

ITIS

ITIS Data Model

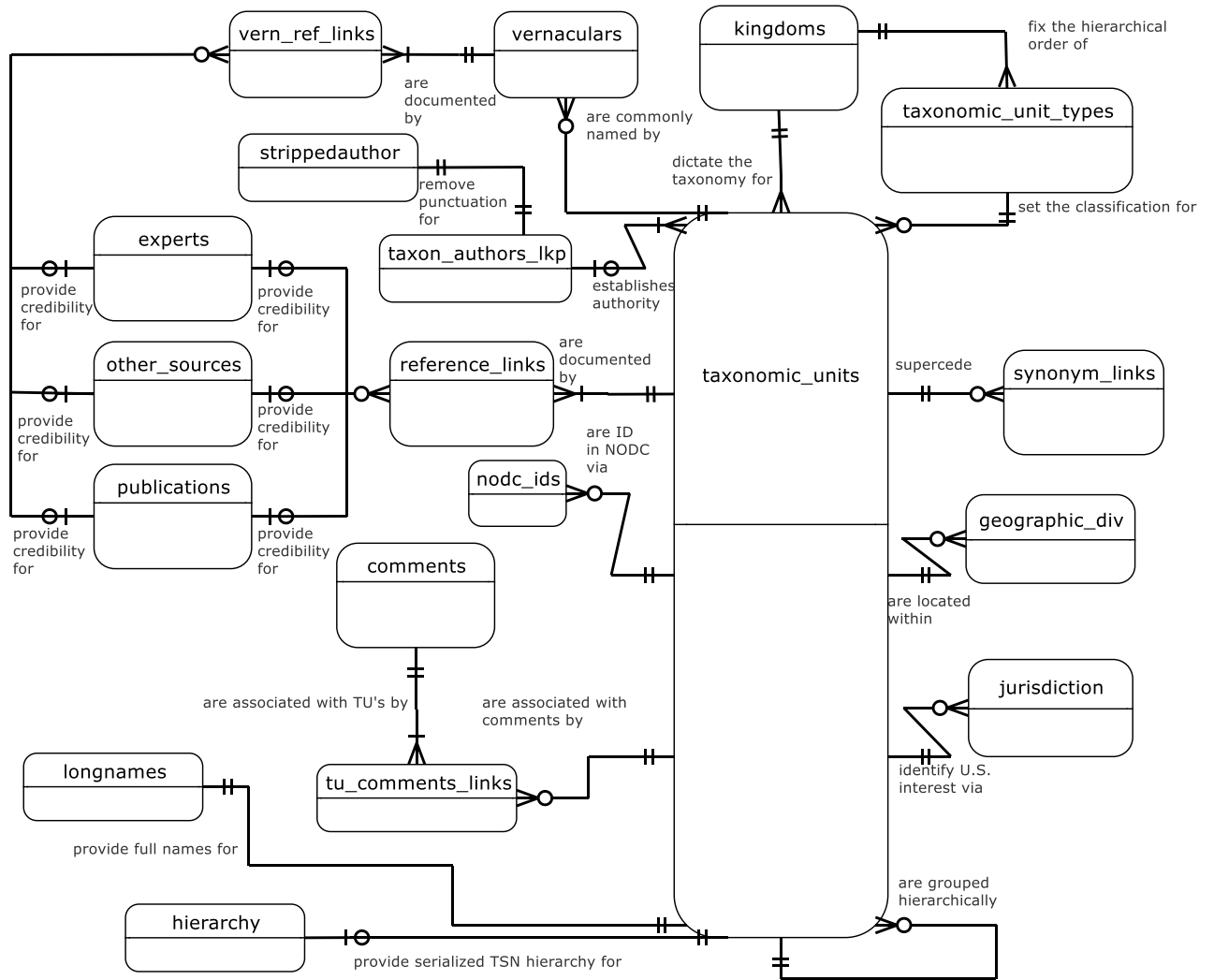
Entity Relationships and Element Definitions

Revision 2.3



4/23/2019

This document is designed to provide information on ITIS data semantics. It describes what is stored, their characteristics, the data requirements of those characteristics, and the relationships between the stored entities.

ITIS Physical Model



1.0 Definitions for the entity taxonomic_units and its elements

taxonomic_units			
	Column Name	Data Type	Allow Nulls
	tsn	int	<input type="checkbox"/>
	unit_ind1	char(1)	<input checked="" type="checkbox"/>
	unit_name1	char(35)	<input type="checkbox"/>
	unit_ind2	char(1)	<input checked="" type="checkbox"/>
	unit_name2	varchar(35)	<input checked="" type="checkbox"/>
	unit_ind3	varchar(7)	<input checked="" type="checkbox"/>
	unit_name3	varchar(35)	<input checked="" type="checkbox"/>
	unit_ind4	varchar(7)	<input checked="" type="checkbox"/>
	unit_name4	varchar(35)	<input checked="" type="checkbox"/>
	unnamed_taxon_ind	char(1)	<input checked="" type="checkbox"/>
	usage	varchar(12)	<input type="checkbox"/>
	unaccept_reason	varchar(50)	<input checked="" type="checkbox"/>
	credibility_rtng	varchar(40)	<input type="checkbox"/>
	completeness_rtng	char(10)	<input checked="" type="checkbox"/>
	currency_rating	char(7)	<input checked="" type="checkbox"/>
	phylo_sort_seq	smallint	<input checked="" type="checkbox"/>
	initial_time_stamp	datetime	<input type="checkbox"/>
	parent_tsn	int	<input checked="" type="checkbox"/>
	taxon_author_id	int	<input checked="" type="checkbox"/>
	hybrid_author_id	int	<input checked="" type="checkbox"/>
	kingdom_id	smallint	<input type="checkbox"/>
	rank_id	smallint	<input type="checkbox"/>
	update_date	smalldatetime	<input type="checkbox"/>
	uncertain_prnt_ind	char(3)	<input checked="" type="checkbox"/>
	name_usage	varchar(12)	<input type="checkbox"/>
	complete_name	varchar(300)	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

1.1 *taxonomic_units* Description

Taxon name and associated attributes for levels of taxonomic hierarchy structure from kingdom to genus; below genus, binomials/polynomials are identified.

@1 tsn +
unit_ind1 +
unit_name1 +
unit_ind2 +
unit_name2 +
unit_ind3 +
unit_name3 +
unit_ind4 +
unit_name4 +
unnamed_taxon_ind +
usage +
unaccept_reason +
credibility_rtng +
completeness_rtng +
currency_rating +
phylo_sort_sequence +
initial_time_stamp +
parent_tsn +
taxon_author_id +
hybrid_author_id +
kingdom_id +
rank_id +
update_date +
uncertain_prnt_ind +
name_usage +
complete_name

1.2 *taxonomic_units* Elements

1.2.1 tsn

Name:tsn

Element Size:

Table: taxonomic_units

Display Picture:

Data Type: INT

SQL Server Name: tsn

Nullness: NOT NULL UNIQUE

Values List:

Data Source: SYSTEM GENERATED

Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units.

Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

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1.2.2 unit_ind1

Name: unit_ind1 Element Size:1 Table: taxonomic_units
Display Picture: Data Type: CHAR SQL Server Name: unit_ind1
Nullness: NULL Values List:
Data Source: CHOICE LIST

Validation Rules: Applicable to the kingdom Chromista, Fungi and Plantae.
Description: Indicator of an occurrence of a plant hybrid at the generic level.

1.2.3 unit_name1

Name: unit_name1 Element Size:35 Table: taxonomic_units
Display Picture: Data Type: CHAR SQL Server
Name:unit_name1
Nullness: NOT NULL Values List:
Data Source: CHOICE LIST

Validation Rules: For monomials this will be the only name field entered. For uninomials and polynomials, this field will be used for the first part of the name. The names in this position require the initial letter to be capitalized.

Description: The singular or first part of a scientifically accepted label for an occurrence of Taxonomic Units.

1.2.4 unit_ind2

Name: unit_ind2 Element Size:1 Table: taxonomic_units
Display Picture: Data Type: CHAR SQL Server Name:unit_ind2
Nullness: NULL Values List:
Data Source: CHOICE LIST/USER ENTERED

Validation Rules: Applicable to the kingdom Chromista, Fungi and Plantae.

