

Cassini's *Compositae* genera: A nomenclatural and taxonomic assessment

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Abstract Work on the Global Compositae Checklist has highlighted uncertainties and errors in the nomenclatural parameters of many genera and subgenera described by Henri Cassini. Problems concern rank (subgenus vs. genus); type designation; correct place of valid publication; alternative names; and other miscellaneous issues. An annotated list with correct nomenclatural information for 391 generic names or designations is provided, including types (newly designated here for 17 names) and one new combination (*Gyptis tanacetifolia*). The current taxonomic disposition of Cassini's genera and the accepted names for the listed typonyms are consistently mentioned. The familiar names *Felicia* and *Chrysopsis*, already conserved, are threatened by unlisted earlier synonyms, and currently used *Fulcaldea* turns out to be illegitimate. Proposals to deal with these problems by conservation are being presented separately.

Keywords *Asteraceae*; conservation; genera; nomenclature; subgenera; typification

INTRODUCTION

Henri Cassini is considered the founder of modern synanthology (the study of *Compositae* or *Asteraceae*; King & Dawson, 1975). In the early 19th century he made a significant contribution to the systematics of this large and important family. As well as producing the first tribal classification of note (Cassini, 1829), he published many new generic, subgeneric and specific names in *Compositae*. No less than 391 names or designations of *Compositae* genera can be attributed to him, 130 of which are accepted today, around 8% of the accepted generic names in the family (Total: 1620; Kadereit & Jeffrey, 2006). He published much of his work in Cuvier's *Dictionnaire des Sciences Naturelles* between 1816 and 1830. In the same period he frequently published papers on the same taxa in the *Bulletin des Sciences, par la Société Philomatique de Paris* from 1812 to 1821, *Journal de Physique, de Chimie, d'Histoire Naturelle et des Arts* from 1813 to 1823, and *Annales des Sciences Naturelles* from 1827 to 1831. These texts were often difficult to consult until King & Dawson (1975) published a collated reprint of, and index to, Cassini's contributions to the *Dictionnaire*, followed by similar collations of his papers in the three mentioned journals (King & al., 1995a,b). In the new digital age many of the original publications are available through the Internet via such sites as the Biodiversity Heritage Library, botanicus.org, archive.org and the Google Book Search™ service. In this survey we assess the nomenclatural and taxonomic status of the 391 generic names and designations published by Cassini, or ascribed to him.

Due to various factors detailed below, confusion has arisen regarding the correct identity and accurate citation of the place

of valid publication for many of Cassini's generic names, as well as their nomenclatural status and the identity of their type. These problems have come to light with incipient work on a Global Compositae Checklist (GCC, www.compositae.org/ checklist), electronically integrating multiple data sources for the family. The data included to date come from 23 individual data sources that range from global (e.g. The International Plant Name Index, IPNI) through regional (e.g. *Euro + Med Plantbase*) and national (e.g. CONABIO, Mexico; Castelo & al., 2005) to local (e.g., Mota & al., 2008). Several of these datasets include information pertaining to generic names, and inconsistencies between them highlight the issues surrounding Cassini's generic names. Errors relating to Cassini's generic names often perpetuate themselves even when the correct information is present in the *Index Nominum Genericorum* (ING) or other sources of data. When the corrected information is given without proper explanation, it is not always adopted, or it has to be verified again. The GCC uses C-INT software (Wilton & Richards, 2007) that links original data provider records to a consensus record. In this way it is easy to compare multiple data sources for inconsistency regarding one name, and at the same time benefit from explanatory notes offered by any of the data providers. The presence of such notes has made the work for the GCC much easier, but nevertheless all primary nomenclatural sources have again been checked.

Our initial targets were the numerous confusions of long standing that surround a large proportion of Cassini's names, with a goal to provide correct publication details (authorship, nomenclatural source citation, date, and page). The data presented here are the first practical output of the GCC project. Hopefully, they demonstrate that the GCC approach is a

valuable means for establishing a complete, and nomenclaturally correct, list of generic names for *Compositae*.

To add to the usefulness of this generic inventory, we have undertaken to provide information on the nomenclatural types, whether they were established in the original publication or designated later by Cassini or others. Some names have not so far been typified to our knowledge, and 17 are typified here. Revising Cassini's original material would have been desirable in those cases when no named species were included in the protologue, but would have exceeded the frame of the present paper, so that we have had to accept Cassini's own taxonomic assessment.

Furthermore, the currently accepted disposition of Cassini's genera is given whenever it could be inferred or established, as well as the correct name of the listed type, when it can be established with confidence. It cannot be stressed too forcefully that our taxonomic assessment is equivalent to a snapshot taken at a given moment in time (early 2010). As our knowledge and understanding of *Compositae* phylogeny progresses and is reflected in generic classification, the boundaries and many names of genera must change. The present trend to define small, natural, morphologically discrete units as genera has already led to the dismemberment of several traditional genera and in concomitant resurrection of Cassini's neglected ones. This process is still under way, e.g., in *Senecio*, or has barely yet started as in *Erigeron*, *Lactuca*, and others, which means that the proportion of accepted names among Cassini's genera is bound to increase.

All of Cassini's generic names known to us are listed, including his illegitimate renamings of earlier named genera, his upgrading of earlier names of subgenera to generic rank, and those generic designations that, even though not validly published, have been ascribed to him in one of the GCC data sources. Cassini's subgeneric names are cited whenever he or others have raised them to generic rank, but otherwise his named subgenera and sections have not been mentioned exhaustively.

■ SITUATIONS OFTEN CAUSING ERRORS AND UNCERTAINTY AFFECTING CASSINI'S GENERIC NAMES

Some peculiarities of Cassini's way of expressing himself have led to uncertainty as to the correct nomenclatural interpretation and have almost invariably resulted in discrepancy of citation between the GCC data sources.

Names initially published at subgenus rank. — In 29 cases, Cassini initially published the names of his new genera at subgeneric rank. A choice example of confusion regarding rank, and concomitant doubt on the appropriate authorship and nomenclatural source citation, is *Ixeris*. That name is first mentioned in the article 'Description de l'*Ixeris polycephala*' (Cassini in Bull. Sci. Soc. Philom. Paris 1821: 173–175. Jul 1821). Despite the title, Cassini actually describes '*Ixeris polycephala*', not under a genus *Ixeris* but under a new subgenus, *Taraxacum* subg. *Ixeris*: 'L'*Ixeris* est un sous-genre, que je

propose d'établir dans le genre *Taraxacum* ...' [*Ixeris* is a subgenus that I propose to establish in the genus *Taraxacum*]. After characterising the subgenus he describes its single species under the heading *Ixeris polycephala*, then notes: 'J'avais d'abord attribué cette plante au genre *Taraxacum*, en la nommant *Taraxacum polycephalum*; mais elle s'éloigne tellement des vrais *Taraxacum* par son port, que je crois devoir la distinguer au moins comme sous-genre.' [I had initially attributed this plant to the genus *Taraxacum*, by naming it *Taraxacum polycephalum*; but it differs so much from *Taraxacum* in its habit, that I believe I have to distinguish it at least as a subgenus.] In the same article there is a very informative comment on Cassini's system of naming: 'Les botanistes qui admettent des sous-genres, ont coutume d'attacher le nom spécifique au nom du genre principal, et de passer sous silence le nom du genre secondaire, qui devient ainsi presque inutile. Cette méthode me paraît contraire à l'ordre naturel des idées, qui exige, selon moi, que le nom spécifique soit attaché à celui du sous-genre: c'est pourquoi je nomme la plante dont il s'agit *Ixeris polycephala*. Ceux qui n'adoptent pas mon système de nomenclature, la nommeront *Taraxacum polycephalum*.' [The botanists who accept subgenera, have the habit of attaching the specific name to the primary generic name, and to ignore the secondary generic name, which becomes thus almost useless. This method appears contrary to the natural order of ideas to me, which requires, in my opinion, that the specific name be attached to that of the sub-genus: this is why I name the plant in question *Ixeris polycephala*. Those who do not adopt my system of nomenclature, will name it *Taraxacum polycephalum*.] The *International Code of Botanical Nomenclature* (ICBN, McNeill & al., 2006) clearly falls into the latter camp. Under its provisions, as Cassini clearly does not establish a new genus but a subgenus, he does not validly publish the generic name *Ixeris*. He does not spell out the combination *Taraxacum* subg. *Ixeris* either (this was almost never done in those times, and even nowadays is not general policy), but as he clearly associates the subgeneric epithet with the generic name *Taraxacum*, the name *Taraxacum* subg. *Ixeris* must be accepted as validly published (ICBN, Art. 33.1). The designation '*I. polycephala*' does not have the prescribed form of a species name (ICBN, Art. 23.1), as the specific epithet is not associated with a generic name, and therefore it is not validly published (Art. 32.1(c)). But how about *Taraxacum polycephalum*? We were initially inclined to follow the *Index Nominum Genericorum* (ING, Farr & Zijlstra, 1996+) in considering it as a provisional name (Art. 34.1(b)), but it is not: acceptance of the taxon is not in question, nor are its particular circumscription, position or rank. *Taraxacum polycephalum* is proposed in anticipation of the future acceptance of nomenclatural rules differing from Cassini's. As there is no provision in the ICBN to disallow this, the name is validly published. The combination in *Ixeris* based on it was validly published later, as *I. polycephala* (Cass.) DC.

