

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 1024x768x600 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.

	<p>Select to show the next taxonomic level.</p>
	<p>Show alphabetically all taxonomic names stored in MorphBank.</p>
	<p>Select edit to alter data. This option is only available to those authorized users through login permissions.</p>
	<p>Select item to annotate. This option is only available to authorized users through login permissions.</p>
	<p>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.</p>
	<p>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.</p>
	<p>Select for on-screen instruction</p>

	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-peg) 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 determined 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.

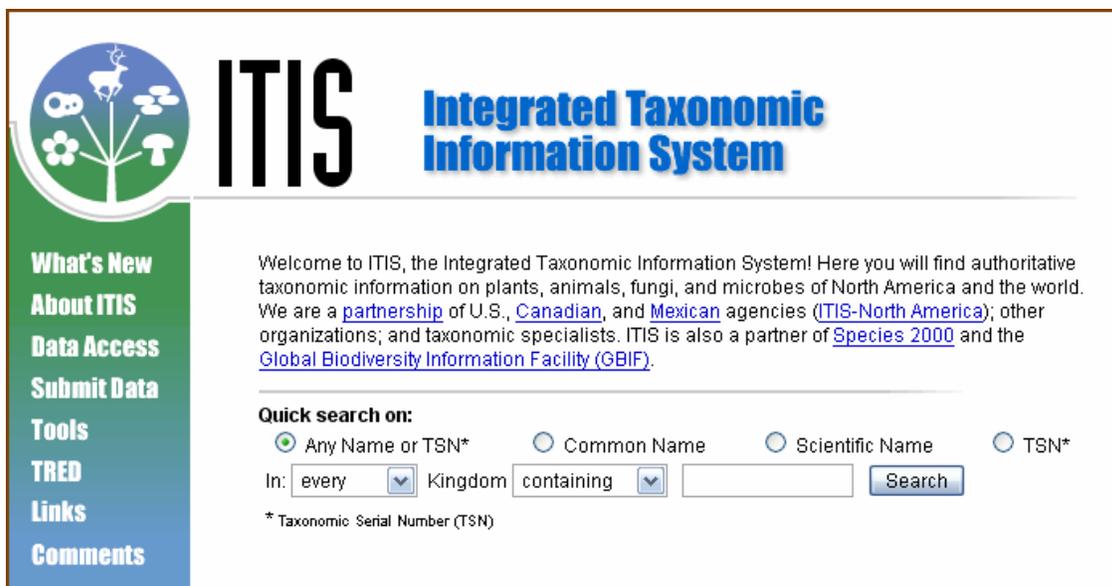


Specimen part	Pertains to a view that contains a portion of a specimen
Stage	Developmental growth phase of a specimen
Submit	Upload data to a remote computer. (E.g. clicking the “submit” button on the Add Image screen will upload the image to the MorphBank database.
Submitter	Person entering the data 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 website interface. On the left is a green sidebar with navigation links: "What's New", "About ITIS", "Data Access", "Submit Data", "Tools", "TRED", "Links", and "Comments". The main content area features the ITIS logo and the text "Integrated Taxonomic Information System". Below this is a welcome message and a "Quick search on:" section with radio buttons for "Any Name or TSN*", "Common Name", "Scientific Name", and "TSN*". A search form includes a dropdown menu for "In:" (set to "every"), a dropdown for "Kingdom" (set to "containing"), an empty search input field, and a "Search" button. A footnote indicates "* 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 then 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.

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 quadrimomials, 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 quadrimomials 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 quadrimomials 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 Plante 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:

Animalia and Plantae

Database Artifact
Misspelling
Nomen nudem

Plantae

Excluded
Homonym
Horticultural
Illegitimate
Invalid
Misapplied
Nomeninvalidum
Nomina utique rejicienda
Orthographic variant
Other, see comments
Pro parte
synonym

Animalia

Incertae sedis
Junior homonym
Junior synonym
Nomen dubium



- **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

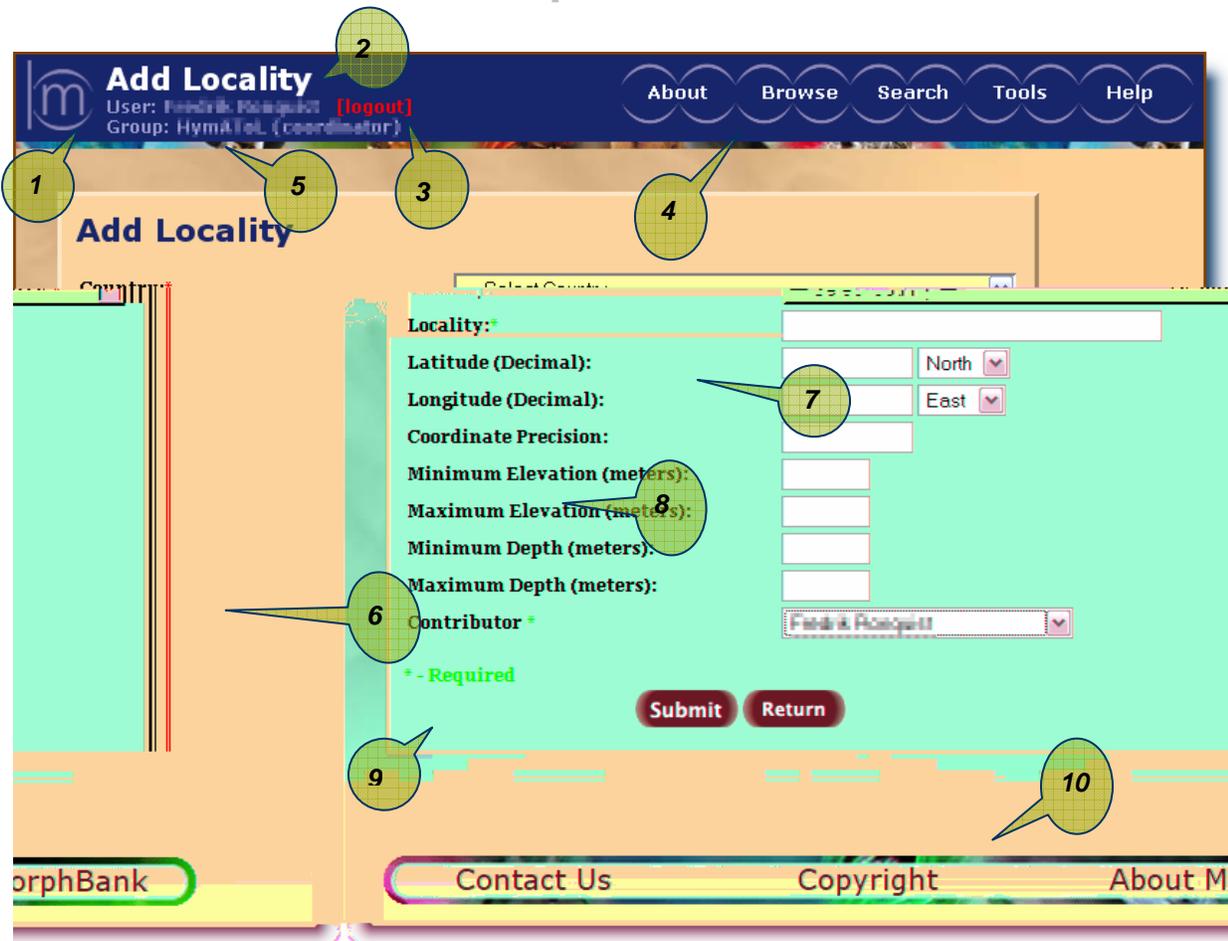


Figure 1 Anatomy of a MorphBank Page

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 MorhBank 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.

Single show

About Browse Search Tools Help

Image Record: [92748] *Hibiscus laevis*

Submitted by: [Austin Mast](#)
 Submitted date: 07-19-2006
 Published date: 07-15-2006

Access #: 44355
 Magnification: NULL
 Dimension (px): 3000x3630
 Resolution (PPI):
 Submitted as: TIFF

View id: 77467
 Specimen part: [77359] - Plant body
 Angle: [77360] - Herbarium Specimen
 Technique: [27] - Reflected light, macrophotography
 Preparation: [77344] - No preparation

Download:

Specimen
 Specimen id: [92401](#)
 Basis of record: [5] - Specimen
 Sex: [79416] - Undetermined
 Form: [77362] - Undetermined
 Stage: [79192] - Undetermined
 Collector: Loran C. Anderson
 Date collected: 07-17-2001

Locality
 Locality id: [83129](#)
 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 Estfanulga on James "Pop" Shuler property, NW of C-333, ca. 1.5 mi W of Rte 12, 9 air mi SSW of Bristol.
 Latitude:
 Longitude:
 Elevation (m):

Determination
 Class: [Magnoliopsida](#)
 Order: [Malvales](#)
 Family: [Malvaceae](#)
 Genus: [Hibiscus](#)
 Species: [Hibiscus laevis](#)

Determination annotations

Title: Determination 1	Date: 08-10-2006
Taxon: Pterygota	User: Johan Lijebliad
Title: Determination	Date: 08-10-2006
Taxon: Hibiscus laevis	User: Johan Lijebliad

Annotations
 This record has no annotations.

External links

Genbank:
[genbank1](#)
[genbank2](#)

Databases:
[FSU Herbarium](#)

Contact Us Copyright About MorphBank

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 **i** 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.



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.](#)

Single show About Browse Search Tools Help

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
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
Locality Id: [83129]
 Florida; Liberty; in open slough-like clearing in hardwoods on bluffs overlooking Apalachicola
Locality: River at Estifanulpa 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
Class: Magnoliopsida
Order: Malvales
Family: Malvaceae
Genus: *Hibiscus*
Species: *Hibiscus laevis*

Determination Annotation

Additional Images for specimen: 92401
 Showing 5 of 5 Images

list of images associated with this specimen

Annotations

Figure 4 Single Show for Specimen Record

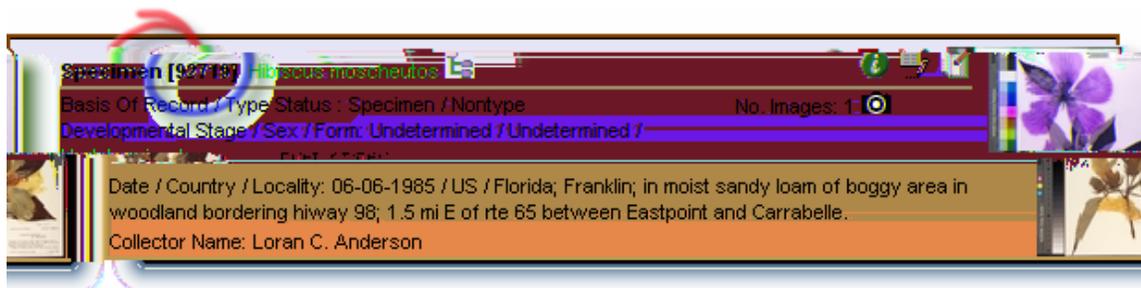
External Linking

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/0/0/0/0/0/0/0/0/3/8/3840.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.

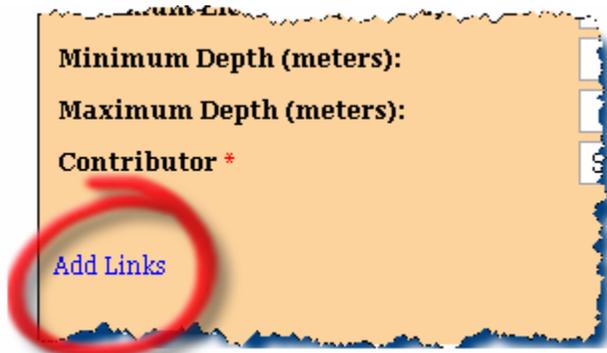
Supplying external links for images already deposited in MorphBank:

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



Minimum Depth (meters):

Maximum Depth (meters):

Contributor *

Add Links

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

Submit **Return**

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

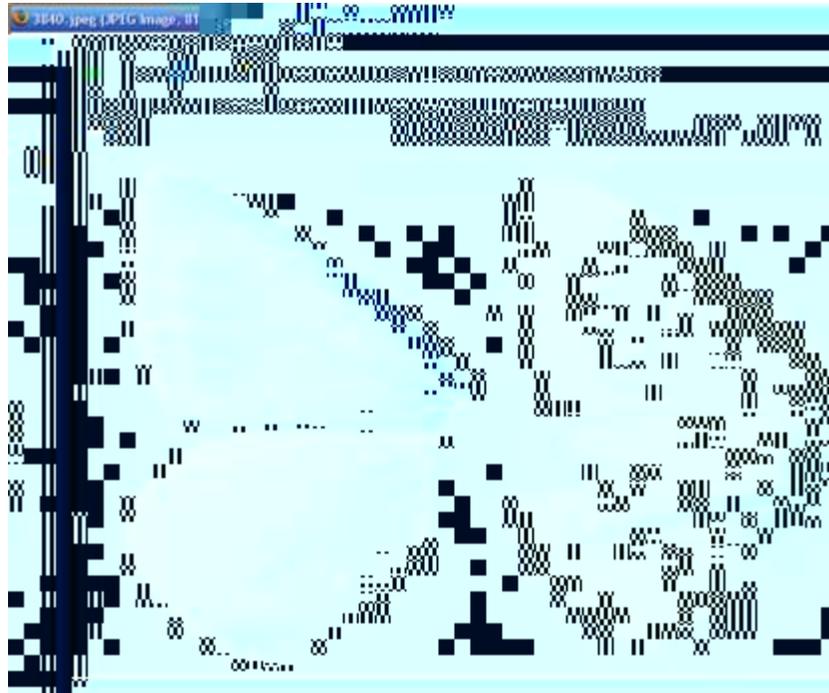
 Link Label: Type in a short, descriptive label. This label is the name of the link that will appear on the MorphBank record page. Appropriate labels would include the name of the institution that the link is going back to or the name of the gene region that is linking to an accession number. Examples: 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] <i>Polyommatus (Agrodiaetus) surakovi</i>	
<p>Submitted by: Martin Wiemers</p> <p>Submitted date: 05-01-2004</p> <p>Published date: 05-01-2004</p> <hr/> <p>Access #: 3840</p> <p>Magnification: NULL</p> <p>Dimension (px): 810x540</p> <p>Resolution (PPI): 600</p> <p>Submitted as: TIFF</p> <hr/> <p>View id: 63977</p> <p>Specimen part: [93] - Wings</p> <p>Angle: [41] - Left dorsal, right ventral</p> <p>Technique: [28] - Reflected light, scan</p> <p>Preparation: [77344] - No preparation</p> <hr/> <p>Download:</p>	
<p>Specimen</p> <p>Specimen id: 64122</p> <p>Basis of record: [S] - Specimen</p> <p>Sex: [98] - Male</p> <p>Form: [104] - Indeterminate</p> <p>Stage: [95] - Adult</p> <p>Collector: Martin Wiemers</p> <p>Date collected: 07-20-1998</p>	<p>Locality</p> <p>Locality Id: 64044</p> <p>Continent ocean: [AS] - ASIA</p> <p>Country: [AM] - ARMENIA</p> <p>Locality: Gnyshik village (1800-2200 m) Transcaucasia</p> <p>Latitude:</p> <p>Longitude:</p> <p>Elevation (m): 1800-2200</p>



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>

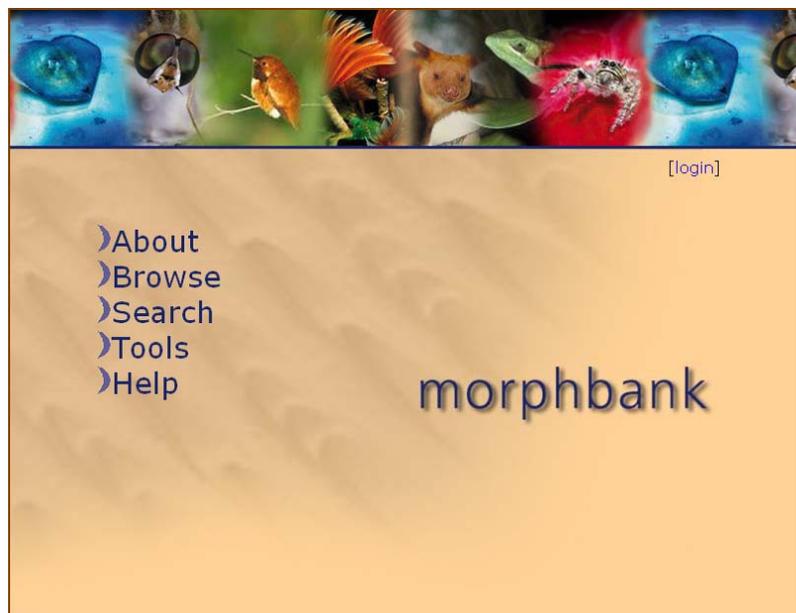
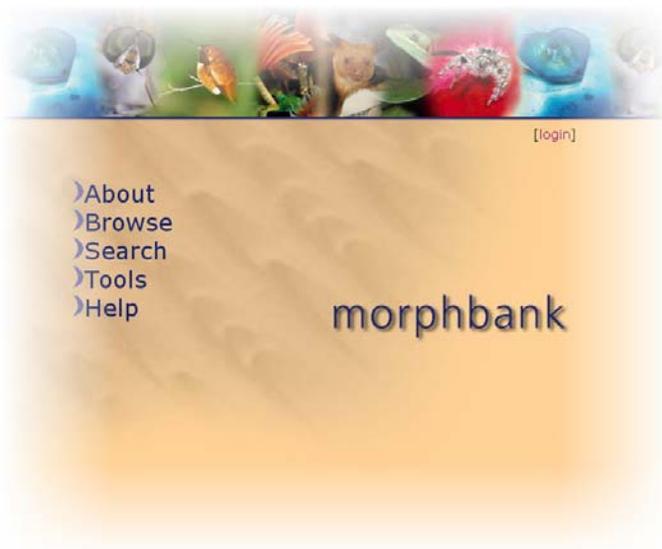


Figure 5 Opening Screen to morphbank.net

From the opening screen users can select:



-  **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

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

-  **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.

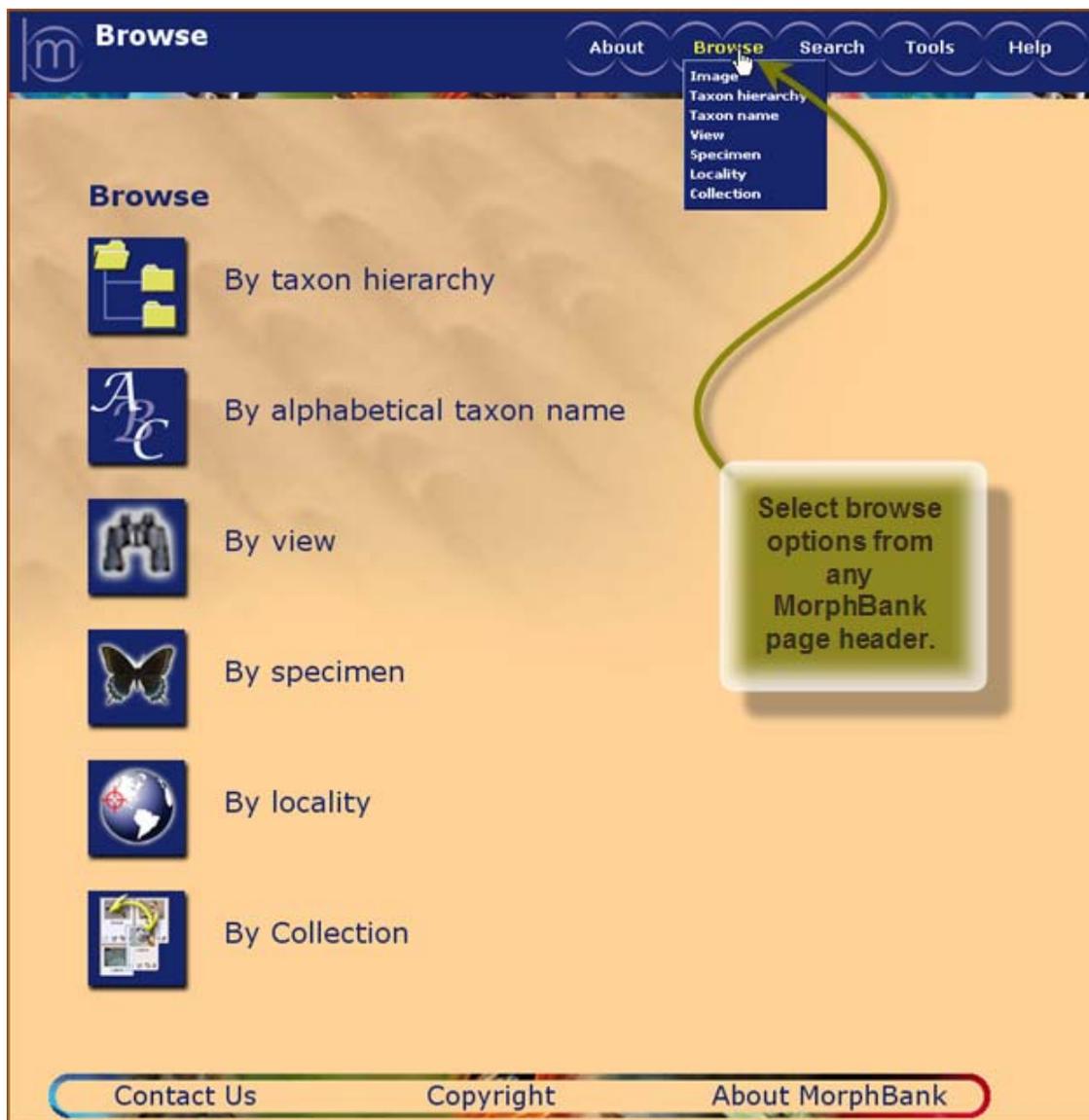


Figure 6 Browse



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 MorphBank 'Browse - Images' interface. At the top, there is a navigation bar with 'About', 'Browse', 'Search', 'Tools', and 'Help' buttons. The main content area is titled 'Images' and features a search sidebar on the left. The sidebar includes sections for 'Keywords', 'Taxon', 'Specimen', 'View', and 'Locality', each with a search input and a 'Reset' button. Below these are 'Sort by' and 'then by' options with 'Asc.' and 'Desc.' radio buttons, and 'Sort' and 'Clear' buttons. The main area displays a list of image entries, each with a thumbnail, ID, and detailed metadata including view, specimen, and technique. The list is paginated, showing '3842 3843 3844 3845 3846 3847' of 3847 images. At the bottom, there are links for '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.

