
The background of the slide is a light beige, textured surface, possibly a piece of paper or parchment, with a dried plant specimen. The specimen consists of a thin, dark brown stem that curves from the bottom left towards the right. Two large, dried, brownish leaves are attached to the stem, one near the top left and one near the bottom right. The overall appearance is that of a herbarium specimen.

Mapping Biodiversity Specimen Data: Opportunities for Collaboration

Gail E. Kampmeier
Illinois Natural History Survey

John Pickering
University of Georgia





Challenges:

- Mitigating the looming crisis of maintaining access to electronic research products
- Facilitating sharing of datasets from those without robust technological support
- Reaching out to those with non-traditional datasets e.g., agricultural, public health, etc.



Maintaining Access...

- What happens when
 - Project funding ceases
 - Project members disperse
 - Principal Investigators retire, change research topics, move...?
- Who should be responsible?
 - Institutions originally receiving project funding?
 - Funding agencies?
 - Those creating the resources?
 - Professional societies?
 - Data federation groups?



Facilitating sharing...

- Many museums & large dataset holders have the infrastructure & desire to control & maintain their own databases.
- An underdeveloped, unappreciated resource lies in the datasets developed by individual systematists, smaller institutions, and agriculturally, locality-based, or public health-related projects.



Value of the non-traditional

- High quality on specific groups of organisms by experts
- Long-term monitoring systems for agriculture & public health have immediate, specific goals of forecasting, but changes over time are indicators of larger issues such as climate change, land use issues, & biodiversity assessments
- Conservation groups desire long-term purpose-driven datasets for decision making
- Invasive, threatened & endangered species often rely on local monitoring systems



Where are these datasets?

- Sometimes they are
 - On the web
 - As a static webpage (list)
 - Dynamically searchable in various formats
 - Database driven but password protected for registered users
 - On paper or file cards only
 - In Excel[®], Word[®], or PDF files
 - Bound up in reports or published literature
 - In a variety of desktop databases

The background of the slide features a light beige, textured surface with faint, yellowish-brown stains. Two dried, pressed leaves are visible: one on the left side, partially overlapping a vertical wooden-textured strip, and another on the right side, attached to a thin stem that extends across the bottom of the frame.

Saving, preserving, &
accessing our data is a
Global Issue

Federating Data - GBIF

GLOBAL
BIODIVERSITY
INFORMATION
FACILITY

[SPECIES](#) [COUNTRIES](#) [DATASETS](#) [OCCURRENCES](#) [SETTINGS](#) [ABOUT](#)

```
<?xml version="1.0" encoding="UTF-8"
<response xmlns="http://rs.tdwg.org/t
<header>
<source accesspoint="http://145.18.162
<software name="TapirLink" version="0.2(re
```



... free and open access to biodiversity data

Search
species/country/dataset


Search

Welcome to the GBIF Data Portal

Access millions of data records shared via the GBIF network.
To learn how to use this site, please see [About](#).
To tune this site for smaller displays, see [Settings](#).



Explore Species

Find data for a species or other group of organisms.

Species

Information on species and other groups of plants, animals, fungi and micro-organisms, including species occurrence records, as well as classifications and scientific and common names.

Example species:

Puma concolor (Linnaeus, 1771)



Explore Countries

Find data on the species recorded in a particular country.

Countries

Information on the species recorded in each country, including records shared by providers from throughout the GBIF network.

See data for:

[United States](#)



Explore Datasets

Find data from a data provider, dataset or data network.

Datasets

Information on the data providers, datasets and data networks that share data through GBIF, including summary information on 1584 datasets from 221 data providers.

Latest dataset added:

[NMNH Botany Collections](#)

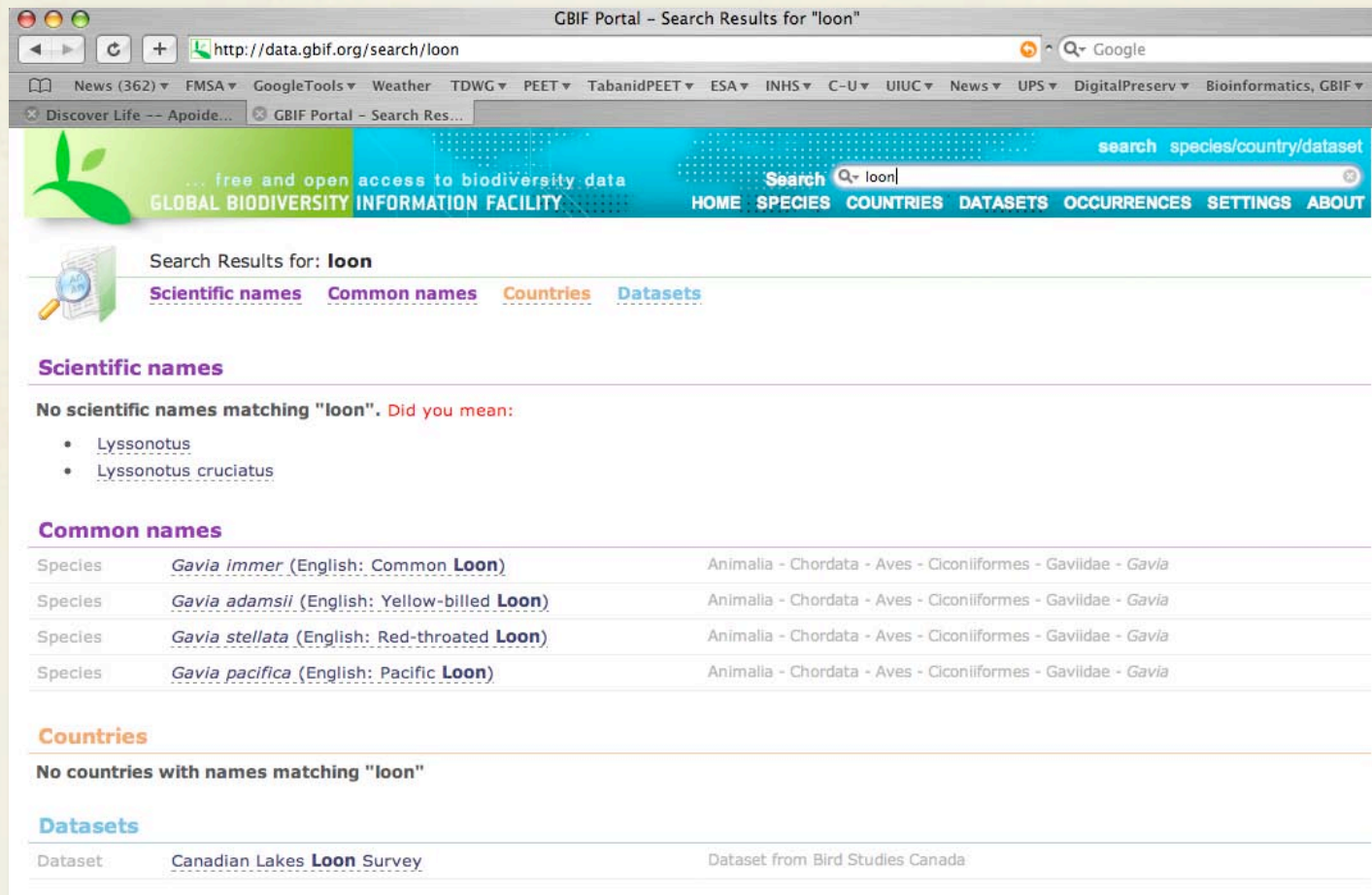
<http://data.gbif.org/>



GBIF Data Use

- Participants are signatories to a memorandum of understanding
- Users must actively accept terms of use
- Single point of entry to >130 million records from 200+ institutions from 30+ countries
- Search scientific or common names; by dataset or country
- Strict adherence to data standards
- Requires use of specific client/server protocols for retrieving information from distributed sources

Searches...