Description: A hybrid indicator positioned between the first and second parts of a binomial or polynomial taxonomic name.

1.2.5 unit_name2

Name: unit_name2 Element Size:35 Table: taxonomic_units
Display Picture: Data Type: VARCHAR SQL Server
Name:unit_name2
Nullness: NULL Values List:
Data Source: USER ENTERED

Validation Rules: For binomials, this will be the last field populated for the name. For trinomials and quadrinomials, this will be the second position populated.

Description: The second part of a scientifically accepted label for a binomial/polynomial occurrence of Taxonomic Units.

1.2.6 unit_ind3

Name: unit_ind3 Element Size:7 Table: taxonomic_units

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Display Picture: Data Type: VARCHAR SQL Server Name:unit_ind3
Nullness: NULL Values List:
ssp.
var.
subvar.
f.
subf.
X

Data Source: CHOICE LIST

Validation Rules: All values of this element apply to the kingdoms Chromista, Fungi, and Plantae. The value ssp. also applies to Animalia, Archaea, Bacteria, Protozoa.

Description: A category indicator located within a polynomial taxonomic name.

1.2.7 unit_name3

Name: unit_name3 Element Size:35 Table: taxonomic_units
Display Picture: Data Type: VARCHAR SQL Server
Name:unit_name3
Nullness: NULL Values List:

Data Source: USER ENTERED

Validation Rules: For trinomials this field will be populated with the last part of the taxonomic name. For quadrinomials and hybrid formulas this field will be populated with the third part of the name.

Description: The third portion of a scientifically accepted label for a polynomial occurrence of Taxonomic Units.

1.2.8 unit_ind4

Name: unit_ind4 Element Size:7 Table: taxonomic_units
Display Picture: Data Type: VARCHAR SQL Server Name:unit_ind4
Nullness: NULL Values List:
var.
f.

Data Source: CHOICE LIST

Validation Rules: Applicable to the Plant kingdom.

Description: A category indicator located within a polynomial taxonomic name.

1.2.9 unit_name4

Name: unit_name4 Element Size:35 Table: taxonomic_units
Display Picture: Data Type: VARCHAR SQL Server
Name:unit_name4
Nullness: NULL Values List:

Data Source: USER ENTERED

Validation Rules: This is the final position populated for quadrinomials or hybrid formulas.

Description: The fourth part of a scientifically accepted label for a polynomial occurrence of Taxonomic Units.

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1.2.10 unnamed_taxon_ind

Name: unnamed_taxon_ind Element Size:1 Table: taxonomic_units
Display Picture: Data Type: CHAR SQL Server Name:
unnamed_taxon_ind
Nullness: NULL Values List:
Y = Unnamed taxon
N = Named taxon

Data Source: CHOICE LIST

Validation Rules: This field will need to be populated only when an occurrence of Taxonomic Units possesses a non-standard name.

Description: Indicator for occurrences of Taxonomic Units whose names represent unnamed taxa and are therefore not standard taxonomic names.

1.2.11 usage

Name: usage Element Size:12 Table: taxonomic_units
Display Picture: Data Type: VARCHAR SQL Server Name: usage
Nullness: NOT NULL Values List:
accepted (Chromista, Fungi,
Plantae)
not accepted (Chromista,
Fungi, Plantae)
valid (Animalia, Archaea,
Bacteria, Protozoa)
invalid (Animalia, Archaea,
Bacteria, Protozoa)

Data Source: CHOICE LIST

Validation Rules: Choice lists are dependent upon the values associated with a kingdom.

Description: Current standing of an occurrence of a Taxonomic Unit. Note that the usage column is deprecated and will be removed in the future. This attribute has been replaced by name_usage.

1.2.12 unaccept_reason

Name: unaccept_reason Element Size:50 Table: taxonomic_units
Display Picture: Data Type: VARCHAR SQL Server Name:
unaccept_reason
Nullness: NOT NULL Values List:
**Chromista, Fungi, and
Plantae:**
database artifact
homonym (illegitimate)
horticultural
invalidly published, nomen
nudum
invalidly published, other
misapplied
orthographic variant
(misspelling)

other, see comments
 pro parte
 rejected name
 superfluous renaming
 (illegitimate)
 synonym
 unspecified in provided data
**Animalia, Archaea, Bacteria
 and Protozoa:**
 homonym & junior synonym
 junior homonym
 junior synonym
 misapplied
 nomen dubium
 nomen oblitum
 original name/combination
 other, see comments
 pro parte
 subsequent name/combination
 unavailable, database artifact
 unavailable, incorrect orig.
 spelling
 unavailable, literature
 misspelling
 unavailable, nomen nudum
 unavailable, other
 unavailable, suppressed by
 ruling
 unjustified emendation
 unnecessary replacement
 unspecified in provided data

Data Source: CHOICE LIST

Validation Rules: This element is required when usage is set to not accepted (Chromista, Fungi, and Plant) or invalid (Animalia, Archaea, Bacteria and Protozoa). Only those reasons for a particular kingdom should be displayed.

Description: The cause for an occurrence of Taxonomic Units being identified as not accepted/invalid under the usage element.

1.2.13 credibility_rtng

Name: credibility_rtng

Element Size:40

Table: taxonomic_units

Display Picture:

Data Type: VARCHAR

SQL Server Name:
credibility_rtng

Nullness: NOT NULL

Values List:

No review; non-peer reviewed
source

No review; untreated NODC
data

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Minimum
taxonomic/nomenclature
review
TWG standards met

Data Source: CHOICE LIST

Validation Rules: This element will be populated for all occurrences of the Taxonomic Units table. This element is entered by the TWG.

Description: A subjective rating designation as determined by the Taxonomic Work Group reflecting the level of review and the perceived level of accuracy for an occurrence of Taxonomic Units and its associated attributes.

1.2.14 completeness_rtng

Name: completeness_rtng

Element Size:10

Table: taxonomic_units

Display Picture:

Data Type: CHAR

SQL Server Name:
completeness_rtng

Nullness: NULL

Values List:
unknown
partial
complete

Data Source: CHOICE LIST

Validation Rules: This element will be populated for occurrences of the Taxonomic Units table for which the rank is genus or above. Different ratings may occur for different rank levels.

Description: A rating designation reflecting whether all known, named, modern species (extant or recently extinct) for that taxon were incorporated into ITIS at the time of review.

1.2.15 currency_rating

Name: currency_rating

Element Size:7

Table: taxonomic_units

Display Picture:

Data Type: CHAR

SQL Server Name:
currency_rating

Nullness: NULL

Values List:
unknown
A specific 4 digit year, e.g.
1993

Data Source: USER ENTERED

Validation Rules: This element will be populated for rows within the Taxonomic Units table for which the taxon's rank is genus or above. Different ratings may occur at different rank levels.

Description: A rating designation reflecting the year of revision/source for a group.

1.2.16 phylo_sort_seq

Name: phylo_sort_seq

Element Size:

Table: taxonomic_units

Display Picture:

Data Type: SMALLINT

SQL Server Name:
phylo_sort_seq

Nullness: NULL

Values List:

Data Source: NOT IN USE

Validation Rules: This field is required for ranks from kingdom to order inclusive.

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Description: A sequence for an occurrence of Taxonomic Units with ranks between kingdom and order, inclusive, that will allow output to be displayed in phylogenetic order.

1.2.17 initial_time_stamp

Name: initial_time_stamp Element Size: Table: taxonomic_units
Display Picture: yyyy-mm-dd Data Type: DATETIME SQL Server Name:
hh:mm:ss.sss initial_time_stamp
Nullness: NOT NULL Values List:
Data Source: SYSTEM GENERATED

Validation Rules:

Description: Date and time at which an occurrence of Taxonomic Units is initially loaded into the ITIS database.

1.2.18 parent_tsn

Name: parent_tsn Element Size: Table: taxonomic_units
Display Picture: Data Type: INT SQL Server Name: parent_tsn
Nullness: NULL Values List:
Data Source: CHOICE LIST

Validation Rules: Nulls allowed. The parent should previously exist in the database or be concurrently input with the subject Taxonomic Unit record.

Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units. The taxonomic serial number for the direct parent of the subject occurrence of Taxonomic Units.