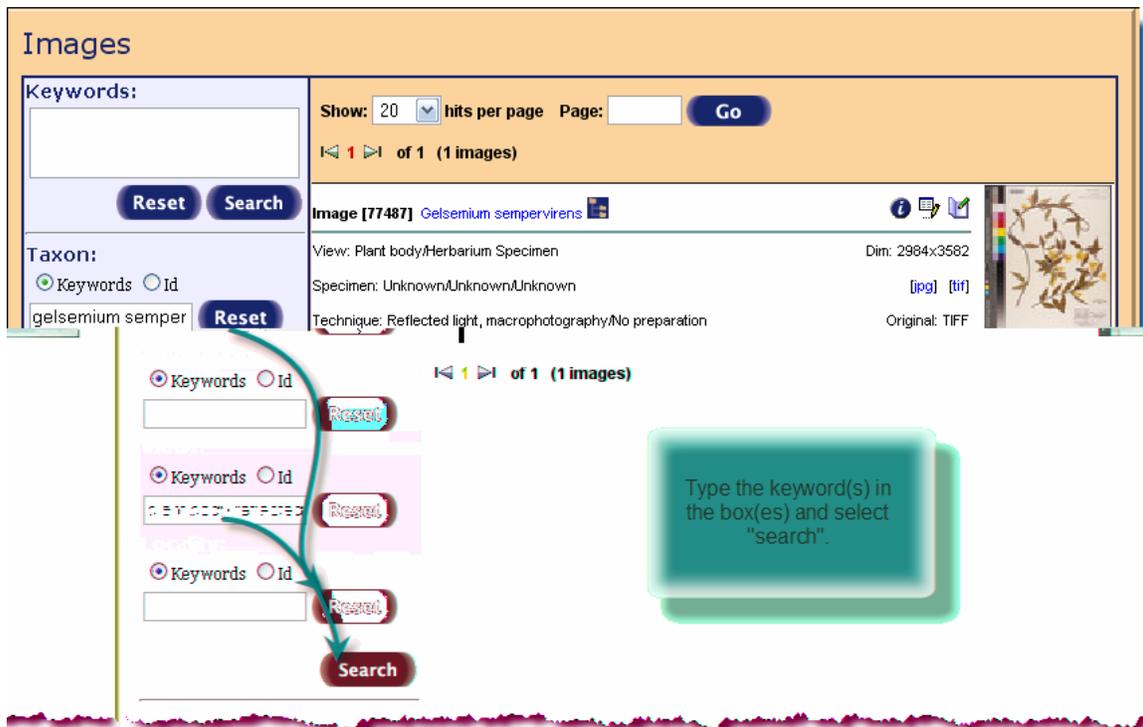
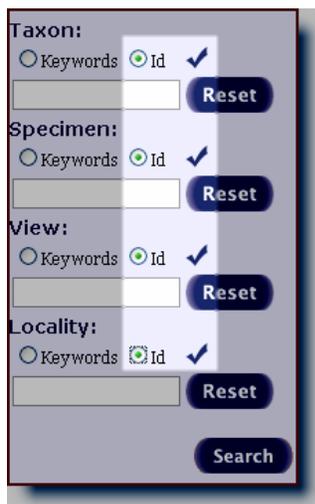


Figure 8 Browse-Images-Keywords

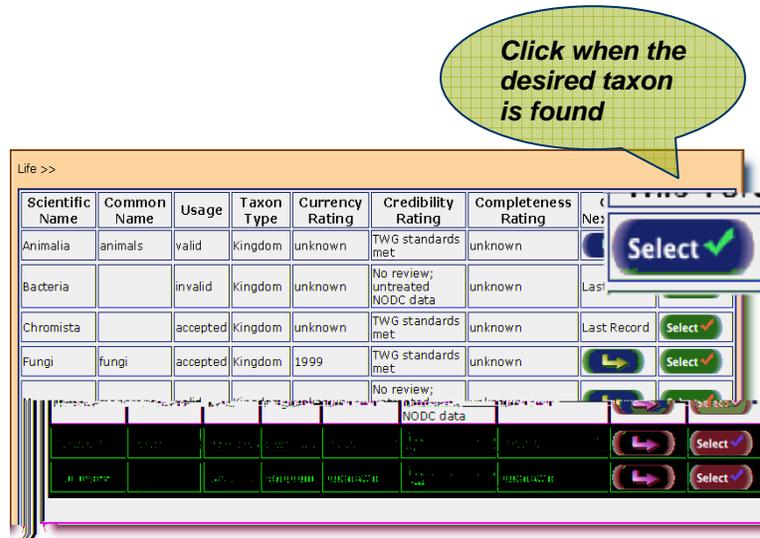
Browse Using Ids

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



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.

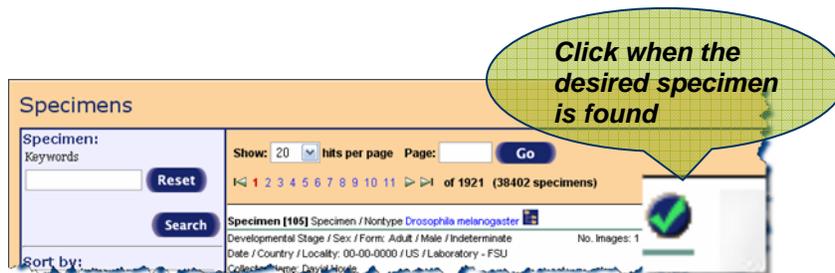
Taxon id –To insure accuracy, taxonomic identifiers need to be selected ✓ from the taxonomic names selection screen. Traverse through the levels  until the appropriate scientific name is found. Then click the select icon , it will automatically direct the user back to the **Browse-Images** screen and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



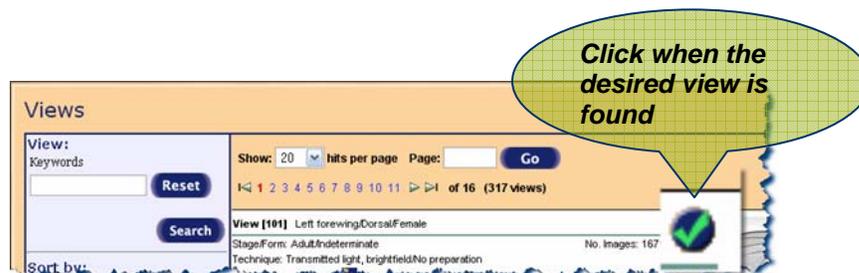
If a new taxon name needs to be added select the **Add New Taxon** button that is visible from the family level. The **Add TSN** screen will popup. (This option is only available for authorized users.) For complete instructions on this process see the [ITIS, Add New Taxon](#) section of this manual.

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/>.

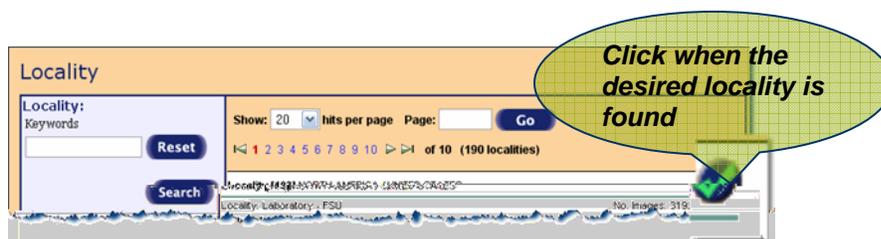
Specimen id- To insure accuracy, specimen identifiers need to be selected ✓ from the specimen screen. Traverse through the list. Sort the list if needed (see [browse-specimen, sort](#) for instructions unique to this process). When the desired specimen is found, click on the  icon and the screen will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



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.



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.



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.

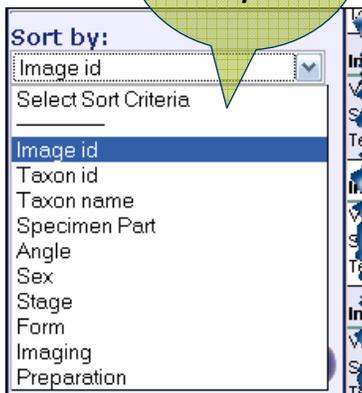


Figure 9 Browse-Image-Sort Options



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 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.

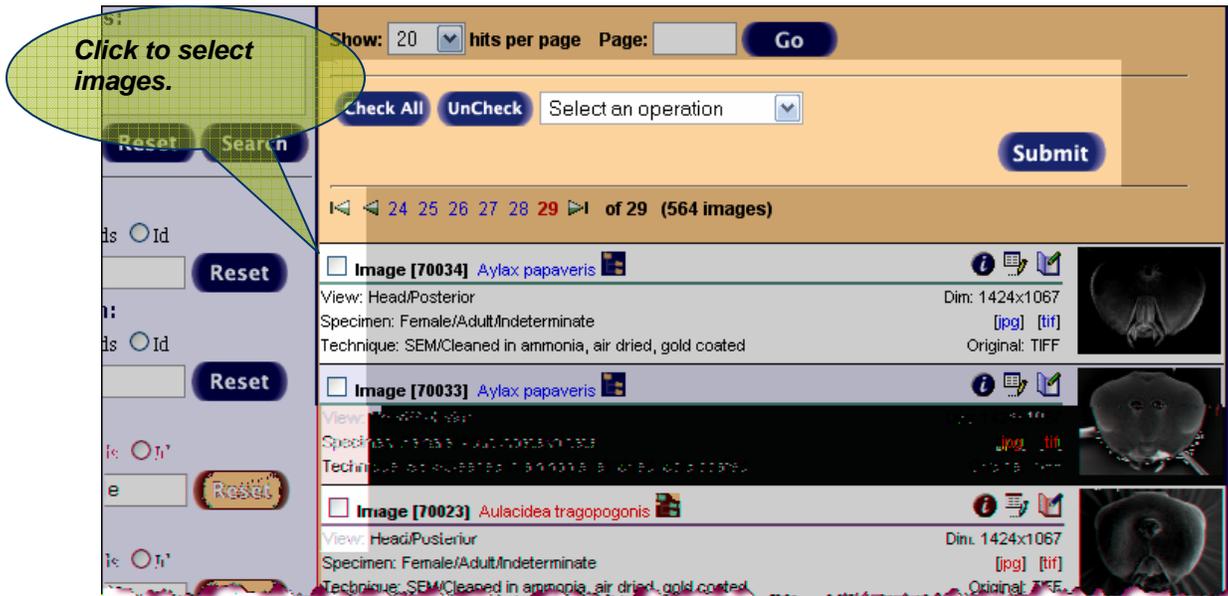


Figure 11 Check Boxes for Inclusion in Collection

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>	
<p>Specimen 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 Locality Id: 75542 Continent ocean: [00] - UNKNOWN Country: [00] - UNKNOWN Locality: Latitude: Longitude: Elevation (m):</p>
<p>Determination Class: Insecta  Order: Hymenoptera  Family: Braconidae  Genus: Alabagrus  Species: Alabagrus albispina </p>	<p>Determination annotations</p>
<p>Annotations</p>	<p>External links</p>

MorphBank issued image id

blue font is selectable to reveal additional information

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.

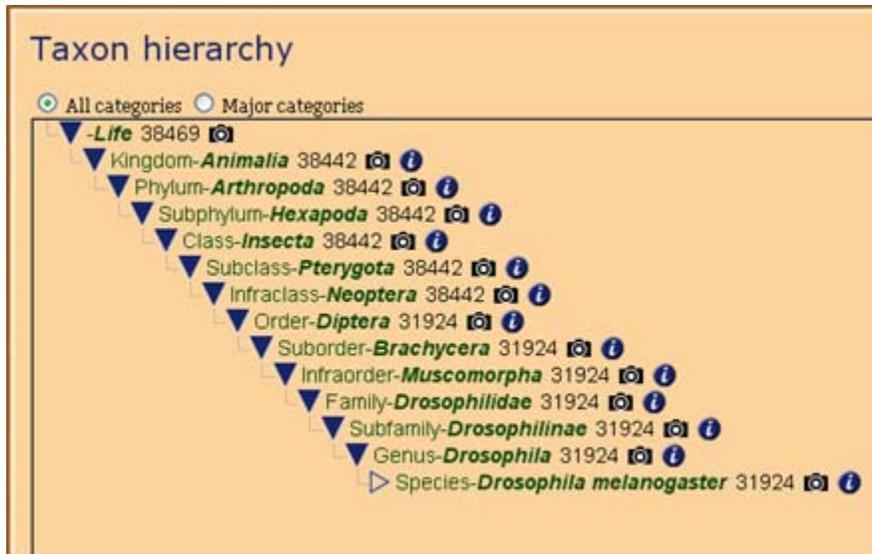
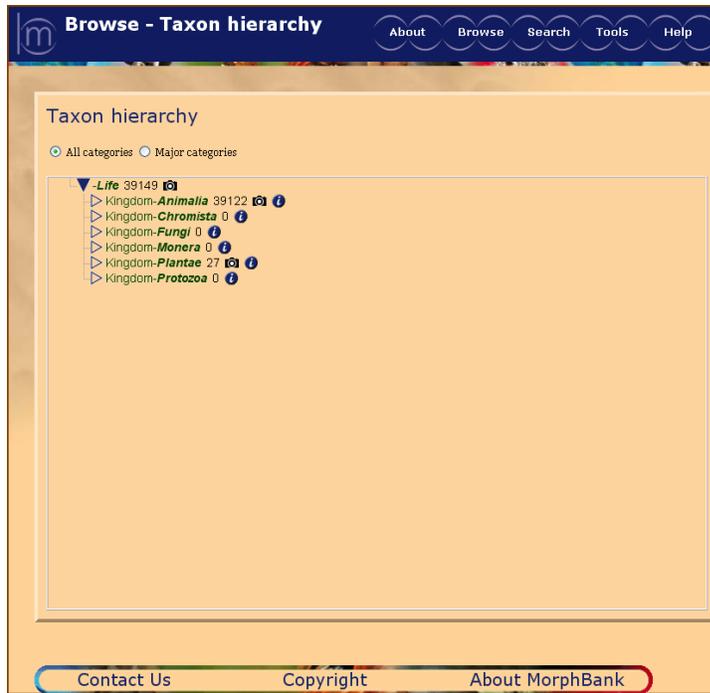


Figure 13 Example of Taxon Hierarchy

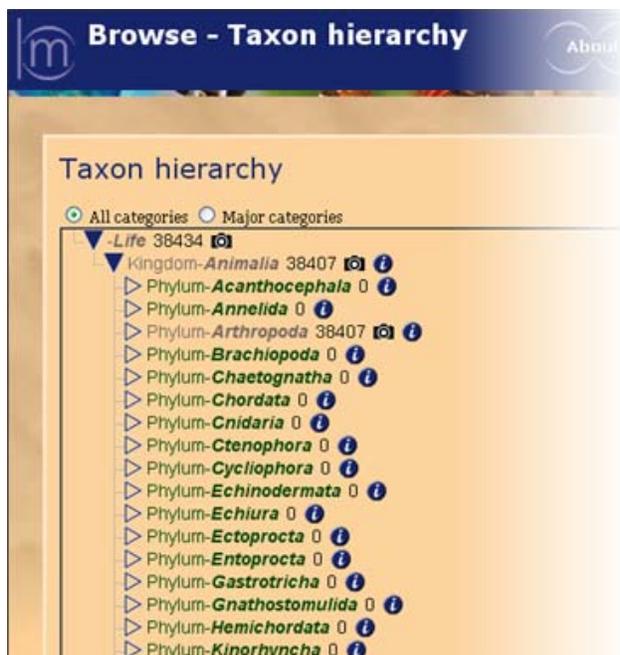
Browse -Taxon Hierarchy



In this option, users are placed at the top level of the taxonomic hierarchy to view all Kingdoms (Figure 14). By selecting **All Categories**, the user has the option to browse the taxon hierarchy through all available categories; or, by selecting **Major Categories** the user can browse using only major hierarchy categories (kingdom, phylum, class, order, family, genus, and species).

By left-clicking on the name of the Kingdom, the tree is expanded to reveal all levels below that Kingdom (Figure 15).

Figure 14 Browse-Taxon Hierarchy



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

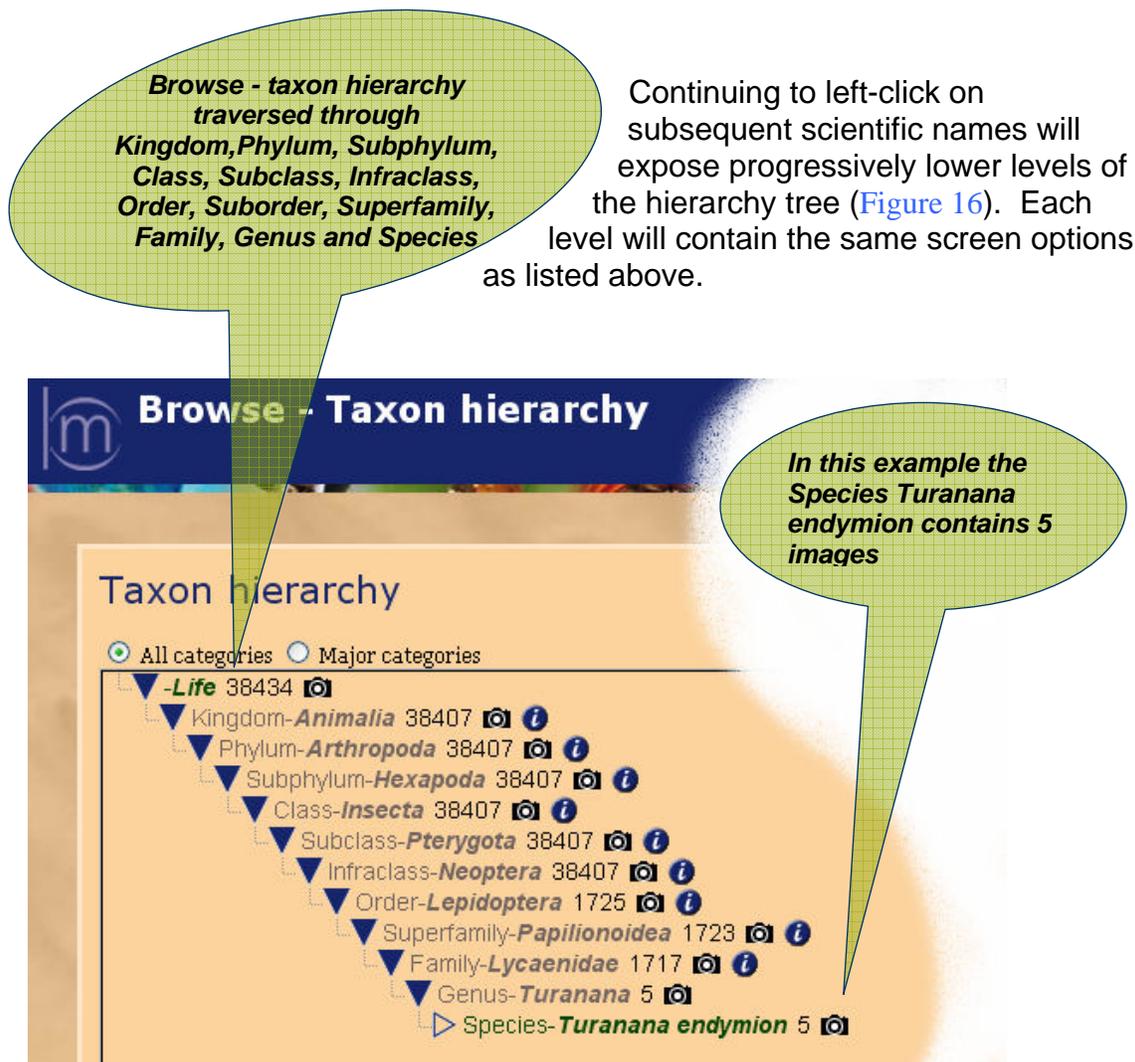


Figure 16 Browse-Taxon Hierarchy Showing Levels

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.



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](#)).

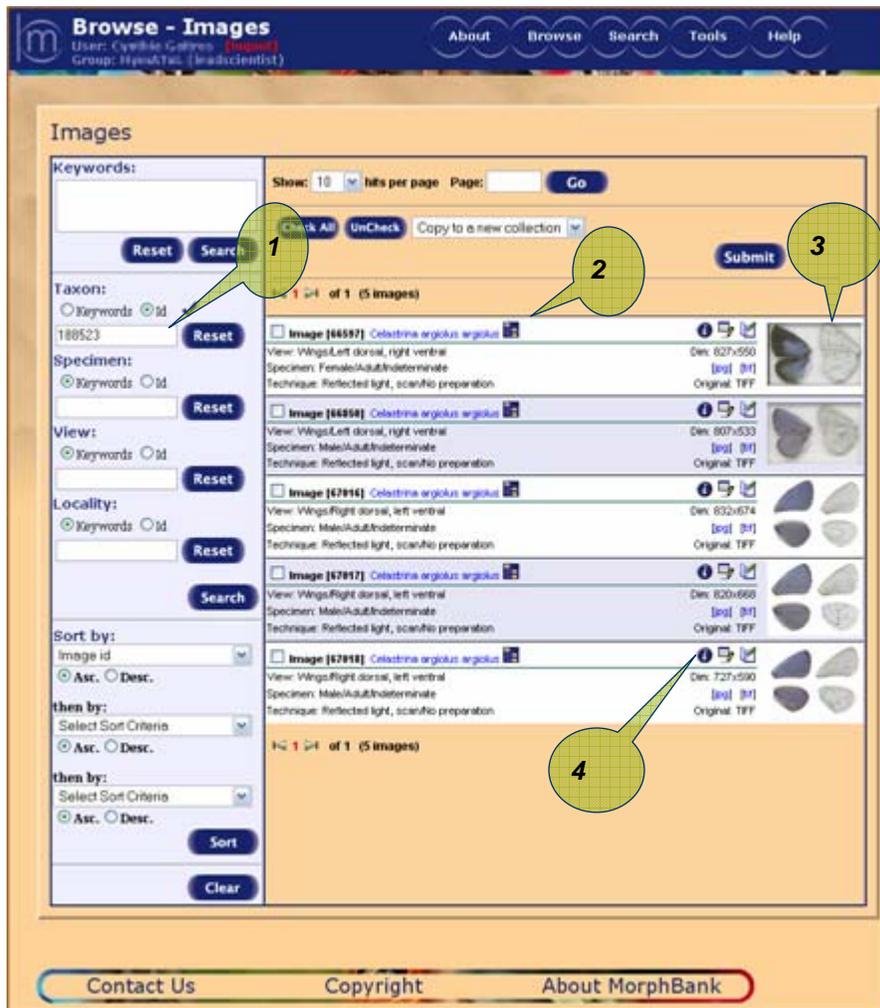


Figure 18 Example of Browse-Images

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 argioleus*
- 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  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.

