



# ITIS: Accessing Taxonomic Information Through the NBII

An automated reference of scientific and common names for species important to North America and beyond ...

## What Is Taxonomy?

Taxonomy is the science of classification in which related organisms are grouped together based on their characteristics. Understanding the similarities and differences among groups of organisms is the foundation for understanding all other aspects of biology. That is why it is often said that taxonomy defines and documents biological diversity.

Not surprisingly, taxonomy is a central concern of the National Biological Information Infrastructure (NBII) <[www.nbio.gov](http://www.nbio.gov)> – an electronic

information network that provides access to biological data and information on our nation’s plants, animals, and ecosystems. For the NBII, the Integrated Taxonomic Information System (ITIS) is a crucial NBII component that addresses the challenges inherent in providing biological data and information from a variety of sources.

One of the major challenges for the NBII and NBII customers has been the lack of ready access to standardized information on the names and taxonomy of organisms. While there are international codes of nomenclature for naming organisms, changing species concepts and classification have led to the relatively common situation in which the same species may be referred to by different names.

## ITIS Is Becoming the Standard

Now, ITIS is fast becoming the standard for nomenclature used by other databases. The ability to refer to standardized taxonomic nomenclature

is a prerequisite for biological data sharing and comparison among different agencies and organizations. Standardized names of organisms let users look at synonyms or alternative names that have been used to describe the same species in different geographic regions



or at different times. Similarly, taxonomic data and information are necessary to support all types of biological inventory, monitoring, and research.

The ITIS database – accessible through the NBII or directly at <<http://www.itis.gov>> – is made available for broad, continual use by government agencies, scientists, and the public by linking an advanced relational database to Web technology. ITIS contains about 535,000 accepted scientific names, synonyms, and common names for terrestrial, marine, and freshwater taxa from all biological groups (animals, plants, fungi, and microbes).

While the system focuses on North American species, it also includes worldwide treatment of birds, fishes, amphibians, mammals, many reptiles, and several invertebrate groups. ITIS provides each scientific name with a stable and unique taxonomic serial number (TSN) as the “common denominator” for accessing information on such issues as invasive species, declining amphibians, migratory birds, fishery stocks, pollinators, agricultural pests, and emerging diseases. It presents the names in a standard classification that contains author, date, distributional, and bibliographic information related



The Latin binomial, *Rudbeckia hirta* L., was given to the blackeyed Susan by Linnaeus in 1753.

**ITIS Report**  
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Results of Search in every Kingdom for Scientific Name containing 'Glyptemys insculpta'

**Glyptemys insculpta (LeConte, 1830)**  
 Taxonomic Serial No.: 668669

**Taxonomy and Nomenclature**

Kingdom:	Animalia
Taxonomic Rank:	Species
Synonym(s):	<a href="#">Clemmys insculpta</a> (LeConte, 1830) <a href="#">Testudo insculpta</a> LeConte, 1830
Common Name(s):	Wood Turtle [English]

**Taxonomic Status:**  
 Current Standing: valid

**Data Quality Indicators:**  
 Record Credibility Rating: verified - standards met

**Taxonomic Hierarchy**

Kingdom	<a href="#">Animalia</a> -- Animal, animals, animaux
Phylum	<a href="#">Chordata</a> -- chordates, cordado, cordés
Subphylum	<a href="#">Vertebrata</a> -- vertebrado, vertebrates, vertébrés
Class	<a href="#">Reptilia</a> Laurenti, 1768 -- reptiles, reptiles, Reptiles
Order	<a href="#">Testudines</a> Linnaeus, 1759 -- Testudines, tortoises,
Family	<a href="#">Emyridae</a> Rafinesque, 1815 -- Emyrid Turtles, pp
Genus	<a href="#">Glyptemys</a> Agassiz, 1857 -- Sculptured Turtles
Species	<a href="#">Glyptemys insculpta</a> (LeConte, 1830) -- Wood Tur



Photo credit: John Mosesso, Jr./NBII

Elements of a standard report from the ITIS database for the wood turtle, *Glyptemys insculpta* (LeConte, 1830).

**Geographic Information**

<b>Geographic Division:</b>	North America
<b>Jurisdiction Origin:</b>	Canada, Native Continental US, Native

**Comments**

**Comment:**

**Other Off-Site Resources** NEW

Additional off-site resources may be available for this taxon. ITIS can search these resources and return any relevant links. ITIS will search the following:

- Global Biodiversity Information Facility (GBIF) Data Portal
- BioOne Journals
- National Center for Biotechnology Information (NCBI) Entrez Life Sciences Search
- Google Images
- The National Biological Information Infrastructure (NBII) BioBot
- Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora Search
- United Nations Environment Programme (UNEP) World Conservation Monitoring Centre (WCMC) Search
- Threatened and Endangered Species (TESS) Search
- U.S. Fish and Wildlife Service (FWS) Search
- Ocean Biogeographic Information System (OBIS) Search

Please be patient. The time it takes to return results is dependant on the speed of the individual sites and may take several minutes.

to the names. In addition, common names are available through ITIS in several languages, including English, French, Spanish, and Portuguese.

ITIS customers can also learn synonyms (or aliases), and then use those names to search the Web for information on the species, ranging from its genetic make-up, to its basic life history, to its geographical distribution and habitat requirements. Libraries and museums can use ITIS to index their collections.

### Building Knowledge Through Partnerships

Through the years, NBII success has been rooted in its commitment to "building knowledge through partnerships." ITIS is one of the best examples of this principle in action. ITIS was established in the mid 1990s as a cooperative project among several federal agencies to improve upon and expand taxonomic data. Today, ITIS partners and cooperators are wide-ranging and include the U.S. Geological

Survey, the Environmental Protection Agency, the Natural Resources Conservation Service, the Agricultural Research Service, the National Oceanic and Atmospheric Administration, the National Park Service, the Smithsonian Institution National Museum of Natural History, Agriculture and Ag Food Canada, Conabio (Mexico), Species 2000, and the Global Biodiversity Information Facility, among others.

ITIS partner agencies collaborate with taxonomic specialists throughout the world who act as "stewards" to develop, review, and verify the reliability and quality of the data on the various taxonomic groups represented. ITIS data are reviewed periodically to ensure high quality with valid classifications, revisions, and additions of newly described species. The ITIS system can be used to let individual taxonomic experts compare their data against ITIS standards. The ITIS system includes a PC-based tool, the "Taxonomic Workbench," that allows for quality-

controlled data entry and update by ITIS cooperators on a distributed basis.

Through the cooperation of partner agencies and contributing scientists, ITIS is now providing a nomenclatural standard of accepted names that can be used as a common vocabulary linking biological information of all types developed by scientists from a variety of disciplines.

ITIS and Species 2000 cooperate to annually produce the Catalogue of Life, a checklist and index of the world's species. Their goal is to complete the global checklist of 1.8 million species by 2011.

### For More Information

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### Current ITIS Partners

NBII ■ U.S. Geological Survey ■ Environmental Protection Agency ■ Natural Resources Conservation Service ■ Agricultural Research Service ■ National Oceanic and Atmospheric Administration ■ National Park Service ■ Smithsonian's National Museum of Natural History ■ Agriculture and Ag Food Canada ■ CONABIO (Mexico) ■ Species 2000 ■ Global Biodiversity Information Facility