

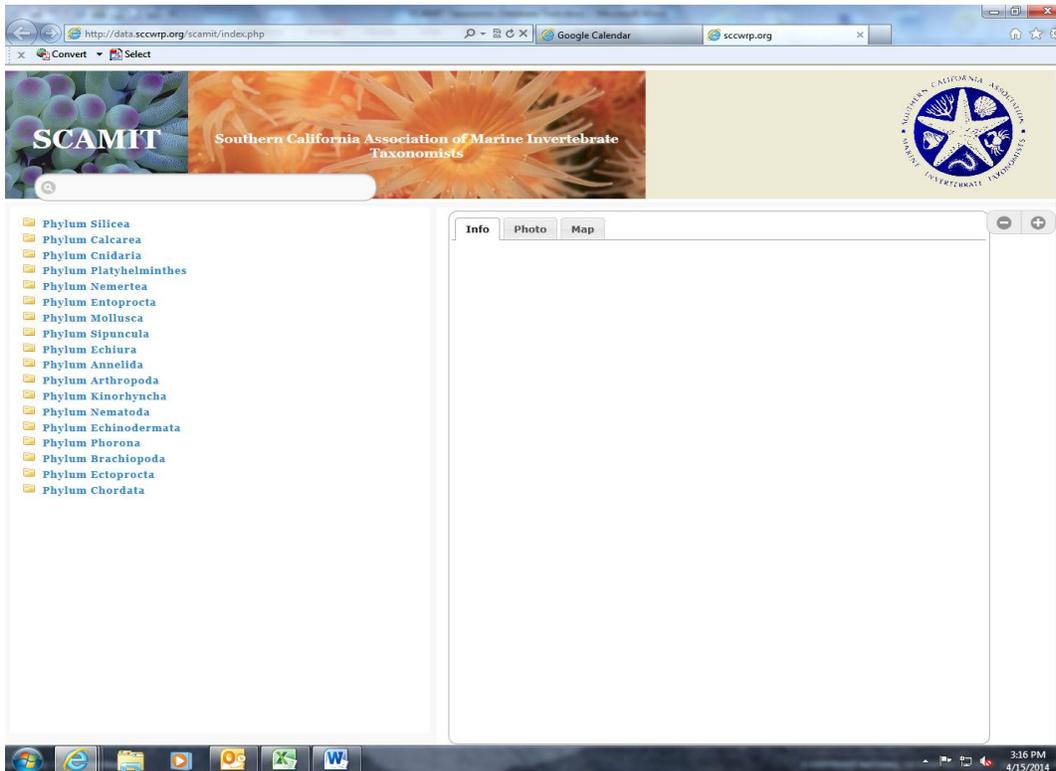
The Taxonomic Database Tool (TDT) has been a work in progress since 2004 when member Dave Montagne held a series of meetings to discuss the concept of a web-based information system. The original idea was to use the SCAMIT Species List as the back bone to link other sources of information useful to taxonomists and ecologists. Once the original concept was established, developing it took several years. SCAMIT members did not have the IT skills or knowledge required and it was realized early on that funds were necessary to bring in that expertise. The Orange County Sanitation Districts generously donated money to support development of the TDT. Programmers were hired to develop the architecture to hold the desired content. When the original programmers had to withdraw from the project, SCCWRP, recognizing the value and need of such a tool, stepped in providing IT support. The product you see today is a result of the work of many individuals over several years.

This document is provided as a basic guide to accessing and navigating the SCAMIT Taxonomic Database Tool. As users gain more experience, they will likely discover other useful shortcuts or ways of using the TDT not covered herein. The TDT is still a work in progress, but can be especially useful in accessing species occurrence information, especially for past Bight surveys. There are improvements being planned. The website taxonomic tool box, which is linked to from within the TDT, had a major increase in content recently and files need to be cleaned up and organized. Access to images at Morphbank is limited to the species posted there by SCAMIT members. SCAMIT will be funding an effort to gather the many taxonomic support images residing on member computers and link them to the TDT. Establishing a place in the Taxonomic Tools section of the website for the TDT, making improvements in those two areas and adding links to assessment docs (BRI, P-Code, SQO). Those are all immediate goals that SCAMIT will fund.

