

HELP ON TAXONOMIC LISTS

This document presents a complete description of the Taxonomic Lists. It explains how to access any list of this type, how to navigate between lists from a general to a specific scope and vice-versa, what is their content and how to access the related external sources of information. This help file is the chapter 12 of the general Help book of the TA website.

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12.1 Introduction

By convention, in this document and others about documentation of TNA, we distinct anatomical units from anatomical entities. A unit is made of one to five entities depending on its type. Entities may be generic or specific, but by definition only specific entities are present in a partonomy; frequently, we encounter specific pair entities, which terms are ended by "(pair)". In the Partonomic Lists, both the specific entities and the corresponding units are displayed with their hyperlinks to Entity Pages and Unit Pages.

There is a number of external references in the present document. They will be active in the presence of an active internet connection: the referred files will open in the actual default web browser. The external references are always linking to the most recent version of a file. Therefore, an external reference may be desynchronized from a particular Taxonomic List, because they are prepared at different dates. The user must be aware of this circumstance.

12.2 Overview

A typical Taxonomy List is presented in figure 12.1. It is made of 4 sections plus the header and the footer highlighted in blue boxes. The partonomic list itself is divided into two blocks highlighted in red boxes: external references and the list content, made of terms in Latin and in a modern language.

The global architecture of a list is rather straightforward: any Taxonomic List is made of six parts:

- a header with the title of the list,
- a navigation section for interlist navigation,
- the indented partonomic list itself in two blocs, presented in two languages,
- a set of scientific notes related to specific entities in the list,
- a signature section attesting of the own personality of the list,
- a footer with the date of publication.

The list itself is made of six columns, grouped into two blocs of columns (from left to right):

- four columns of pointers to external or internal references,
- two columns of terms in Latin and in a modern vernacular.


12.3 Definition of the Taxonomic Lists

Let try a global definition: *a Taxonomic List is a list in the domain of anatomy, which top entities is a cardinal entity of the domain and together with other taxonomic lists is making a significant total partition of the domain.* The first affirmation is that it is a list based on the taxonomic hierarchy, that is the hierarchy for classification of a large number of entities, like in zoology or botany. The *isa* relation is the unique relation applied in this hierarchy. The second affirmation is that the domain of anatomy is naturally partitioned into systems, cardinal body parts, subdivisions and the like, and that this total partition is conveniently covered by the set of all taxonomic lists (total of more than 300 lists).

The *isa* relation is formally defined elsewhere in the general documentation. According to this definition, all presented entities in the partonomic lists are strict *isa* relations (if not, it is an error).

A major feature of the Taxonomic List is its ability to perform navigation between lists, the most often when pursuing the goal of moving from a global list about an entire system to a detailed list representing a specific part of it. This is implemented through the definition of levels in the lists, from P1 to P4, the highest values corresponding the more global lists. A list at any level provides automatically links to all other levels when they exist.

In addition, all lists are available in different combinations of the languages of the terminology. Navigation between languages is consequently possible at any moment. The translation between languages being automatized, the users are sure about the unique meaning of the corresponding terms in different vernaculars.

Taxonomic list T3, primary language: LA, subsidiary: EN, interface: EN, work in progress 

ganglion nervi cranialis

▼ LIST NAVIGATION

Home page [TA taxonomy](#)

Top level [complexus anatomicus](#) ⓘ [Short](#) [Extended](#)

Level 2 [ganglion](#) ⓘ [Short](#) [Extended](#)

Current level [ganglion nervi cranialis](#)

Subsidiary language with Latin English [French](#) [Spanish](#) [Russian](#)




















Non Latin primary language [English](#) [French](#) [Spanish](#) [Russian](#)

▼ ANCESTORS

Help on colors

- [FMA:62955](#) ◦ [res anatomica](#) ⓘ
- [FMA:61775](#) ◦ [res physica](#) ⓘ
- [FMA:67165](#) ◦ [res corporea](#) ⓘ
- [FMA:305751](#) ◦ [structura anatomica](#) ⓘ
- [FMA:67135](#) ◦ [structura anatomica postnatalis](#) ⓘ
- [FMA:49443](#) ◦ [complexus anatomicus](#) ⓘ
- [FMA:83115](#) ◦ [complexus partis principalis cellulae](#) ⓘ
- [FMA:11195](#) ◦ [segmentum organi arboris nervosi](#) ⓘ
- [FMA:5884](#) ◦ [ganglion](#) ⓘ
- [FMA:54502](#) ◦ [ganglion nervi cranialis](#)