Cassini (in Cuvier, Dict. Sci. Nat. 24: 49. Aug 1822) continues to treat *Ixeris* as a subgenus, using the same wording as before (he only changes the pronoun from 'I' to 'we', a convention which in French writing expresses the author's modesty). As the second reference has also been cited as the source of

the generic name (e.g., in the International Plant Name Index, IPNI, based on *Index Kewensis*, *IK*), it contributed further to the confusion.

However, in the same year, Cassini (in Cuvier, *Dict. Sci. Nat.* 25: 62. Nov 1822) lists *Ixeris* in a 'Tableau méthodique des genres' (systematic table of genera). He refers to his earlier publications (*Ixeris* H. Cass. *Bull.* 1821. p. 172. *Dict.* v. 24. p. 49?'), but the taxon is clearly placed on the same level as the following one, *Taraxacum*. Thus the correct citation for the generic name is *Ixeris* (Cass.) Cass. in Cuvier, *Dict. Sci. Nat.* 25: 62. 1822 (= *Taraxacum* subg. *Ixeris* Cass. in *Bull. Sci. Soc. Philom.* Paris 1821: 173–175. 1821).

Within IPNI, the largest and probably most used of the online nomenclators, both the correct and incorrect information for this name have been present for years (although this may change at any time, consequent to updating of the database). The current entry in IPNI corresponding to the Gray Card Index (GCI) is correct and includes a useful explanatory note: 'Some works cite '24: 49. Aug 1822' as the place of publication; in vol. 24, Cassini treated *Ixeris* as a subgenus of *Taraxacum*.' The second entry, derived from the *Index Kewensis*, reads '*Ixeris* Cass. *Bull. Sci. Soc. Philom.* Paris (1821) 173; et *Dict. Sc. Nat.* xxiv. 49 (1822).', where both references refer to the subgenus name, and only the first to its place of valid publication.

Names of ambiguous rank (genus or subgenus). — A similar and even more problematic issue, affecting 37 names, is Cassini's qualification of a newly described taxon as 'genre ou sous-genre' [genus or subgenus].

This is not, as one might initially suspect, a publication of alternative names at different ranks (Art. 34.2), for the simple reason that only one name is present when two are needed for an alternative (see, however, the different situation regarding *Tetradus*, discussed below). In past practice, the interpretation as alternative names seems to have been made only once (for *Calebrachys* and *Calea* subg. *Calebrachys*, in TROPICOS).

The names might also be envisaged as referring to a taxon to which Cassini did not assign a definite rank. Such 'unranked' names (*ICBN*, Art. 35.3) would be inoperative for purposes of priority but could nevertheless serve as basionyms. This interpretation has only been made once (for *Emilia*: Jeffrey, 1986) and, as explained below, is here rejected in conformity with general practice.

In cases using the phrase 'genre ou sous-genre' Cassini often proceeds, within the same article, to use the name at generic rank. By default, and unless Cassini elsewhere in the same paper clearly considers the taxon as subgeneric only, the name must be treated as generic in agreement with its form (uninominal). In those cases in which Cassini definitely intends a name to be published at the rank of subgenus (as in the example of *Ixeris*, discussed above), he clearly associates the subgeneric epithet with the name of the corresponding genus. This is not done in any of the 'genre ou sous-genre' situations; it is sometimes possible, by inference, to know what genus Cassini had in mind were he to accept the taxon at subgeneric rank, but this is not made explicit. The phrase 'ou sous-genre' is therefore considered a mere indication of taxonomic doubt, condoned by the *ICBN*, Art. 34.1. In past practice the majority

of these names have been interpreted as generic, Cassini's use of the phrase "genre ou sous-genre" notwithstanding, in line with a (conscious or unconscious) agreement with the rationale exposed here.

A good example is *Diglossus* Cass., first described by Cassini as 'Genre, ou sous-genre, de la tribu des Hélianthées, section des Tagétinées, très-voisin du *Tagetes*.' [Genus, or subgenus, of the *Heliantheae* tribe, *Tagetineae* section, very close to *Tagetes*.] The name is associated with a description, and is therefore validly published as *Diglossus* Cass. As far as is known, Cassini never validly published the name *Tagetes* subg. *Diglossus*, nor does the statement that *Diglossus* is 'very close' to *Tagetes* 'definitely associate' *Diglossus*, as a subgeneric epithet, with *Tagetes*, as required by the Code (*ICBN*, Art. 33.1). Due to the initial rank ambiguity, several GCC data sources cite a later source (Cassini, in Cuvier, *Dict. Sci. Nat.* 13: 241. Jul 1819) for the generic name, but this is not the place of valid publication of a new name but of its later usage.

A similar situation is seen in *Distephanus* Cass. where the taxon is also described as 'Genre, ou sous-genre, de la tribu des vernoniées, section des prototypes' [Genus, or subgenus, of the *Vernonieae* tribe, section of prototypes]; but also, at the end of the description, the qualification 'Ce genre' is used. Here, it is clear that a subgeneric name cannot in any event have been published, as the relevant conditions (*ICBN*, Art. 3 Note 1 and Art. 33.1) are not met: *Distephanus* is not 'definitely associated' with any other generic name. However, the generic name *Distephanus* is validly published there.

Names cited from a wrong publication place. — In the two aforementioned examples, at least one data source incorrectly cites the generic name from a later work, not from the place of its valid publication. Reference to later (more rarely: too early) usages of names are the most common error we have found in our study, affecting 93 names. Sometimes the date difference is minimal, perhaps just a month, as a result of concurrent publication of a name in multiple outlets. Cassini often published a name in several places, sometimes over a span of years, each time treating the genus (or subgenus) as if it were new (see e.g. *Distephanus*, above). Perhaps he was not sure which publication would appear first and was hedging his bets, or else, he used the words 'new genus' in a general rather than nomenclatural sense. Regardless, nomenclators, as documented in IPNI, often err by citing previously published names from a later publication.

Alternative names. — In eight cases Cassini simultaneously offers alternative names for a new genus of his, for example '*Chamaeleon* seu *Chamalium*' or '*Glossogyne* ou *Gynactis*'. Both names are validly published (*ICBN*, Art. 34.2). In a single case, we found that he published simultaneously alternative names for a new taxon at different ranks (genus and subgenus): *Tetradus* (q.v.) and *Helenium* subg. *Tetradus*. In other cases Cassini suggested an apparent alternative for an earlier, legitimate generic name, in which case that alternative name is either not validly published (when it is not clearly adopted in preference to the earlier name: ten cases), or else it is nomenclaturally superfluous. For example, *Cyanastrum* Cass. is not validly published, as Cassini nowhere definitely adopts it in preference to the earlier,

legitimate *Cyanopsis* Cass.; whereas *Cremonocephalum* Cass., introduced in superficially similar terms but clearly meant to displace the earlier, legitimate *Crassocephalum* Moench, is a validly published but illegitimate name.

Other issues. — Trivial errors (misprints or slips), e.g. incorrect page numbers (50 cases), also occur and are sometimes self-perpetuating. Such in the case of *Elphegea* Cass. (in Bull. Sci. Soc. Philom. Paris 1818: 30. Feb 1818), which all GCC data sources cite from page 31 instead of 30. Some page number errors may be due to misreading of the King & Dawson (1975) and King & al. (1995a,b) collations, where the page numbers of the original, often several per reprint page, are specified in the margins and can easily be misread or confused. Several inconsistencies in page references are due to Cassini's mentioning a name, without description, in a synopsis of genera preceding the page with the description validating the name. Some nomenclators, *ING* in particular, appear to follow (at least erratically) the policy of citing every page on which a name appears in the protologue publication. In our list, we cite those pages that are relevant to the valid publication and/or status and typification of a name; other pages on which the name appears but that are irrelevant for its status are added in parenthesis if, and only if, they sometimes appear in full nomenclatural references.

Orthography-related problems. — There are two different categories in which problems with the spelling of names may arise, depending on whether one deals with similar heterotypic names or whether only one type is involved.

Cassini often rejected names because, in his view, they were too similar to some other name to be used alongside with it. Depending on whether or not one shares his view, the substitute name he proposed for the junior name will be legitimate or illegitimate. The criteria for considering two names to be confusingly similar (*ICBN*, Art. 53.3) and qualify as 'parahomonyms' are more restrictive today than they were in Cassini's mind. Moreover, names of animals are not now taken into account in questions of homonymy or confusing similarity with plant names. Therefore, many of Cassini's well-intentioned replacement names are now deemed illegitimate. But there are borderline cases in which opinions may diverge, such as *Trichostemma* Cass. and *Trichostema* L., which in our opinion, and contrary to *ING*'s assessment, are unlikely to be confused.