There are other more long-term goals that require additional funding support. The TDT is based on the SCAMIT Edition 7 Species List. SCAMIT and SCCWRP are together seeking funds to update the TDT to the current edition of the species list and/or build a name update tool that will last into the future. Additional occurrence data form other POTW's should be added and linkage to the CEDEN program considered for future occurrence updates. Establishing links to ecological data (sediment chemistry, grain size, bioaccumulation, toxicity), original descriptions, literature sources, museum holdings, etc. will be addressed and achieved over time as demand by users and funding dictate.

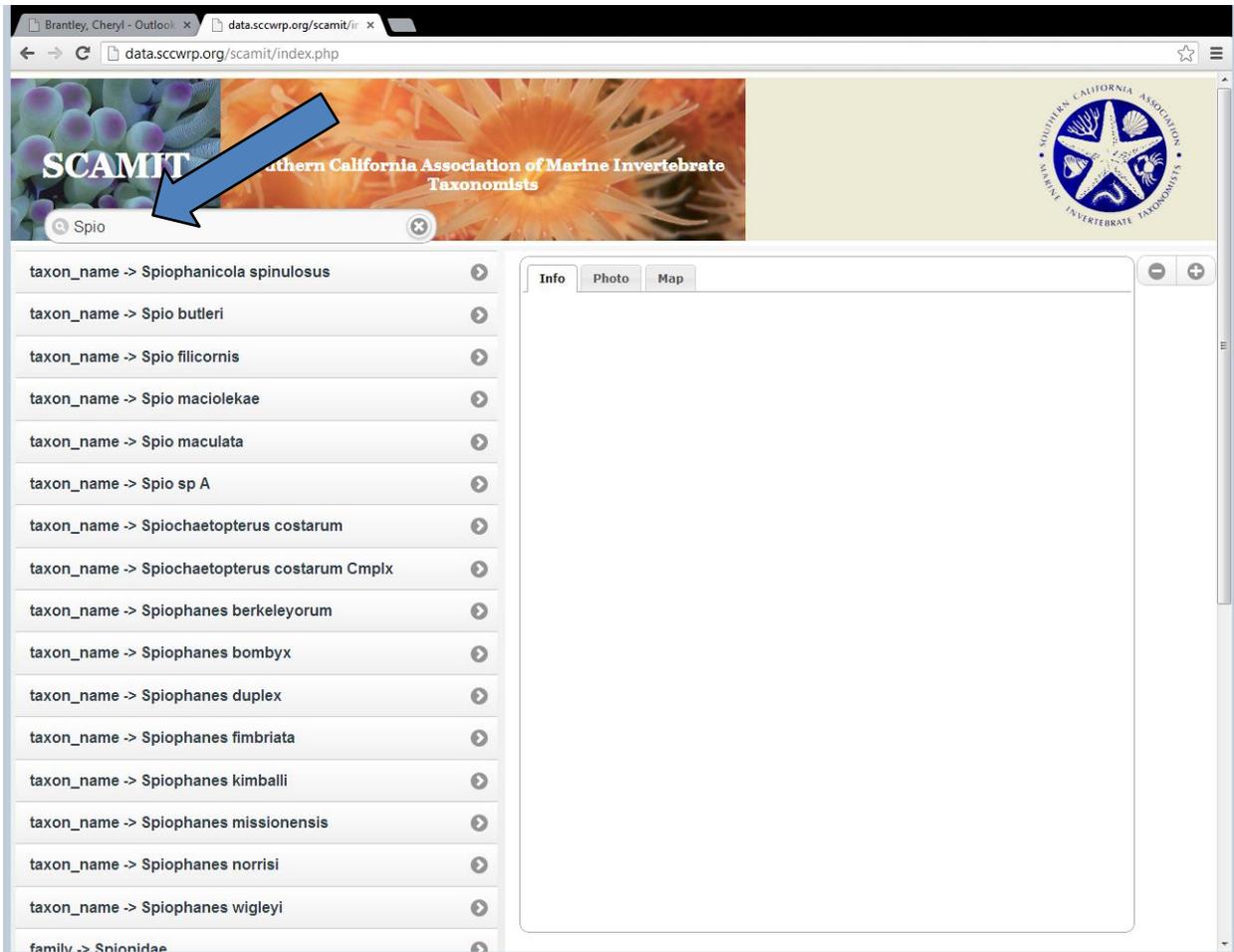
The TDT will work best using the following browsers: Firefox, Chrome, Safari (I-Pad, I-Phone). It will work on Windows Explorer, but will be slow and some of the spacing will not appear the same way. This will slow down those working on agency work computers where IT controls the ability to add other internet browsers. Display is best viewed in high resolution settings on your monitor.

