

## HELP ON PUBLISHED LISTS

This document presents a complete description of the Published Lists. It explains how to access any list, what is their content and how to access the related external sources of information.

This help file is the chapter one of the general Help book of the TA website.

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## 1.1 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 Published Lists, the visible specific entities are often assimilated to the unit to which they belong, so that the words entity and unit are indifferently used.

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 Published List, because they are prepared at different dates. The user must be aware of this circumstance.

The screenshot displays a 'published TNA partonomy list' for 'organum gustatorium'. The structure is as follows:

- Header:** 'published TNA partonomy list' and 'organum gustatorium'.
- Published List:** A table with columns: FMA, TA, UID, Short official Latin term, and Short English equivalent. It lists 14 anatomical terms related to the gustatory organ.
- Scientific notes:** A section titled 'SCIENTIFIC NOTES' with a table of UID and Libelle of note. It includes a note for UID 9327 regarding the types of sensory epithelial cells in a taste bud.
- Footer:** 'Original file' and 'Date: 04.09.2021'. Below this is the Creative Commons Attribution-ShareAlike 4.0 International license information.

Two red boxes highlight specific areas:

- External references:** A red box on the left side of the Published List table.
- Anatomical terms in Latin and a modern language:** A red box on the right side of the Published List table.

Figure 1.1: Structure of a Published List into four parts (in blue) and two blocs (in red), here the *LA:organum gustatorium*

## 1.2 Overview

The Published Lists are another view of the partonomic lists available on the TNA website, similar by their content, but distinct by the context of their creation. The difference is essentially related to the time dependency of any list in the terminology.

A typical Published List is represented in Figure 1.1. Its title is the *LA:organum gustatorium* or *EN:gustatory organ* and it is made of 14 lines. But the majority of lists are much longer with hundreds of lines, extending over several pages.

The global architecture of a list is rather straightforward: any Published List is made of four parts:

- a header with the title of the list,
- 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 footer, with source version and date of publication.

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

- three columns of pointers to external references,

- two columns of terms in Latin and a modern vernacular.

### 1.3 Definition of the Published Lists

Before guiding the users through the Published Lists, we must understand what we are speaking of. This is the place where to define this concept.

Let start with a global definition: *a Published List is a partonomic list in the domain of anatomy, which top entities are the principal body parts making a significant total partition of the domain.* The first affirmation is that it is a list based on the partonomic hierarchy, that is the preferred hierarchy of anatomists for the representation of their domain. The *partof* relation partly reproduces the idea of the atlas of anatomy: a collection of concepts illustrated by their parts. 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 followed by the Published Lists.

But this initial definition is not sufficient. We must add the following: *a Published List is a view of the partonomy at some relevant point in time*, according to the fact that the terminology is subject to a permanent update process. Anatomy is a living science and on a scale of 10 years, it may receive multiple changes. This is especially true in some sub domains, where the degree of details is augmented, due to recent discoveries from research initiatives. The need to take an instant view of the list comes from the fact that the updates have a different interest for different users: the experts of this science on one side, the general public on another side, not to mention the teachers and the students.

Another determinant property of the Published List is its portability: the Published List is somewhat independent of its source website and can be easily exchanged between the community of users. This capability is reached by the availability of the lists in PDF format, which contains active hyperlinks to the original website of the authors of the terminology. In this way, the list is naturally shared between users and simultaneously it can be completed at any moment by actualized information from the emitters. This dual aspect is a major trait of a living terminology.

Finally, the Published Lists are made available in 5 languages and more.

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LA: *nucleus dorsomedialis hypothalami*  
 EN: *dorsomedial hypothalamic nucleus*  
 FR: *noyau dorsomédial de l'hypothalamus*  
 ES: *núcleo dorsomedial del hipotálamo*  
 RU:

→TAH5931

This example considers a trivial example. All terms are directly issued from the universal formula with the mention of the hypothalamus as a genitive expansion, except in English where the term is inherited from the formula and an adjective expansion is replacing the genitive expansion.

The translation between languages being automatized, the users are sure about the unique meaning of the corresponding terms in different vernaculars.

Chapter	UID	Description	# items
CNS	5090	LA: <i>Meninges</i>	116
	5264	LA: <i>Telencephalon</i>	699
	5779	LA: <i>Hypothalamus</i>	71
	5263	LA: <i>Diencephalon</i>	181
	5261	LA: <i>Mesencephalon</i>	161
	5686	LA: <i>Cerebellum</i>	173
	11865	LA: <i>Rhombencephalon rostrale</i>	160
	5431	LA: <i>Pons</i>	23
	11874	LA: <i>Rhombencephalon caudale</i>	225
	5138	LA: <i>Medulla spinalis</i>	231
	5078	LA: <i>Tractus</i>	446
8276	LA: <i>Systema ventriculare</i>	68	
PNS	8353	LA: <i>Divisio nervi cranialis</i>	190
	9444	LA: <i>Divisio nervi spinalis</i>	420
	9664	LA: <i>Plexus nervi somatici</i>	281
	6758	LA: <i>Divisio autonómica</i>	190
Sense organs	6877	LA: <i>Organum olfactorium</i>	15
	6880	LA: <i>Organum visuale</i>	382
	7101	LA: <i>Organum vestibulocochleare</i>	460
	7379	LA: <i>Organum gustatorium</i>	14
Vessels	10381	LA: <i>Systema arteriosum cerebrospinale</i>	313
	10382	LA: <i>Systema venosum cerebrospinale</i>	175

Table 1.1: The complete list of all sections covering the subdomain of neuroanatomy.

