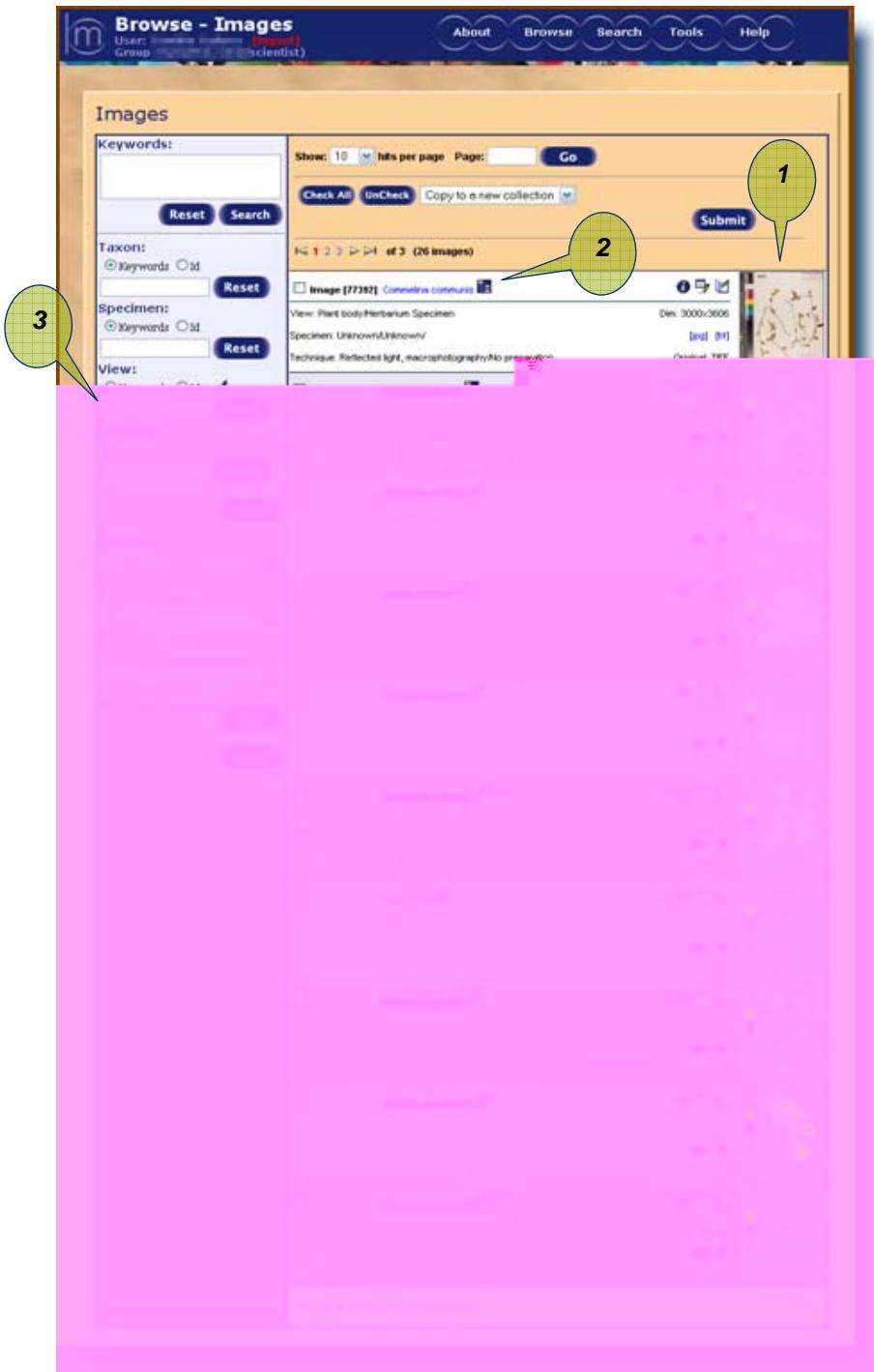


Figure 26 Example of Browse – Images

Tag descriptions for Figure 26

Tag 1 -List of images associated with the view 77407

Tag 2 -Select to advance to hierarchy tree

Tag 3 -MorphBank issued unique identifier number for the view.

Example: Thumbnail image enlarged

When selecting **[jpg]** or **[tif]** from an images page such as [Figure 26](#), any thumbnail image can be reproduced in its original format (images with other formats will list that option).

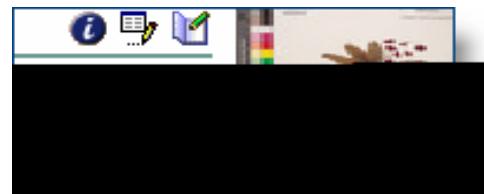


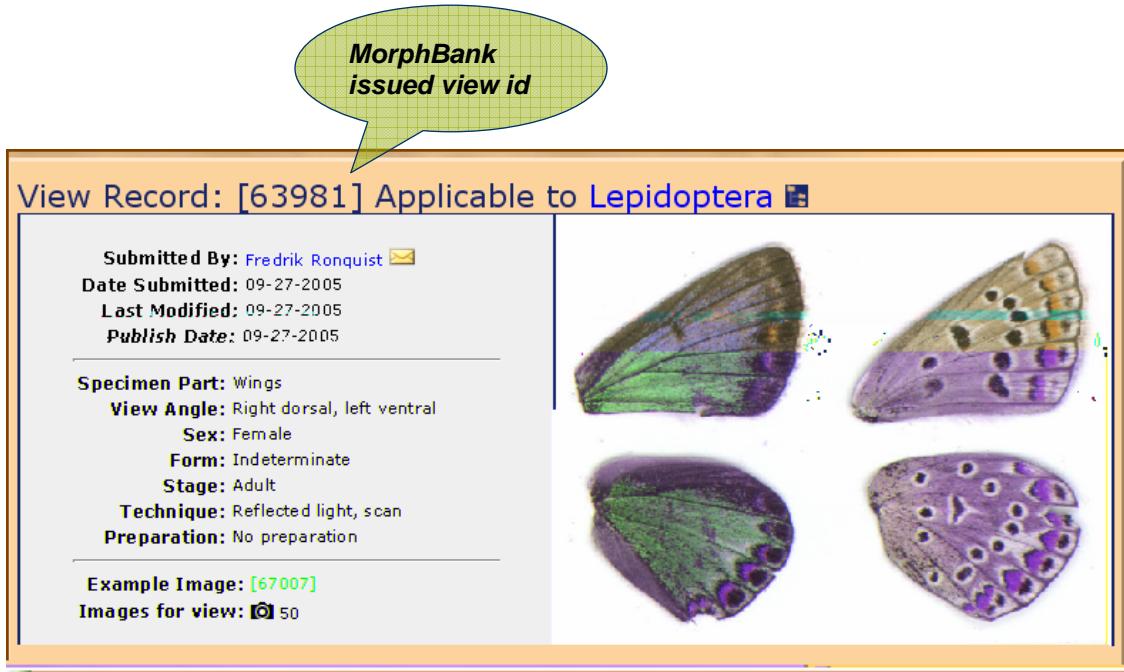
Image Thumbnail
From [Figure 27](#)



Figure 27 Example of Thumbnail Image When [JPG] or [TIF] Selected

Example: Single Show-View Record Page

Displayed from the information  Icon, **Browse-Views** page (Figure 22)



MorphBank
issued view id

View Record: [63981] Applicable to Lepidoptera 

Submitted By: Fredrik Ronquist 

Date Submitted: 09-27-2005

Last Modified: 09-27-2005

Publish Date: 09-27-2005

Specimen Part: Wings

View Angle: Right dorsal, left ventral

Sex: Female

Form: Indeterminate

Stage: Adult

Technique: Reflected light, scan

Preparation: No preparation

Example Image: [67007]

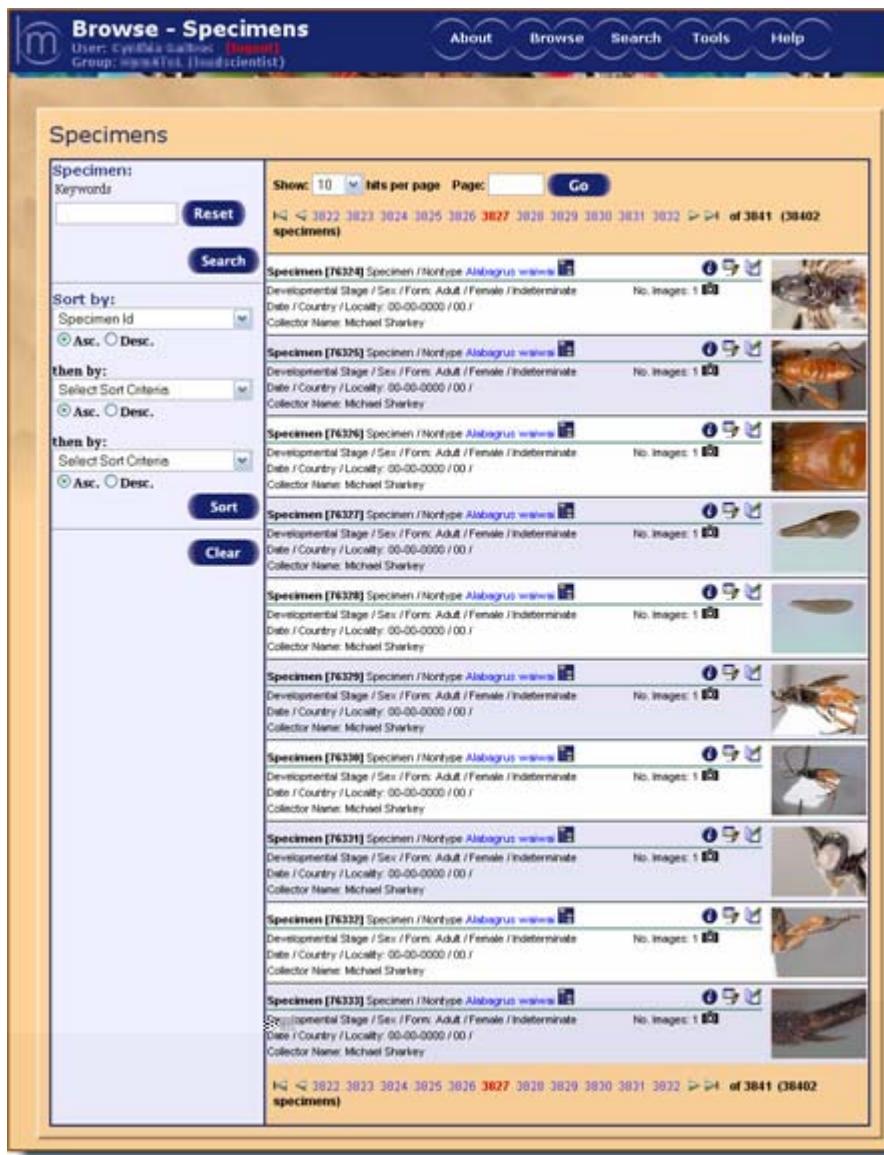
Images for view:  50



Figure 28 Example of View Record

MorphBank Single Show is an efficient way to display large amounts of information. For complete documentation on single show refer to [MorphBank Show](#) in the [Information Linking](#) section of this manual.

Browse-Specimens



The screenshot shows the 'Browse - Specimens' page. At the top, there are navigation links for 'About', 'Browse', 'Search', 'Tools', and 'Help'. On the left, there is a search bar with 'Keywords' and 'Reset' and 'Search' buttons. Below that are sorting options: 'Sort by: Specimen Id', 'Asc. □ Desc.', 'then by: Selected Sort Criteria', 'Asc. □ Desc.', and a 'Sort' button. There is also a 'Clear' button. The main area displays 10 specimen records, each with a thumbnail image, specimen ID [76324], name *Alabagrus wainae*, developmental stage Indeterminate, sex Adult, form Female, date 00-00-0000 / 00, location 00-00-0000 / 00, collector Michael Sharkey, and 1 image. The records are numbered 76324 through 76333. At the bottom, there is a page navigation bar with links to previous pages (3822, 3823, 3824, 3825, 3826, 3827, 3828, 3829, 3830, 3831, 3832), a total count of 3841, and a link to the last page.

Figure 29 Browse-Specimens

By selecting the **Browse-Specimens** option, the user will be presented with a list of all specimens registered in the MorphBank database.

Browse by Keywords

Use **Keywords** to display a list of specimens based on sex, form, basis of record, type status, collector name, institution code, collection code, catalogue

number, and/or taxonomic names. To display a list of specimens based on a keyword(s) search, type the keyword(s) in the box and select **Search**. For example, to browse for all specimens pertaining to the male (sex), *Aricia* (taxonomic name); type in **male Aricia** and select **Search** (Figure 30).

Screen Use Tips:

Separate more than one keyword with a space. **Search** is not case sensitive. Proper spelling will assure the best search however, typing a partial word, will result in a corresponding search containing those letters. (e.g. if searching for taxon braconidae, typing the letters "braco", or "conidae" will result in a list of braconidae data, but entering "idae" would return a list that contained more than just braconidae data. Therefore, the more complete the search word(s) is, the more accurate the search results will be.)

The **Reset** button will revert back to the keyword(s) that produced the list of specimens currently on the screen.

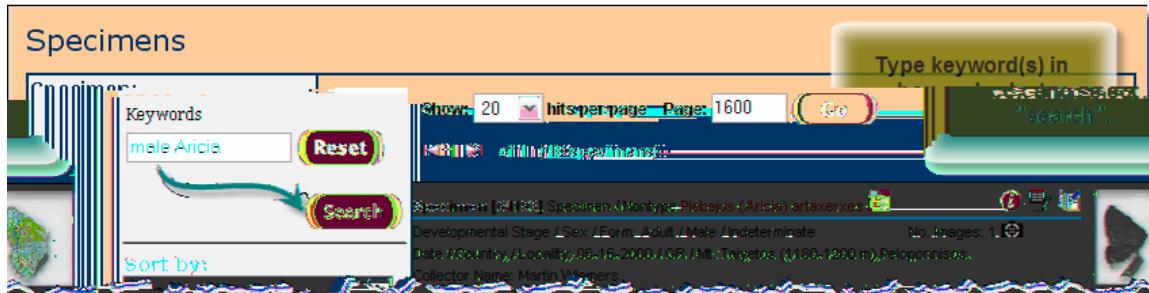


Figure 30 Browse-Specimens-Keywords

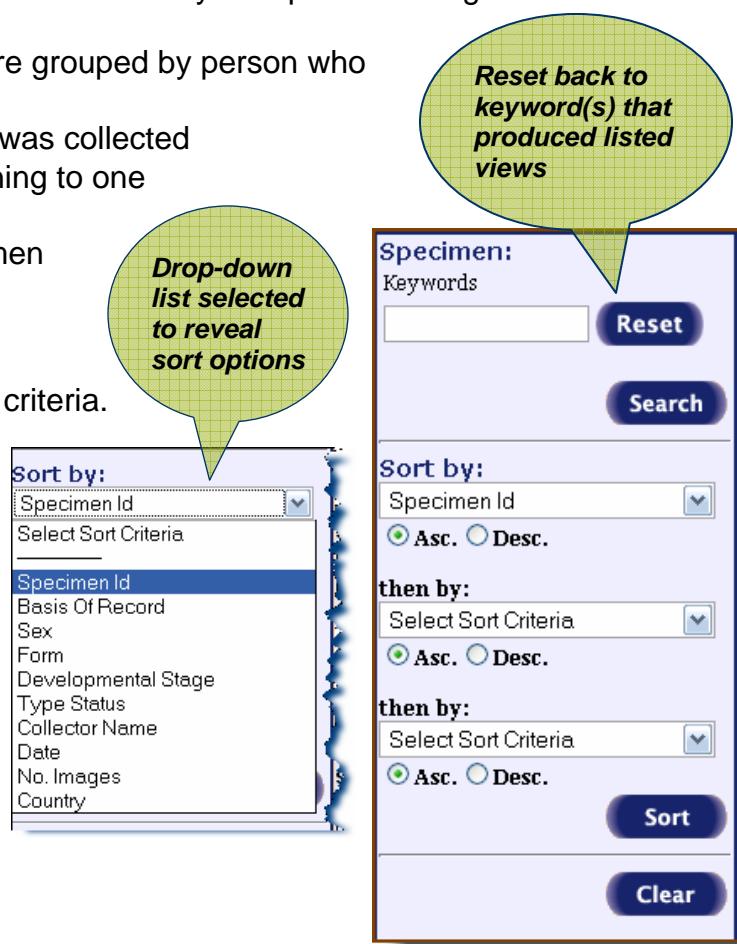
Sort the results

To sort the list of specimens, select the **Sort By** criteria from the drop down list(s). The more criteria selected, (up to 3 levels) the more refined the browse will be (Figure 31). The resulting page will display the specimen list with the initial **Sort By** option grouped together first, followed by groups of any of the other sort criteria that was selected.

Sort criteria options for browse-specimen include:

- Specimen id: Unique MorphBank issued identifier for a specimen
- Basis of record: at the time of collection, the specimen was categorized as an observation, a living organization, a specimen, a germ plasm/seed
- Sex: present for specimens when known or applicable
- Form:
- Specimens may have a form of parthenogenetic, indeterminate, ovulate cone, unknown, etc.
- Developmental stage: developmental growth phase of specimen
- Type status: specimen that is universally accepted as being a clear example of its species
- Collector name: records are grouped by person who collected the specimen
- Date: when the specimen was collected
- Number of images: pertaining to one specimen
- Country: where the specimen was collected

Use the **clear** button to clear the **Search** and **Sort By** boxes of all criteria.



Reset back to
keyword(s) that
produced listed
views

Drop-down
list selected
to reveal
sort options

Figure 31 Specimens Sort Option

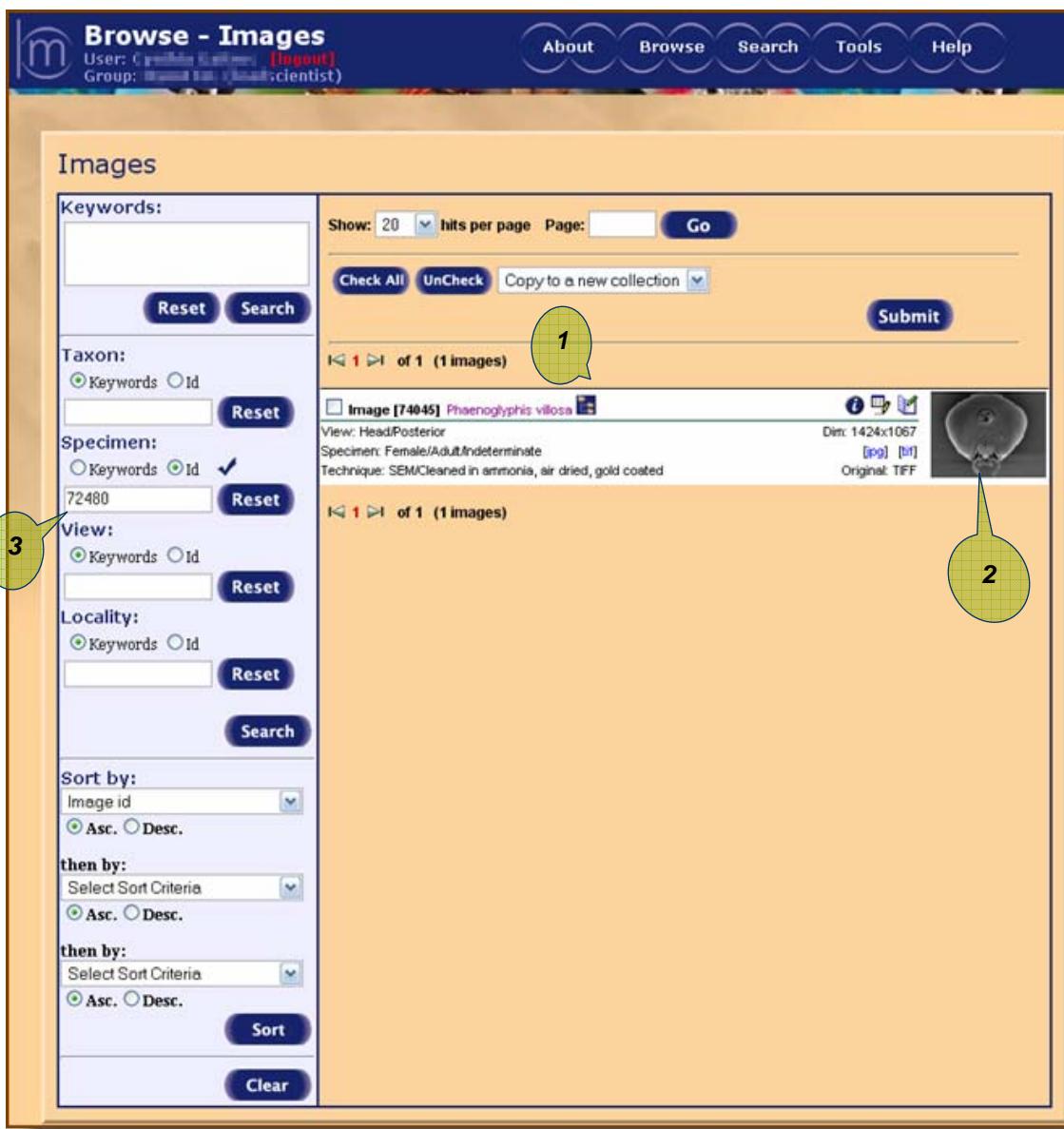
Screen Use Tips:

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go  button (Figure 29). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the camera  will display all images associated with that view regardless of their taxonomic value (Figure 30) or selecting the information icon  will display detailed information about that view. Selecting the tree of life symbol  will list the taxonomic hierarchy of the Taxon name. Other options such as annotate  and edit  will be available only for those authorized through login permissions.

Example: Browse-Images Page

Displays list of images when camera  icon is selected from **Browse-Specimens** page (Figure 29).



The screenshot shows the 'Browse - Images' interface. On the left, there is a sidebar with various search filters: 'Keywords', 'Taxon', 'Specimen', 'View', 'Locality', 'Sort by', 'then by', and 'Clear'. The 'Specimen' section has '74045' selected. A green circle labeled '3' points to the 'View' section. In the main content area, there is a search bar with 'Show: 20 hits per page Page: Go'. Below it are buttons for 'Check All', 'UnCheck', 'Copy to a new collection', and 'Submit'. A message '1 of 1 (1 images)' is displayed above a thumbnail image. The thumbnail is for 'Image [74045] Phaenoglypis villosa' and includes details: View: Head/Posterior, Specimen: Female/Adult/Indeterminate, Technique: SEM/Cleaned in ammonia, air dried, gold coated. It shows a small image of a specimen and links for 'Dim: 1424x1067', '[jpg]', '[tif]', and 'Original: TIFF'. A green circle labeled '1' is over the '1 of 1' message, and another green circle labeled '2' is over the thumbnail image.

Figure 32 Example of Browse-Images

Tag descriptions for Figure 32

Tag 1 -Select to advance to hierarchy tree or to the alphabetical list of all taxonomic names in MorphBank

Tag 2 -The image associated with the specimen 74045

Tag 3 -MorphBank issued Specimen identifier

Screen Use Tips:



Use the check boxes (located left of the image id) to select images to add to a collection.

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go **Go** button). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the information icon  will display detailed information about the specimen ([Figure 33](#)). Other options such as annotate

 and edit  will be available only for those authorized through login permissions. Any thumbnail image can be reproduced in its original format by selecting the **[jpg] or [tif]** option (images with other formats will list that option). Selecting the tree of life symbol  will list the taxonomic hierarchy of the Taxon name.

Example: “Single Show”-Specimen Record Page

Displayed from the information  Icon, [Browse-Specimens](#) page (Figure 29).

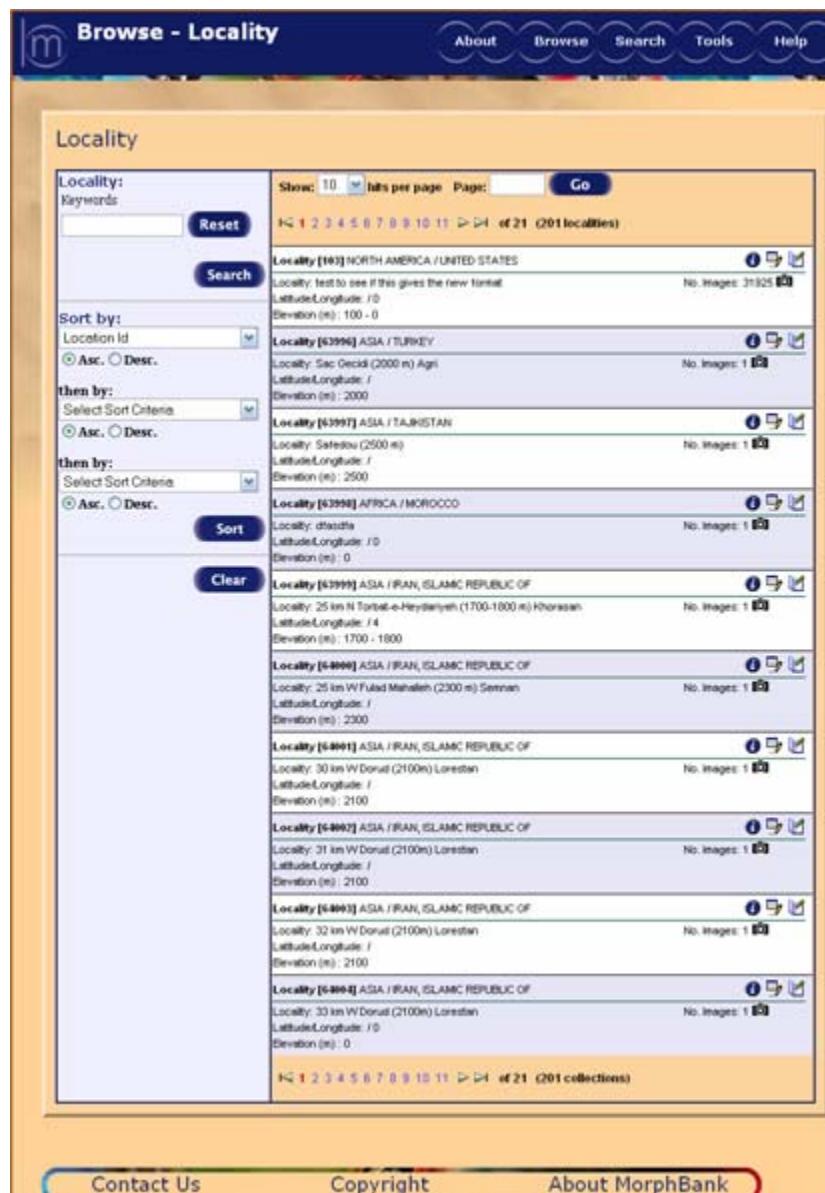
This page displays Information unique to this specimen. MorphBank Single Show is an efficient way to display large amounts of information. For complete documentation on single show refer to [MorphBank Show](#) in the **Information Linking** section of this manual.

Specimen Record: [72258] *Synergus colombianus*

Contributor: Jose Luis Nieves-Aldrey  Submitted: 04-15-2005 Last Modified: 04-15-2005 Publish Date: 04-15-2005 Specimen Id: 72258 Basis of Record: Specimen Sex: Fem Form: Individual Stage: Adult	 200 µm
Collection Collector: J.L. Nieves-Aldrey Institution: Collection Code: Catalog: Collection Num: Date Collected: 0000-00-00 00:00:00	Locality Locality Id: 67700 Locality: Iguape Continent: SOUTH AMERICA Country: COLOMBIA Latitude: Longitude: Precision: Elevation (m): Depth (m):
Determination Class: Insecta  Order: Hymenoptera  Family: Cynipidae  Genus: Synergus  Species: <i>Synergus colombianus</i> 	Determination Annotation
Annotations No Annotations	External links

Figure 33 Example of Specimen Record

Browse-Locality



The screenshot shows the 'Locality' search results page. At the top left, there is a search form with fields for 'Locality' and 'Keywords', and buttons for 'Reset', 'Search', 'Sort', and 'Clear'. To the right of the search form are buttons for 'About', 'Browse', 'Search', 'Tools', and 'Help'. Below the search form, the results are displayed in a table format.