The screenshot shows a web browser window with the URL <http://data.gbif.org/search/loon>. The page title is "GBIF Portal - Search Results for 'loon'". The search bar contains "loon" and the search button is labeled "search species/country/dataset". The page header includes the GBIF logo and the text "... free and open access to biodiversity data GLOBAL BIODIVERSITY INFORMATION FACILITY". The navigation menu includes HOME, SPECIES, COUNTRIES, DATASETS, OCCURRENCES, SETTINGS, and ABOUT. The search results are categorized into Scientific names, Common names, Countries, and Datasets.

Search Results for: **loon**

[Scientific names](#) [Common names](#) [Countries](#) [Datasets](#)

Scientific names

No scientific names matching "loon". Did you mean:

- [Lyssonotus](#)
- [Lyssonotus cruciatus](#)

Common names

Species	Gavia immer (English: Common Loon)	Animalia - Chordata - Aves - Ciconiiformes - Gaviidae - Gavia
Species	Gavia adamsii (English: Yellow-billed Loon)	Animalia - Chordata - Aves - Ciconiiformes - Gaviidae - Gavia
Species	Gavia stellata (English: Red-throated Loon)	Animalia - Chordata - Aves - Ciconiiformes - Gaviidae - Gavia
Species	Gavia pacifica (English: Pacific Loon)	Animalia - Chordata - Aves - Ciconiiformes - Gaviidae - Gavia

Countries

No countries with names matching "loon"

Datasets

Dataset	Canadian Lakes Loon Survey	Dataset from Bird Studies Canada
---------	---	----------------------------------

Common Loon

Taxonomic names data tied to major providers

... free and open access to biodiversity data. Search species/country/date

GLOBAL BIODIVERSITY INFORMATION FACILITY HOME SPECIES COUNTRIES DATASETS OCCURRENCES SETTINGS AB

Species: ***Gavia immer*** (Brunnich, 1764)
Common Loon

» Kingdom: [Animalia](#) » Phylum: [Chordata](#) » Class: [Aves](#) » Order: [Ciconiiformes](#) » Family: [Gaviidae](#) » Genus: [Gavia](#) » Species: [Gavia immer](#)

Actions for *Gavia immer*

Explore: Occurrences Names and classification
List: Countries with occurrences Datasets with occurrences
Download: Darwin Core records One-degree cell density overlay for Google Earth Placemarks for Google Earth (limit 10,000)

Names and classification

According to **Catalogue of Life: 2007 Annual Checklist: The Integrated Taxonomic Information System**

Name *Gavia immer* (Brunnich, 1764)
Classification » Kingdom: [Animalia](#) » Phylum: [Chordata](#) » Class: [Aves](#) » Order: [Ciconiiformes](#) » Family: [Gaviidae](#) » Genus: [Gavia](#) » Species: [Gavia immer](#)
Status Accepted name
Common names English : Common Loon
French : Plongeon Huard
Spanish : Colimbo Mayor

Record identifier ITS-174469
Record URL http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=174469
Review date 17-Oct-2001
Feedback [Feedback to Catalogue of Life: 2007 Annual Checklist on the classification of *Gavia immer* \(Brunnich, 1764\)](#)