With similar names based on the same type, the question is whether they qualify as different names (only one of which can be legitimate) or are mere orthographical variants of a single name. In the latter case (*ICBN*, Art. 61.1), only one spelling exists for nomenclatural purposes (although both may be listed in nomenclators), and the question then is: which one. As defined (*ICBN*, Art. 61.2), orthographical variants may differ in spelling (example: *Haplopappus* and *Aplopappus*, where the first-named spelling is now conserved against Cassini's original one), or compounding (e.g., *Bellidastrum* vs. *Bellidiastrum*, where that latter spelling, used by Cassini, has been proposed for conservation in preference to Scopoli's original one), or inflexion (including pairs in which only one variant has a Latin inflexion, as is the case of *Ucacou* Adans. and *Ucacea*, the spelling used by Cassini). However, a difference in termination,

as opposed to mere inflexion, normally results in two different names, such as *Trichostephium* Cass. and *Trichostephus* Cass., both of which happen to be illegitimate.

Doubtfully accepted names. — As specified in the *ICBN* (Art. 34.1), 'a name is not validly published when it is not accepted by the author ... [or] when it is merely proposed in anticipation of the future acceptance of the taxon concerned ... (so-called provisional name)'. Be it for excessive carefulness or abidance by a fashion of his time, Cassini often expresses himself in uncertain terms when proposing new taxa. In particular, use of conditional mood or of words like 'peut-être' may throw doubt on whether he really and definitely is proposing and naming a new taxon. In seven such cases the basic intent is clear enough and is usually corroborated by subsequent unconditional acceptance. We have therefore, as a rule, concluded to validity of the name in question. An exception is discussed under the headings *Chatiakella* and *Chylodia*, for which among other expressions of doubt Cassini uses the word 'provisoirement' [provisionally].

Names with multiple problems. — Several of Cassini's new generic names, 110 in total, present citation problems of more than one kind. A good example is *Trichostemma* Cass. where, to begin with, there is confusion over the correct page number. Moreover, the name designates a taxon qualified as 'genus or subgenus'. Being, rightly or wrongly, considered a 'parahomonym' of *Trichostema*, the name was later replaced with *Trichostephium*, which was subsequently changed to *Trichostephus*: a different name that has sometimes been considered a mere orthographical variant.

Species names. — In the GCC data sources there are many problems and inconsistencies regarding the citation of species names. Generally these do not fall within the scope of the present paper; they do, however, in so far as the types of generic names are cited in the form of binomials. Errors and inconsistencies affecting these binomials are plentiful and had to be rectified or resolved. In 95 cases, the cited binomials have been attributed to Cassini in some GCC data source (normally in IPNI entries originating from *IK*) although they were not validly published by him, because he did not associate the epithet with the new generic name (*ICBN*, Art. 33.1). This is not a new problem. Owing to general policy of the *IK* compilers in the early years, there are tens of thousands of binomial combinations listed in the basic volumes and early supplements of *IK* that were not made in the place from which they are cited. Some were never made, many others were published subsequently but are not so listed in *IK* as they were already there (which is a major nuisance). Quite a few (but none of those of Cassini we came across) were treated as accepted names in *IK* and are validly published there (Greuter, 1985). As the *IK* was unkind toward Cassini's generic concepts, the new binomials erroneously ascribed to him are usually treated as synonyms and so were not validly published.

Many of Cassini's cited binomials, and no less than 29 of his generic names, are correctly attributed to him but either were later homonyms or are nomenclaturally superfluous and illegitimate, because an earlier name of which the epithet ought to have been adopted is cited in synonymy (*ICBN*, Art. 52.1).

■ THE TYPES OF CASSINI'S GENERIC NAMES

Cassini was an early embracer of the type concept, which he applied in a close to modern sense. He often used the term 'type' in his work, and sometimes its equivalents 'fondé sur' [based on], 'établi sur' [established upon], etc. Following his precepts, we have endeavoured to mention the nomenclatural type for all of Cassini's new genera.

The format of the type entries follows the model of *ING* and of Appendix III of the *ICBN*. The binomial cited in the first place is one that appears in the protologue (if any are mentioned); it is followed in parenthesis by its basionym or replaced synonym (if it has one) and by the legitimate, homotypic binary combination under the typified name (if available and different from the first binomial). As a rule, nomenclatural source citations are only provided for names authored by Cassini, and only when they were not validly published together with the generic protologue. When the type binomial is a heterotypic synonym of the correct name of the species concerned, the latter, when known, is mentioned between brackets, preceded by the equal sign [=].

We use the term 'typonym' as a surrogate for the accurate but clumsy phrase 'species name providing the type of a generic name'. We do not use, even by analogy, the terms holotype and lectotype, because at supraspecific levels they are inappropriate even though apparently tolerated by the *Code* (*ICBN*, Art. 10 Note 1). Instead, in all cases where more than one type element, or none at all, is included in the protologue, the term 'type' is followed by a parenthetical reference to the publication in which the type has been designated.

For typification purposes, three situations must be distinguished.

1. A single type element is included in the protologue: one validly published species name (or more than one, but all based on the same type). In such cases the generic name has an original type (analogous to a holotype). The type binomial may be the name of a newly described species, in which case the ultimate type is or belongs to the material used by Cassini; or it may be a new combination or (legitimate or illegitimate) avowed substitute name, in which cases the ultimate type was usually unknown to Cassini and may differ taxonomically from the material he described. An example of the latter kind is *Platyrhaphium* Cass., avowedly based on *Carduus diacantha* Labill., whereas the plant described by Cassini belongs to *Ptilostemon afer* (Jacq.) Greuter, a widely different species known to have been generally mislabelled as *Carduus diacantha* in botanic gardens (Greuter, 1973).
2. More than one potential type element is included in the protologue. In such a case, Cassini himself may have designated the type (either in the protologue or in a later publication), or failing this, the first subsequent author designating one of these elements as the type must be followed. The designated type is analogous to a lectotype. In trying to find the first effective type designation, we have made ample use of the information present

in the *Index Nominum Genericorum* (Farr & Zijlstra, 1996+). In eleven such cases (*Acrolophus*, *Acroptilon*, *Aplopappus*, *Cheirolophus*, *Gynoxys*, *Mulgedium*, *Onotrophe*, *Piptoceras*, *Tursenia*, *Ucacou* Adans., and arguably *Youngia*), in which we could not find any earlier acceptable typification, the type is designated in the present paper.

3. No potential type element is included in the protologue. This is the more troublesome situation, because the ultimate criterion for designating a type is the taxonomic identity of the material used by Cassini. There are some straightforward cases, such as *Anactis*, when Cassini subsequently based a new species on the material he had used for the generic description; if Cassini's binomial is designated as type (the logical choice, but it still has to be made!), then that type cannot be questioned. In all other cases, the type binomial, whether designated subsequently by Cassini himself or by a later author, has less standing and stability than even a neotype, because the taxonomic identity of the material used by Cassini is open to challenge. Indeed, Cassini is known to have derived some of the names he uses from notoriously unreliable sources, such as plant labels in the Jardin du Roi. Although aware of this uncertainty and of the need to revise Cassini's specimens, we have for the purpose of this paper accepted at face value his identifications and the judgement of subsequent authors. To flag the uncertainty, the phrase "not in protologue" is added to the type entry. In six such cases (*Aspelina*, *Chatiakella*, *Diplopappus*, *Pterolophus*, *Scepinia*, *Spadactis*), in which we could not find any earlier acceptable typification, the type is designated in the present paper.

■ ANNOTATED LIST OF NAMES OF GENERA

The following list of 391 alphabetically sorted entries is primarily a nomenclatural device. Nevertheless, in order to add to its usefulness, an assessment of the genera concerned, based on current taxonomic opinion, is offered, and is expressed by the use of **bold-face italics** for the accepted name. The corresponding figures are: 130 of Cassini's genera are accepted, the remaining entries are either treated as synonyms (237) or are not validly published names (24). These figures, and the underlying assessments, are bound to change as knowledge accumulates. In many cases Cassini's genera were downgraded by later authors to subgeneric or sectional rank. Occasionally we have cited such names (when they are homotypic, and illustrative of recent taxonomic concepts), but we neither endorse these concepts, nor did we in any way aim at completeness.

Most of Cassini's subgeneric names have at some time been raised to generic rank, and are then cited under the relevant generic entry. In three cases (*Eurybia*, *Galatea*, *Maruta*) the transfer has been made by other authors; and conversely, in three cases (*Euthamia*, *Leontopodium*, *Oligactis*) it was Cassini who raised in rank earlier subgeneric or sectional names of other authors (and in four—*Aposeris*, *Lepidophorum*, *Scepinia*,

Wulffia—he redeemed Neckers “species naturales”). Other subgeneric and sectional names we disregard. If described by Cassini under one of his own genera (e.g., *Onotrophe* sect. *Apalocentron* Cass. and *O.* sect. *Microcentron* Cass.) they may be mentioned there, but no attempt at completeness has been made.