1.2.19 taxon_author_id

Name: taxon_author_id Element Size: Table: taxonomic_units
Display Picture: Data Type: INT SQL Server Name:
Nullness: NULL taxon_author_id
Values List:
Data Source: SYSTEM GENERATED

Validation Rules:

Description: A unique identifier for the author(s) of a taxonomic name.

1.2.20 hybrid_author_id

Name: hybrid_author_id Element Size: Table: taxonomic_units
Display Picture: Data Type: INT SQL Server Name:
Nullness: NULL hybrid_author_id
Values List:
Data Source: CHOICE LIST/USER ENTERED

Validation Rules: Applicable to the kingdom Chromista, Fungi, Plantae

Description: The unique identifier for the author(s) of a taxonomic name which has been identified as the second part of a hybrid formula. For example Agrostis L. X Polypogon Desf.

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1.2.21 kingdom_id

Name: kingdom_id

Element Size:

Table: taxonomic_units

Display Picture:

Data Type: SMALLINT

SQL Server Name:

kingdom_id

Nullness: NOT NULL

Values List:

- 1 Bacteria
- 2 Protozoa
- 3 Plantae
- 4 Fungi
- 5 Animalia
- 6 Chromista
- 7 Archaea

Data Source: SYSTEM GENERATED

Validation Rules:

Description: A unique identifier for the highest level of the taxonomic hierarchy structure.

1.2.22 rank_id

Name: rank_id

Element Size:

Table: taxonomic_units

Display Picture:

Data Type: SMALLINT

SQL Server Name: rank_id

Nullness: NOT NULL

Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: A unique identifier for a specific level within the taxonomic hierarchy.

Plantae/Chromista	Animalia	Fungi	Archaea Bacteria/Protozoa	ITIS rank_id
Kingdom	Kingdom	Kingdom	Kingdom	10
Subkingdom	Subkingdom	Subkingdom	Subkingdom	20
Infrakingdom	Infrakingdom		Infrakingdom(Protozoa only)	25
Superdivision	Superphylum			27
Division	Phylum	Division	Phylum	30
Subdivision	Subphylum	Subdivision	Subphylum	40
Infradivision	Infraphylum		Infraphylum(Protozoa only)	45
Parvdivision(Chromista only)			Parvphylum(Protozoa only)	47
Superclass	Superclass		Superclass	50
Class	Class	Class	Class	60
Subclass	Subclass	Subclass	Subclass	70
Infraclass	Infraclass		Infraclass	80
Superorder	Superorder	Superorder	Superorder	90
Order	Order	Order	Order	100

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Plantae/Chromista	Animalia	Fungi	Archaea Bacteria/Protozoa	ITIS rank_id
Suborder	Suborder	Suborder	Suborder	110
	Infraorder		Infraorder	120
	Section			124
	Subsection			126
	Superfamily		Superfamily	130
Family	Family	Family	Family	140
Subfamily	Subfamily	Subfamily	Subfamily	150
Tribe	Tribe	Tribe	Tribe	160
Subtribe	Subtribe	Subtribe	Subtribe	170
Genus	Genus	Genus	Genus	180
Subgenus	Subgenus	Subgenus	Subgenus	190
Section		Section		200
Subsection		Subsection		210
Species	Species	Species	Species	220
Subspecies	Subspecies	Subspecies	Subspecies	230
Variety	Variety	Variety	Variety (Protozoa only)	240
	Form			245
Subvariety	Race	Subvariety		250
	Stirp			255
Form	Morph	Form		260
	Aberration			265
Subform		Subform		270
	Unspecified			300

1.2.23 update_date

Name: update_date

Element Size:

Table: taxonomic_units

Display Picture: yyyy-mm-dd
00:00:00

Data Type:
SMALLDATETIME

SQL Server Name:
update_date

Nullness: NOT NULL

Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

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1.2.24 uncertain_prnt_ind

Name: uncertain_prnt_ind	Element Size:3	Table: taxonomic_units
Display Picture:	Data Type: CHAR	SQL Server Name: uncertain_prnt_ind
Nullness: NULL		Values List: Yes = of uncertain placement No = certain placement

Data Source: CHOICE LIST

Validation Rules: This field is set to true when an occurrence of Taxonomic Units has uncertain placement.

Description: Indicator for occurrences of Taxonomic Units where placement is uncertain.

1.2.25 name_usage

Name: name_usage	Element Size:12	Table: taxonomic_units
Display Picture:	Data Type: VARCHAR	SQL Server Name: name_usage
Nullness: NOT NULL		Values List: accepted (Chromista, Fungi, Plantae) not accepted (Chromista, Fungi, Plantae) valid (Animalia, Archaea, Bacteria, Protozoa) invalid (Animalia, Archaea, Bacteria, Protozoa)

Data Source: CHOICE LIST

Validation Rules: Choice lists are dependent upon the values associated with a kingdom.

Description: Current standing of an occurrence of a Taxonomic Unit. A duplicate of usage element. Note usage values moved to name_usage because “usage” is a SQL reserved word which sometimes causes issues with database code.

1.2.26 complete_name



Name: complete_name	Element Size:300	Table: taxonomic_units
Display Picture:	Data Type: VARCHAR	SQL Server Name: complete_name
Nullness: NULL		Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The unit indicators and unit name fields concatenated and trimmed to present entire scientific name, without taxon author. Designed to be helpful when searching for taxa by scientific name.

2.0 Definitions for the entity comments and its elements

comments			
	Column Name	Data Type	Allow Nulls
	comment_id	int	<input type="checkbox"/>
	commentator	varchar(100)	<input checked="" type="checkbox"/>
	comment_detail	char(2000)	<input type="checkbox"/>
	comment_time_stamp	datetime	<input type="checkbox"/>
	update_date	smalldatetime	<input type="checkbox"/>
			<input type="checkbox"/>

2.1 *comments Description*

A mechanism for recording history or detail deemed important for an occurrence(s) of Taxonomic Units.

@1 comment_id +
 commentator +
 comment_detail +
 comment_time_stamp +
 update_date

2.2 *comments Elements*

2.2.1 comment_id

Name: comment_id	Element Size:	Table: comments
Display Picture:	Data Type: INT	SQL Server Name: comment_id
Nullness: NOT NULL UNIQUE		Values List:
Data Source: SYSTEM GENERATED		
Validation Rules:		
Description: The unique identifier for remarks associated with an occurrence of Taxonomic Units.		

2.2.2 commentator

Name: commentator	Element Size:100	Table: comments
Display Picture:	Data Type: VARCHAR	SQL Server Name: commentator
Nullness: NULL		Values List:
Data Source: USER ENTERED		
Validation Rules:		
Description: The name of the person associated with the comment being provided with regard to an occurrence of Taxonomic Units.		

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2.2.3 comment_detail

Name: comment_detail Element Size:2000 Table: comments
Display Picture: Data Type: CHAR SQL Server Name:
comment_detail
Nullness: NOT NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: Remarks providing additional information regarding an occurrence of Taxonomic Units.

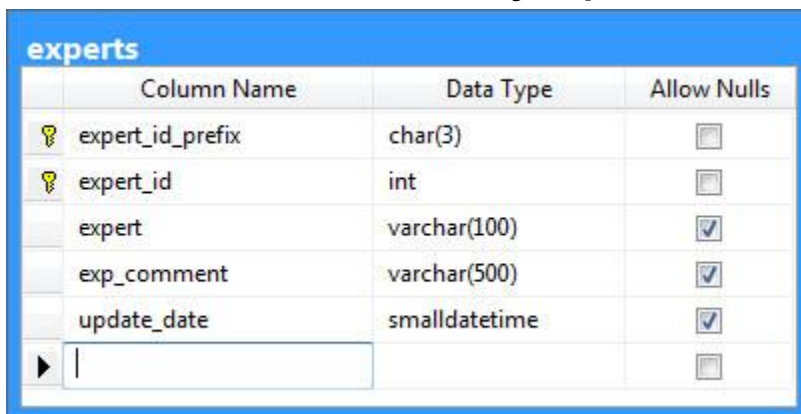
2.2.4 comment_time_stamp

Name: comment_time_stamp Element Size: Table: comments
Display Picture: yyyy-mm-dd Data Type: DATETIME SQL Server Name:
hh:mm:ss.sss comment_time_stamp
Nullness: NOT NULL Values List:
Data Source: SYSTEM ENTERED
Validation Rules:
Description: The date and time at which a comment associated with an occurrence of Taxonomic Units is entered.