Open the TDT link: <http://data.sccwrp.org/scamit/index.php>. This will open to the main page.



The basic architecture of the page is the banner with search box as the header, below that the taxonomic hierarchy and species content display box with info, photo, and map tabs.

From the main page you can access display species information in two ways. To begin type a name in the query box (the easiest way). Once you start typing the name a list of potential targets appears. Click on the name you wish to display content.



Or you can click on the taxonomic tree and drill down to the target species and click on the name you wish to display. The species display box will open to the info tab showing the phylogeny, synonyms, a place for depth range distribution information, links to the website taxonomic toolbox documents, and links to other websites (Morphbank, IT IS, WoRMS, BOLD, etc). The other species display tabs are used to navigate to different screen views to display photos and mapping content.

The screenshot shows the SCAMIT website interface. At the top, there is a header with the SCAMIT logo and the text "Southern California Association of Marine Invertebrate Taxonomists". Below the header is a search bar. On the left side, there is a taxonomic tree with a blue arrow pointing to the species *Decamastus gracilis*. The tree structure is as follows:

- Phylum Silicea
- Phylum Calcarea
- Phylum Cnidaria
- Phylum Platyhelminthes
- Phylum Nemertea
- Phylum Entoprocta
- Phylum Mollusca
- Phylum Sipuncula
- Phylum Echiura
- Phylum Annelida
 - Class Polychaeta
 - Subclass Scolecida
 - Family Arenicolidae
 - Family Capitellidae
 - Amastigos acutus
 - Anotomastus gordiodes
 - Barantolla sp
 - Capitella capitata Cmplx
 - Capitella teleta
 - Dasybranchus glabrus
 - Decamastus gracilis**
 - Dodecamastus mariaensis
 - Dodecaseta oraria
 - Heteromastus filiformis Cmplx
 - Heteromastus filobranchus
 - Leiochrides hemipodus
 - Mediomastus acutus
 - Mediomastus ambiseta
 - Mediomastus californiensis
 - Notomastus hemipodus
 - Notomastus latericeus
 - Notomastus lineatus
 - Notomastus magnus
 - Notomastus tenuis

On the right side, there is a species information panel for *Decamastus gracilis*. The panel has tabs for "Info", "Photo", and "Map". The "Info" tab is selected, showing the following information:

Decamastus gracilis Hartman 1963 Edition 7

Phylogeny

- Phylum: Annelida
- Subphylum:
- Class: Polychaeta
- Subclass: Scolecida
- Infraclass
- Superorder:
- Order:
- Suborder:
- Infraorder:
- Superfamily:
- Family: Capitellidae
- Subfamily:
- Tribe:
- Authority: Hartman 1963

