Taxonomy Displays

SLA Taxonomy Division Webinar, January 20, 2011

Heather Hedden

Hedden Information Management

www.hedden-information.com

About Heather Hedden

- Taxonomy Consultant, Hedden Information Management and Project Performance Corporation
- Continuing Education Workshop Instructor, Simmons College Graduate School of Library and Information Science
- Author, *The Accidental Taxonomist*, Information Today Inc., 2010

- Previously
  - Taxonomy Manager, First Wind
  - Information Taxonomist, Viziant Corporation
  - Contract Taxonomy Consultant, Earley & Associates
  - Senior Vocabulary Editor, Thomson Gale (Cengage Learning)

© 2011 Hedden Information Management

Outline

- Different displays for different users
- Thesaurus display types
- Taxonomy display types

Outline

- Different displays for different users
- Thesaurus display types
- Taxonomy display types
- Other issues in taxonomy displays

- Thesaurus – term focused (alphabetical)
- Taxonomy – hierarchy focused (categorical)

Different Displays for Different Users

- End-user searchers

- Human indexers or taggers

- Taxonomists

- Subject-area researchers

Different Displays for Different Users

- **End-user searchers** - using the taxonomy to find specific content or discover information

- **Human indexers or taggers** - using the taxonomy to index or tag content

- **Taxonomists** - searching and browsing the taxonomy in order to update and maintain it

- **Subject-area researchers** - using the taxonomy to better understand a subject area (without seeking linked content)

Different Displays for Different Users

- **Thesaurus displays**
  - For taxonomists, human indexers, subject-area researchers, and occasionally end-user searchers
  - Alphabetical variations
- **Taxonomy displays**
  - For end-user searchers
  - Alphabetical, hierarchical, and/or faceted

Thesaurus Display Types

- Simple list
- Flat format
- Full term hierarchy
- Top term hierarchy
- Permuted/Rotated index

➢ All are alphabetical

Thesaurus Display: Simple List

- **Simple list** – terms listed alphabetically without details

- Select/click on a term to get its details

- Nonpreferred terms are interspersed in the list.

Next slide example: National Agriculture Library Thesaurus (http://agclass.nal.usda.gov)

Browse A-Z view, with additional screenshot of selected nonpreferred term and selected preferred term details overlaid

Search options

Language
English

Search type
terms contain text

Terms per page
100

Search Results: Click on term to display record

Next Page

- H-1 virus
- Habenaria
- *habit (plant form)*
- habitat conservation
- habitat destruction
- *habitat edges*
- habitat fragmentation
- habitat preferences
- *habitat preservation*
- *habitat protection*
- *habitat restoration*
- habitats
- *HabrGV (Harrisina brillians*
- *Habrobracon*
- Habrochila
- Habrochila ghesquierei
- Habrochila laeta
- Habrochila placida
- Habronema
- Habronematidae
- Habropoda
- HACCP
- *hackled orb weavers*
- Hacquetia
- haddock
- *HAdV-1 (Human adenoviru*

---

habit (plant form)

Use
plant architecture

---

habitat conservation

Definition
The preservation, maintenance, protection, restoration and enhancement of habitats for wild species.

Definition Source
NAL Thesaurus Staff

Spanish
conservación del hábitat

Used For
conservation of habitats
conservation, habitat
habitat preservation
habitat protection
habitat restoration

Broader Term
natural resource management

Related Term
conservation areas
conservation practices
habitats

Thesaurus Display: Flat Format

- **Alphabetical flat format** – lists terms with all their immediate relationships (UF, BT, NT, RT) and notes if any
- Also known as a **term record**
- Often the default alphabetical display for a thesaurus

Preferred term name
SN: Scope note text
  UF: Non-preferred term
  BT: Broader term
  NT: A narrower term
  NT: Another narrower term
  RT: A related term
  RT: Another related term

A level
FD   Learning (3)
FR   baccalauréat
SN   Certificate of Education Advanced Level
     (A Level) is normally awarded at the end
     of 2 years of post-compulsory general
     education to pupils who meet the required
     standards. It is a qualification for entry to
     higher education (Eurydice).
UF   *school leaving certificate*
BT   certificate

ability
USE aptitude

Abruzzi
FD   Countries and regions (14)
FR   Abruzzes
BT   Italy

absenteeism
FD   Enterprise (7)
FR   absentéisme
BT   work attitude

academic degree
FD   Learning (3)
FR   diplôme universitaire
UF   *college degree*
     university degree
BT   certificate
RT   higher education graduate
     university studies

Example:
European Training Thesaurus

FD = field; FR = French

European Centre for the
Development of Vocational
Training, *European Training
Thesaurus* (Luxembourg: Office for
Official Publications of the
European Communities, 2008), 47.

http://libserver.cedefop.europa.eu/e
tt/download/ETT_2009_en.pdf

Thesaurus Display: Full term hierarchy

- **Full term hierarchy** – terms with multiple relationship levels displayed at each (such as BT1, BT2, etc.; NT1, NT2, etc.)
- Full hierarchy indicated from each individual term, still listed alphabetically
- Two kinds of full term hierarchy displays (1) multilevel and (2) two-way hierarchy.

Next slide example: National Agriculture Library Thesaurus (http://agclass.nal.usda.gov)

Browse A-Z view, with additional screenshot of selected nonpreferred term and selected preferred term details overlaid

Thesaurus Display: Full term hierarchy

Multi-Level Hierarchy

Recreation facilities
    UF: Recreation centers
    UF: Recreational facilities
    NT1: Amusement parks
    NT1: Athletic facilities
      NT2: Fitness centers & gyms
      NT2: Skating rinks
      NT2: Swimming pools
      NT2: Tennis courts
    NT1: Bowling alleys
    NT1: Golf courses
    NT1: Skiing facilities
    NT1: Stadiums & arenas
    BT1: Public buildings & facilities
      BT2: Facilities & Infrastructure

Two-Way Hierarchy

: : Facilities & Infrastructure
: Public buildings & facilities
Recreation facilities
. Amusement parks
. Athletic facilities
. . Fitness centers & gyms
. . Skating rinks
. . Swimming pools
. .   Tennis courts
. Bowling alleys
. Golf courses
. Skiing facilities
. Stadiums & arenas

Thesaurus Display: Top term hierarchy

- **Top term hierarchy** – alphabetical listing of only the highest level terms (rather than all terms) with hierarchies under each

- Relatively flat taxonomies have numerous top terms.