2.2.5 update_date

Name: update_date Element Size: Table: comments
Display Picture: yyyy-mm-dd Data Type: SQL Server Name:
00:00:00 SMALLDATETIME update_date
Nullness: NOT NULL Values List:
Data Source: SYSTEM GENERATED
Validation Rules:
Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

3.0 Definitions for the entity experts and its elements



	Column Name	Data Type	Allow Nulls
🔑	expert_id_prefix	char(3)	<input type="checkbox"/>
🔑	expert_id	int	<input type="checkbox"/>
	expert	varchar(100)	<input checked="" type="checkbox"/>
	exp_comment	varchar(500)	<input checked="" type="checkbox"/>
	update_date	smalldatetime	<input checked="" type="checkbox"/>
▶			<input type="checkbox"/>

3.1 *experts Description*

A taxonomist who is the responsible source for an occurrence of Taxonomic Units being recognized by and added to the ITIS database, or for changes being made to an occurrence of Taxonomic Units existing in the ITIS database, or who provides credibility for vernacular names.

@1 expert_id_prefix +
@2 expert_id +
expert +
exp_comment +
update_date

3.2 *experts Elements*

3.2.1 expert_id_prefix

Name: expert_id_prefix	Element Size:3	Table: experts
Display Picture:	Data Type: CHAR	SQL Server Name: expert_id_prefix
Nullness: NOT NULL		Values List:EXP
Data Source: SYSTEM GENERATED		
Validation Rules:		
Description: A prefix attached to a serial number to identify the record as existing in Experts.		

3.2.2 expert_id

Name: expert_id	Element Size:	Table: experts
Display Picture:	Data Type: INT	SQL Server Name: expert_id
Nullness: NOT NULL UNIQUE		Values List:
Data Source: SYSTEM GENERATED		
Validation Rules:		
Description: The unique identifier established for a specific expert in the field of taxonomy whose work is being utilized by the ITIS.		

3.2.3 expert

Name: expert	Element Size:100	Table: experts
Display Picture:	Data Type: VARCHAR	SQL Server Name: expert
Nullness: NULL		Values List:
Data Source: USER ENTERED		
Validation Rules:		
Description: The name of the taxonomic expert providing credence to the taxonomy, nomenclature or attributes of a Taxonomic Unit's occurrence for the ITIS.		

3.2.4 exp_comment

Name: exp_comment	Element Size:500	Table: experts
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Display Picture: Data Type: VARCHAR SQL Server Name:
exp_comment
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: Remarks noted by or associated with a taxonomic expert who is providing
credence to the taxonomy, nomenclature or attributes of a Taxonomic Unit's occurrence.

3.2.5 update_date

Name: update_date Element Size: Table: experts
Display Picture: yyyy-mm-dd Data Type: SQL Server Name:
00:00:00 SMALLDATETIME update_date
Nullness: NULL Values List:
Data Source: SYSTEM GENERATED
Validation Rules:
Description: The date on which a record is modified. The purpose of this element is to provide
assistance to those downloading data on a periodic basis.

4.0 Definitions for the entity geographic_div and its elements

Column Name	Data Type	Allow Nulls
tsn	int	<input type="checkbox"/>
geographic_value	varchar(45)	<input type="checkbox"/>
update_date	smalldatetime	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

4.1 geographic_div Description

Geographic association for the referenced occurrence in Taxonomic Units.

@1 tsn +
@2 geographic_value +
update_date

4.2 geographic_div Elements

4.2.1 tsn

Name: tsn Element Size: Table: geographic_div
Display Picture: Data Type: INT SQL Server Name: tsn
Nullness: NOT NULL Values List:
Data Source: SYSTEM GENERATED

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Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units. Half of a two-part key in geographic_div.

Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

4.2.2. geographic_value

Name: geographic_value

Element Size:45

Table: geographic_div

Display Picture:

Data Type: VARCHAR

SQL Server Name:

geographic_value

Nullness: NOT NULL

Values List:

North America

Middle America

Caribbean

South America

Europe & Northern Asia
(excluding China)

Africa

Southern Asia

Australia

Oceania

Antarctica/Southern Ocean

Eastern Atlantic Ocean

Indo-West Pacific

East Pacific

Data Source: CHOICE LIST

Validation Rules: Half of a two-part key in geographic_div.

Description: Label given to a geographic division as identified by the Taxonomic Work Group.

4.2.3 update_date

Name: update_date

Element Size:

Table: geographic_div

Display Picture: yyyy-mm-dd

Data Type:

SQL Server Name:

00:00:00

SMALLDATETIME

update_date

Nullness: NULL




Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

5.0 Definitions for the entity jurisdiction and its elements

jurisdiction			
	Column Name	Data Type	Allow Nulls
	tsn	int	<input type="checkbox"/>
	jurisdiction_value	varchar(30)	<input type="checkbox"/>
	origin	varchar(19)	<input checked="" type="checkbox"/>
	update_date	smalldatetime	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

5.1 *jurisdiction* Description

Association of a referenced occurrence of Taxonomic Units with one or more US jurisdictional units. Also provides an identification of whether the taxon was native and/or introduced to the unit.

@1 tsn +
 @2 jurisdiction_value +
 origin +
 update_date

5.2 *jurisdiction* Elements

5.2.1 tsn

Name: tsn Element Size: Table: jurisdiction
 Display Picture: Data Type: INT SQL Server Name: tsn
 Nullness: NOT NULL Values List:
 Data Source: SYSTEM GENERATED
 Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units. Half of a two-part key in jurisdiction.
 Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

5.2.2 jurisdiction_value

Name: jurisdiction_value Element Size: 30 Table: jurisdiction
 Display Picture: Data Type: VARCHAR SQL Server Name: jurisdiction_value
 Nullness: NOT NULL Values List:
 Continental US
 Alaska
 Hawaii
 Central Pacific Territories
 Caribbean Territories

Canada
Mexico

Data Source: CHOICE LIST

Validation Rules: Half of a two-part key in jurisdiction.

Description: Label signifying a US jurisdictional unit as defined by the TWG, and Canada.

5.2.3 origin

Name: origin

Element Size:19

Table: jurisdiction

Display Picture:

Data Type: VARCHAR

SQL Server Name: origin

Nullness: NULL

Values List:

Native
Introduced
Native & Introduced
Incidental

Data Source: CHOICE LIST

Validation Rules:

Description: Indication of whether an occurrence of Taxonomic Units is native and/or introduced to a US jurisdictional unit.

5.2.4 update_date

Name: update_date

Element Size:

Table: jurisdiction

Display Picture: yyyy-mm-dd
00:00:00

Data Type:
SMALLDATETIME

SQL Server Name:
update_date

Nullness: NULL



Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

6.0 Definitions for the entity kingdoms and its elements

kingdoms			
	Column Name	Data Type	Allow Nulls
	kingdom_id	int	<input type="checkbox"/>
	kingdom_name	char(10)	<input type="checkbox"/>
	update_date	smalldatetime	<input type="checkbox"/>
			<input type="checkbox"/>

6.1 kingdoms Description

The highest rank in the taxonomic hierarchical structure

@1 kingdom_id +

kingdom_name +
update_date +

6.2 *kingdoms Elements*

6.2.1 kingdom_id

Name: kingdom_id

Element Size:

Table: kingdoms

Display Picture:

Data Type: INT

SQL Server Name:

kingdom_id

Nullness: NOT NULL UNIQU

Values List:

1 Bacteria

2 Protozoa

3 Plantae

4 Fungi

5 Animalia

6 Chromista

7 Archaea

Data Source: SYSTEM GENERATED

Validation Rules:

Description: A unique identifier for the highest level of the taxonomic hierarchy structure.

6.2.2 kingdom_name

Name: kingdom_name

Element Size:10

Table: kingdoms

Display Picture:

Data Type: CHAR

SQL Server Name:

kingdom_name

Nullness: NOT NULL

Values List:

Bacteria

Protozoa

Plantae

Fungi

Animalia

Chromista

Archaea

Data Source: CHOICE LIST

Validation Rules:

Description: The label associated with the highest level of the taxonomic hierarchy structure.