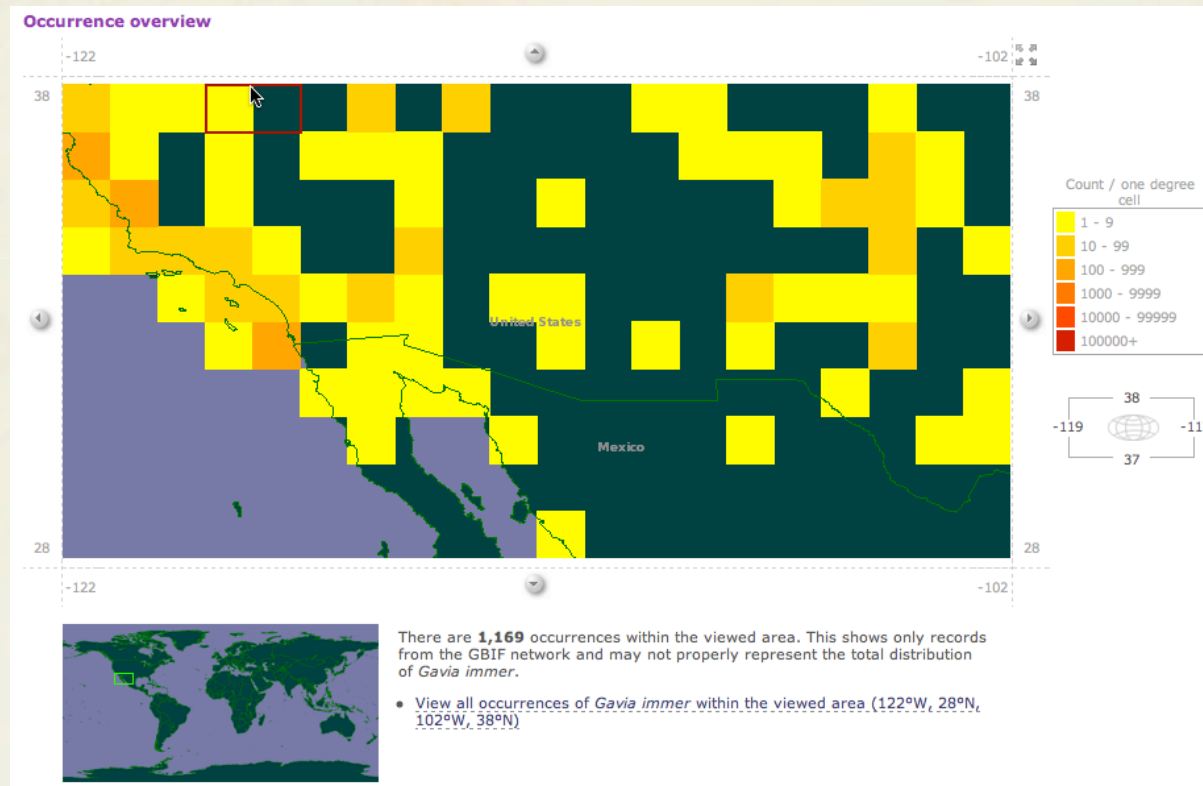
Occurrence overview

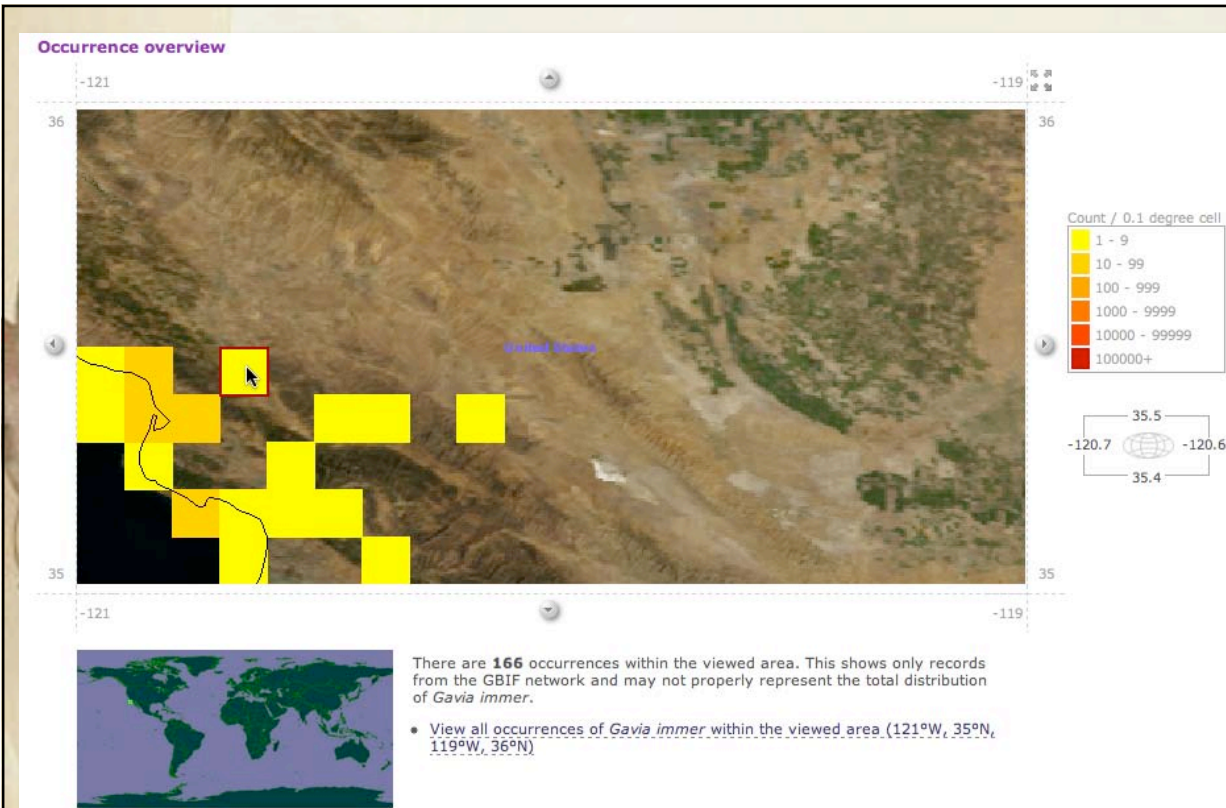
Count / one degree cell

- 1 - 9
- 10 - 99
- 100 - 999
- 1000 - 9999
- 10000 - 99999
- 100000+

Mapping in GBIF's Data Portal

- Initial mapping is in one degree cells on which the user can click





- Cell size is 0.1 degree here
- Darker shading = more specimens or observations

Occurrence search - Table view

Please add filters and click "Search" to perform a search for occurrences records. Specify more filters to narrow your search to get more accurate results for the species, area or time period that is of interest.

Actions

View: Matching records as table [Matching records on map](#)

Specify: [Data providers to be included in search](#) [Datasets to be included in search](#) [Countries to be included in search](#)

Download: [Spreadsheet of results](#) [Darwin core \(maximum 100,000\)](#) [Google Earth \(maximum 50,000\)](#) [Species in results](#)

Your current search

Classification includes Species: *Gavia immer*

Bounding box is 120.7°W, 35.4°N, 120.6°W, 35.5°N

[Change your current search](#)

Table of results

One item found.

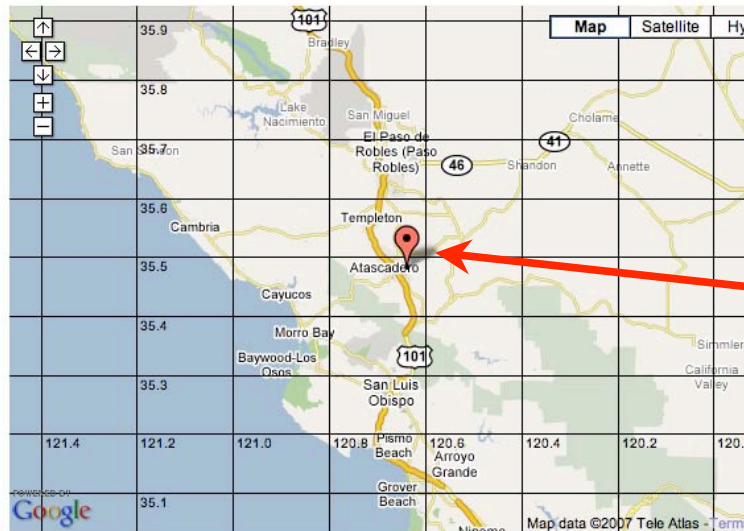
Scientific Name	Dataset	Institution Code	Collection Code	Catalogue Number	Basis of Record	Date	Coordinates	Country
<i>Gavia immer</i>	eBird	CLO	EBIRD	OBS40890710	Observation	27/04/2007	35.478756°N , 120.64153289794922°W	United States

One item found. [View](#)

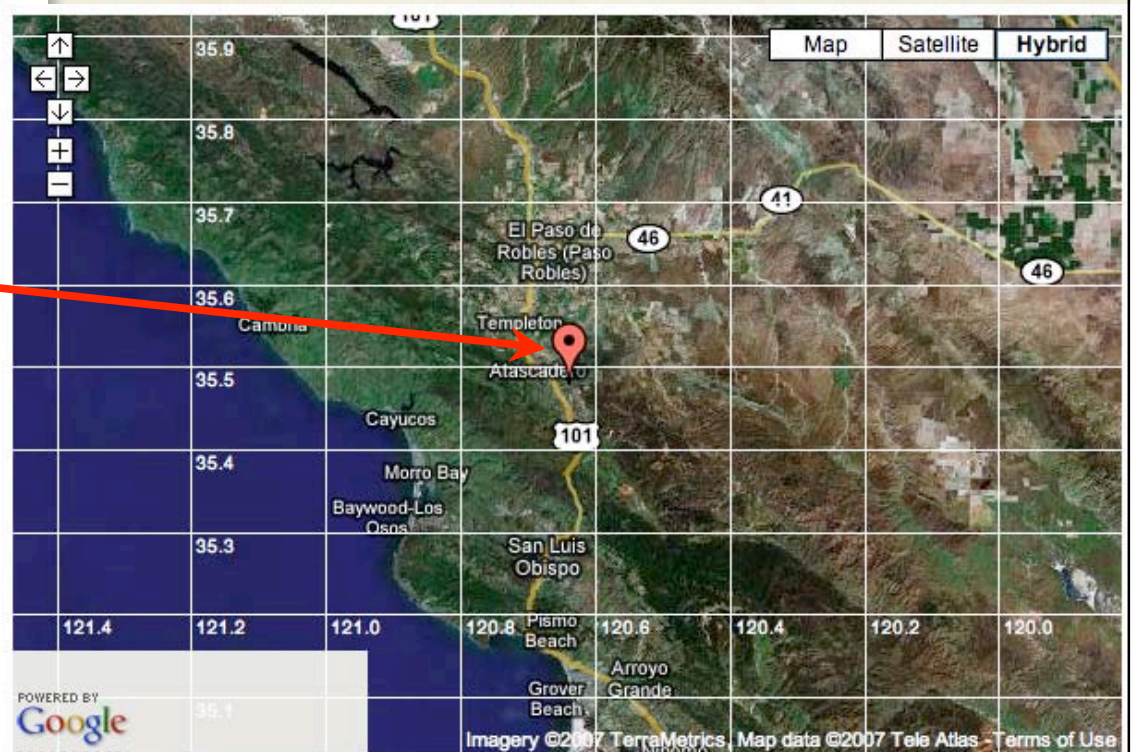
Mapping linked to GoogleMaps

Geospatial

Continent: North America (inferred from country)
Country: [United States](#)
County:
State/Province: California
Locality:
Latitude: 35.4787572
Longitude: -120.6415343
Coordinate precision:
Altitude:
Depth:



[View on large map](#)




[View on large map](#)




GBIF's New Portal - Strengths

- Taxonomic name linkage to major names providers
- Apparently links specimens with synonymies of a taxonomic name (good) but questionable if all are real (fuzzy)
- Partnership with GoogleMaps is major improvement
- Easy navigation via breadcrumbs



Federating Data - Discover Life



Discover Life



Our mission is to assemble and share knowledge in order to improve education, health, agriculture, economic development, and conservation throughout the world.