Cassini coined several generic designations that he failed to validate. According to the *Code* (ICBN, Art. 6.3) these are not names and are to be disregarded for nomenclatural purposes. These designations (*nomina nuda* and provisional names), when mentioned at all, are placed between double quotation marks. Orthographical variants are placed between single quotation marks. They are included in the alphabetic sequence only when some GCC data source treats them as if they were validly published names, in which case the whole entry is bracketed [24 cases].

Originally, the purpose of the list was to highlight inconsistencies and to correct errors found in the GCC data source material, with emphasis on the citation of names. The list has far outgrown that goal, e.g., by the inclusion, for the sake of completeness, of 130 names that do not appear to present problems of this kind. It was initially contemplated to group the entries by types of citation errors, which might have been instructive but turned out to be impractical as many names are affected by errors of more than one kind. Highlighting these problems remains an important goal of our list. To avoid redundancy, the main error-prone situations, or kinds of error, have been numbered, and the relevant numbers (if any) appear in brackets at the end of each entry. They are:

- [1] Name initially published at subgeneric rank, often entailing confusion regarding appropriate rank, or appropriate citation for a given rank.
- [2] Name qualified as ‘genre ou sous-genre’ in the generic protologue, often causing uncertainty; the name is validly published at generic rank, the words ‘ou sous-genre’ are a permissible expression of taxonomic doubt.
- [3] Name sometimes cited from a later or an earlier work, not from the place of its valid publication.
- [4] Alternative name: one of two new names simultaneously proposed for the same taxon; validly published.
- [5] Alternative designation proposed for a legitimate name; not clearly adopted in preference to that other name, hence not validly published.
- [6] Sometimes cited with wrong page number or publication year, or spelling, or with incorrect authorship, or other trivial errors.
- [7] Sometimes cited with additional page number(s).
- [8] Legitimate substitute name, the replaced name being either rejected against it or unavailable for use.
- [9] A correctable (or rejected) orthographical variant; not a validly published name.
- [10] Conditional mood used in the protologue, or similar wording expressing doubt or uncertainty; name nevertheless accepted by Cassini and hence validly published.
- [11] The generic name is an illegitimate, nomenclaturally superfluous substitute for an earlier, legitimate generic name, or a later homonym.

[12] Some data source (usually *IK* via IPNI) ascribes to Cassini a binomial that he did not publish in the cited place, or may never have published at all, because he did not definitely associate the specific epithet with the accepted name of the genus.

[13] Incorrect or incomplete typonym information has been given in *ING*, or a different place of type designation.

As most of the GCC data sources are electronic and are continuously updated, one may expect that the citation errors or inconsistencies here accounted for will gradually disappear. Indeed, many may no longer exist by the time this paper is published, and our little error statistic will be no more than an historical snapshot of the situation in early 2010. The main exception to the rule is the *Asterales* volume of *Families and Genera of Vascular Plants* (Kadereit & Jeffrey, 2006), which is a printed book and cannot be updated conveniently. So as to keep better track, those shortcomings concerning specifically the *Asterales* volume are highlighted by means of an asterisk (*) following the error code.

The dates given in the citations are by publication year unless this would cause ambiguity, except that for all of Cassini's names the month is given. The primary sources for dating the volumes of the *Dictionnaire* are Cassini (1834) and Sayre (1959), as reported in King & Dawson (1975) and Stafleu & Cowan (1976). Where discrepancies exist, as for vol. 3 (suppl.), 4 (suppl.), 11 and 12, we give alternative dates. We do not follow the bad habit of referring to a “second edition” of the *Dictionnaire*, which does not in fact exist: the first six volumes (1804–1806) were later reissued from the original printed stock, each with a supplement, so they consist of the original edition with a later addition. Dating the relevant issues of the three journals in which Cassini published papers is based on the dates given in the journals themselves, either in the headers of each issue or in the signature at the bottom (King & al., 1995a,b, do not date the papers by month).

Cassini's contributions to synanthology are chaotically arranged. He published his novelties as soon as they were ready, with scant regard for the alphabetic sequence of his main outlet, the *Dictionnaire*. The introduction in King & Dawson (1975: XII) includes a relevant quote from Cassini himself (in translation): ‘... thus the major part of my Résumé de La Synanthéologie is inserted in an article in the *Dictionnaire* which, according to its title, deals only with the description and history of the genus *Zoegea*.’ The only way to make sure that no relevant publication is missed is by using the invaluable indexes to the collations of Cassini's contributions (King & Dawson, 1975; King & al. 1995a,b), achievements to which we are pleased to pay tribute.

Abrotanella Cass. in Cuvier, Dict. Sci. Nat. 36: 27. Oct 1825.

Type: *A. emarginata* (Gaudich.) Cass. (*Oligosporus emarginatus* Gaudich.). Notes: Erroneously cited as “*Abrotanella* (Gaudich.) Cass.” by Swenson (1995). Gaudichaud (1825) does not mention *Abrotanella*; his paper, included in the earlier of two 1825-dated volumes of the *Annales des Sciences Naturelles*, obviously antedates Cassini's.

- Achromolaena* Cass. in Cuvier, Dict. Sci. Nat. 56: 222. Sep 1828 (≡ *Cassinia* subg. *Achromolaena* (Cass.) Orchard in Austral. Syst. Bot. 17: 479. 2004) [= *Cassinia* R. Br. 1817]. Type: *A. viscosa* Cass., nom. illeg. (*Cassinia quinquefaria* R. Br.). Notes: Phrase 'genre ou sous-genre' used in description, but it is one of six 'genres nouveaux' described in the article. A second species, *Cousinia arcuata* R. Br., is included only tentatively ('peut-être') in the new genus. – [2].
- Achyrocoma* Cass. in Cuvier, Dict. Sci. Nat. 26: 22. May 1823 [= *Vernonia* Schreb. 1791, nom. cons.]. Type: *A. tomentosa* Cass. (non *Vernonia tomentosa* Elliott 1823) (*Vernonia achyrocoma* Less. in Linnaea 4: 313. 1829). Notes: On p. 21, Cassini definitely refers to *Achyrocoma* as a subgenus (presumably of *Vernonia*, but the association is ambiguous) without description, then describes the species *Achyrocoma tomentosa*. Had he stopped at that point, no name would have been validly published (because no *descriptio subgenerico-specifica* is provided for in the *Code*). However, on the next page Cassini compares the generic characters ('caractères génériques') of *Achyrocoma* with those of *Distephanus*. He thereby validates the generic name *Achyrocoma*, and also *Achyrocoma tomentosa* Cass. that provides its type. According to Robinson (1999), whose opinion on the nomenclature of the names involved differs from ours, assessment of the generic placement of the type is still uncertain. *Achyrocome* Schrank 1824 (*Compositae*), a name that does not appear to be currently used, must be regarded as a later parohomonym of *Achyrocoma*. – [2, 3, 6].
- Acrocentron* Cass. in Cuvier, Dict. Sci. Nat. 44: 37. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea collina* L. Notes: The combination '*A. collinum*' was not published by Cassini. – [12].
- Acrolophus* Cass. in Cuvier, Dict. Sci. Nat. 50: 253. Nov 1827 (≡ *Centaurea* L. 1753, nom. cons., homotypic by conservation). Type (designated here): *Centaurea paniculata* L. Notes: The combinations '*A. maculosus*' and '*A. paniculatus*' were not published by Cassini. – [7, 12].
- Acroptilon* Cass. in Cuvier, Dict. Sci. Nat. 50: 464. Nov 1827 [*Rhaponticum* Vaill. 1754 (or Ludw. 1759, nom. cons. prop.)]. Type (designated here): *A. angustifolium* Cass. [= *A. repens* (L.) DC., *Centaurea repens* L., *Rhaponticum repens* (L.) Hidalgo]. Notes: Čerepanov (in Komarov, 1963) designated *A. repens* (L.) DC. as type, but this is not an original element. Cassini only tentatively ('probablement') identified the specimen on which he described his *A. angustifolium*, a legitimate name, with *Centaurea repens* L.
- Adenostyles* Cass. in Cuvier, Dict. Sci. Nat. 1 (Suppl.): 59. Oct 1816. Type (designated by King & Robinson, 1969): *A. viridis* Cass., nom. illeg. (*Cacalia alpina* L., *A. alpina* (L.) Bluff & Fingerh.).
- Aetheolaena* Cass. in Cuvier, Dict. Sci. Nat. 48: 453. Jun 1827. [= *Senecio* L. 1753]. Type: *Cacalia involucrata* Kunth (*Senecio involucratus* (Kunth) DC., *A. involucrata* (Kunth) B. Nord., *Lasiocephalus involucratus* (Kunth) Cuatrec.). Notes: The combination '*Aetheolaena involucrata*' was not published by Cassini. – [7, 12].
- Aetheopappus* Cass. in Cuvier, Dict. Sci. Nat. 50: 250. Nov 1827 (≡ *Psephellus* sect. *Aetheopappus* (Cass.) Wagenitz & F.H. Hellw. in Willdenowia 30: 36. 2000) [= *Psephellus* Cass. 1826]. Type: *Centaurea pulcherrima* Willd. (*A. pulcherrimus* (Willd.) Cass. in Cuvier, Dict. Sci. Nat. 51: 54. Dec 1827, *Psephellus pulcherrimus* (Willd.) Wagenitz). – [6].
- Aetheorhiza* Cass. in Cuvier, Dict. Sci. Nat. 48: 425. Jun 1827 [= *Sonchus* L. 1753]. Type: *A. bulbosa* (L.) Cass. (*Leontodon bulbosus* L., *Sonchus bulbosus* (L.) N. Kilian & Greuter). Notes: Sometimes recognised as a genus distinct from *Sonchus*.
- Agathaea* Cass. in Bull. Sci. Soc. Philom. Paris 1815: 175. Oct 1815 ('*Agataeha*') [= *Felicia* Cass., nom. cons. emend. prop.]. Type: *Cineraria amelloides* L. (*A. coelestis* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 183. 1817, nom. illeg., *A. amelloides* (L.) DC., *Felicia amelloides* (L.) Voss). Notes: The genus was named after Cassini's wife, Catherine-Elisabeth Agathe de Riencourt (King & Dawson, 1975, introduction). Sometimes cited from a later publication (in Bull. Sci. Soc. Philom. Paris 1816: 198. Dec 1816), where Cassini corrects the original misspelling. Whereas *Agathaea* Cass. is not a currently used name, it antedates *Felicia* Cass. 1818, nom. cons., and unless added as a nomen rejiciendum threatens to displace it (see also the entries *Charieis* and *Coelestina*). – [3].
- Alfredia* Cass. in Cuvier, Dict. Sci. Nat. 1 (Suppl.): 115. Oct 1816. Type: *A. cernua* (L.) Cass. (*Cnicus cernuus* L.). Notes: The name first appears, as a nomen nudum, in Cassini (in Bull. Sci. Soc. Philom. Paris 1815: 175. Oct 1815). Sometimes cited from a later publication (in Bull. Sci. Soc. Philom. Paris 1817: 33. Feb 1817). The combination '*A. cernua*' was not published before 1816 by Cassini. – [3*, 12].
- Allagopappus* Cass. in Cuvier, Dict. Sci. Nat. 56: 21. Sep 1828. Type: *A. dichotomus* Cass. [= *A. canariensis* (Willd.) Greuter]. Notes: Some authors treat *A. dichotomus* as a new combination based on *Chrysocoma dichotoma* L. f. from the Canary Islands, but as pointed out by Greuter (2003), Cassini makes no reference to the latter. Instead, he explicitly states that he is describing a so far unnamed plant in the Mérat herbarium, supposedly collected in Mauritius ('Isle-de-France').
- Alophium* Cass. in Cuvier, Dict. Sci. Nat. 54: 493. Apr 1829 [= *Centaurea* L. 1753, nom. cons.]. Type: *A. tenuifolium* Cass. (non *Centaurea tenuifolia* Salisb. 1796) (*Centaurea alophium* DC.) [= *Centaurea aspera* L.]. Notes: Sometimes