## 1.4 Presentation

The Published Lists concern the domain of anatomy at large, but the initial release exclusively concern the neuroanatomy.

The neuroanatomy is presented in 3 chapters and a complement. They are:

- Chapter 1: the EN: *Central Nervous System* (CNS),
- Chapter 2: the EN: *Peripheral Nervous System* (PNS),
- Chapter 3: the EN: *Sense Organs*,
- Complement: the Cerebral Vessels.

The chapters are divided into sections for a total of 22 sections, covering the domain of neuroanatomy. The order of the section is the rostrocaudal sequence when pertinent. The table 1.1 lists all the sections. The size of each section is represented by the number of lines.

Each section is available in Latin plus one of the 4 modern languages. They are English, French, Spanish and Russian. Each section is also available in a 5 language presentation, helping comparisons between the different vernaculars.

Any specific list being an instant view, it may be present at several points in time. The decision about the relevant dates is left to the authors of the terminology. However, the following criteria apply: the initial publication is

considered as important and must be permanent; a recent update must be regularly posted, but it is not always permanent and can be replaced by another update; in between the former two, only the significant steps are present. The different available versions are visible by their date of publication, acting as an hyperlink to the list itself.

When no date is visible for a specific list, it means it is currently not available. Such a situation should preferably never occur.

## 1.5 Help on content

All Published Lists present the same content: a partonomic list under the top entity given in title, extracted from the Terminologia Anatomica database. The sum of all Published List covers the entire domain of the terminology. However, the initial delivery concern uniquely the Terminologia Neuroanatomica, a subset of the whole.

In the above introduction, it has been explained how each Published List is an instant photography of the terminology at some cardinal point in time. Therefore, the exact content of a list may possibly differ from one version to the next, whenever updates to the terminology have been realized. Careful attention must be given to the date of publication of any Published List.

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. Each Published List has an equivalent partonomic list in the database, that can be reached from this website (not initially implemented).

The partonomic hierarchy is formally complex. The *partof* relation is intuitively easy to understand, but in reality it is subject to several interpretations in different context. When we restrict ourselves to the domain of anatomy, we define the *partof* relation as a true *matterof* relation, meaning that *A partof B* if *all the matter of A is also matter of B*. Then we extend this definition to immaterial entities, that are common in anatomy, like volumes, surfaces, lines and points. In reality we have a somewhat restrictive *partof* relation valid in anatomy. This relation applies to physical entities exclusively. The *partof* relation is transitive. See elsewhere in the documentation of the terminology for more information.

In the Published List, the partonomic hierarchy is made visible by the indentation of the entities in the presentation. A single indentation means a *partof* 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.

The first exception is about the references, marked by a reference icon on its right. An entity specified as a reference is not included in the partonomic list at this location. Despite it is indented relative to its above entity, it is definitely not *partof* it. A reference entity means *see also* and nothing more.



Reference  
icon

In other words it says: the here mentioned entity is of interest here by some relation or properties. The user interested by this entity should search it in the terminology. For example, the *LA:fila olfactoria* is not a part of the *LA:nervus olfactorius* and is presented in the partonomic lists under the olfactory nerve as a reference. It is neither a part of the *LA:organum olfactorium*, where it also appears as a reference. In fact, it is a part of the encephalic tracts *LA:tractus originis telencephali*.

The second exception is about the inserted partonomies, which are separate partonomies, independent, but of interest at the present position. Indeed, the domain of anatomy is made of a global partonomy under the top entity *LA:corpus humanum*, plus an indefinite number of dedicated inserted partonomies, in order to describe composite entities. A typical example is *LA:neura bacillifera* or *EN:rod cells* of the *EN:retina*. In the global partonomy, under *LA:organum visuale*, we find somewhere the composite entity rod cells, meaning the set of all rod cells of the retina. Because we want to start a description of a single rod cell, it is necessary to open a separate partonomy with rod cell as its top entity. The occurrence of such a partonomy in the partonomy is made visible by the presence on the left of the new top entity of the number sign #. Such a partonomy could be presented alone, outside of the actual context. There are several occurrences of such partonomies.