- More hierarchical taxonomies have fewer top terms.

Thesaurus Display: Top term

In a hierarchical thesaurus:

Politics & Government
. Domestic policy & programs
.. Agricultural policy
.. Economic policy
... Monetary policy
... Fiscal policy
.. Energy policy
.. Health policy & programs
.. Social policy
. Foreign policy
.. Appeasement
.. Bilateralism
.. Foreign assistance
... Foreign military assistance
.. Foreign intervention
.. Unilateralism

In a flatter thesaurus:

Political actions
. Campaigning
. Lobbying
. Political protests

Political ideologies
. Conservatism
. Environmentalism
. Liberalism
.. Socialism

Politicians
. Political office holders
. Political candidates

Thesaurus Display: Permuted/Rotated

- **Permuted/Rotated index** – terms listed by their component words, i.e. an alphabetic list of words within terms.

- Variations are:
  - KWIC (keyword in context)
  - KWOC (keyword out of context)

- No longer common, now that simple search engines can search for words within terms.

.

Thesaurus Display: Permuted/Rotated

KWIC term display example:

Economics

    Agricultural **economics**
    American **Economics** Association
    Classical **economics**
    Comparative **economics**
    Economics
    Economics historians
    Economics literature
    Economics theorists
    Environmental **economics**
    Home **economics**
    Industrial **economics**
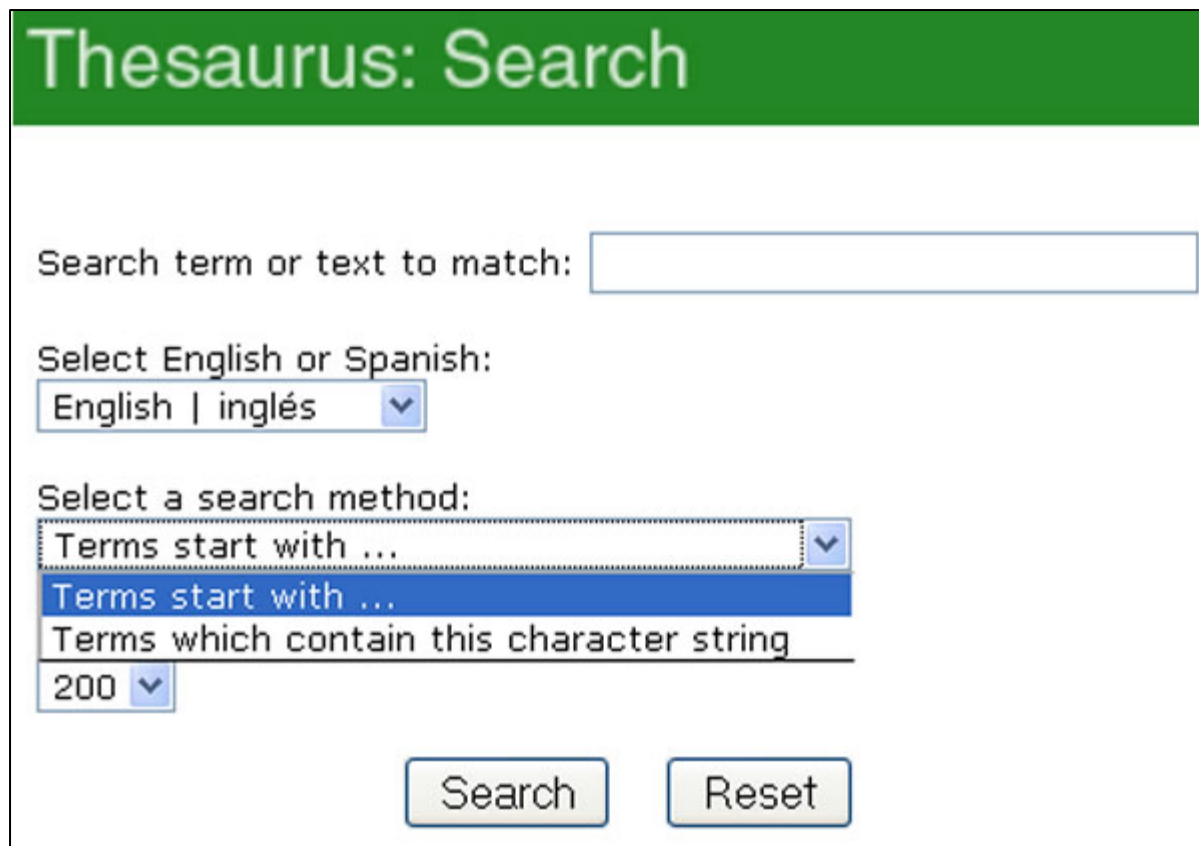   Keynesian **economics**

KWOC term display example:

Economics

    Agricultural economics
    American Economics Association
    Classical economics
    Comparative economics
    Economics
    Economics historians
    Economics literature
    Economics theorists
    Environmental economics
    Home economics
    Industrial economics
    Keynesian economics

Thesaurus Display: Search for term

As an alternative to Permuted/Rotated display

© 2011 Hedden Information Management

Thesaurus Displays: Summary

- Thesaurus displays more suitable for indexers:
  - Simple list
  - Flat format
- Thesaurus displays more suitable for taxonomists and subject-area researchers:
  - Flat format
  - Full-term hierarchy
  - Top-term hierarchy
- Thesaurus displays more suitable for end-users:
  - Simple list
  - Top term hierarchy (only if highly hierarchical)

Taxonomy Display Types

- Hierarchical
  - One level per screen
  - Expandable tree hierarchy
- Faceted
- Combinations