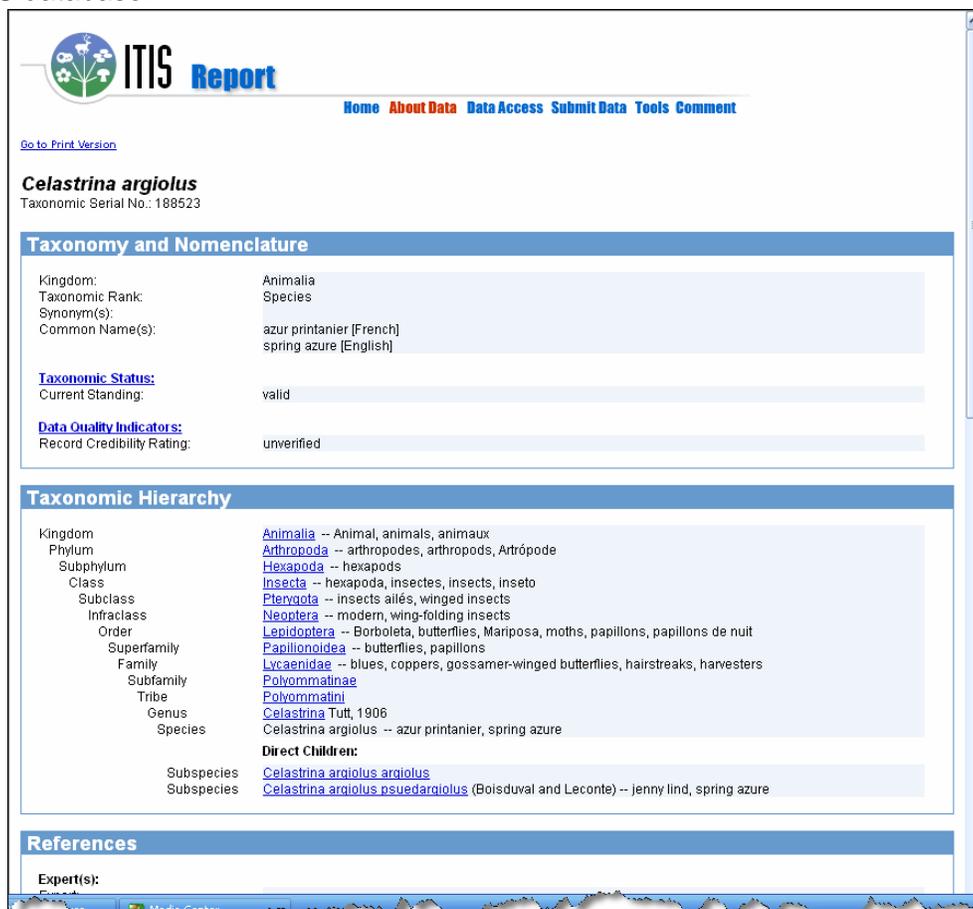
Example: ITIS Report

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.



The screenshot shows a web browser window displaying an ITIS Report for *Celastrina argiolus*. The page includes a header with the ITIS logo and navigation links (Home, About Data, Data Access, Submit Data, Tools, Comment). Below the header, there is a section for 'Taxonomy and Nomenclature' which lists the Kingdom (Animalia), Taxonomic Rank (Species), and Common Name(s) (azur printanier [French], spring azure [English]). It also shows the Taxonomic Status (valid) and Data Quality Indicators (Record Credibility Rating: unverified). The 'Taxonomic Hierarchy' section lists the taxonomic levels from Kingdom to Species, with corresponding scientific names and common names. The 'References' section is partially visible at the bottom.

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 

<p>Submitted date: 108:02:2006 Published date: 07:31:2006 Access #: 53077 Magnification: NULL Dimension (px): 1350x1020 Resolution (PPI): 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)</p>	
<p>Specimen Specimen id: 102101 Basis of record: [S] - Specimen Sex: [97] - Female Form: [104] - Indeterminate Stage: [95] - Adult Collector: Reichard Date collected: 04-00-1994</p>	<p>Locality Locality Id: 102049 Continent ocean: [AS] - ASIA Country: [UK] - SRI LANKA Locality: Koggala Latitude: Longitude: Elevation (m):</p>
<p>Determination Class: Insecta Order: Hymenoptera Family: Sphecidae Genus: Ampulex Species: Ampulex compressa</p>	<p>Determination annotations</p>
<p>Annotations</p>	<p>External links</p>

Figure 20 Example of Image Record

Browse - Taxon Names

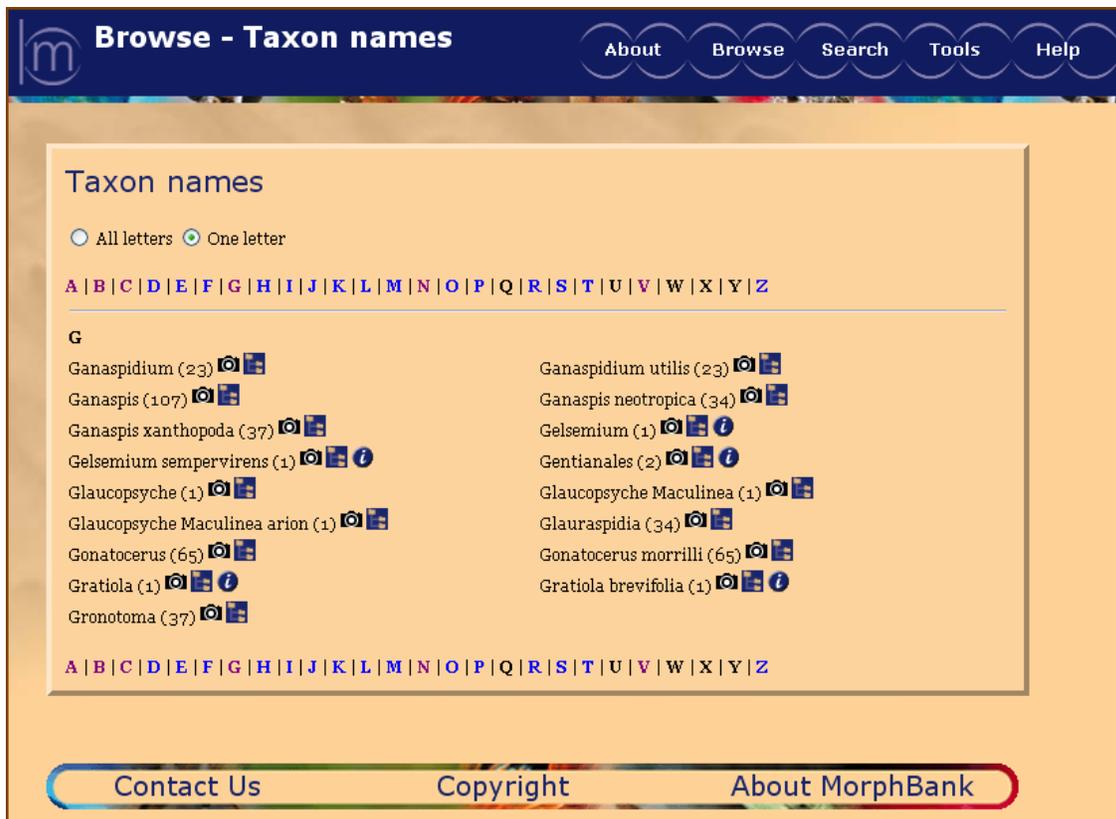


Figure 21 Browse-Taxon Names –Using “One Letter” Option (G)

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,



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

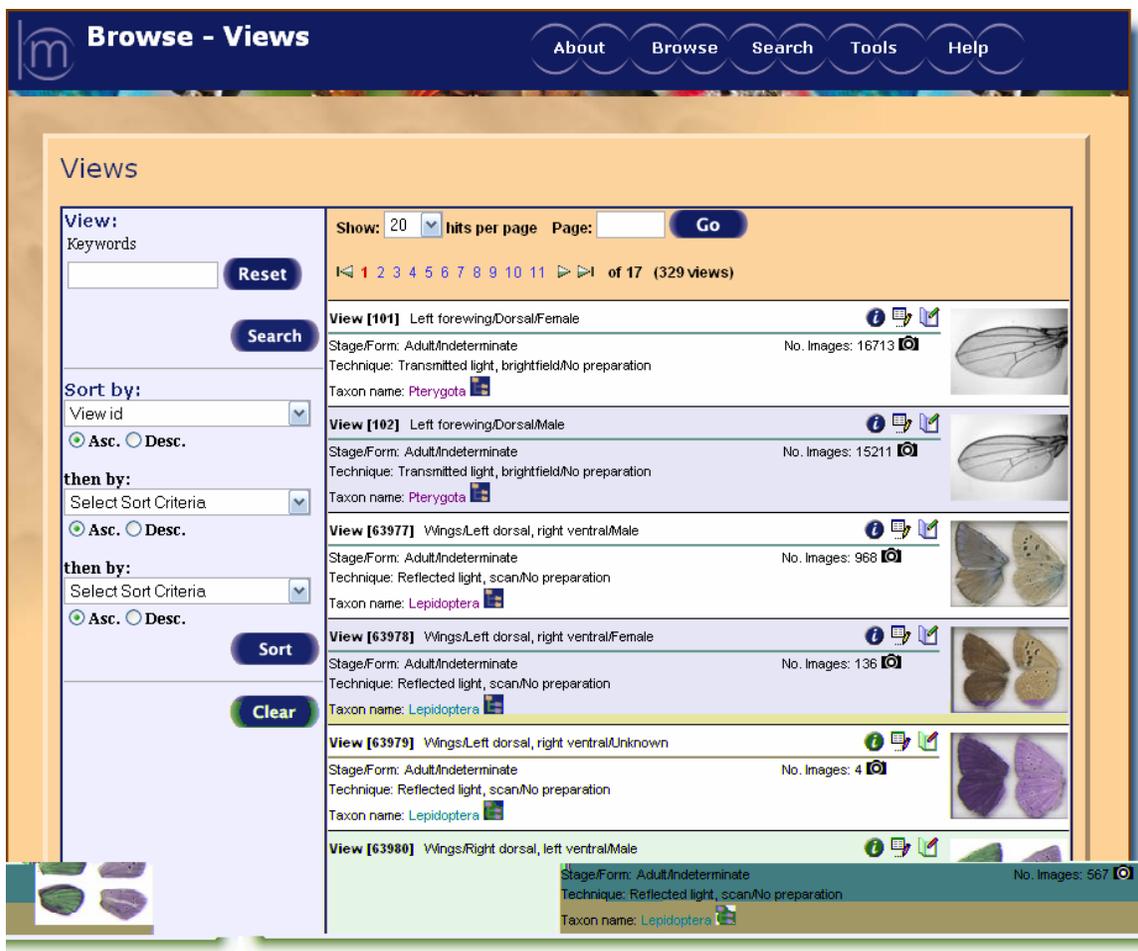


list of associated images (Figure 18). Selecting the tree of life symbol  will list the taxonomic hierarchy of the Taxon name (Figure 14, Figure 15, Figure 16).

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



Browse - Views About Browse Search Tools Help

Views

View: Keywords **Reset** **Search**

Sort by: View id **Asc.** **Desc.**

then by: Select Sort Criteria **Asc.** **Desc.**

Sort **Clear**

Show: 20 hits per page Page: **Go**

1 2 3 4 5 6 7 8 9 10 11 of 17 (329 views)

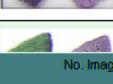
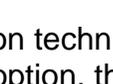
View [101] Left forewing/Dorsal/Female	
Stage/Form: Adult/Indeterminate No. Images: 16713	
Technique: Transmitted light, brightfield/No preparation	
Taxon name: Pterygota	
View [102] Left forewing/Dorsal/Male	
Stage/Form: Adult/Indeterminate No. Images: 15211	
Technique: Transmitted light, brightfield/No preparation	
Taxon name: Pterygota	
View [63977] Wings/Left dorsal, right ventral/Male	
Stage/Form: Adult/Indeterminate No. Images: 968	
Technique: Reflected light, scan/No preparation	
Taxon name: Lepidoptera	
View [63978] Wings/Left dorsal, right ventral/Female	
Stage/Form: Adult/Indeterminate No. Images: 136	
Technique: Reflected light, scan/No preparation	
Taxon name: Lepidoptera	
View [63979] Wings/Left dorsal, right ventral/Unknown	
Stage/Form: Adult/Indeterminate No. Images: 4	
Technique: Reflected light, scan/No preparation	
Taxon name: Lepidoptera	
View [63980] Wings/Right dorsal, left ventral/Male	
Stage/Form: Adult/Indeterminate No. Images: 567	
Technique: Reflected light, scan/No preparation	
Taxon name: Lepidoptera	

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.

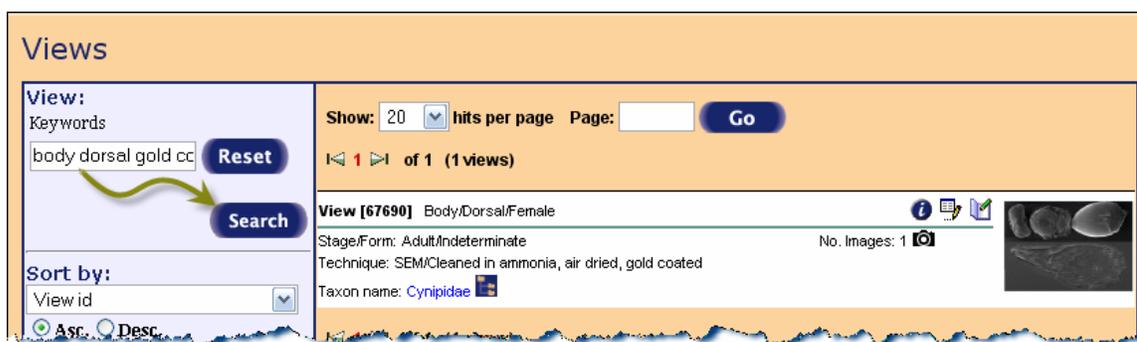


Figure 23 Browse-Views-Keywords

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.

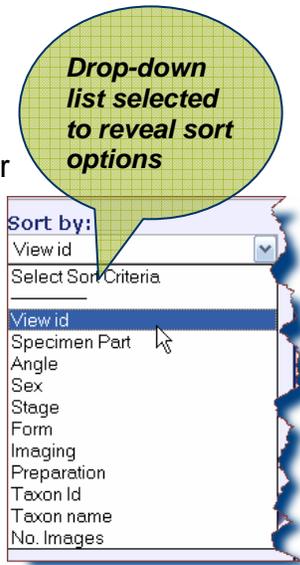


Figure 24 Browse-View-Sort Options



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-Viewspage** (Figure 22).



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.

Figure 26 Example of Browse – Images

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).

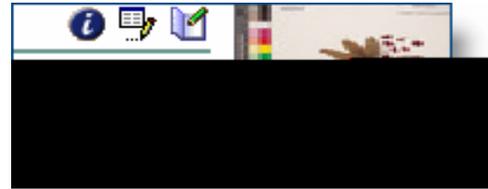


Image Thumbnail
From [Figure 27](#)



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*

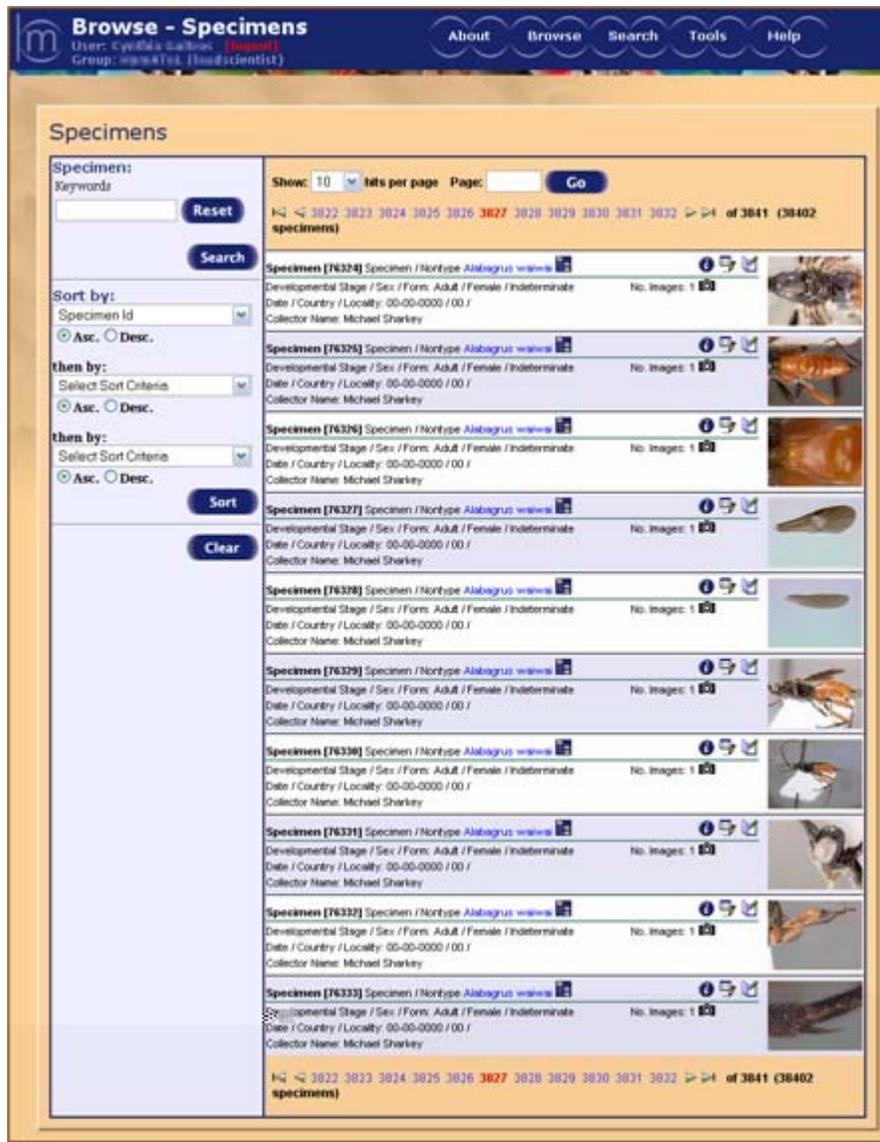
View Record: [63981] Applicable to [Lepidoptera](#) 

<p>Submitted By: Fredrik Ronquist </p> <p>Date Submitted: 09-27-2005</p> <p>Last Modified: 09-27-2005</p> <p>Publish Date: 09-27-2005</p> <hr/> <p>Specimen Part: Wings</p> <p>View Angle: Right dorsal, left ventral</p> <p>Sex: Female</p> <p>Form: Indeterminate</p> <p>Stage: Adult</p> <p>Technique: Reflected light, scan</p> <p>Preparation: No preparation</p> <hr/> <p>Example Image: [67007]</p> <p>Images for view:  50</p>	
---	---

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 displays the 'Browse - Specimens' page on the MorphBank website. The page header includes the MorphBank logo, the user's name (Cynthia Galinas), and navigation links for 'About', 'Browse', 'Search', 'Tools', and 'Help'. The main content area is titled 'Specimens' and features a search bar with 'Reset' and 'Search' buttons. Below the search bar are sorting options: 'Sort by: Specimen Id' with 'Asc.' and 'Desc.' radio buttons, and 'then by:' with 'Select Sort Criteria' and 'Asc.'/'Desc.' radio buttons. A 'Sort' button is also present. The specimen list shows 10 items, each with a specimen ID (e.g., 76324, 76325, 76326, 76327, 76328, 76329, 76330, 76331, 76332, 76333), a thumbnail image, and detailed metadata including developmental stage, sex, form, date, country, locality, and collector name. The page indicates there are 3841 specimens in total, with the current view showing 10 items per 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.

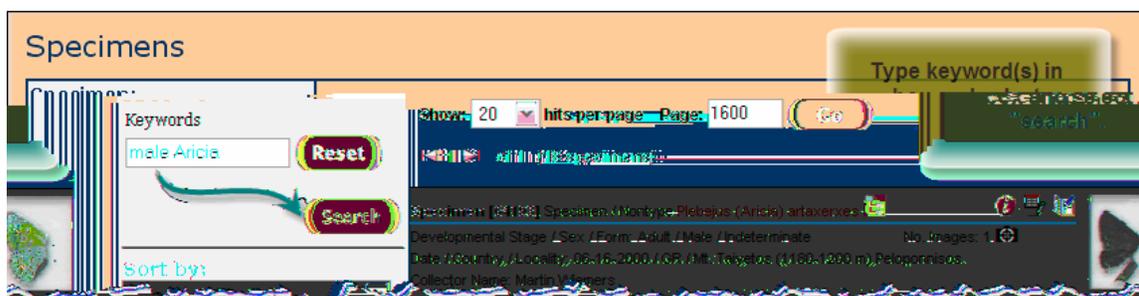


Figure 30 Browse-Specimens-Keywords

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.