▼ TAXONOMIC LIST

FMAID	TA	UID	Pair	Short official Latin term	Short English equivalent
54502		6328		ganglion nervi cranialis	cranial ganglion
52618		6380		ganglion trigeminale ⓘ; ganglion semilunare ⓘ	trigeminal ganglion ⓘ; semilunar ganglion ⓘ
53414		6482		ganglion geniculi nervi facialis	geniculate ganglion of <i>facial nerve</i> ⓘ
		9292		ganglion vestibulocochleare ⓘ	vestibulocochlear ganglion ⓘ
53445		6500		ganglion cochleare ⓘ; ganglion spirale ⓘ	cochlear ganglion ⓘ; spiral ganglion ⓘ
53435		6489		ganglion vestibulare ⓘ	vestibular ganglion ⓘ
53471		9978		ganglion glossopharyngeum ⓘ	glossopharyngeal ganglion ⓘ
53474		6502		ganglion superius nervi glossopharyngei ⓘ	superior ganglion of glossopharyngeal nerve ⓘ
53475		6503		ganglion inferius nervi glossopharyngei ⓘ; ganglion petrosum ⓘ	inferior ganglion of glossopharyngeal nerve ⓘ; petrous ganglion ⓘ
53472		9979		ganglion nervi vagi ⓘ	ganglion of vagus nerve ⓘ
6229		6520		ganglion superius nervi vagi ⓘ; ganglion jugulare nervi vagi ⓘ	superior ganglion of vagus nerve ⓘ; jugular ganglion of <i>vagus nerve</i> ⓘ
6230		6523		ganglion inferius nervi vagi ⓘ; ganglion nodosum ⓘ	inferior ganglion of vagus nerve ⓘ; nodose ganglion ⓘ
				12 items	
				28 entities	

▼ SCIENTIFIC NOTES

Date: 18.03.2022

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Figure 12.1: Structure of a Taxonomic List into four sections, on LA: *ganglion nervi cranialis*

UID	Description	T1	T2	T3	T4	F	Lists	Units
10153	LA: <i>organum</i>	1	9	17	20	9	56	968
10154	LA: <i>pars principalis organi</i>	1	4	26	34	10	75	1428
10150	LA: <i>systema organi</i>	1	2				1	16
10152	LA: <i>divisio systematis organi</i>	1				1	4	13
10157	LA: <i>cellula</i>	1	4	2	9	5	21	266
10158	LA: <i>pars principalis cellulae</i>	1					1	47
10155	LA: <i>portio texti</i>	1	4			1	6	204
10156	LA: <i>pars principalis texti</i>	1					1	23
10161	LA: <i>complexus anatomicus</i>	1	14	30	59	13	117	1857
10127	LA: <i>res incorporae</i>	1	4	7	8	4	24	905
10128	LA: <i>relatio anatomica</i>	0	1				1	106
11439	LA: <i>nomen rei anatomicae</i>	0	1	30		1	32	1176
12682	LA: <i>res presentationis</i>	0	1				1	244

Table 12.1: The complete set of all taxonomic lists covering the entire terminology for a total of 340 lists made of 7253 units. Each entry is at level T1 or T2. The columns T1, T2, T3 and T4 give the number of sublists at this level, the column F is for the number of extended lists and the column Lists gives the total number of lists, the column Units gives the number of units for that entry.

12.4 Presentation

The Taxonomic Lists concern the domain of anatomy at large, not limited to the neuroanatomy.

The presentation is divided into sections for a total of 13 sections, covering the entire terminology. The table 12.1 shows all the lists. The size of each entry is represented by the number of units in the rightmost column.

Each section is available in Latin plus one of the 4 modern languages. They are English, French, Spanish and Russian. Latin can be either primary or subsidiary language. When Latin is the primary language, English is the interface language. When a modern language is selected as primary language, it is also selected as interface language. The language selection is permanent as soon as it is set up, but it can be changed at any moment.