As usual, the terms in the Published 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 terms 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 three left columns of the Published List are hyperlinks in absolute form, referencing the entity of this line in three contexts, where they are relevant. Some positions may be empty, meaning that the entity has not been found there. Absolute form means that the links point to an absolute URL address, valid whatever is the actual location of the list. It is also valid in future times, as long as the referenced websites are open. The three 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 Terminologia Neuroanatomica (TNA), which is a subpart of Terminology Anatomica, revised and accepted by IFAA General Assembly on August 2019.

The third reference is the TNA website itself (<http://ifaa.unifr.ch>), where we are now. But it is made in an absolute form, so that the Published Lists may be shared outside of their source context.

rod cells (pair); ro
# rod cell; rod
external s

Alternate partonomy



Universal icon

FMA	TA	UID
<a href="#">77853</a>		7379
<a href="#">54825</a>		7380
<a href="#">63589</a>		7381
		93271
		9329

3 references

## 1.6 Item description

All items of a Published 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.

**Title of the Published 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 5 columns in a Published List. The first 3 columns are hyperlinks to respectively the FMA, TA98 and the website of neuroanatomy. 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 Published 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.

**Unit Page link** Each entity in the list is a constitutive part of a unit, which identifier is displayed, acting as an hyperlink to source website of the TNA (<https://ifaa.unifr.ch>). This website will open on the selected unit. The hyperlinks remains active when the list is locally stored or exchanged between users.

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.

**Reference to a scientific note** A down arrow just on the right of the Unit Page link calls for a scientific note related to this unit, presented in the section below the list itself.

FMA	TA	UID
<a href="#">77853</a>		7379
<a href="#">54825</a>		7380
<a href="#">63589</a>		7381
		93271
		9329

A scientific note for 9327

**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.

**Number of lines** As the last line of the Published 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.

**Scientific note** A scientific note is an English free text, giving a scientific comment and making references to the scientific literature. The note corresponds to the unit mentioned in the first column.

When a note is referred to two or more units, the text of the note is replaced by a link to the initial note necessarily present in this section.

**Link to the original file** This is an hyperlink to the website, from where the Published List has been initially made available. By clicking this link, one accesses the last version of the Published List, possibly different of the actual list. Of course, an Internet access must be active to do that.

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

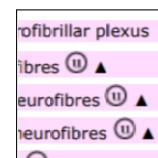
**IFAA reference** The IFAA signature acts as an hyperlink to the official IFAA website (<http://ifaa.net>).

**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>).

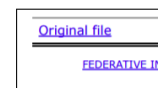
## 1.7 Navigation

Navigation in the Published Lists is trivial, see the figure 1.2. We distinguish the following steps:

- On the home page, select Published Lists,
- Open any chapter by clicking the read button on its left,



The UK/US flag



Access to the original file



	English	French	Spanish	Russian	5 languages
● Central nervous system					
● Peripheral nervous system					
● Sense organs					
<b>Section</b>	<b>English</b>	<b>French</b>	<b>Spanish</b>	<b>Russian</b>	<b>5 languages</b>
Olfactory organ	<a href="#">15.08.2021</a>	<a href="#">15.08.2021</a>	<a href="#">15.08.2021</a>	<a href="#">04.10.2021</a>	<a href="#">04.10.2021</a>
Visual organ	<a href="#">01.09.2021</a>	<a href="#">15.08.2021</a>	<a href="#">15.08.2021</a>	<a href="#">04.10.2021</a>	<a href="#">04.10.2021</a>
Vestibulocochlear organ	<a href="#">01.09.2021</a>	<a href="#">31.08.2021</a>	<a href="#">02.10.2021</a> <a href="#">15.08.2021</a>	<a href="#">15.08.2021</a>	<a href="#">15.08.2021</a>
Gustatory organ	<a href="#">04.09.2021</a>	<a href="#">15.08.2021</a>	<a href="#">15.08.2021</a>	<a href="#">04.10.2021</a>	<a href="#">04.10.2021</a>
● Cerebral vessels					

Figure 1.2: View on the tree of Published Lists, used for selection of a specific list, here open on the sense organs. A Published List is always presented with Latin plus the selected vernacular.

- Choose a section by its line, choose the subsidiary language to Latin by its column and a date at the crossing of the two, then click on the selected date.
- The selected Published List is displayed.
- Most lists necessitate scroll actions as available in the web browser, because they extend on several pages.
- A Published List being a PDF file, it can be locally printed.
- A Published List can be locally saved. The lists can be shared, being in the public domain, under the restriction of [CC BY-SA 4.0](#) (this link is present on right lower corner of the page).
- A saved Published List can be checked at any time for the availability of a more recent version. To do that, click on the hyperlink [Original file](#) at the bottom left of the page (here it will access the Published List of the *LA:meninges*, as an example). This function requires an active Internet connection.

## 1.8 Log of updates

24 Nov 2021 Creation of the file.

## 1.9 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/HelpPublishedList.pdf>