Drop-down list selected to reveal sort options

Sort by:
Specimen Id
Select Sort Criteria
Specimen Id
Basis Of Record
Sex
Form
Developmental Stage
Type Status
Collector Name
Date
No. Images
Country



Reset back to keyword(s) that produced listed views

Specimen:
Keywords

Reset
Search

Sort by:
Specimen Id
Asc. Desc.
then by:
Select Sort Criteria
Asc. Desc.
then by:
Select Sort Criteria
Asc. Desc.
Sort
Clear

Figure 31 Specimens Sort Option

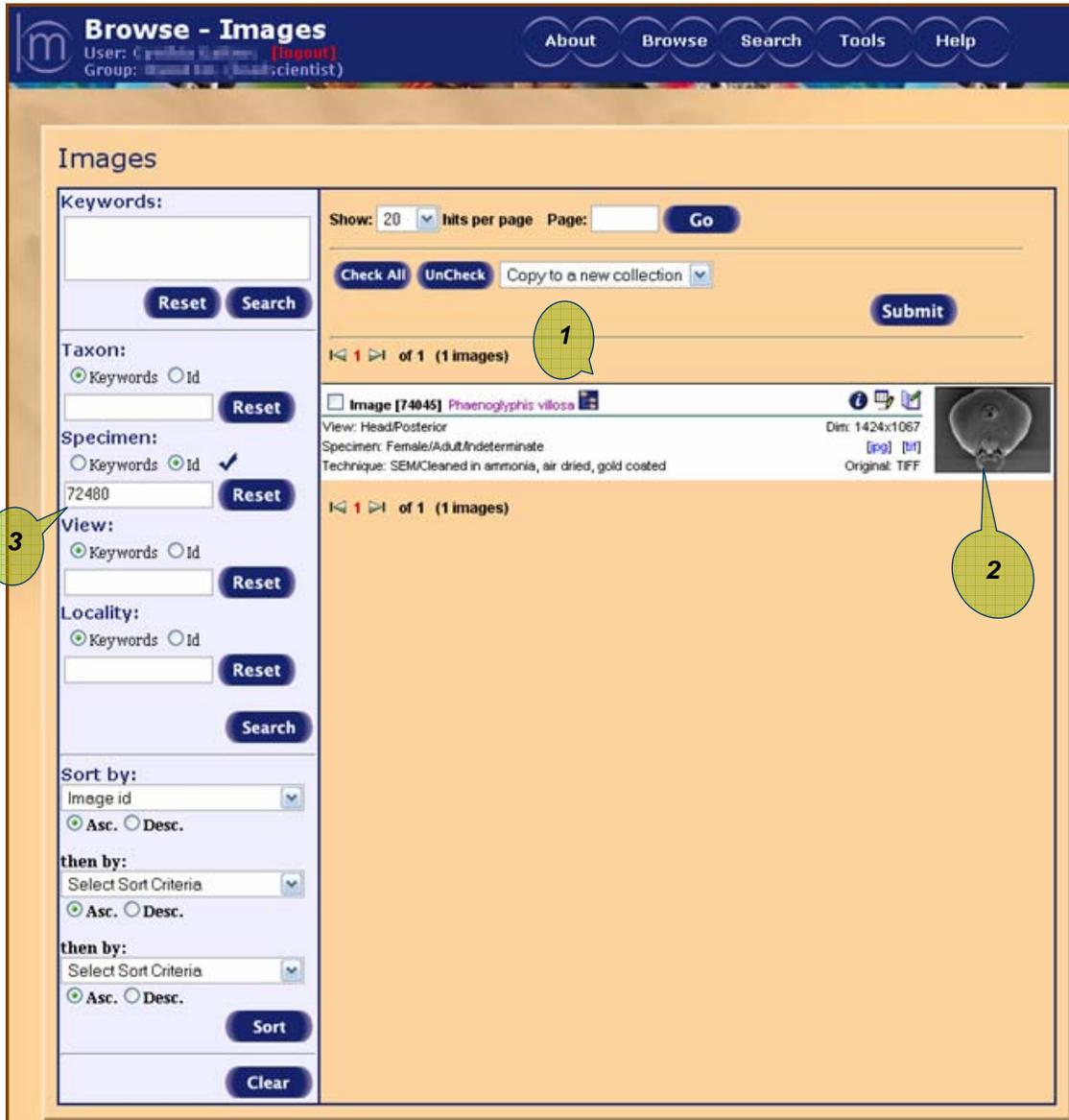
Screen Use Tips:

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).



Browse - Images
User: [Cynthia K. Collins](#) [\[Logout\]](#)
Group: [Museum of Natural History](#) [\[Add\]](#) [\[Scientist\]](#)

About Browse Search Tools Help

Images

Keywords: [Reset](#) [Search](#)

Specimen: Keywords Id [Reset](#)

View: Keywords Id [Reset](#)

Locality: Keywords Id [Reset](#) [Search](#)

Sort by: [Asc.](#) [Desc.](#)

then by: [Asc.](#) [Desc.](#)

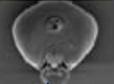
then by: [Asc.](#) [Desc.](#) [Sort](#) [Clear](#)

Show: 20 hits per page Page: [Go](#)

[Check All](#) [UnCheck](#) [Copy to a new collection](#) [Submit](#)

< 1 > of 1 (1 images)

[Image \[74045\]](#) [Phaenoglyphis villosa](#) [\[i\]](#) [\[p\]](#) [\[t\]](#)

View: HeadPosterior Dim: 1424x1067
Specimen: Female/Adult/Indeterminate [\[p\]](#) [\[t\]](#)
Technique: SEM/Cleaned in ammonia, air dried, gold coated Original: TFF 

< 1 > of 1 (1 images)

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  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

<p>Contributor: Jose Luis Nieves-Aldrey </p> <p>Submitted: 04-15-2009</p> <p>Last Modified: 04-15-2009</p> <p>Published: 04-15-2009</p> <p>Specimen Id: 72258</p> <p>Basis of Record: <i>Specimen</i></p> <p>Sex: <i>Female</i></p> <p>Form: <i>Indefinite</i></p> <p>Stage: <i>Adult</i></p>	
<p>Collection</p> <p>Collector: Jose Luis Nieves-Aldrey</p> <p>Institution:</p> <p>Collection Code:</p> <p>Catalog:</p> <p>Collection Num:</p> <p>Date Collected: 0000-00-00 00:00:00</p>	<p>Locality</p> <p>Locality Id: [67288]</p> <p>Locality: Ippaque</p> <p>Continent: SOUTH AMERICA</p> <p>Country: COLOMBIA</p> <p>Latitude:</p> <p>Longitude:</p> <p>Precision:</p> <p>Elevation (m):</p> <p>Depth (m):</p>
<p>Determination</p> <p>Class: Insecta </p> <p>Order: Hymenoptera </p> <p>Family: Cynipidae </p> <p>Genus: Synergus </p> <p>Species: Synergus colombianus </p>	<p>Determination Annotation</p>
<p>Annotations</p> <p>No Annotations</p>	<p>External links</p>

Figure 33 Example of Specimen Record

Browse-Locality



Locality

Locality: Keywords:

Sort by: Location Id

Asc. Desc.

then by: Select Sort Criteria

then by: Select Sort Criteria

Asc. Desc.

Show: 10 hits per page Page: 1 of 21 (201 localities)

Locality [603] NORTH AMERICA / UNITED STATES	Locality: test to see if this gives the new format	No. Images: 31325
Locality [62996] ASIA / TURKEY	Locality: Sac Oeclid (2000 m) Agri	No. Images: 1
Locality [63997] ASIA / TAJIKISTAN	Locality: Safedou (2500 m)	No. Images: 1
Locality [63998] AFRICA / MOROCCO	Locality: dhaudfa	No. Images: 1
Locality [63999] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 25 km N Torbat-e-Heydarliyah (1700-1800 m) Khorasan	No. Images: 1
Locality [64000] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 25 km W Fuld Mahaleh (2300 m) Semnan	No. Images: 1
Locality [64001] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 30 km W Dorast (2100m) Lorestan	No. Images: 1
Locality [64002] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 31 km W Dorast (2100m) Lorestan	No. Images: 1
Locality [64003] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 32 km W Dorast (2100m) Lorestan	No. Images: 1
Locality [64004] ASIA / IRAN, ISLAMIC REPUBLIC OF	Locality: 33 km W Dorast (2100m) Lorestan	No. Images: 1

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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.

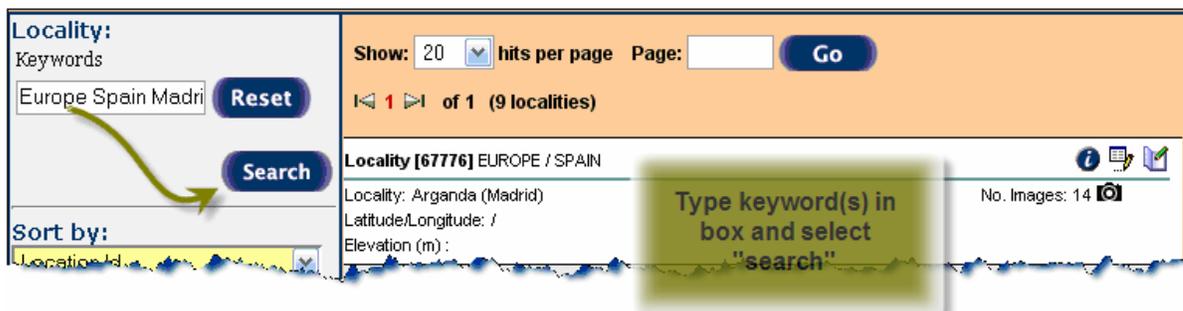
Browse by Keywords

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.



The screenshot shows the Morphbank search interface. On the left, there is a 'Locality: Keywords' section with a text input box containing 'Europe Spain Madrid', a 'Reset' button, and a 'Search' button. Below this is a 'Sort by:' dropdown menu. On the right, there is a search results area with a 'Show: 20 hits per page' dropdown, a 'Page:' input box, and a 'Go' button. Below this, it says '1 of 1 (9 localities)'. The main results area shows 'Locality [67776] EUROPE / SPAIN' with details for 'Arganda (Madrid)', 'Latitude/Longitude: /', and 'Elevation (m):'. A green callout box with an arrow points to the 'Search' button and contains the text 'Type keyword(s) in box and select "search"'. There are also icons for information, print, and images, and a 'No. Images: 14' indicator.

Figure 35 Browse-Locality-Keywords

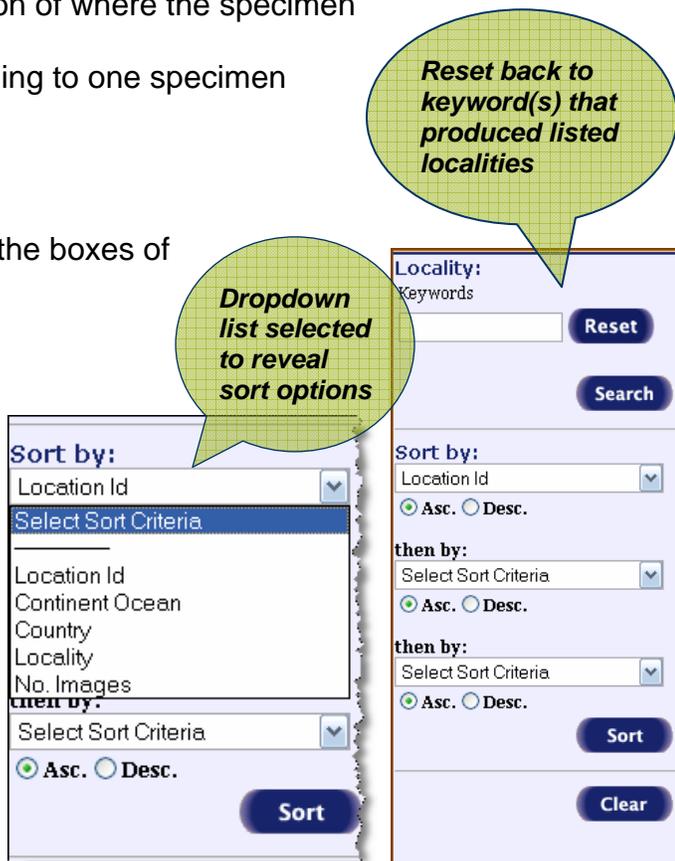
Sort the results

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.



Sort by:

Location Id

Select Sort Criteria

Location Id

Continent Ocean

Country

Locality

No. Images

then by:

Select Sort Criteria

Asc. Desc.

Sort

Locality: Keywords

Reset

Search

Sort by:

Location Id

Asc. Desc.

then by:

Select Sort Criteria

Asc. Desc.

then by:

Select Sort Criteria

Asc. Desc.

Sort

Clear

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).

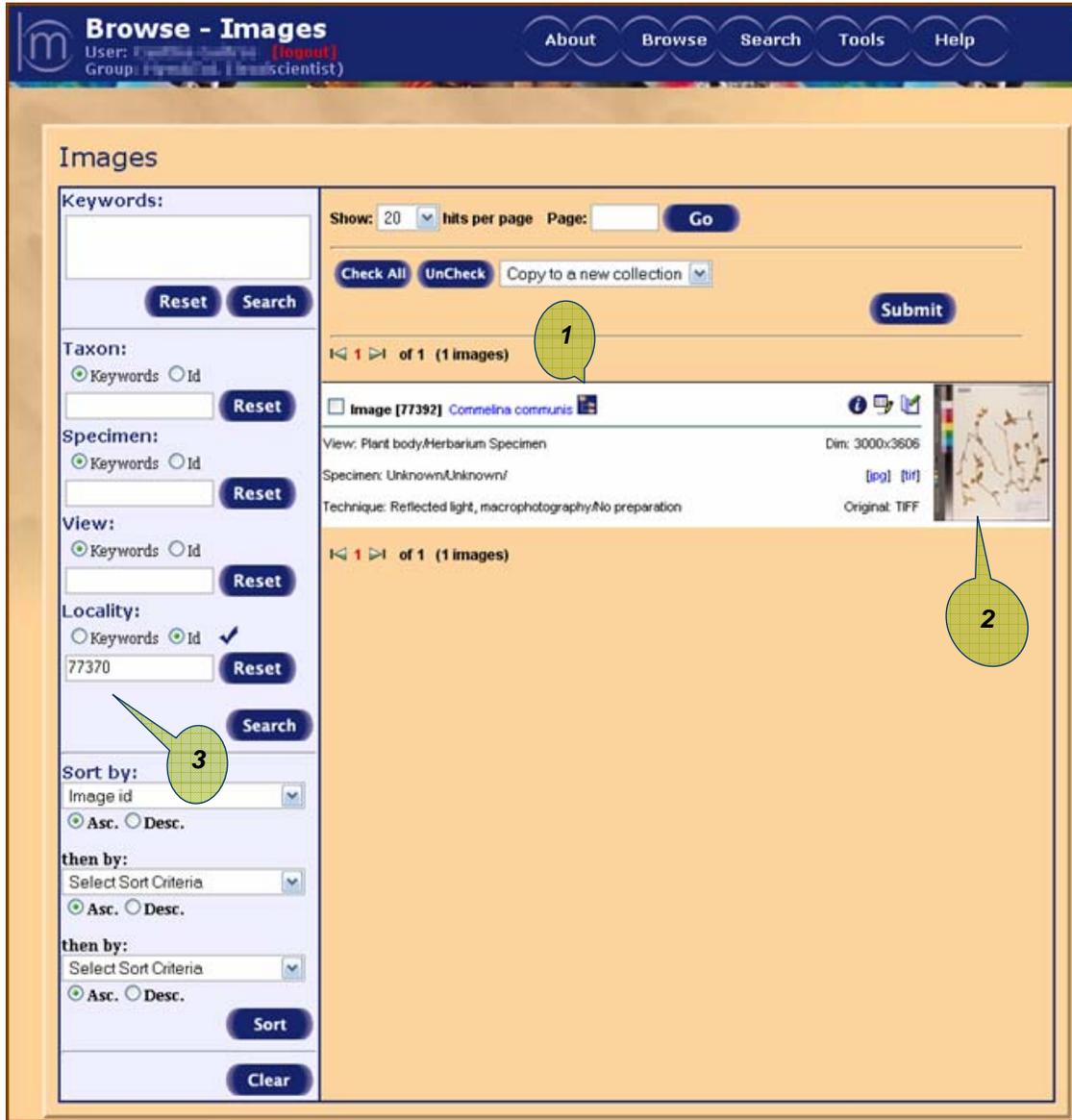


Figure 37 Example of Browse-Images

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  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

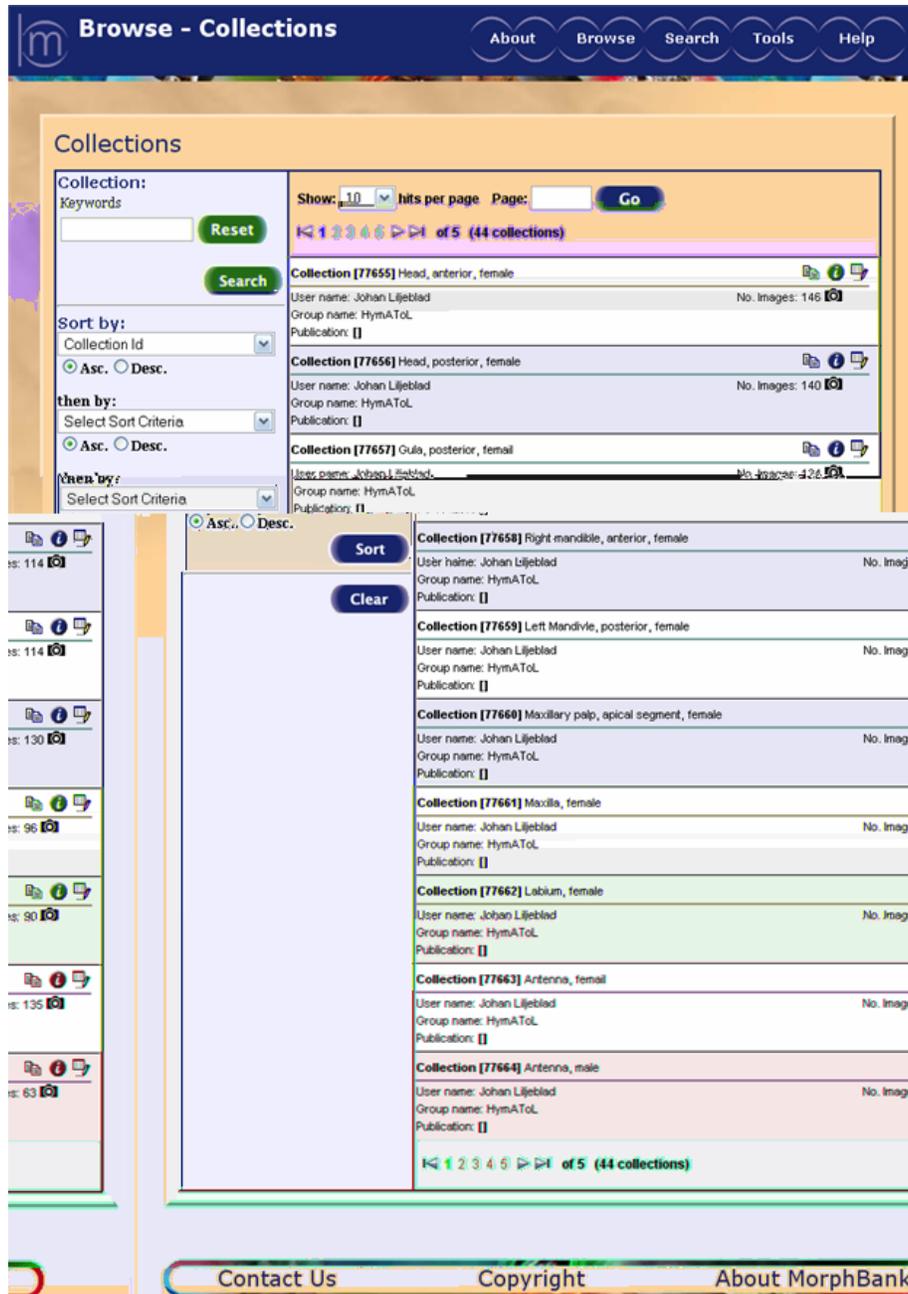
Displayed from the information  icon, **Browse-Locality** page ([Figure 34](#)) This page displays Information unique to this locality record. MorphBank Single Show is an efficient way to display large amounts of information. For complete documentation on single show refer to [MorphBank Show](#) in the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

A screenshot of a web browser window showing a 'Location Record' for ID [77370]. The record is displayed in a light orange box with a white background. It is divided into two columns of metadata. The left column contains submission and modification dates, while the right column contains geographical and physical data.

Location Record: [77370]	
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



Browse - Collections About Browse Search Tools Help

Collections

Collection: Keywords:

Show: 10 hits per page Page:

1 2 3 4 5 of 5 (44 collections)

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

1 2 3 4 5 of 5 (44 collections)

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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.

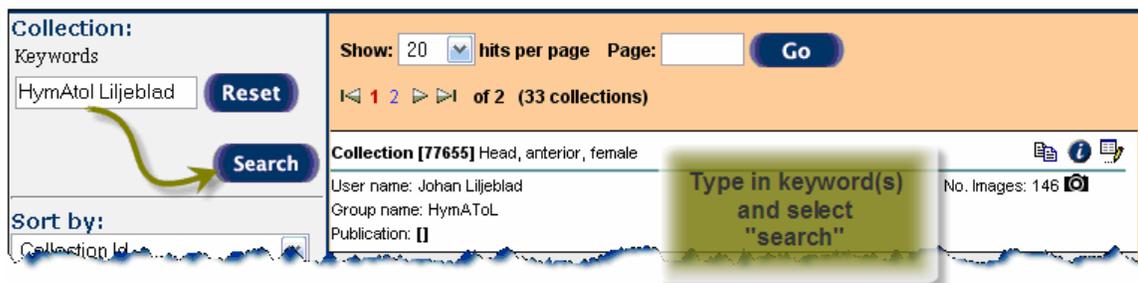
Browse by Keywords

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.



The screenshot shows the MorphBank search interface. On the left, under 'Collection:', there is a 'Keywords' input field containing 'HymAtol Liljeblad'. Below it are 'Reset' and 'Search' buttons. A green arrow points from the 'Search' button to a green callout box that says 'Type in keyword(s) and select "search"'. To the right, there is a 'Show: 20 hits per page' dropdown, a 'Page:' input field, and a 'Go' button. Below that, navigation arrows and 'of 2 (33 collections)' are visible. The main content area shows 'Collection [77655] Head, anterior, female' with icons for document, info, and print. Below this, it lists 'User name: Johan Liljeblad', 'Group name: HymAToL', and 'Publication: []'. On the far right, it says 'No. Images: 146' with an image icon.

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.