Locality ID	Locality Description	Image Status
[63993] NORTH AMERICA / UNITED STATES	Locality test to see if this gives the new format Latitude/Longitude: /0 Elevation (m): 100 - 0	No Images: 31925
[63996] ASIA / TURKEY	Locality: Sac Ocreli (2000 m) Agri Latitude/Longitude: / Elevation (m): 2000	No Images: 1
[63997] ASIA / TAJIKISTAN	Locality: Saredou (2500 m) Latitude/Longitude: / Elevation (m): 2500	No Images: 1
[63998] AFRICA / MOROCCO	Locality: dtschla Latitude/Longitude: /0 Elevation (m): 0	No Images: 1
[63999] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 25 km N Tarbat-e-Heydarieh (1700-1800 m) Khorasan Latitude/Longitude: /4 Elevation (m): 1700 - 1800	No Images: 1
[64000] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 25 km W Firdad Mahalleh (2300 m) Semnan Latitude/Longitude: / Elevation (m): 2300	No Images: 1
[64001] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 30 km W Dorut (2100m) Lorestan Latitude/Longitude: / Elevation (m): 2100	No Images: 1
[64002] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 31 km W Dorut (2100m) Lorestan Latitude/Longitude: / Elevation (m): 2100	No Images: 1
[64003] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 32 km W Dorut (2100m) Lorestan Latitude/Longitude: / Elevation (m): 2100	No Images: 1
[64004] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 33 km W Dorut (2100m) Lorestan Latitude/Longitude: /0 Elevation (m): 0	No Images: 1

At the bottom of the results table, there is a page navigation bar with links labeled 1 through 11, followed by 'of 21 (201 localities)'.

Figure 34 Browse Locality

A locality includes detailed information about where a specimen was collected. By selecting the **Browse Locality** option, the user will be presented with a list of all localities registered on the MorphBank database.

Browse by Keywords

Use **keywords** to display a list of localities based on its locality, continent/ocean and/or country. To display a list of localities based on a keyword(s) search, type the keyword(s) in the box and select **Search**. For example, to browse for all localities pertaining to the Europe (continent) Spain (country) and Madrid (locality); type in **Europe Spain Madrid** and select **Search** (Figure 38).

Screen Use Tips:

Separate more than one keyword with a space. **Search** is not case sensitive. Proper spelling will assure the best search however, typing a partial word, will result in a corresponding search containing those letters. (e.g. if searching for taxon braconidae, typing the letters "braco", or "conidae" will result in a list of braconidae data, but entering "idae" would return a list that contained more than just braconidae data. Therefore, the more complete the search word(s) is, the more accurate the search results will be.)

The **Reset** button will revert back to the keyword(s) that produced the list of localities currently on the screen.

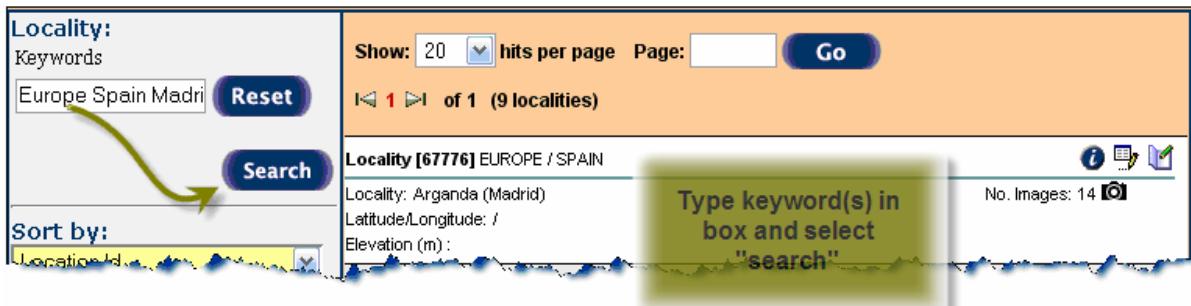


Figure 35 Browse-Locality-Keywords

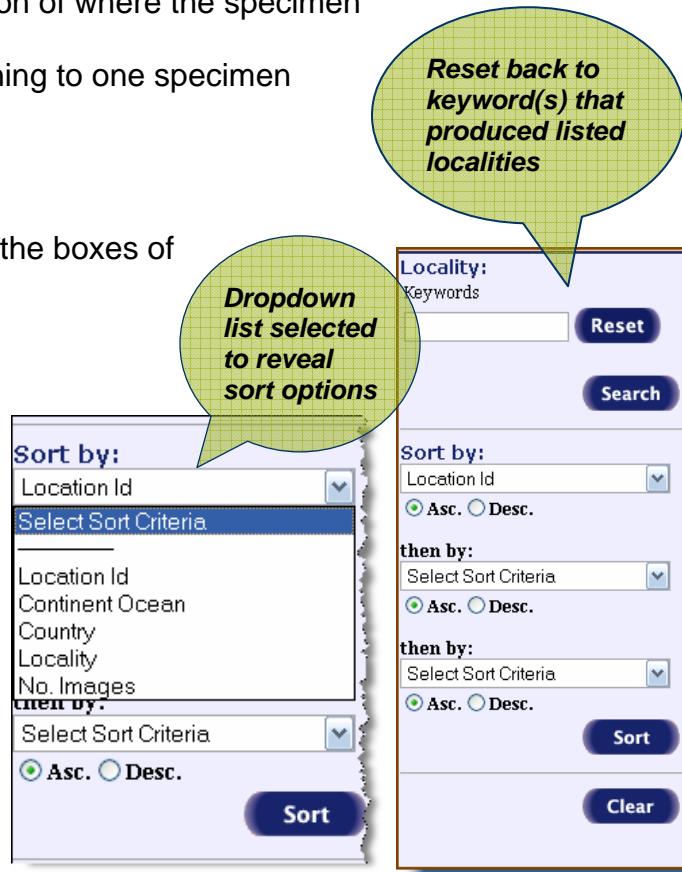
Sort the results

To sort the list of localities, select the **Sort By** criteria from the drop down list(s). The more criteria selected, (up to 3 levels) the more refined the browse will be (Figure 36). The resulting page will display the locality list with the initial **Sort By** option grouped together first, followed by groups of any of the other sort criteria that was selected.

Sort criteria options include:

- Location id: Unique MorphBank issued identifier for a locality
- Continent ocean: name of continent or ocean where the specimen was collected
- Country: name of the country where the specimen was collected
- Locality: detailed description of where the specimen was collected
- Number of images: pertaining to one specimen

Use the **Clear** button to clear the boxes of all criteria.



The screenshot shows a search interface for localities. On the left, a large green callout bubble points to a dropdown menu labeled "Dropdown list selected to reveal sort options". On the right, another green callout bubble points to a "Reset back to keyword(s) that produced listed localities" button. The interface includes fields for "Locality: Keywords", "Sort by:" (set to "Location Id"), "Asc." (radio button selected), "Search" button, and "Clear" button. Below these, there are "then by:" and "then by:" dropdown menus, both set to "Select Sort Criteria" with "Asc." radio buttons selected. At the bottom are "Sort" and "Clear" buttons.

Figure 36 Locality Sort Options

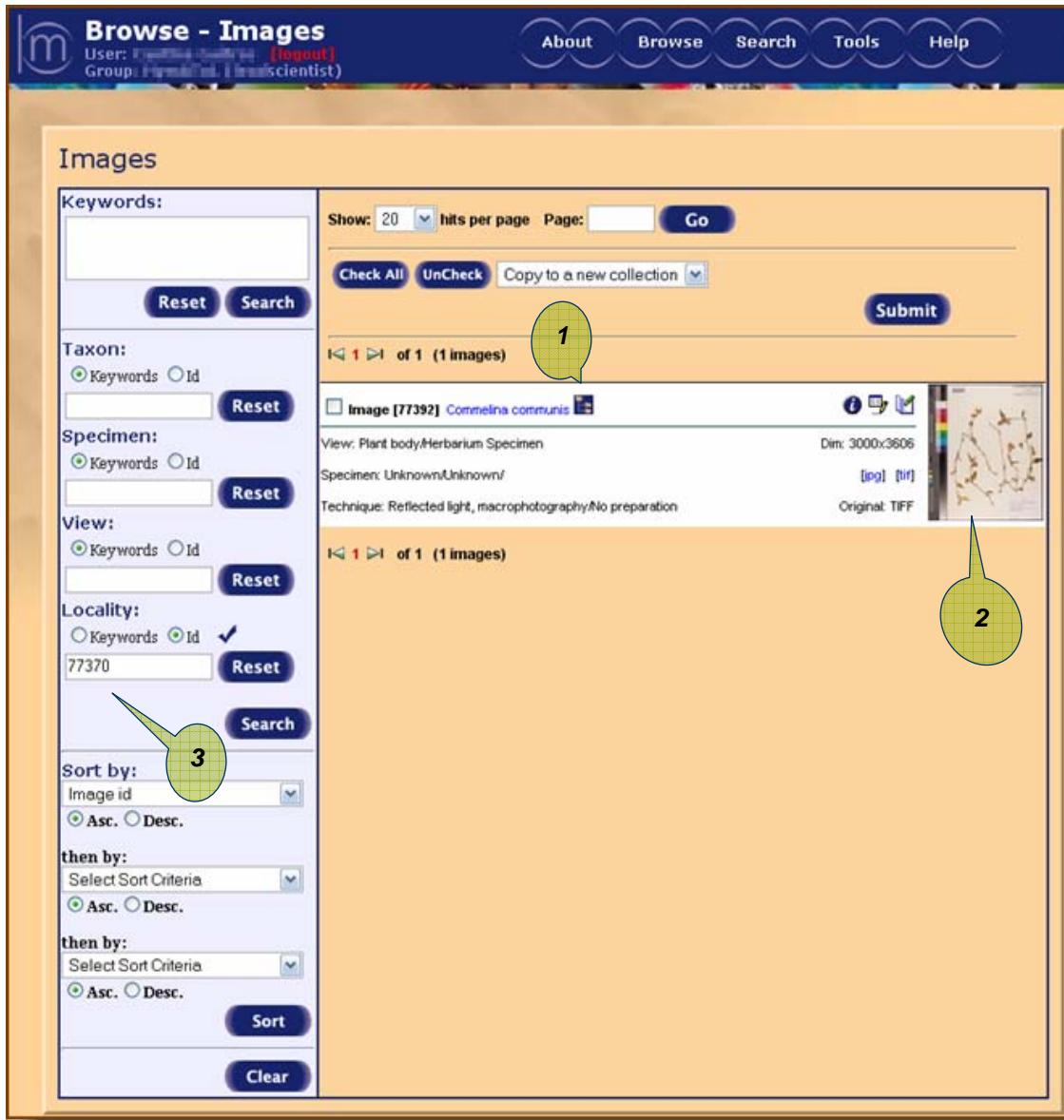
Screen Use Tips:

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the  go button (Figure 34). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the camera  will display all images associated with that view regardless of their taxonomic value (Figure 37) or selecting the information icon  will display detailed information about that locality. Other options such as annotate  and edit  will be available only for those authorized through login permissions.

Example: Browse-Images Page

Displays list of images when camera  icon is selected from **Browse-Locality** page (Figure 34).



The screenshot shows the 'Browse - Images' interface. On the left, there's a sidebar with search filters for Keywords, Taxon, Specimen, View, Locality, Sort by, and then by. The 'Locality' section is highlighted with a green circle labeled '3' and has '77370' selected. In the main area, a single image result is shown for 'Image [77392] Commelinaceae'. The image thumbnail shows a plant specimen. Metadata includes 'View: Plant body/Herbarium Specimen', 'Specimen: Unknown/Unknown/', 'Technique: Reflected light, macrophotography/No preparation', and file details like 'Dim: 3000x3606', '[jpg]', '[tif]', and 'Original: TIFF'. Navigation arrows at the top indicate '1 of 1 (1 images)'. A green circle labeled '1' points to these arrows. A green circle labeled '2' points to the image thumbnail.

Figure 37 Example of Browse-Images

Tag descriptions for Figure 37

Tag 1 -Select to advance to hierarchy tree or to the alphabetical list of all taxonomic names in MorphBank

Tag 2 -The image associated with the specimen 77370

Tag 3 -Locality number

Screen Use Tips:



Use the check boxes (located left of the image id) to select images to add to a collection.

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go **Go** button). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the information icon  will display detailed information about the specimen (Figure 38). Other options such as annotate

 and edit  will be available only for those authorized through login permissions. Any thumbnail image can be reproduced in its original format by selecting the **[jpg] or [tif]** option (images with other formats will list that option). Selecting the tree of life symbol  will list the taxonomic hierarchy of the Taxon name.

Example: Single Show-Locality Record Page

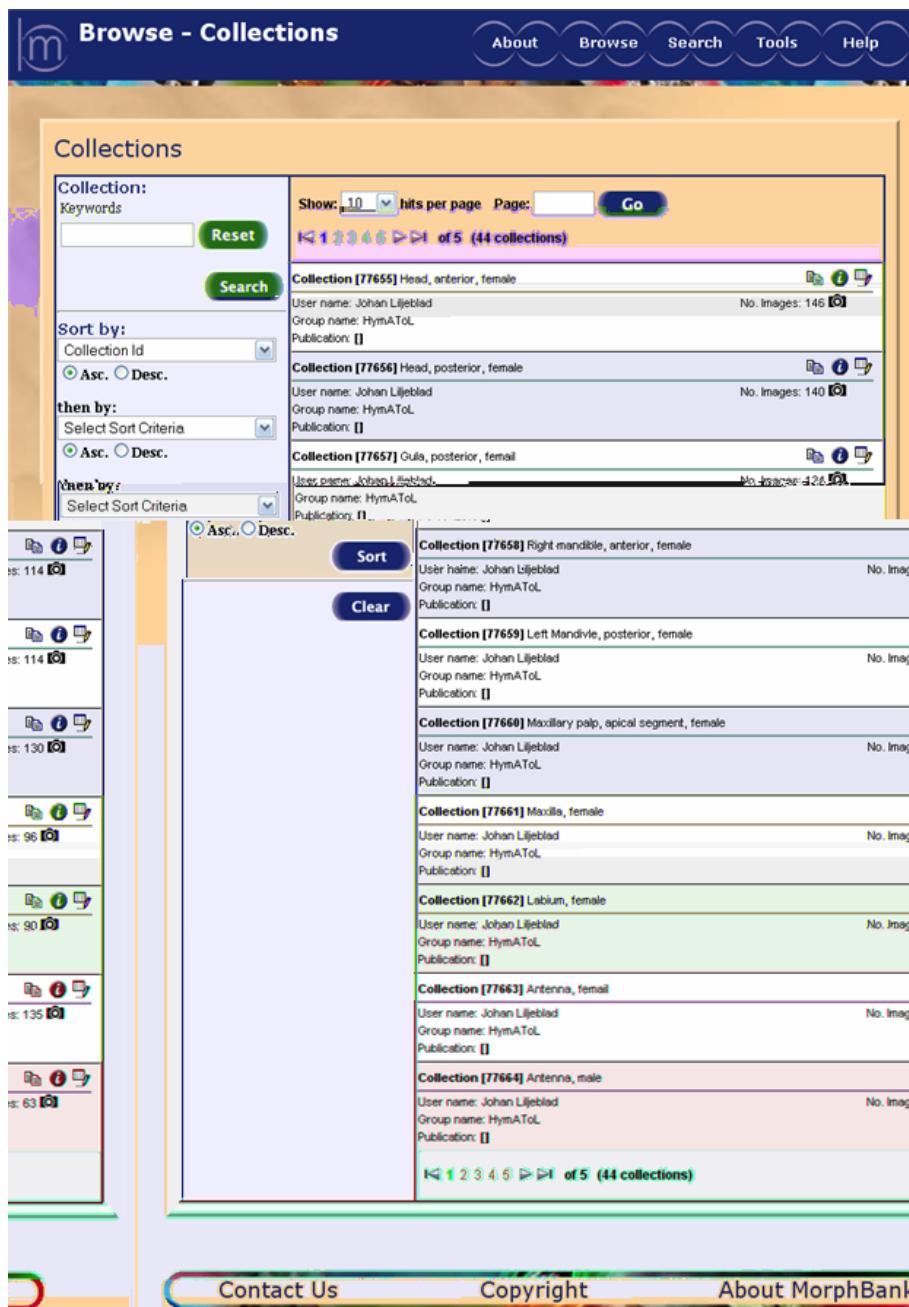
Displayed from the information  Icon, **Browse-Locality** page (Figure 34)
This page displays Information unique to this locality record. MorphBank Single Show is an efficient way to display large amounts of information. For complete documentation on single show refer to [MorphBank Show](#) in the **Information Linking** section of this manual.

A screenshot of a web browser window displaying a "Location Record" page. The title bar says "Location Record: [77370]". The page content is organized into two columns. The left column contains submission details: "Submitted By: Debbie Paul" with an email link, "Date Submitted: 03-07-2006", "Last Modified: 03-07-2006", and "Publish Date: 03-06-2006". The right column contains geographical information: "Continent: NORTH AMERICA", "Country: UNITED STATES", "Locality: FL; Martin Co.; along Riverside Dr. E side of Stuart.", "Latitude:", "Longitude:", "Precision:", "Elevation (m):", and "Depth (m):".

Submitted By: Debbie Paul ✉	Continent: NORTH AMERICA
Date Submitted: 03-07-2006	Country: UNITED STATES
Last Modified: 03-07-2006	Locality: FL; Martin Co.; along Riverside Dr. E side of Stuart.
Publish Date: 03-06-2006	Latitude:
	Longitude:
	Precision:
	Elevation (m):
	Depth (m):

Figure 38 Example of Location Record

Browse-Collections



The screenshot shows the 'Browse - Collections' page of the MorphBank website. At the top, there is a navigation bar with links for 'About', 'Browse', 'Search', 'Tools', and 'Help'. Below the navigation bar, the main content area is titled 'Collections'. On the left side, there is a sidebar with various filters and sorting options. The main content area lists 44 collections, each with a title, user name, group name, publication information, and a thumbnail image. The collections are listed in five pages, with the current page being page 1 of 5.

Collection ID	Title	User Name	Group Name	Publication	No. Images
[77655]	Head, anterior, female	Johan Liljeblad	HymAToL		146
[77656]	Head, posterior, female	Johan Liljeblad	HymAToL		140
[77657]	Gula, posterior, female	Johan Liljeblad	HymAToL		126
[77658]	Right mandible, anterior, female	Johan Liljeblad	HymAToL		
[77659]	Left Mandible, posterior, female	Johan Liljeblad	HymAToL		
[77660]	Maxillary palp, apical segment, female	Johan Liljeblad	HymAToL		
[77661]	Maxilla, female	Johan Liljeblad	HymAToL		
[77662]	Labium, female	Johan Liljeblad	HymAToL		
[77663]	Antenna, female	Johan Liljeblad	HymAToL		
[77664]	Antenna, male	Johan Liljeblad	HymAToL		

Figure 39 Browse-Collections

A collection is a group of specimen images that are assembled from the MorphBank database by MorphBank members for the purpose of manipulating (e.g. rearranging the order, editing, and/or annotating, etc.) and storing the

images for future use. By selecting the **Browse- Collections** option, the user will be presented with a list of all published (released by the creator) collections that are registered in the MorphBank database.

Note: In upcoming versions a collection will include images and other items such as: annotations, groups, localities, publications, specimens, users or views.

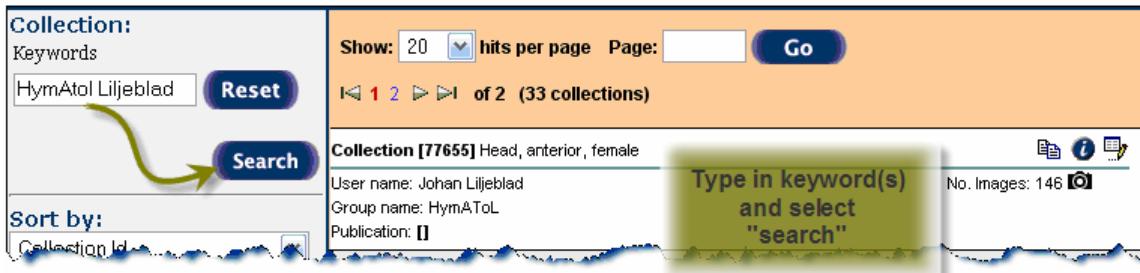
Browse by Keywords

Use **keywords** to display a list of collections based on collection name, user name and/or group name. To display a list of collections based on a keyword(s) search, type the keyword(s) in the box and select **Search**. For example, to browse for all collections pertaining to HymAtol (group name), Liljeblad (user name); type in **HymAtol Liljeblad** and select **Search** (Figure 40).

Screen Use Tips:

Separate more than one keyword with a space. **Search** is not case sensitive. Proper spelling will assure the best search however, typing a partial word, will result in a corresponding search containing those letters. (e.g. if searching for taxon braconidae, typing the letters "braco", or "conidae" will result in a list of braconidae data, but entering "idae" would return a list that contained more than just braconidae data. Therefore, the more complete the search word(s) is, the more accurate the search results will be.)

The **reset** button will revert back to the keyword(s) that produced the list of collections currently on the screen.



Collection:

Show: 20 hits per page Page:

◀ 1 2 ▶ ⌂ 1 of 2 (33 collections)

Collection [77655] Head, anterior, female

User name: Johan Liljeblad

Group name: HymAToL

Publication:

Type in keyword(s)
and select
"search"

No. Images: 146

Figure 40 Browse-Collections-keywords

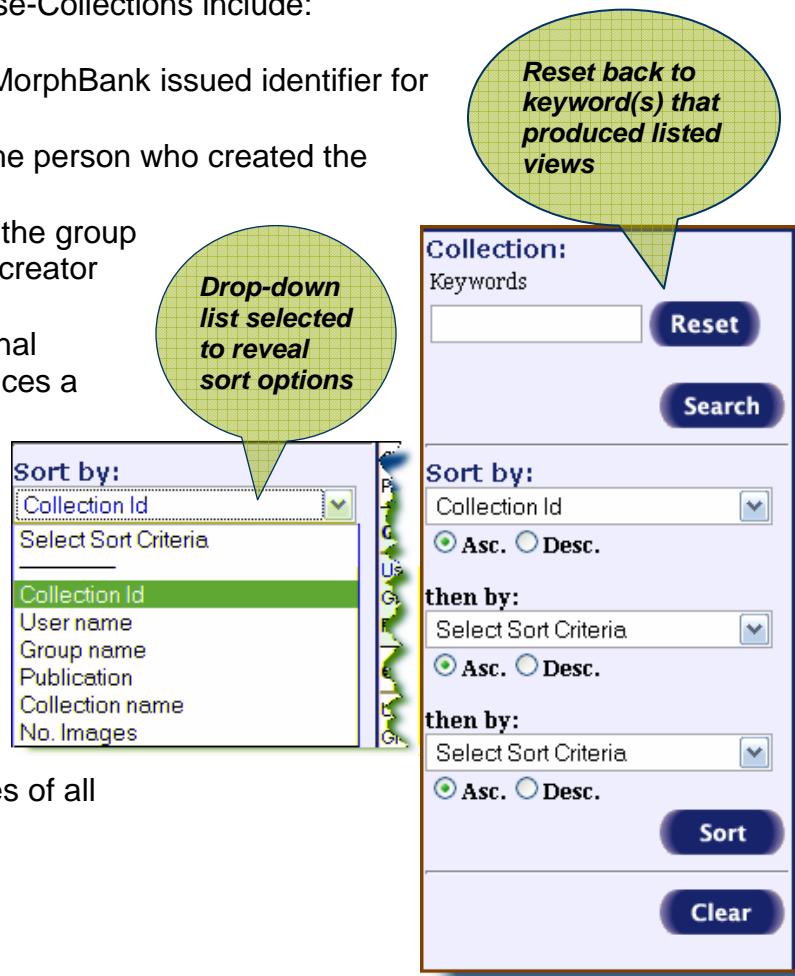
Sort the list of collections

To sort the list of collections, select the **Sort By** criteria from the drop down list(s). The more criteria selected, (up to 3 levels) the more refined the browse will be ([Figure 41](#)). The resulting page will display the collection list with the initial **Sort By** option grouped together first, followed by groups of any of the other sort criteria that was selected.

Sort criteria options for Browse-Collections include:

- Collection id: Unique MorphBank issued identifier for a collection
- User name: Name of the person who created the collection
- Group name: Name of the group to which the collection creator belongs.
- Publication: The external publication that references a MorphBank collection
- Collection name: The name given to the collection by the collection's creator.
- Number of images: pertaining to one collection

Use the **clear** button to clear the **Search** and **Sort By** boxes of all criteria.



The screenshot shows the MorphBank search interface with several key elements:

- Collection:** A text input field labeled "Keywords" with a "Reset" button next to it.
- Search:** A blue "Search" button.
- Sort by:** A dropdown menu set to "Collection Id". Below it is a "Select Sort Criteria" dropdown menu. The "Collection Id" option is highlighted with a green background and white text.
- Sort Options:** A large callout bubble with a grid pattern contains the text "Drop-down list selected to reveal sort options".
- Sort Buttons:** Two radio buttons for "Asc." (selected) and "Desc.".
- then by:** Three additional "Select Sort Criteria" dropdown menus, each with "Asc." (selected) and "Desc." radio buttons.
- Sort and Clear Buttons:** A "Sort" button and a "Clear" button at the bottom right.
- Reset Button:** A blue "Reset" button located in a green callout bubble with the text "Reset back to keyword(s) that produced listed views".

Figure 41 Specimens Sort Option

Screen Use Tips:

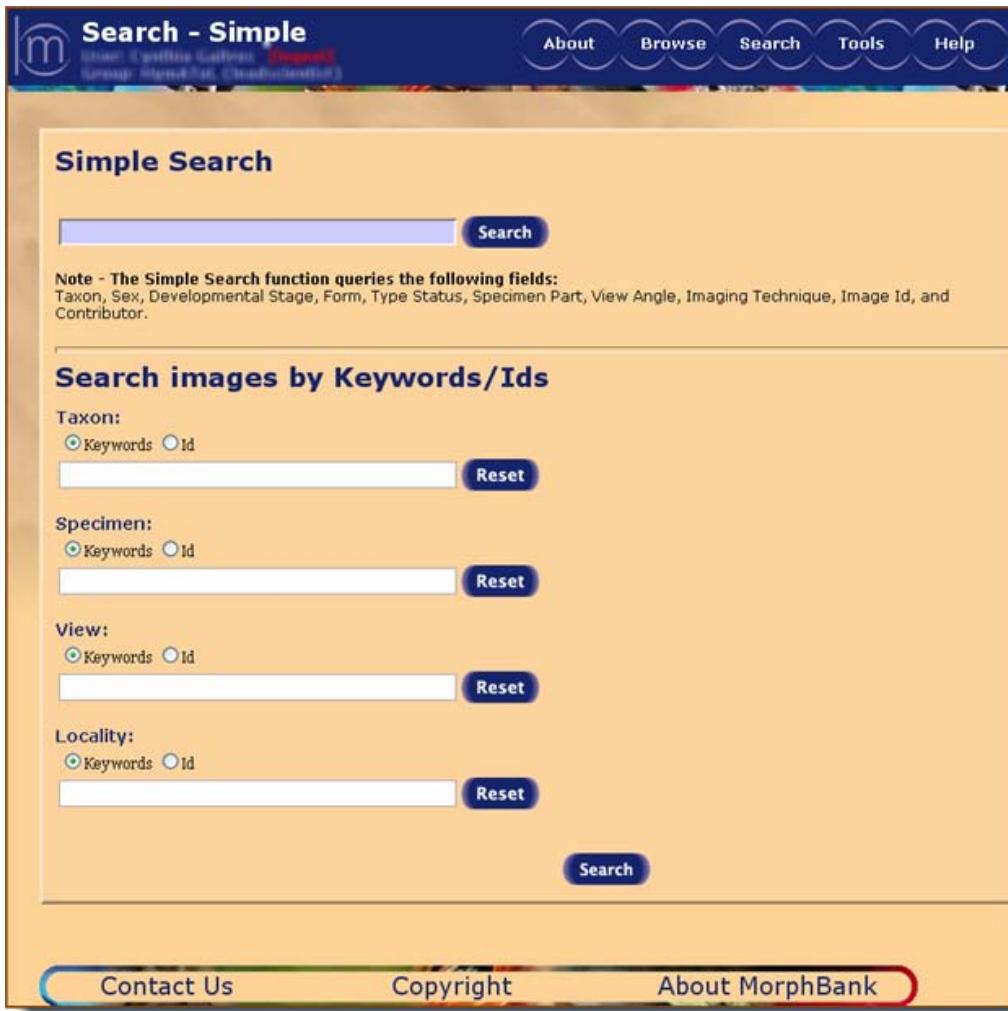
The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go  button ([Figure 39](#)). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the camera  will display all images associated with that view regardless of their taxonomic value or selecting the information icon  will display detailed information about that view. Selecting the tree of life symbol  will list the taxonomic hierarchy of the Taxon name. Other options such as *make a copy of this collection*  and edit  will be available only for those authorized through login permission.