- Hierarchical vs. faceted depends more on nature of content than on users.
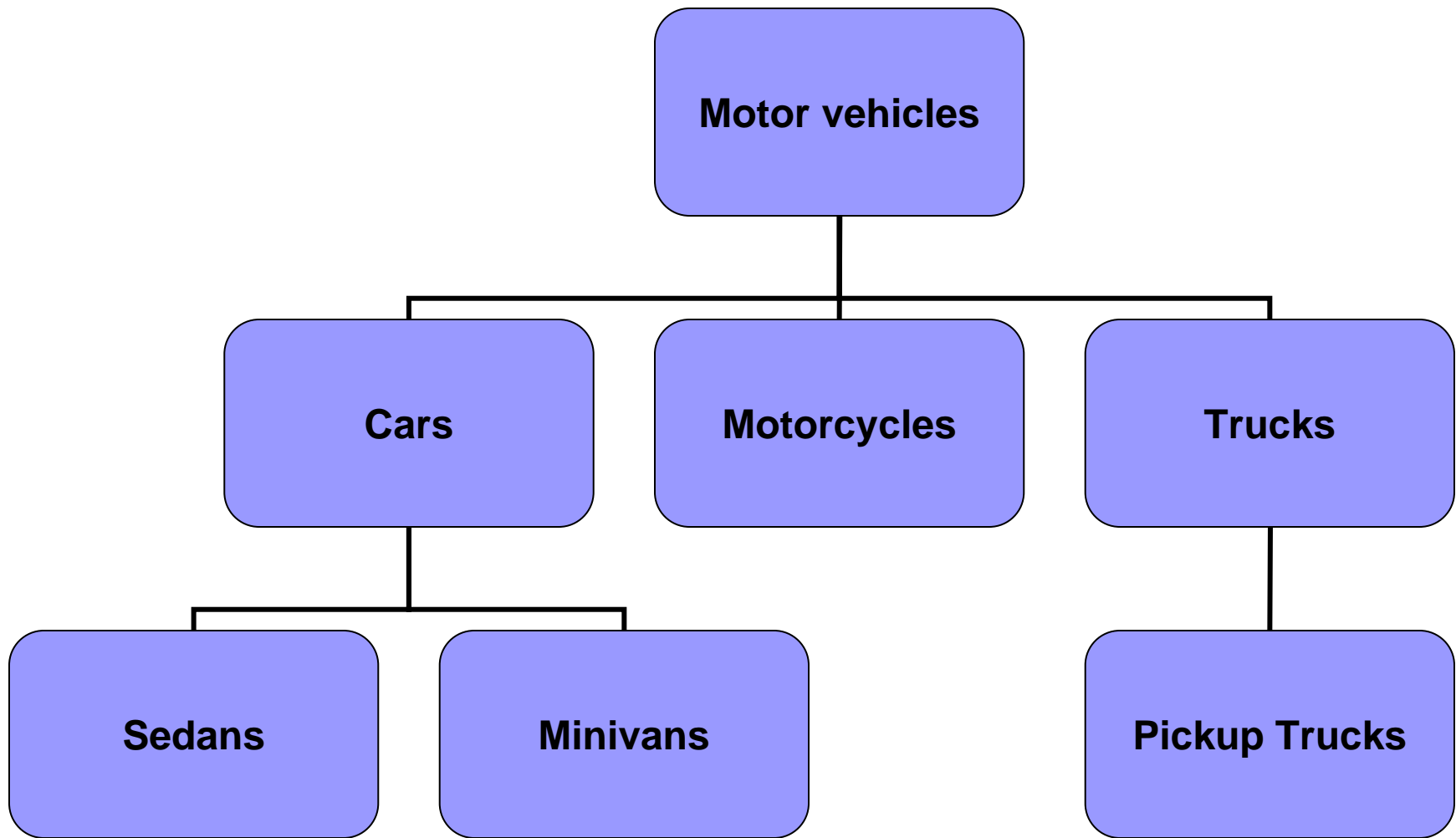
Taxonomy Displays: Hierarchies

Taxonomy Hierarchies:

- Each term has a broader (parent) and/or narrower (child) term that it's related to

- Terms have multiple narrower terms

- Terms usually have only one broader term, but more than one (polyhierarchy) might be permitted.

- Emphasizes categorization, classification, sorting

- Involves navigating from the top down

- Also known as "tree" structures

Taxonomy Displays: Hierarchies

```
                    ┌──────────────────┐
                    │  Motor vehicles  │
                    └──────────────────┘
                             │
         ┌───────────────────┼───────────────────┐
    ┌─────────┐        ┌─────────────┐       ┌─────────┐
    │  Cars   │        │ Motorcycles │       │ Trucks  │
    └─────────┘        └─────────────┘       └─────────┘
         │                                        │
   ┌─────┴─────┐                                  │
┌────────┐ ┌──────────┐                  ┌───────────────┐
│ Sedans │ │ Minivans │                  │ Pickup Trucks │
└────────┘ └──────────┘                  └───────────────┘
```

Taxonomy Displays: Hierarchies

Hierarchical display options

- One level per web page
- Expandable tree
  - ➤ In same column
  - ➤ In second column

Taxonomy Displays: Hierarchies

One level per displayable web page

Next 3 slides example: ThomasNet product/service company
  directory (http://www.thomasnet.com/browse)

ThomasNet® *CONNECTING INDUSTRY*

| Product/Service | Company Name | Brand | CAD Drawings | Product News | White Papers |

[ ] All States/Provinces [▼] **Search**

Browse Categories

Adhesives & Sealants
Tapes, Adhesives, Sealants, Film, Epoxies, Glue, Paste, Applicators & Dispensers, Equipment, more...

Automation & Electronics
Automation Equipment, Electronic Components, Automation Systems, Electronic Equipment, Optical Components, more...

Chemicals
Coatings & Finishes, Compounds, General Chemicals, Wax, Inks, Acids, Colors & Pigments, Additives, Agents, Elements, Alcohols, more...

Custom Manufacturing & Fabricating
Cutting Services, Fabricating, Finishing Services, Machining, Castings, Stampings, Assemblies, Contract Manufacturing, Assembly Services, more...

Electrical & Power Generation
Transformers, Batteries, Electrical Components, Generators, Electrical Equipment, more...

Services
Repair & Maintenance, Leasing & Rental, Freight Carriers, Advertising, Fulfillment, Marketing, Training, more...

Engineering & Consulting
Contractors, Consultants, Engineering, Software, Laboratories, Environmental Services, Designers, more...

Hardware
Gaskets & Washers, Seals & Rings, Fasteners, Fittings, Handles, Chains, Hooks, Locks, Hinges, Plugs, O-Rings, more...