Synonyms

Synonym	Author	Edition

Depth Range Distribution

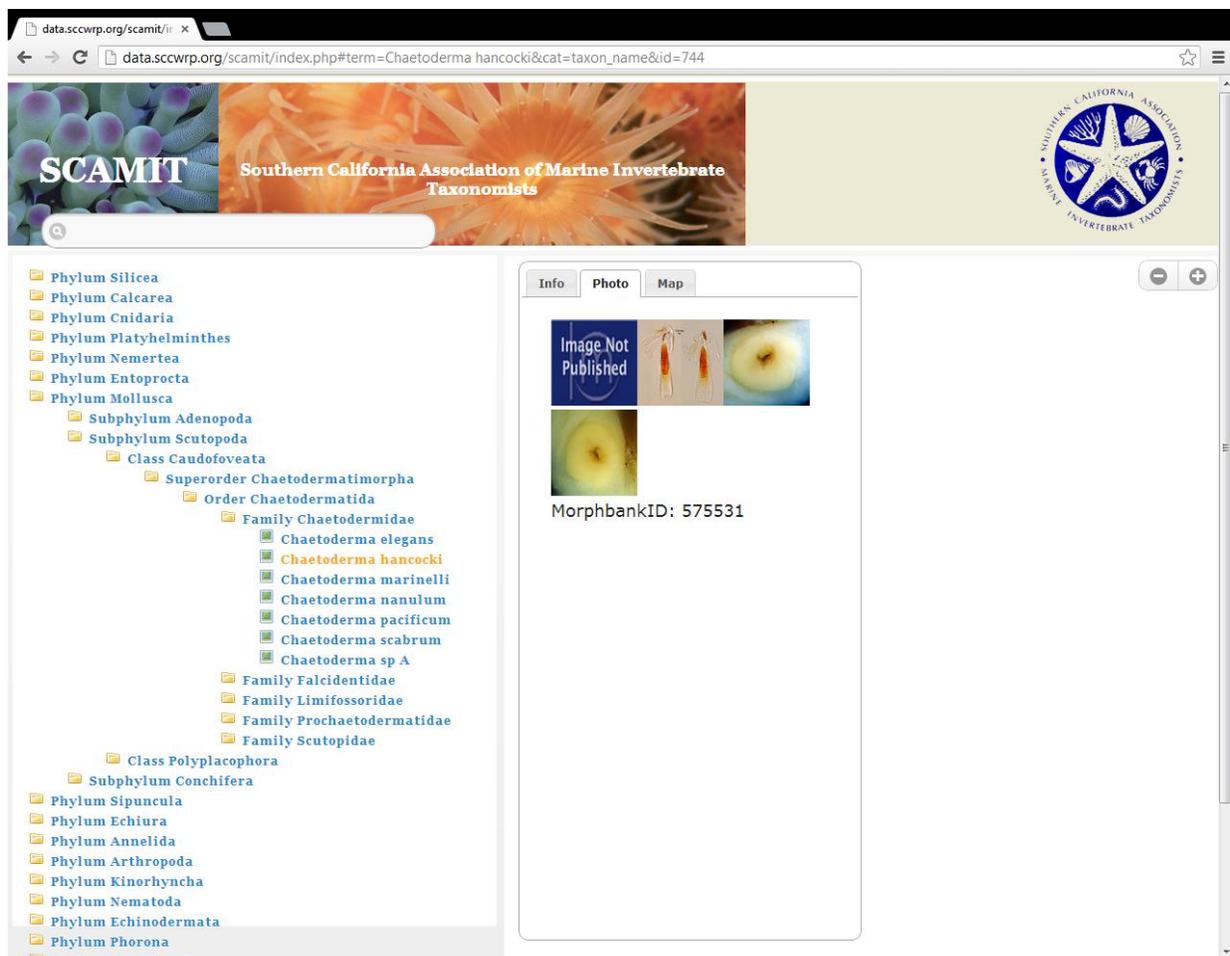
Below the phylogeny, there is a list of taxonomic ranks:

- Phylum Annelida
- Class Polychaeta
- Subclass Scolecida
- Family Capitellidae
- Decamastus gracilis

At the bottom of the panel, there are links to external databases: Morphbank, ITIS, uBio, NCBI Entrez, WoRMS, EOL, GenBank, and BOLD.