Search

The Search option in MorphBank is designed for users who desire a fast and efficient method of information discovery (Figure 42). Search does not require user login, however, logged in users have varied tools accessible within Search based on user privileges (e.g. **collections**, **edit**, **annotate**).

To search, users either enter a keyword to scan a predefined set of fields in the **Simple Search** option or **Search Images by Keywords/Ids** when a more refined search is desired.



The screenshot shows the MorphBank search interface. At the top, there's a navigation bar with links for About, Browse, Search, Tools, and Help. Below the navigation bar, the main search area is divided into two sections: "Simple Search" and "Search images by Keywords/Ids".

Simple Search: This section contains a search input field and a "Search" button. A note below the input field states: "Note - The Simple Search function queries the following fields: Taxon, Sex, Developmental Stage, Form, Type Status, Specimen Part, View Angle, Imaging Technique, Image Id, and Contributor."

Search images by Keywords/Ids: This section is divided into four categories: Taxon, Specimen, View, and Locality. Each category has a radio button for "Keywords" (selected) or "Id", followed by an input field and a "Reset" button. There is also a "Search" button at the bottom of this section.

At the bottom of the page, there are links for Contact Us, Copyright, and About MorphBank.

Figure 42 Search

Simple Search

Simple Search

Note - The Simple Search function queries the following fields:
 Taxon, Sex, Developmental Stage, Form, Type Status, Specimen Part, View Angle, Imaging Technique, Image Id, and Contributor.

With this option, a keyword(s) is entered in by the user.

Screen Use Tips:

Separate more than one keyword with a space. Search is not case sensitive. Proper spelling will assure the best search however, typing a partial word, will result in a corresponding search containing those letters. (e.g. if searching for taxon braconidae, typing the letters "braco", or "conidae" will result in a list of braconidae data, but entering "idae" would return a list that contained more than just braconidae data. Therefore, the more complete the search word(s) is, the more accurate the search results will be.)

Results of Keyword search for braconidae

Images

Keywords:

TAXON: Keywords Id

SPECIMEN: Keywords Id

VIEW: Keywords Id

Show: 20 Hits per page Page:

Select an operation

1 2 3 4 5 6 7 8 9 10 11 > > of 44 (865 images)

<input type="checkbox"/> Image [76408] Alabagrus albispina	View: Head/Posterior Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1351x1019 [jpg] [tif] Original: TIFF	
<input type="checkbox"/> Image [76409] Alabagrus albispina	View: Body/Dorsal Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1329x951 [jpg] [tif] Original: TIFF	
<input type="checkbox"/> Image [76410] Alabagrus albispina	View: Head/Posterior Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1351x1019 [jpg] [tif] Original: TIFF	
<input type="checkbox"/> Image [76411] Alabagrus albispina	View: Head/Posterior Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1351x1019 [jpg] [tif] Original: TIFF	
<input type="checkbox"/> Image [76412] Alabagrus albispina	View: Head/Posterior Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1351x1019 [jpg] [tif] Original: TIFF	
<input type="checkbox"/> Image [76413] Alabagrus albispina	View: Propodium/Dorsal Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1351x1019 [jpg] [tif] Original: TIFF	
<input type="checkbox"/> Image [76414] Alabagrus albispina	View: Propodium/Dorsal Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1351x1019 [jpg] [tif] Original: TIFF	
<input type="checkbox"/> Image [76415] Alabagrus albispina	View: Propodium/Dorsal Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1351x1019 [jpg] [tif] Original: TIFF	

sort by:
 Asc. Desc.

then by: Asc. Desc.

then by: Asc. Desc.

Figure 43 Simple Search Results

When **Search** is selected, a search of the Taxon, Sex, Developmental Stage, Form, Type Status, Specimen Part, View Angle, Imaging Technique, Image Id, and Contributor fields are performed. The detailed instructions for working with the resulting list of images can be found at [Browse/Images](#).

Search Images by Keywords/Ids

Search images by Keywords/Ids

Taxon:
 Keywords Id
 gelsemium sempervirens Reset

Specimen:
 Keywords Id
Reset

View:
 Keywords Id
 plantbody reflected light Reset

Locality:
 Keywords Id
Reset

Search

Type keyword(s) in the box(es) and select search

By selecting the **Search Images by Keywords/Ids** option, the user will be presented with a resulting list of qualified images registered in the MorphBank database.

Search Keywords

Use this option when searching is desired on a specific group of images.

Figure 44 Search Images by Keywords/Ids

- **Taxon name** performs a search based on the taxonomic name of the specimen.
- **Specimen** performs a search based on the categories of sex, form, basis of record, type status, collector name, institution code, collection code, catalog number and taxonomic name.
- **View** performs a search based on the imaging technique, imaging preparation technique, part, angle, developmental stage, sex or form.
- **Locality** performs a search based on the image's locality, continent/ocean or country.

To display a list of images based on a keyword(s) search, type the keyword(s) in the box(es) and select **Search**. For example; to search for all images pertaining to Gelsemium sempervirens (taxonomic name), plant body (part)

reflected light (imaging technique); perform a specialized keyword search by typing in **gelsemium sempervirens** in the **taxon name** keyword box and **plant body reflected light** in the **view** keyword box and select **Search** (Figure 44).

Screen Use Tips:

Separate more than one keyword with a space. Search is not case sensitive. Proper spelling will assure the best search however, typing a partial word, will result in a corresponding search containing those letters. (e.g. if searching for taxon braconidae, typing the letters "braco", or "conidae" will result in a list of braconidae data, but entering "idae" would return a list that contained more than just braconidae data. Therefore, the more complete the search word(s) is, the more accurate the search results will be.)

All matches to the search will appear as a list of associated data and image thumbnails. The detailed instructions for working with the resulting list of images can be found at [Browse/Images](#).

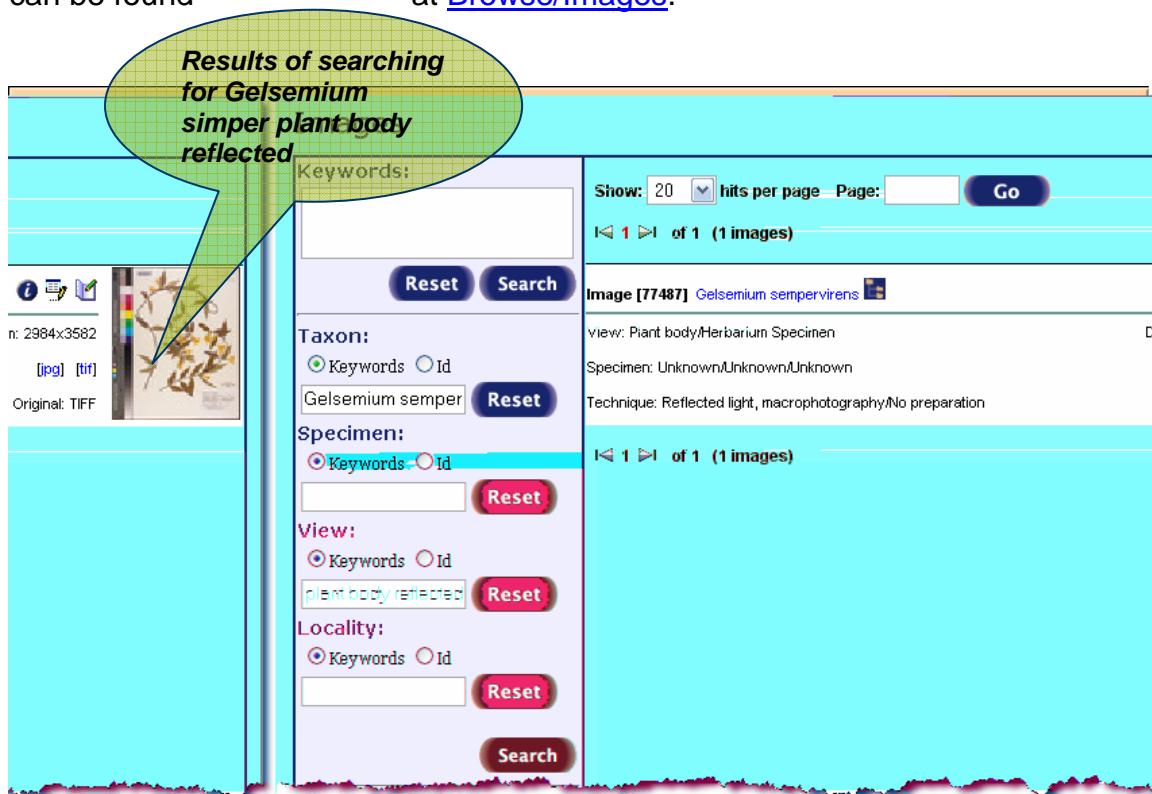


Figure 45 Results of Images-Keywords Search

Search by Ids

A specialized id search can be used in to reduce the display list to a more desirable group of images.

Search images by Keywords/Ids

Taxon:
 Keywords Id 
 

Specimen:
 Keywords Id 
 

View:
 Keywords Id 
 

Locality:
 Keywords Id 
 

The default selection is Keyword, but when the **id** radio button is selected, a ✓ icon appears. To maintain accuracy, the desired id number(s) will need to be selected from a list by clicking on the ✓ icon.

Taxon id –To insure accuracy, taxonomic identifiers need to be selected from the taxonomic names selection screen. Traverse through the levels until the appropriate scientific name is found. Then click the select icon , it will automatically direct the user back to the **Browse-Images** screen and the appropriate id

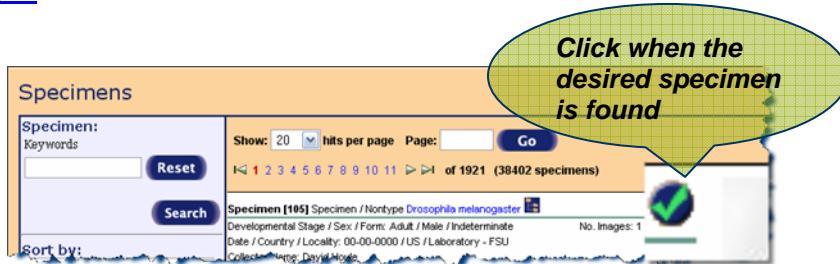
click when the desired taxon is found

Life >>							
Scientific Name	Common Name	Usage	Taxon Type	Currency Rating	Credibility Rating	Completeness Rating	Classification
Animalia	animals	valid	Kingdom	unknown	TWG standards met	unknown	 
Bacteria		invalid	Kingdom	unknown	No review; untreated NODC data	unknown	 
Chromista		accepted	Kingdom	unknown	TWG standards met	unknown	 
Fungi	fungi	accepted	Kingdom	1999	TWG standards met	unknown	 
					No review; untreated NODC data		 
							 
							 

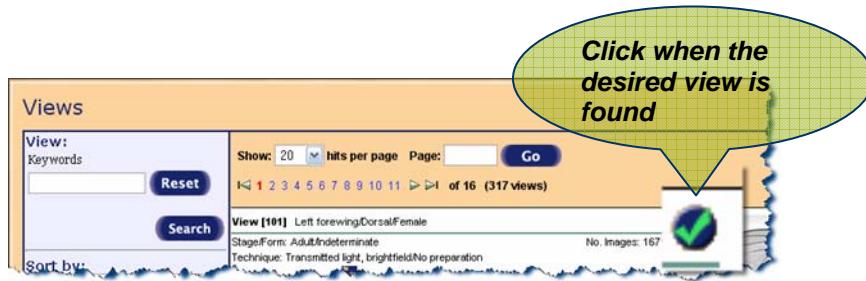
If a new taxon name needs to be added select the **add new taxon** button that is visible from the family level. The **add TSN** screen will popup. (This option is only available for authorized users.) For complete instructions on this process see the [ITIS, Add New Taxon](#) section of this manual.

Note: Great care must be taken when adding new taxon names to the local copy of the database. New names must be accurate and accepted in the biological community. Adding a new taxon name commits the user to the responsibility of submitting a change to the Department of Agriculture <http://www.itis.usda.gov/>.

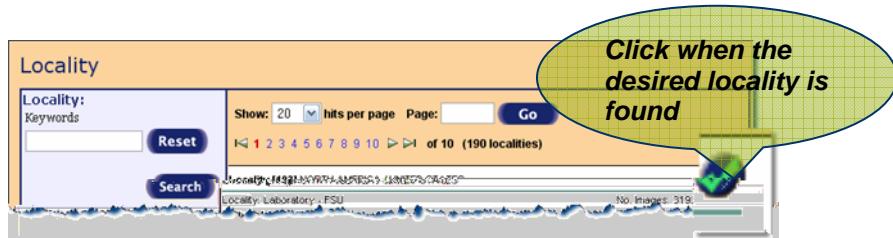
Specimen id- To insure accuracy, specimen identifiers need to be selected ✓ from the specimen screen. Traverse through the list. Sort the list if needed (see [browse-specimen, sort](#) for instructions unique to this process). When the desired specimen is found, click on the ✓ icon and the screen will redirect back to the **browse-images** page and the appropriate specimen id will be filled in. The detailed instructions for working with the resulting list of images can be found at [Browse/Images](#).



View id- To insure accuracy, view identifiers need to be selected ✓ from the views screen. Traverse through the list. Sort the list if needed (see [browse-views, sort](#) for instructions unique to this process). When the desired view is found, click on the ✓ icon and the screen will redirect back to the **browse-images** page and the appropriate view id will be filled in. The detailed instructions for working with the resulting list of images can be found at [Browse/Images](#).



Locality id- To insure accuracy, locality identifiers need to be selected ✓ from the locality screen. Traverse through the list. Sort the list if needed (see [browse-locality, sort](#) for instructions unique to this process). When the desired specimen is found, click on the ✓ icon and the screen will redirect back to the [browse-images](#) page and the appropriate locality id will be filled in. The detailed instructions for working with the resulting list of images can be found at [Browse/Images](#).



Submit

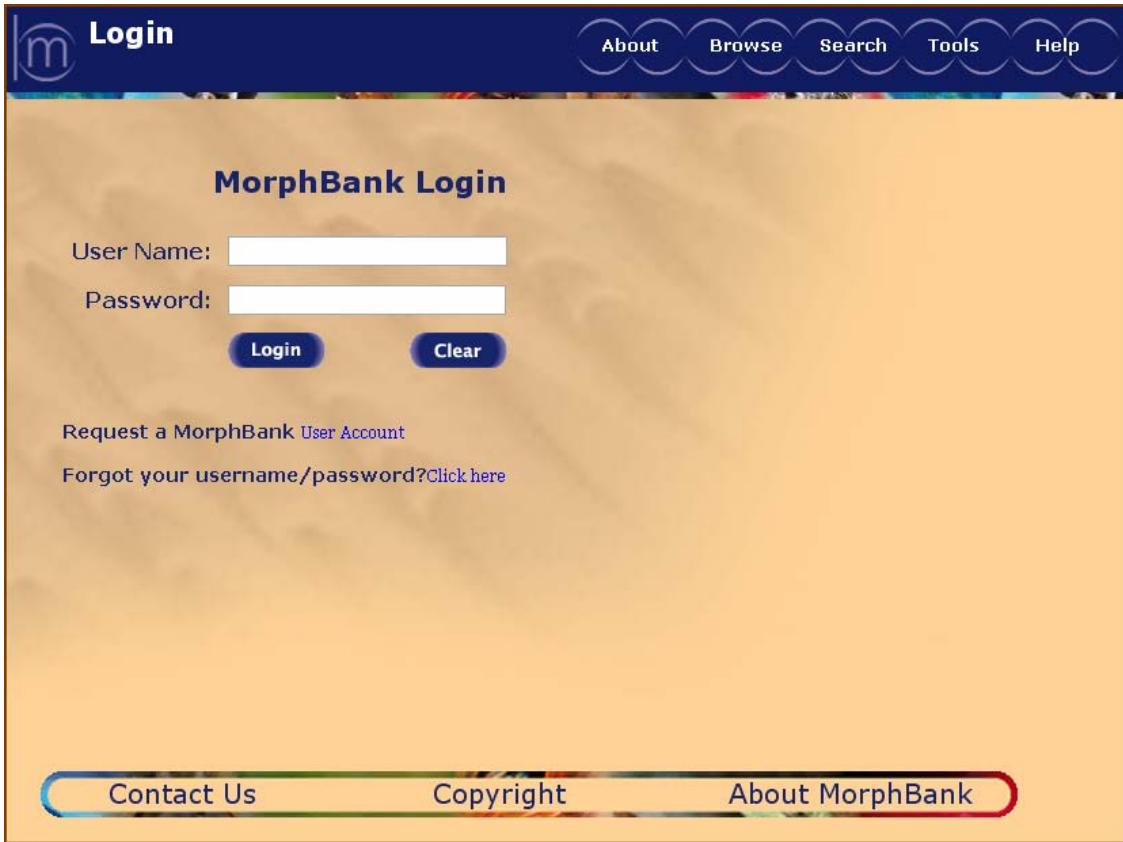
Before submitting data into MorphBank, users must have available each of the following:

- Valid MorphBank user name and password (obtained through the login screen or by contacting the MorphBank admin. group at mbadmin@scs.fsu.edu).
- Have available information about the locality where the specimen was collected to include the place/country/province/region and the contributor's name.
- Information about the specimen and the parties involved in the collection of it to include basis of record, sex, form, developmental stage, type status, determination, collector(s) name, date collected locality and the contributor's name.
- Information about the view of the specimen to include imaging technique, preparation technique, specimen part, sex, form, developmental stage, view angle, highest taxon to which this view is applicable and the contributor's name.
- Image file to be uploaded (bitmap [.bmp], joint photographic experts group [.jpeg,. jpg], tag information file format [.tiff]), specimen to which the image belongs, its view and the contributor's name.

Note: The fields with * next to them are required, however, It is with great emphasis that we suggest all applicable data fields be completed. This will improve the reliability and accuracy of data searches. The above listed information is only the minimum needed to successfully submit data into MorphBank.

Login

When **Submit** is selected, if not already logged in, the user will be required to enter a valid MorphBank issued user name and password. Every user that submits information to MorphBank must log into the system first.

A screenshot of the MorphBank login page. The top navigation bar is dark blue with white text, featuring the MorphBank logo on the left and links for About, Browse, Search, Tools, and Help on the right. The main content area has a light beige background with a faint floral watermark. It contains a heading "MorphBank Login" in bold blue text. Below it are two input fields: "User Name:" and "Password:", each with a corresponding text input box. Underneath these are two blue buttons: "Login" on the left and "Clear" on the right. At the bottom of the page, there are three links: "Request a MorphBank User Account", "Forgot your username/password? Click here", and a decorative footer bar with three buttons: "Contact Us", "Copyright", and "About MorphBank".

MorphBank Login

User Name:

Password:

Login **Clear**

[Request a MorphBank User Account](#)

[Forgot your username/password? Click here](#)

Contact Us **Copyright** **About MorphBank**

Figure 46 Login

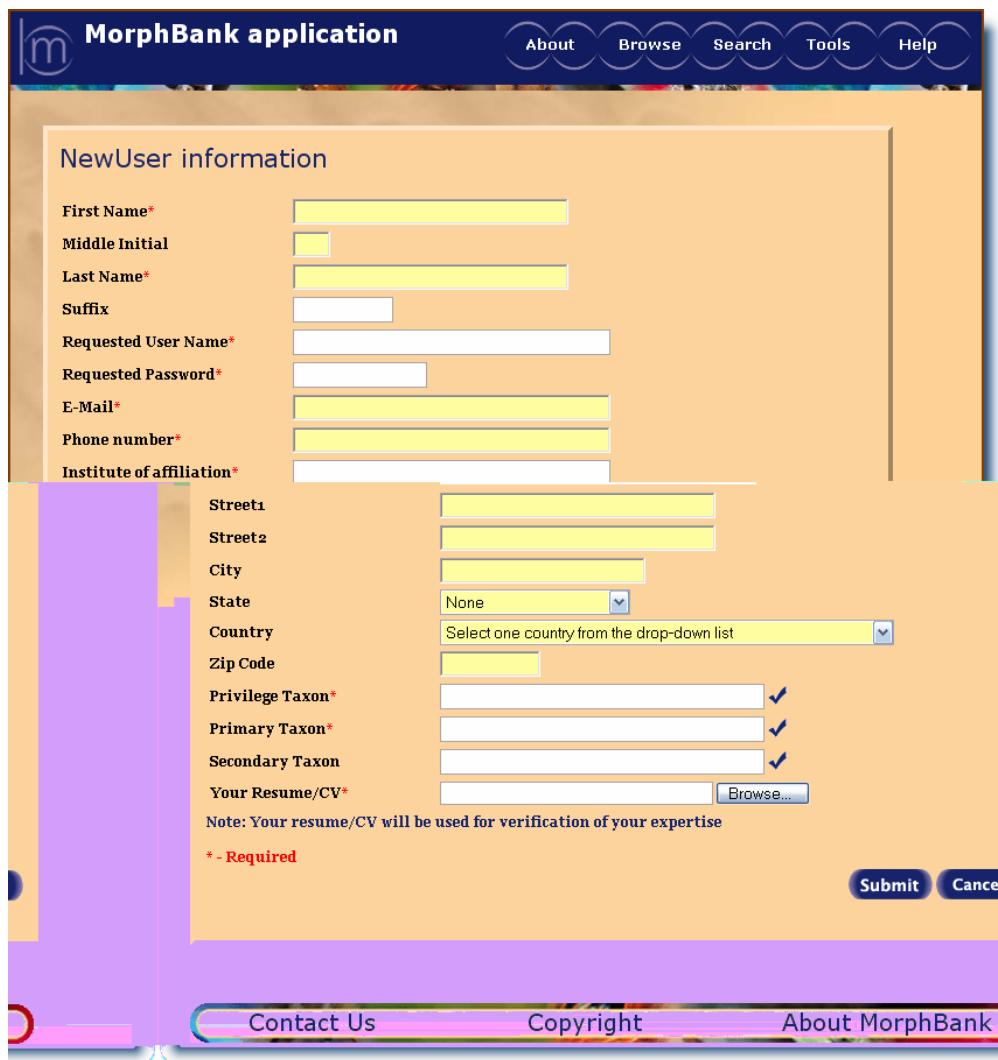
Login: Username and Password

[Request a MorphBank User Account](#)

[Forgot your username/password? Click here](#)

To obtain the user name and password select the **User Account** link (Figure 46) to access a MorphBank user account application or contact

the MorphBank admin. group at mbadmin@scs.fsu.edu.



The screenshot shows the 'NewUser information' form within the MorphBank application. The form is divided into two main sections: personal information and address/affiliation.

Personal Information:

- First Name*
- Middle Initial
- Last Name*
- Suffix
- Requested User Name*
- Requested Password*
- E-Mail*
- Phone number*
- Institute of affiliation*

Address/Affiliation:

- Street1
- Street2
- City
- State
- Country
- Zip Code
- Privilege Taxon*
- Primary Taxon*
- Secondary Taxon
- Your Resume/CV*

Note: Your resume/CV will be used for verification of your expertise

* - Required

Submit Cancel

At the bottom of the page, there are links for Contact Us, Copyright, and About MorphBank.

Figure 47 User Account Application

New users need to apply for a user name and password by completing the **New User Information** form ([Figure 47](#)). All fields preceded by an * are required fields.

Instructions for MorphBank Application:

Name: Enter your legal name the way that you wish it to appear in MorphBank. Your name and personal information will be considered confidential and not released to the public.

User Name and Password: You can request a username and password. If there is a duplicate already in the system, a suitable name /password similar to the one requested will be generated and emailed to the address on this form.

Email Address: There are times when users of MorphBank may wish to contact you or send you MorphBank data. Enter the email where you wish to receive such correspondence.

Phone Number: Phone numbers will not be entered into the database. This will be used to contact you in case there are questions about the application.

Institute or Affiliation: Enter the university, museum, or other institute to which you are associated.

Address: Enter the complete mailing address where you wish to receive hard copy correspondence from MorphBank. The state and country are selected from drop-down lists.

Privilege, Primary, Secondary Taxon: To insure accuracy, taxonomic names need to be selected ✓ from the **Taxonomic Selection Screen**. Traverse through the levels ➡ until the appropriate scientific name is found. Then click the select icon Select ✓, it will automatically direct the user back to the add specimen screen and the appropriate name will be filled in. ([Figure 48](#))

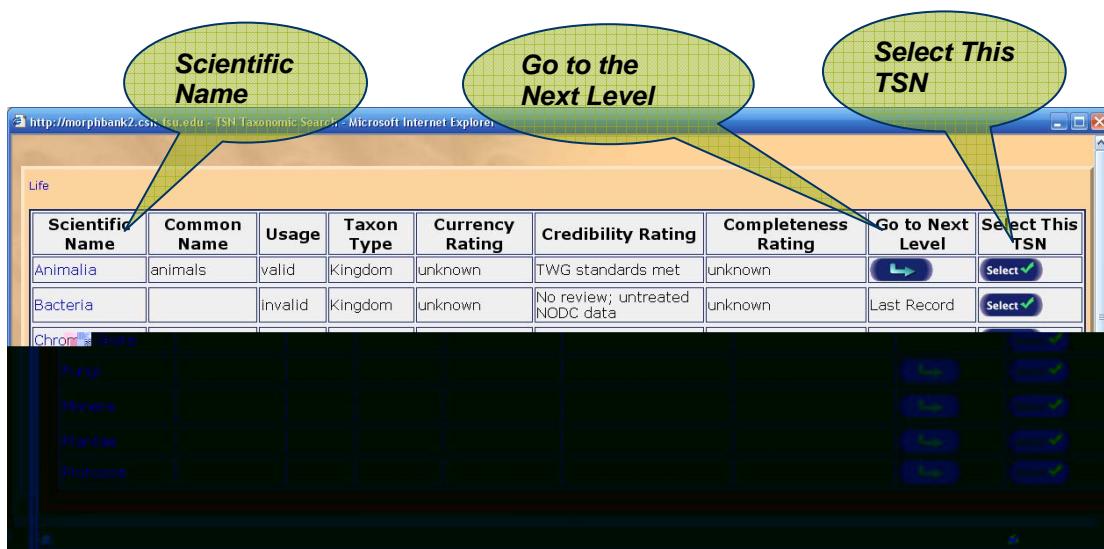


Figure 48 Taxonomic Name Selection Screen

If a new taxon name needs to be added select the **Add New Taxon** button that is visible from the family level. The **Add TSN** screen will popup. (This option is only available for authorized users.) For complete instructions on this process see the [ITIS, Add New Taxon](#) section of this manual.

Note: Great care must be taken when adding new taxon names to the local copy of the database. New names must be accurate and accepted in the biological community. Adding a new taxon name commits the user to the responsibility of submitting a change to the Department of Agriculture <http://www.itis.usda.gov/>.

Resume/CV: Your resume/CV will provide MorphBank with the verification of your expertise. This is required so the proper privileges can be assigned to your account. Using the **Browse** button, select the file that contains a copy of your resume/CV.

When the form has been checked for correctness, click the **Submit** button to send your request to MorphBank. A message confirming the submission will be seen on the screen as in this example.

NewUser information

Your request was just sent to the MorphBank admin team. You will receive an email after your account is created.

First Name*

Middle Initial

Last Name*

Once the account has been generated, you will receive notification through the email you entered on this form. At that time we ask that you change the initial password.

Select Groups

After login, the group(s) module(s) to which the user belongs will be listed on the screen.



Figure 49 Groups

Make a group selection (click on group name) that corresponds to the information that will be worked on in the current session. To work within another authorized group will require returning to this page for a new group selection.

Screen Use Tip: To return, click the **tools** button on the page header and choose **select group** from the list.



MorphBank Modules

After group selection, the user has the option to **Browse**, **Search**, **Submit** or **Edit** data or work with **Collections** and **Annotations**. Some options are based upon login permissions and are not available to all MorphBank members.