Figure 41 Specimens Sort Option

Screen Use Tips:

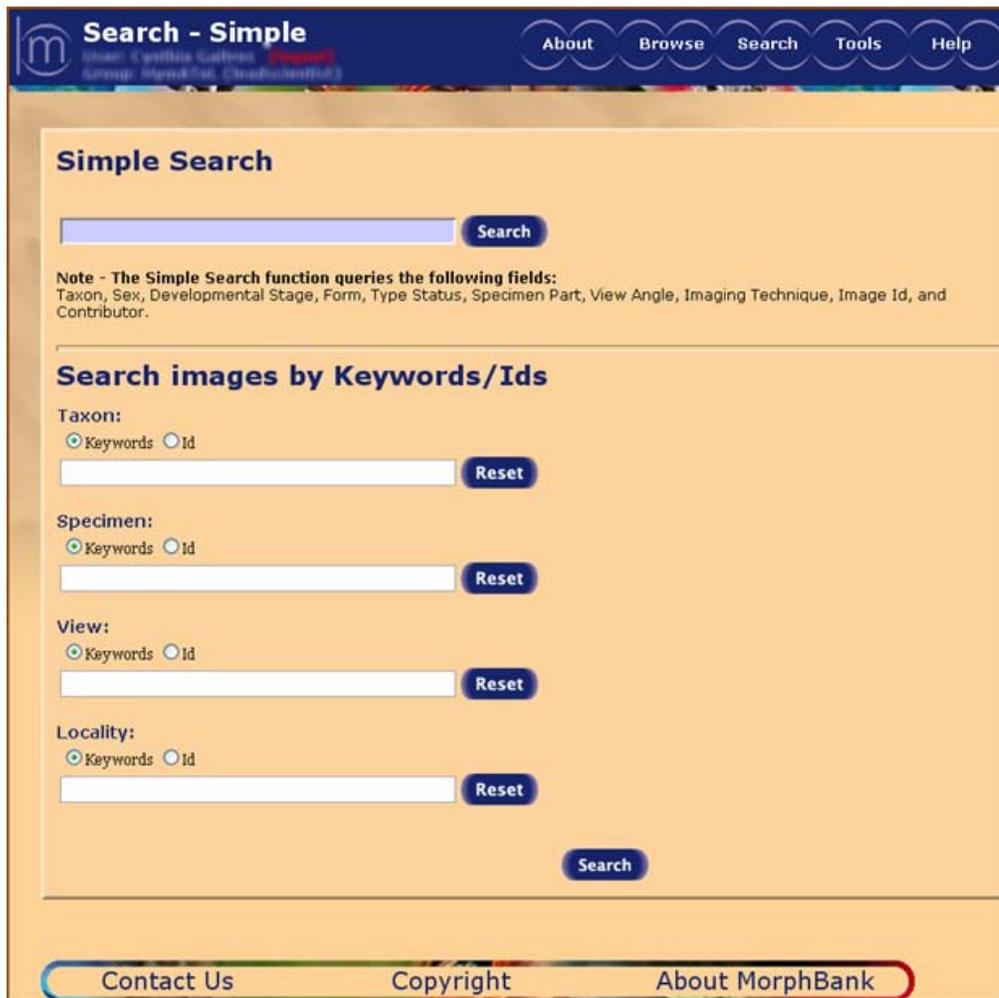
The number of hits displayed on each page can be designated and a user can advance to a specific page number by listing that page and selecting the go  button (Figure 39). Keep in mind that the quantity of information requested to display per page will affect the speed at which that screen loads (i.e. 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 is a navigation bar with the MorphBank logo and the text "Search - Simple". To the right of the navigation bar are buttons for "About", "Browse", "Search", "Tools", and "Help". Below the navigation bar is a search input field with 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." Below the note is a section titled "Search images by Keywords/Ids". This section contains four groups of search criteria: "Taxon:", "Specimen:", "View:", and "Locality:". Each group has radio buttons for "Keywords" (selected) and "Id", a text input field, and a "Reset" button. At the bottom of this section is a "Search" button. At the very bottom of the page are three buttons: "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

Keywords:
braconidae

Taxon:
 Keywords Id

Specimen:
 Keywords Id

View:
 Keywords Id

Showing 20 hits per page Page:

Select an operation

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

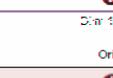
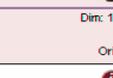
<input type="checkbox"/>	Image [76408] <i>Alabagrus albispina</i>	View: Head/Anterior Specimen: Female/Adult/Indeterminate Technique: Auto-Montage/No preparation	Dim: 1351x1019 Original: TIFF	
<input type="checkbox"/>	Image [76409] <i>Alabagrus albispina</i>	View: Body/Dorsal Specimen: Female/Adult/Indeterminate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

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

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](#).

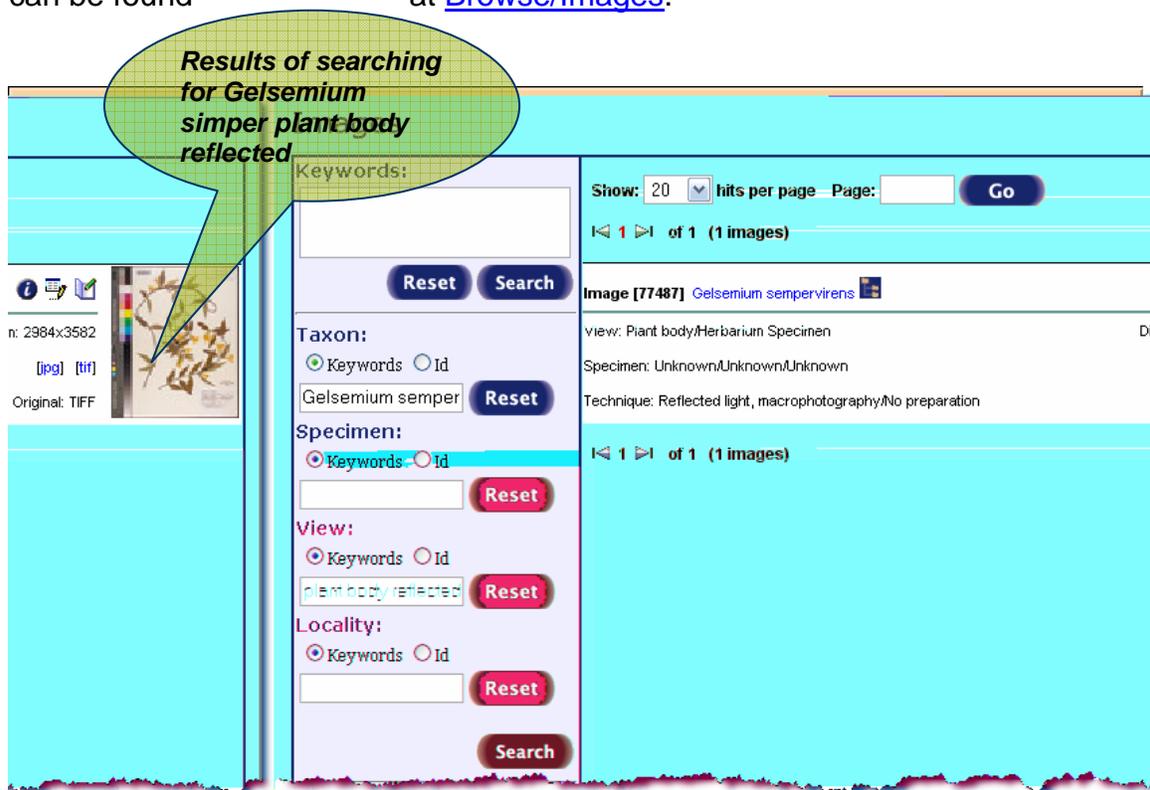


Figure 45 Results of Images-Keywords Search

Search by Ids

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

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 will be filled in.

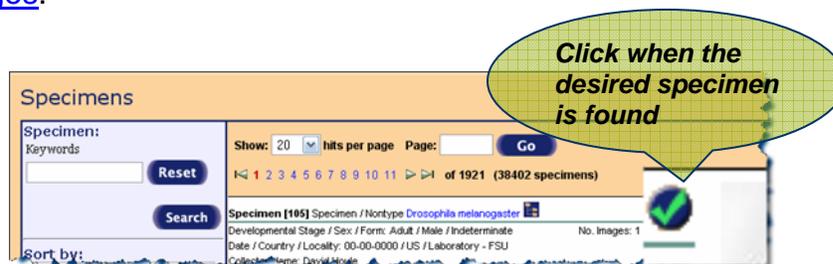
click when the desired taxon is found

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

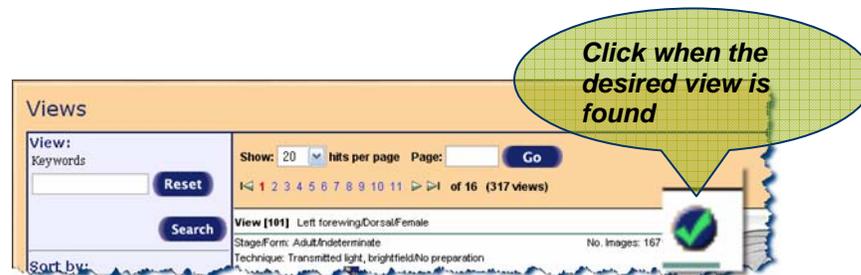
If a new taxon name needs to be added select the **add new taxon** button that is visible from the family level. The **add TSN** screen will popup. (This option is only available for authorized users.) For complete instructions on this process see the [ITIS, Add New Taxon](#) section of this manual.

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/>.

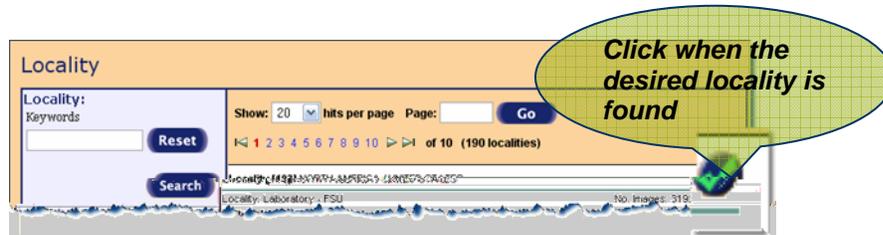
Specimen id- To insure accuracy, specimen identifiers need to be selected ✓ from the specimen screen. Traverse through the list. Sort the list if needed (see [browse-specimen, sort](#) for instructions unique to this process). When the desired specimen is found, click on the  icon and the screen will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

Login

About Browse Search Tools Help

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.

MorphBank application About Browse Search Tools Help

NewUser information

First Name*

Middle Initial

Last Name*

Suffix

Requested User Name*

Requested Password*

E-Mail*

Phone number*

Institute of affiliation*

Street1

Street2

City

State

Country

Zip Code

Privilege Taxon* ✓

Primary Taxon* ✓

Secondary Taxon ✓

Your Resume/CV* Browse...

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

* - Required

Submit Cancel

Contact Us Copyright 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 , it will automatically direct the user back to the add specimen screen and the appropriate name will be filled in. (Figure 48)

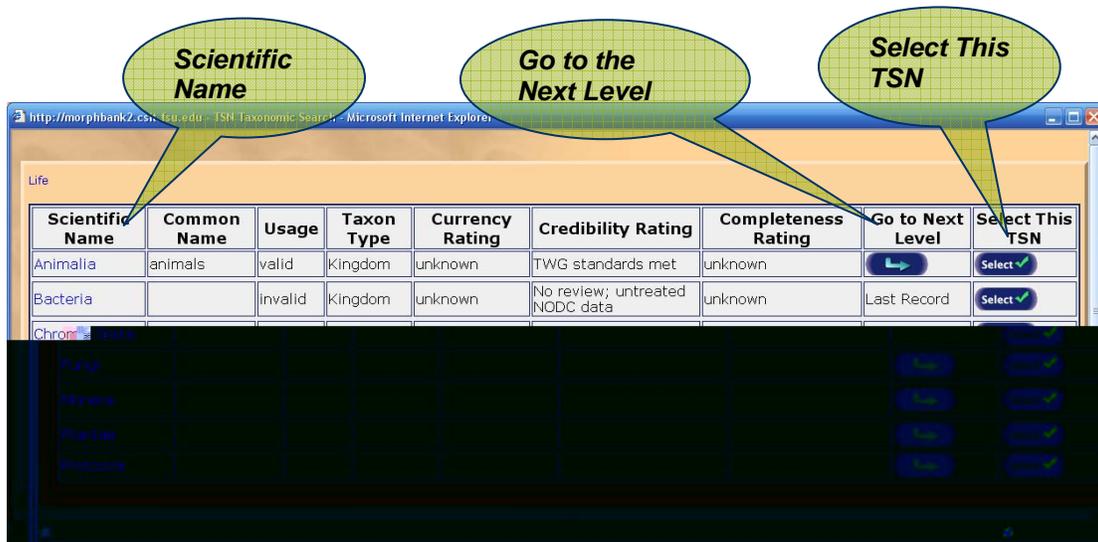


Figure 48 Taxonomic Name Selection Screen

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.

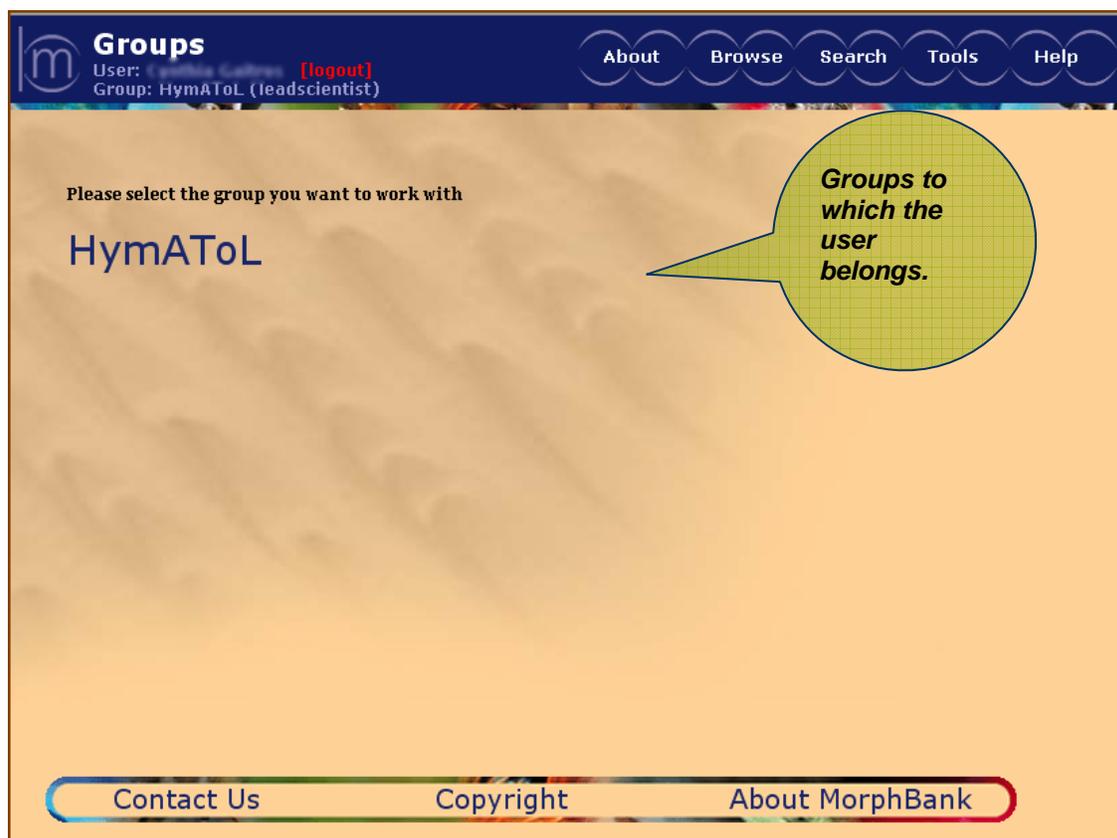


Figure 49 Groups

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.

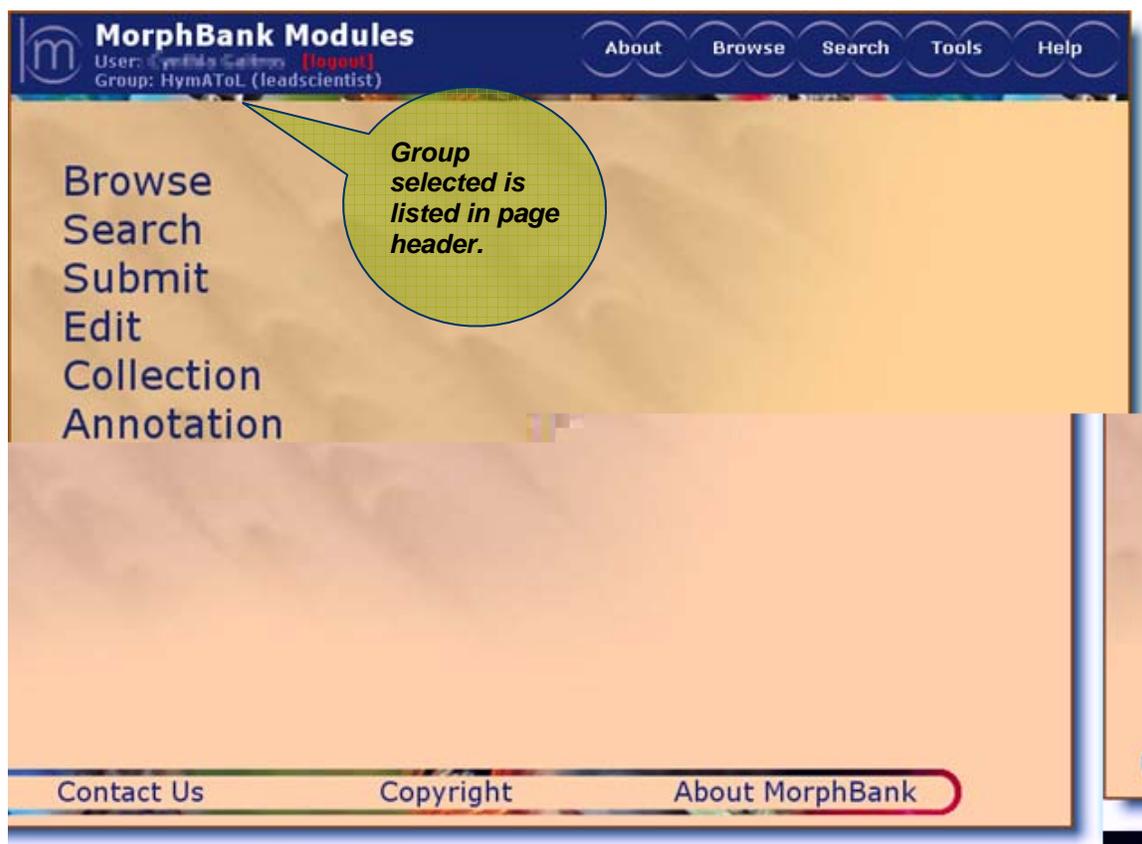


Figure 50 MorphBank Modules

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**.

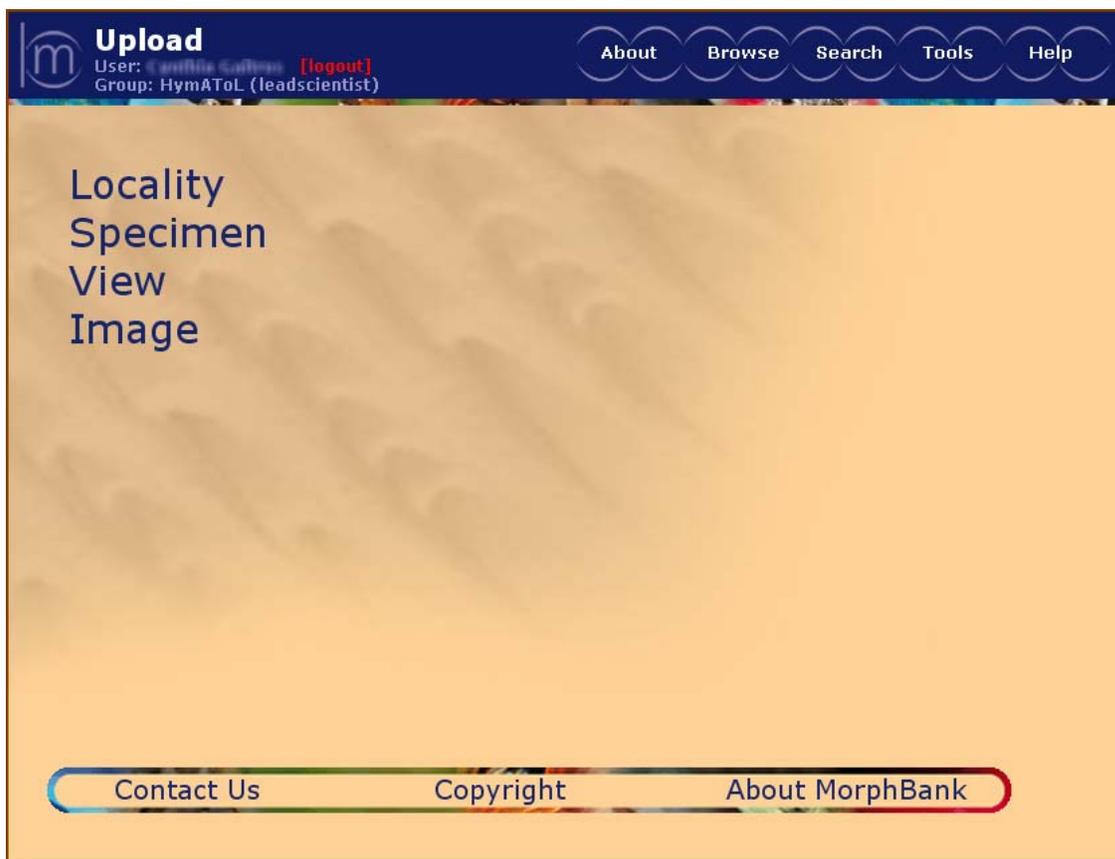


Figure 51 Upload (Submit)

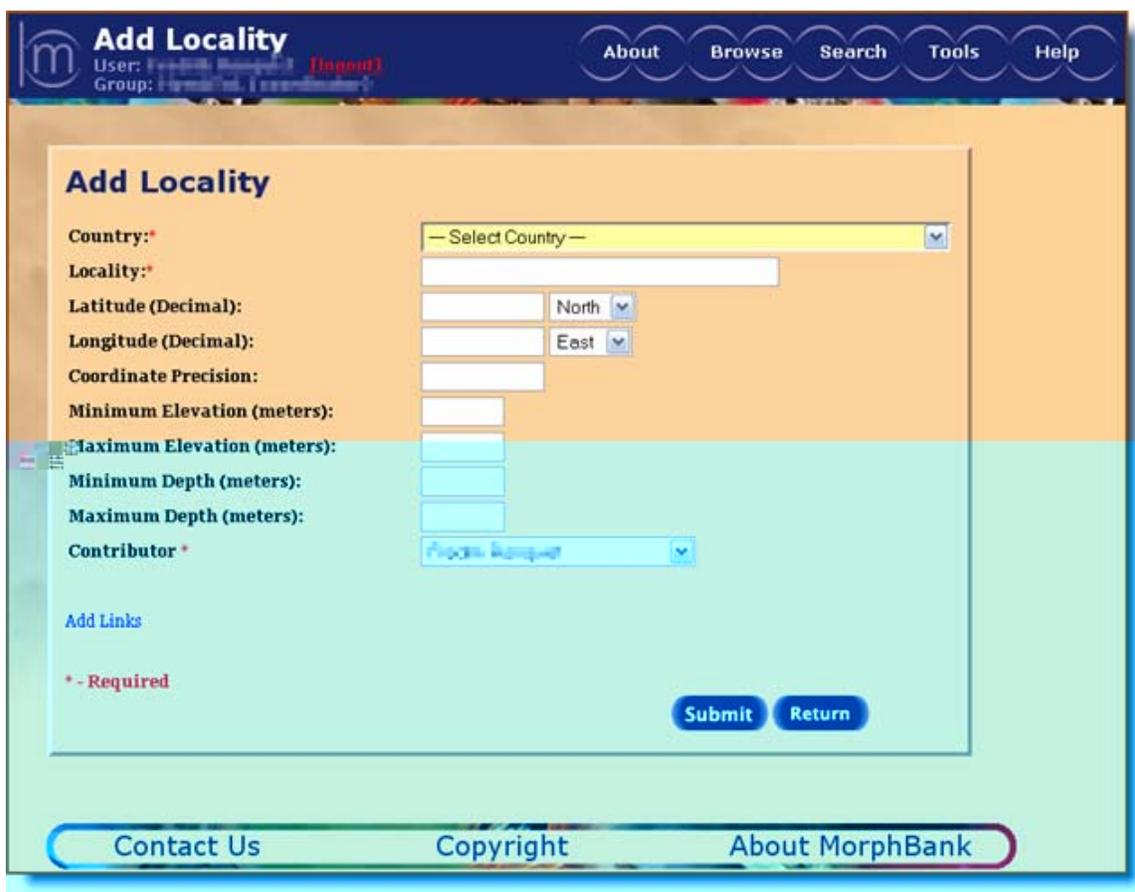
Note: The person logged in will be the name of the person that displays in the “Submitted By” section of records, i.e. Figure 28 and Figure 33

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.