Click on the photo tab and images of SCB species deposited at Morphbank by SCAMIT members are displayed. The number of images available is low at present. One group of organisms, the Chaetodermatida, is well represented and clearly illustrates the value of linking to images of important character states (thanks Kelvin Barwick). Below is the photo page display for *Chaetoderma hancocki*.

More images are needed to fully utilize this feature. SCAMIT will hire an intern to visit labs and mine images that members have accumulated and not submitted to Morphbank. The future of Morphbank as a lasting repository is uncertain and SCAMIT will be considering alternative solutions to long term storage and access to images.



The maps tab is completely functional. It is populated with sampling occurrence event data from several programs (SCCWRP Bight and EMAP surveys; LACSD; Oxnard). Imported data from POTW's was restricted to the years 2007-2012 so name usage would be less of an issue. It is planned that additional datasets from other POTWs will be forthcoming, further populating the mapping tool to more fully display the regional distribution of species. Additional new POTW and Bight occurrence data can be added as they are reported. In the future, reporting of survey data to CEDEN in compliance with SWAMP protocols may greatly facilitate new data acquisition.

The bubbles on the map are superimposed on the station location and indicate the source (B98, B03, B08, E, LA, OX). The mapping tool has enhanced value during Bight survey work to see where a particular species has been reported previously (geographic range and depth).

The screenshot displays the SCAMIT web application interface. At the top, the browser address bar shows the URL: `data.sccwrp.org/scamit/index.php#term=Decamastus gracilis&cat=taxon_name&id=1006`. The header features the SCAMIT logo and the text "Southern California Association of Marine Invertebrate Taxonomists" alongside the organization's circular emblem. A search bar is positioned below the header. On the left side, a hierarchical taxonomic tree is visible, with "Decamastus gracilis" highlighted in orange. The tree includes the following levels: Phylum Annelida, Class Polychaeta, Subclass Scolecida, Family Capitellidae, and a list of species including *Amastigos acutus*, *Anotomastus gordioides*, *Barantolla sp*, *Capitella capitata Cmplx*, *Capitella teleta*, *Dasybranchus glabrus*, *Decamastus gracilis*, *Dodecamastus mariaensis*, *Dodecasetta oraria*, *Heteromastus filiformis Cmplx*, *Heteromastus filobranchus*, *Leiochrides hemipodus*, *Mediomastus acutus*, *Mediomastus ambiseta*, *Mediomastus californiensis*, *Notomastus hemipodus*, *Notomastus latericeus*, *Notomastus lineatus*, *Notomastus magnus*, and *Notomastus tenuis*. On the right side, a map of California is displayed with a "Map" tab selected. The map shows sampling stations marked with black bubbles, primarily concentrated in the San Diego and Los Angeles areas. The map includes navigation controls and a "Map" button.

This screenshot illustrates the different links to other resources: Morphbank, WoRMS, ITIS, BOLD, etc. The links go to the actual page for that species name, avoiding another search once you get to those websites.

The screenshot shows a web browser window displaying the SCAMIT website. The page title is "Southern California Association of Marine Invertebrate Taxonomists". The main content area shows a taxonomic entry for *Decamastus gracilis* Hartman 1963, Edition 7. The entry includes a phylogeny section, a synonyms section, and a depth range distribution section. A blue arrow points to a table of external resource links at the bottom of the entry.

Phylogeny

Phylum: Annelida
Subphylum: Polychaeta
Class: Polychaeta
Subclass: Scolecida
Infraclass: Scolecida
Superorder: Scolecida
Order: Scolecida
Suborder: Scolecida
Infraclass: Scolecida
Superfamily: Scolecida
Family: Capitellidae
Subfamily: Capitellidae
Tribe: Capitellidae
Authority: Hartman 1963

Synonyms

Synonym Author Edition

Depth Range Distribution

External Resource Links:

Morphbank	ITIS	uBio	NCBI Entrez
WoRMS	EOL	GenBank	BOLD

Clicking on the link will take the user directly to the species page in that entity, for instance *Decamastus gracilis* at the ITIS website in this example.