Instruments & Controls
Controllers & Controls, Flowmeters, Inspection Services, Test Equipment, Switches, Meters, Gages, Sensors, Instruments & Instrumentation, Monitors, Scales, more...

Machinery, Tools & Supplies
Machine Parts, Machinery, Tools, Cleaners & Cleaning Equipment, Bearings, Engines & Motors, Filters, Machine Tools, more...

Materials Handling
Tanks, Conveyors, Handling Equipment, Labels & Tags, Bags, Racks & Shelving, Hoppers & Feeders, Containers, more...

Metals & Metal Products
Wire & Wire Products, Steel, Alloys, Metals, Aluminum, Copper & Copper Alloys, Foil, Specialty & Exotic Metals, Metal Products, more...

Plant & Facility Equipment
Building Products, HVAC, Safety Equipment, Building Facilities Equipment, Office Equipment & Supplies, more...

Plastics & Rubber
Elastomers, Latex, Plastics, Fibre, more...

Process Equipment
Mixers, Heat Exchangers, Boilers, Vessels, Furnaces, Heaters, Process Equip. & Components, Ovens, Dryers, Burners, Chambers & Enclosures, more...

Pumps, Valves & Accessories
Pipe, Pumps, Valves, Tubes & Tubing, Hose, more...

Other
Apparel, Medical, Marine, Aerospace & Aircraft, Vehicles, Textiles, Railroad, more...

ThomasNet CONNECTING INDUSTRY

| Product/Service | Company Name | Brand | CAD Drawings | Product News |

All States/Provin

Home > Browse Categories > Adhesives & Sealants

Adhesives & Sealants

Displaying **1 to 9** out of 9 **"Adhesives & Sealants"** categories

1. Adhesives
2. Applicators & Dispensers
3. Epoxies
4. Equipment
5. Film
6. Glue
7. Paste
8. Sealants
9. Tapes

Adhesives & Sealants info:

Adhesives are natural or synthetic substances primarily used as glue. The first natural adhesives date back thousands of y
trees, plants, starches, flour, and certain animal skins. In ancient times, these organic materials were mixed with water to c
then, adhesive production has become a more varied and complex process. The development of synthetic, thermoplastic,
improved the durability and range of use for this product. Adhesives now play a vital industrial role, whether they are used i
close simple machine fractures.

© 2011 Hedden Information Management *27*

Adhesives

Displaying **1 to 50** out of 127 **"Adhesives"** categories

1. Adhesive Accelerators (19 companies)
2. Adhesive Dots (38 companies)
3. Adhesives (5,394 companies)
4. Acrylic Adhesives (112 companies)
5. Aerosol Adhesives (281 companies)
6. Aerospace Adhesives (141 companies)
7. Anaerobic Adhesives (239 companies)
8. Apparel, Clothing & Garment Adhesives (10 companies)
9. Appliance Adhesives (23 companies)
10. Auto Glass Replacement Adhesives (13 companies)
11. Automotive Adhesives (169 companies)
12. Boat & Marine Adhesives (40 companies)
13. Bridge Repair & Rehabilitation Adhesives (14 companies)
14. Bromine Free Adhesives (2 companies)
15. Building & Construction Adhesives (140 companies)
16. Carpet Adhesives (42 companies)
17. Ceramic Adhesives (33 companies)
18. Cloth, Fabric & Textile Adhesives (62 companies)
19. Coating Adhesives (117 companies)
20. Cohesive Adhesives (32 companies)
21. Concrete Repair Adhesives (45 companies)
22. Electrically Conductive Adhesives (149 companies)
23. Construction Adhesives (82 companies)
24. DOT Construction Adhesives (24 companies)
25. Packaged & Private Label Contract Adhesives (88 companies)

26. Custom Adhesives (199 companies)
27. Cyanoacrylate Adhesives (147 companies)
28. Die Attached Adhesives (6 companies)
29. Duct Liner Adhesives (14 companies)
30. Elastic Adhesives (12 companies)
31. Electrical Potting Adhesives (32 companies)
32. Electron Beam (EB) Curable Adhesives (6 companies)
33. Electronically Clean/Low Outgassing Adhesives (9 comp...
34. EMI Adhesives (14 companies)
35. Epoxy Adhesives (2,472 companies)
36. FDA Compliant Adhesives (19 companies)
37. Fiber Optic Adhesives (17 companies)
38. Film Laminating Adhesives (56 companies)
39. Fire Resistant Adhesives (42 companies)
40. Flocking Adhesives (9 companies)
41. Floor, Floor Covering & Flooring Adhesives (80 compani...
42. Foam Adhesives (96 companies)
43. Foam Bonding Adhesives (56 companies)
44. Food Packaging Adhesives (29 companies)
45. Food Packing Adhesives (13 companies)
46. Footwear Adhesives (6 companies)
47. Gasket Adhesives (71 companies)
48. Glass Adhesives (58 companies)
49. Golf Club Adhesives (18 companies)
50. Heat Activated Adhesives (70 companies)

Taxonomy Displays: Hierarchies

One level per web page

Advantages:

- Large number of terms can display at each level
- Works well with polyhierarchies
- Technically easy to implement

Disadvantages:

- Display takes entire screen width, so search results don't display on same screen or are pushed lower down
- Users see only one level at a time
- Less appropriate for taxonomies with varied/inconsistent levels or levels containing just one or a few terms
- May lack method to indicate whether a level is final or contains more lower levels

Taxonomy Displays: Hierarchies

Expandable tree, within the same column

Next slide example: Search Harmony Presentation layer from Access Innovations and PerfectSearch, covering content of the National Information Center for Educational Media (www.accessinn.com:8081/PerfectSearch/navtree/index. html)

Search Type

○ New   ○ Recursive

- ⊞ Agriculture
- ⊞ Applied technologies
- ⊞ Business
- ⊟ Communications
    - Intercultural communication
    - ⊟ Journalism
        - **Broadcast journalism**
        - Electronic journalism
        - Photojournalism
        - Print journalism
    - Mass communication
    - ⊞ Mass media
    - Nonverbal communication
    - Oral communication
    - Propaganda
    - Public relations
    - Social commentary
    - Social communication
    - Subliminal communication
    - ⊞ Telecommunication
    - Visual communication
- ⊞ Computer and information science
- ⊞ Economics
- ⊞ Education
- ⊞ Family and consumer sciences
- ⊞ Geography
- ⊞ Health and wellness
- ⊞ History
- ⊞ Language arts
- ⊞ Languages
- ⊞ Literature and drama
- ⊞ Mathematics