dated 1828 instead of 1829, but see Cassini (1834: 160) and King & Dawson (1975). – [6].

Anactis Cass. in Cuvier, Dict. Sci. Nat. 47: 510. May 1827 (≡ *Atractylis* sect. *Anactis* (Cass.) DC., Prodr. 6: 550. 1838) [= *Atractylis* L. 1753]. Type (not in protologue, designated by ING Staff, Washington, in ING card No. 32040. 1971): *A. serratuloides* Cass. in Cuvier, Dict. Sci. Nat. 50: 56. Nov 1827 (*Atractylis serratuloides* (Cass.) DC., Prodr. 6: 550. 1838). Notes: Cassini uses the phrase ‘genre ou sous-genre’, but further down he writes ‘se distingue génériquement’ [differs generically]. ‘*Atractylis serratuloides* Sieber ex Cass.’, treated by ING and Greuter (2008c) as an ‘alternative species name’, is not accepted by Cassini and therefore is not validly published. It appears on the label of the holotype specimen of *Anactis serratuloides*. – [2, 12].

Anisoderis Cass. in Cuvier, Dict. Sci. Nat. 48: 422, 429. Jun 1827, nom. illeg. (≡ *Wibelia* P. Gaertn. & al., Oekon. Fl. Wetterau 3(1): 97. Jan-Jun 1801 ≡ *Hostia* Moench, Suppl. Meth.: 221. May 1802, nom. illeg.) [= *Crepis* L. 1753]. Type: *Wibelia graveolens* P. Gaertn. & al., nom. illeg. (*Crepis foetida* L., *Wibelia foetida* (L.) Sch. Bip., *Hostia foetida* (L.) Moench, *Anisoderis foetida* (L.) Fisch. & C.A. Mey.). Notes: On p. 429 Cassini proposed *Anisoderis* as a substitute name for *Hostia* Moench (non *Hosta* Jacq. 1797), but for a genus accepted only provisionally (‘si l’on juge que ce genre de Moench diffère assez de son *Barkhausia* pour être conservé’; with a reference back to Dict. Sci. Nat. 21: 443. Sep 1821, where he had written: ‘Mais on jugera probablement que les deux genres [*Barkhausia* and *Hostia*] ne diffèrent pas assez pour être distingués’). On p. 422 he definitely accepts the genus but provides no validating element. We conclude that the name is validly published when the information given on both pages is combined. The question of a possible (but to us unlikely) parahomonymy of *Hosta* and *Hostia* is irrelevant, as both *Hostia* and *Anisoderis* are later homotypic, illegitimate synonyms of *Wibelia* (a legitimate name, which antedates its homonym *Wibelia* Bernh. in J. Bot. (Schrader) 1800(2): 122. Oct-Dec 1801). – [10, 11, 12].

Apalochlamys Cass. in Cuvier, Dict. Sci. Nat. 56: 223. Sep 1828. Type: *Cassinia spectabilis* (Labill.) R. Br. (*Calea spectabilis* Labill., *A. spectabilis* (Labill.) Steud.). Notes: The phrase ‘genre ou sous-genre’ is used in the protologue, but as mentioned on p. 218, *Apalochlamys* is one of six ‘nouveaux genres’ described in that article. – [2].

[‘*Aplopappus*’, Cass., orth. var.: see *Haplopappus*.] – [9].

Aplophyllum Cass. in Cuvier, Dict. Sci. Nat. 33: 463, 474. Dec 1824, nom. rej. vs. *Haplophyllum* A. Juss. 1825 [= *Mutisia* L. f. 1782]. Type (designated here): *A. decurrens* (Cav.) Cass. (*Mutisia decurrens* Cav.). Notes: The name is validly published in a list of genera, with a Latin description (p. 463). In the discussion (p. 472), Cassini states ‘... nous

hasardons de séparer ces trois plantes des vraies *Mutisia*, pour en faire un sous-genre provisoire nommé *Aplophyllum* ...’ [... we venture to separate these three plants from true *Mutisia*, to make a provisional sub-genus named *Aplophyllum* ...], which taken by itself does not constitute valid publication of the name at any rank (provisional name of subgeneric rank but inappropriate form for that rank). On the two following pages, however, Cassini reverts to treating *Aplophyllum* as a genus, and on p. 473 he publishes the three required specific combinations. – [2, 6, 10].

Aposeris Neck. ex Cass. in Cuvier, Dict. Sci. Nat. 48: 427. Jun 1827. Type: *Hyoseris foetida* L. (*A. foetida* (L.) Cass. ex Less.). The combination ‘*Aposeris foetida*’ was not published in the generic protologue. – [12].

Arction Cass. in Cuvier, Dict. Sci. Nat. 41: 311. Jun 1826, nom. illeg. (≡ *Vilaria* Guett., Mém. Minéral. Dauphiné: clxx. 1779, nom. rej.) [= *Berardia* Vill. 1779]. Type: *Vilaria subacaulis* Guett. [= *Berardia lanuginosa* (Lam.) Fiori, *Arctium lanuginosum* Lam.]. Notes: the name is validated in a generic synopsis, by reference to two earlier generic names, *Arctium* Lam. 1779 (non L. 1753) and *Villaria* (‘*Vilaria*’) Guett. 1779. The latter, although now rejected against *Villaria* Rolfe 1884, is a legitimate name and ought to have been adopted by Cassini. The ING erroneously treats *Arction* as a (legitimate) substitute name for *Arctium* Lam. non L. IPNI does not list the name. – [11].