The screenshot shows a web browser window with the URL www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=Scientific_Name&search_kingdom=Animal&search_span=exactly_for&categories=All&source=html&search_cr. The page title is "ITIS Report". The navigation menu includes "Home", "About ITIS", "Data Access and Tools", "Get ITIS Data", and "Submit and Update Data". A link "Go to Print Version" is also present. The search results show "Results of Search in Animal Kingdom for Scientific Name exactly for 'Decamastus gracilis'". The species name **Decamastus gracilis** is displayed, along with its Taxonomic Serial No.: 67445. There are buttons for "Download data" and "Download Help". The page is divided into three main sections: "Taxonomy and Nomenclature", "Taxonomic Hierarchy", and "References".

Taxonomy and Nomenclature

Kingdom:	Animalia
Taxonomic Rank:	Species
Synonym(s):	
Common Name(s):	

Taxonomic Status:
Current Standing: valid

Data Quality Indicators:
Record Credibility Rating: unverified

Taxonomic Hierarchy

Kingdom	Animalia – Animal, animaux, animals
Phylum	Annelida – annelids, annélides, Anelideo, minhoca, sanguessuga
Class	Polychaeta – paddle-footed annelids, polychaetes, polychètes, corrupto, poliqueto
Subclass	Scotellida
Family	Capitellidae Grube, 1862
Genus	Decamastus Hartman, 1963
Species	Decamastus gracilis

References

Expert(s):	
Expert:	
Notes:	
Reference for:	

Other Source(s):

Source:	NODC Taxonomic Code database (version 8.0)
Acquired:	1996
Notes:	
Reference for:	Decamastus gracilis

Publication(s):

Author(s)/Editor(s):	
Publication Date:	
Article/Chapter Title:	

The *Decamastus gracilis* page at BOLD.

The screenshot shows the BOLD Systems Taxonomy page for *Decamastus gracilis*. The page includes a navigation bar with 'BOLDSYSTEMS' and links for 'Databases', 'Taxonomy', 'Identification', 'Workbench', and 'Resources'. The main content area is titled 'Decamastus gracilis {species} - Annelida; Polychaeta; Capitellida; Capitellidae; Decamastus;'. Below the title is a search bar and a 'Print' button. The page is divided into several sections: 'Sub-taxa', 'BOLD Stats', 'Contributors (Specimens & Sequencing)', and 'Imagery'. The 'BOLD Stats' section contains a table with the following data:

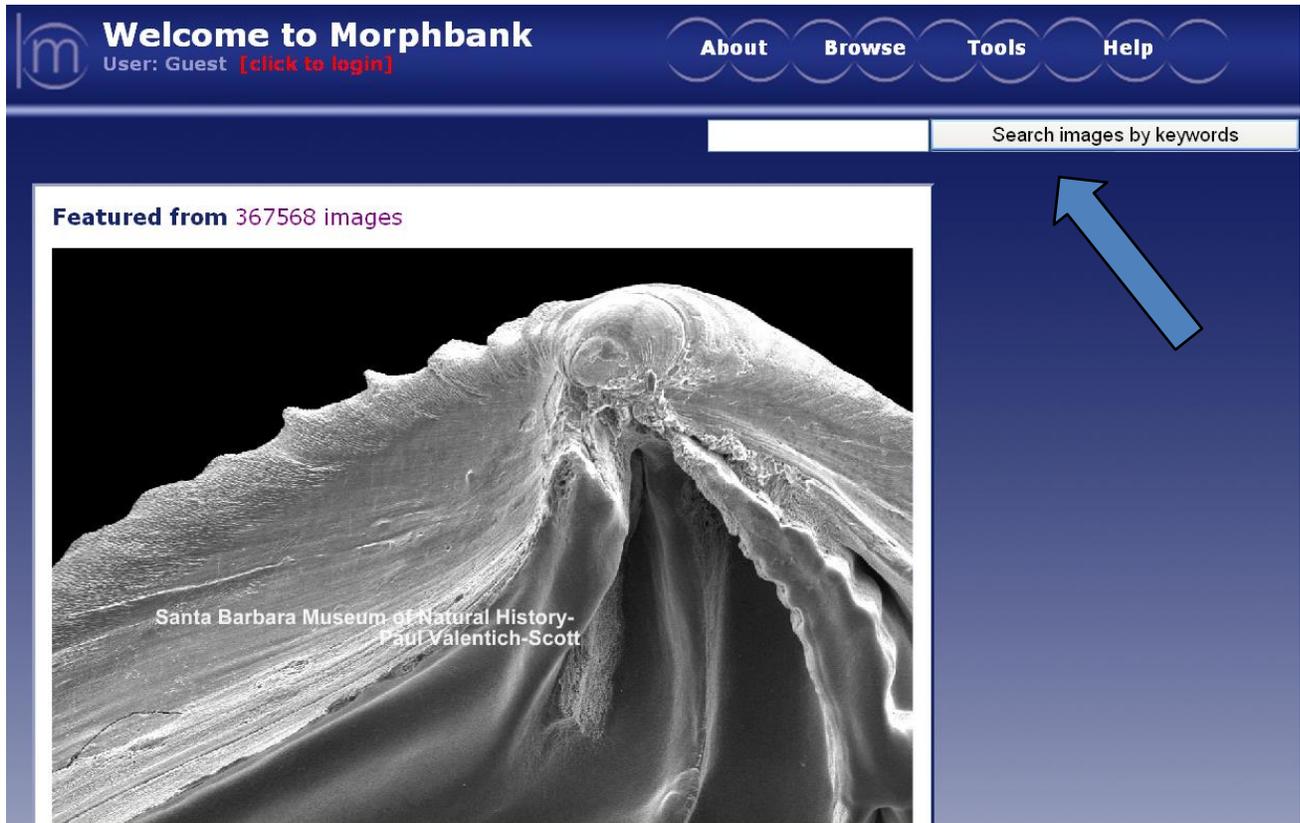
Specimen Records:	3	Public Records:	0
Specimens with Sequences:	0	Public Species:	0
Specimens with Barcodes:	0	Public BINs:	0
Species:	1		
Species With Barcodes:	0		

The 'Contributors (Specimens & Sequencing)' section shows a pie chart for 'Specimen Depositories' with 100% from the 'Natural History Museum of Los Angeles County [1]'. The 'Imagery' section displays three images representing specimens of *Decamastus gracilis*.

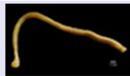
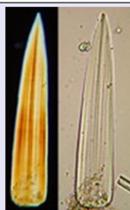
The WoRMS page for *Decamastus gracilis*.

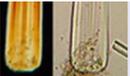
The screenshot shows the WoRMS website interface. At the top, there is a navigation menu with items like Home, About, Search taxa, Taxon tree, Literature, Distribution, Specimens, Match taxa, Editors, Statistics, Users, Webservice, Photogallery, Info downloads, Sponsors, Glossary, and Log in. The main content area is titled "WoRMS taxon details" and features a large background image of a marine organism. The taxon name is *Decamastus gracilis* Hartman, 1963, with AphiaID: 326885. The classification path is: Biota > Animalia (Kingdom) > Annelida (Phylum) > Polychaeta (Class) > Scolecida (Subclass) > Capitellidae (Family) > Decamastus (Genus). The status is "accepted" and the record status is "Checked by Taxonomic Editor". The rank is "Species" and the parent is "Decamastus". The sources section includes the original description by Hartman (1963) and a basis of record by Fauchald (2007). Additional sources include Fauchald et al. (2009) and Blake (2000). The context source is the Deepsea project. The environment is listed as "marine, broeekish, fresh, terrestrial". The fossil range is "recent only". The distribution includes the Caribbean Sea, Gulf of Mexico, and Trinidad and Tobago. Links are provided for Barcode of Life, Biodiversity Heritage Library, Encyclopedia of Life, USNM Invertebrate Zoology Annelid Collection, and ITIS. Notes mention a specimen at the Natural History Museum of Los Angeles County. The type locality is the Pacific Ocean, southern California. The LSIID is urn:lsid:marinespecies.org:taxname:326885. The taxonomic edit history shows creation and changes by Fauchald, Kristian in 2008. At the bottom, there are links for taxonomic tree, distribution map, Google, Google scholar, and Google images.