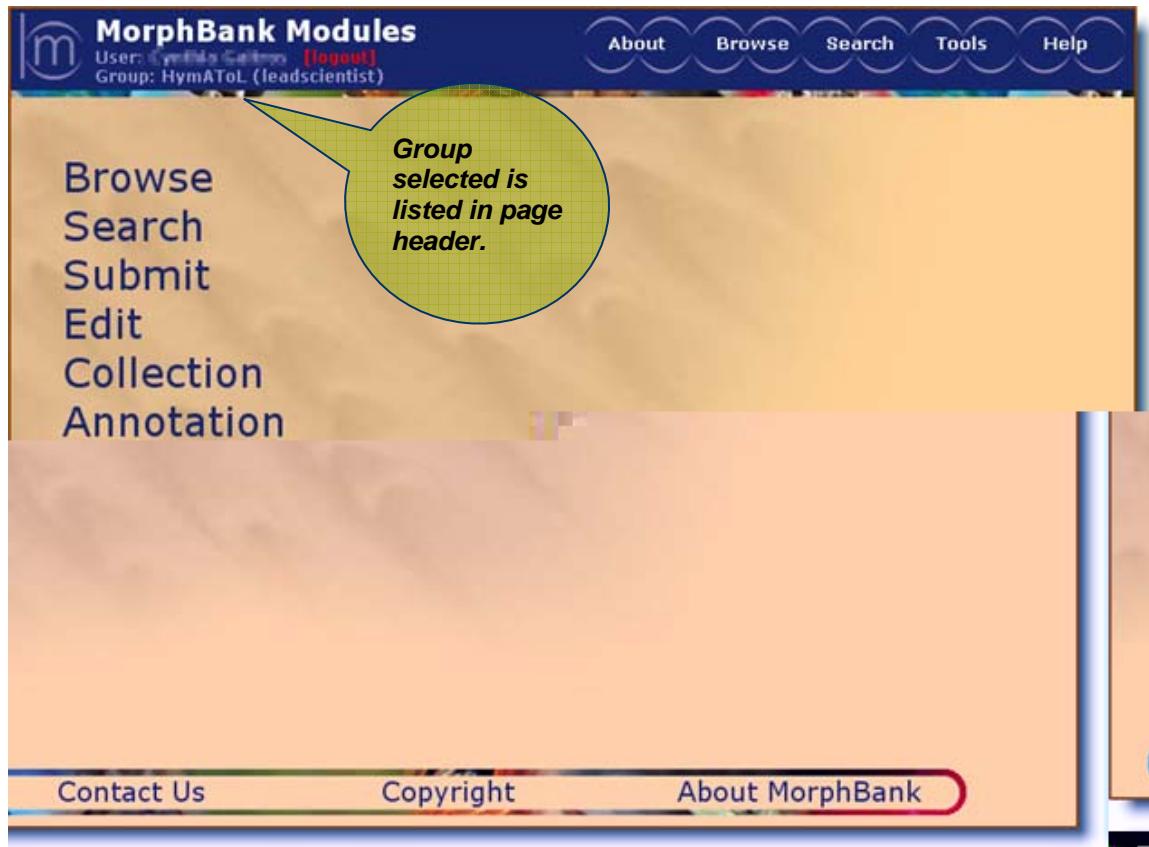


Figure 50 MorphBank Modules

Note: The instructions for “Submit”, “Edit” and “Collections” are covered here in MorphBank modules. For directions in the use of “Browse” or “Search” return to appropriate section in this manual.

Upload (Submit)

After selecting **Submit**, the screen reflects choices of **Locality**, **Specimen**, **View**, or **Image**.

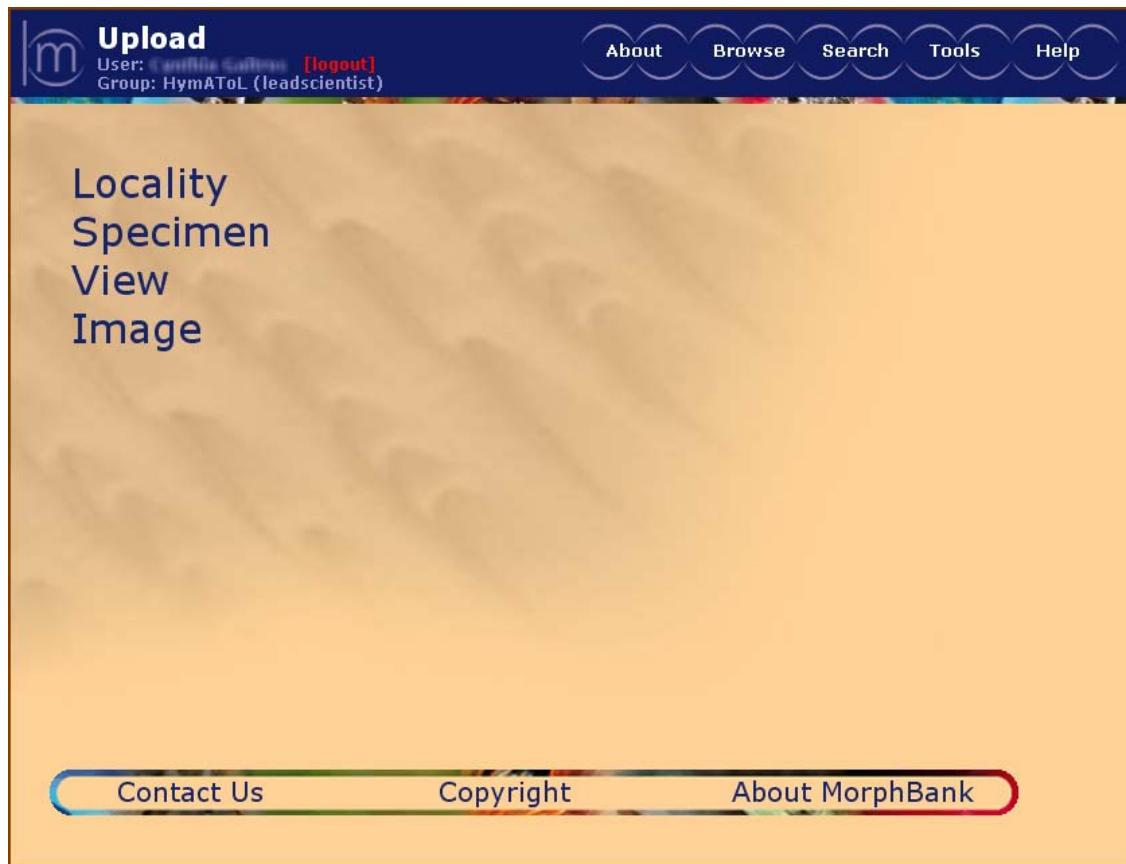


Figure 51 Upload (Submit)

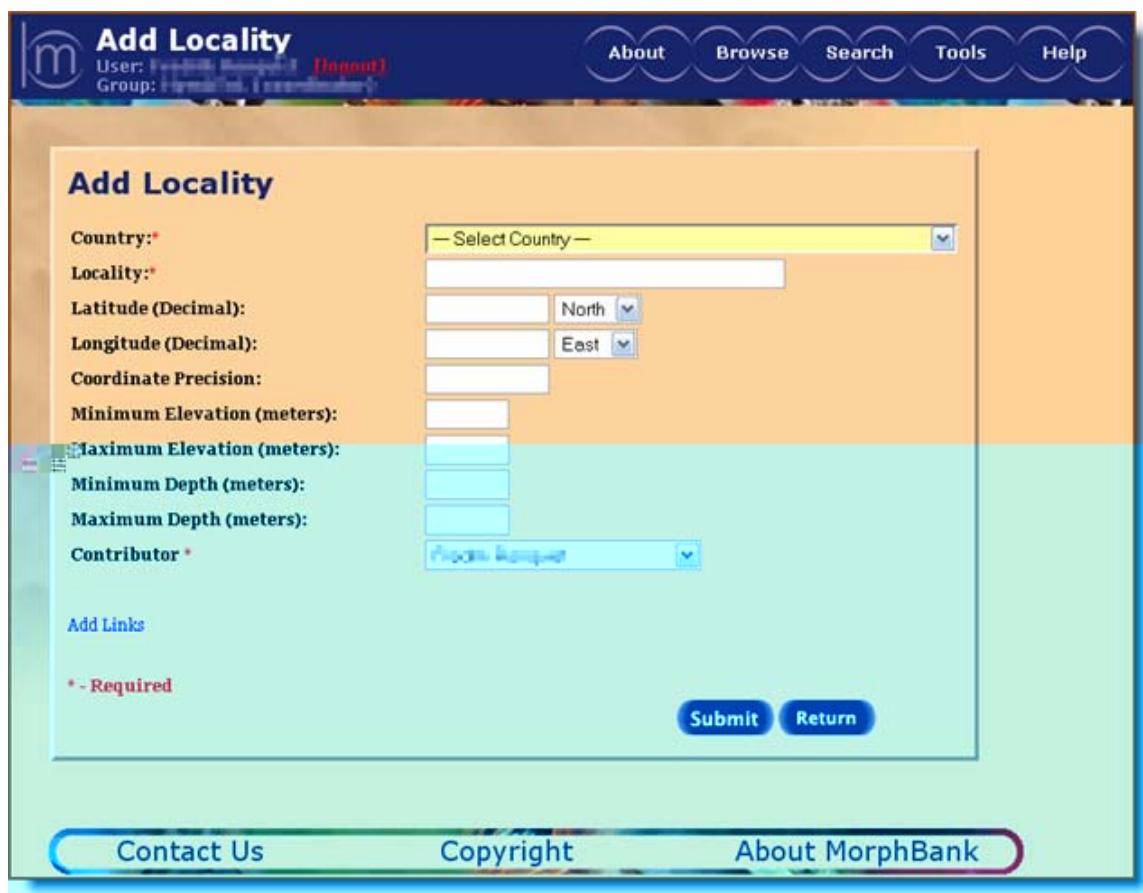
Note: The person logged in will be the name of the person that displays in the “Submitted By” section of records, i.e. Figure 28 and Figure 33

The preferred order for submitting data is Locality, Specimen, View, and lastly Image. A locality must exist before a specimen can be added and before an image is uploaded, both a specimen and view should exist. Before an image is uploaded, both a specimen and view should exist.

Upload (Submit): Add Locality

The **Add Locality** screen contains detailed information about the localities where the specimen was collected.

A locality must exist before a specimen can be entered.



Add Locality

User: [Logout](#) [Import](#)

Group:

About Browse Search Tools Help

Country: * — Select Country —

Locality: *

Latitude (Decimal): North

Longitude (Decimal): East

Coordinate Precision:

Minimum Elevation (meters):

Maximum Elevation (meters):

Minimum Depth (meters):

Maximum Depth (meters):

Contributor: *

[Add Links](#)

* - Required

Contact Us Copyright About MorphBank

Figure 52 Add Locality

Country (Required)

Choose one country /political unit from where the specimen was collected. The drop-down list contains names of currently recognized countries. If you need to add new entries to this list, please contact the MorphBank admin. group mbadmin@scs.fsu.edu. For old specimens, we recommend that the original country of collection, if applicable, is added to the locality

description and that the country column is used to provide the current political unit for the locality (if this is possible to determine).

Locality Description (Required)

Enter the name of the Region/Province/County/Place and displacement from this name (if applicable) from which the Specimen was collected. Examples: "FL Tallahassee, Apalachicola National Forest", "FL St George Island". The locality description should correspond to label data if possible.

Latitude

Enter the latitude of the locality. Use the decimal format followed by north/south from the dropdown list. Convert minutes and seconds to a decimal part, if applicable. The number entered should be between 0.0000 and 90.0000. (There are conversion websites available that convert degrees to decimal such as <http://www.jeep.com/details/coord/>).

Longitude

Enter the longitude of the locality. Use the decimal format followed by east/west from the dropdown list. Convert minutes and seconds to a decimal part, if applicable. The number entered should be between 0.0000 and 180.0000. (There are conversion websites available that convert degrees to decimal such as <http://www.jeep.com/details/coord/>).

Coordinate Precision

Enter an estimate of how tightly the longitude and latitude of the collecting locality was specified. Express the precision as a distance, in meters, that corresponds to a radius around the latitude-longitude coordinates. Leave the field blank if the precision is unknown, can not be established or is not applicable.

Minimum Elevation

Enter the minimum elevation of the locality in meters above (positive) or below (negative) sea level.

Maximum Elevation

Enter the maximum elevation of the locality in meters above (positive) or below (negative) sea level.

Minimum Depth

Enter the minimum depth of the locality in meters below the surface of the water where the collection was made. All material collected for this specimen record should be at least this deep. Use positive number for below the surface and negative for above.

Maximum Depth

Enter the maximum depth of the locality in meters below the surface of the water where the collection was made. All material collected for this specimen record should be at most this deep. Use positive number for below the surface and negative for above.

Contributor (Required)

Select the name of the contributor (person having the authorization to release the images) from the dropdown list. The contributor can be different from the submitter (person entering the data). If you need to add new entries to this list, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.

MorphBank provides an option to add **external links** to this record. For complete instructions on providing links refer to [External Linking](#) in the **Information Linking** section of this manual

When the **add locality** form has been completed, submit  to complete the add locality process. A message will confirm that ***you have successfully added a locality.*** From this point the user can continue to add additional localities or return to the **Upload (Submit)** screen.

Note: When this screen is activated from the “Add Specimen” upload screen no message will be seen. Instead, the new locality will appear in the appropriate field on the “Add Specimen” submit form.

Upload (Submit): Add Specimen

The data entered on the **Add Specimen** screen should provide information about the specimen and the parties involved in the collection of it. A locality must exist before a specimen can be added. If not previously added, provisions have been made on this screen to add the locality. Any instruction label that is followed by an * is a required field and must be completed before submitting.

Add Specimen

Basis of Record *	— Select from the following — <input type="button" value="▼"/>
Sex*	— Select Sex — <input type="button" value="▼"/> +
Form*	— Select Form — <input type="button" value="▼"/> +
Developmental Stage*	— Select Developmental Stage — <input type="button" value="▼"/> +
Type Status*	— Select TypeStatus — <input type="button" value="▼"/>
Preparation Type	<input type="text"/>
Number of Individuals	<input type="text"/>
Determination*	<input type="text"/> ✓
Determined By	<input type="text"/>
Date Determined (YYYY-MM-DD)	<input type="text"/>
Determination Notes	<input type="text"/>
Institution Code	<input type="text"/>
Collection Code	<input type="text"/>
Catalog Number	<input type="text"/>
Previous Catalog Number	<input type="text"/>
Related Catalog Item	<input type="text"/>
Relationship Type	<input type="text"/>
Collection Number	<input type="text"/>
Collector(s) Name*	<input type="text"/>
Date Collected(YYYY-MM-DD)*	<input type="text"/>
Locality*	<input type="text"/> ✓ +
Notes	<input type="text"/>
Contributor *	<input type="button" value="Private Request"/> <input type="button" value="▼"/>
Add Links	
* - Required	
<input type="button" value="Submit"/> <input type="button" value="Return"/>	

Figure 53 Add Specimen

Basis of Record (Required)

Choose one of the options from the drop-down list. Choices are: Observation, Living Organism, Specimen, Germplasm /Seed. The list of options is based on the Darwin Core standard <http://darwincore.calacademy.org/>. If additional options are needed, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.

Sex (Required)

Choose one of the options from the drop-down list. The list contains a set of terms based on community consensus: Male, Female, Hermaphrodite, Indeterminate (if the specimen was examined but the sex could not be determined), Unknown (if the specimen was not examined for its sex), Transitional (if the specimen is between sexes, like sequential hermaphrodites). The list of options is based on the Darwin Core standard.

Other options can be added by selecting the add icon . This process is available only for those authorized through login permissions. (Only a lead scientist and coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.

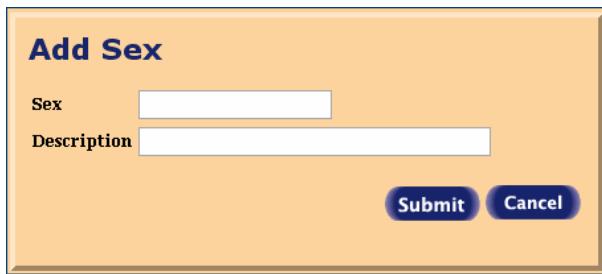


Figure 54 Add Sex Accessed Through 

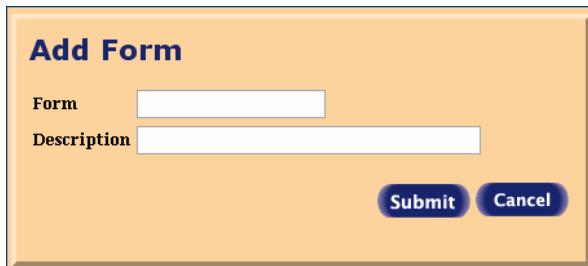
Enter the appropriate text on the **Add Sex** page (Figure 61) and submit . A confirmation message will appear on screen to let the user know that the addition was successful. Choosing the select icon  will redirect the information back to the **Add Specimen** screen. The added information will be a permanent addition to the list of options. Now choose the appropriate sex from the drop-down list.

Form (Required)

Choose a description of the morphotype of the specimen. Use "Indeterminate" if you do not wish to apply a specific morphotype designation to the specimen.

If the specimen is of a morphotype that is not part of the drop-down list, a new morphotype may be added by selecting the add icon . This process is available only for those authorized through login permissions. (Only a

lead scientist and coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.



The screenshot shows a form titled "Add Form". It contains two input fields: "Form" and "Description", both represented by white text boxes. Below the fields are two buttons: "Submit" and "Cancel". The entire form is set against a light orange background.

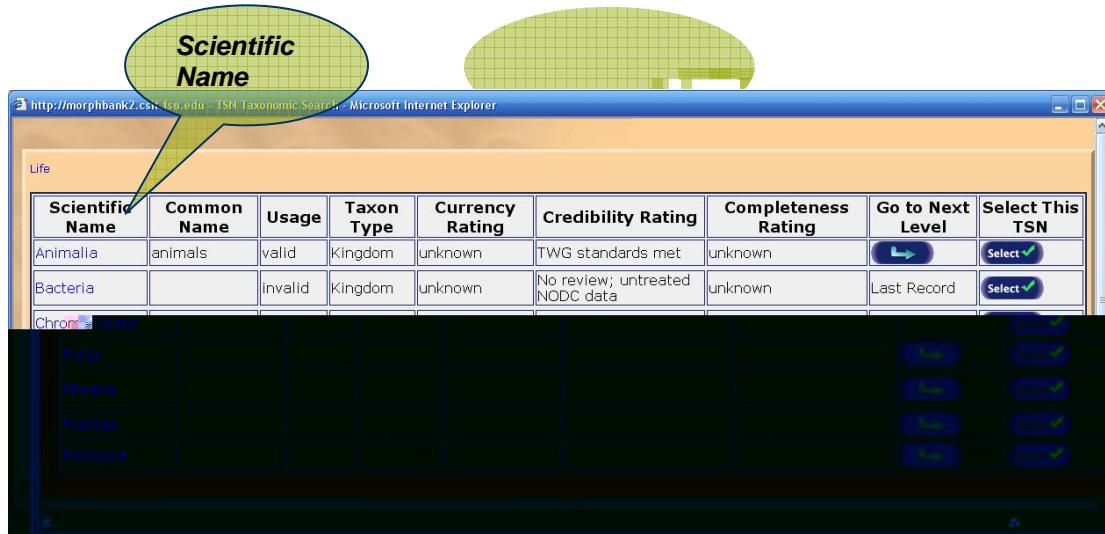
Figure 55 Add Form Accessed Through +

Enter the appropriate text on the **Add Form** page (Figure 55) and submit **Submit**. A confirmation message will appear on screen to let the user know that the addition was successful. Choosing the select icon  will redirect the information back to the **Add Specimen** screen. The added information will be a permanent addition to the list of options. Now choose the appropriate form from al .02 op9379TII redirect thee



The screenshot shows a form titled "Add Developmental Stage". It contains two input fields: "Developmental Stage" and "Description", both represented by white text boxes. Below the fields are two buttons: "Submit" and "Cancel". The entire form is set against a light orange background.

Scientific Name



Scientific Name	Common Name	Usage	Taxon Type	Currency Rating	Credibility Rating	Completeness Rating	Go to Next Level	Select This TSN
Animalia	animals	valid	Kingdom	unknown	TWG standards met	unknown		
Bacteria		invalid	Kingdom	unknown	No review; untreated NODC data	unknown	Last Record	
Chromista								
Fungi								
Monera								
Plantae								
Protozoa								

only available for authorized users.) For complete instructions on this process see the [ITIS, Add New Taxon](#) section of this manual.

Note: Great care must be taken when adding new taxon names to the local copy of the database. New names must be accurate and accepted in the biological community. Adding a new taxon name commits the user to the responsibility of submitting a change to the Department of Agriculture
<http://www.itis.usda.gov/>.

Determined By

Enter the name(s) of person(s) who determined the taxonomic category of the specimen. Add the names separated by a comma.

Date Determined

Enter the date when the specimen was determined. Use the format: yyyy-mm-dd. If the day is unknown enter yyyy-mm-00, or if the month is unknown enter yyyy-00-00. The Date should be current or a past date.

Determination Notes

Enter any notes related to the determination of the specimen.

Institution Code

Enter the code for the institution to which the collection belongs.

Collection Code

Enter a unique alphanumeric value which identifies the collection to which the specimen belongs.

Catalog Number

Enter a unique alphanumeric value which identifies the specimen record within the collection. It is recommended that this value provides a key by which the actual specimen can be identified. If a biological specimen (individual organism) is represented by several collection items, for instance representing various types of preparation, this value should identify the individual collection item.

Previous Catalog Number

Enter a previous catalogue number if the specimen was earlier identified by another catalog number in the current catalog or at/in another institution/catalog. A fully qualified catalog number is preceded by Institution Code and Collection Code with a space separating each sub element. Referencing a previous catalog number does not imply that a

record for the referenced item is or is not present in the corresponding catalog, or even that the referenced catalog still exists.

Related Catalog Item

Enter a fully qualified identifier of a related catalog item (a reference to another specimen). A fully qualified identifier consists of Institution Code, Collection Code and Catalog Number, with a space separating each of the three sub elements. **Relationship Type**

Enter a string (named value) that specifies the relationship between the specimen and the related catalog item. Example of possible values include: "parasite of", "epiphyte on", "progeny of" etc.

Collection Number

Enter an identifying number (a string) which was applied to the specimen at the time of collection/observation. This number links different parts/preparation types of a single specimen and field notes with the specimen.

Collector(s) Name(s) (Required)

Enter the name(s) of the collector(s) responsible for collection of the specimen or taking the observation.

Date Collected (Required)

Enter the date when the specimen was collected (date when the collection process began). The date format should be yyyy-mm-dd. If the day is unknown enter yyyy-mm-00 or if the month is unknown enter yyyy-00-00. The date entered must be a current or past date.

Locality (Required)

Enter the locality from which the specimen was collected. To insure accuracy, locality names need to be selected  from **Locality** selection screen.

Locality

Locality:
 Keywords

Sort by:
 Location Id
 Asc. Desc.

Show: 20 hits per page Page:
 ◀ 1 2 3 4 5 6 7 8 9 10 11 ▶ ▷ of 18 (349 localities)

Locality		No. Images
Locality [103] NORTH AMERICA / UNITED STATES	Locality: Laboratory - FSU Latitude,Longitude: / Elevation (m): /	31924
Locality [63996] ASIA / TURKEY	Locality: Sac Gecidi (2000 m) Agri	1
Locality [63997] ASIA / TAJIKISTAN	Locality: Safedou (2500 m) Latitude,Longitude: / Elevation (m): 2500	No. Images
Locality [63998] AFRICA / MOROCCO	Locality: 10 km N Tizi-n-Test (1700m) Marrakech Latitude,Longitude: / Elevation (m): 1700	No. Images
Locality [63999] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 25 km N Torbat-e-Heydariyeh (1700-1800 m) Khorasan Latitude,Longitude: / Elevation (m): 1700 - 1800	No. Images
Locality [64000] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 25 km W Fulad Mahalleh (2300 m) Semnan Latitude,Longitude: / Elevation (m): 2300	No. Images
Locality [64001] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 30 km W Dorud (2100m) Lorestan Latitude,Longitude: / Elevation (m): 2100	No. Images

Figure 58 Locality Partial Page

To sort the list of localities, select the **Sort By** criteria from the drop down list(s). The more criteria selected, (up to 3 levels) the more refined the sort will be.

Screen Use Tips:

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go button. Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the information icon will display detailed information about that locality. Choosing the select icon will redirect back to the add specimen page and the appropriate locality will be automatically filled in.

If the desired locality was not on the **Locality** screen, close the screen and select the add icon  from the **Add Specimen** screen (Figure 53). This will direct the user to **Add Locality** (Figure 58). (See the **Add locality** section of this manual for help in completing this form). When the new locality is submitted, the screen will redirect back to the **Add Specimen** page where the new locality will automatically be entered and the process of adding a specimen can continue where the user left off.

Notes

Enter additional text notes related to the specimen record. This is a good place to add voucher label information (i.e. DNA, anatomical, etc.) or other information such as the duration of the collection/trapping sessions noting a range of dates the process took place.

Contributor (Required)

Select the name of the contributor (person having the authorization to release the images) from the dropdown list. The contributor can be different from the submitter (person entering the data). If you need to add new entries to this list, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.

MorphBank provides an option to add **external links** to this record. For complete instructions on providing links refer to [External Linking](#) in the **Information Linking** section of this manual

When the **Add Specimen** form has been completed, submit  to complete the add specimen process. A message will confirm that **you have successfully added a specimen**. From this point the user can continue to add additional specimens or return to the **Upload (Submit)** screen.

Note: When the “Add Specimen” screen is activated from the “Add Image” upload screen (Figure 68) no message will be seen. Instead, the new specimen will appear in the appropriate field on the “Add Image” upload form.

Upload (Submit): Add View

The data entered on the **Add View** screen should provide information about the view of the specimen to include imaging technique, preparation technique, specimen part, sex, form, developmental stage, view angle and highest taxon to which this view is applicable.

A view and specimen must exist before an image is uploaded.

Add View

Imaging Technique*	— Select Imaging Technique — <input type="button" value="▼"/>	
Imaging Preparation Technique*	— Select Imaging Preparation Technique — <input type="button" value="▼"/>	
Specimen Part*	— Select Specimen Part — <input type="button" value="▼"/>	
Sex*	— Select Sex — <input type="button" value="▼"/>	
Form*	— Select Form — <input type="button" value="▼"/>	
Developmental Stage*	— Select Developmental Stage — <input type="button" value="▼"/>	
View Angle*	— Select View Angle — <input type="button" value="▼"/>	
View Applicable To*	<input type="text"/>	
Contributor *	Fredrik Ronquist <input type="button" value="▼"/>	

[Add Links](#)

* - Required

Submit **Return**

Figure 59 Add View

Imaging Technique (Required)

Choose from the drop-down list, the imaging technique used for this view. If the imaging technique used is not in the list, you can add the value by selecting the add icon . This process is available only for those authorized through login permissions. (Only a lead scientist and coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.

Add Imaging Technique

Imaging Technique/Name

Description

Submit **Cancel**

Figure 60 Add Imaging Technique Accessed Through +

Enter the appropriate text on the **Add Imaging Technique** page (Figure 60) and submit **Submit**. A confirmation

message will appear on screen to let the user know that the addition was successful. Choosing the select icon  will redirect the information back to the **Add View** screen. The added information will be a permanent addition to the list of options. Now choose the appropriate imaging technique from the drop-down list.

Preparation Technique (Required)

Choose from the drop-down list, the imaging preparation technique used for the view. If the image preparation technique used is not in the list, you can add the value by selecting the add icon . This process is available only for those authorized through login permissions. (Only a lead scientist and coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.

Add Imaging Preparation Technique

Imaging Preparation Name

Description

Submit **Cancel**

Figure 61 Add Imaging Preparation Technique Accessed Through +

Enter the appropriate text on the **Add Imaging Preparation Technique** page (Figure 61) and submit **Submit**. A confirmation

message will appear on screen to let the user know that the addition was successful. Choosing the select icon  will redirect the information back to the **Add View** screen. The added information will be a permanent addition to the list of options. Now choose the appropriate imaging preparation technique from the drop-down list.

