Help on TA98 Lists

This document presents a complete description of the TA98 Lists. A TA98 list is a selected subset of the original publication of Terminologia Anatomica 1998. This document 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 5 of the general Help book of the TA website.

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5.1 Introduction

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 TA98 List, because they are prepared at different dates. The user must be aware of this circumstance.

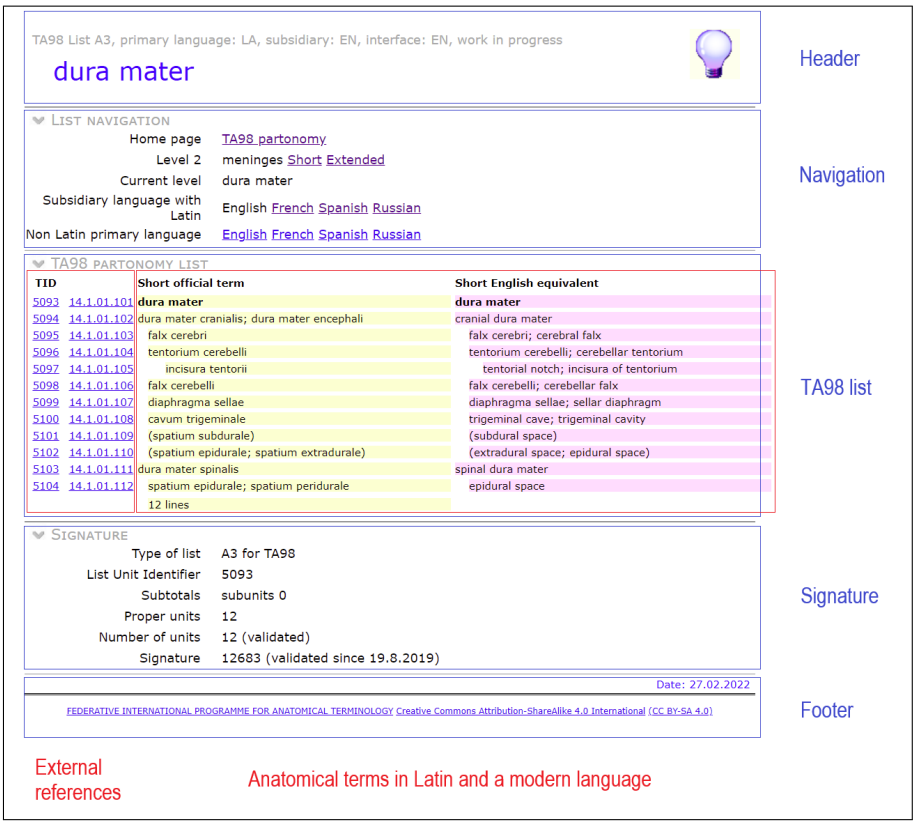


Figure 5.1: Structure of a TA98 List into three sections, on LA: *dura mater*. On this view, all sections are presented open, but depending on the context, any section may be presented closed and can be open on user action.

5.2 Overview

A typical TA98 List is presented in figure 5.1. It is made of 3 sections plus the header and the footer highlighted in blue boxes. The TA98 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 TA98 List is made of five parts:

- a header with the title of the list, that is always the name of the first entity,
- a navigation section for interlist navigation,
- the indented partonomic list itself in two blocs, presented in two languages,
- a signature section attesting of the own personnality of the list,
- a footer with the date of publication.

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

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

The two columns of terms are a left column using the main language of this page and a right column using the subsidiary language of this page. The presentation text of the page is the interface language. All languages are selected at the convenience of the user. They are remembered on top of the page in the header introductive text.

5.3 Definition of the TA98 Lists

Let remember the general definition: *a Partonomic List is a list in the domain of anatomy, which top entities is a relevant body part and together with other partonomic lists is making a significant total partition of the domain.* This is the affirmation 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.

But this ideal point of view is only partially true for TA98 lists, because this terminology was an approximation regarding the hierarchy of terms. Indeed, the TA98 hierarchy does not always express the *part_of* relation: in a few situation, we can observe *isa* relations, possibly others. This does not preterit the significant value of TA98 at the time of its publication, but the TNA revision (and other revisions of TA98) must be more formal to this respect, in order to be compliant in the world of modern terminologies, as advocated for example by the OBO Foundry.