6.2.3 update_date

Name: update_date

Element Size:

Table: kingdoms

Display Picture: yyyy-mm-dd
00:00:00

Data Type:
SMALLDATETIME

SQL Server Name:

update_date

Nullness: NOT NULL

Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

7.0 Definitions for the entity **nodc_ids** and its elements

nodc_ids			
	Column Name	Data Type	Allow Nulls
	nodc_id	char(12)	<input checked="" type="checkbox"/>
	update_date	smalldatetime	<input checked="" type="checkbox"/>
	tsn	int	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

7.1 **nodc_ids** Description

A mechanism for maintaining the association between the NODC data applications and the ITIS database to support users' needs

nodc_id +
 update_date +
 tsn

7.2 **nodc_ids** Elements

7.2.1 **nodc_id**

Name: nodc_id Element Size:12 Table: nodc_ids
 Display Picture: Data Type: CHAR SQL Server Name: nodc_id
 Nullness: NULL Values List:
 Data Source: USER ENTERED
 Validation Rules:
 Description: An identifier previously assigned to an occurrence of Taxonomic Units by the National Oceanographic Data Center.

7.2.2 **update_date**

Name: update_date Element Size: Table: nodc_ids
 Display Picture: yyyy-mm-dd Data Type: SQL Server Name:
 00:00:00 SMALLDATETIME update_date
 Nullness: NULL Values List:
 Data Source: SYSTEM GENERATED
 Validation Rules:
 Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

7.2.3 **tsn**

Name:tsn Element Size: Table: nodc_ids

ITIS Data Model

Display Picture:

Data Type: INT

SQL Server Name: tsn

Nullness: NULL




Values List:

Data Source: SYSTEM GENERATED

Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units.

Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

8.0 Definitions for the entity `other_sources` and its elements

other_sources			
	Column Name	Data Type	Allow Nulls
	source_id_prefix	char(3)	<input type="checkbox"/>
	source_id	int	<input type="checkbox"/>
	source_type	char(10)	<input checked="" type="checkbox"/>
	source	varchar(64)	<input checked="" type="checkbox"/>
	version	char(10)	<input checked="" type="checkbox"/>
	acquisition_date	smalldatetime	<input checked="" type="checkbox"/>
	source_comment	varchar(500)	<input checked="" type="checkbox"/>
	update_date	smalldatetime	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

8.1 *other_sources* Description

References, other than persons or publications, that are taxonomically significant for additions or changes to occurrences of the `Taxonomic_units` table and/or associated data, or that provide credibility for vernacular names.

@1 source_id_prefix +

@2 source_id +

source_type +

source +

version +

acquisition_date +

source_comment +

update_date

8.2 *other_sources* Elements

8.2.1 source_id_prefix

Name: source_id_prefix

Element Size:3

Table: other_sources

ITIS Data Model

Display Picture: Data Type: CHAR SQL Server Name: source_id_prefix
Nullness: NOT NULL Values List: SRC
Data Source: SYSTEM GENERATED
Validation Rules:
Description: A prefix attached to a serial id to identify the record as an Other Source.

8.2.2 source_id

Name: source_id Element Size: Table: other_sources
Display Picture: Data Type: INT SQL Server Name: source_id
Nullness: NOT NULL UNIQUE Values List:
Data Source: SYSTEM GENERATED
Validation Rules:
Description: The unique identifier for a supplier of information, other than a person or publication, lending credence to the establishment of or changes to an occurrence of Taxonomic Units.

8.2.3 source_type

Name: source_type Element Size: 10 Table: other_sources
Display Picture: Data Type: CHAR SQL Server Name: source_type
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: The designation of the kind of supplier providing information to the ITIS (other than a person or publication); e.g. database.

8.2.4 source

Name: source Element Size: 64 Table: other_sources
Display Picture: Data Type: VARCHAR SQL Server Name: source
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: The name of the supplier of information, other than a person or publication, to the ITIS database. Examples include, among others, Catalogue of the Vascular Plants of Madagascar and Hawaiian Arthropod Checklist Database.

8.2.5 version

Name: version Element Size: 10 Table: other_sources
Display Picture: Data Type: CHAR SQL Server Name: version
Nullness: NULL Values List:
Data Source: USER ENTERED

ITIS Data Model

Validation Rules:

Description: Number, date or other identifying characteristic of the source which indicates the functionality and/or data at a point in time in the life of the system, database, etc.

8.2.6 acquisition_date

Name: acquisition_date	Element Size:	Table: other_sources
Display Picture: yyyy-mm-dd 00:00:00	Data Type: SMALLDATETIME	SQL Server Name: acquisition_date
Nullness: NULL		Values List:

Data Source: USER ENTERED

Validation Rules:

Description: The date on which ITIS acquired the data it is utilizing from a source other than a publication or expert.

8.2.7 source_comment

Name: source_comment	Element Size:500	Table: other_sources
Display Picture:	Data Type: VARCHAR	SQL Server Name: source_comment
Nullness: NULL		Values List:

Data Source: USER ENTERED

Validation Rules:

Description: Remarks associated with the provider of information to the ITIS (other than a person or publication).

8.2.8 update_date

Name: update_date	Element Size:	Table: other_sources
Display Picture: yyyy-mm-dd 00:00:00	Data Type: SMALLDATETIME	SQL Server Name: update_date
Nullness: NULL		Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

9.0 Definitions for the entity publications and its elements

publications			
	Column Name	Data Type	Allow Nulls
🔑	pub_id_prefix	char(3)	<input type="checkbox"/>
🔑	publication_id	int	<input type="checkbox"/>
	reference_author	varchar(100)	<input checked="" type="checkbox"/>
	title	varchar(255)	<input checked="" type="checkbox"/>
	publication_name	varchar(255)	<input checked="" type="checkbox"/>
	listed_pub_date	datetime	<input checked="" type="checkbox"/>
	actual_pub_date	datetime	<input checked="" type="checkbox"/>
	publisher	varchar(80)	<input checked="" type="checkbox"/>
	pub_place	varchar(40)	<input checked="" type="checkbox"/>
	isbn	varchar(16)	<input checked="" type="checkbox"/>
	issn	varchar(16)	<input checked="" type="checkbox"/>
	pages	varchar(15)	<input checked="" type="checkbox"/>
	pub_comment	varchar(500)	<input checked="" type="checkbox"/>
	update_date	smalldatetime	<input checked="" type="checkbox"/>
▶			<input type="checkbox"/>

9.1 publications Description

Printed references that are taxonomically significant for additions or changes to occurrences of the Taxonomic_units table and/or associated data, or that provide credibility for approved vernacular names.

@1 publication_id_prefix +
 @2 publication_id +
 reference_author +
 title +
 publication_name +
 listed_pub_date +
 actual_pub_date +
 publisher +
 pub_place +
 isbn +
 issn +
 pages +
 pub_comment +
 update_date

9.2 *publications Elements*

9.2.1 **publication_id_prefix**

Name: **publication_id_prefix** Element Size:3 Table: **publications**
Display Picture: Data Type: CHAR SQL Server Name:
publication_id_prefix
Nullness: NOT NULL Values List: PUB
Data Source: SYSTEM GENERATED
Validation Rules:
Description: A prefix attached to a serial number to associate the record with the Publications table.

9.2.2 **publication_id**

Name: **publication_id** Element Size: Table: **publications**
Display Picture: Data Type: INT SQL Server Name:
publication_id
Nullness: NOT NULL UNIQUE Values List:
Data Source: SYSTEM GENERATED
Validation Rules:
Description: The unique identifier of a printed reference.

9.2.3 **reference_author**

Name: **reference_author** Element Size:100 Table: **publications**
Display Picture: Data Type: VARCHAR SQL Server Name:
reference_author
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: Author(s) of a printed reference.

9.2.4 **title**

Name: **title** Element Size:255 Table: **publications**
Display Picture: Data Type: VARCHAR SQL Server Name: **title**
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: The identifying name given an article contained in a printed reference.

9.2.5 **publication_name**

Name: **publication_name** Element Size:255 Table: **publications**
Display Picture: Data Type: VARCHAR SQL Server Name:
publication_name

ITIS Data Model

Nullness: NULL

Values List:

Data Source: CHOICE LIST/USER ENTERED

Validation Rules:

Description: The identifying title of the printed reference, including volume and number, if applicable.