Opening page of Morphbank with SCAMIT member Paul Valentich Scott's image Use the search feature in the right hand corner to go directly to any species name.



Detailed image content information displayed at Morphbank for *Chaetoderma elegans*.

<p>Date to Publish: 2012-02-08</p> <p><input type="checkbox"/> Image [575530] <i>Chaetoderma elegans</i></p> <p>View: Animal/Lateral Specimen: Unknown//Indeterminate Technique: digital camera via dissection scope/Immersed in ethanol User: Kelvin Barwick Group: SCAMIT Date to Publish: 2010-07-27</p>	<p>No. Annotations: 0</p> <p>Dim: 1602x910 [jpeg] [original] Original: tiff</p>	
<p><input type="checkbox"/> Image [575528] <i>Chaetoderma elegans</i></p> <p>View: Spicule/Anteromedial Specimen: Unknown//Indeterminate Technique: digital camera via compound microscope with cross polarizer/Wet Mount User: Kelvin Barwick Group: SCAMIT Date to Publish: 2010-07-27</p>	<p>No. Annotations: 0</p> <p>Dim: 3222x1635 [jpeg] [original] Original: tiff</p>	
<p><input type="checkbox"/> Image [575527] <i>Chaetoderma elegans</i></p> <p>View: Spicule/Anteromedial Specimen: Unknown//Indeterminate Technique: digital camera via compound microscope with cross polarizer/Wet Mount User: Kelvin Barwick Group: SCAMIT Date to Publish: 2010-07-27</p>	<p>No. Annotations: 0</p> <p>Dim: 1016x1648 [jpeg] [original] Original: tiff</p>	
<p><input type="checkbox"/> Image [575525] <i>Chaetoderma elegans</i></p> <p>View: Radula/Frontal and lateral Specimen: Unknown//Indeterminate</p>	<p>No. Annotations: 0</p> <p>Dim: 1440x1371 [jpeg] [original]</p>	

<p>Technique: digital camera via compound microscope with cross polarizer/Wet Mount User: Kelvin Barwick Group: SCAMIT Date to Publish: 2010-07-27</p>	<p>Original: tiff</p> <p>No. Annotations: 0</p>	
<p><input type="checkbox"/> Image [575525] <i>Chaetoderma elegans</i></p> <p>View: Radula/Frontal and lateral Specimen: Unknown//Indeterminate Technique: digital camera via compound scope/Wet Mount User: Kelvin Barwick Group: SCAMIT Date to Publish: 2010-07-27</p>	<p>No. Annotations: 0</p> <p>Dim: 1440x1371 [jpeg] [original] Original: tiff</p>	
<p><input type="checkbox"/> Image [575523] <i>Chaetoderma elegans</i></p> <p>View: Peribranchial plaque/Posterolateral Specimen: Unknown//Indeterminate Technique: digital camera via dissection scope/Immersed in ethanol User: Kelvin Barwick Group: SCAMIT Date to Publish: 2010-07-27</p>	<p>No. Annotations: 0</p> <p>Dim: 1337x1384 [jpeg] [original] Original: tiff</p>	
<p><input type="checkbox"/> Image [575521] <i>Chaetoderma elegans</i></p> <p>View: Oral shield/Anterior Specimen: Unknown//Indeterminate Technique: digital camera via dissection scope/Immersed in ethanol User: Kelvin Barwick Group: SCAMIT Date to Publish: 2010-07-27</p>	<p>No. Annotations: 0</p> <p>Dim: 1438x1396 [jpeg] [original] Original: tiff</p>	

1 of 7 (7 Images)