Examples of erroneous *part_of* relations are given now. LA:*ganglion sympathicum* *isa* LA:*ganglion autonomicum*: in no way it can be considered as a *part_of*. The parts of TA98 named *nomina generalia* present numerous *isa* relations. They have been suprressed in the TNA and are naturally replaced by the taxonomy. The relation *contained_in* must never be confused with the *part_of* relation: LA:*radiatio corporis callosi* *part_of* LA:*corpus callosum* is evidently wrong. LA:*radiatio corporis callosi* is missplaced and has been relocalized in the section on white matter.

The TA98 lists can be organized in such a way that allows navigation between lists and sub-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 TA98 lists, from A1 to A4, 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 different languages are resulting from translations possibly realized by national anatomical societies, and are made available here. The different histories of TA98 translations are summarized in table 5.1.

Language	Description	Copyrights
Latin	This is the reference language of TA98.	IFAA.
English	English equivalents from original publication.	IFAA.
French	A private translation.	To IFAA.
Spanish	Translation by WikipediA.	Wikiprojects

Table 5.1: Origin of the TA98 translations. The Wikiprojects is named: Wikiproyecto:Anatomía Humana

5.4 Presentation

The TA98 lists concern the domain of anatomy at large as presented in the 1998 publication. It covers the subdomain of gross anatomy. The 16 chapters of the original files will all be made available.

A specific subpart is TNA or Terminologia NeuroAnatomica. The neuroanatomy is presented in 4 parts, issued from the original publication in 2017. The specific counterparts in TA98 are now documented:

- Chapter 14, first part: the en:*Central Nervous System* (CNS),
- Chapter 14, second patrt: the en:*Peripheral Nervous System* (PNS),
- Chapter 15: the en:*Sense Organs*,
- Chapter 12 (partial): the Cerebral Vessels.

The chapters are divided into subchapters, sections and subsections.

Each list or sublist is available in Latin plus one of the 3 modern languages. They are English, French and Spanish. 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.

5.5 Help on content

All TA98 Lists present the same structure: a partonomic list under the top entity given in title, extracted from the Terminologia Anatomica database, figuring the original publication of TA. The sum of all TA98 list covers the entire domain of the terminology. However, the initial delivery concern uniquely 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. When a signature is changed, it means that the content of the list has been updated.

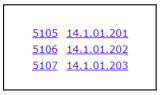
The partonomic hierarchy is formally complex. The *part_of* relation is intuitively easy to understand, but in reality it is subject to several interpretations in different context. When we restrict ourselves to the domain of anatomy, we

define the *part_of* relation as a true *matter_of* relation, meaning that *A part_of 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. We also have extended the *part_of* relation to include the frequently used *branch_of* relation. In reality we have a somewhat restrictive *part_of* relation valid in anatomy. This relation applies to physical entities exclusively. The *part_of* relation is transitive. See elsewhere in the documentation of the terminology for additional information.

The TA98 terminology was not totally correct about the *part_of* relation. Some relations are *isa* relations in the parts named *nomina generalia*, which are indeed an expression of the taxonomy of the domain. Other are simply wrong: LA:*fissura longitudinalis cerebri* is not a *part_of* LA:*hemispherium cerebri*. Such discrepancies does not influence too much the reading of the terminology, but they are not precise and possibly ambiguous. The present version attempts to correct these weaknesses.

In the TA98 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.

The two left columns of the TA98 list are hyperlinks, referencing the entity and the unit of this line in two contexts, where they are relevant. Some positions may be empty, meaning that the entity has not been found there. The two external references are:



2 references

- the Terminologia Anatomica, version 1998 (TA98), which is the reference terminology of human anatomy, published by IFAA,
- the Unit Page of the Terminologia Neuroanatonica (TNA).

5.6 Item description

All items of a TA98 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. In particular, it remembers the actual main, subsidiary and interface languages as used for the page.

Title of the TA98 List This is the preferred term of the top entity of the list in the main language. This text comes together with a bubble containing the translation of the title in the subsidiary language.