Any list has been generated at some point in time specified by the date of publication (bottom right of the footer). The list reflects the content of the database of the terminology at this moment. Consequently, updates made later than the date of publication will not be visible.

12.5 Help on content

All Taxonomic Lists present the same structure: a taxonomic list as third section under the top entity given in title, extracted from the Terminologia Anatomica database. The sum of all Taxonomic List covers the entire domain of the terminology. However, the initial delivery is focused on the Terminologia Neuroanatomica, a subset of the whole.

As documented elsewhere, a list is a granular object of the terminology, It has a number of properties like its head unit, its size, its hierarchical structure, etc. When adding a single entity to a given list, one create a new different list. In

the source database, the properties of a list are controlled by the attachment of a signature of the list, that depends on these properties. The signature guaranties the integrity of the list.

In the Taxonomic List, the partonomic hierarchy is made visible by the indentation of the entities in the presentation. A single indentation means a *part_of* relation. When an entity in the list has 3 children, the first one appears immediately below with a single indentation, followed by all the entities of its descendant hierarchy with additional indentations. Then appears the second child with the same indentation as the first child, followed by its descendant hierarchy. Then finally the third child and its descendant hierarchy. This universal presentation is applied everywhere in the list, with 2 exceptions.

As usual, the terms in the Taxonomic Lists are optionally followed by the universal icon (the circled U) when a term is computed from an universal formula. The dark icon is for pure universal term with strict correspondence between the formula and the translated term; the light icon means an inherited term from the formula with a minor difference. The absence of the icon means that the term is specific to a vernacular and incompatible with the universal formula. It can be either regular according to the formal grammar of terms (see documentation elsewhere), or irregular. Only the regular terms are guaranteed to be properly handled in all situations. The regularity of terms is under the responsibility of the National committees, acting for their languages.

The four left columns of the Taxonomic List are hyperlinks or icons, referencing the entity and the unit of this line in four contexts, where they are relevant. Some positions may be empty, meaning that the entity has not been found there. The four external references are:

- the Foundational Model of Anatomy (FMA), which acts as cardinal reference for human anatomical taxonomy,
- the Terminologia Anatomica, version 1998 (TA98), which is the reference terminology of human anatomy, published by IFAA,
- the specific Unit Page of the Terminologia Neuroanatomica (TNA), which is a subpart of Terminologia Anatomica, revised and accepted by IFAA General Assembly on August 2019.
- an icon signaling the paired entities.

The third reference is to the TNA website itself (<http://ifaa.unifr.ch>), where we are now. They are consequently in relative form, on the contrary of the first two links, which are in absolute form.

12.6 Item description

All items of a Taxonomic list are reviewed thereafter. The order of presentation is top to bottom, left to right.

Header introduction text This text is currently invariable. It helps to distinguish this list from others.



Universal
icon

Title of the Taxonomic List This is the main Latin term of the top entity of the list. The universal sign - a circled U - may be present on the right of this term. It means that the term is directly computed from a universal formula.

Title of section Partonomy List

Legends of the columns There are 7 columns in a Taxonomic List. The first 3 columns are hyperlinks to respectively the FMA, TA98 and the website of neuroanatomy. The fourth one is a property of the entity on the line. The last 2 columns are the terms denoting an entity in Latin and the selected modern language of the list.

FMA link When an entity of the list has an equivalent entity in the FMA, its FMA identifier is given, acting as an hyperlink to a representative website of the FMA (<https://bioportal.bioontology.org/ontologies/FMA/>). This website will open on the selected entity, when call from a Partonomic List. The hyperlinks remains active when the list is locally stored or exchanged between users.

The FMA link establishes a correspondence on entities of the TA and the FMA. It is not guaranteed to be exact and the authors of the TA terminology cannot exclude that divergent meanings are possibly present.

TA98 link When an entity of the list is equal to an existing TA98 entity, the TA98 icon (the Da Vinci homonculus) is displayed, acting as an hyperlink to a representative website of TA98 (<https://ifaa.unifr.ch/Public/EntryPage/HomePublicNew.html>). This website will open on the selected entity. The hyperlinks remains active when the list is locally stored or exchanged between users.