 

search

Discover Life provides free on-line tools to identify species, share ways to teach and study nature's wonders, report findings, build maps, process images, and contribute to and learn from a growing encyclopedia of life that now has 1,197,466 species pages. The [Polistes Foundation](#) and our [scientific partners](#) plan to add high-quality identification guides, maps, images, and text to these by 2012. Please help us provide everyone with the information we need to reduce disease, increase food production, stop destructive species, protect endangered ones, and enjoy rather than struggle with nature. --[John Pickering](#)

Navigate with the links, images, and search tool.
Updated: 2007-09-01 10:10:28 gmt

Serve from [University of Georgia](#) · [Missouri Botanical Garden](#) · [Smithsonian Tropical Research Institute](#) · [original](#)
© Designed by The Polistes Corporation



<http://www.discoverlife.org/>



Discover Life Data Use

- Like GBIF, data ownership is retained by each provider
- Educational features emphasized, including identification guides (keys), distribution maps, & images
- Accesses information on nearly 1.2 million species
- Can plot between 20-25 thousand points/sec
- Contributions can be as simple as providing a delimited text file for taxa & specimen information; no other web presence required.

Searching for "Loon" ...



- An emphasis is placed on illustrations, commentary, current taxonomic names, simple taxonomic hierarchy, maps, attribution of data

Discover Life | Search | All Living Things

Gaviidae

Loons

Links

- Higher taxa: [Life](#) [Vertebrata](#) [Aves](#)
- IDnature guides: [Bird_families](#), [Bird_species](#), [Bird_subspecies](#), [Birds](#), [Birds2](#), [Groups](#) [Vertebrata](#)

We parsed the following live from the Web into this page. Such content is managed by its original site and not cached on Discover Life. Please send feedback and corrections directly to the source. See original regarding copyrights and terms of use.

- [Monterey Bay](#)

Kinds


- [Gavia](#)

Following modified from [Monterey Bay](#)

[Top](#) | [See original](#)

LOONS Gaviidae

- Species in family 5
- Species observed [DR] 5 (100%)
- Species photo'd [DR] 5



The Loons are a small and ancient group of birds. They are specialized fish eaters with dagger-like bills that spend most of their time in water. They have lobed feet set so far back on the body that they are very clumsy on land. All five species are restricted to the northern hemisphere and all are migratory, spending the winter in coastal harbors and bays in temperate climates.

All loon photos copyright 2000 Don Roberson; all rights reserved



Discover Life - Diptera: Therevidae Burmeister, 1837:614 - Stiletto flies


http://stri.discoverlife.org/mp/20q?search=Therevidae

Discover Life | Search | All Living Things

Therevidae Burmeister, 1837:614

Stiletto flies


Links

- Higher taxa: [Life](#) [Insecta](#) [Diptera](#)
-  [Global map](#)
- IDnature guides: [Diptera](#), [Groups](#), [Insecta](#), [Therevidae](#), [Therevidae species](#)

We parsed the following live from the Web into this page. Such content is managed by its original site and not cached on Discover Life. Please send feedback and corrections directly to the source. See original regarding copyrights and terms of use.

- [National Science Foundation PEET Site](#)
- [Australian Government: Department of the Environment and Heritage](#)

80x5 - 240x3 - 240x4 - 320x1 - 320x2 - 320x3 - 640x1 - 640x2
Set display option above. Click on image to enlarge.



Ozodiceromyia nanella

© Kevin Holston, 2003
Ozodiceromyia nanella

Kinds

- [Acantothereva](#)
- [Acahrito](#)
- [Acatopygia](#)
- [Acraspisa](#)
- [Acraspisoides](#)
- [Acrosathe](#)
- [Actenomeros](#)
- [Actorthia](#)
- [Acupalpa](#)
- [Agapophytinae](#)
- [Agapophytus](#)
- [Ambradolon](#)
- [Ammonaios](#)
- [Ammothereva](#)
- [Amplisegmentum](#)
- [Anabarhynchus](#)
- [Anolinga](#)
- [Apenniverpa](#)
- [Araeopus](#)
- [Dialineura](#)
- [Dichoglana](#)
- [Distostylus](#)
- [Ectinorhynchus](#)
- [Eflatouniella](#)
- [Eicaribe](#)
- [Entesia](#)
- [Euphycus](#)
- [Eupsilocephala](#)
- [Hemigephyra](#)
- [Hemicomyia](#)
- [Hermannula](#)
- [Hoplosathe](#)
- [Iberotelus](#)
- [Incoxoverpa](#)
- [Insulatitan](#)
- [Irwiiniella](#)
- [Johnmannia](#)
- [Lexotela](#)
- [Pandivirilia](#)
- [Parapherocera](#)
- [Parapsilocephala](#)
- [Patanothrix](#)
- [Penniverpa](#)
- [Pentheria](#)
- [Peralia](#)
- [Peratrimera](#)
- [Pherocera](#)
- [Phycinae](#)
- [Phycini](#)
- [Phycus](#)
- [Pipinnipons](#)
- [Platycarenum](#)
- [Proccyclotelus](#)
- [Protothereva](#)
- [Pseudothereva](#)
- [Psilocephala](#)
- [Ptilotophallos](#)

Discover Life -- Therevidae species identification guide & checklist

discoverlife.org/mp/20q?guide=Therevidae_species

Discover Life | All living things | [Therevidae species](#)

[Help](#) | [Credits](#) | [Guides](#) | [Restart](#) | [Checklist](#) | [Images off](#) | [Menu](#) | [Report](#) | [Search](#)

Kinds of Therevidae species

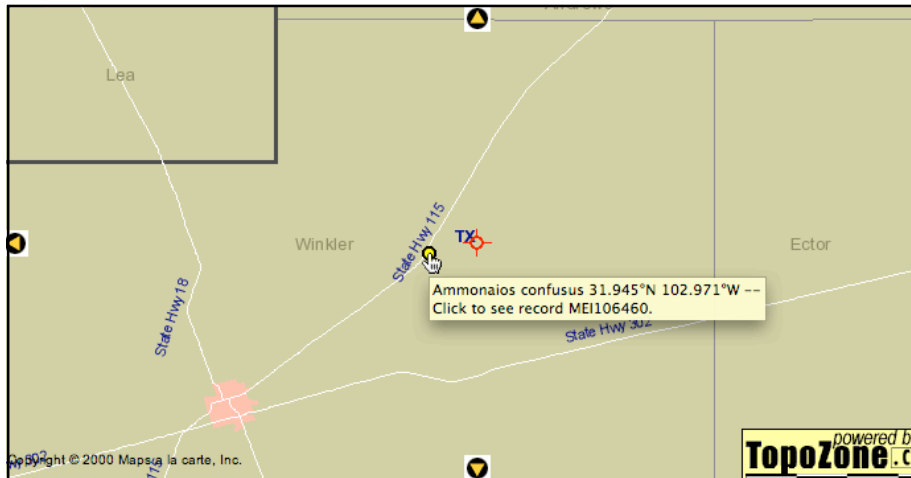
Stiletto Flies of the World

Michael Irwin, Don Webb, Martin Hauser, Kevin Holston, Mark Metz, Steve Gaimari, & Gail Kampmeier
Illinois Natural History Survey, Urbana
&
[John Pickering](#)
University of Georgia, Athens