Title of the navigation section

Home page This is an hyperlink driving to the home page for the TA98 lists.

Different levels Up to four lines presenting links to different TA98 lists containing the present list. The levels are presented from the more general to the more specific.

Language switches Two lines with all links to the different combinations of languages, shifting directly to the new combination as long it is not changed by the user.

Title of section TA98 partonomy list

Legends of the columns There are 4 columns in a TA98 list. The first 2 columns are hyperlinks to respectively 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.

TA98 link Each entity in the list has an old 11-digit TA98 identifier, which has been later abandonned. This identifier is acting as an hyperlink to the representative website of TA98 (https://ifaa.unifr.ch/Public/EntryPage/HomePublicNew.html), created in 2013. This website will open on the selected entity. The hyperlinks remains active when the list is locally stored or exchanged between users.

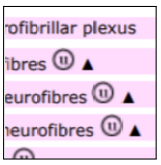
The correspondence between TNA and TA98 is guaranteed to be exact, because both terminologies use common identifiers, as first published on the TA98 website since 2013.

Unit Page link Each entity in the list is a constitutive part of a unit, which identifier is displayed, acting as 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.

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.

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

Title of signature section See elsewhere the description of the signature section, that is common to all types of lists.

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).

Date of publication Each Partonomic 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).

Copyrights 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).

List navigation

Home page	TA98 partonomy
Top level	systema nervosum periphericum
Level 2	nervi craniales Short Extended
Level 3	nervus trigeminus [V] Short Extended
Current level	nervus mandibularis [Vc; V3]
Subsidiary language with Latin	English French Spanish Russian
Non Latin primary language	English French Spanish Russian

TA98 partonomy list

TID		Short official term	Short English equivalent
6430	14.2.01.064	**nervus mandibularis [Vc; V3]**	**mandibular nerve; mandibular division [Vc; V3]**
6431	14.2.01.065	ramus meningeus; nervus spinosus	meningeal branch
6432	14.2.01.066	nervus pterygoideus medialis	nerve to medial pterygoid
6433	14.2.01.067	radix sensoria; rami ganglionares nervi mandibularis	sensory root; ganglionic branches of mandibular nerve
6434	14.2.01.068	nervus musculi tensoris veli palatini	nerve to tensor veli palatini
6435	14.2.01.069	nervus musculi tensoris tympani	nerve to tensor tympani
6436	14.2.01.070	nervus masseticus	masseteric nerve

Figure 5.2: Structure of a TA98 list into four levels, on LA:*nervus mandibularis*

5.7 Navigation

The figure 5.2 presents a complete example of navigation at 4 levels. This example is using the A4 list of LA:*nervus mandibularis*. In the navigation section, one can see the references to the top level, the levels 2 and 3, and the current A4 level.

The organization in levels is as natural as possible, but the goal is to split the whole TA at the top level into more than 500 detailed lists at the A4 level, ideally of a similar size. This constrain may make the splitting somewhat arbitrary. Here is a presentation of the four levels:

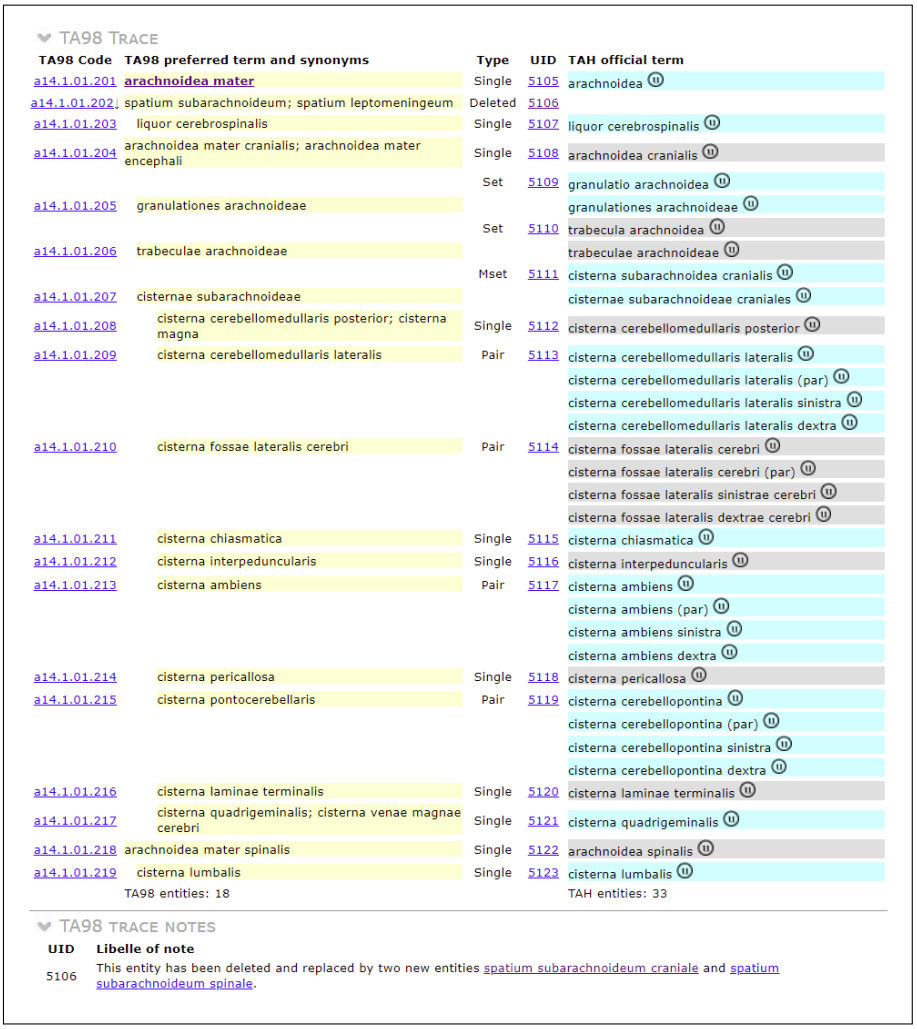
Top level A1: The top level is a chapter of TA. Of course, such a large list cannot be easily displayed, therefore it is replaced by a short version, where the development of the partonomy is stopped each time a term at the level A2 is encountered.

Level A2: This level corresponds to the subchapters at level A2 of each chapter of the TNA, in particular to all the segments of the neuraxis. They are presented in two forms: a short list limited to the terms up to the next level A3 and a extended list with all the terms.

Level A3: This level corresponds to subdivisions at level A3 of a list at level A2. They are presented in two forms: a short list limited to the terms up to the next level A3 and a extended list with all the terms.

Current level or A4: 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 A3 or A4. 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.



TA98 Trace

TA98 Code	TA98 preferred term and synonyms	Type	UID	TAH official term
a14.1.01.201	**arachnoidea mater**	Single	5105	arachnoidea
a14.1.01.202	spatium subarachnoideum; spatium leptomeningeum	Deleted	5106	
a14.1.01.203	liquor cerebrospinalis	Single	5107	liquor cerebrospinalis
a14.1.01.204	arachnoidea mater cranialis; arachnoidea mater encephali	Single	5108	arachnoidea cranialis
		Set	5109	granulatio arachnoidea
a14.1.01.205	granulationes arachnoideae			granulationes arachnoideae
		Set	5110	trabecula arachnoidea
a14.1.01.206	trabeculae arachnoideae			trabeculae arachnoideae
		Mset	5111	cisterna subarachnoidea cranialis
a14.1.01.207	cisternae subarachnoideae			cisternae subarachnoideae craniales
a14.1.01.208	cisterna cerebellomedullaris posterior; cisterna magna	Single	5112	cisterna cerebellomedullaris posterior
a14.1.01.209	cisterna cerebellomedullaris lateralis	Pair	5113	cisterna cerebellomedullaris lateralis
				cisterna cerebellomedullaris lateralis (par)
				cisterna cerebellomedullaris lateralis sinistra
				cisterna cerebellomedullaris lateralis dextra
a14.1.01.210	cisterna fossae lateralis cerebri	Pair	5114	cisterna fossae lateralis cerebri
				cisterna fossae lateralis cerebri (par)
				cisterna fossae lateralis sinistrae cerebri
				cisterna fossae lateralis dextrae cerebri
a14.1.01.211	cisterna chiasmatica	Single	5115	cisterna chiasmatica
a14.1.01.212	cisterna interpeduncularis	Single	5116	cisterna interpeduncularis
a14.1.01.213	cisterna ambiens	Pair	5117	cisterna ambiens
				cisterna ambiens (par)
				cisterna ambiens sinistra
				cisterna ambiens dextra
a14.1.01.214	cisterna pericallosa	Single	5118	cisterna pericallosa
a14.1.01.215	cisterna pontocerebellaris	Pair	5119	cisterna cerebellopontina
				cisterna cerebellopontina (par)
				cisterna cerebellopontina sinistra
				cisterna cerebellopontina dextra
a14.1.01.216	cisterna laminae terminalis	Single	5120	cisterna laminae terminalis
a14.1.01.217	cisterna quadrigeminalis; cisterna venae magnae cerebri	Single	5121	cisterna quadrigeminalis
a14.1.01.218	arachnoidea mater spinalis	Single	5122	arachnoidea spinalis
a14.1.01.219	cisterna lumbalis	Single	5123	cisterna lumbalis
	TA98 entities: 18			TAH entities: 33