National Information Center for Educational Media

key word search

Results for **Broadcast journalism**   1 - 10 of **98** docs (**0.000094 sec**

Local News

Local News Series ENGLISH Local News Series ENGLISH Sheds light on the production of local news shows, and the difficult issues and human conflicts that can arise. Focuses on the experiences of WCNC-TV in Charlotte, North Carolina.
Descriptors : Television news programs, **Broadcast journalism**
doc.jsp?uri=NicemData/nice50/nicem.0507245.AccInnov

To Work a Miracle

Local News Series ENGLISH Local News Series ENGLISH Follows the struggles of a local TV news team as it deals with racial tensions and ethical dilemmas. Part of a series that sheds light on the production of local news shows, and the difficult issues and human conflicts that can arise.
Descriptors : Television news programs, **Broadcast journalism**
doc.jsp?uri=NicemData/nice50/nicem.0507246.AccInnov

Changes and Consequences

Local News Series ENGLISH Local News Series ENGLISH Focuses on the managerial and public relations challenges that the managers of a local TV news program face when they terminate a long-time news reporter. Part of a series that sheds light on the production of local news shows, and the difficult issues and human conflicts that can arise.
Descriptors : Television news programs, **Broadcast journalism**
doc.jsp?uri=NicemData/nice50/nicem.0507248.AccInnov

A Working Team

Local News Series ENGLISH Local News Series ENGLISH Profiles a local TV news director as he deals with the rejection that is a frequent result of necessary personnel decisions. Part of a series that sheds light on the

> Expand y
-Thesaurus R

Broadcast m

USA TODAY Content Tree
- news 218,440 stories
- travel 38,426 stories
- money 57,615 stories
  - _ 2 stories
  - advertising 799 stories
  - autos 3,325 stories
  - biztravel 734 stories
  - books 463 stories
  - companies 3,344 stories
  - economy 16,598 stories
    - confidence 49 stories
    - construction 7 stories
    - employment 336 stories
    - fed 357 stories
      - beigebook 19 stories
      - rates 85 stories
    - gdp 37 stories
    - housing 1,739 stories
    - income 49 stories
    - inflation 92 stories
    - production 80 stories
    - productivity 22 stories
    - services 23 stories
    - survey 20 stories
    - trade 157 stories
  - gallery 3 stories
  - industries 10,120 stories
  - jobcenter 189 stories

Example: USA Today
http://content.usatoday.com/community/
tags/topic-index.aspx

Taxonomy Displays: Hierarchies

Expandable tree

Advantages:

- Hierarchy is obvious to the user
- Supports visualization and interactive use of the taxonomy
- Presence of plus signs indicates presence of deeper levels
- Accommodates inconsistent numbers of terms per level
- Display takes up only part of screen

Disadvantages:

- Insufficient for displaying very large taxonomies or large numbers of terms at the same level
- Does not support polyhierarchies as well due to space limitations, and could be confusing too
- More complex to develop and may take more time to load display

Taxonomy Displays: Hierarchies

Decision-making issues

- Deciding the number of levels and the number of terms per level

- Deciding the arrangement of the term hierarchy

- Named entities (proper nouns) within subject hierarchies or not

Taxonomy Displays: Hierarchies

Named entities separate out in hierarchies:

Taxonomy Display: Hierarchy Issues

- Term sort order (at a given level)
  - Alphabetical or other logical order
- Term names
  - In context of broader term or unambiguous
- Top term usage
  - As indexing terms or as nonindexable labels
- Recursive retrieval
  - Broader term additionally retrieves content indexed with all narrower terms or not

Taxonomy Displays: Facets

- For serving faceted classification, which allows the assignment of multiple classifications to an object
- A "dimension" of a query; a type of concept
- Intended for searching with multiple terms in combination (post-coordination), one from each facet
- Reflect the domain of content
- Similar, but not identical, to a single hierarchy
- May contain internal hierarchy or may not

Taxonomy Displays: Facets

Examples:

Buzzillions product reviews
  http://www.buzzillions.com

Shoebuy retail site
  http://www.shoebuy.com/s.jsp/r_as

Microbial Life Educational Resources
  http://serc.carleton.edu/microbelife/resources

My recipes
  http://search.myrecipes.com

SHOEbuy.com®
The World's Largest Site For Shoes

VIEW CART | SAVINGS & UPDATES | HELP | ESPAÑOL | INTERNATIONAL SHIPPING

HOME | BRANDS | WOMEN | MEN | KIDS | DESIGNER | SALE | WHY SHOP AT SHOEBUY?

FREE SHIPPING   FREE RETURN SHIPPING   NO SALES TAX   100% PRICE GUARANTEE   see details >>

SEARCH [Enter Search] GO | Advanced Search | Search By Brand | Search By Size | Wide Shoes | Narrow Shoes | Sale Shoes

Today Only
Winter Sale **20% off** Plus Free Shipping   Enter Code **WINTER20** at Checkout   Details >

Home > Advanced Search

Advanced Search

Please select one or more dropdowns below and then click the **Search** button. The more selections you make, the fewer items will appear.