The screenshot shows the 'Add Locality' form in the MorphBank interface. The form is titled 'Add Locality' and includes the following fields and options:

- Country:** A dropdown menu with the text '-- Select Country --'.
- Locality:** A text input field.
- Latitude (Decimal):** A text input field with a 'North' dropdown menu.
- Longitude (Decimal):** A text input field with an 'East' dropdown menu.
- Coordinate Precision:** A text input field.
- Minimum Elevation (meters):** A text input field.
- Maximum Elevation (meters):** A text input field.
- Minimum Depth (meters):** A text input field.
- Maximum Depth (meters):** A text input field.
- Contributor:** A dropdown menu with the text 'Florida, USA'.

At the bottom of the form area, there are two buttons: 'Submit' and 'Return'. Below the form area, there is a footer with links for 'Contact Us', 'Copyright', and '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.



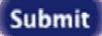
 **Maximum Depth**

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.

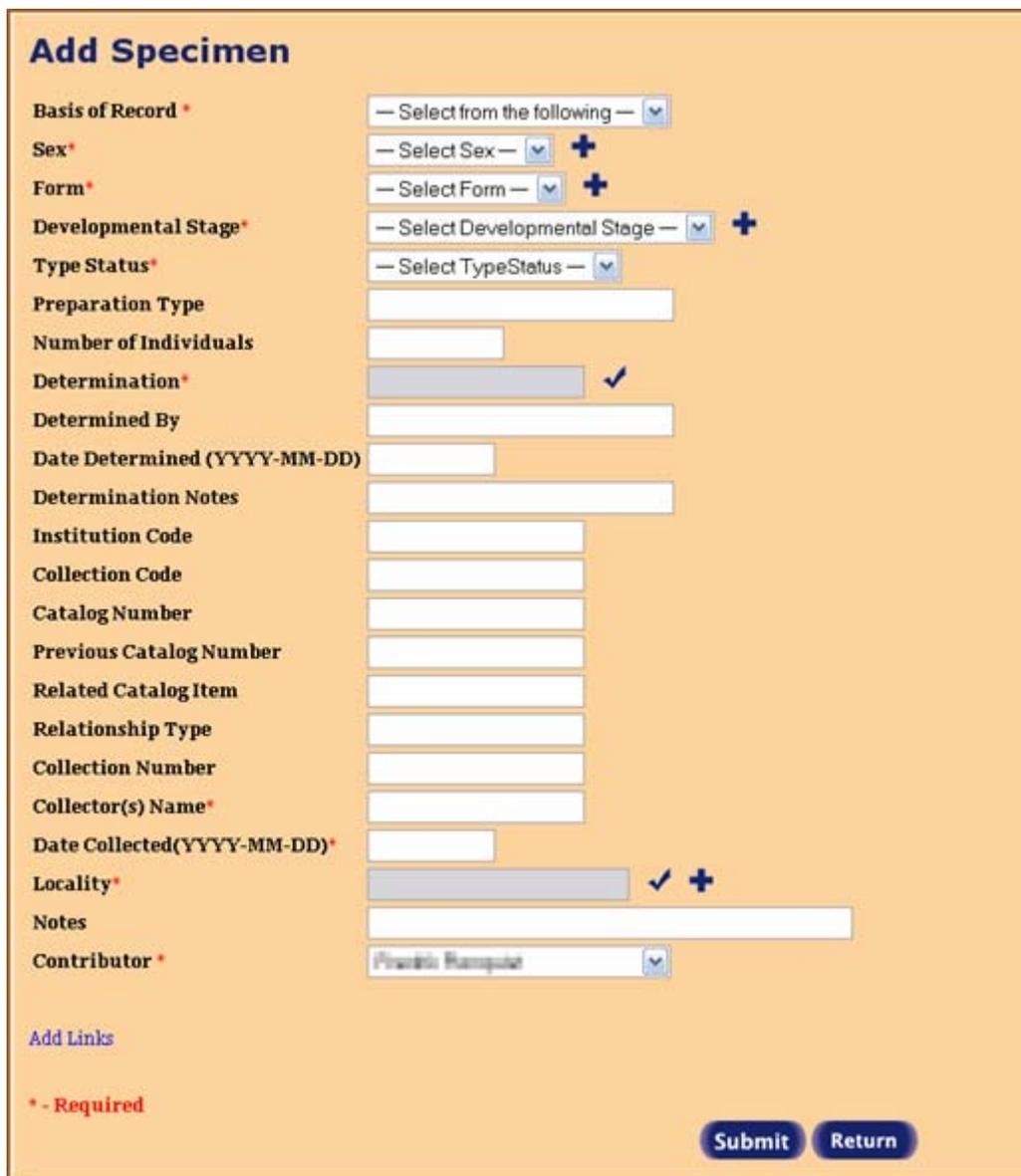
MorphBank provides an option to add **external links** to this record. For complete instructions on providing links refer to [External Linking](#) in the **Information Linking** section of this manual

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 *

Sex * +

Form * +

Developmental Stage * +

Type Status *

Preparation Type

Number of Individuals

Determination * ✓

Determined By

Date Determined (YYYY-MM-DD)

Determination Notes

Institution Code

Collection Code

Catalog Number

Previous Catalog Number

Related Catalog Item

Relationship Type

Collection Number

Collector(s) Name *

Date Collected(YYYY-MM-DD) *

Locality * ✓ +

Notes

Contributor *

[Add Links](#)

* - Required

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.



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



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		Select
Bacteria		invalid	Kingdom	unknown	No review; untreated NODC data	unknown	Last Record	Select
Chromista								
Fungi								
Mollusca								
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
 Reset

Show: 20 hits per page **Page:** **Go**

1 2 3 4 5 6 7 8 9 10 11 of 18 (349 localities)

Locality [103] NORTH AMERICA / UNITED STATES **i** **✓**
 Locality: Laboratory - FSU No. Images: 31924
 Latitude/Longitude: /
 Elevation (m):

Locality [63996] ASIA / TURKEY **i** **✓**
 Locality: Sac Gecidi (2000 m) Agri No. Images: 1
 Latitude/Longitude: /
 Elevation (m): 2000

Locality [63997] ASIA / TAJIKISTAN **i** **✓**
 Locality: Safedou (2500 m) No. Images
 Latitude/Longitude: /
 Elevation (m): 2500

Locality [63998] AFRICA / MOROCCO **i** **✓**
 Locality: 10 km N Tizi-n-Test (1700m) Marrakech No. Images
 Latitude/Longitude: /
 Elevation (m): 1700

Locality [63999] ASIA / IRAN, ISLAMIC REPUBLIC OF **i** **✓**
 Locality: 25 km N Torbat-e-Heydariyeh (1700-1800 m) Khorasan No. Images
 Latitude/Longitude: /
 Elevation (m): 1700 - 1800

Locality [64000] ASIA / IRAN, ISLAMIC REPUBLIC OF **i** **✓**
 Locality: 25 km W Fulad Mahalleh (2300 m) Semnan No. Images
 Latitude/Longitude: /
 Elevation (m): 2300

Locality [64001] ASIA / IRAN, ISLAMIC REPUBLIC OF **i** **✓**
 Locality: 30 km W Dorud (2100m) Lorestan No. Images
 Latitude/Longitude: /
 Elevation (m): 2100

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 **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 **i** 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.

m 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.

m 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

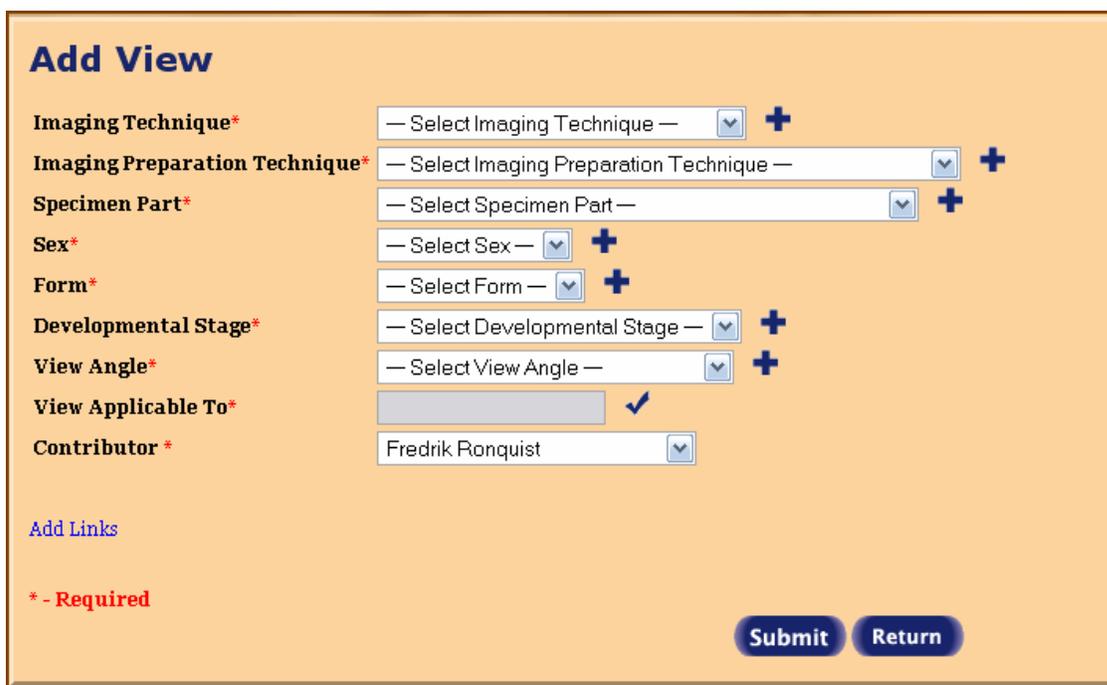
When the **Add Specimen** form has been completed, submit **Submit** to complete the add specimen process. A message will confirm that **you have successfully added a specimen**. From this point the user can continue to add additional specimens or return to the **Upload (Submit)** screen.

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* +

Imaging Preparation Technique* +

Specimen Part* +

Sex* +

Form* +

Developmental Stage* +

View Angle* +

View Applicable To* ✓

Contributor*

[Add Links](#)

* - Required

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.



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.



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.

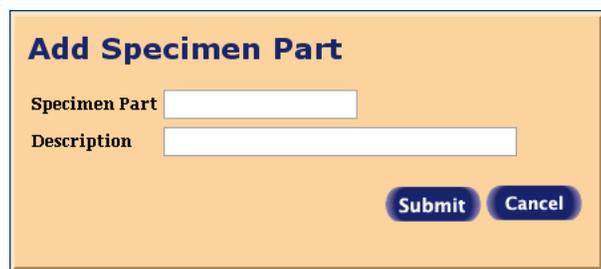


Figure 62 Add Specimen Part
Accessed Through +

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.

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.



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.

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.

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 , it will automatically direct the user back to the add view screen and the appropriate name will be filled in.

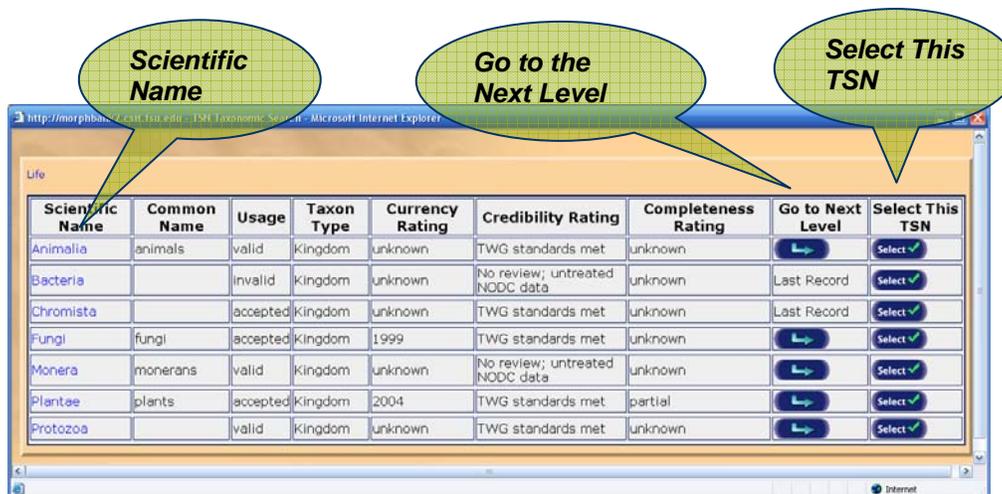


Figure 67 Taxonomic Selection

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.

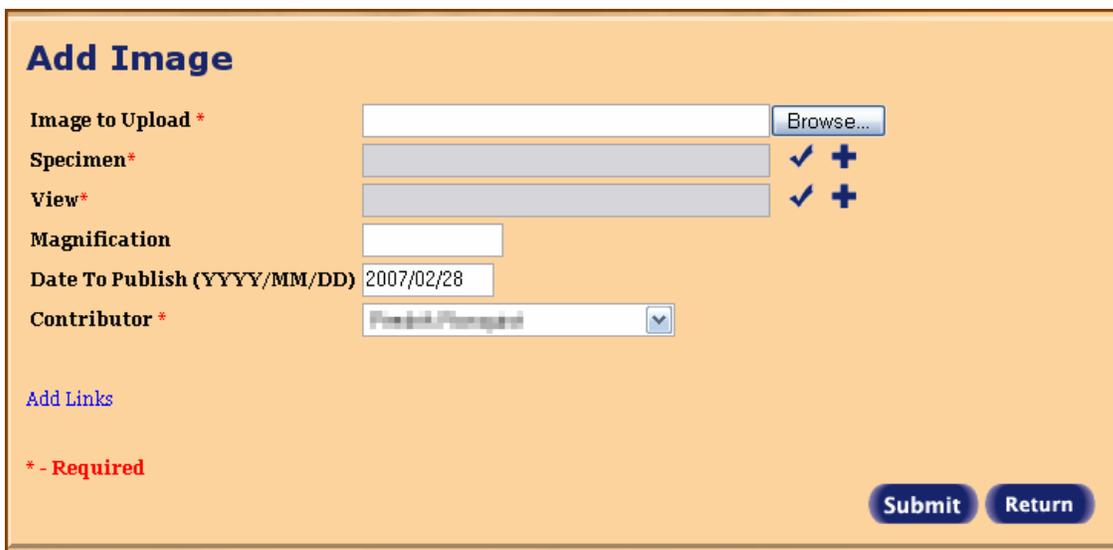
Note: When the “Add View” screen is activated from the “Add Image” upload screen (Figure 68) no message will be seen. Instead, the new view will appear in the appropriate field on the “Add Image” upload form.

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 * Browse...

Specimen* ✓ +

View* ✓ +

Magnification

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

Contributor *

[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.

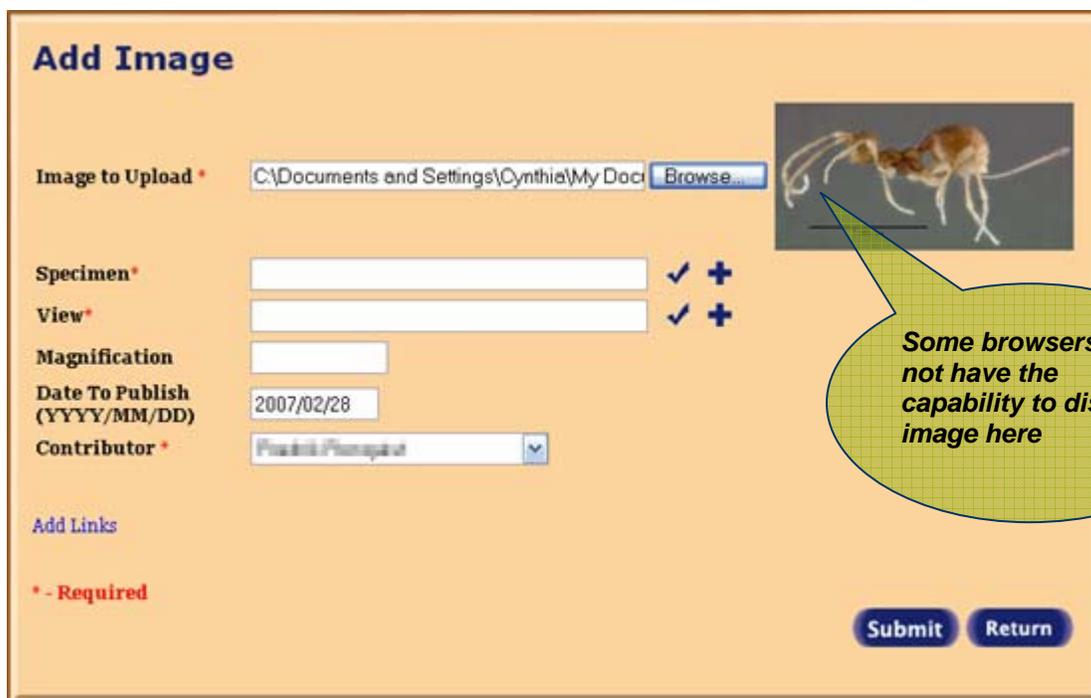


Figure 69 Add Image-After Image Selection

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 add an image.

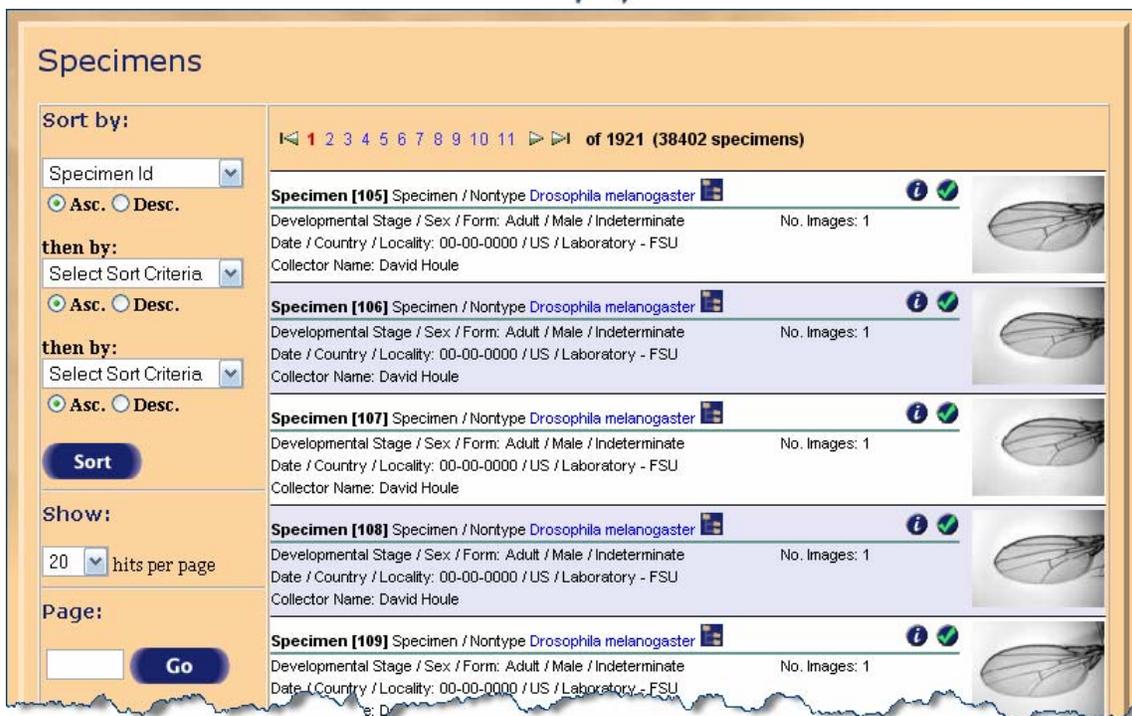


Figure 70 Specimens- Partial Page

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.

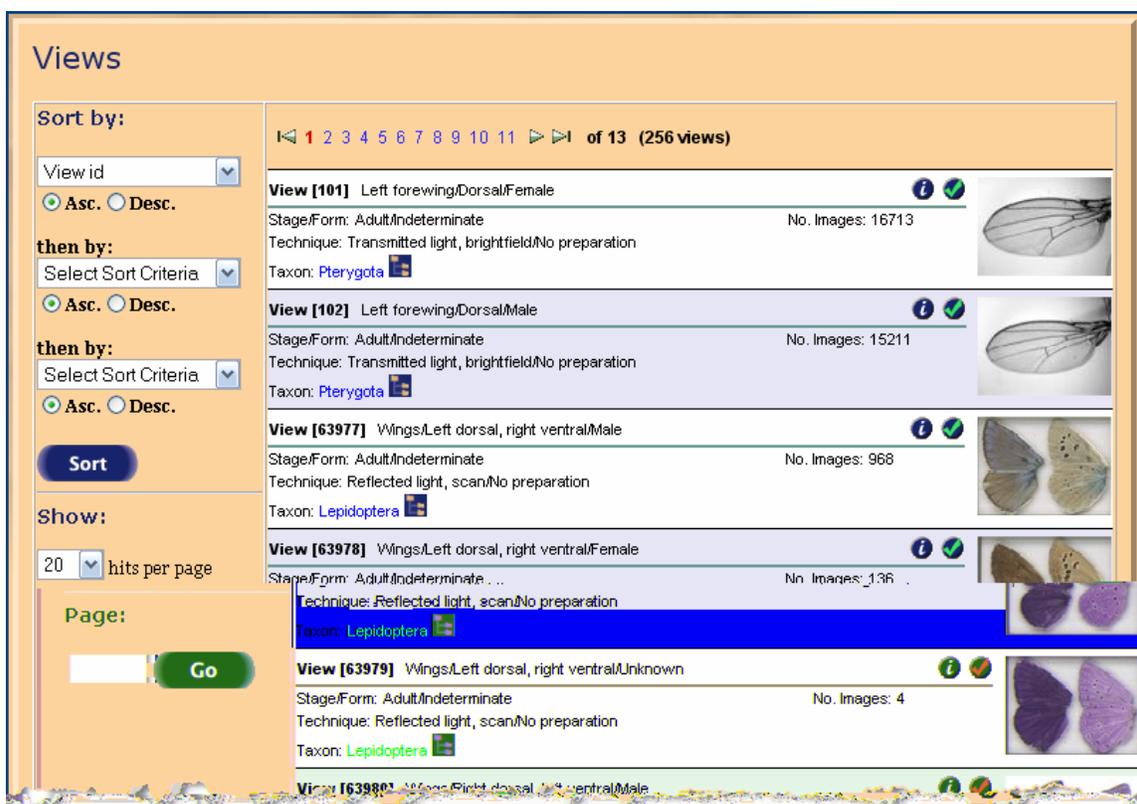


Figure 71 Views-Partial Page

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.



m 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.

m 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 **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.