TA98 trace notes

UID	Libelle of note
5106	This entity has been deleted and replaced by two new entities spatium subarachnoideum craniale and spatium subarachnoideum spinale.

Figure 5.3: A typical Trace page, showing the TA98 partonomy in the left colum and the TNA corresponding entities in the right column.

The navigation towards a lower level is performed inside the list itself, in the left column, on an entity marked at some level A2, A3 or A4, if any is present.

The selection TA98 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.

5.8 TA98 Trace Page

The TA98 Trace Page is a page showing the transition from TA98 entities to their position in the current version of the terminology. Any TA98 entity may be redirected elsewhere in the current terminology, its name may have been

transformed, and it could have been deleted. Showing the new entity in the current terminology allows to display the new position. An example of a TA98 Trace section is given in Figure 5.3.

The Trace TA98 Page is listed according to the TA98 order. The identifier UID, already assigned to TA98 since the TA98 on-line publication of 2013 (here), is the actual identifier of the entity in the current terminology. Clicking on this link brings the actual Unit Page with its entire Navigation section, giving access to the partonomic or taxonomic lists, on user request. Clicking the TA98 11-digit code gives also access to the TA98 on-line version, directly to the referenced entity.

The types of entities to which a TA98 entity may be converted, are the following:

- Single: the entity in the current terminology to which the TA98 entity is transferred is a single entity.
- Pair: the entity is transferred to a pair unit made of four entities, which are all listed.
- Set: the entity of TA98 corresponds to composite unit made of two entities.
- Pset: the entity of TA98 corresponds to paired composite unit made of five entities, which are all listed.
- Deleted: the TA98 entity is not transferred in the current terminology, but in fact it is not deleted but stored and in such a position that it can never be reused.
- Taxonomic: the TA98 entity is not transferred, but it is a component of the taxonomy of the current terminology and it is maintained as such, despite no taxonomy has ever been present in TA98.

All the entities of the current terminology are displayed on the contrary of the TA98 presentation. Typically a paired unit has four associated entities: the TA98 LA: *cavum trigeminale* with UID = 5100 is a pair entity, giving in the new terminology LA: *cavum trigeminale*, LA: *cavum trigeminale (par)*, LA: *cavum trigeminale sinistrum* and LA: *cavum trigeminale dextrum*. Each individual entity can be reached through the link to the Unit Page.