9.2.6 listed_pub_date

Name: listed_pub_date

Element Size:

Table: publications

Display Picture: yyyy-mm-dd
hh:mm:ss.sss

Data Type: DATETIME

SQL Server Name:
listed_pub_date

Nullness: NULL

Values List:

Data Source: USER ENTERED

Validation Rules:

Description: The date printed on a journal or other printed reference.

9.2.7 actual_pub_date

Name: actual_pub_date

Element Size:

Table: publications

Display Picture: yyyy-mm-dd
hh:mm:ss.sss

Data Type: DATETIME

SQL Server Name:
actual_pub_date

Nullness: NULL

Values List:

Data Source: USER ENTERED

Validation Rules: This date should be greater than or equal to the listed date if such is populated. In kingdoms Animalia and Protozoa it should also correspond to the date associated with the taxon_author if this is the reference in which the subject taxon is described.

Description: The true date on which a journal or other written reference was published. It may or may not correspond with the publication's listed date.

9.2.8 publisher

Name: publisher

Element Size:80

Table: publications

Display Picture:

Data Type: VARCHAR

SQL Server Name: publisher

Nullness: NULL

Values List:

Data Source: USER ENTERED

Validation Rules:

Description: Producer of a printed reference.

9.2.9 pub_place

Name: pub_place

Element Size:40

Table: publications

Display Picture:

Data Type: VARCHAR

SQL Server Name: pub_place

Nullness: NULL

Values List:

Data Source: USER ENTERED

Validation Rules:

Description: Location of the publisher of a printed reference.

ITIS Data Model

9.2.10 isbn

Name: isbn Element Size:16 Table: publications
Display Picture: Data Type: VARCHAR SQL Server Name: isbn
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: The ISBN number of a book cited; older publications and some alternatively published books do not have assigned ISBN numbers.

9.2.11 issn

Name: issn Element Size:16 Table: publications
Display Picture: Data Type: VARCHAR SQL Server Name: issn
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: The ISSN number of a journal cited; older journals and some alternatively published publications do not have assigned ISSN numbers.

9.2.12 pages

Name: pages Element Size:15 Table: publications
Display Picture: Data Type: VARCHAR SQL Server Name: pages
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: Page numbers within a printed reference to which the specific citation refers.

9.2.13 pub_comment

Name: pub_comment Element Size:500 Table: publications
Display Picture: Data Type: VARCHAR SQL Server Name:
pub_comment
Nullness: NULL Values List:
Data Source: USER ENTERED
Validation Rules:
Description: Remarks associated with the printed reference cited.

9.2.14 update_date

Name: update_date Element Size: Table: publications
Display Picture: yyyy-mm-dd Data Type: SQL Server Name:
00:00:00 SMALLDATETIME update_date
Nullness: NULL Values List:
Data Source: SYSTEM GENERATED

ITIS Data Model

Validation Rules: For authorities associated with the kingdoms Animalia and Protozoa the author(s) and the actual date of the publication in which the author(s) first described the taxon are required. For authorities associated with the kingdoms Archaea and Bacteria, the author(s) and the actual date of the publication in which the author(s) first described the taxon and the emending authors with the date of the emendation are required. For authorities associated with the Chromista, Fungi, and Plantae kingdom only author(s) and any emending authors are required. Note: Initially, authors/dates may not be available for all records

Description: The author(s) associated with the name of a taxon.

10.2.3 update_date

Name: update_date	Element Size:	Table: taxon_authors_lkp
Display Picture: yyyy-mm-dd 00:00:00	Data Type: SMALLDATETIME	SQL Server Name: update_date
Nullness: NOT NULL		Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

10.2.4 kingdom_id

Name: kingdom_id	Element Size:	Table: taxon_authors_lkp
Display Picture:	Data Type: INT	SQL Server Name: kingdom_id
Nullness: NOT NULL		Values List: 1 Bacteria 2 Protozoa 3 Plantae 4 Fungi 5 Animalia 6 Chromista 7 Archaea

Data Source: SYSTEM GENERATED

Validation Rules:.

Description: A unique identifier for the highest level of the taxonomic hierarchy structure.

10.2.5. short_author




Name: short_author	Element Size: 100	Table: taxon_authors_lkp
Display Picture:	Data Type: VARCHAR	SQL Server Name: short_author
Nullness: NULL		Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The author(s) associated with the name of a taxon with parenthesis, commas and periods removed. Designed to be helpful when searching for an author whose name contains a different punctuation for different taxon names.

11.0 Definitions for the entity `taxon_unit_types` and its elements

taxon_unit_types			
	Column Name	Data Type	Allow Nulls
	kingdom_id	int	<input type="checkbox"/>
	rank_id	smallint	<input type="checkbox"/>
	rank_name	char(15)	<input type="checkbox"/>
	dir_parent_rank_id	smallint	<input type="checkbox"/>
	req_parent_rank_id	smallint	<input type="checkbox"/>
	update_date	smalldatetime	<input type="checkbox"/>
			<input type="checkbox"/>

11.1 `taxon_unit_types` Description

Defines the levels associated with the taxonomic hierarchical structure and establishes the rank order for an occurrence of the Taxonomic Units.

@1 kingdom_id +
 @2 rank_id +
 rank_name +
 direct_parent_rank_id +
 required_parent_rank_id +
 update_date

11.2 `taxon_unit_types` Elements

11.2.1 kingdom_id

Name: kingdom_id	Element Size:	Table: taxon_unit_types
Display Picture:	Data Type: INT	SQL Server Name: kingdom_id
Nullness: NOT NULL		Values List: 1 Bacteria 2 Protozoa 3 Plantae 4 Fungi 5 Animalia 6 Chromista 7 Archaea

Data Source: SYSTEM GENERATED

Validation Rules: Half of a two-part key in taxon_unit_types.

Description: A unique identifier for the highest level of the taxonomic hierarchy structure.

11.2.2 rank_id

Name: rank_id	Element Size:	Table: taxon_unit_types
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ITIS Data Model

Display Picture: Data Type: SMALLINT SQL Server Name: rank_id
 Nullness: NOT NULL Values List:
 Data Source: SYSTEM GENERATED
 Validation Rules: Half of a two-part key in taxon_unit_types
 Description: A unique identifier for a specific level within the taxonomic hierarchy.

11.2.3 rank_name

Name: rank_name Element Size:15 Table: taxon_unit_types
 Display Picture: Data Type: CHAR SQL Server Name: rank_name
 Nullness: NOT NULL Values List:
 Data Source: CHOICE LIST
 Validation Rules:
 Description: The label associated with the specific level of a taxonomic hierarchy.

Plant	Animal	Fungi/Chromista	Archaea/Bacteria Protozoa	ITIS rank_id
Kingdom	Kingdom	Kingdom	Kingdom	10
Subkingdom	Subkingdom	Subkingdom	Subkingdom	20
Infrakingdom	Infrakingdom			25
	Superphylum			27
Division	Phylum	Division	Phylum	30
Subdivision	Subphylum	Subdivision	Subphylum	40
Infradivision	Infraphylum			45
Superclass	Superclass	Superclass (Chromista only)	Superclass	50
Class	Class	Class	Class	60
Subclass	Subclass	Subclass	Subclass	70
	Infraclass		Infraclass	80
Superorder	Superorder	Superorder	Superorder	90
Order	Order	Order	Order	100
Suborder	Suborder	Suborder	Suborder	110
	Infraorder		Infraorder	120
	Section			124
	Subsection			126
	Superfamily		Superfamily	130
Family	Family	Family	Family	140
Subfamily	Subfamily	Subfamily	Subfamily	150
Tribe	Tribe	Tribe	Tribe	160

11.2.6 update_date

Name: update_date Element Size: Table: taxon_unit_types
 Display Picture: yyyy-mm-dd Data Type: SQL Server Name:
 00:00:00 SMALLDATETIME update_date
 Nullness: NOT NULL Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

12.0 Definitions for the entity tu_comments_links and its elements

tu_comments_links			
	Column Name	Data Type	Allow Nulls
	tsn	int	<input type="checkbox"/>
	comment_id	int	<input type="checkbox"/>
	update_date	smalldatetime	<input type="checkbox"/>
			<input type="checkbox"/>

12.1 tu_comments_links Description

An intersection table which provides the means for establishing a many to many relationship between an occurrence of Taxonomic Units and associated Comments.