Scientific name -- Other names

- [Atherimorpha praefica](#) (Philippi, 1865:772) -- Psilocephala macrochaeta Bigot, 1889; Psilocephala pilosula Bigot, 1889; Atherimorpha macrochaeta Bigot, 1889; Atherimorpha pilosula Bigot, 1889
- [Acantothereva](#) Séguy, 1935:153
 - [Acantothereva punctipennis](#) Lyneborg, 1968:302
 - [Acantothereva rungsi](#) Séguy, 1935:153
- [Acahrito](#) Lyneborg, 1963:198
 - [Acahrito angolensis](#) Lyneborg, 1969:169
 - [Acahrito iskenderia](#) (Zaitzev, 1971:1111) -- Rueppellia iskenderia Zaitzev, 1971
 - [Acahrito kroeberi](#) (Lindner, 1955:20) -- Rueppellia kroeberi Lindner, 1955; Actorthia kroeberi Lindner, 1955
 - [Acahrito lindneri](#) Lyneborg, 1963:198
 - [Acahrito namibiensis](#) Lyneborg, 1969:171
 - [Acahrito robusta](#) (Krober, 1929:79) -- Rueppellia robusta Kröber, 1929
 - [Acahrito socotrensii](#) Lyneborg, 1969:169
- [Acatopygia](#) Krober, 1912:117 -- Spatulipalpa Kröber, 1912
 - [Acatopygia olivacea](#) Winterton, 2007:54
 - [Acatopygia ornata](#) (Krober, 1912:221) -- Spatulipalpa ornata Kröber, 1912
 - [Acatopygia paradoxa](#) (Krober, 1912:221) -- Spatulipalpa paradoxa Kröber, 1912
 - [Acatopygia pulchella](#) Krober, 1912:149
- [Acraspisa](#) Krober, 1912:286 -- Stratiobelonalys Frey, 1934; Acrispisa Mann, 1928; Pseudoloxocera Kröber, 1912
 - [Acraspisa handschini](#) (Frey, 1934:309) -- Stratiobelonalys handschini Frey, 1934
 - [Acraspisa nigrinota](#) Mann, 1929:20
 - [Acraspisa obscuripes](#) Mann, 1929:21
 - [Acraspisa pallipes](#) (Krober, 1912:287) -- Pseudoloxocera pallipes Kröber, 1912

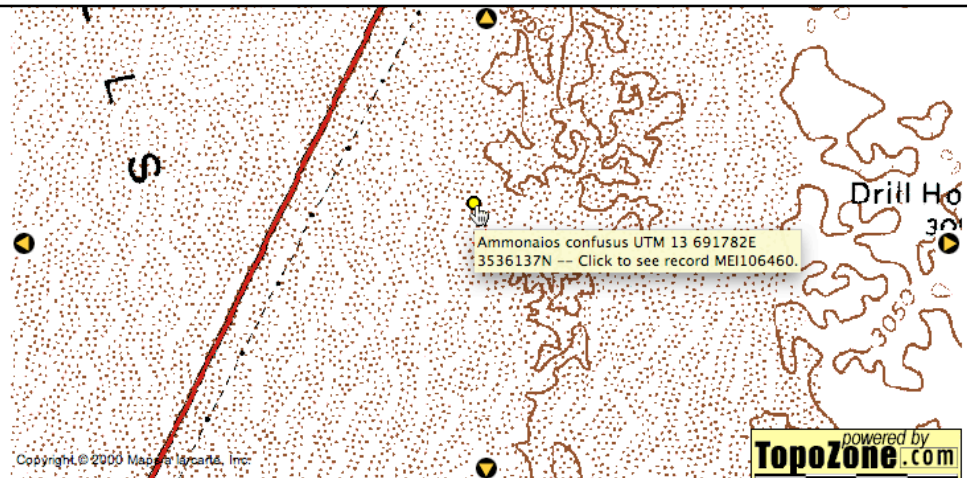
Choose Genus or Species...



Zoom with: [Globe](#) [sat](#) [s](#) [s](#) [s](#) [s](#) [map](#) [M](#) [m](#) [topo](#) [topo](#) [photo](#) [p](#) [p](#) [+](#)
 NAD83 Lat-long 31.9511°N 102.9423°W UTM 13 694482E 3536864N Resolution 0.0008 degrees/pixel
[Discover Life](#) | [TopoZone](#) | [Global Mapper](#)
[Help](#) | [About](#) | [Find place](#) | [Make map](#) | [Demo](#)

© Designed by The Polistes Corporation

● [Ammonaios confusus](#) @ National Science Foundation PEET Theravidae [\(19\)](#)



Zoom with: [Globe](#) [sat](#) [s](#) [s](#) [s](#) [s](#) [map](#) [m](#) [m](#) [topo](#) [T](#) [photo](#) [p](#) [p](#) [+](#)
 NAD83 Lat-long 31.94432°N 102.97078°W UTM 13 691804E 3536061N Resolution 1828.8 meters West-East
[Discover Life](#) | [TopoZone](#) | [Global Mapper](#)
[Help](#) | [About](#) | [Find place](#) | [Make map](#) | [Demo](#)

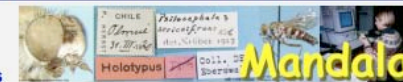
© Designed by The Polistes Corporation

● [Ammonaios confusus](#) @ National Science Foundation PEET Theravidae [\(19\)](#)

Information on record MEI106460

National Science Foundation PEET Theravidae database

[University of Illinois](#)



[Mandala](#)

COLLECTION MEI106460

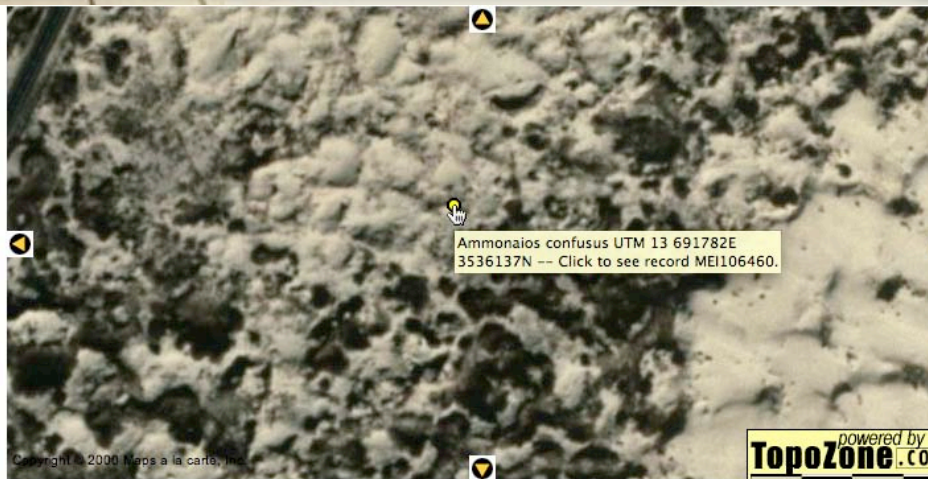
WebScientificName	Ammonaios confusus
Author	Hauser and Irwin, 2003
Country	USA
StateProvince	Texas
County	Winkler County
Municipality	Kermit
DecimalLatitude	31.945
DecimalLongitude	-102.971
MAP	latitude_longitude *** 31.945_-102.971
Collectors	Fitzgerald, S.; Kondratieff, B.; Leatherman, D.
DateBeginCollection	4/25/1998
Label_LocCevSpmid	USA, Texas, Winkler County, NE Kermit, Hwy 115, 25.IV.1998, probably hand collected, S. Fitzgerald, B. Kondratieff, D. Leatherman, [31.945, -102.971]. MEI 106460
More details	Theravidae PEET Project

[Click here to report possible errors or send feedback about the above data to \[gkamp@uiuc.edu\]\(mailto:gkamp@uiuc.edu\)](#)

Similar records

[MEI 076511](#) | [106445](#) | [106446](#) | [106447](#) | [106448](#) | [106449](#) | [106450](#) | [106451](#) | [106452](#) | [106453](#) | [106454](#) | [106455](#) | [106456](#) | [106457](#) | [106458](#) | [106459](#) | [106460](#) | [106461](#) | [106462](#) | [106463](#)

[Discover Life](#) | [Search](#) | [Labels](#) | [Menu](#) | [Retrieve ID](#)




Zoom with: [Globe](#) [sat](#) [s](#) [s](#) [s](#) [s](#) [map](#) [m](#) [m](#) [topo](#) [topo](#) [photo](#) [P](#) [p](#) [+](#)
 NAD83 Lat-long 31.94474°N 102.97078°W UTM 13 691803E 3536108N Resolution 720 meters West-East
[Discover Life](#) | [TopoZone](#) | [Global Mapper](#)
[Help](#) | [About](#) | [Find place](#) | [Make map](#) | [Demo](#)

© Designed by The Polistes Corporation

● [Ammonaios confusus](#) @ National Science Foundation PEET Theravidae [\(19\)](#)