Specimen Part (Required)

Choose from the drop-down list, the name of the specimen part presented by the view. If the specimen part is not in the drop-down list, you can add the value by selecting the add icon . This process is available only for those authorized through login permissions. (Only a lead scientist and

coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.



Add Specimen Part

Specimen Part

Description

Submit **Cancel**

Figure 62 Add Specimen Part Accessed Through +

Enter the appropriate text on the **Add Specimen Part** page (Figure 62) and submit **Submit**. A confirmation

message will appear on screen to let the user know that the addition was successful. Choosing the select icon will redirect the information back to the **Add View** screen. The added information will be a permanent addition to the list of options. Now choose the appropriate specimen part from the drop-down list.

m Sex (Required)

Choose one option from the drop-down list. The option you choose should be consistent with the sex of the specimens to which you plan to apply this view. You may also choose unknown if the view is applicable to both sexes, in which case you can apply the view to images of specimens of any sex. If sex is not an indeterminate, undetermined the appropriate sex is not in the drop-down list you can add the value by selecting the add icon **+**. This process is available only for those authorized through login permissions. (Only a lead scientist and coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.



Add Sex

Sex

Description

Submit **Cancel**

Figure 63 Add Sex Accessed Through +

Enter the appropriate text on the **Add Sex** page (Figure 63)

and submit **Submit**. A confirmation message will appear on screen to let the user know that the addition was successful. Choosing the select icon will redirect the information back to the **Add View** screen. The added information will be a permanent addition to the list of options. Now choose the appropriate sex from the drop-down list.

Form (Required)

Choose one option from the drop-down list. The option you choose should be consistent with the form of the specimens to which you plan to apply this view. You may also choose indeterminate if the view does not apply to a specific morphological form, in which case you can apply the view to images of specimens of any morphological form. If the appropriate form is not in the drop-down list you can add the value by selecting the add icon

 This process is available only for those authorized through login permissions. (Only a lead scientist and coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.



Figure 64 Add Form Accessed Through 

Enter the appropriate text on the **Add Form** page ([Figure 64](#)) and submit  A confirmation message will

appear on screen to let the user know that the addition was successful. Choosing the select icon  will redirect the information back to the **Add View** screen. The added information will be a permanent addition to the list of options. Now choose the appropriate form from the drop-down list.

Developmental Stage (Required)

Choose from the drop-down list, the developmental stage of the specimen presented in the view. The Stage you select should be consistent with the Stage entered in the **Add Specimen** screen for the specimens in the images to which you plan to apply this view. Example: If you enter "Adult" as the developmental stage for the view, you cannot apply this view to an image of a "Larva", if you need to apply a similar view to a larva, you need to create a new view entry. You can add the value by selecting the add icon  This process is available only for those authorized through login permissions. (Only a lead scientist and coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.



Add Developmental Stage

Developmental Stage

Description

Submit **Cancel**

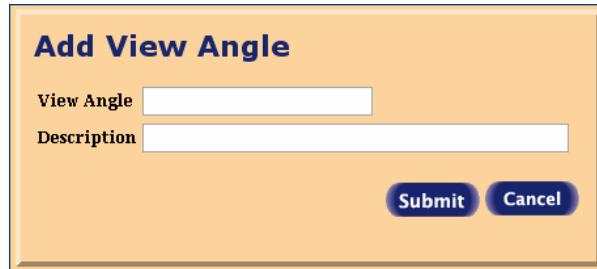
Figure 65 Add Developmental Stage Accessed Through +

Enter the appropriate text on the **Add Developmental Stage** page (Figure 65) and

submit **Submit**. A confirmation message will appear on screen to let the user know that the addition was successful. Choosing the select icon  will redirect the information back to the **Add View** screen. The added information will be a permanent addition to the list of options. Now choose the appropriate developmental stage from the drop-down list.

 **View Angle (Required)**

Choose from the drop-down list a description of the view angle that corresponds to the view. You can add new values to the drop-down list by selecting the add icon . This process is available only for those authorized through login permissions. (Only a lead scientist and coordinator of group can add new options). If a scientist needs additional options, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.



Add View Angle

View Angle

Description

Submit **Cancel**

Figure 66 Add View Angle Accessed Through +

Enter the appropriate text on the **Add View Angle** page (Figure 66) and submit **Submit**. A confirmation message will appear to let the user know that the addition was successful.

The added information will be a permanent addition to the list of options.

-  **View applicable to (Required)** It is possible for a view to be applicable outside of the user's immediate taxon of interest. For example, the view name of lateral habitus, when photographing a wasp, is relevant for Insecta but it can also be applied to Arthropoda, Hexapoda, and perhaps Anamalia. The user should decide the highest possible applicable taxon in which they have confidence that the terminology for that view is relevant. In this case, lateral habitus may be useful as a view name

through Hexapoda, but may not necessarily apply to images of the side view of all animals.

To insure accuracy, taxonomic names need to be selected ✓ from **Taxonomic Selection** Screen. Select the name of the highest taxon to which this view is applicable. Traverse through the levels ↵ until the appropriate scientific name is found. Then click the select icon **Select ✓**, it will automatically direct the user back to the add view screen and the appropriate name will be filled in.

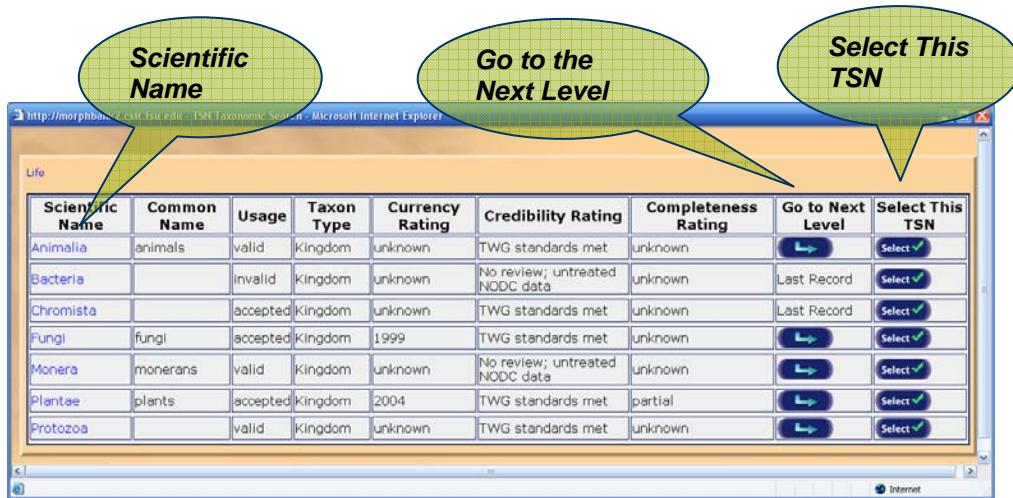


Figure 67 Taxonomic Selection

If a new taxon name needs to be added select the **Add New Taxon** button that is visible from the family level. The **Add TSN** screen will popup. (This option is only available for authorized users.) For complete instructions on this process see the [ITIS, Add New Taxon](#) section of this manual.

Note: Great care must be taken when adding new taxon names to the local copy of the database. New names must be accurate and accepted in the biological community. Adding a new taxon name commits the user to the responsibility of submitting a change to the Department of Agriculture
<http://www.itis.usda.gov/>.

Contributor (Required)

Select the name of the contributor (person having the authorization to release the images) from the dropdown list. The contributor can be different from the submitter (person entering the data). If you need to add new entries to this list, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.

MorphBank provides an option to add **External Links** to this record. For complete instructions on providing links refer to [External Linking](#) in the **Information Linking** section of this manual

When the add view form has been completed, submit **Submit** to complete the add view process. A message will confirm that ***you have successfully added a view***. From this point the user can continue to add additional views or return to the **Upload (Submit)** screen.

Note: When the “Add View” screen is activated from the “Add Image” upload screen (Figure 68) no message will be seen. Instead, the new view will appear in the appropriate field on the “Add Image” upload form.

Upload (Submit): Add Image

The data entered on the **Add Image** screen should provide information about the image to upload, the specimen to which the image belongs, and its view.

The image file should be in the form of (bitmap [.bmp], joint photographic experts group [.jpeg, .jpg], and tag information file format [.tiff]). (**Phillips SEM** users see **warning notation** in the **Image to Upload** and **Magnification** sections below).

Both a specimen and a view should exist before uploading an image. If not previously added, provisions have been made on this screen to add a specimen and a view.

Add Image

Image to Upload *	<input type="text"/>	Browse...
Specimen *	<input type="text"/>	✓ +
View *	<input type="text"/>	✓ +
Magnification	<input type="text"/>	
Date To Publish (YYYY/MM/DD)	2007/02/28	
Contributor *	<input type="text"/>	

[Add Links](#)

* - Required

Submit **Return**

Figure 68 Add Image - Prior to Image Selection

Note:

Users should only release data into MorphBank that is appropriate for world-wide release. For example, if an image of an endangered or protected specimen includes annotations of a specific locality, that information should be masked before sending the image to MorphBank. When propagating the “add locality” screen of that specimen, care should be taken to avoid precise locality details (i.e. enter the collection county as apposed to the exact area within that county where the specimen was collected).

 **Image to Upload** (Required)

Browse or enter the location and name of the image to upload. Image files to upload need file extensions of (bitmap [.bmp], joint photographic experts group [.jpeg, .jpg] or tag information file format [.tiff]).

WARNING: Philips SEM users**Image Display Problem:**

Philips SEM machines utilize non-square shaped pixels so when the images are outside of Philips software they are distorted slightly.

To Fix:

The images need to be resized from 1424X968 to 1424X1064 for high resolution images and 712X484 to 712X532 for standard resolution. Philips has a small conversion program called XL-Stretch or images can be resized manually with image manipulation software such as Photoshop.

Add Image

Image to Upload * C:\Documents and Settings\Cynthia\My Doc

Specimen* ✓ +

View* ✓ +

Magnification

Date To Publish (YYYY/MM/DD) 2007/02/28

Contributor*

Add Links

* - Required

Some browsers do not have the capability to display image here

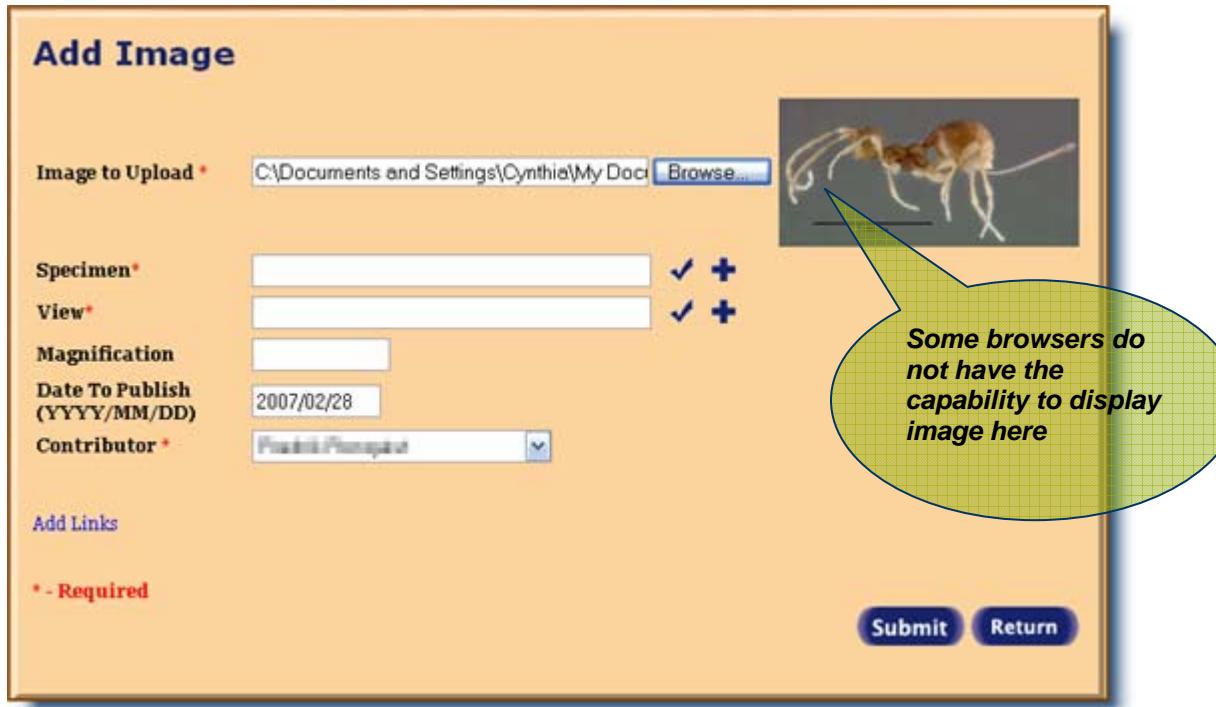


Figure 69 Add Image-After Image Selection

m Specimen (Required)

Enter the specimen from which the image was taken. To insure accuracy, specimen names need to be selected ✓ from **Specimens** selection screen. The specimen must exist before you can ad an image.

Specimens

Sort by:

Specimen Id

Asc. Desc.

then by:

Select Sort Criteria

Asc. Desc.

then by:

Select Sort Criteria

Asc. Desc.

Sort

Show:

20 hits per page

Page:

Go

◀ 1 2 3 4 5 6 7 8 9 10 11 ▶ ▶ of 1921 (38402 specimens)

Specimen [105] Specimen / Notype <i>Drosophila melanogaster</i>	No. Images: 1	
Developmental Stage / Sex / Form: Adult / Male / Indeterminate Date / Country / Locality: 00-00-0000 / US / Laboratory - FSU Collector Name: David Houle		
Specimen [106] Specimen / Notype <i>Drosophila melanogaster</i>	No. Images: 1	
Developmental Stage / Sex / Form: Adult / Male / Indeterminate Date / Country / Locality: 00-00-0000 / US / Laboratory - FSU Collector Name: David Houle		
Specimen [107] Specimen / Notype <i>Drosophila melanogaster</i>	No. Images: 1	
Developmental Stage / Sex / Form: Adult / Male / Indeterminate Date / Country / Locality: 00-00-0000 / US / Laboratory - FSU Collector Name: David Houle		
Specimen [108] Specimen / Notype <i>Drosophila melanogaster</i>	No. Images: 1	
Developmental Stage / Sex / Form: Adult / Male / Indeterminate Date / Country / Locality: 00-00-0000 / US / Laboratory - FSU Collector Name: David Houle		
Specimen [109] Specimen / Notype <i>Drosophila melanogaster</i>	No. Images: 1	
Developmental Stage / Sex / Form: Adult / Male / Indeterminate Date / Country / Locality: 00-00-0000 / US / Laboratory - FSU Collector Name: David Houle		

Figure 70 Specimens- Partial Page

To sort the list of specimens, select the **Sort By** criteria from the drop down list(s). The more criteria selected, (up to 3 levels) the more refined the sort will be.

Screen Use Tips:

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go button. Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

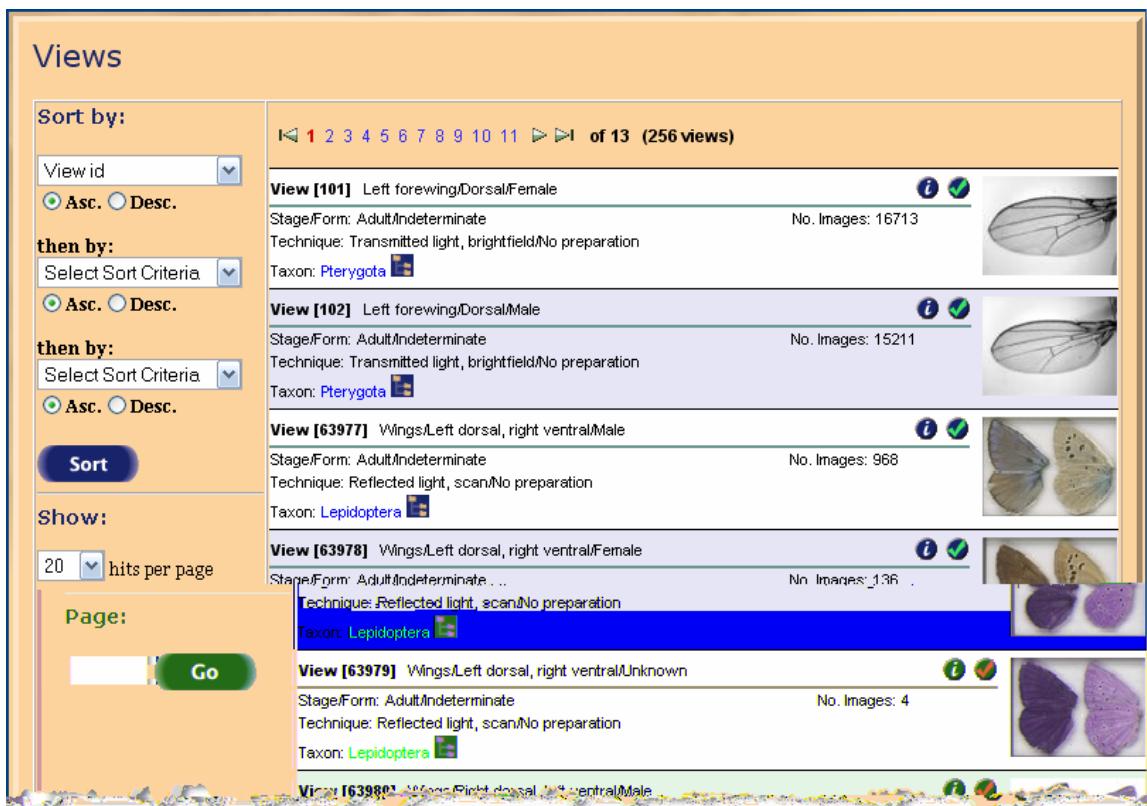
Selecting the information icon will display detailed information about that specimen. Choosing the select icon will redirect back to the **add image** page and the appropriate specimen will be automatically filled in.

To add a new specimen that is not in the **Specimens** selection screen, select the add icon . This will direct the user to the **Add Specimen** screen (Figure 70).

(See the [Add Specimen](#) section of this manual for help in completing this form). When the new specimen is submitted, the screen will redirect back to the [Add Image](#) page where the new specimen will automatically be entered and the process of adding an image can continue where the user left off.

Views (Required)

Enter the view describing the image to be uploaded. To insure accuracy, views need to be selected  from the [Views](#) selection screen. A view must exist before uploading an image.



Sort by:	
View id	<input type="button" value="Asc."/> <input type="button" value="Desc."/>
then by:	
Select Sort Criteria	<input type="button" value="Asc."/> <input type="button" value="Desc."/>
then by:	
Select Sort Criteria	<input type="button" value="Asc."/> <input type="button" value="Desc."/>
Sort	
Show:	
20	<input type="button" value="hits per page"/>
Page:	
<input type="button" value="Go"/>	

View [101] Left forewing/Dorsal/Female		No. Images: 16713
Stage/Form: Adult/Indeterminate	Technique: Transmitted light, brightfield/No preparation	 
Taxon: Pterygota		
View [102] Left forewing/Dorsal/Male		No. Images: 15211
Stage/Form: Adult/Indeterminate	Technique: Transmitted light, brightfield/No preparation	 
Taxon: Pterygota		
View [63977] Wings/Left dorsal, right ventral/Male		No. Images: 968
Stage/Form: Adult/Indeterminate	Technique: Reflected light, scan/No preparation	 
Taxon: Lepidoptera		
View [63978] Wings/Left dorsal, right ventral/Female		No. Images: 136
Stage/Form: Adult/Indeterminate	Technique: Reflected light, scan/No preparation	 
Taxon: Lepidoptera		
View [63979] Wings/Left dorsal, right ventral/Unknown		No. Images: 4
Stage/Form: Adult/Indeterminate	Technique: Reflected light, scan/No preparation	 
Taxon: Lepidoptera		
View [63980] Wings/Right dorsal, left ventral/Male		No. Images: 1
Stage/Form: Adult/Indeterminate	Technique: Reflected light, scan/No preparation	 
Taxon: Lepidoptera		

Figure 71 Views-Partial Page

To sort the list of views, select the **Sort By** criteria from the drop down list(s). The more criteria selected, (up to 3 levels) the more refined the sort will be.

Screen Use Tips:

The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go  button. Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. requesting 100 records per page will take longer to load than the screen that has only 10 records to load.)

Selecting the information icon  will display detailed information about that view. Choosing the select icon  will redirect back to the **Add Image** page and the appropriate specimen will be automatically filled in.

To add a new view that is not in the **Views** selection screen, select the add icon . This will direct the user to the **Add View** screen (Figure 71).

(See the **Add View** section of this manual for help in completing this form.) When the new view is submitted, the screen will redirect back to the **Add Image** page where the view will be automatically entered and the process of adding an image can continue where the user left off.

Magnification

Enter a positive decimal number that corresponds to the magnification of the image. The magnification is calculated by dividing the size of an object as it appears on the image (when the image is rendered at normal or native size [100 %]) by the actual size of the object. Example: if the leg of the specimen is 0.5 mm long and on the image it appears to be 20 mm long, the magnification is $20/0.5 = 40$. Please make sure you specify the magnification for all images, particularly if you do not have a scale bar in them.

WARNING: Philips SEM users

Magnification Recording Problem:

For Philips machines (and perhaps others), users may choose any size and resolution to output the images and they will have variable magnification based upon the output choices.

To Fix:

If the machine is calibrated correctly for high-resolution tiff digital output then the magnification will be correct. However, not all SEM machines are calibrated in this manner and your SEM technician should be consulted. It is also suggested to print a scale bar on all images.

Date to publish

Enter the release date for the images. The release date can be maximally five years from the date of inclusion of the images in MorphBank. If you leave this field unchanged, the default date is 6 months from inclusion of the images in MorphBank.

Contributor (Required)

Select the name of the contributor (person having the authorization to release the images) from the dropdown list. The contributor can be different from the submitter (person entering the data). If you need to add new entries to this list, please contact the MorphBank admin. group mbadmin@scs.fsu.edu.

MorphBank provides an option to add **external links** to this record. For complete instructions on providing links refer to [External Linking](#) in the **Information Linking** section of this manual

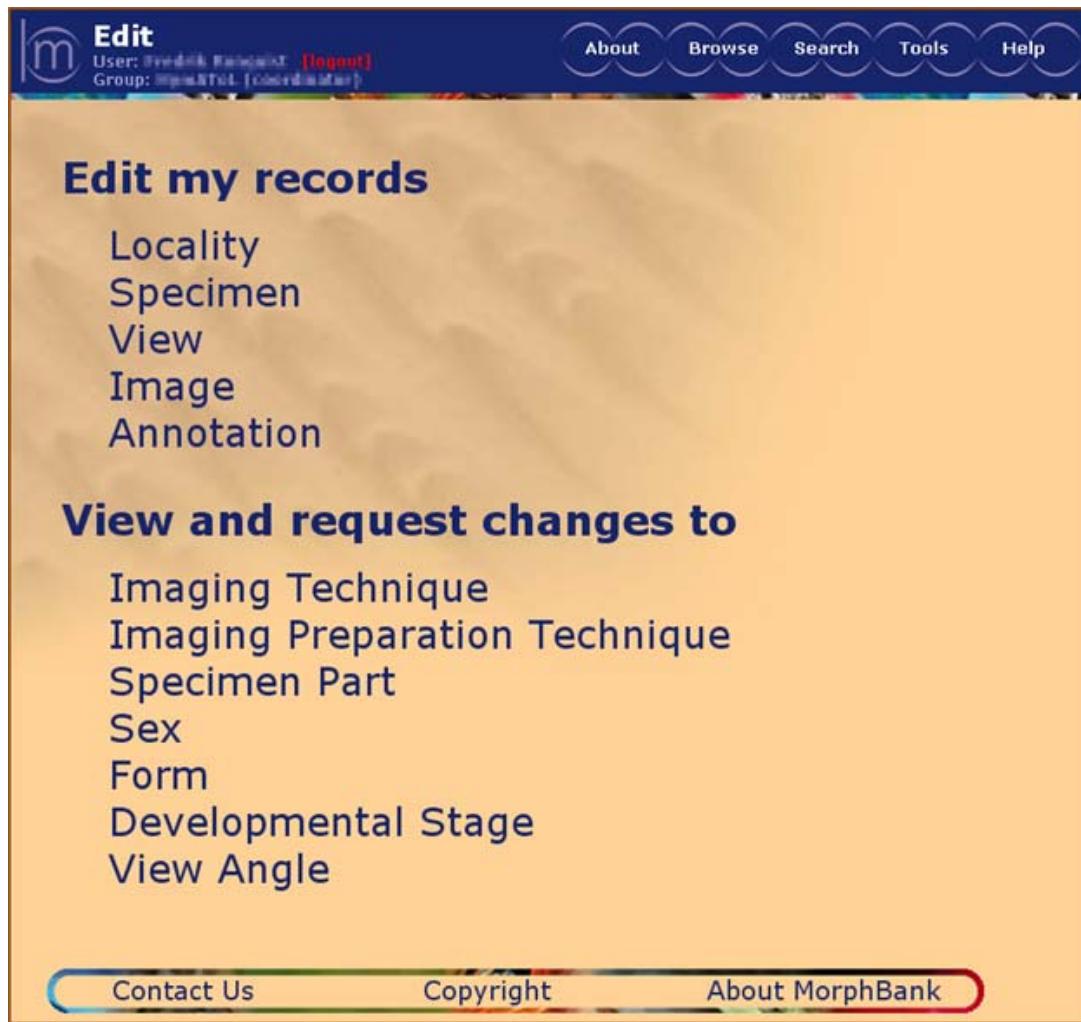
When the add image form has been completed, submit  to complete the add image process. A message will confirm that ***you have successfully added an image.*** From this point the user can continue to add additional images or return to the upload screen.

Note:

Users should only release data into MorphBank that is appropriate for world-wide release. For example, if an image of an endangered or protected specimen includes annotations of a specific locality, that information should be masked before sending the image to MorphBank. When propagating the “Add Locality” screen of that specimen, care should be taken to avoid precise locality details (i.e. enter the collection county as apposed to the exact area within that county where the specimen was collected.)

Edit

Use **Edit** to change **Locality, Specimen, View, or Image** information; or view and request changes to data in the **Imaging Technique, Imaging Preparation Technique, Specimen Part, Sex, Form, Developmental Stage, or View Angle** tables. Edit is available for use by those logged in users who have contributed data into MorphBank need to edit that data.



The screenshot shows the MorphBank Edit interface. At the top, there's a blue header bar with the MorphBank logo, user information (User: Friedrich Wankel, Logout, Group: MorphTOL Coordinator), and navigation links: About, Browse, Search, Tools, and Help. Below the header, a large orange section titled "Edit my records" contains links for Locality, Specimen, View, Image, and Annotation. Another section titled "View and request changes to" contains links for Imaging Technique, Imaging Preparation Technique, Specimen Part, Sex, Form, Developmental Stage, and View Angle. At the bottom, there's a footer bar with links for Contact Us, Copyright, and About MorphBank.

Figure 72 Edit

Edit: Locality

Choose **Edit Locality** when there is a need to change locality data that was previously contributed to MorphBank.

Edit Locality

148 of 183 Go

Location Id: 64096
Country: * IRAN, ISLAMIC REPUBL 
Locality: * Samqabed (1900-2100 m) Tehran
Latitude: North 
Longitude: East 
CoordinatePrecision:
MinimumElevation: 1900
MaximumElevation: 2100
MinimumDepth:
MaximumDepth:
Contributor: * Frank Koenig 

* - Required

Pages represent all localities submitted by the user that are available for edit.

The page numbers reflect the records that are available for edit. To find a previously contributed locality, advance through the data using the arrows or go to a particular page number by typing it in and selecting the **Go** button. The instructions for completing the fields on this page can be found in [submit/add localities](#).



To complete the **Edit Locality process, select **Update**.

A screen will popup that requires a response from the user (Figure 74).

Selecting **yes** will send the user back to the **Edit Locality** screen where a

confirmation message will confirm that the update(s) has been made. Selecting **no** will send the user back to the **edit** Screen. Selecting **cancel** will send the user back to the **edit Locality** screen without making any changes.