@1 tsn +
 @2 comment_id +
 update_date

12.2 tu_comments_links Elements

12.2.1 tsn

Name:tsn Element Size: Table: tu_comments_links
 Display Picture: Data Type: INT SQL Server Name: tsn
 Nullness: NOT NULL Values List:

Data Source: SYSTEM GENERATED

Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units. Half of a two-part key in tu_comments_links.

Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

ITIS Data Model

Nullness: NOT NULL

Values List:

Data Source: SYSTEM GENERATED

Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units. Must have usage of invalid or not accepted name Half of a two-part key in synonym_links.

Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

13.2.2 tsn_accepted

Name:tsn

Element Size:

Table: synonym_links

Display Picture:

Data Type: INT

SQL Server Name: tsn

Nullness: NOT NULL

Values List:

Data Source: USER ENTERED

Validation Rules: Must have usage of valid or accepted name. Half of a two-part key in synonym_links.

Description: The taxonomic serial number assigned to the accepted occurrence of Taxonomic Units to which a synonym is associated.

13.2.3. update_date

Name: update_date

Element Size:

Table: synonym_links

Display Picture: yyyy-mm-dd
00:00:00

Data Type:
SMALLDATETIME

SQL Server Name:
update_date

Nullness: NOT NULL





Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

14.0 Definitions for the entity reference_links and its elements

reference_links			
	Column Name	Data Type	Allow Nulls
	tsn	int	<input type="checkbox"/>
	doc_id_prefix	char(3)	<input type="checkbox"/>
	documentation_id	int	<input type="checkbox"/>
	original_desc_ind	char(1)	<input checked="" type="checkbox"/>
	init_itis_desc_ind	char(1)	<input checked="" type="checkbox"/>
	change_track_id	int	<input checked="" type="checkbox"/>
	vernacular_name	varchar(80)	<input checked="" type="checkbox"/>
	update_date	smalldatetime	<input type="checkbox"/>
			<input type="checkbox"/>

14.1 reference_links Description

An intersection table that provides a link between occurrences of Taxonomic Units and occurrences of publications, experts, or other_sources.

@1 tsn +
 @2 doc_id_prefix+
 @3 documentation_id +
 original_desc_ind +
 init_itis_desc_ind +
 change_track_id +
 vernacular_name +
 update_date

14.2 reference_links Elements

14.2.1 tsn

Name:tsn Element Size: Table: reference_links
 Display Picture: Data Type: INT SQL Server Name: tsn
 Nullness: NOT NULL Values List:
 Data Source: SYSTEM GENERATED

Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units. Part of a three-part key in reference_links.

Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

14.2.2 doc_id_prefix

Name: doc_id_prefix Element Size:3 Table: reference_links

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Display Picture: Data Type: CHAR SQL Server Name: doc_id_prefix
Nullness: NOT NULL Values List: EXP, PUB, SRC
Data Source: SYSTEM GENERATED
Validation Rules: Part of a three-part key in reference_links.
Description: A designation affixed to the documentation_id identifying the reference as a publication, expert or other source.

14.2.3 documentation_id

Name: documentation_id Element Size: Table: reference_links
Display Picture: Data Type: INT SQL Server Name: documentation_id
Nullness: NOT NULL Values List:
Data Source: SYSTEM GENERATED
Validation Rules: Part of a three-part key in reference_links.
Description: The serial portion of the identifier created for either the Publications table, the Experts table or the Other_Sources table used with the documentation_id_prefix to provide the reference link with an instance from the Taxonomic_units table.

14.2.4 original_desc_ind

Name: original_desc_ind Element Size:1 Table: reference_links
Display Picture: Data Type: CHAR SQL Server Name: original_desc_ind
Nullness: NULL Values List: If selected, the indicator will be set to true
Data Source: CHOICE LIST
Validation Rules:
Description: Indicator used to identify that this occurrence represents the reference of the original description, when available.

14.2.5. init_itis_desc_ind

Name: init_itis_desc_ind Element Size:1 Table: reference_links
Display Picture: Data Type: CHAR SQL Server Name: init_itis_desc_ind
Nullness: NULL Values List: If selected, the indicator will be set to true
Data Source: NOT IN USE
Validation Rules:
Description: Indicator used to identify the reference(s) that serve as the reason for an occurrence of Taxonomic Units being recognized where the original reference is unavailable.

14.2.6. change_track_id

Name: change_track_id Element Size: Table: reference_links
Display Picture: Data Type: INT SQL Server Name: change_track_id

ITIS Data Model

Nullness: NULL

Values List:

Data Source: NOT IN USE

Validation Rules:

Description: The unique identifier assigned to a change made to an occurrence of Taxonomic Units.

14.2.7 vernacular_name

Name: vernacular_name

Element Size:80

Table: reference_links

Display Picture:

Data Type: VARCHAR

SQL Server Name:
vernacular_name

Nullness: NULL

Values List:

Data Source: NOT IN USE

Validation Rules:

Description: A common name associated with an occurrence of Taxonomic Units.

14.2.8 update_date

Name: update_date

Element Size:

Table: reference_links

Display Picture: yyyy-mm-dd
00:00:00

Data Type:
SMALLDATETIME

SQL Server Name:
update_date

Nullness: NOT NULL

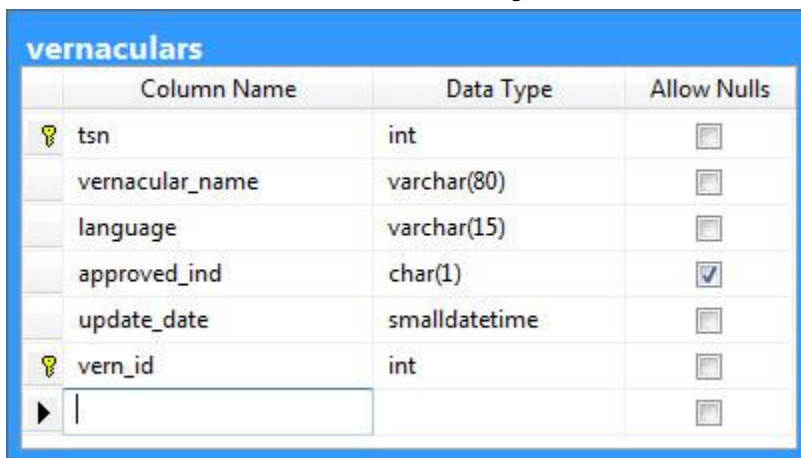
Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

15.0 Definitions for the entity vernaculars and its elements



	Column Name	Data Type	Allow Nulls
🔑	tsn	int	<input type="checkbox"/>
	vernacular_name	varchar(80)	<input type="checkbox"/>
	language	varchar(15)	<input type="checkbox"/>
	approved_ind	char(1)	<input checked="" type="checkbox"/>
	update_date	smalldatetime	<input type="checkbox"/>
🔑	vern_id	int	<input type="checkbox"/>
▶			<input type="checkbox"/>

15.1 vernaculars Description

Common names associated with an occurrence in Taxonomic Units.

@1 tsn +

vernacular_name +

language +
approved_ind +
update_date +
@2 vern_id

15.2 *vernaculars Elements*

15.2.1 tsn

Name: tsn	Element Size:	Table: vernaculars
Display Picture:	Data Type: INT	SQL Server Name: tsn
Nullness: NOT NULL		Values List:
Data Source: SYSTEM GENERATED		
Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units.		
Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.		

15.2.2 vernacular_name

Name: vernacular_name	Element Size:80	Table: vernaculars
Display Picture:	Data Type: VARCHAR	SQL Server Name: vernacular_name
Nullness: NOT NULL		Values List:
Data Source: USER ENTERED		
Validation Rules:		
Description: A common name associated with an occurrence of Taxonomic Units.		

15.2.3 language

Name: language	Element Size:15	Table: vernaculars
Display Picture:	Data Type: VARCHAR	SQL Server Name: language
Nullness: NOT NULL		Values List:
Data Source: CHOICE LIST/USER ENTERED		
Validation Rules:		
Description: Native language from which the vernacular name originates; e.g. English, French, Spanish, Portuguese, etc.		

15.2.4 approved_ind

Name: approved_ind	Element Size:1	Table: vernaculars
Display Picture:	Data Type: CHAR	SQL Server Name: approved_ind
Nullness: NULL		Values List: If selected, the indicator will be set to true.
Data Source: CHOICE LIST		

ITIS Data Model

Validation Rules: If the approved_ind is set to true, then the reference identifying the vernacular must be entered.