Information on record MEI106460

National Science Foundation PEET Therevidae database

University of Illinois  Mandala

COLLECTION MEI106460

WebScientificName	Ammonaios confusus
Author	Hauser and Irwin, 2003
Country	USA
StateProvince	Texas
County	Winkler County
Municipality	Kermit
DecimalLatitude	31.945
DecimalLongitude	-102.971
MAP	latitude_longitude ... 31.945_-102.971
Collectors	Fitzgerald, S.; Kondratieff, B.; Leatherman, D.
DateBeginCollection	4/25/1998
Label_LocCevSpmID	USA, Texas, Winkler County, NE Kermit, Hwy 115, 25.IV.1998, probably hand collected, S. Fitzgerald, B. Kondratieff, D. Leatherman, [31.945, -102.971]. MEI 106460
More details	Therevidae PEET Project

[Click here to report possible errors or send feedback about the above data to gkamp@uiuc.edu](#)

Similar records
[MEI 076511](#) | [106445](#) | [106446](#) | [106447](#) | [106448](#) | [106449](#) | [106450](#) | [106451](#) | [106452](#) | [106453](#) | [106454](#) | [106455](#) | [106456](#) | [106457](#) | [106458](#) | [106459](#) | [106460](#) | [106461](#) | [106462](#) | [106463](#)


[Discover Life](#) | [Search](#) | [Labels](#) | [Menu](#) | [Retrieve ID](#)

© Designed by The Polistes Corporation

Details...

Therevid PHP: Specimen Detail

http://ant.inhs.uiuc.edu:16080/therevidphp/specimens/details.php?id=75421



Specimen Record Details

[Search Index](#) | [Specimen Search](#)

SpecimenID	MEI_106460
Scientific Name Author Year	Ammonaios confusus Hauser & Irwin, 2003
Determination History	specimen determined by: M. Hauser as Ammonaios confusus Hauser & Irwin, 2003 in 2002
Preparation	pinned
Dissection	
Type / Gender / Life Stage	specimen / male / adult
Locality	USA, Texas, Winkler County, NE Kermit, Hwy 115, [31.945, -102.971], 25.IV.1998, probably hand collected, S. Fitzgerald, B. Kondratieff, D. Leatherman
Verbatim Collecting Label	Winkler Co. TX 25 April 1998 S. Fitzgerald B. Kondratieff D. Leatherman Hwy 115, sanddunes NE Kermit
Map Specimen	Map Specimen if coordinates available; hit back button on your browser to return
Map (valid) Species	Map Species if coordinates available and taxon is valid; hit back button on your browser to return

Now have a direct link back to therevid fly database online



Official project webpage for the **Therevid PEET Project**, a Partnerships for Enhancing Expertise in Taxonomy project funded by the National Science Foundation and the Schlinger Foundation. Send Questions & Comments on the database portion of this project to gkamp@uiuc.edu. Last updated: August 17, 2007 [Disclaimer & Acknowledgements](#)



Discover Life - Therevidae: Ammonaios confusus Hauser and Irwin, 2003:744

http://www.discoverlife.org/mp/20q?search=Ammonaios+confusus

Discover Life | Search | All Living Things

Ammonaios confusus Hauser and Irwin, 2003:744

Links

- Higher taxa: [Life](#) [Insecta](#) [Diptera](#) [Therevidae](#) [Ammonaios](#)
-  [Global map](#)
- IDnature guide: [Therevidae species](#)

Updated: 2007-09-11 16:24:49 gmt

Discover Life | Search | All Living Things | Ammonaios confusus


© Designed by The Polistes Corporation

Taxon Details

○ Drilling back to Mandala database gives many more details about both valid & invalid taxa & their history...

Therevid PHP: Taxon Details

http://ant.inhs.uiuc.edu:16080/therevidphp/taxa/details.php?id=139



Taxon Details



Search Index | Taxon Search

TaxonID	960
Scientific Name Author Year Page	Ammonaios confusus Hauser & Irwin, 2003: 744
Rank / Status	species / VALID
Valid Name Author Year Page	Ammonaios confusus Hauser & Irwin, 2003: 744
Classification Hierarchy	Animalia Insecta Diptera Asilomorpha Asiloidea Therevidae Therevinae Ammonaios-Group Ammonaios confusus
Synonymy	Ammonaios confusus Hauser & Irwin, 2003: 744. Available, valid.
Original Description	[100845] Description of Male Holotype (122447). Body length 8 (6-9.4) mm, wing length 6 (5-7) mm. Head. Ocellar tubercle black with gold to silver pubescence; setae pale yellow brown. Eyes reddish brown, upper frontal ommatidia larger than lower and marginal ones. Frons ground color brown with silver pubescence; setae long, white, often lanceolate. Parafacial with erect, white, filiform setae. Genal setae brownish. Face densely silver-white pubescent; circular area around tentorial pit shiny black. Antenna (Fig. 7) pale brown, scape and pedicel with silver pubescence. Scape three times longer than wide, with long white setae, mostly lanceolate (ventrally sometimes with thickened brown macrosetae). Pedicel nearly square. filiform setae shorter than on scape. white; dorsally and ventrally with thickened brown

Taxon Details

Served from the Therevid Mandala using PHP:

<http://ant.inhs.uiuc.edu:16080/therevidphp/>

Original Name Citation	Hauser, M. , M. E. Irwin. 2003. The Nearctic Genus <i>Ammonaios</i> Irwin and Lyneborg 1981 (Diptera: Therevidae). <i>Annals of the Entomological Society of America</i> , 96(6): 738-765.
Map Specimens of Taxon	<p>Click to see map of specimens of this taxon at DiscoverLife.org.</p> <p>If no points appear on map, there are no available specimens to map; click back button on your browser to return.</p>
Illustrations	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Illustration of head (male adult) frontolateral view, rendered in color on a blue background, a photograph photo (digital) by K. M. Algmin. Original digital photograph created with Adobe Photoshop at 300 dpi. Archived on TYPEPHOTOS1 CD-ROM as 122447_HED as psd tif file formats. Illustration represents Specimen# MEI_122447, <i>Ammonaios confusus</i> Hauser & Irwin.</p> </div> <div style="width: 45%; text-align: center;">  <p>MEI 122447 <i>Ammonaios confusus</i> Hauser & Irwin 2003</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p>Illustration of head, thorax & abdomen (male adult) dorsal view, rendered in color on a blue background, a photograph photo (digital) by K. M. Algmin. Original digital photograph created with Adobe Photoshop at 300 dpi. Archived on TYPEPHOTOS1 CD-ROM as 122447_DOR as psd tif file formats. Illustration represents Specimen# MEI_122447, <i>Ammonaios confusus</i> Hauser & Irwin.</p> </div> <div style="width: 45%; text-align: center;">  </div> </div>

Therevid PHP: Taxon Details

Illustration of labels, first of two label photos, top to bottom, left to right, represents the highest to lowest labels on the pin. (male adult) rendered in color on a blue background, a photograph photo (digital) by K. M. Algmin. Original digital photograph created with Adobe Photoshop at 300 dpi. Archived on TYPEPHOTOS1 CD-ROM as 122447_LBL1 as psd tif file formats. Illustration represents Specimen# MEI_122447, *Ammonaios confusus* Hauser & Irwin. Illustration represents the following locality: .

USA, Utah, Emery Co.; San Rafael Desert; Flat Top Pass 22 km. NE Hanksville; hand netted on car hood; 23-V-2000 leg. : F. D. Parker
38° 32.30' N, 110° 29.26' W
MEI_122447_Label1

Illustration of labels, second of two label photos, top to bottom, left to right, represents the highest to lowest labels on the pin. (male adult) rendered in color on a blue background, a photograph photo (digital) by K. M. Algmin. Original digital photograph created with Adobe Photoshop at 300 dpi. Archived on TYPEPHOTOS1 CD-ROM as 122447_LBL2 as psd tif file formats. Illustration represents Specimen# MEI_122447, *Ammonaios confusus* Hauser & Irwin. Illustration represents the following locality: .