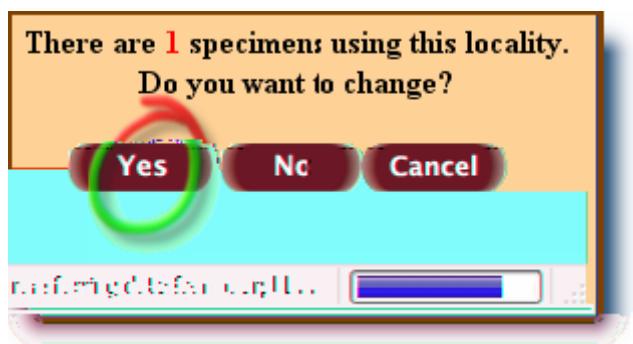


Figure 74 Edit Locality Confirmation

Edit: Specimen

Choose **Edit Specimen** when there is a need to change specimen data that was previously contributed to MorphBank.

Edit Specimen

◀ 1 of 10 ▶ Go

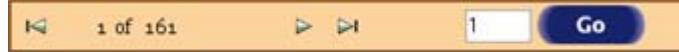
Specimen Id:	103008
Basis of Record: *	Living organism <input style="border: 1px solid #ccc; padding: 2px; width: 20px; height: 20px; vertical-align: middle;" type="button" value="+"/>
Sex: *	Female <input style="border: 1px solid #ccc; padding: 2px; width: 20px; height: 20px; vertical-align: middle;" type="button" value="+"/>
Form: *	Parthenogenetic <input style="border: 1px solid #ccc; padding: 2px; width: 20px; height: 20px; vertical-align: middle;" type="button" value="+"/>
Developmental Stage: *	Adult and Subadult <input style="border: 1px solid #ccc; padding: 2px; width: 20px; height: 20px; vertical-align: middle;" type="button" value="+"/>
Type Status: *	Isotype <input style="border: 1px solid #ccc; padding: 2px; width: 20px; height: 20px; vertical-align: middle;" type="button" value="+"/>
Preparation Type:	test
Number of Individuals:	<input type="text" value="0"/>
Determination: *	Symphyta <input checked="" type="checkbox"/>
Determined By:	
Date Determined (YYYY/MM/DD):	0000-00-00
Determination Notes:	
Institution Code:	
Collection Code:	
Catalog Number:	
Previous Catalog Number:	
Related Catalog Item:	
Relationship Type:	
Collection Number:	
Collector(s) Name: *	Neelima
Date Collected(YYYY/MM/DD): *	2000-11-11
Locality: *	Laboratory - FSU <input checked="" type="checkbox"/> <input style="border: 1px solid #ccc; padding: 2px; width: 20px; height: 20px; vertical-align: middle;" type="button" value="+"/>
Standard Image: *	0 <input checked="" type="checkbox"/>
Notes:	testing for external links
Contributor: *	Freckle Flumper <input style="border: 1px solid #ccc; padding: 2px; width: 20px; height: 20px; vertical-align: middle;" type="button" value="+"/>
* - Required	
<input style="border: 1px solid #ccc; padding: 2px 10px; border-radius: 5px; background-color: #f0f0f0; color: #000; font-weight: bold; margin-right: 5px;" type="button" value="Update"/> <input style="border: 1px solid #ccc; padding: 2px 10px; border-radius: 5px; background-color: #f0f0f0; color: #000; font-weight: bold;" type="button" value="Return"/>	

◀ 1 of 10 ▶ Go

Pages represent specimens contributed by the user that are available for edit.

Figure 75 Edit Specimen

The page numbers reflect the specimens that are available for edit. To find a previously contributed specimen, advance through the data using the arrows or go to a particular page number by typing it in and selecting the **Go** button.



With the exception of the **standard image** field, the instructions for completing the other fields on this page can be found in [submit/add specimen](#).

The **standard image** is the image best represents the specimen. The default image is the first image entered for that specimen. If another image is desired as the standard display image, click on the  and choose it from the list of images. When the desired image is found, select it  and return to the **Edit Specimen** page.

To complete the **Edit Specimen process, select **Update**. A screen will popup that requires a response from the user (Figure 76). Selecting **Yes** will send the user back to the **Edit Specimen** screen where a confirmation message will confirm that the update(s) has been made. Selecting **No** will send the user back to the **Edit** screen. Selecting **Cancel** will send the user back to the **Edit Specimen** screen without making any changes.



Figure 76 Edit Specimen Confirmation

Edit: View

Choose **Edit View** when there is a need to change view data that was previously contributed to MorphBank.

Edit View

1 of 233 Go

View Id:	102
Imaging Technique: *	Transmitted light, brightfield
Imaging Preparation Technique: *	No preparation
Specimen Part: *	Left forewing
Sex: *	Male
Form: *	Indeterminate
Developmental Stage: *	Adult
View Angle: *	Dorsal
View Applicable To: *	Pterygota
Standard Image: *	32033
Contributor *	Chad Fergason

* - Required

Update Return

1 of 233 Go

Pages represent views contributed by the user that are available for edit.

Figure 77 Edit View

The page numbers reflect the views that are available for edit. To find a previously contributed view, advance through the data using the



arrows or go to a particular page number by typing it in and selecting the **Go** button.

The instructions for completing the **Imaging Technique, Imaging Preparation Technique, Specimen Part, Sex, Form, Developmental Stage, View Angle, and View Applicable To** fields on this page can be found in [submit/add view](#).

The **Standard Image** is the image that best represents that view. The default image is the first image entered under that view. If another image is desired as the standard display image, click on the  and choose it from the list of images. When the desired image is found, select it  and return to the **Edit View** page.

To complete the **Edit View process, select **Update**. A screen will popup that requires a response from the user (Figure 78) Selecting yes will send the user back to the **Edit View** screen where a confirmation message will confirm that the update(s) has been made. Selecting **No** will send the user back to the **Edit** screen. Selecting **Cancel** will send the user back to the **Edit View** screen without making any changes.



Figure 78 Edit View Confirmation

Edit: Image

Choose **Edit Image** when there is a need to change image data that was previously contributed to MorphBank by the logged in user.

Image record: [77623]

Submitted by : Lars Vilhelmsen	Submitted date : 04-11-2006
Published date : 04-11-2006	
Magnification : 75	
Dimension (px) : 1024x1280	
Resolution (PPI) : 1310720	
Submitted as : BMP	

View

id : 77651
Imaging Technique : SEM
Preparation Technique : Cleared in KOH, platinum-coated
Specimen Part : Propodeum
View Angle : Posterior
Sex : Male
Form : Indeterminate
Developmental Stage : Adult

Specimen

Specimen Id : 77558
Basis Of Record : Specimen
Sex : Male
Form : Indeterminate
Developmental Stage : Adult
Type Status :
Preparation Type : 70% ethanol
Determination : Megalyra fascipennis
Determined By : L.Vilhelmsen
Determination Notes :
Date Determined : 00-00-0000
Institution Code : ZMUC
Collection Code : Info. not provided
Catalog Number : Info. not provided
Previous Catalog Number :
Related Catalog Item :
Relationship Type :
Collection Number :
Collector Name : G. Gibson
Date Collected : 12-06-1998
Standard Image : 77626

Locality

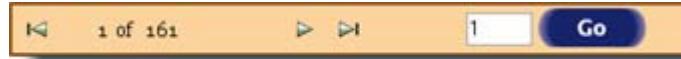
Locality Id : 77510
Locality : ACT, Canberra, Black Mountain
Country : AUSTRALIA
Continent/Ocean : OCEANIA
Latitude : -35.27
Longitude : 149.1
Coordinate Precision :
Minimum Elevation :
Maximum Elevation :
Minimum Depth :
Maximum Depth :

Pages represent images contributed by the user that are available for edit.

38466 of 38472 Go

Figure 79 Edit Image

The page numbers reflect the images that are available for edit. To find

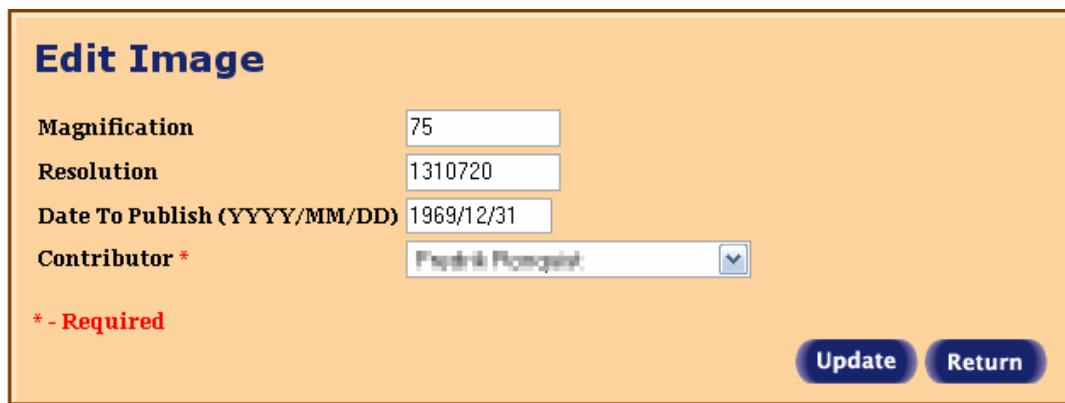


a previously submitted image, advance through the data using the arrows or go to a particular page number by typing it in and selecting the **Go** button.

The **Edit Image** page will allow the user to edit the **Image, View, Specimen, Magnification, Resolution** or **Date to Publish** belonging to this image, select the **Update** button that is located in that area of the screen. The **Edit Image** screen will display.

- **Image:**

To edit the **Specimen, View, Magnification, Resolution** or **Date to Publish** belonging to this image, select the **Update** button that is located in that area of the screen. The **Edit Image** screen will display.



The screenshot shows the 'Edit Image' form. It contains four input fields: 'Magnification' (75), 'Resolution' (1310720), 'Date To Publish (YYYY/MM/DD)' (1969/12/31), and 'Contributor *' (Peggy Flanagan). Below the fields is a red note: '* - Required'. At the bottom are 'Update' and 'Return' buttons.

Figure 80 Edit Image

The instructions for completing the **Edit Image** fields of **Specimen, View, Magnification, Resolution** or **Date to Publish** on this page can be found in the [submit/add image](#) section of this manual.

To complete the **Edit Image process, select **Update**.

A screen will popup that requires a response from the user(Figure 81).



Selecting **Yes** will send the user back to the **Edit Image** screen where a confirmation message will confirm that the update(s) has been made. Selecting **No** will send the user back to the **Edit** screen. Selecting **Cancel** will send the user back to the **Edit Image** screen without making any changes.

Figure 81 Edit Image Confirmation

- View:**

To edit the **View** belonging to this image, select the **Update** button that is located in that area of the screen. The **Edit View** screen will display.

Edit View

Imaging Technique*	SEM
Imaging Preparation Technique*	Cleaned in ammonia, air dried, gold coated
Specimen Part*	Metasoma, anterior half
Sex*	Female
Form*	Indeterminate
Developmental Stage*	Adult
View Angle*	Lateral from left
View Applicable To*	Ibaliidae
Standard Image*	77336
Contributor*	Fredrik Ronquist

* - Required

Update **Return**

Figure 82 Edit View (From Edit Image)

The instructions for completing the **Edit View** fields on this page can be found in the [submit/add view](#) section of this manual.

To complete the **Edit View process, select **Update**.

A screen will popup that requires a response from the user (Figure 81).



Selecting **Yes** will send the user back to the **Edit View** screen where a confirmation message will confirm that the update(s) has been made. Selecting **No** will send the user back to the **Edit** screen. Selecting **Cancel** will send the user back to the **Edit View** screen without making any changes.

Figure 83 Edit View (From Edit Image) Confirmation

- Specimen:**

To edit the **Specimen** belonging to this image, select the **Update** button that is located in that area of the screen. The **Edit Specimen** screen will display.

Edit Specimen

Basis of Record*	Specimen
Sex*	Male
Form*	Indeterminate
Developmental Stage*	Adult
Type Status*	— Select TypeStatus —
Preparation Type	70% ethanol
Number of Individuals	3
Determination*	Megalyra fasciipennis ✓
Determined By	
Date Determined (YYYY/MM/DD)	0000-00-00
Determination Notes	
Institution Code	ZMUC
Collection Code	Info. not provided
Catalog Number	Info. not provided
Previous Catalog Number	
Related Catalog Item	
Relationship Type	
Collection Number	
Collector(s) Name*	G. Gibson
Date Collected(YYYY/MM/DD)*	1998-12-06
Locality*	ACT, Canberra, Black Mount ✓ +
Standard Image*	77626 ✓
Notes	
Contributor *	Lens/Villeneuve
* - Required	
<input type="button" value="Update"/> <input type="button" value="Return"/>	

Figure 84 Edit Specimen (From Edit Image)

The instructions for completing the **Edit Specimen** fields on this page can be found in the [submit/add specimen](#) section of this manual

To complete the **Edit Specimen process, select **Update**. A confirmation screen will popup that requires a response from the user ([Figure 85](#)). Selecting **Yes** will send the user back to the **Edit Specimen** screen where a confirmation message will confirm that the update(s) has been made.

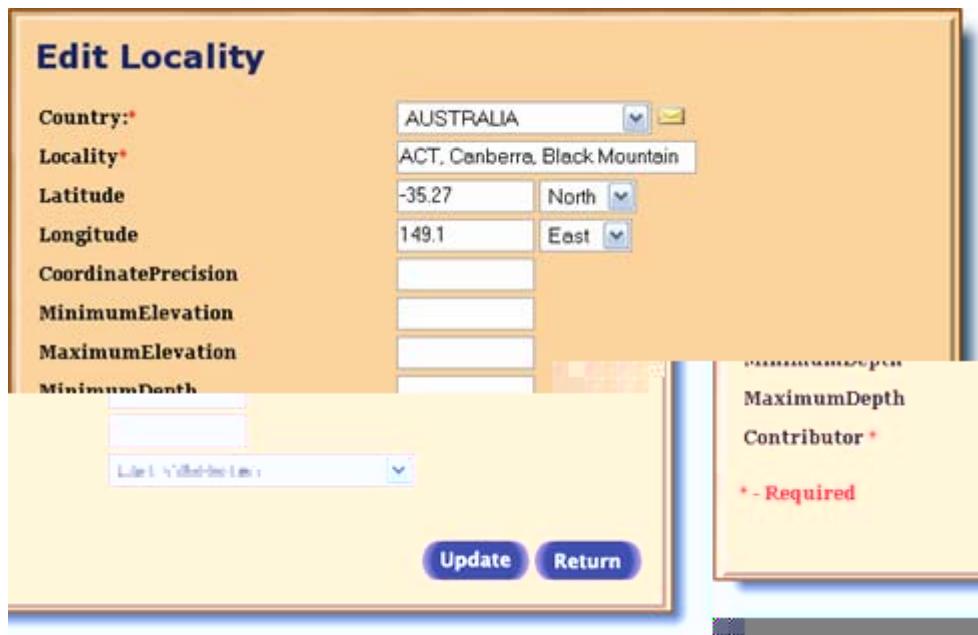


Selecting **No** will send the user back to the **Edit** screen. Selecting **Cancel** will send the user back to the **Edit Specimens** screen without making any changes.

Figure 85 Edit Specimen (From Edit Image) Confirmation

- **Locality:**

To edit the **Locality** information belonging to this image, select the **Update** button that is located in that area of the screen. The **Edit Locality** screen will display.

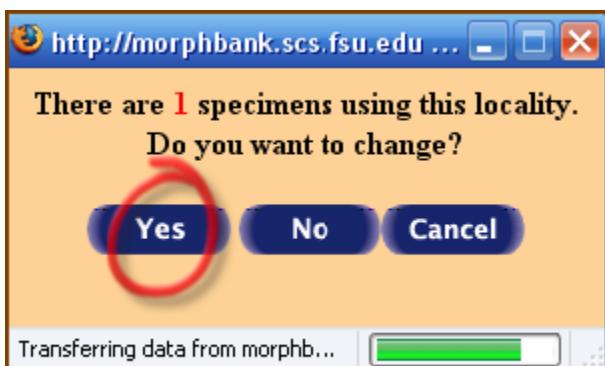


Country*	AUSTRALIA
Locality*	ACT, Canberra, Black Mountain
Latitude	-35.27 North
Longitude	149.1 East
CoordinatePrecision	
MinimumElevation	
MaximumElevation	
MinimumDepth	
<input type="button" value="Update"/> <input type="button" value="Return"/>	

Figure 86 Edit Locality (From Edit Image)

The instructions for completing the fields on this page can be found in the [submit/add locality](#) section of this manual.

******To complete the **Edit Locality** process, select **Update**. A screen will popup that requires a response from the user (Figure 87). Selecting **Yes** will send the user back to the **Edit Locality** screen where a confirmation message will confirm that the update(s) has been made. Selecting **No** will



send the user back to the **Edit** screen. Selecting **Cancel** will send the user back to the **Edit Image** screen without making any changes.

Figure 87 Edit Locality (From Edit Image) Confirmation

Edit: Annotation

Edit Annotations contains the previously entered annotation data that can be edited by the owner (only available if the annotation is not yet published.) Make note that the type of annotation can not be altered.

Edit Annotation is accessed through the **Annotation Manager** by selecting **Tools/ Annotation Manager** or **Tools/Edit Annotation**.



The **Edit Annotation** screen will come up when the user clicks on the title of the annotation that is to be edited.

Annotation Manager

Id	Title	Type Annotation	Object Id	Object	Date Created	Publication Date	Add	Delete
100020	Test Determination	Determination	70756	Image	2006-07-28	2006-09-01	add	X
104133	Test of Annotation Location	General	99697	Image	2006-08-15	2006-08-14	add	X
104134	Test 2 of Annotation Tool Arrow Location	General	99697	Image	2006-08-15	2007-02-14	add	X
104135	Arrow Location, Lower Left	General	99697	Image	2006-08-15	2007-02-14	add	X
104136	Test of Arrow, Upper Left	General	99697	Image	2006-08-15	2007-02-14	add	X
104137	Determination	Determination	99697	Image	2006-08-16	2007-02-15	add	X
104138	Determination	Determination	70756	Image	2006-08-17	2007-02-16	add	X
104139	Determination	Determination	99697	Image	2006-08-18	2007-02-17	add	X
104140	Determination	Determination	99697	Image	2006-08-18	2007-02-17	add	X
104141	Annotation without label on Arrow	General	99697	Image	2006-08-23	2007-02-22	add	X

Update

Clicking on the annotation title will bring up the Edit Annotation screen.

Figure 88 Edit Annotation

This Figure Contains Test Data

Annotation Record of Image [70756-Cynips douglasii]

Type of Annotation	Determination					
Related Annotations						
Taxonomic Name Cynips douglasii	Taxon Author Temporary TSN Name	Prefix none	Suffix none	A 2	D 1	S 1
Determination/Annotation				Determination Data		
Determination Action * New Taxon				Agree - choose Cynips douglasii		
Prefix				None		
Suffix				None		
Materials used in Id				Image		
Source of Identification *				David Captain		
Resources used in Identification *				Expert opinion of Dr. David Captain		
Common Annotation Fields						
Title * Test Determination This is an example of a single determination screen. No previous determinations were made on this specimen, and as such the Specimen record shows up as the initial determination.						
Comments * Update of Comments						
Image Label: Throat ✓ X-Coord 51 Y-Coord 28						
Date To Publish (YYYY/MM/DD) * 2006/09/01 Update Return						
*Required						

Figure 89 Edit Annotation

This Figure Contains Test Data

The information included on the **Edit Annotation** screen reflects all the previous data that was included on the original annotation. To edit the information on this page, click on the appropriate area to highlight the data and type in or select the corrected information. Make note that the type of annotation can not be changed; however, if the annotation has not been published, it can be deleted entirely and reentered under the proper type. Help in filling out the data fields on this page can be obtained in

[Add Annotations](#) located in this manual.

Edit: View and Request Changes to Imaging Technique

This option is open to any logged in user. The user will be presented with a list of all the **Imaging Techniques** currently available in the MorphBank database.

Edit Imaging Technique

Imaging Technique *	Description *
Auto-Montage	Auto-Montage description
Reflected light, macrophotography	Reflected light, macrophotography description
Reflected light, scan	Reflected light, scan description
Transmitted light, brightfield	Transmitted light, brightfield description
SEM	Scanning Electron Microscope
Imaging Technique test data	Imaging Technique test data description

* - Required

Figure 90 Edit and Request Changes to Imaging Technique

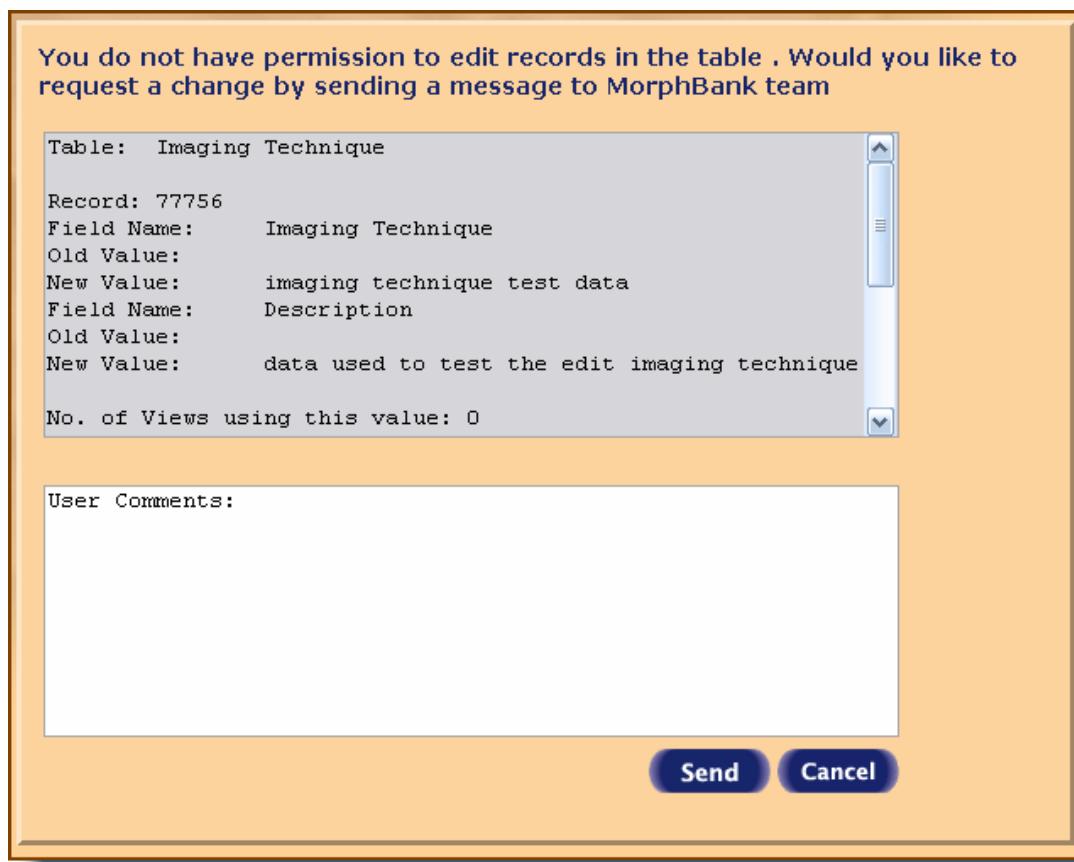
This Figure Contains Test Data

Most users are not authorized to directly make changes to the records in the MorphBank tables. Therefore, users are asked to send a change request to the MorphBank team. To request a change to any of the techniques, highlight that technique or description, make the appropriate change(s), and select the **Update** button.

Transmitted light, brightfield	Transmitted light, brightfield description
SEM	Scanning Electron Microscope
Imaging technique test data	Data used to test the edit imaging technique

*Make
desired
changes on
the screen*

The resulting screen displays the requested change(s) (Figure 91). Review the change(s) (select **Cancel or Return** if additional revisions are needed). The user is encouraged to enter supplementary information in the free text comment field. Comment field entries might include reasons or opinions on why the change should be made; or other information such as questions, or observations about the technique or description. To send the message and comments to the MorphBank team, select the **Send** button. A confirmation message will verify that the message was sent. The MorphBank team will review all change messages and determine if adjustments to records are needed.



You do not have permission to edit records in the table . Would you like to request a change by sending a message to MorphBank team

Table: Imaging Technique

Record: 77756

Field Name: Imaging Technique

Old Value:

New Value: imaging technique test data

Field Name: Description

Old Value:

New Value: data used to test the edit imaging technique

No. of Views using this value: 0

User Comments:

Send **Cancel**

This screenshot shows a dialog box titled "You do not have permission to edit records in the table . Would you like to request a change by sending a message to MorphBank team". It contains a table of changes made to record 77756 in the "Imaging Technique" table. The changes listed are: Field Name "Imaging Technique" with Old Value blank and New Value "imaging technique test data"; Field Name "Description" with Old Value blank and New Value "data used to test the edit imaging technique"; and a note that "No. of Views using this value: 0". Below the table is a "User Comments:" text area, which is currently empty. At the bottom of the dialog are two buttons: "Send" and "Cancel".

Figure 91 Request Changes to MorphBank Tables

This Figure Contains Test Data

Edit: View and Request Changes to Imaging Preparation Technique

This option is open to any logged in user. The user will be presented with a list of all the **Imaging Preparation Techniques** currently available in the MorphBank database (Figure 92).

Edit Imaging Preparation Technique

Imaging Preparation Technique *	Description *
Air dried, gold coated	Air dried, gold coated description
Cleaned in absolute ethanol	Cleaned in absolute ethanol description
Cleaned in absolute ethanol, air dried, mounted in Euparal	Cleaned in absolute description
Cleaned in ammonia, air dried, gold coated	Cleaned in ammonia, air dried, gold coated description
Cleaned in ammonia, mounted in Euparal	Cleaned in ammonia, mounted in Euparal description
Cleared in KOH, mounted in Euparal	Cleared in KOH, mounted in Euparal description
Cleared in KOH, platinum-coated	Cleared in KOH, platinum-coated description
No preparation	No preparation description
Pressed and Dried	Pressed and Dried description
UNKNOWN	Unknown description

* - Required

Update **Return**

Figure 92 Edit and Request Changes to Imaging Preparation Technique

This Figure Contains Test Data

Most users are not authorized to directly make changes to the records in the MorphBank tables. Therefore, users are asked to send a change request to the MorphBank team. To request a change to any of the techniques, highlight that technique or description, make the appropriate changes, and select the **Update** button.

The instructions and examples for the remainder of this process can be found at [View and Request Changes to Imaging Techniques](#)

Edit: View and Request Changes to Specimen Part

This option is open to any logged in user. The user will be presented with a list of all the **Specimen Parts** currently available in the MorphBank database. (Figure 93)

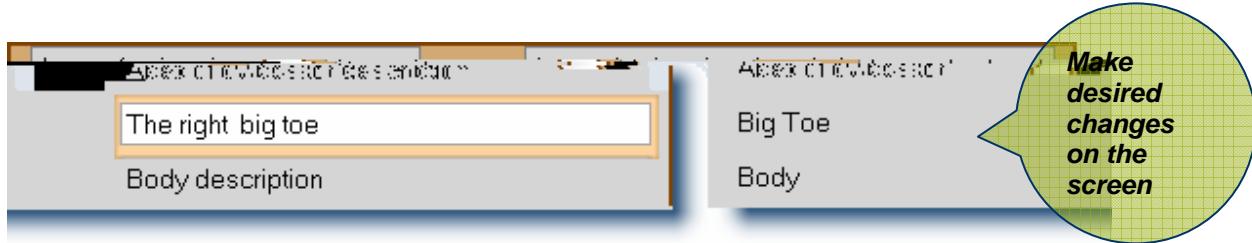
Edit Specimen Part

Specimen Part *	Description *
1-2 valvulae, apex	1-2 valvulae, apex description
Abdominal sternum 8	Abdominal sternum 8 description
Abdominal terga 3-4	Abdominal terga 3-4 description
Antenna	Antenna description
Antennae	Antenna description
Apex of ovipositor	Apex of ovipositor description
Big Toe	The left big toe
Body	Body description
Cephalon w	
Coxa	
Dorsal	
Gaster	
Hind leg	
Head	
Leg	
Male genitalia	
Maxilla	
Middle leg	
Neurotergite	
Posterior leg	
Pronotum	
Rear leg	
Thorax	
Ventral	
Whole body	

Figure 93 Edit and Request Changes to Specimen Part

This Figure Contains Test Data

Most users are not authorized to directly make changes to the records in the MorphBank tables. Therefore, users are asked to send a change request to the MorphBank team. To request a change to any of the descriptions, highlight that description, make the appropriate changes, and select the **Update** button.