Search Women's Shoes	Search Men's Shoes	Search Children's Shoes
Any Brand	Any Brand	Any Brand
Any Type	Any Type	Any Type
Any Category	Any Category	Any Category
Any Size	Any Size	Any Size
Any Width	Any Width	Any Width
Any Color	Any Color	Any Color
Any Heel Height	Any Country	Any Country
Any Country	Any Price	Any Price
Any Price		

Search   Search   Search

Search Women's Shoes

Any Brand
Any Type
Any Category

Any Category
Above the Ankle Boots
Active Sandals
Adjustable Strap Shoes
Aerobic Shoes
After Sport Sandals
Airport Friendly Boots
Alligator Shoes
Amphibious Sandals
Animal Print Shoes
Animal Slippers
Ankle Boots
Ankle Strap Sandals
Ankle Straps
Approach Shoes
Apres Ski Boots
Aqua Socks
Athletic Accessories
Athletic Shoes
Backless Sneakers

Search Men's Shoes

adidas
Athletic
Sneakers
10
Regular
Black
Any Country
$65 - $100

Search

Search Children's Shoes

Any Brand
Any Type
Any Category
Any Size
Any Width
Any Color
Any Country
Any Price

Search

· Spirit
· Comfort
· eim
· ton & Murphy
· ss

· Mephisto
· Merrell
· Minnetonka
· Naturalizer
· New Balance
· Propet

· PUMA
· Reebok
· Rockport
· Saucony
· Skechers
· Softspots

· Sperry Top-Sider
· Stride Rite
· Stuart Weitzman
· Timberland

© 2011 Hedden Information Management

Narrow the View ⬎

Yellowstone Resources and Issues Guide - Astrobiology part of SERC Web Resource Collection
http://www.lpi.usra.edu/education/EPO/yellowstone2002/li...

This report explores the connection between geomicrobiology and astrobiology, explaining NASA's interest in the natural history of Yellowstone National Park. Multi-institution research teams are ...
Subject: Biology: Biology:Astrobiology, Microbiology, Ecology:Metabolism, Biology:Evolution, Diversity
Resource Type: Scientific Resources:Overview/Reference Work
Extreme Environments: Extremely Hot
Grade Level: Graduate/Professional, General Public, College Upper (15-16), College Lower (13-14)

Microbiology in Yellowstone National Park part of SERC Web Resource Collection
http://www.wfed.org/resources/reports/article5.htm

This site describes how Yellowstone National Park is a focal point for cutting-edge microbiology research and how it provides a valuable setting for outreach education. Topics include questions for ...
Subject: Biology: Biology:Microbiology
Resource Type: Scientific Resources:Overview/Reference Work
Extreme Environments: Extremely Hot

Eukaryotes in Extreme Environments part of SERC Web Resource Collection
http://www.nhm.ac.uk/zoology/extreme.html

This article is a compilation of information about free-living eukaryotes in extreme environments. Written in summary form, it includes anaerobes, thermophiles, psychrophiles, acidophiles, ...
Subject: Biology: Biology:Diversity, Microbiology, Biology
Resource Type: Scientific Resources:Overview/Reference Work
Extreme Environments: High Pressure, Anhydrous, Anoxic, Extremely Hot, Hypersaline, Alkaline, Acidic, Extremely Cold
Grade Level: Informal, General Public, Graduate/Professional, College Upper (15-16), College Lower (13-14), High School (9-12)

Mono Lake Microbial Diversity part of SERC Web Resource Collection
http://www.monolake.uga.edu/reports/Mono_Lake_Microbial ...

This is a survey reporting the phylogenetic diversity of Mono Lake bacteria as conducted by the Mono Lake Microbial Observatory. Samples were collected from different layers of the lake and analyzed ...
Subject: Biology: Biology:Diversity:Censuses, Biology:Microbiology, Ecology:Metabolism
Resource Type: Scientific Resources:Research Results
Extreme Environments: Hypersaline, Altered by Humans, Alkaline
Grade Level: College Upper (15-16), Graduate/Professional

Ice Cube of Exotic Microbes part of SERC Web Resource Collection
http://www.astrobio.net/news/article234.html

This article describes a permafrost subglacial lake discovered beneath Antarctica. The lake offers scientists a chance to test their sterile drilling techniques before exploring elsewhere

Subject: Biology
313 matches General/Other
Astrobiology 100 matches
Biogeochemistry 136 matches
Diversity 157 matches
Ecology 667 matches
Evolution 231 matches
Microbiology 900 matches
Molecular Biology 190 matches

Resource Type
Activities 136 matches
Assessments 13 matches
Course Information 34 matches
Datasets and Tools 32 matches
Audio/Visual 162 matches
Computer Applications 21 matches
Pedagogic Resources 63 matches
Scientific Resources 771 matches
Biographical Resources 4 matches
Policy Resources 14 matches

Extreme Environments
Alkaline 60 matches
Acidic 65 matches
Extremely Cold 61 matches
Extremely Hot 139 matches
Hypersaline 68 matches
High Pressure 70 matches
High Radiation 28 matches
Anhydrous 34 matches
Anoxic 73 matches
Altered by Humans 71 matches

Ocean Environments
Coastal and Estuarine 195 matches
Shallow Sea Floor/Continental Shelf 32 matches
Deep Sea Floor/Abyssal 46 matches
Surface Waters 91 matches
Deep Waters 29 matches

Grade Level
Primary (K-2) 22 matches

Subject: Biology showing only **Biology** > **Ecology** > Habitats ⌐ Show all Subject: Biology
Resource Type showing only **Audio/Visual** > Images/Illustrations ⌐ Show all Resource Type
Extreme Environments showing only **Extremely Hot** ⌐ Show all Extreme Environments
Ocean Environments showing only **Deep Sea Floor/Abyssal** ⌐ Show all Ocean Environments
Grade Level showing only **Middle (6-8)** ⌐ Show all Grade Level

Results 1 - 7 of **7 matches**

Narrow the View ⌐

Sea Vent Viewer part of SERC Web Resource Collection
http://www.nsf.gov/news/overviews/earth-environ/interact...
This web site serves as an educational overview of National Science Foundation (NSF) earth and environmental science research focusing on hydrothermal vent systems. It features an interactive viewer ...
Subject: Biology: Biology:Ecology:Habitats:Benthic, Biology:Diversity, Ecology:Habitats:Marine, Biology:Microbiology
Resource Type: Audio/Visual:Images/Illustrations, Scientific Resources:Overview/Reference Work, Audio/Visual:Animations/Video
Extreme Environments: High Pressure, Extremely Hot
Ocean Environments: Deep Sea Floor/Abyssal:Hydrothermal Systems
Grade Level: Primary (K-2), Intermediate (3-5), College Lower (13-14), High School (9-12), Middle (6-8), Graduate/Professional, College Upper (15-16), General Public, Informal