HOLOTYPE ♂
Ammonaios confusus
M. HAUSER & M. E. IRWIN
MEI_122447_Label2

Illustration of habitus, Fig. 1, Drawn on Wild M5/20x oculars, Full detail via digital photograph (male adult) dorsofrontolateral view, rendered in color on a gray background, a computer drawing by J. M. Metz. Copyright held by J. M. Metz. Scanned from the literature created with Adobe Photoshop at 300 dpi. Archived on ARCHIVED13 CD-ROM as 100845_01 as jpg tif file formats. Illustration represents Specimen# MEI_114738, *Ammonaios confusus* Hauser & Irwin. Illustration may be found on page 741 of Hauser, M. , M. E. Irwin. 2003. The Nearctic Genus *Ammonaios* Irwin and Lyneborg 1981 (Diptera: Therevidae). *Annals of the*



Fig. 1. Habitus of the male of *A. confusus* n. sp.

Customize your own map...

Menu -- make map

Enter scientific names to map:

Separate with commas. Append underscore to genera to show individual species, e.g., Juglans_

Set map center:
latitude longitude

 degrees
 minutes
 seconds
[use UTM coordinates](#)

Set map resolution:
 per pixel

Map width in pixels:
 720 900 1200

Drop/add individual points:

"-UGCA123456" drops 1.
"MO01779359, UARK6042013" adds 2.
"--35.85000_104.30000" (note underscore) drops all points with lat=-35.85000 and long=104.30000.

Limit databases:

"-AMNH_BEES" (note minus) drops 1.
"KSEM, LLL" maps 2.

- Map one or more taxa
- Choose symbol size, order
- Set resolution, size, & center of map
- Limit databases mapped
- Output for screen or publication in color or grayscale

Overlay borders:
 country no only

Symbol size:
 7 9 11

Output format:
 html jpg

Select:
 color grayscale

Change symbol order to

0	1	2	3	4	5	6	7	8	9
a	b	c	d	e	f	g	h	i	j
A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T

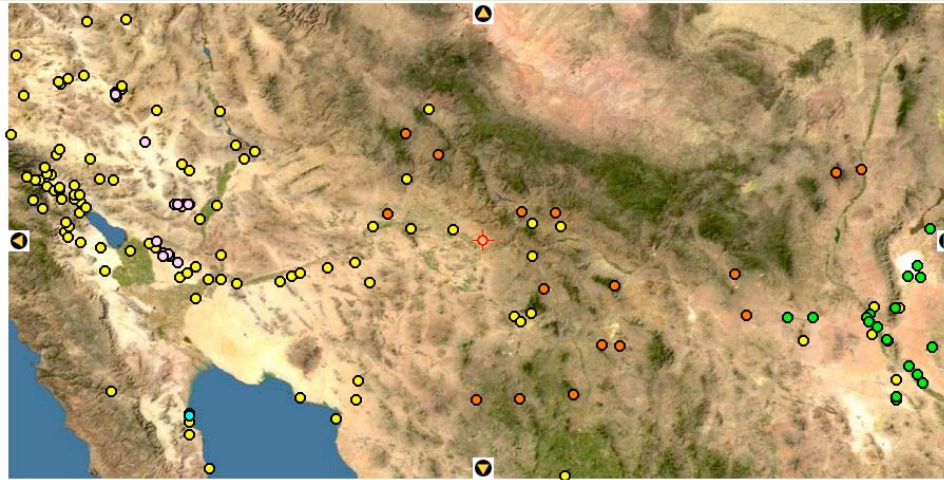
Order "abT" uses ■ to map the 1st kind, ■ for the 2nd, and ◆ for any other.

Select:
 fast grid all points

Set base map:

The mapper uses the NAD83 (WGS84) ellipsoid. Overlaid points may be inaccurate by a 100 meters or so if they are based on NAD27 and not converted.

Powerful Data Exploration Tool



Zoom with: [Globe sat](#) [s s s s](#) [Map m](#) [m](#) [topo](#) [topo](#) [photo](#) [p p](#) [+](#)
NAD83 Lat-long 33.1875°N 111.375°W UTM 12 468043E 3672136N Resolution 0.0125 degrees/pixel

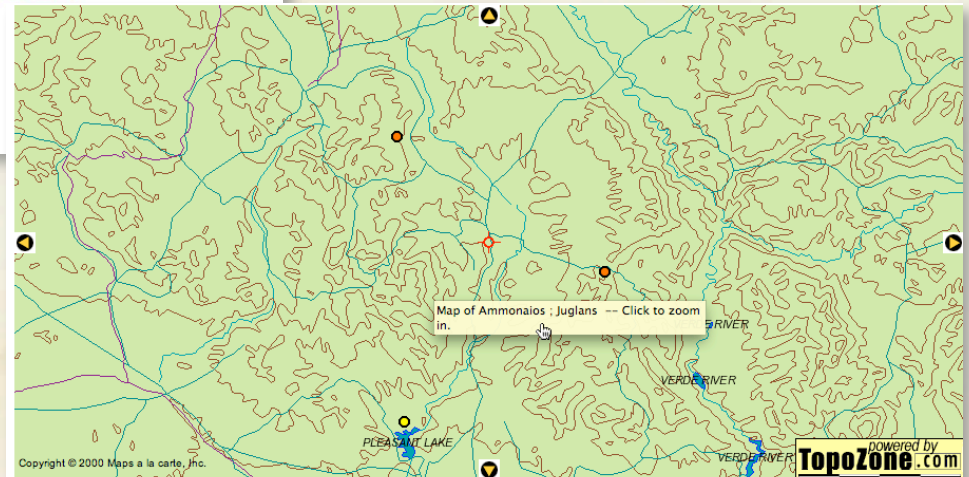
[Discover Life](#) | [TopoZone](#) | [Global Mapper](#)
[Help](#) | [About](#) | [Find place](#) | [Make map](#) | [Demo](#)

© Designed by The Polistes Corporation

- [Ammoniaios confusus](#) @ National Science Foundation PEET Theravidae (537)
- [Ammoniaios mexicanus](#) @ National Science Foundation PEET Theravidae (3)
- [Ammoniaios niveus](#) @ National Science Foundation PEET Theravidae (24)
- [Ammoniaios sabulosus](#) @ National Science Foundation PEET Theravidae (92)
- [Juglans major](#) @ Missouri Botanical Garden (16)

Wouldn't it be nice if Discover Life's technology could enhance the user experience with GBIF?

Wouldn't it be nice if GBIF's datasets could lend additional power to this system?



Zoom with: [Globe sat](#) [s s s s](#) [Map m](#) [m](#) [topo](#) [topo](#) [photo](#) [p p](#) [+](#)
NAD83 Lat-long 34.257°N 112.1199°W UTM 12 396880E 3791220N Resolution 0.002 degrees/pixel

[Discover Life](#) | [TopoZone](#) | [Global Mapper](#)
[Help](#) | [About](#) | [Find place](#) | [Make map](#) | [Demo](#)

© Designed by The Polistes Corporation

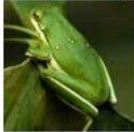

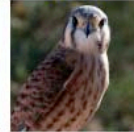






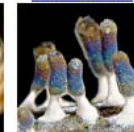




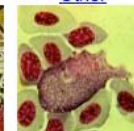
- [Ammoniaios confusus](#) @ National Science Foundation PEET Theravidae (1)
- [Juglans major](#) @ Missouri Botanical Garden (2)

Exploring the Living World

- Portal to user designed, on-line constructed polytomous keys
- Can draw on multiple databases

Biology, Natural History, Ecology, Identification and Maps of All Living Things
http://www.discoverlife.org/nh/

All Living Things

Amphibians 	Reptiles 	Birds 	Mammals 	Fishes 
Insects 	Spiders 	Crabs 	Snails 	Slime molds 
Fungi 	Plants 	Corals 	Anemones 	Other 

Click above for photographs, maps, identification guides, and facts about each group.
[Browse database by scientific names.](#)

[Discover Life](#) | [All Living Things](#) | [IDnature guides](#) | [Checklists](#)

This page is a portal to all living things -- the world's flora and fauna. Click on the photographs to examine the taxonomy, natural history, distribution, abundance, and ecology of each group.