Arnoldia Cass. in Cuvier, Dict. Sci. Nat. 30: 330. May 1824 (≡ *Dimorphotheca* sect. *Arnoldia* (Cass.) DC., Prodr. 6: 73. 1838) [*Dimorphotheca* Vaill. 1754; Vaill. ex Moench 1794]. Type: *A. aurea* Cass. [= *Dimorphotheca chrysanthemifolia* (Vent.) DC., *Calendula chrysanthemifolia* Vent.].

Arrhenachne Cass. in Cuvier, Dict. Sci. Nat. 52: 253. Mar 1828 [*Baccharis* L. 1753]. Type: *A. juncea* Cass. (*Baccharis juncea* (Cass.) Desf.).

Ascaricida Cass. in Cuvier, Dict. Sci. Nat. 3 (Suppl.): 38. Dec 1816 or Jan 1817, nom. illeg. (≡ *Baccharoides* Moench, Methodus: 578. 1794 ≡ *Vernonia* subg. *Ascaricida* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 66. Apr-May 1817). Type: *Conyza anthemintica* L. (*Baccharoides anthemintica* (L.) Moench, *A. indica* Cass., nom. illeg., *A. anthemintica* (L.) Sweet). Notes: Cassini, in the generic protologue, does not include *Baccharoides* Moench as an explicit synonym, he only refers to it indirectly: ‘Ce nouveau genre, qui a déjà été indiqué par Moench ...’ [This new genus, which was already indicated by Moench ...]. He does, however, include *Conyza anthemintica*, the name that provides the type of *Baccharoides*. – [6, 11].

Aspelina Cass. in Cuvier, Dict. Sci. Nat. 41: 166. Jun 1826. [*Senecio* L. 1753] Type (not in protologue; designated here): *Senecio aspelina* DC., Prodr. 6: 436. 1838. Notes: Cassini initially refers to *Aspelina* as ‘un autre genre’ and gives

- its 'description générique', but then qualifies it as 'genre ou sous-genre'. The combination '*A. nivea*' was not published by Cassini, who based his genus on a specimen in the Jussieu herbarium named '*Gnaphalium niveum* L.' but expressly doubts its correct determination. That specimen is the type of *Senecio aspelina*. – [2, 6, 12].
- Asterothrix* Cass. in Cuvier, Dict. Sci. Nat. 48: 434. Jun 1827 [= *Leontodon* L. 1753]. Type: *A. asperrima* (Willd.) Cass. (*Scorzonera asperrima* Willd., *Leontodon asperrimus* (Willd.) Endl.).
- Aurelia* Cass. in Cuvier, Dict. Sci. Nat. 3 (Suppl.): (64), 129. Dec 1816 or Jan 1817, nom. illeg. (≡ *Donia* R. Br. in Aiton, Hort. Kew., ed. 2, 5: 82. 1813) [= *Grindelia* Willd. 1807]. Type: *Donia glutinosa* (Cav.) R. Br. (*Aster glutinosus* Cav., *Aurelia glutinosa* (Cav.) Cass., *Grindelia glutinosa* (Cav.) Mart.). Notes: In an earlier publication (in Bull. Sci. Soc. Philom. Paris 1815: 175. Oct 1815), *Aurelia* appears as a nomen nudum. – [3, 7, 11].
- Barbellina* Cass. in Cuvier, Dict. Sci. Nat. 47: (500), 511. May 1827 [= *Staehelina* L. 1753]. Type: *Staehelina arborescens* L., nom. illeg. (*Staehelina arborea* Schreber, *B. sericea* Cass. in Cuvier Dict. Sci. Nat. 50: 440. Nov 1827, nom. illeg.) [= *Staehelina petiolata* (L.) Hilliard & B.L. Burt, *Gnaphalium petiolatum* L.]. – [3, 7].
- ['*Bellidiastrum*', Cass. in Bull. Sci. Soc. Philom. Paris 1816: 199. Dec 1816 and again in Cuvier, Dict. Sci. Nat. 4 (Suppl.): 70. Dec 1816 or Jan 1817, orth. var. Notes: This is listed in *IK* as a name, but technically, despite the fact that it appears in a paper titled 'Aperçu des genres nouveaux', it is merely an orthographic variant of *Bellidiastrum* Scop., Fl. Carniol.: 376. 1760 (non *Bellidiastrum* Vaill. 1754). The type of Scopoli's name, *Doronicum bellidiastrum* L., is the single binomial mentioned by Cassini. Proposals to conserve *Bellidiastrum* Scop., with that spelling (Greuter & al. 2005b), and/or to reject Vaillant's work (Brummitt, 2008; Greuter, 2008a; Sennikov, 2010), have been made.] – [3, 9].
- Billya* Cass. in Cuvier, Dict. Sci. Nat. 34: 38. Apr 1825. nom. rej. vs. *Billia* Peyr. 1858 [= *Petalacte* D. Don 1826]. Type: *B. bergii* Cass. [= *Petalacte coronata* (L.) D. Don, *Gnaphalium coronatum* L.]. Notes: Typification and synonymy are discussed in Hilliard & Burt (1980).
- Biotia* Cass. in Cuvier, Dict. Sci. Nat. 34: 308. Apr 1825 [= *Madia* Molina 1782]. Type (not in protologue, designated by Keck in *ING* card No. 16304. 1962): *Madia viscosa* Cav. Notes: Cassini does not definitely include *Madia viscosa* Cav. in his new genus, he is careful to specify that he describes a plant so labelled in the Jardin du Roi; later (in Cuvier, Dict. Sci. Nat. 59: 236. Jun 1829) he explicitly questions the identity of his material with Cavanilles' species. The combination '*Biotia viscosa*' was not published by Cassini. – [12].
- Blainvillea* Cass. in J. Phys. Chim. Hist. Nat. Arts 96: 216. May 1823. Type: *B. rhomboidea* Cass. [= *Blainvillea dichotoma* (Murray) Stewart, *Verbesina dichotoma* Murray]. – [3].
- Blaxium* Cass. in Cuvier, Dict. Sci. Nat. 30: 328. May 1824 [= *Osteospermum* L. 1753]. Type: *B. decumbens* Cass., nom. illeg. (*Calendula fruticosa* L., *Osteospermum fruticosum* (L.) Norl.).
- ['*Brachycome*', Cass., orth. var.: see *Brachyscome*]. – [9].
- Brachyderea* Cass. in Cuvier, Dict. Sci. Nat. 48: 429. Jun 1827 [= *Crepis* L. 1753]. Type: *B. rigida* (Waldst. & Kit.) Cass. (*Crepis rigida* Waldst. & Kit.) [= *Crepis pannonica* (Jacq.) K. Koch, *Hieracium pannonicum* Jacq.].
- ['*Brachygyne*', Cass. in Cuvier, Dict. Sci. Nat. 50: 493. Nov 1827, nom. inval. Notes: This is one of five alternative names suggested, but not adopted, by Cassini for his newly described genus *Cryptogyne* Cass. It is listed as a name in *IK*.] – [5].
- Brachyscome* Cass. in Bull. Sci. Soc. Philom. Paris 1816: 199. Dec 1816. Type: *Bellis aculeata* Labill. (*Brachyscome billardieri* ('billardieri') Cass. in Cuvier, Dict. Sci. Nat. 5 (Suppl.): 64. Mar 1817, nom. illeg., *Brachyscome aculeata* (Labill.) Cass. ex Less.). Notes: There is ongoing controversy regarding the spelling and citation of this name. As explained by Brummitt (1993), of two proposals to stabilise the etymologically correct spelling *Brachycome*, a correction that Cassini (in Cuvier, Dict. Sci. Nat. 37: 491. Dec 1825) had effected himself, the earlier failed because it was considered superfluous, and vote on the second ended in a tie (which at that time meant that it was rejected). Brummitt (1993) commented to the effect that 'Although technically ... the issue may still be argued, it appears now that the spelling *Brachyscome* should be preferred'. Even though Hind & Jeffrey's (1988) arguments in favour of *Brachycome* remain valid, we here follow Nesom & Robinson (in Kadereit & Jeffrey, 2006), and common use in Australasia where these plants are growing, in giving preference to *Brachyscome*. – [3, 6].
- ['*Caelestina*' Cass., orth. var.: see *Coelestina*]. – [9].
- Calebrachys* Cass. in Cuvier, Dict. Sci. Nat. 55: (265), 277. Aug 1828 [= *Calea* L. 1763]. Type: *Calea peduncularis* Kunth (*Calebrachys peduncularis* (Kunth) Cass. ex Less., *Calea scabra* var. *peduncularis* (Kunth) B.L. Rob.) [= *Calea scabra* (Lag.) B.L. Rob., *Calydermos scaber* Lag.]. Notes: The phrase 'genre ou sous-genre' is used in the protologue, but also 'paroît différer génériquement'. The combinations '*Calea* subg. *Calebrachys*' and '*Calebrachys peduncularis*' were not published by Cassini. – [2, 12].
- ['*Callias*', Cass., orth. var.: see *Kallias*]. – [9].