Edit: View and Request Changes to Sex

This option is open to any logged in user. The user will be presented with a list of all the **Sex** options currently available in the MorphBank database (Figure 94).

Edit Sex

Sex *	Description *
Female	Female description
Indeterminate	Indeterminate description
Male	Male description
Undetermined	Undetermined description
Unknown	Unknown description

* - Required

Update **Return**

Figure 94 Edit and Request Changes to Sex

This Figure Contains Test Data

Most users are not authorized to directly make changes to the records in the MorphBank tables. Therefore, users are asked to send a change request to the MorphBank team. To request a change to any of the descriptions, highlight that description, make the appropriate changes, and select the **Update** button.

Edit Sex

Sex *	Description *
Female	Female description
Indeterminate	Indeterminate description
Male	Male description
Not applicable	Does not contain sex
Unknown	Unknown description

* - Required

Make desired changes on the screen

Update **Return**

The instructions and examples for the remainder of this process can be found at [View and Request Changes to Imaging Techniques](#)

Edit: View and Request Changes to Form

This option is open to any logged in user. The user will be presented with a list of all the **Form** options currently available in the MorphBank database (Figure 95).

Edit Form

Form * <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Indeterminate</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Parthenogenetic</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Undetermined</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Unknown</div>	Description * <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Indeterminate description</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Parthenogenetic description</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Undetermined description</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Unknown description</div>
--	---

* - Required

Figure 95 Edit and Request Changes to Form

This Figure Contains Test Data

Most users are not authorized to directly make changes to the records in the MorphBank tables. Therefore, users are asked to send a change request to the MorphBank team. To request a change to any of the descriptions, highlight that description, make the appropriate changes, and select the **Update** button.

Form *	Description *
Indeterminate	Indeterminate description
New Form revised	New Form revised description
Parthenogenetic	Parthenogenetic description

Make
desired
changes
on the
screen

The instructions and examples for the remainder of this process can be found at [View and Request Changes to Imaging Techniques](#)

Edit: View and Request Changes to Developmental Stage

This option is open to any logged in user. The user will be presented with a list of all the **Developmental Stage** options currently available in the MorphBank database (Figure 96).

Edit Developmental Stage

Developmental Stage * <input type="text" value="Adult"/> <input type="text" value="Final instar larva"/> <input type="text" value="Larva"/> <input type="text" value="Unknown"/>	Description * <input type="text" value="Adult description"/> <input type="text" value="Final instar larva description"/> <input type="text" value="Larva description"/> <input type="text" value=""/>
---	--

* - Required

[Update](#) [Return](#)

Figure 96 Edit and Request Changes to Developmental Stage

This Figure Contains Test Data

Most users are not authorized to directly make changes to the records in the MorphBank tables. Therefore, users are asked to send a change request to the MorphBank team. To request a change to any of the descriptions, highlight that description, make the appropriate changes, and select the **Update** button.



The instructions and examples for the remainder of this process can be found at [View and Request Changes to Imaging Techniques](#)

Edit: View and Request Changes to View Angle

This option is open to any logged in user. The user will be presented with a list of all the **View Angle** options currently available in the MorphBank database (Figure 97).

Edit View Angle

View Angle *	Description *
Anterior	Anterior description
Anterodorsal	Anterodorsal description
Anteroventral	Anteroventral description
Dorsal	Dorsal description
Dorsolateral from left	Dorsolateral from left description
Herbarium Specimen	Herbarium Specimen description
Internal	Internal description
Lateral	Lateral description
Lateral from left	Lateral from left description
Lateral from right	Lateral from right description
Left anterior, right posterior	Left anterior, right posterior description
Left dorsal	Left dorsal description
Left dorsal, right ventral	Left dorsal, right ventral description
Left posterior, right anterior	Left posterior, right anterior description
Left ventral, right dorsal	Left ventral, right dorsal description
Posterior	Posterior description
Posterodorsal	Posterodorsal description
Posteroventral	Posteroventral description
Right dorsal, left ventral	Right dorsal, left ventral description
Ventral	Ventral description

* - Required

Figure 97 Edit and Request Changes to View Angle

This Figure Contains Test Data

Most users are not authorized to directly make changes to the records in the MorphBank tables. Therefore, users are asked to send a change request to

the MorphBank team. To request a change to any of the descriptions, highlight that description, make the appropriate changes, and select the **Update** button.

Left posterior, right anterior	Left posterior, right anterior description
Left ventral, right dorsal	Left ventral, right dorsal description
New posterodorsal	New posteroventral description
New ViewAngle	New ViewAngle description
Posterior	Posterior description

**Make
desired
changes
on the
screen**

The instructions and examples for the remainder of this process can be found at [View and Request Changes to Imaging Techniques](#)

Collections

A collection is a group of images that are assembled from the MorphBank database by MorphBank members for the purpose of viewing and/or manipulating (e.g. rearranging the order, editing, and/or annotating, etc.) and storing the group of images for future use.

Note: In upcoming versions a collection will include images and other objects such as: annotations, groups, localities, publications, specimens, users or views.

- Collections must have at least one image/object. Deleting the last image will leave an empty collection. Do not delete it.
- Collections have an order based the owner's criteria. The initial order will correspond to the order the objects were initially selected.
- Collections are identified by a unique internal id.
- Collections are published (viewable to the world) when released by the creator (default 6 months if not otherwise notified).

Guidelines for working with collections: A User may have multiple collections that will be identified by a name on the screen. Since the collection will have a unique internal identifier, the name may be duplicated but is not recommended.

Unpublished owned collections:

- A user may alter the makeup of their own unpublished collection by adding or deleting images.
- An image can be added to a user's unpublished established collection.

Note: There are no restrictions as to the number of objects in a collection. However, due to speed considerations, the user should exercise caution not to exceed 100 high resolution images per collection.

- A user may delete one or more images (or an entire collection) from an unpublished, owned collection.

- A user may change the order of the images in their own unpublished collections.
- A collection owner may move an image from one unpublished collection to another owned, unpublished collection.
- An owner of an unpublished collection may annotate that collection.

Unpublished collections owned by other users:

- A user may browse and view unpublished collections of other users within groups to which he/she belongs.
- A user may make a copy of an unpublished collection of another user provided they belong to the same group.
- A user may copy an image from any collection to another unpublished, owned collection.
- A user may annotate an unpublished collection owned by another member in the group.

Published collections:

- A user may make a copy of any published collection. (This copy then becomes an unpublished collection owned by the user and group who created it.)
- A published collection cannot be edited by anyone but may be annotated.

The user's group/user's collection relationship:

- The user's collection will be shared with a group in MorphBank. The user must declare which group they belong to before they create the collection and that collection is shared with the declared group.
- The collection will be immediately viewable to all users in that group. (The collection cannot be accessed by the world until it is published).
- Although the owner may alter their own collection, other members of the group may not (but they may annotate it).
- Other members of the group may make a copy of another user's collection and thus create their own personal copy.

Managing collections: The **Collection Manager** offers the user a list of all the collections that have been created under the current username and group ([Figure 98](#)). To access other collections under the same username but created under another authorized group, return to the **Select Group** screen and login under that group.

prior to completing the delete. If the icon is “greyed out”, the collection is already published and cannot be deleted.

Tag 4 -Update:

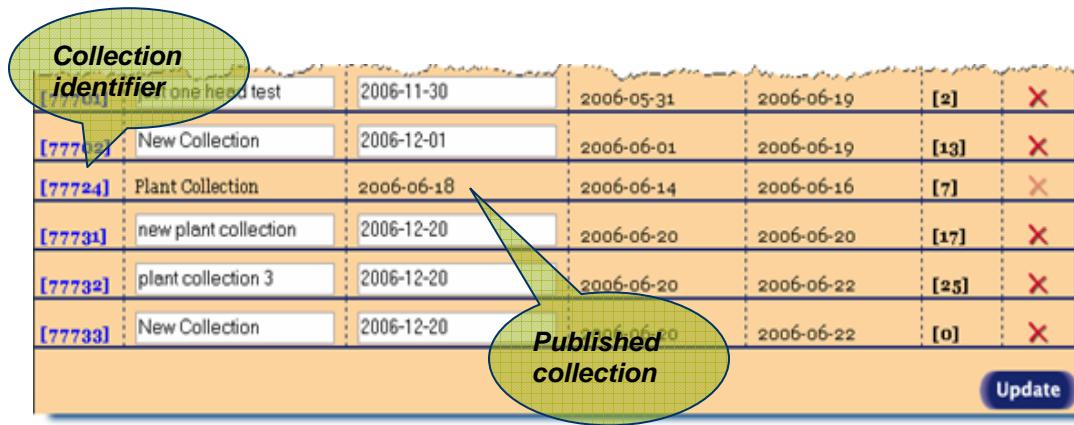
All changes on the collection manager page must be registered to become permanent. To register changes, click on the update **Update** button.

Tag 5 -View, edit or annotate a selected collection:

Every collection is issued a unique MorphBank collection id. Selecting the desired id number from the collection manager displays the requested collection on the screen.

Tag 6 -Collection manager header:

Click on the column headers to sort the list of the applicable data by number order, alpha order, date order, etc.



Collection identifier	Name	Start Date	End Date	Count	Delete
[77732]	New Collection	2006-12-01	2006-06-01	2006-06-19	[13]
[77724]	Plant Collection	2006-06-18	2006-06-14	2006-06-16	[7]
[77731]	new plant collection	2006-12-20	2006-06-20	2006-06-20	[17]
[77732]	plant collection 3	2006-12-20	2006-06-20	2006-06-22	[25]
[77733]	New Collection	2006-12-20		2006-06-22	[0]

Figure 99 Collection Manager Example of Published Collection

This Figure Contains Test Data

Published collections cannot be altered. However, by selecting the published collection identifier from the collection manager the user may view, copy or annotate a published collection.

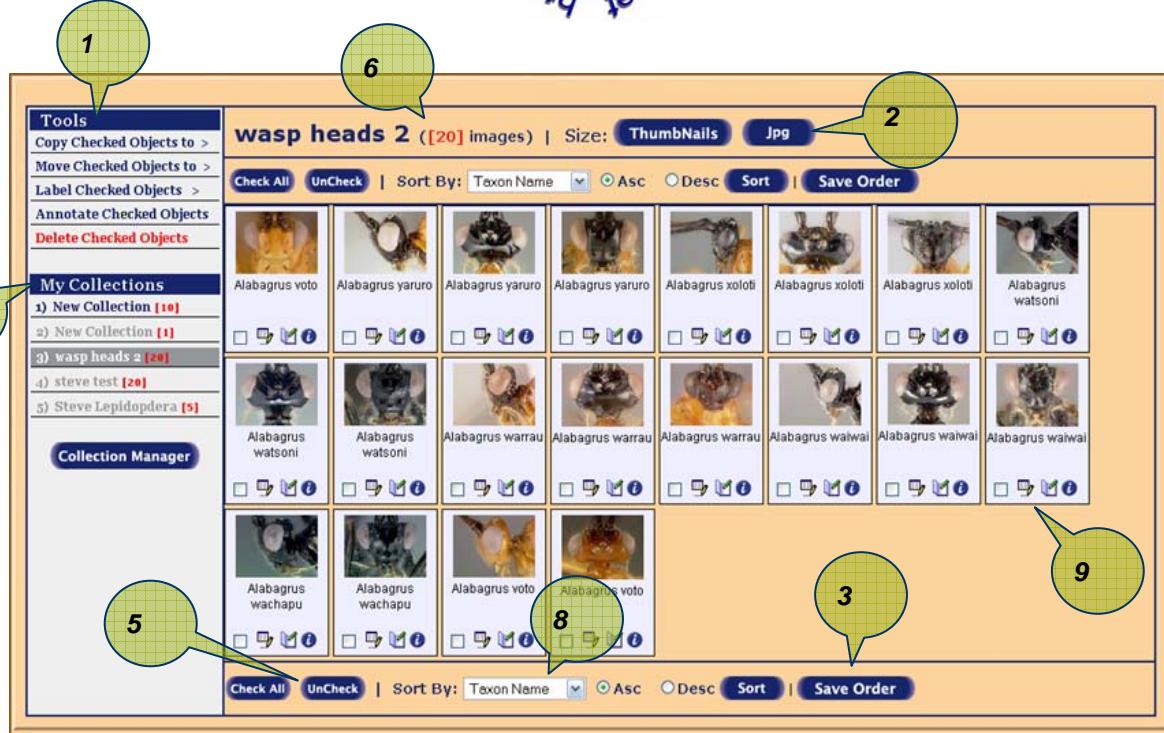


Figure 100 SampleCollection

This Figure Contains Test Data

Tag descriptions for [Figure 100](#)

Tag 1 -Tools:



- The Tools area of the collection manager requires that images from the collection be tagged by using the check box in the lower left hand corner of each image.
- Copy or move checked objects: Users have the option of copying or moving objects to a new collection or to another owned, unpublished collection. Check the images to include, then select the desired option from the dropdown list.
- Label checked objects: Users have the option of labeling the checked images by taxon name, specimen id, specimen part or view angle. Select the desired label criteria from the dropdown list.
- Annotate checked objects: Users can annotation an image (single annotation) or an entire collection of images at one time (mass annotation). Complete instructions for this

process can be found in [Add Annotations](#) located in the **Annotations chapter** of this manual.



The screenshot shows a web form titled "3 Images of 20 in Collection 59661 [wing heads 2]". At the top, there are three thumbnail images labeled "Image Record: 77903", "Image Record: 77900", and "Image Record: 77902". Below the thumbnails, a section titled "Type of Annotation" has a dropdown set to "Determination". A table lists three taxonomic names under "Taxonomic Name" and their corresponding "Taxon Author" (Temporary TSN Name). The table includes columns for "Prefix", "Suffix", and "A D S" status. The "Determination" section contains fields for "Determination Action" (set to "New Taxon"), "Prefix" (None), "Suffix" (None), and "Materials used in Id" (Image). Below this is a "Source of Identification" field containing "User's Name" and a "Resources used in Identification" field. The "Comments" section includes a note about annotations related to the images and their collection ID. At the bottom, there are "Submit" and "Return" buttons, and a note that some fields are required.

Figure 101 Three Images Selected to Annotate

This Figure Contains Test Data

- Delete checked objects: Users can permanently delete any of the checked images from an unpublished collection by selecting this option (checking all of the images in the collection deletes the entire collection). A confirmation message will appear prior to completing the delete.

Tag 2 -Image size:

The display defaults to thumbnail images for efficiency in load speed and space. If a larger image display size is desired, select the Jpg button. All the images retain the original aspect ratio no mater the size selected.

Tag 3 -Save the order:

The order of the images in the collection can be changed manually. Drag and drop the image(s) into the new location ([Figure 102](#)). Retaining the new order requires selecting the **Save Order** button. If this is not done, the order will revert back to the previous state when exiting out of the collection.



Figure 102 Collection Order Rearrangement

This Figure Contains Test Data

Tag 4 -Collection list:

Offers the user a list of all the collections that have been created under the current username and group. The current collection that is being displayed is highlighted dark grey. The collections which are light grey are published collections. The red number in brackets corresponds to the number of images in the collection. Clicking on a collection will display the collection contents and saved order. To access other collections under the same username but created under another authorized group, return to the **Select Group** screen and login under that group. There is no limit on the number of collections a user may have.

Screen Use Tip:

To return to **groups**, click the **tools** button on the page header and choose **select group** from the list.



Tag 5 -Check buttons:

These buttons are used to check or uncheck an entire collection of images.

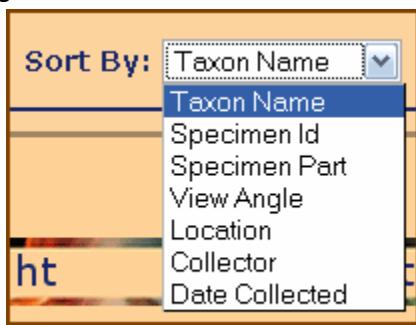
Tag 6 -Number of images:

This number reflects the current number of images in the collection.

Tag 7 -Published collection:

Published collections show up as grayed items on the collection list. They can be viewed, copied to another collection or annotated but not altered in any other way.

Tag 8 -Sort:

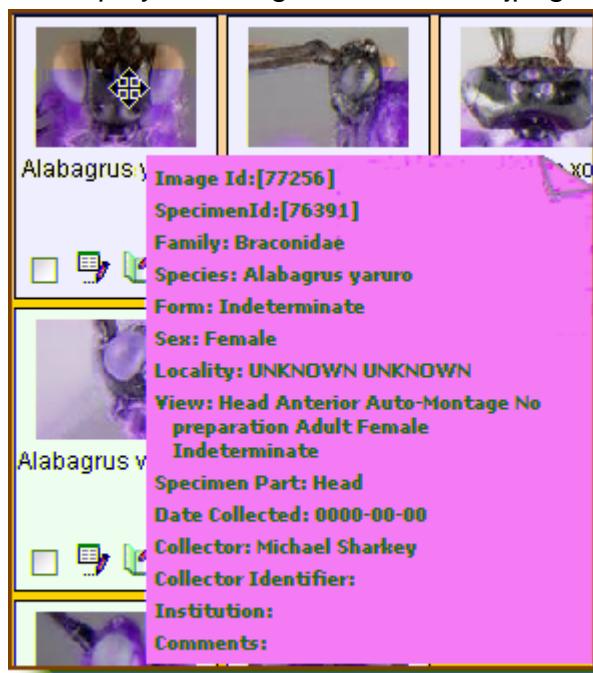


The sort option enables the user to organize their collection in a more desirable order. Select the sort criteria from the dropdown box and click on the **sort** button. This will save your collection in the sorted order.

Tag 9 -Images:

The image tiles contain the image and options for annotating the image, editing the title of the image or displaying the single show feature for the image. In addition, double clicking on the image will display the image in its full size jpeg format and hovering the mouse

pointer over the image tile will display an informative note pertaining to that image.



Alabagrus yaruro	Image Id:[77256]
	SpecimenId:[76391]
	Family: Braconidae
	Species: Alabagrus yaruro
	Form: Indeterminate
	Sex: Female
	Locality: UNKNOWN UNKNOWN
	View: Head Anterior Auto-Montage No preparation Adult Female Indeterminate
	Specimen Part: Head
	Date Collected: 0000-00-00
	Collector: Michael Sharkey
	Collector Identifier:
	Institution:
	Comments:

Figure 103 Collection Information Note

Annotation

Annotation allows users to add additional information to objects in the MorphBank relational database. An annotation is a comment about an object (usually an image or collection) that is stored separately from the object itself. Annotations are identified in MorphBank by a unique internal id.

The created annotations are published (viewable to the world) when released by the creator (default 6 months if not otherwise notified).

Note: Initially, only images and specimens have annotation options but in future versions, users will be able to annotate any MorphBank object (i.e. image, specimen, locality, view, publication, annotation, etc).

Guidelines for working with annotations:

A user may have multiple annotations that will be identified by a title on the screen. Since the annotation will have a unique internal identifier, the name may be duplicated but is not recommended. (When making mass annotations all will have the same initial title in the annotation manager.)

Any logged in user can annotate any image or collection that is released. Any logged in user can annotate any image or collection that has not been released provided they belong to the group who owns the image or collection.

Unpublished owned annotations:

- A user may edit the makeup of their own unpublished annotations.
- A user may delete an unpublished, owned annotation.

Unpublished annotations owned by other users:

- A user may browse unpublished annotations of other users within groups to which he/she belongs.
- A user may view unpublished annotations of other users within groups to which he/she belongs.

Published annotations:

- Published annotation cannot be edited.
- Published annotations are viewable to the world.

The user's group/user's annotation relationship:

- The user's annotation will be shared with a group in MorphBank. The user must declare which group they belong before they create the annotation (declared through **Select Group** in the login process) and that annotation is shared with the declared group.
- The annotation will be immediately viewable to all users in that group (The annotation cannot be accessed by the world until it is published).
- Although the owner may edit their own unpublished annotation, other members of the group may not.

Annotaions Manager

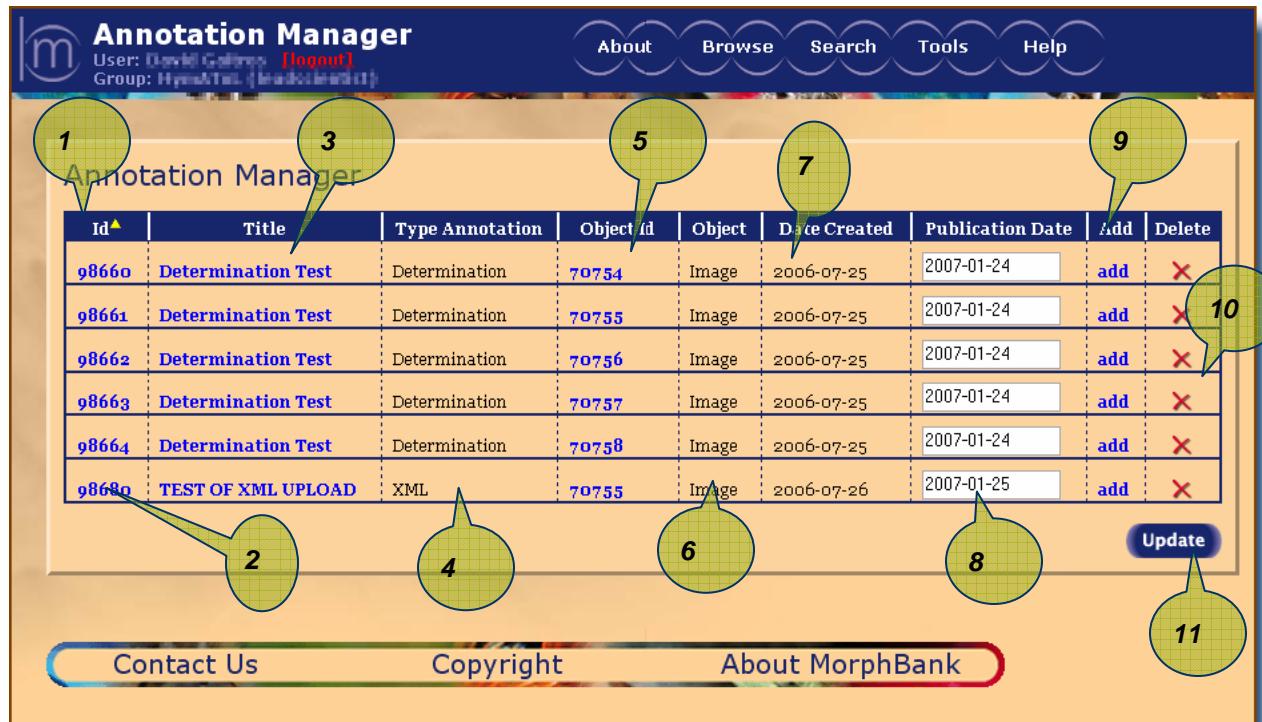
The **Annotation Manager** offers the user a list of all the annotations that have been created under the current username and group (Figure 104). There is no limit on the number of annotations a user may have. To access other annotations under the same username but created under another authorized group, return to the **Select Group** screen and login under that group.

Screen Use Tip:

To return to **groups**, click the **tools** button on the page header and choose **select group** from the list.



The **Annotation Manager** (manager of the user's personal annotations) is directly accessed by choosing **Annotation Manager** from the **Tools** menu (located on the opening MorphBank screen or on the page header).



Id	Title	Type Annotation	Object Id	Object	Date Created	Publication Date	Add	Delete
98660	Determination Test	Determination	70754	Image	2006-07-25	2007-01-24	add	X
98661	Determination Test	Determination	70755	Image	2006-07-25	2007-01-24	add	X
98662	Determination Test	Determination	70756	Image	2006-07-25	2007-01-24	add	X
98663	Determination Test	Determination	70757	Image	2006-07-25	2007-01-24	add	X
98664	Determination Test	Determination	70758	Image	2006-07-25	2007-01-24	add	X
98680	TEST OF XML UPLOAD	XML	70755	Image	2006-07-26	2007-01-25	add	X

Annotations Manager

Contact Us **Copyright** **About MorphBank**

1 **Annotation Manager**
2 **Contact Us**
3 **Copyright**
4 **About MorphBank**
5 **Add**
6 **Update**
7 **Date Created**
8 **Publication Date**
9 **Delete**
10 **Object Id**
11 **Object**

Figure 104 Annotation Manager

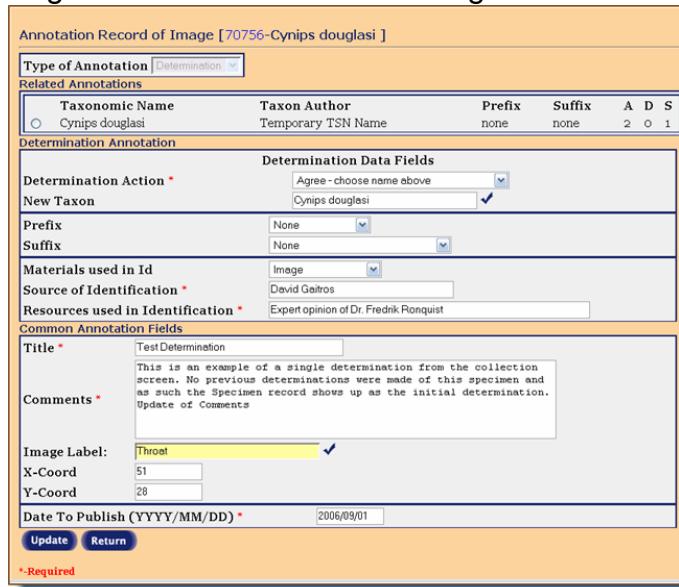
This Figure Contains Test Data

Tag information for Figure 104

Tag 1 -Annotation manager header: Click on the column headers to sort the list of the applicable data by number order, alpha order, date order, etc.

Tag 2 -Annotation id: This is a MorphBank issued identifier. Click on it to view the associated annotation.

Tag 3 -Annotation title: Clicking on this title will take the user to the **Edit**



The screenshot shows the 'Annotation Record of Image' for specimen ID [70756]-Cynips douglasii. It includes sections for 'Type of Annotation' (Determination), 'Related Annotations', 'Determination Annotation' (with fields for Action, New Taxon, Prefix, Suffix, and various identification sources), and 'Common Annotation Fields' (Title, Comments, Image Label, Coordinates, and Date To Publish). A note in the Title field states: 'This is an example of a single determination from the collection screen. No previous determinations were made of this specimen and as such the Specimen record shows up as the initial determination.' Buttons for 'Update' and 'Return' are at the bottom.

Annotation screen (Figure 105). This screen contains the previously entered annotation data that can be edited by the owner. Take note that the type of annotation can not be altered. (**Edit Annotation** is only available to the owner if the annotation is not yet published.) Complete instructions on this area can be found in the [Edit Annotation](#) area of this manual.

Figure 105 Edit Annotation

This Figure Contains Test Data

Tag 4 -Annotation type: There are currently four types of annotations possible: **Determination**, **General**, **Legacy** and **XML** (see **Types of Annotations** later in this chapter.)



Tag 5 -Object id: This represents the identifying number of the object (image, specimen, etc.) being annotated. Clicking on the id will take the user to the **Single Show** screen (Figure 106) that displays the record which contains the image and related information.

Figure 106 Single Show Image Record

Tag 6 -Type of object being annotated: Initially, only images and specimens will have annotation options but in future versions, users will be able to annotate any MorphBank object (i.e. image, specimen, locality, view, publication, annotation, etc).

Tag 7 -Date created: This is the date that the annotation was submitted to MorphBank. It is automatically generated.

Tag 8 -Select a date to publish: Type in any date from the date created to 5 years from that date. (The publish date defaults to 6 months from the date the collection was established.) After changing the date(s) click on the update button **Update** to register all the date changes in MorphBank.

Tag 9 -Add a new annotation: Clicking on **Add** will take the user to the **Add Annotation** screen



The screenshot shows a web-based form for adding a new annotation. At the top, it says "Image Record [70756-Cynips douglasii]". Below that, a dropdown menu shows "Type of Annotation * Determination". A table section titled "Related Annotations" contains one row for "Cynips douglasii" with "Temporary TSN Name" and "A D S" values of 2 0 1. Another table section titled "Determination Annotation" has a dropdown "Determination Action * New Taxon" set to "Give different name - choose name below". At the bottom, there are "Prefix" and "Suffix" dropdowns, both currently set to "None".