We're in Hot Water Now: Hydrothermal Vents part of SERC Web Resource Collection
http://www.nationalgeographic.com/xpeditions/lessons/07/...
In this National Geographic lesson, students will use National Geographic's Yellowstone internet module to learn about the processes that drive geysers. The activity involves learning about ...
Subject: Biology: Biology:Ecology:Symbiotic Relations, Symbiotic Relations:Mutualism, Biology:Ecology:Metabolism, Habitats:Marine, Biology:Diversity, Ecology:Habitats:Benthic, Biology:Microbiology, Evolution
Resource Type: Computer Applications, Activities:Lab Activity, Audio/Visual:Images/Illustrations, Activities:Classroom Activity
Extreme Environments: Extremely Hot, High Pressure
Ocean Environments: Deep Sea Floor/Abyssal:Hydrothermal Systems

Subject: Biology Show all Subject: Biol
Biology > Ecology > Habitats
Marine 7 matches
Benthic 7 matches

Resource Type Show all Resource Type
Audio/Visual > Images/Illustratio
7 matches

Extreme Environments Show all Extrem Environments
Extremely Hot
7 matches

Ocean Environments Show all Ocean Environments
Deep Sea Floor/Abyssal
1 match General/Other
Hydrothermal Systems 7 matches

Grade Level Show all Grade Level
Middle (6-8)
7 matches

Course

- Main Dishes (15504)
- Desserts (7530)
- Side Dishes/Vegetables (6182)
- ⊞ **Show More**

Convenience

- Entertaining (23804)
- Make-Ahead (13917)
- Quick/Easy (13186)
- ⊞ **Show More**

Cost Per Serving

- $1 and Under (388)
- $1.01 to $2 (394)
- $2.01 to $3 (250)
- $3.01 to $4 (94)
- $4.01 and Up (28)

Cuisine

- American (28614)
- Italian (3129)
- New American (2370)
- ⊞ **Show More**

Main Ingredient

- Vegetables (11246)
- Fruits (6297)
- Poultry (5287)
- ⊞ **Show More**

Dietary Consideration

- Meatless (11299)
- Low Cholesterol (7534)
- Low Saturated Fat (7444)
- ⊞ **Show More**

Cooking Method

- Bake (12470)

⊟ ★★★★★

Jambalaya
Real Simple, DECEMBER 2004
⊟ ★★★★★

Weeknight Ravioli Lasagna
All You, MARCH 2009
⊟ ★★☆☆☆

Green Bean Casserole
Oxmoor House, FEBRUARY 2006
⊟ ★★★★★

Ravioli with Roasted Zucchini
Real Simple, APRIL 2005
⊟ ★★★★★

Lemon-Stuffed Grilled Branzino
Food & Wine, SEPTEMBER 2009
⊟

Smoked Trout-and-Horseradish Spread
Southern Living, DECEMBER 2008
⊟

Artichoke, Spinach, and Feta Stuffed Shells
Cooking Light, DECEMBER 2006

Taxonomy Displays: Facets

Advantages

- Supports more complex search queries by users
- Allows users to control the search refinement, narrowing or broadening in any manner or order

Disadvantages

- Only suitable for somewhat structured, unified type of content that all share the same multiple facets
- Does not support "advanced search" of multiple terms selected at once ("or") from the same facet
- Requires investment of thorough indexing/tagging

Hierarchies & Facets Combined

Hierarchies of topics, then facets to narrow:

ThomasNet business directory
   http://www.thomasnet.com

Buzzillions product reviews
   http://www.buzzillions.com

Amazon.com
   http://www.amazon.com

Sign Up | Log In | Product News | Promote

Product/Service | **Company Name** | **Brand** | **CAD Drawings** | **Product News** | **White Papers**

Epoxy Adhesives | All States/Provinces | Sear

Home > Supplier – Product/Service Results: Epoxy Adhesives

Narrow Your Search

+ Search Within Results

– Locations Served

Alabama
Arizona
Arkansas
British Columbia
California – North
[+] More

+ Search Within # Miles

+ Company Type

+ Certifications

+ Ownership

+ Product Detail

Expand Your Search

– Related Categories

Epoxy Construction
Adhesives

Adhesives

Epoxy Adhesives Suppliers

Displaying **1 to 25** out of 2,472 results

☑ to (Compare Suppliers)

☐ **Ellsworth Adhesives** - Locations
http://www.ellsworth.com/adhesives/epoxy_ad...
Distributor, Manufacturer, Custom Manufacturer
Company Profile: Distributor of nearly 300 different epoxy adhesive products.
Brand Names: 3M, 5 Minute Epoxy, Albion, Alloy Products, Armstrong, BD, Bennett, Black Max, Bondmaster, Bostik,...

☐ **Master Bond, Inc.** - Hackensack, NJ
http://masterbond.rtrk.com/?scid=774266&rl ...
Manufacturer, Custom Manufacturer, Service Company
Company Profile: Manufacturer of epoxy resin adhesives including 1 & 2 component systems & custom manufacturer c
specialty **epoxy adhesives** with heat & UV cure. Application engineering & technical support provided. Properties inc
specific gravity, viscosity, gap filling, hardness, electrical insulation, chemical ...

☐ **Loctite Industrial, Henkel Corp.** - Rocky Hill, CT
http://www.loctiteproducts.com/epoxies.shtm...
Distributor, Manufacturer, Custom Manufacturer
Company Profile: ISO 9001:2000 certified manufacturer & distributor of **epoxy adhesives**. Features include shock
resistance, room temperature cure, low out gassing & low permeability to gases & vapors. **Epoxy adhesives** are resi
to water, weather, oxygen, ozone, petroleum products, mild acids & alkali. Specifications ...
Brand Names: Adhesin, Bonderite, Hysol, Liofol, Loctite, Technomelt, Teroson

☐ **Henkel Corporation** - Locations
http://www.henkelna.com/cps/rde/xchg/SID-0A...
Distributor, Manufacturer, Custom Manufacturer
Company Profile: ISO 14001, ISO 9001, ISO/TS 16949 & AS 9100 certified manufacturer & distributor of adhesives
including coating, electrical potting & **epoxy adhesives**. Types include water-based adhesives, pre-treatment coating

Electronic Learning Toys • Housekeeping Toys • Play Jewelry • Puppets • Puzzles • Sleds • Sports Action Figures • Toy Boxes • Toy Helicopters • Video Game Consoles • Video Games