- Callistemma* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 32. Feb 1817 (non *Calostemma* R. Br. 1810), nom. rej. vs. *Callistephus* Cass. 1825. Type: as for *Callistephus*. – [3].
- Callistephus* Cass. in Cuvier, Dict. Sci. Nat. 37: 491. Dec 1825, nom. cons. (≡ *Callistemma* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 32. Feb 1817). Type: *Aster chinensis* L. (*Callistemma hortense* ('hortensis') Cass. in Cuvier, Dict. Sci. Nat. 6 (Suppl.): 46. May 1817, nom. illeg., *Callistephus chinensis* (L.) Nees). Notes: Cassini provided a substitute name for his *Callistemma* because he considered it to be confusingly similar with *Calostemma* R. Br. 1810 (*Amaryllidaceae*). Since it is doubtful that these two names are parahomonyms, *Callistephus* has been conserved. – [8].
- Campylotheca* Cass. in Cuvier, Dict. Sci. Nat. 51: 476. Dec 1827 [= *Bidens* L. 1753]. Type: *Bidens micranthus* ('micrantha') Gaudich. in Freycinet, Voy. Uranie, Bot.: t. 85. Sep 1826 (*C. micrantha* (Gaudich.) DC.). Notes: This is one of two alternative names published simultaneously for the same plant, the other being *Dolichotheca* (q.v.). Subsequently Cassini (in Cuvier, Dict. Sci. Nat. 51: 321. Jun 1829) gives preference to *Campylotheca*. The phrase 'genre ou sous-genre' is used in the protologue, but the name is to be treated as generic. The combination '*C. micrantha*' was not published by Cassini. – [2, 4, 12].
- Carderina* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 48: 447, 454. Jun 1827 (≡ *Senecio* subg. *Carderina* Cass. in Cuvier, Dict. Sci. Nat. 35: 272. 1825) [= *Senecio* L. 1753]. Type: *Senecio reclinatus* L. f. [= *Senecio paniculatus* P.J. Bergius]. Notes: The combination '*Carderina reclinata*' was not published by Cassini. – [1, 12].
- Carphephorus* Cass. in Bull. Sci. Soc. Philom. Paris 1816: 198. Dec 1816. Type: *C. pseudoliatris* Cass.
- Carphostephium* Cass. in Cuvier, Dict. Sci. Nat. 44: 62. Dec 1826 [= *Tridax* L. 1753]. Type: *C. trifidum* (Kunth) Cass. (*Ptilostephium trifidum* Kunth) [= *Tridax coronopifolia* (Kunth) Hemsl., *Ptilostephium coronopifolium* Kunth].
- Cartesia* Cass. in Bull. Sci. Soc. Philom. Paris 1816: 198. Dec 1816 [= *Stokesia* L'Hér. 1789]. Type: *C. centauroides* Cass. [*Stokesia laevis* (Hill) Greene, *Carthamus laevis* Hill].
- Castalis* Cass. in Cuvier, Dict. Sci. Nat. 30: 331. May 1824 (non *Castalia* Salisb. 1810) [= *Dimorphotheca* Vaill. 1754; Vaill. ex Moench 1794]. Type: *Castalis ventenatii* ('ventenatii') Cass., nom. illeg. (*Calendula flaccida* Vent., *Castalis flaccida* (Vent.) DC.) [= *Castalis tragus* (Aiton) Norl., *Calendula tragus* Aiton, *Dimorphotheca tragus* (Aiton) B. Nord.]. Notes: The problem of possible parahomonymy should perhaps be checked, but *Castalia* Salisb. (*Nymphaeaceae*) is not in use. – [6].
- Celmisia* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 32. 1817, nom. rej. vs. *Celmisia* Cass. 1825 (≡ *Alciope* DC., Prodr. 5: 209. 1836, nom. illeg.) [= *Capelio* B. Nord. 2002]. Type (not in protologue, designated by Burbidge in *ING* card No. 16452. 1962): *C. rotundifolia* Cass. in Cuvier, Dict. Sci. Nat. 7: 357. May 1817 [= *Capelio tabularis* (Thunb.) B. Nord., *Arnica tabularis* Thunb.].
- Celmisia* Cass. in Cuvier, Dict. Sci. Nat. 37: 259. 1825, nom. cons. vs. *Celmisia* Cass. 1817. Type: *C. longifolia* Cass., typ. cons. Notes: Some confusion over the correct citation exists, due to conservation of the name, with a different type, from a later place of publication. – [3].
- Centrapalus* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 10. Jan 1817 (≡ *Vernonia* subsect. *Centrapalus* (Cass.) S.B. Jones in *Rhodora* 83: 69. 1981) [= *Vernonia* Schreb. 1791, nom. cons.]. Type (not in protologue, designated by *ING* Staff, Washington, in *ING* card No. 32176. 1971): *C. galamensis* Cass. in Cuvier, Dict. Sci. Nat. 7: 383. May 1817 (*Vernonia galamensis* (Cass.) Less.). – [3].
- Centratherum* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 31. Feb 1817. Type (not in protologue, designated by *ING* Staff, Washington, in *ING* card No. 33162. 1971): *C. punctatum* Cass. in Cuvier, Dict. Sci. Nat. 7: 384. May 1817. – [3*, 6*].
- Ceratocephalus* Vaill. in Königl. Akad. Wiss. Paris Phys. Abh. 5: 599. 1754 (≡ *Bidens* L. 1753, homotypic by type designation). Type (not in protologue, designated by Greuter & al., 2005a: 165): *Bidens tripartitus* L. Notes: *IK* attributes validation of Vaillant's name to Cassini (in Cuvier, Dict. Sci. Nat. 7: 432. May 1817), but there, in spite of the misleading typography, Cassini does not accept *Ceratocephalus*, he merely refers the reader to his later entry *Kerneria* (in fact: *Bidens* subg. *Kerneria* Cass. in Cuvier, Dict. Sci. Nat. 24: 397. Aug 1822). Cassini mentions an earlier use of *Ceratocephalus* by Richard [in Marthe, Cat. Pl. Jard. Méd. Paris: 91. 1800 or 1801], but in that work there is nothing to validate the generic name (only the combination *C. pilosus*, based on *Bidens pilosus* L., is proposed). Upon approval of any of three pending proposals to outlaw the German translation of Vaillant's work on *Compositae* for nomenclatural purposes (Brummitt, 2008; Greuter, 2008a; Sennikov, 2010), the name *Ceratocephalus*, in the sense of *Bidens*, will apparently cease to exist. – [3].
- [“*Ceratolepis*”, Cass. in Bull. Sci. Soc. Philom. Paris 1819: 111. Jul 1819, nom. inval. Notes: Withdrawn by the author in favour of *Panphalea* Lag. 1811. It is listed as a name in *IK*.]
- Cestrimus* Cass. in Cuvier, Dict. Sci. Nat. 8: 24. Aug 1817 [= *Rhaponticum* Vaill. 1754 (or Ludw. 1759, nom. cons. prop.)]. Type: *C. carthamoides* Cass., nom. illeg. (*Cynara acaulis* L., *Rhaponticum acaule* (L.) DC.).
- Chamaeleon* Cass. in Cuvier, Dict. Sci. Nat. 47: (498), 509. May 1827 [= *Carlina* L. 1753]. Type: *Atractylis gummifera* L.