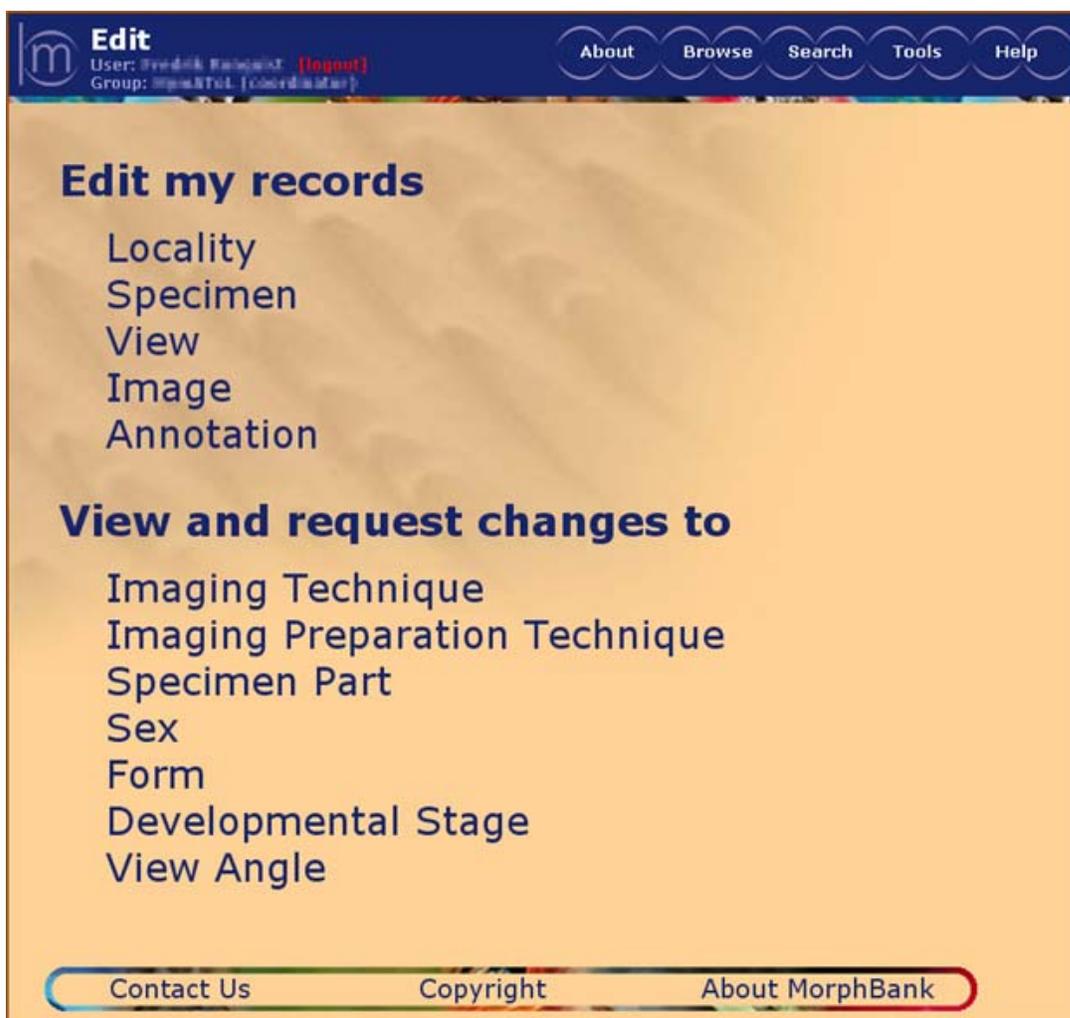
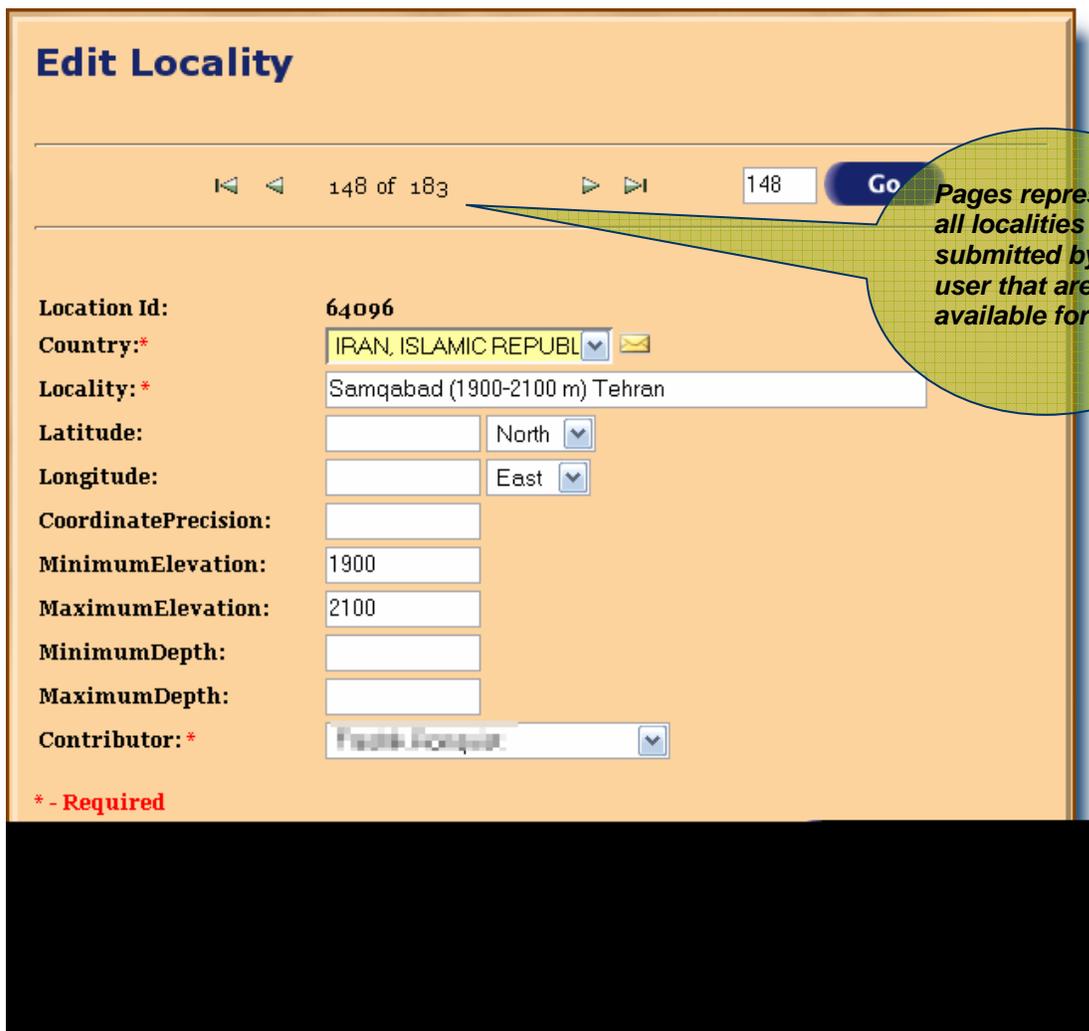


Figure 72 Edit

Edit: Locality

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



Edit Locality

148 of 183 148 Go

Location Id: 64096

Country*: IRAN, ISLAMIC REPUBL

Locality*: Samqabad (1900-2100 m) Tehran

Latitude: North

Longitude: East

CoordinatePrecision:

MinimumElevation: 1900

MaximumElevation: 2100

MinimumDepth:

MaximumDepth:

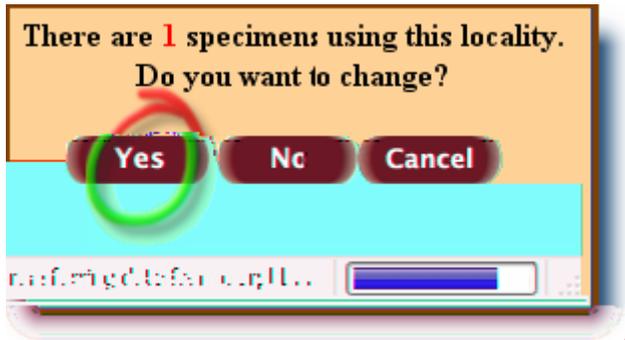
Contributor*: Ferdin. Kocqar

* - Required

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

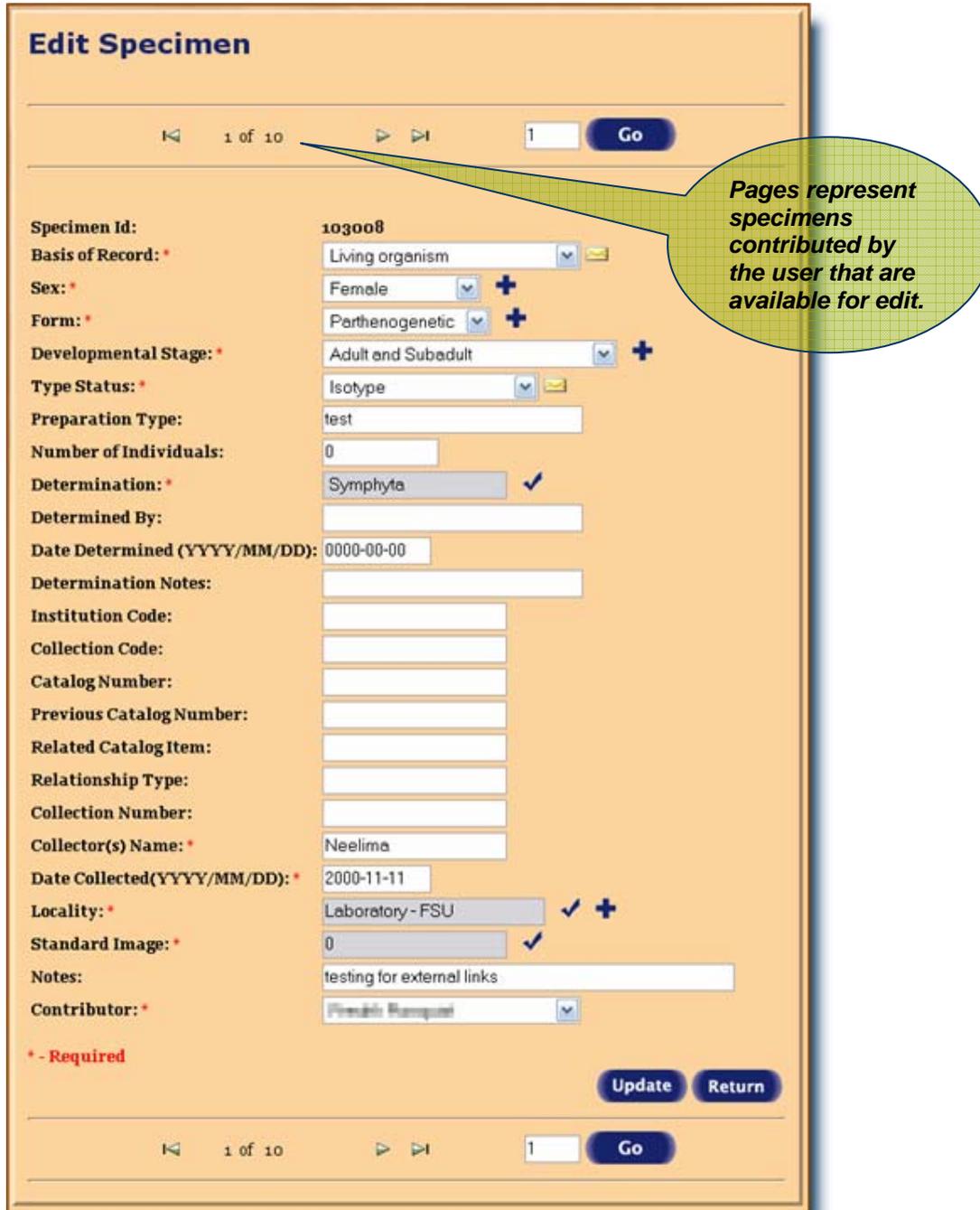


confirmation message will confirm that the update(s) has been made. Selecting **no** will send the user back to the **edit** Screen. Selecting **cancel** will send the user back to the **edit Locality** screen without making any changes.

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 1 Go

Specimen Id: 103008

Basis of Record: * Living organism

Sex: * Female +

Form: * Parthenogenetic +

Developmental Stage: * Adult and Subadult +

Type Status: * Isotype

Preparation Type: test

Number of Individuals: 0

Determination: * Symphyta ✓

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 ✓ +

Standard Image: * 0 ✓

Notes: testing for external links

Contributor: * Florida Museum

* - Required

Update Return

1 of 10 1 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.

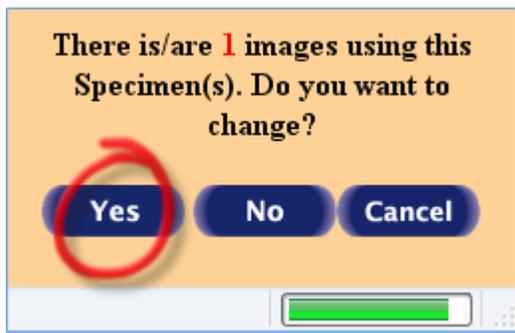
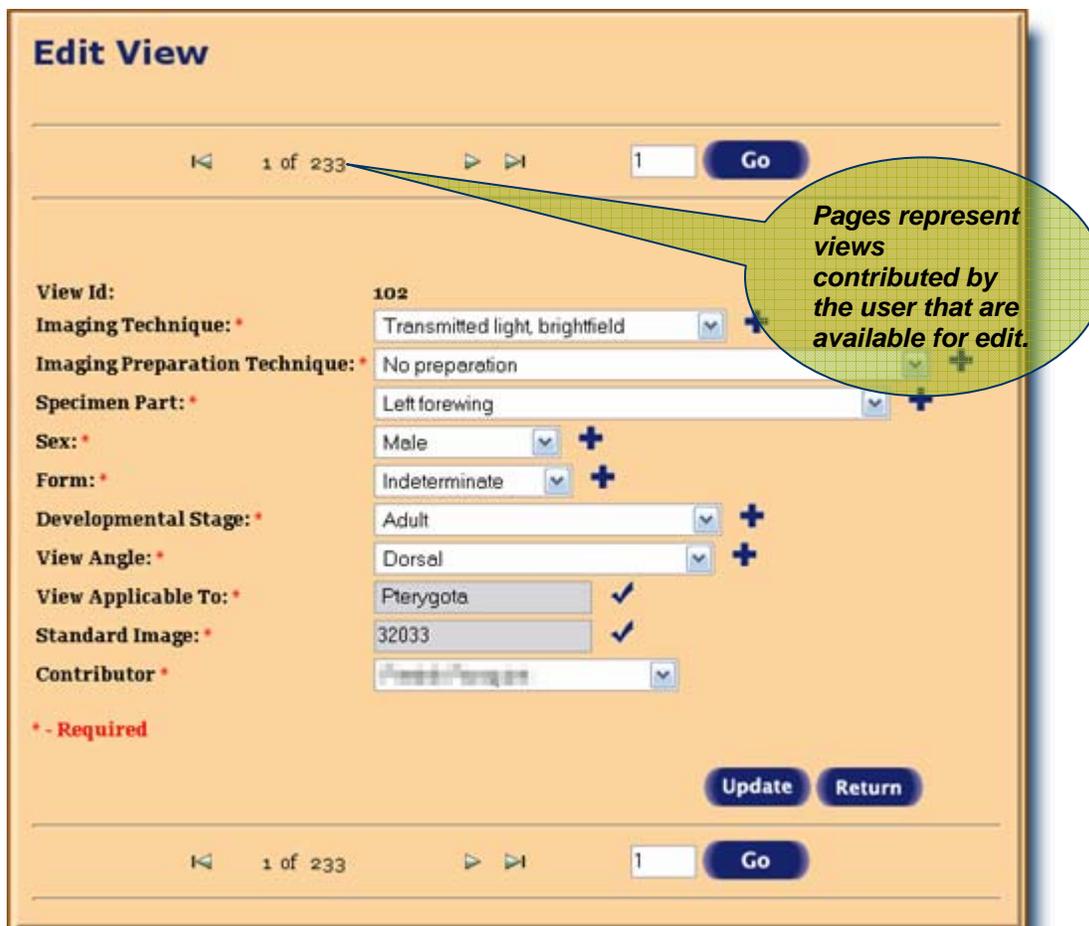


Figure 76 Edit Specimen Confirmation

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 1 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: Pteridoptera

* - Required

Update Return

1 of 233 1 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



1 of 161 1 Go

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

Update

View

id	: 77551
Imaging Technique	: SEM
Preparation Technique	: Cleared in KOH, platinum-coated
Specimen Part	: Prospodeum
View Angle	: Posterior
Sex	: Male
Form	: Indeterminate
Developmental Stage	: Adult

Update

Specimen		Locality	
Specimen Id	: 77558	Locality Id	: 77510
Basis Of Record	: Specimen	Locality	: ACT, Canberra, Black Mountain
Sex	: Male	Country	: AUSTRALIA
Form	: Indeterminate	Continent/Ocean	: OCEANIA
Developmental Stage	: Adult	Latitude	: -35.27
Type Status	:	Longitude	: 149.1
Preparation Type	: 70% ethanol	Coordinate Precision	:
Determination	: Megalyna fascipennis	Minimum Elevation	:
Determined By	: L.Vilhelmsen	Maximum Elevation	:
Determination Notes	:	Minimum Depth	:
Date Determined	: 00-00-0000	Maximum Depth	:
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		

Update

Update

Return

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

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,** or **Locality** of one selected image all on the same screen.

- 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.

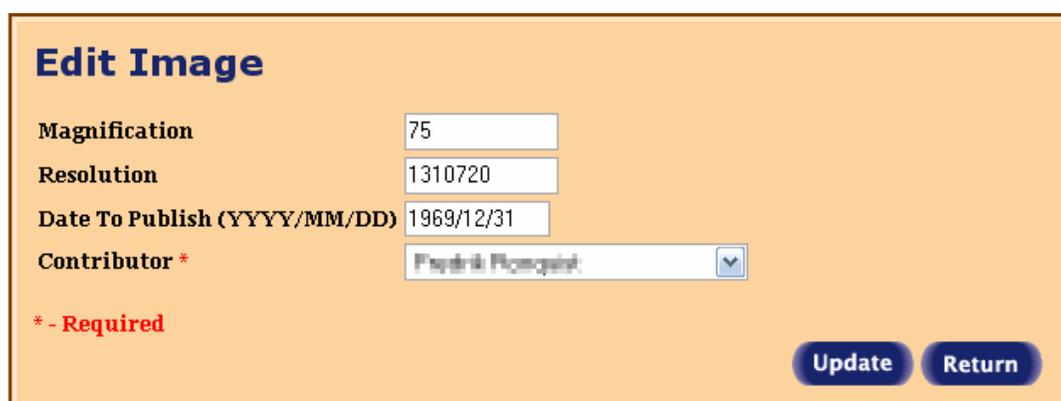


Figure 80 Edit Image

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).



Figure 81 Edit Image Confirmation

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.

- **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.

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).



Figure 83 Edit View (From Edit Image) Confirmation

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.

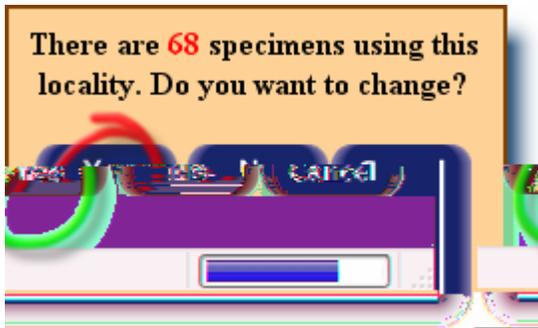
- **Specimen:**

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.

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

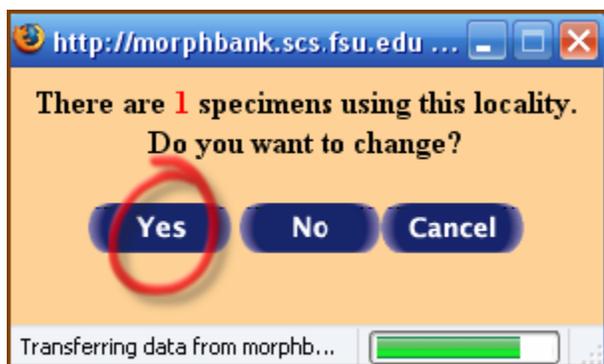
- **Locality:**

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.

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.

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

Annotation Manager								
Id [▲]	Title	Type Annotation	Object Id	Object	Date Created	Publication Date	Add	Delete
100020	Test Determination	Determination	70736	Image	2006-07-28	2006-09-01	add	×
104133	Test of Annotation Location	General	99697	Image	2006-08-15	2006-08-14	add	×
104134	Test 2 of Annotation Tool Arrow Location	General	99697	Image	2006-08-15	2007-02-14	add	×
104135	Arrow Location, Lower Left	General	99697	Image	2006-08-15	2007-02-14	add	×
104136	Test of Arrow, Upper Left	General	99697	Image	2006-08-15	2007-02-14	add	×
104137	Determination	Determination	99697	Image	2006-08-16	2007-02-15	add	×
104138	Determination	Determination	70736	Image	2006-08-17	2007-02-16	add	×
104139	Determination	Determination	99697	Image	2006-08-18	2007-02-17	add	×
104140	Determination	Determination	99697	Image	2006-08-18	2007-02-17	add	×
104141	Annotation without label on Arrow	General	99697	Image	2006-08-23	2007-02-22	add	×

Update

Figure 88 Edit Annotation

This Figure Contains Test Data

Annotation Record of Image [70756-Cynips douglasi]

Type of Annotation Determination

Related Annotations

Taxonomic Name	Taxon Author	Prefix	Suffix	A	D	S
<input checked="" type="radio"/> Cynips douglasi	Temporary TSN Name	none	none	2	1	1

Meta Fields

name above

Determination/Annotation

Determination Action * Agree - choose r

New Taxon Cynips douglasi

Prefix None

Suffix None

Materials used in Id Image

Source of Identification * Direct Collection

Resources used in Identification * Expert opinion of Dr. P.