The correspondence between TNA and TA98 is guaranteed to be exact, because both terminologies use common identifiers, as first published on the TA98 website since 2013.

Entity Page link The specific entity present in the taxonomic list can be reached by this link, displaying its Entity Page.

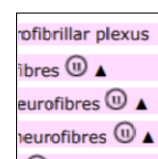
Temporary: the availability of the Entity Pages may be restricted until a complete validation is performed.

Unit Page link Each entity in the list is a constitutive part of a unit, which identifier is displayed, acting as link to its Unit Page. Temporary: the availability of the Unit Pages may be restricted until a complete validation is performed. The same is true of the hyperlinks on the Unit Page itself.

Icon for paired entities

Latin terms The Latin terms is the collection, semi-column separated, of the main term and up to 3 synonyms of the Latin versions of the terms of this entity. Each term may be followed on its right by the universal icon when the term is computed from a universal formula.

Modern language terms The modern language terms are similar to Latin for the selected modern language. In English, the terms are in UK English. When the US English is different, a black triangle is displayed.



The UK/US flag

Number of lines As the last line of the Partonomic list (partonomy list section) is given the total number of lines in the list (not including the line of titles of columns, and not included the present line). This is possibly not the number of entities in the list, because of the two exceptions: references and inserted partonomies (see above).

Title of section **Scientific notes**

Legends of the columns This section is made of two columns. The first column gives the Unit Identifier (UID) to which the note is attached. The second column is the note itself in English free text.

Unit identifier A scientific note is attached to a units, which identifier is displayed there.

Date of publication Each Taxonomic List is built at a specific point in time. The date figures this moment.

IFAA reference The IFAA signature acts as an hyperlink to the official IFAA website (<http://ifaa.net>).

Copyright information The two links on this last line of the page are pointing to copyright information available on the Creative Common website (<https://creativecommons.org>).

12.7 Navigation

The figure 12.2 presents a complete example of navigation at 4 levels. This example is using the T4 list of *LA:nucleus viscerosensorius*. In the navigation section, one can see the references to the top level, the levels 2 and 3, and the current T4 level.

The organization in levels is as natural as possible, but the goal is to split the whole TNA at the top level into more than 200 detailed lists at the T4 level, ideally of a similar size. This constraint may make the splitting somewhat arbitrary. Here is a presentation of the four levels:

Top level T1: The top level is the TNA itself, with more than 5000 units in the list. Of course, such a large list cannot be easily displayed, therefore it is replaced by a short version, where the development of the taxonomy is stopped each time a term at the level T2 is encountered. Consequently, the list is reduced to 21 lines.

Level T2: This level corresponds to the subchapters at level T2 of each chapter of the TNA, in particular to all the segments of the neuraxis. There are only 15 lists at this level. They are presented in two forms: a short list limited to the terms up to the next level T3 and a extended list with all the terms.

Level T3: This level corresponds to subdivisions at level T3 of a list at level T2. There are some 80 lists at this level for the TNA. They are presented in two forms: a short list limited to the terms up to the next level T3 and a extended list with all the terms.


Current level T4: This level is a fake proposal, because no navigation is available on it. This level is necessarily one less than its above level: it may be T3 or T4. At this level, we find only the extended form of the lists.

Navigation from the actual list is always bidirectional: to an upper level or to a lower level. The navigation towards an upper level is performed in the navigation section. The user simply selects either a short list or an extended list between the proposals, or the top level.

The navigation towards a lower level is performed inside the list itself, in the left column, on an entity marked at some level T2, T3 or T4, if any is present.

The selection TNA partonomy means to leave the navigation in the lists and to return to the starting page.

The move from one language selection to another is also proposed in the navigation section. Such a move becomes permanent until a next move is performed.