We hope this information is useful in education, science and resource management and enjoyable to non-specialists. We encourage students to use the photographs in class projects. However, all rights are reserved by the photographers, artists, and authors. No photograph, map, illustration, or text may be used for commercial purposes or duplicated on other websites without permission, unless otherwise stated.

We seek your help to add more images, maps, and text. Within 10 years, our goal is to have an on-line encyclopedia of life with images, maps, identification keys, and other information on a million species living around the globe. Please email somebody@discoverlife.org if you wish to help us.

Also see [links](#).

Updated: 13 August, 2007

[Discover Life](#) | [All Living Things](#) | [IDnature guides](#) | [Checklists](#)

Display a menu for "http://www.discoverlife.org/20/q?search=Insecta"

Keys - Identification Guides

Discover Life -- North American Invasives identification guide & checklist

http://stri.discoverlife.org/mp/20q?guide=North_American_Invasives

Discover Life | All living things | North American Invasives
 Help | Credits | Guides | Restart | Checklist | Images off | Menu | Report | Search

Click **Help** if you're a new user.
 Click **Restart** to search again.
 Click **Guides** to list other guides.
 Follow instructions in red.

1102 kinds match:
[Abelmoschus moschatus](#)
 Fautia...
[Acacia farnesiana](#)
 Ellington Curse...
[Acacia mearnsii](#)
 Black Wattle
[Acarapis woodi](#)
 Honey Bee Tracheal Mite
[Acer platanoides](#)
 Norway Maple
[Achatina achatina](#)
 Giant Tiger Snail
[Achatina fulica](#)
 African Land Snail
[Achlysiella williamsi](#)
 Achlysiella williamsi
[Acridotheres tristis](#)
 Common Myna
[Acroceras zizanioides](#)
 Oat Grass
[Acrolepiopsis assectella](#)
 Leek moth
[Actinoscirpus grossus](#)
 Giant Bulrush
[Acusta touranensis](#)
[Adelges piceae](#)
 Balsam Woolly Adelgid
[Adelges tsugae](#)
 Hemlock Woolly Adelgid
[Adoretus sinicus](#)
 Chinese Rose Beetle
[Adoretus spp](#)
[Adoxophyes orana](#)
 Summer Fruit Tortrix Moth
[Aecidium hydrangeae-paniculatea](#)
[Aecidium mori](#)
 Mulberry Rust
[Aedes albopictus](#)
 Asian Tiger Mosquito

Group | Plant growth form | Source | Vertebrate Group

Check boxes to select them. Then click on any search button.
 Navigate with above index or scroll bar.
 Number scored for a state is in green.

1. Group search

121 <input type="checkbox"/>	196 <input type="checkbox"/>	304 <input type="checkbox"/>	59 <input type="checkbox"/>	292 <input type="checkbox"/>	91 <input type="checkbox"/>	111 <input type="checkbox"/>
Fungi	Insects	Microorganisms	Mollusks	Plants	Vertebrates	Other Invertebrates

2. Vertebrate Group search

14 <input type="checkbox"/>	9 <input type="checkbox"/>	51 <input type="checkbox"/>	17 <input type="checkbox"/>
Amphibians; Reptiles	Birds	Fish	Mammals

3. Plant growth form search

16 <input type="checkbox"/>	48 <input type="checkbox"/>	30 <input type="checkbox"/>	120 <input type="checkbox"/>	24 <input type="checkbox"/>	67 <input type="checkbox"/>
Aquatic	Grasses; Rushes; Sedges	Herbs	Not a plant	Vines; Climbers	Woody plants

4. Source search

488 APHIS Regulated Plant Pest List 6 Agricultural Bioterrorism Protection Act of 2002 List 9 Alden, Peter 4 American Phytopathological Society Pest List 2000 - Exotic Pests 1 CAPS FY 2003 National Committee Target Pests 8 CAPS FY 2005 Consideration List 13 Entomological Society of America 2000 Pest List 16 GPPD 112 GSMFC 14 Miller, James H. 253 NBII 153 Offshore Pest Information System 66 Society of Nematologists Exotic Pest List Vol. 1 16 Weed Science Society of America 2001 List 25 Weed Science Society of America 2002 List


User Help for Navigation & Contributing to Discover Life network

[Discover Life](#) | [All living things](#) | [Molluscs](#)
[Help](#) | [Credits](#) | [Guides](#) | [Restart](#) | [Checklist](#) | [Images off](#) | [Menu](#) | [Report](#) | [Search](#)

Help

- [iDnature guides](#)
 - [New users](#)
 - [How to begin](#)
 - [How to identify things](#)
 - [Banner controls](#)
 - [Help](#) | [Credits](#) | [Guides](#)
 - [Restart](#) | [Checklist](#) | [Images off/on](#)
 - [Menu](#) | [Report](#) | [Search](#)
 - [Building guides & checklists](#)
- [Web services -- how to put our tools & content on your website](#)
- [Listserve -- guidetalk](#)
- [File transfer & importing images -- download ssh & scp](#)
- [Import -- how to include your database](#)
 - [Accents & symbols](#)
 - [Scientific names](#)
- [Labels](#)
- [Browsers supported; upgrade](#)
- [Disclaimer](#)
- [Contact us](#)
- [Overview, September, 2004](#)
- [More about iDnature guides](#)

Click on images to enlarge them.



[Equus burchellii](#) (Gray, 1824)
Plains zebra

Updated: 4 July, 2007

[Discover Life](#) | [All Living Things](#) | [iDnature guides](#) | [Global mapper](#) | [Search](#) | [Top](#)

iDnature guides

New users

- **Instructions are in red. Read them. Read below too.**
- First time users should read [How to begin](#) and then [How to identify things](#).
- All blue words are links.
- Most maps and images zoom at least once -- click on them.
- Black & yellow buttons process forms or move you around.
- Also use scroll bars to move.
- Use **Restart** in the banner to find something else in this guide.
- Use **Guides** in the banner to list guides.
- Use **Report** to submit your findings.



Discover Life - Strengths

- Flexible mapping of multiple species, datasets, on same map
- Points link to specimen records, including similar records
- Partnership with TopoZone provides topographic map layers in addition to global map & satellite views; other layers planned
- Fine manipulation of mapping features for display or publication
- Ability to build polytomous identification guides (keys) for multiple purposes
- Simplified data sharing



Partnering

○ GBIF

- Has credibility & large stature in the taxonomic community because of its multinational memoranda of understanding & standards-based output
- Contributions to it are viewed as the gold standard for sharing by funding agencies
- Sharing model is encumbered by difficult access by smaller users



Partnering

- Discover Life is the energetic ".com" of the biodiversity world
- It can bring valuable technology to the table
 - Provide a place for smaller or less technologically savvy data curators
 - Willing to portal datasets of willing providers to GBIF
 - Mapping tools
 - Key generation tools

As a data user,
As a data provider,
I want to see
Collaboration
& Partnerships...





Acknowledgements

○ Institutional Support

- National Science Foundation's PEET program (Partnerships for Enhancing Expertise in Taxonomy) DEB-95-21925; 99-77958
- Schlinger Foundation
- Illinois Natural History Survey
- Discover Life & Polistes Foundation
- University of Illinois at Urbana-Champaign
- CSIRO, Canberra
- University of Queensland
- Queensland Museum

○ Individual Support

- Michael Irwin, Ev Schlinger, Martin Hauser, Kevin Holston, Steve Gaimari, Christine Lambkin, Mark Metz, J. Marie Metz, David Yeates, Shaun Winterton, Brian Wiegmann, Amberlie McKee, Kristin Algin, & the myriad of students & volunteers essential for data entry