Common/Annotation Fields

Title * Test Determination

Comments * This is an example of a single determi
screen. No previous determinations wer
as such the Specimen record shows up
Update of Comments

Image Label: Throat

X-Coord 51

Y-Coord 28

Date To Publish (YYYY/MM/DD) * 2006/09/01

*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

Update
Return

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:

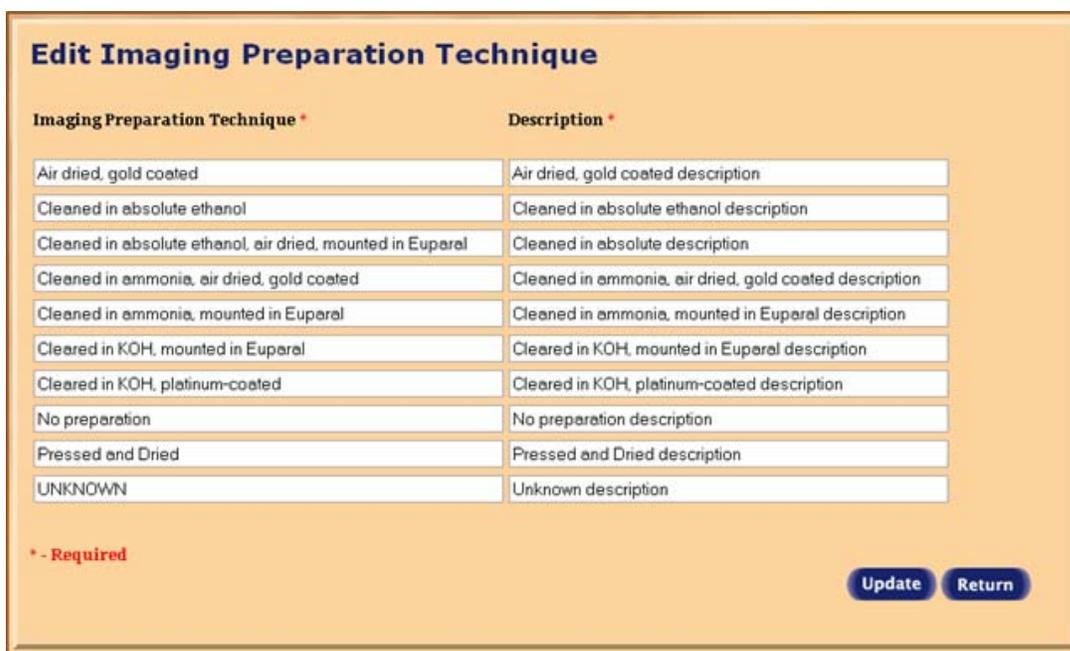
Send **Cancel**

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](#)).



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

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 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)

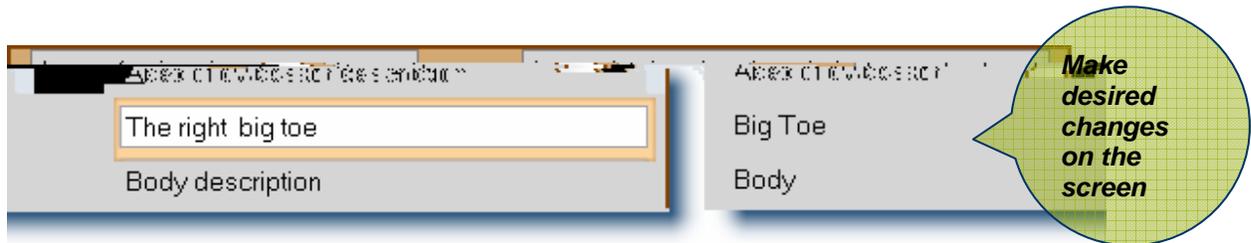


Figure 93 Edit and Request Changes to Specimen Part

This Figure Contains Test Data

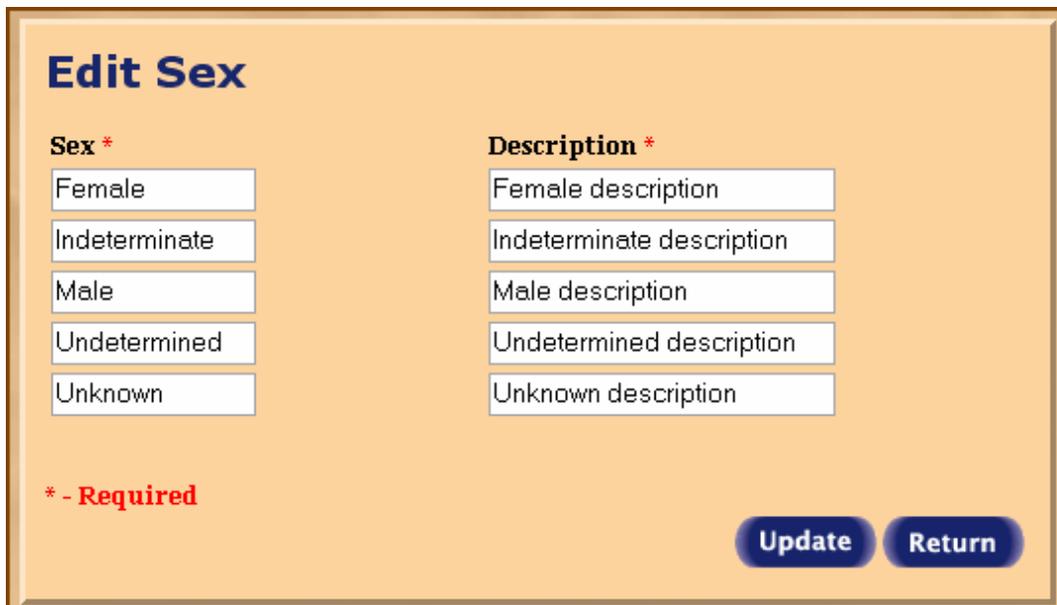


Most users are not authorized to directly make changes to the records in the MorphBank tables. Therefore, users are asked to send a change request to the MorphBank team. To request a change to any of the descriptions, highlight that description, make the appropriate changes, and select the  button.



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).



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

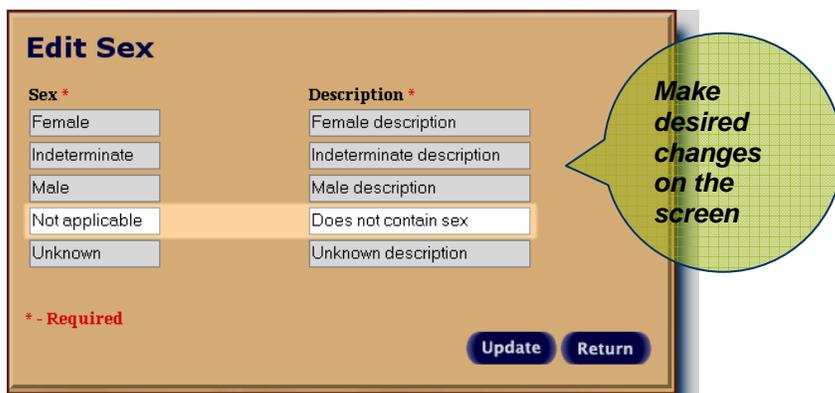
* - Required

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  button.

A screenshot of a web form titled "Edit Sex". The form has two columns: "Sex *" and "Description *". The "Sex *" column has five dropdown menus: "Female", "Indeterminate", "Male", "Not applicable", and "Unknown". The "Description *" column has five corresponding text input fields: "Female description", "Indeterminate description", "Male description", "Does not contain sex", and "Unknown description". The "Not applicable" dropdown and its corresponding description field are highlighted in orange. A green speech bubble with a grid pattern points to the "Does not contain sex" field, containing the text "Make desired changes on the screen". At the bottom left, there is a red asterisk and the text "* - Required". At the bottom right, there are two buttons: "Update" and "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).

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  button.

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).



The screenshot shows a web form titled "Edit Developmental Stage". It has two columns: "Developmental Stage*" and "Description*". The "Developmental Stage*" column contains four text input fields with the values "Adult", "Final instar larva", "Larva", and "Unknown". The "Description*" column contains four text input fields with the values "Adult description", "Final instar larva description", "Larva description", and an empty field. Below the input fields, there is a red asterisk followed by the text "* - Required". At the bottom right of the form, there are two blue buttons: "Update" and "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  button.

Larva	Larva description
Unknown	Developmental stage not known

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 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).

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

Update Return

Figure 97 Edit and Request Changes to View Angle

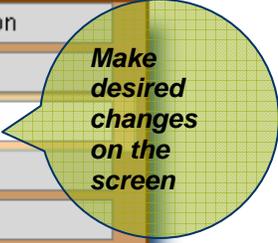
This Figure Contains Test Data

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  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



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  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	one head test	2006-11-30	2006-05-31	2006-06-19	[2]	✗
[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	2006-06-20	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.

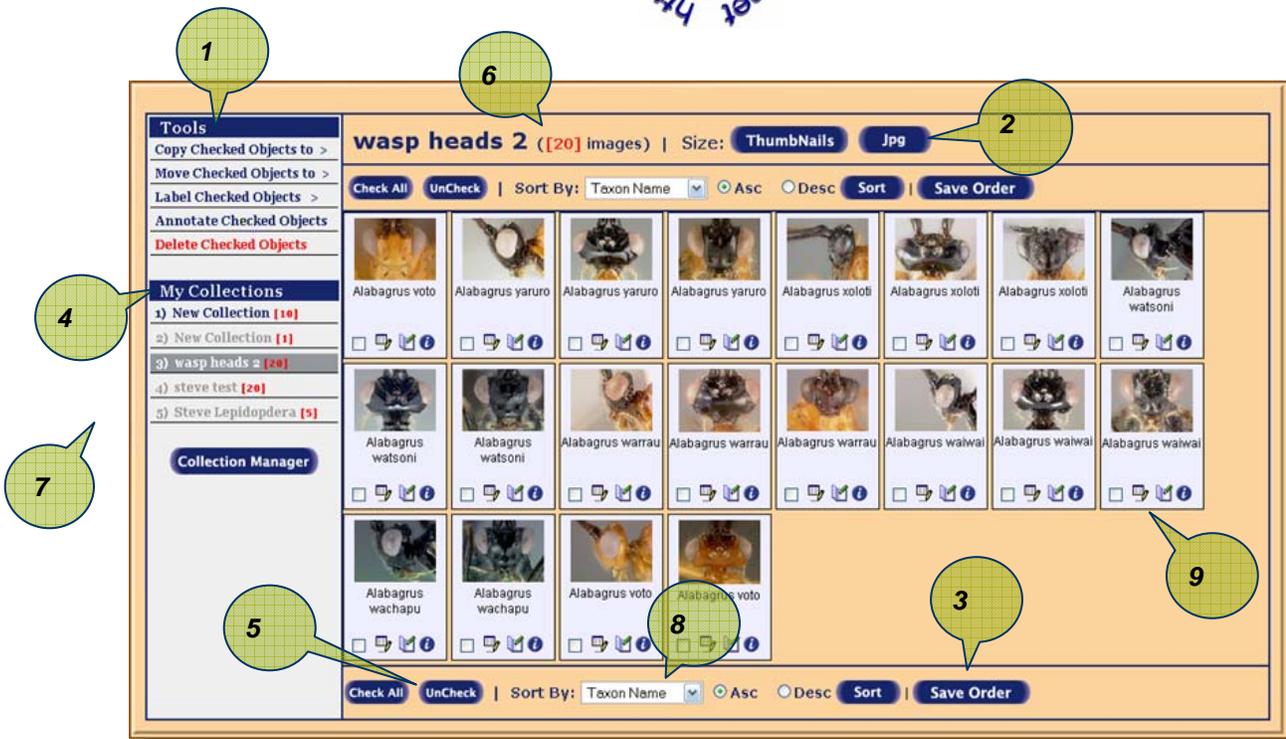


Figure 100 SampleCollection
This Figure Contains Test Data

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.

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 matter 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.

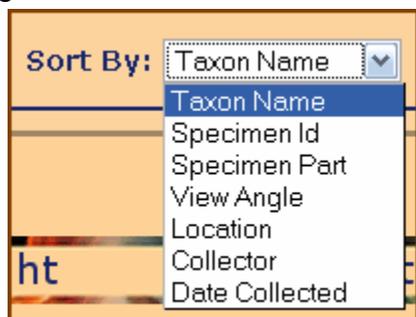
Tag 6 -Number of images:

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.

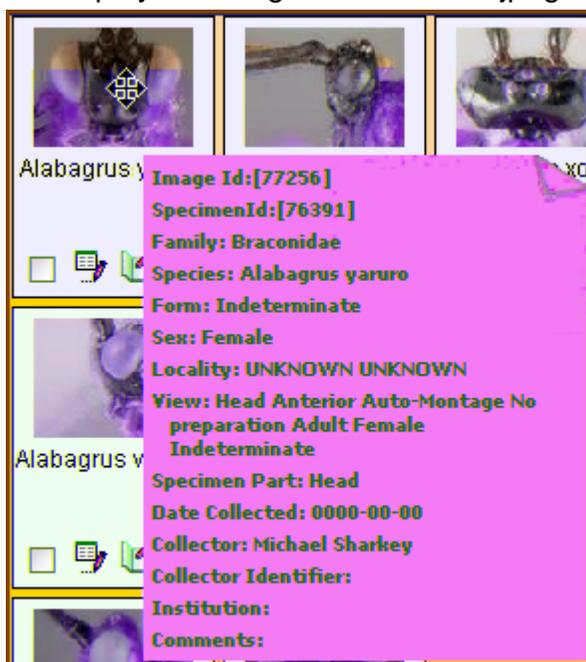
Tag 8 -Sort:



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.

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.

Annotations 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

Figure 104 Annotation Manager

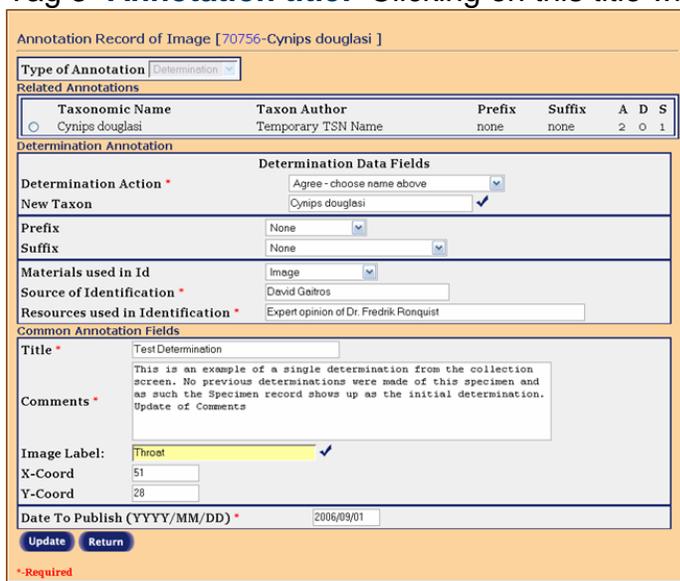
This Figure Contains Test Data

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**



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  to register all the date changes in MorphBank.

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

Taxonomic Name	Taxon Author	Prefix	Suffix	A	D	S
<input type="radio"/> Cynips douglasi	Temporary TSN Name	none	none	2	0	1

Determination Annotation

Determination Data Fields

Determination Action *

New Taxon

Prefix

Suffix

Annotation screen (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  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  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.)



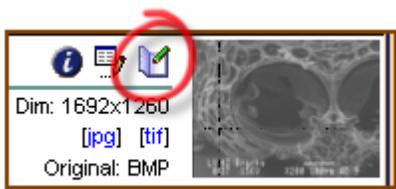
- **Legacy:** General and legacy annotations differ only in the source of the annotation. Data in a legacy annotation was previously generated and stored elsewhere prior to the inclusion in MorphBank. As in a general annotation, a legacy annotation is used to add general comments about an image or collection 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.

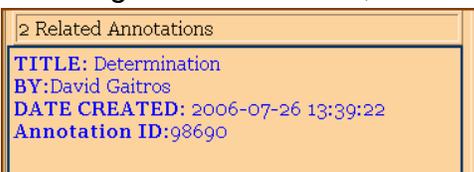
Adding new single annotations:

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: Koral Kalloni (Logout)
 Group: Morphbank Administrators (Administrator)

About Browse Search Tools Help

Image Record [70758-Cynips douglasi]

Type of Annotation * Determination

Related Annotations

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

Determination Annotation

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

Y-Coord

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.) Uses 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 latu (in the broad sense)*
- *Senso Stricto (in the narrow 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 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.



Mass Annotation
 User: [username] (logout)
 Group: [group]

About Browse Search Tools Help

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

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

3

Taxonomic Name	Taxon Author	Prefix	Suffix	A	D	S
<input type="radio"/> Cynips	Temporary TSN Name	aff	sensu stricto	1	0	1
<input type="radio"/> Cynips	Temporary TSN Name	aff	none	1	0	1
<input type="radio"/> Cynips douglasi	Temporary TSN Name	none	none	4	0	4

Determination Annotation

Determination Data Fields

Determination Action *
 Give different name - choose name below

None

None

Materials used in Identification *
 Image

Date of Identification *
 David Gaitros

Resources used in Identification *

Determination Annotation Fields

Determination

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

Date to Publish (YYYY/MM/DD) *
 2007/02/07

Return 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.

m

[About](#) [Browse](#) [Search](#) [Tools](#) [Help](#)

Edit Annotation
 User: theash:ash@uak [Logout](#)
 Group: classical Biol. & Freshw. invertebrates

Annotation Record of Image [70756-Cynips douglasi]

Type of Annotation Determination

Related Annotations

Taxonomic Name	Taxon Author	Prefix	Suffix	A	D	S
<input type="radio"/> Cynips	Temporary TSN Name	aff	sensu stricto	1	0	1
<input type="radio"/> Cynips	Temporary TSN Name	aff	none	1	0	1
<input type="radio"/> Cynips douglasi	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 * Create Specimen

Resources used in Identification * Expert Opinion

Common Annotation Fields

Title * Determination

Comments *

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

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.



Id*	Title	Type Annotation	Object Id	Object	D
100020	Test Determination	Determination	70756	Image	26

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: Female

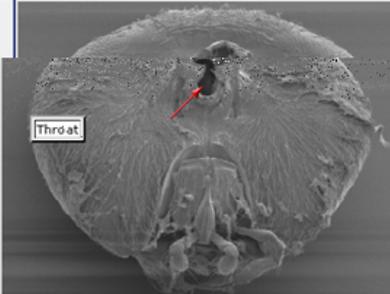
Collector: Johan Liljeblad & Fredrik Ronquist

Species Name: Cynips douglasi

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]

Select to access Related Annotations page

Related Annotations:

Determination Data

Specimen Id: [68530]

Taxonomic Serial Number: [999000435] Cynips douglasi

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.

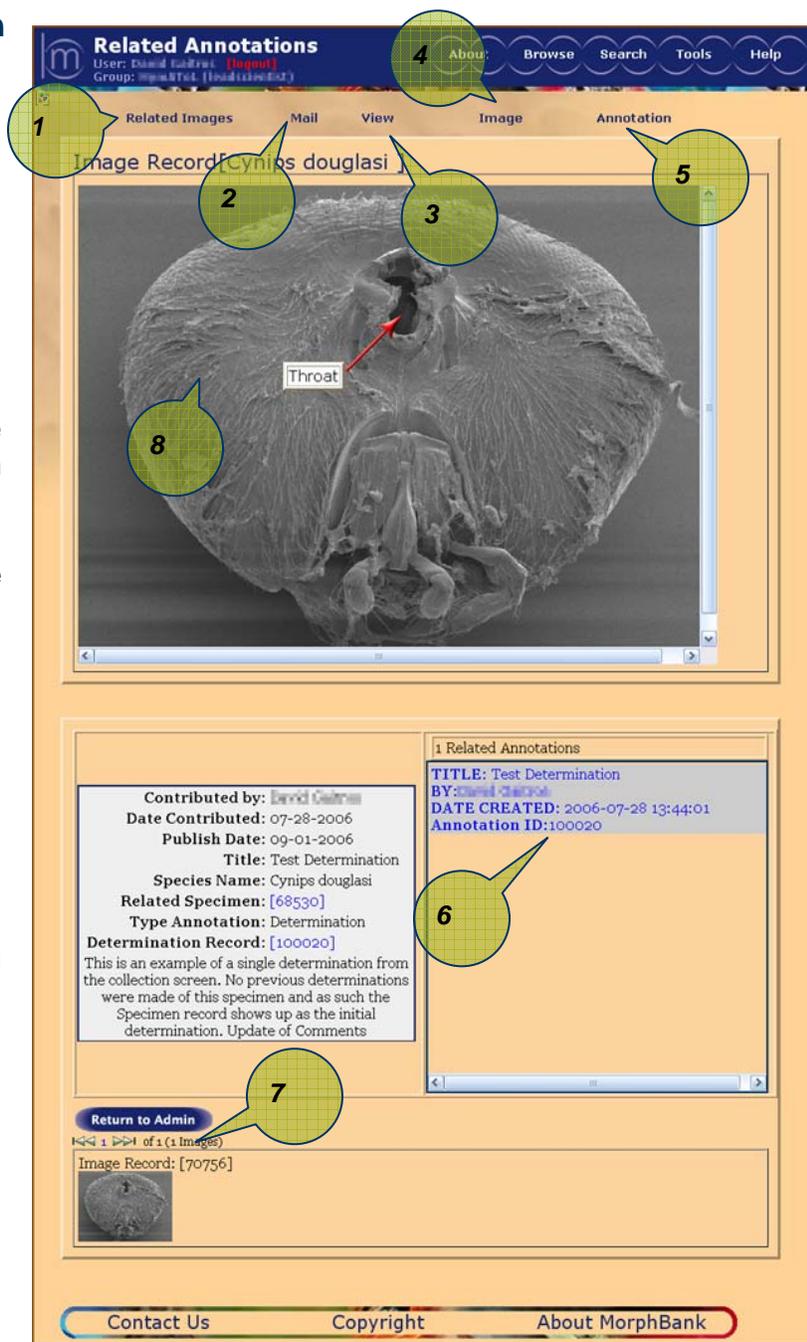


Figure 110 Related Annotations

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.