(Figure 107) where the user can add an additional annotation to the selected object. Directions for this process are located later in this chapter.

Tag 10 - Delete an annotation: The last column in the annotation manager is the delete column. To delete an annotation, click on the delete **X** icon. A confirmation message will appear prior to completing the delete. (This option is available only if the annotation is not yet published.)

Tag 11 -Update button: All alterations on the annotation manager page (date to publish changes) must be registered to become permanent. To register changes, click on the update **Update** button.

Types of Annotations

- **Determination:** This is the most complex of the annotation types and is designed to offer biologist the ability to remotely collaborate on the determination (assignment of a taxonomic name); and to offer the ability to supply additional details concerning the taxonomic name associated with a specimen. When **Determination** is selected as the annotation type, additional field options will be available:
 1. Determination annotation will give users the ability to view and respond to a list of determination annotations that are related to the current object.
 2. Users can choose to comment on the previous determinations, select a new taxonomic name from the ITIS database, or add a new taxon.
 3. Users are required to provide MorphBank with the source of the identification (defaults to the name of the logged in user) and resources used in making this determination annotation.

An annotation title, comments and date to publish are the remaining required fields in this option. (Details for this annotation type are located in the **Add Annotations** documentation below.)

Note: Even though the image was selected for annotation, it is really the associated specimen that is linked to the determination annotation. For example, if two users create a determination annotation using two different images from the same specimen, when the determination annotations are viewed for that specimen, both will be seen as related annotations. If a determination annotation is written for a collection of images there will be an identical determination annotation record written for each specimen in the collection.

- **General:** This annotation type is used to add general comments about an image or collection of images. The required fields in this option include an annotation title, general comments and date to publish (The publish date defaults to 6 months from the date the collection was established.) (Details for this annotation type are located in the **Add Annotations** documentation below.)

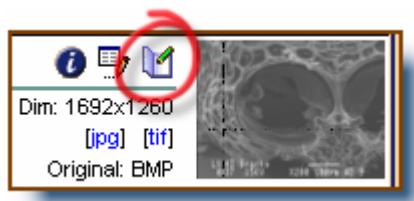
- **Legacy:** General and legacy annotations differ only in the source of the annotation. Data in a legacy annotation was previously generated and stored elsewhere prior to the inclusion in MorphBank. As in a general annotation, a legacy annotation is used to add general comments about an image or collection of images. The required fields in this option include an annotation title, general comments and date to publish (The publish date defaults to 6 months from the date the collection was established.) (Details for this annotation type are located in the [Add Annotations](#) documentation below.)
- **XML:** This option allows the user to upload an XML document into the MorphBank database and use it as a general annotation. All other fields match the general and legacy annotations. The required fields include an annotation title, general comments and date to publish (The publish date defaults to 6 months from the date the collection was established.) The XML document is limited in size to 64K. (Details for this annotation type are located in the [Add Annotations](#) documentation below.)

Add Annotations

New single (one at a time) or mass (multiple) annotations are added through the **Add Annotation** or **Mass Annotation** screens.

Adding new single annotations:

Single annotations are created through **Browse-Images**, through the results of a **Search**, through an existing annotation (i.e. annotation manager, annotation-show, related annotations etc.) or through a **Collection** (i.e. browse-collection, collection, collection-show etc.)



To reach the add annotation screen, logged in users can select the annotation icon  located beside the thumbnail image of the record to be annotated as seen in **Browse-Images** or through the results of a search.

The **Add Annotation** screen can also be accessed in **Annotation Manager** by selecting the **Add** column, or in other annotation screens by clicking anywhere



there is a selectable **Related Annotations** area (noted by blue highlighted type). The related annotation screen contains a dropdown menu for add annotations.

Users can also access the single annotation process from **My Collection**, by checking one image in a collection (check the box in the lower left side of the image). Then click on **Annotate Checked Objects** or select the annotation icon  located beside the thumbnail image of the record to be annotated



Add Annotation

User: David Balfour [Logout]
Group: Morphbank Administration (Administrator)

About Browse Search Tools Help

Image Record [70758-Cynips douglasii]

Type of Annotation * Determination

Related Annotations

Taxonomic Name	Taxon Author	Prefix	Suffix	A	D	S
<input type="radio"/> Cynips douglasii	Temporary TSN Name	aff	none	1	0	1
<input type="radio"/> Cynips douglasii	Temporary TSN Name	none	none	1	0	1

Determination Annotation

Determination Data Fields

Determination Action * Give different name - choose name below

New Taxon

Prefix None

Suffix None

Materials used in Id Image

Source of Identification *

Resources used in Identification *

Common Annotation Fields

Title * Determination

Comments *

Image Label:

X-Coord 0

Y-Coord 0

Date To Publish (YYYY/MM/DD) * 2007/02/01

Submit Return

*-Required

Figure 107 Add Annotation

This figure contains test data

All required fields are followed by an *****.

- Type of annotation: (**Required field**) The default selection for this field is **Determination**. The other options of **General**, **Legacy**, and **XML** are selected from the drop-down list.
- Related annotations: (available only with the annotation type of **Determination** selected.) The user can select from a list of previously submitted, related determination annotations for that image (or related images) To select the related annotation, click on the radio button to the left of

the taxonomic name. This field also contains a history of the previous annotations (author, prefix/suffix, A (agree with taxon name), D (disagree with taxon name), S (number of specimen(s) associated with this determination and collection of images).

Attributes of **Related Annotations** in the list for a single determination annotation:

1. All annotations in the list have the same specimen (specimen id)
2. All annotations in the list must be determination annotations
3. Included in the related annotations list is the initial determination placed in the specimen record.

This means that all of the images associated with a single specimen will have the same related annotations visible in a determination annotation.

- Determination action: (**Required field** that is available only with the annotation type of **Determination** selected.) and choose to agree, disagree, or agree with qualification (to agree with the taxon but not with a listed prefix or suffix.)

Agree: The user must choose a previous determination using the radio buttons to the left of the related annotation. An annotation record will be added that agrees with that taxonomic name, prefix and suffix.

Disagree: The user must choose a previous determination using the radio buttons to the left of the related annotation. An annotation record will be added that disagrees with that taxonomic name, prefix and suffix.

Qualify lowest rank: The user must choose a previous determination using the radio buttons to the left of the related annotation. Additionally, the user will have the ability to qualify the taxon with a prefix and/or suffix. (These appear only after the qualify option is selected) The combination of taxonomic name/prefix/suffix must be unique (if there is a duplicate, an **Agree** annotation will be added).

- New taxon: (available only with the annotation type of **Determination** selected.) If no related annotation was chosen from the list, the user has the option of selecting a new Taxon name from a list. To insure accuracy, taxonomic names need to be selected  from the **Taxonomic Selection Screen**. Traverse through the levels  until the appropriate scientific name is found. Then click the select icon , it will automatically direct the user back to the add annotation screen and the appropriate name will be filled in.

If a new taxon name needs to be added select the **Add new Taxon** button that is visible from the family level. The **Add TSN** screen will popup. (This option is only available for authorized users.) For complete instructions on this process see the [ITIS, Add New Taxon](#) section of this manual.

Note: Great care must be taken when adding new taxon names to the local copy of the database. New names must be accurate and accepted in the biological community. Adding a new taxon name commits the user to the responsibility of submitting a change to the Department of Agriculture
<http://www.itis.usda.gov/>.

- Prefix/suffix: (available only with the annotation type of **Determination** selected; and only available if user chose to agree with qualification or chose a new taxon name.) Users can choose a prefix or suffix from the appropriate drop-down list to qualify their determination action.

Prefix options include:

- None
- Not
- Aft (akin to)
- Cf (compare with)
- Forsan (perhaps)
- Near (close to)
- Of lowest rank
- ? (questionable)

Suffix options include:

- None
- Senso Stricto (in the narrow sense)
- Senso latu (in the broad sense)
- Of lowest rank

- Materials used in id: (available only with the annotation type of **Determination** selected.) Indicate the materials examined to formulate this determination annotation by selecting an option from the drop-down list.
- Source of identification: (**Required field** that is available only with the annotation type of **Determination** selected.) Enter the name of the person who made the determination. The default for this option is the logged in user. The name can be changed if the annotation is being made on behalf of someone else.
- Resources used in identification: (**Required field** that is available only with the annotation type of **Determination** selected.) Indicate the resources used to support the determination annotation. This is a free text entry for information such as citations of literature or expert opinion.
- Title: (**Required field**) Click on this field to change or enter a title for the annotation. The default title is **Determination** for a determination annotation. For other types of annotations enter an appropriate descriptive title.
- Comments: (**Required field**) Enter comments to support the annotation or comments that might aid other users to understand the particulars of this annotation, or add any other information that might be useful to keep with the annotation. Examples: explain why the specimen was identified with the particular taxon, comment on an image marker placement etc.

- Image label: When annotating a single image, the user has the option of identifying a location on the image to associate a pointer and label (If annotating a group of images this option will not be available).
To add a marker to the image, select the beside the **Image Label** field. The current image will display. Click on the screen (do not drag) where the point of the marker is to be located. To reposition the marker, click on the screen in the new location. The old marker will be replaced by a new marker.
The marker color can be selected. Click the radio button next to the desired color (choices are red [default], blue, yellow and green).
To add a label to the marker, type the label in the **Annotation Label** field provided on the screen.

**Note: Only one marker and label is available for each annotation.
Multiple markers require separate annotations for each desired marker and label.**

When the image has been marked and labeled, select submit. The screen returns to the add annotation screen. If a marker label was added, it will show up in the **Image Label** box. As long as the annotation is not yet published, a submitted marker can be changed through edit annotation.

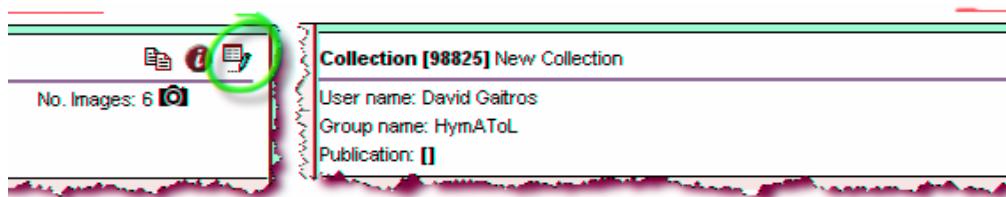
- X/Y coordinates: This field will display automatically after a marker has been placed on the image. It is not suggested that the coordinates be manually changed by the user. The location of the marker on the image is represented as a percentage (%) of pixels from the left of the image (x) and from the top of the image(y).
- Date to publish: (**Required field**) Type in any date from the date created to 5 years from that date. (The publish date defaults to 6 months from the date the collection was established.)
- Submit/Return: Select **Submit** to upload the annotation data to MorphBank and go back to the place where the annotation was initiated or select **Return** to go back to that screen without submitting any data.

Adding new mass annotations:

A user with a login account can annotate a group of images called a “mass annotation”. Mass annotations can be made through any area in MorphBank that accesses collections i.e. **Browse-Collection**, **Collection**, **Collection-Show**, etc. By selecting all or any subset of a group of images, a user can request to

annotate that collection by calling the add annotation screen and entering the data. This will cause an annotation record to be added for each individual image selected. Additionally, if the annotation type was a determination, then a **Determination Annotation** record will also be added or created through the **Annotation Show** function (fig.).

To access annotations through **Browse-Collection**, locate the collection to annotate. Click on **Edit**  then proceed as directed below for **My Collection**.



Users can access the mass annotation process from **My Collection**, by checking images in a collection (check the box in the lower left side of the image). Then click on **Annotate Checked Objects**. If only one image is selected to be annotated, the user will be directed make a single annotation.



Tools

- [Copy Checked Objects to >](#)
- [Move Checked Objects to >](#)
- [Label Checked Objects >](#)
- [Annotate Checked Objects](#)
- [Delete Checked Objects](#)

My Collections

- 1) Cynips collection [5]
- 2) Cynips douglasii Coll. [26] 
- 3) Cynips [6]
- 4) Cynips conspicua [6]
- 5) New Collection [6]

Collection Manager

Cynips douglasii Coll. ([26])

Place a check in all thumbnail boxes to include in mass annotation; then select Annotate.

Size: [ThumbNails](#) [Jpg](#)

[Check All](#) [UnCheck](#) | Sort By: Taxon Name 

			
<input checked="" type="checkbox"/>            	<input checked="" type="checkbox"/>            	<input type="checkbox"/>            	<input type="checkbox"/>            
			
<input checked="" type="checkbox"/>            	<input checked="" type="checkbox"/>            	<input checked="" type="checkbox"/>            	<input checked="" type="checkbox"/>            

Mass Annotation
 User: [User] [logout]
 Group: [Group]

About Browse Search Tools Help

1 4 Images of 26 in Collection 98765 [Cynips douglasii Coll.]

2

Image Record: [70779] Image Record: [70776] Image Record: [70765] Image Record: [70756]

3

Taxonomic Name	Taxon Author	Prefix	Suffix	A	D	S
Cynips	Temporary TSN Name	aff	sensu stricto	1	0	1
Cynips	Temporary TSN Name	aff	none	1	0	1
Cynips douglasii	Temporary TSN Name	none	none	4	0	4

Type of Annotation * Determination

Related Annotations

Determination Annotation

Determination Data Fields

Action * Give different name - choose name below

Annotation Action * New Taxon

Annotations used in Identification * Image

Author of Identification * David Gaitros

Resources used in Identification *

Annotation Fields

Annotations *

Annotation related to the following images: 70779, 70776, 70765, 70756 of Collection id [98765]

To Publish (YYYY/MM/DD) * 2007/02/07

Submit

*-Required

Figure 108 Mass Annotation

This figure contains test data

All required fields are followed by an *.

Tag descriptions for [Figure 108](#)

Tag 1– Mass annotation heading: This displays the collection id and name that the mass annotation was initiated from as well as the number of images that were selected to annotate from the collection.

Tag 2– Image thumbnails: This list of thumbnails represents the images that are included in this mass annotation. The list will scroll as needed to display all included images.

Tag 3- Related annotations: (available only with the annotation type of **Determination** selected.)This list will contain all specimens associated with the images contained in tag 2 above.

Taxonomic name - represents the lowest level taxonomic name of the specimen.

Taxon Author - Author of the taxonomic name from the ITIS database.

History – This contains the historic data relating to prefix(s)/suffix(s) and totals regarding previous annotations associated with this determination. A (agree with taxon name), D (disagree with taxon name), S (number of specimen(s) with that taxonomic name and collection of images).

The instructions for the remaining fields contained on the mass annotation page can be found in the [Add Single Annotation](#) section of this manual.

Note: The reference to image markers and labels on the add annotations page are not available for mass annotations.

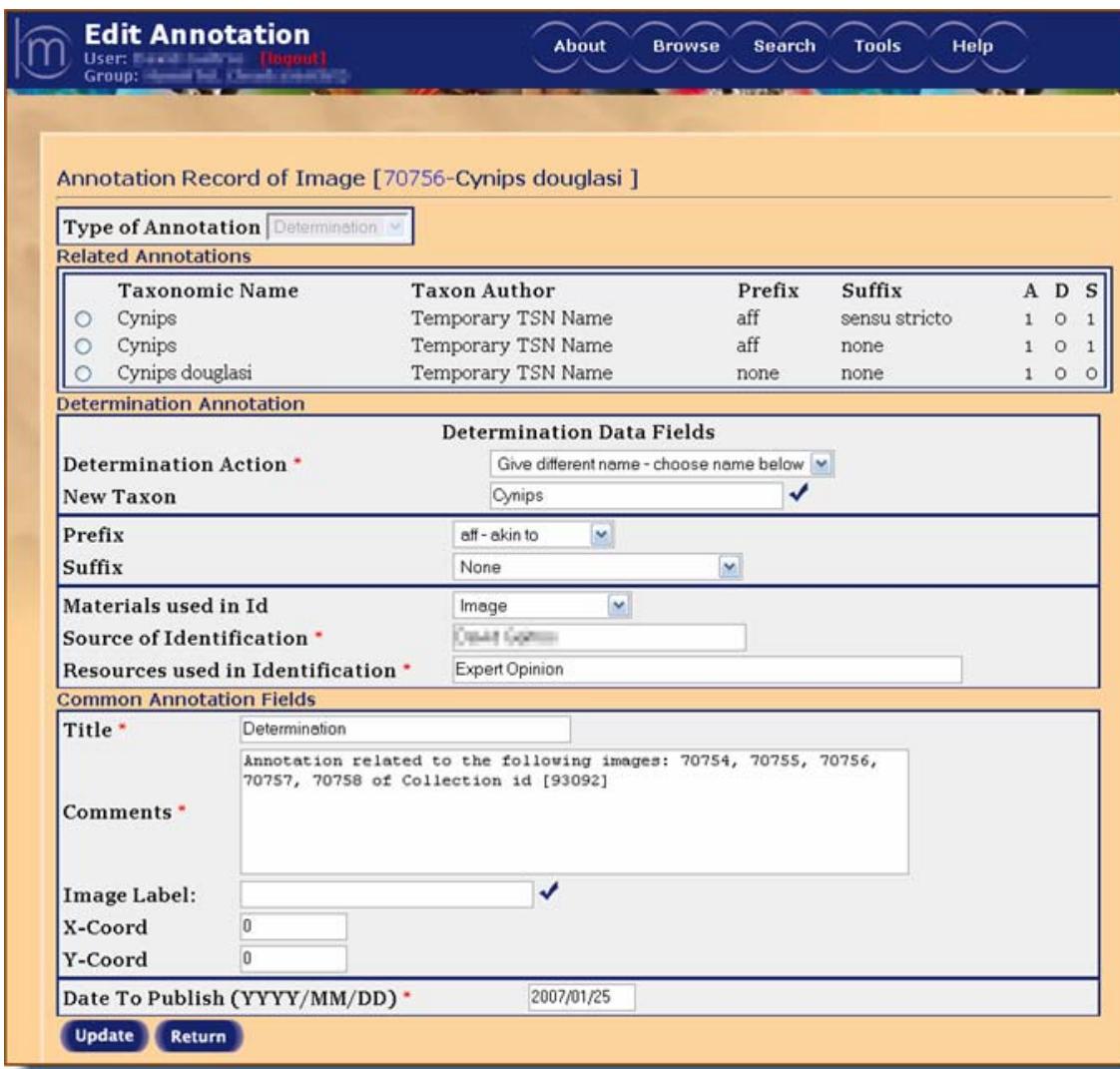
Edit Annotations:

Edit annotations contains the previously entered annotation data that can be edited by the owner (only available if the annotation is not yet published.) Take note that the type of annotation can not be altered.

To access edit annotations click on the tools menu and select **Edit Annotation** or from the **Annotation Manager** click on the title of the annotation to edit,



Complete instructions can be found in the [Edit Annotation](#) area of this manual.



Annotation Record of Image [70756-Cynips douglasii]

Type of Annotation: Determination

Related Annotations

Taxonomic Name	Taxon Author	Prefix	Suffix	A	D	S
Cynips	Temporary TSN Name	aff	sensu stricto	1	0	1
Cynips	Temporary TSN Name	aff	none	1	0	1
Cynips douglasii	Temporary TSN Name	none	none	1	0	0

Determination Annotation

Determination Data Fields

Determination Action *: Give different name - choose name below

New Taxon: Cynips

Prefix: aff - akin to

Suffix: None

Materials used in Id: Image

Source of Identification *: Online Keys

Resources used in Identification *: Expert Opinion

Common Annotation Fields

Title *: Determination
Annotation related to the following images: 70754, 70755, 70756, 70757, 70758 of Collection id [93092]

Comments *:

Image Label:

X-Coord: 0

Y-Coord: 0

Date To Publish (YYYY/MM/DD) *: 2007/01/25

Update Return

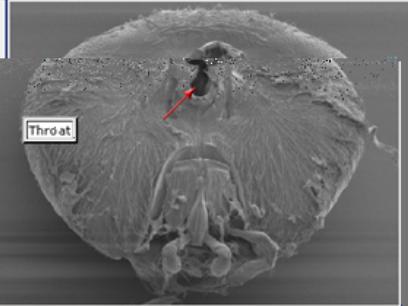
Annotations Record Show:

This is an example of an annotation record page displayed from the **Annotation Manager / Id** (first column).

MorphBank **Single Show** is an efficient way to display large amounts of information. For complete documentation on single show refer to [MorphBank Show](#) in the **Information Linking** section of this manual.

Annotation Record: [100020] Title = Test Determination

Contributed By:	David Gaitros
Date Contributed:	07-28-2006
Last Modified:	07-28-2006
Publish Date:	09-01-2006
Specimen Id:	[68530]
Sex:	Femalé
Collector:	Johan Liljeblad & Fredrik Ronquist
Species Name:	Cynips douglasii
Object Id:	[70756]
Object Type:	Image
Type of Annotation:	Determination



Comments

This is an example of a single determination from the collection screen. No previous determinations were made of this specimen and as such the Specimen record shows up as the initial determination. Update of Comments

Related Annotations to this image

TITLE: Test Determination
 TYPE ANNOTATION: Determination
 BY: David Gaitros
 DATE CREATED: 2006-07-28 13:44:01
 RELATED ANNOTATIONS OF ID:[100020]
 SINGLE SHOW OF ANNOTATION ID:[100020]

TITLE: General Annotation
 TYPE ANNOTATION: General
 BY: David Gaitros
 DATE CREATED: 2006-08-21 14:36:14
 RELATED ANNOTATIONS OF ID:[104905]
 SINGLE SHOW OF ANNOTATION ID:[104905]

Related Annotations

Determination Data

Specimen Id:	[68530]
Taxonomic Serial Number:	[999000435] Cynips douglasii
Taxonomic Name:	[]
Prefix:	[none]
Suffix:	[none]
Type Determination:	[Agree]
Source of Id:	[David Gaitros]
Resources used in Id:	[Expert opinion of Dr. Fredrik Ronquist]
Materials used in Id:	[Image]

Taxonomic Name	Taxon Author	Prefix	Suffix	A	D	S
Cynips	Temporary TSN Name	none	none	2	0	1

Figure 109 Single Show-Annotation

This Example Contains Test Data

In **Annotations Record Show**, the user is presented with a list of all annotations associated with the object to include all annotations related to the image and specimen.

Clicking on this section will bring up the **Related Annotations** page which contains all the tools needed for a user to research annotations associated with the current annotation record.

Use the Related Annotation page to:

- View a scrollable list of all images related to the annotation of the same specimen, images with the same taxonomic name, images with the same view, and images in collections to which the current image belongs.
- Email an annotation to another party for viewing.
- View related image, specimen or view data. This option utilizes the MorphBank Show option to display a full set of information on the image data, the specimen data, or data about the view associated with the image.
- Add a new annotation to the current image by calling the single add annotation screen. Or sort the current list of related annotations

Related Annotations:

Related Annotations contains all the tools needed for a user to research annotations associated with the current annotation record.

The Related Annotation

page is designed to display all of the information associated with a particular annotation and display links to detailed data on the specimen, image, view, locality, and determination.

Additionally, **Related Annotations** permits the user to view the image in more detail using a commercial image viewer product called the **FSI Viewer from Neptune Labs**.

Since any single object within MorphBank may have several related objects, this screen displays some of those relationships. The user can, by selecting the related image drop-down menu, display other images related to the current image, specimen of the image, species, images with the same view, or all of the images in collections where the current image is also contained.

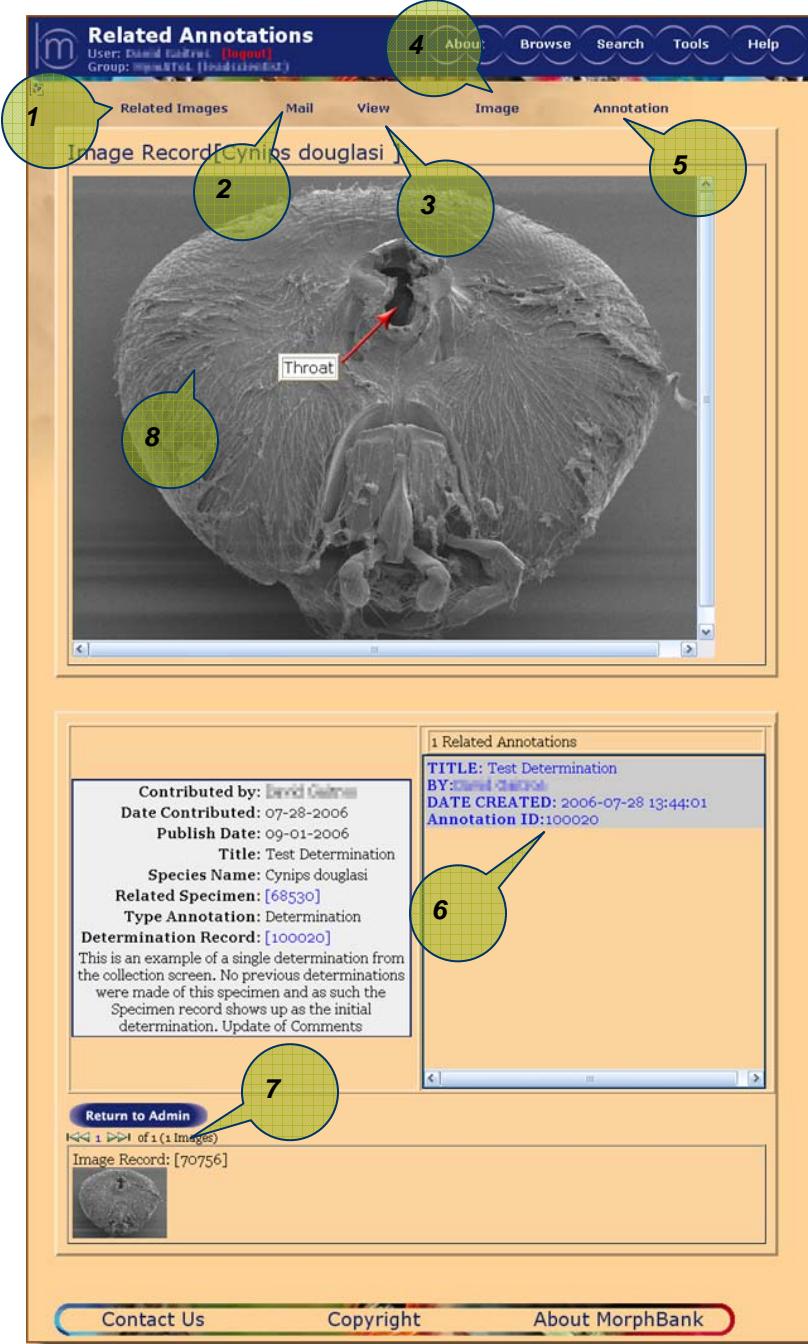


Figure 110 Related Annotations

This Figure Contains Test Data

Tag descriptions for [Figure 110](#)


Tag 1: Clicking on **Related Images** will display a drop-down list for the user to select which category of **Related Annotations** to display. The related images will display in the list at the bottom of the page.

Tag 2: The **Mail** option allows users to email the annotation



URL to any valid email address for viewing with an accompanying user supplied message. A sent email contains the text along with a MorphBank URL that will allow the recipient to view the image using the **MorphBank Show** feature.



Tag 3: The View drop-down box displays a selection choice of record data types that can be displayed on the screen.

Tag 4: This option brings up the commercial image viewer product called the **FSI Viewer from Neptune Labs**. This viewer gives the user many more viewing options. Complete instructions for this viewer can be found at [FSI Viewer](#) located in this manual,



Tag 5: Use this option to add an annotation or sort the onscreen list of related annotations by title, author, or date. The previous order of related annotations and collection images are maintained

Tag 6: List of related annotations. This list is also a hot-link that allows the user to display that annotation data on the current web page. Select to reveal that annotation

Tag 7: List of related images. This is where the images from tag 1 above are deposited. Additionally, clicking on the thumbnail images of the related images will display related annotations associated with that image.

Tag 8: . The image is shown in a larger format than normally seen in the rest of MorphBank. The image displays any designated annotation marker and label, (overlaid arrow and label). Clicking on the image brings up the image viewer which allows the image to be viewed in more detail using a commercial image viewer product called the **FSI Viewer** from Neptune Labs.