Top Toys Brands: Hasbro Action Figures • LeapFrog Learning Toys • Lego Building Sets

Baby

Baby Toys • Car Seats • Cribs • Strollers • All Baby Reviews

Baby Buying Guides: Baby Winter Clothes • Crib Mattresses • Diaper Bags

Top Baby Brands: Britax Car Seats • Bugaboo Strollers • Fisher-Price Baby Toys • Graco High Chairs

Books

Biographies • Children's Books • Christian Books • Cookbooks • Diet Books • Fiction • All Books Reviews

Pets

Pet Food • All Pets Reviews

Top Pets Brands: HALO Dog Food

Office

Printers • All Office Reviews

Top Office Brands: HP Printers

Fan Shop

NFL Apparel • MLB Apparel • NBA Apparel • NHL Apparel • NASCAR Apparel • NCAA Apparel • All Fan Shop Reviews

Top Fan Shop Brands: Reebok NFL Apparel

Motor Sports

Auto Tires • All Motor Sports Reviews

Top Motor Sports Brands: BFGoodrich Auto Tires

Printer Reviews

Printers by Category

Inkjet Printers (355)
Laser Printers (279)
All-In-One Printers (276)
Photo Printers (143)
Mobile Printers (6)

Printers by Brand

HP (329)
Canon (120)
Brother (96)
Epson (95)
Lexmark (79)
more »

Printers by Price

$0 to $50 (122)
$50 to $200 (346)
$200 to $500 (228)
$500 to $1000 (100)
$1000 to $2000 (69)
more »

More

Greenness

Displaying **1** - 10 of **1142 Products**   Show 10 ✓   Sort by Top Ranked ✓

HP Photo Printer Reviews

Photo Printers by Pros

Easy to use (6)
Easy setup (6)
Reliable (6)
Sharp tones & colors (6)
Fast print time (6)
more »

Photo Printers by Use

Everyday images (6)
Color photos (3)
Black & white photos (2)
Portraits (1)
Art prints (1)

Photo Printers by Price

$50 to $75 (1)
$75 to $100 (4)
$100 to $125 (2)
$125 to $150 (5)
$150 to $175 (2)
more »

More

Greenness

You selected: ✗ HP   ✗ Casual user   ✗ $50 to $200

Browse Books

Amazon Kindle
Kindle
Kindle DX
Kindle Books

Categories
Arts & Photography
Audiobooks
Biographies & Memoirs
Business & Investing
Calendars
Children's Books
Christian Books
Comics & Graphic Novels
Computers & Internet
Cooking, Food & Wine
Crafts & Hobbies
Entertainment
Gay & Lesbian
Health, Mind & Body
History
Home & Garden
Literature & Fiction
Mystery & Thrillers
Nonfiction
Outdoors & Nature
Parenting & Families
Politics
Professional & Technical
Puzzles & Games
Reference
Religion & Spirituality
Romance
Science
Science Fiction & Fantasy
Self-Help

Books

Browse **bestselle**

Save up to

Textbo

Alibi Hardcover
$21.99 $14.95

› See more ne

Featured C

JONATHAN

Browse

Home Computing
Apple
Business & Culture
Certification Central
Computer Science
Databases
Digital Music
Digital Photography & Video
Games & Strategy Guid
General
Graphic Design
Hardware
Microsoft
Mobile & Wireless Computing
Networking
Operating Systems
Programming
Project Management
Security & Encryption
Software
Web Development

Computers & Internet

Blueprints for Web Design Success

LOOK INSIDE!

New Releases
Any New Release
Last 30 days (7)
Last 90 days (38)

Department
‹ Books
  ‹ Computers & Internet
   Databases
   Beginning & Introductory (697)
   Data Mining (2,178)
   Data Warehousing (983)
   Database Design (2,119)
   Database Management Systems (3,168)
   Oracle (1,360)
   Relational Databases (642)

Books › Computers & Internet › Databa

Showing 1 - 12 of 23,172 Results

1.   **LOOK INSIDE!**
     CISSP Certification
     9, 2007)
     Buy new: $79.99 $50.
     Get it by **Monday, Au**
     Eligible for **FREE** Supe
     ★★★★☆ (31)
     Other Editions: Kindle
     See newer edition o

2.   **LOOK INSIDE!**
     QuickBooks 2009:
     Buy new: $29.99 $19.
     Get it by **Monday, Aug 10** i
     Eligible for FREE Super Saver

New Releases
Any New Release
Last 90 days (6)

Department
‹ Books
  ‹ Computers & Internet
   ‹ Databases
    Database Design

Format
Any Format
Printed Books (1,882)
HTML (73)

Books › Computers & Internet › Databases › Database Des

Showing 1 - 12 of 2,204 Results

1.   **LOOK INSIDE!**
     PHP and MySQL Web Development (4
     Laura Thomson (**Paperback** - Oct 11, 20
     Buy new: $49.99 $31.49   78 Used & new fr
     Get it by **Monday, Aug 10** if you order in the
     Eligible for **FREE** Super Saver Shipping.
     ★★★★☆ (201)
     Other Editions: Kindle Edition, Paperback

2.   **LOOK INSIDE!**
     PHP 6 and MySQL 5 for Dynamic Web
     (Paperback - Dec 20, 2007)

Format
Any Format
Audiobooks (7)
HTML (902)
Kindle Books (235)
PDF (42)
Printed Books (10,995)

Binding
Any Binding
Paperback (8,491)
Hardcover (2,141)
School & Library Binding (4)
Large Print (2)

Author
Any Author
Gary B. Shelly (43)
Lisa Friedrichsen (39)
Thomas J. Cashman (36)
Joseph J. Adamski (33)
Shelley Gaskin (27)
Ben Forta (26)
Robert T. Grauer (22)
› **See more...**

Series
Any Series

49

Further Reading

Hedden, Heather. (2010). *The Accidental Taxonomist.* Medford, NJ: Information Today Inc. www.accidental-taxonomist.com

Questions/Contact

Heather Hedden

Hedden Information Management

98 East Riding Drive

Carlisle, MA 01741

www.hedden-information.com

heather@hedden.net

978-371-0822

978-467-5195 (cell)