Description: Designation identifying those vernacular names authorized for use by regulation, statute, etc.

15.2.5 update_date

Name: update_date Element Size: Table: vernaculars

Display Picture: yyyy-mm-dd Data Type: SQL Server Name:
00:00:00 SMALLDATETIME update_date

Nullness: NOT NULL Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

15.2.6 vern_id

Name: vern_id Element Size: Table: vernaculars

Display Picture: Data Type: INT SQL Server Name: vern_id






Nullness: NOT NULL UNIQUE Values List:

Data Source: SYSTEM GENERATED

Validation Rules: Every vernacular_name associated with a TSN is assigned a distinct vern_id.

Description: The serial portion of the identifier created for a vernacular name associated with an occurrence of a Taxonomic Unit.

16.0 Definitions for the entity vern_ref_links and its elements

vern_ref_links			
	Column Name	Data Type	Allow Nulls
	tsn	int	<input type="checkbox"/>
	doc_id_prefix	char(3)	<input type="checkbox"/>
	documentation_id	int	<input type="checkbox"/>
	update_date	smalldatetime	<input type="checkbox"/>
	vern_id	int	<input type="checkbox"/>
			<input type="checkbox"/>

16.1 vern_ref_links Description

An intersection table that provides a link between occurrences of Vernaculars and occurrences of Publications, Experts, or Other_Sources.

@1 tsn +

@2 doc_id_prefix +

@3 documentation_id +

update_date +
@4 vern_id +

16.2 vern_ref_links Elements

16.2.1 tsn

Name: tsn	Element Size:	Table: vern_ref_links
Display Picture:	Data Type: INT	SQL Server Name: tsn
Nullness: NOT NULL		Values List:
Data Source: SYSTEM GENERATED		

Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units. Part of a four-part key in vern_ref_links.

Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

16.2.2 doc_id_prefix

Name: doc_id_prefix	Element Size:3	Table: vern_ref_links
Display Picture:	Data Type: CHAR	SQL Server Name: doc_id_prefix
Nullness: NOT NULL		Values List: EXP, PUB, SRC
Data Source: SYSTEM GENERATED		

Validation Rules: Part of a four-part key in vern_ref_links.

Description: A designation affixed to the documentation_id identifying the reference as a publication, expert or other source.

16.2.3 documentation_id

Name: documentation_id	Element Size:	Table: vern_ref_links
Display Picture:	Data Type: INT	SQL Server Name: documentation_id
Nullness: NOT NULL		Values List:
Data Source: SYSTEM GENERATED		

Validation Rules: Part of a four-part key in vern_ref_links.

Description: The serial portion of the identifier created for either the Publications table, the Experts table or the Other_Sources table used with the documentation_id_prefix to provide the reference link with an instance from the vernaculars table.

16.2.4 update_date

Name: update_date	Element Size:	Table: vern_ref_links
Display Picture: yyyy-mm-dd 00:00:00	Data Type: SMALLDATETIME	SQL Server Name: update_date
Nullness: NOT NULL		Values List:
Data Source: SYSTEM GENERATED		

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Validation Rules:

Description: The date on which a record is modified. The purpose of this element is to provide assistance to those downloading data on a periodic basis.

16.2.5 vern_id

Name: vern_id

Element Size:

Table: vern_ref_links

Display Picture:

Data Type: INT

SQL Server Name: vern_id

Nullness: NOT NULL

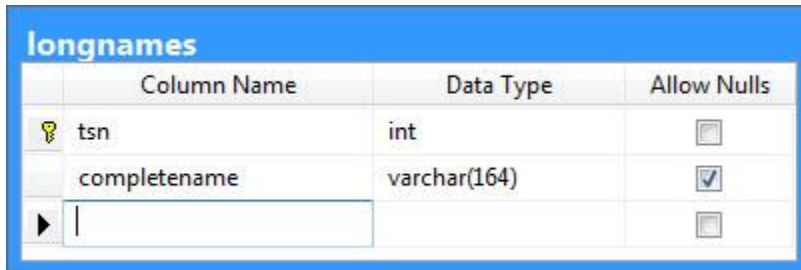
Values List:

Data Source: SYSTEM GENERATED

Validation Rules: Part of a four-part key in vernaculars.

Description: The serial portion of the identifier created for a vernacular name associated with an occurrence of a Taxonomic Unit.

17.0 Definitions for the entity longnames and its elements



Column Name	Data Type	Allow Nulls
tsn	int	<input type="checkbox"/>
completename	varchar(164)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

17.1 longnames Description

A support table that provides a full scientific name without taxon author for Taxonomic Units.

@1 tsn +
completename

17.2 longnames Elements

17.2.1 tsn

Name: tsn

Element Size:

Table: longnames

Display Picture:

Data Type: INT

SQL Server Name: tsn

Nullness: NOT NULL UNIQUE

Values List:

Data Source: SYSTEM GENERATED

Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units.



Description: Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The author(s) associated with the name of a taxon with parenthesis, commas and periods removed. Designed to be helpful when searching for an author whose name contains a different punctuation for different taxon names.

19.0 Definitions for the entity hierarchy and its elements

hierarchy			
	Column Name	Data Type	Allow Nulls
	hierarchy_string	varchar(300)	<input type="checkbox"/>
	TSN	int	<input type="checkbox"/>
	Parent_TSN	int	<input checked="" type="checkbox"/>
	[level]	int	<input type="checkbox"/>
	ChildrenCount	int	<input type="checkbox"/>
			<input type="checkbox"/>

19.1 hierarchy Description

A support table that provides an accepted or valid Taxonomic Units full TSN hierarchy in a single string.

@1 hierarchy_string +
 TSN +
 Parent_TSN +
 [level] +
 ChildrenCount

19.2 hierarchy Elements

19.2.1 hierarchy_string

Name: hierarchy_string Element Size:300

Display Picture: Data Type: VARCHAR

Nullness: NOT NULL UNIQUE

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The concatenated TSNs, delimited with a hyphen, which represents the hierarchy from Kingdom to TSN of concern.

Table: hierarchy

SQL Server Name:

hierarchy_string

Values List:

19.2.2 TSN

Name:TSN Element Size:

Display Picture: Data Type: INT

Table: hierarchy

SQL Server Name: TSN

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Nullness: NOT NULL

Values List:

Data Source: SYSTEM GENERATED

Validation Rules: A taxonomic serial number will be assigned for occurrences of Taxonomic Units at each level of the hierarchy through genus and for all polynomial infrageneric Taxonomic Units.

Description: The TSN for the hierarchy entry. Taxonomic Serial Number. The unique identifier for an occurrence of Taxonomic Units.

19.2.3 Parent_TSN

Name: Parent_TSN

Element Size:

Table: hierarchy

Display Picture:

Data Type: INT

SQL Server Name:

Parent_TSN

Nullness: NULL

Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The direct parent TSN of hierarchy.TSN.

19.2.4 [level]

Name: [level]

Element Size:

Table: hierarchy

Display Picture:

Data Type: INT

SQL Server Name: [level]

Nullness: NOT NULL

Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The distance down the hierarchy from Kingdom to TSN of concern for the hierarchy entry. For example, TSN 51, Schizomycetes, a Bacteria Class, has a level of 2.

19.2.5 ChildrenCount

Name: ChildrenCount

Element Size:

Table: hierarchy

Display Picture:

Data Type: INT

SQL Server Name:

ChildrenCount

Nullness: NOT NULL

Values List:

Data Source: SYSTEM GENERATED

Validation Rules:

Description: The number of total children a particular TSN has, from its direct children to the bottom of the hierarchy.

20.0 Deprecated Tables

There are entities within ITIS which are not currently in use. They are synonym_names and reviews.

20.1 *synonym_names Description*

Designed to store the TSNs and complete names of not accepted and invalid names, and their corresponding accepted or valid TSNs and complete names. ITIS relies upon the

synonym_links table to relate not accepted and invalid names to their accepted and valid names.

20.2 reviews Description

Once used for descriptions of evaluations, either periodic or requested, undertaken to add credence to the data supported by the ITIS. ITIS relies upon links to sources (Experts, Publications, and Other Sources) to provide evidence for taxonomic decisions.