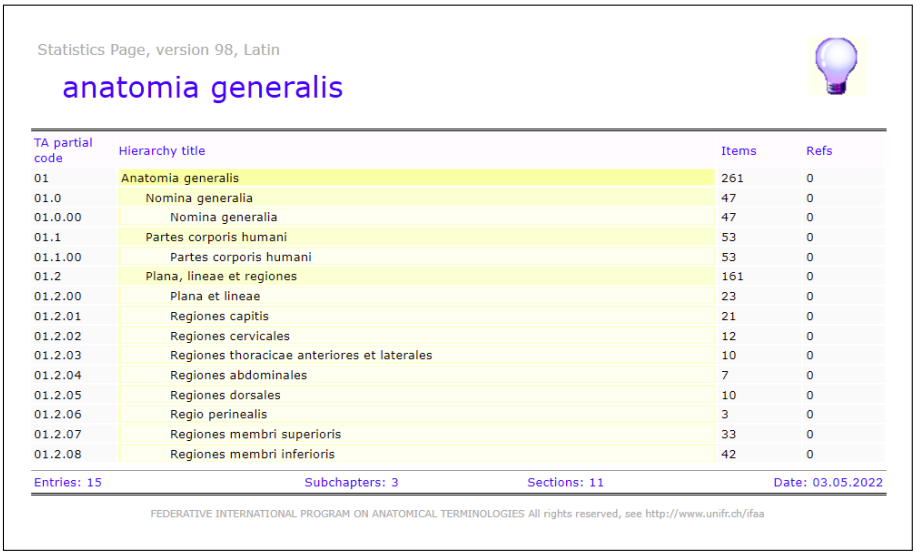
The TA98 deleted entities are not deleted in reality, but they have no equivalent in the new terminology. The note section below is intended to document all deletions.

The plural entities of TA98 are redirected to a set or pset unit in the new terminology, which generic name is necessarily at singular. From this name the set name is recomputed giving the initial plural as seen in TA98.

The TA98 Trace Page is displayed using its main language. The subsidiary language is used in bubbles attached to all entity names.

5.9 TA98 Trace Notes section

The TA98 Trace page has an additional section displaying notes for commenting some transfers of TA98 entities to an unexpected target unit of the current



Statistics Page, version 98, Latin

anatomia generalis

TA partial code	Hierarchy title	Items	Refs
01	Anatomia generalis	261	0
01.0	Nomina generalia	47	0
01.0.00	Nomina generalia	47	0
01.1	Partes corporis humani	53	0
01.1.00	Partes corporis humani	53	0
01.2	Plana, lineae et regiones	161	0
01.2.00	Plana et lineae	23	0
01.2.01	Regiones capitis	21	0
01.2.02	Regiones cervicales	12	0
01.2.03	Regiones thoracicae anteriores et laterales	10	0
01.2.04	Regiones abdominales	7	0
01.2.05	Regiones dorsales	10	0
01.2.06	Regio perinealis	3	0
01.2.07	Regiones membri superioris	33	0
01.2.08	Regiones membri inferioris	42	0

Entries: 15 Subchapters: 3 Sections: 11 Date: 03.05.2022

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Figure 5.4: A typical Statistics page for the TA98 terminology, showing here the chapter 1 of TA98 on general anatomy.

terminology. In particular, all deleted entities of TA98 are usually accompanied by a specific note.

In the section displaying the trace list, any TA98 code may be displayed with a down arrow on its right, indicating that a note is present in the note section. The note can be recovered by the unit identifier.

5.10 TA98 Statistics page

The TA98 Statistics page displays a simple list of statistical values about a chapter of TA98 or a summary of the whole TA98 terminology. This page is made of a header, a four columns body and a footer, as it can be seen in figure 5.4.

The different rubrics of this page are described thereafter:

- TA partial code
  These are the leftmost characters of the 11-digit TA98 code, that are counted on this line of the table.
- Hierarchy title
  The title of this line, issued from the TA98 hierarchy.
- Items
  The number of anatomical entities found for this line. The possible titles without code in the original edition of TA98 are not counted there.
- Refs
  The number of references found for this line. A reference is an entity located elsewhere in the TA98 hierarchy but just referenced here. It is counted in the number of items.

- Entries
  The number of lines of this table.
- Subchapters
  The number of subchapters in this chapter (number of 4-digit codes).
- Sections
  The number of sections in this chapter (number of 7-digit codes).
- Date
  The date of creation of this page or the date of the last update.

These pages have been created in 2013 and have been left unchanged since that moment, except a few errors having been corrected. They are the basic count of the 7444 items of TA98.

5.11 Log of updates

11 Mar 2022 Introduction of the TA98 trace page.

1 Mar 2022 Creation of the file.

5.12 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/HelpTA98List.pdf