Taxonomic list T4, primary language: LA, subsidiary: EN, interface: EN, work in progress 

nucleus viscerosensorius [Ⓜ]

▼ LIST NAVIGATION

- Home page [TA taxonomy](#)
- Top level [complexus anatomicus [Ⓜ] Short Extended](#)
- Level 2 [substantia grisea systematis nervosi centralis [Ⓜ] Short Extended](#)
- Level 3 [nucleus trunci encephali [Ⓜ] Short Extended](#)
- Current level [nucleus viscerosensorius [Ⓜ]](#)
- Subsidiary language with Latin
 - English [French](#) [Spanish](#) [Russian](#)
- Non Latin primary language
 - [English](#) [French](#) [Spanish](#) [Russian](#)

▼ ANCESTORS

Help on colors

- [FMA:62955](#)
 - [res anatomica [Ⓜ]](#)
- [FMA:61775](#)
 - [res physica [Ⓜ]](#)
- [FMA:67165](#)
 - [res corporea [Ⓜ]](#)
- [FMA:305751](#)
 - [structura anatomica [Ⓜ]](#)
- [FMA:67135](#)
 - [structura anatomica postnatalis [Ⓜ]](#)
- [FMA:49443](#)
 - [complexus anatomicus [Ⓜ]](#)
- [FMA:83115](#)
 - [complexus partis principalis cellululae [Ⓜ]](#)
- [FMA:83143](#)
 - [complexus systematis nervosi centralis [Ⓜ]](#)
- [FMA:67242](#)
 - [substantia grisea systematis nervosi centralis [Ⓜ]](#)
- [FMA:223151](#)
 - [substantia grisea subcorticalis [Ⓜ]](#)
- [FMA:83686](#)
 - [nucleus [Ⓜ]](#)
- [FMA:83840](#)
 - [nucleus encephali [Ⓜ]](#)
- [TAH11850](#)
 - [nucleus trunci encephali [Ⓜ]](#)
- [TAH:E11791](#)
 - ▼ [nucleus viscerosensorius [Ⓜ]](#)

▼ TAXONOMIC LIST















FMAID	TA	UID	Pair	Short official Latin term	Short English equivalent
		11791		nucleus viscerosensorius [Ⓜ]	viscerosensory nucleus [Ⓜ]
		8354		nucleus viscerosensorius rhombencephali rostralis [Ⓜ]	viscerosensory nucleus of rostral rhombencephalon [Ⓜ]
		8355		nucleus ovalis [Ⓜ]; rostrum nuclei solitarii	oval nucleus [Ⓜ]; rostral tip of solitary nucleus
		8037		nucleus viscerosensorius rhombencephali caudalis [Ⓜ]	viscerosensory nucleus of caudal rhombencephalon [Ⓜ]
72607		5392		area postrema [Ⓜ]	postrema area [Ⓜ]
256691		5364		nucleus tractus solitarii [Ⓜ]; nucleus solitarius [Ⓜ]	nucleus of solitary tract [Ⓜ]; solitary nucleus [Ⓜ]
77467		5372		nucleus solitarius posterior [Ⓜ]; nucleus solitarius dorsalis [Ⓜ]	posterior solitary nucleus [Ⓜ]; dorsal solitary nucleus [Ⓜ]
77091		5365		nucleus parasolitarii [Ⓜ]	parasolitary nucleus [Ⓜ]
229579		5373		nucleus solitarius posterolateralis [Ⓜ]; nucleus solitarius dorsolateralis [Ⓜ]	posterolateral solitary nucleus [Ⓜ]; dorsolateral solitary nucleus [Ⓜ]
54597		5366		nucleus solitarius commissuralis [Ⓜ]	commissural solitary nucleus [Ⓜ]
77468		5374		nucleus solitarius anterior [Ⓜ]; nucleus solitarius ventralis [Ⓜ]	anterior solitary nucleus [Ⓜ]; ventral solitary nucleus [Ⓜ]

Figure 12.2: Structure of a Taxonomic List into four sections, on *LA:nucleus viscerosensorius*

12.8 Log of updates

19 Mar 2022 Creation of the file.

12.9 Credentials

This document is part of the help system accompanying the website on Terminologia Anatomica. It expresses the vision of the authors of the terminology about its content and its form of presentation. Despite it is as exact as possible, close to the reality of the database of the terminology and the surrounding software, approximations, errors and ambiguities are possible and should be considered as independent of their willingness and intents.

Identified comments about the content of the website and its presentation are welcome. An appropriate answer will be given when pertinent.

Authentic URL of this file: <https://ifaa.unifr.ch/Public/TNAEntryPage/help/HelpTaxList.pdf>