- (*Chamaeleon gummifer* (L.) Cass. in Cuvier, Dict. Sci. Nat. 50: 59. Nov 1827, *Carlina gummifera* (L.) Less.). Notes: In the same paper, on p. 498, Cassini uses alternative names for the genus: ‘*Chamaeleon* seu *Chamalium*’. That page contains no validating element for either name. In association with the validating description, Cassini only uses *Chamaeleon*. The combination ‘*Chamaeleon gummifer*’ was not published in the generic protologue. – [6, 12].
- [“*Chamalium*”, Cass. in Cuvier, Dict. Sci. Nat. 47: 498. May 1827, nom. inval. (non Juss. 1805). Notes: Proposed as an alternative name for *Chamaeleon* Cass., but not accepted in the place (p. 509) where the name *Chamaeleon* is validly published, nor mentioned anywhere subsequently by Cassini. Nevertheless, *IK*, *ING* and TROPICOS all accept it as validly published.] – [5].
- Charieis* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 68. Apr 1817 [= *Felicia* Cass. 1818, nom. cons.]. Type: *C. heterophylla* Cass. (*Felicia heterophylla* (Cass.) Grau). Notes: As already pointed out by Grau (1973), *Charieis* is an earlier, legitimate taxonomic synonym of *Felicia*, nom. cons., and needs to be proposed for rejection, as we are doing separately.
- Chartolepis* Cass. in Cuvier, Dict. Sci. Nat. 44: 36. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea glastifolia* L. (*Chartolepis glastifolia* (L.) Cass. in Cuvier, Dict. Sci. Nat. 54: 492. Apr 1829).
- Chatiakella* Cass. in Cuvier, Dict. Sci. Nat. 38: 17 [= *Tilesia* G. Mey. 1818]. Dec 1825. Type (not in protologue; designated here): *C. stenoglossa* Cass. in Cuvier, Dict. Sci. Nat. 46: 403. Apr 1827, nom. illeg. (*Verbesina oppositiflora* Poir.) [= *Tilesia baccata* (L.) Pruski, *Coreopsis baccatas* L.]. Notes: This name is usually considered to have been validly published earlier (in Cuvier, Dict. Sci. Nat. 29: 491. Dec 1823), as an alternative to *Chylodia* Rich. ex Cass. We beg to disagree. Firstly, the citation is inappropriate because the text that appears in the *Dictionnaire* was published identically, half a year earlier, in a journal article (Cassini, 1823) and is to be cited from there. Secondly, Cassini does not in either place definitely accept the alternative (i.e., *Chatiakella*), which he offers conditionally (‘Si dependant on jugeoit que les deux noms [*Chilodia* R. Br. 1810 and *Chylodia*] se ressemblent trop, nous proposerions celui de *Chatiakella* pour le genre [*Chylodia*] de Richard’), having before declared that in his opinion this was not necessary (‘Ces deux noms ... sont réellement bien distincts, par leur étymologie, par leur orthographe, et même par leur prononciation chez d’autres peuples que nous’). Second, the genus in question was accepted only provisionally (‘le *Chylodia* et le *Wulffia* [Neck. ex Cass.] pourroient bien être de la même espèce, ou tout au moins du même genre. Toutefois ... il nous paroît prudent de [les] conserver provisoirement, ... jusqu’à ce que des observations exactes et complètes autorisent à les réunir ... sous le titre de *Wulffia*’). Therefore, neither *Chatiakella*
- nor *Chylodia*, nor the binomial ‘*Chylodia sarmentosa*’ that has been accepted as their type, are validly published in that place. Later on Cassini accepted *Chatiakella* (but not *Chylodia*), validating the name by indirect reference to his previous description of ‘*Chylodia* or *Chatiakella*’. Pfeiffer (1871–1875, 1: 1001. 1873) cites an original spelling ‘*Chakiatella*’ for the generic name, but we have found no such misspelling anywhere in Cassini’s work. – [3, 5, 12, 13].
- Cheirolophus* Cass. in Cuvier, Dict. Sci. Nat. 50: (247), 250. Nov 1827. Type (designated here): *Centaurea sempervirens* L. (*Cheirolophus lanceolatus* Cass. in Cuvier, Dict. Sci. Nat. 51: 56. Dec 1827, nom. illeg., *Cheirolophus sempervirens* (L.) Pomel). Notes: On p. 247 Cassini offers an alternative spelling, ‘*Chirolophus*’, that he never mentions again and which, contrary to *ING*, we do not consider as a validly published name. – [3*].
- Cherina* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 67. Apr 1817 [= *Chaetanthera* Ruiz & Pav. 1794]. Type: *C. microphylla* Cass. (*Chaetanthera microphylla* (Cass.) Hook. & Arn.). – [3].
- Chevreulia* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 69. Apr–May 1817. Type: *C. stolonifera* (Pers.) Cass., nom. illeg. (*Tussilago sarmentosa* Pers., *C. sarmentosa* (Pers.) S.F. Blake). – [3].
- Chiliadenus* Cass. in Cuvier, Dict. Sci. Nat. 34: 34. Apr 1825 (≡ *Myriadenus* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 138. Sep 1817 (non Desv. 1813). Type: as for *Myriadenus* (q.v.). – [8].
- Chiliotrichum* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 69. May 1817. Type: *Amellus diffusus* G. Forst. (*C. amelloideum* Cass. in Cuvier, Dict. Sci. Nat. 8: 577. Aug 1817, nom. illeg., *C. diffusum* (G. Forst.) Kuntze). – [3].
- [‘*Chirolophus*’, Cass., orth. var.: see *Cheirolophus*.] – [9].
- Chlaenobolus* Cass. in Cuvier, Dict. Sci. Nat. 49: 337. Sep 1827, nom. illeg. (≡ *Pterocaulon* Elliott, Sketch Bot. S. Carolina 2: 323. 1823). Type: *Chlaenobolus pycnostachyos* (Michx.) Cass. (*Conyza pycnostachya* Michx., *Pterocaulon pycnostachyon* (Michx.) Elliott). Notes: While describing *Chlaenobolus* as ‘nouveau genre’, Cassini adds ‘pourrait être considéré comme un sous-genre [du *Pluchea*]’ (could be regarded as a sub-genus of *Pluchea*) and lower down (p. 341) uses the phrase ‘genre ou sous-genre’. – [2, 11].
- Chromochiton* Cass. in Cuvier, Dict. Sci. Nat. 56: 220. Sep 1828, nom. illeg. (≡ *Cassinia* R. Br. 1813, nom. rej. vs. *Cassinia* R. Br. 1817) [= *Angianthus* J.C. Wendl. 1808, nom. cons.]. Type: *Cassinia aurea* R. Br. [= *Angianthus tomentosus* J.C. Wendl.]. Notes: The above synonymy may slightly change, depending on the fate of two alternative proposals to emend the entry for the conserved

- name *Cassinia* (Orchard, 2005). The phrase ‘genre ou sous-genre’ is used in the protologue, but as mentioned on p. 218, *Chromochiton* is one of six ‘nouveaux genres’ described in that article. The combinations ‘*Cassinia* subg. *Chromochiton*’, ‘*Chromochiton aculeatus*’, ‘*C. affinis*’ and ‘*C. aureus*’ were not published by Cassini (nor are they, as APNI claims, validly published in *IK* where they are treated as synonyms). – [2, 11, 12].
- Chrysanthellina* Cass. in Cuvier, Dict. Sci. Nat. 25: 391. Nov 1822, nom. illeg. (= *Chrysanthellum* Pers., Syn. Pl. 2: 471. 1807). Type: *Chrysanthellum procumbens* Pers., nom. illeg. (*Anthemis americana* L., *Chrysanthellum americanum* (L.) Vatke, *Chrysanthellina swartzii* Cass., nom. illeg.). Notes: Published as an avowed substitute for *Chrysanthellum* Pers. that Cassini misjudged to be confusingly similar with *Chrysanthemum* L. A note in the *Chrysanthellina* entry in *ING*, where that name is unaccountably considered as legitimate, is factually wrong (Cassini includes not one but three species). – [11, 13].
- Chryseis* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 33. Feb 1817 [= *Amberboa* Vaill. 1754, or (Pers.) Less. 1832]. Type: *Centaurea amberboi* Mill. (*Chryseis odorata* Cass. in Cuvier, Dict. Sci. Nat. 9: 154. Dec 1817, nom. illeg., *Amberboa amberboi* (L.) Tzvelev). Notes: *Chryseis* was formerly a nomen rejiciendum against *Amberboa* (Pers.) Less. 1832, now *Amberboa* Vaill. 1754 (see Greuter & al., 2005a). The previous entry in App. III of the *Code* will have to be reinstated if Vaillant’s generic names lose their validly published status, as has been proposed (Brummitt, 2008; Greuter, 2008a; Sennikov, 2010). – [3].
- Chthonia* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 33. Feb 1817 [= *Pectis* L. 1759]. Type (not in protologue, designated by Cronquist in *ING* card No. 07263. 1958): *C. glaucescens* Cass. in Cuvier, Dict. Sci. Nat. 9: 173. Dec 1817 (*Pectis glaucescens* (Cass.) D.J. Keil). – [3].
- [“*Chylodia* Rich.”, Cass. in J. Phys. Chim. Hist. Nat. Arts 96: 214. May 1823, nom. inval. Notes. *IK*, GCI, *ING* and TROPICOS all accept ‘*Chylodia* Rich. ex Cass.’ as a validly published alternative name for *Chatiakella* Cass. (q.v.), citing it inappropriately from a later, textually identical source (Cass. in Cuvier, Dict. Sci. Nat. 29: 491. Dec 1823). As explained under *Chatiakella*, neither name was validly published there, and, contrary to *Chatiakella*, *Chylodia* was not validly published later on, when Cassini (in Cuvier, Dict. Sci. Nat. 46: 404. Apr 1827) dissociated the former alternative pair, synonymising *Chylodia* (in the sense of Richard’s unpublished description) with *Wulffia* Neck. ex Cass. while recognising *Chatiakella* as distinct.] – [3].
- Cladanthus* Cass. in Bull. Sci. Soc. Philom. Paris 1816: 199. Dec 1816. Type: *Anthemis arabica* L. (*C. arabicus* (L.) Cass. in Cuvier, Dict. Sci. Nat. 9: 343. Dec 1817). Notes: Sometimes erroneously cited from an earlier paper (in Cuvier, Dict. Sci. Nat. 2 (Suppl.): 75. Oct 1816), where ‘*Cladanthus*’ is a nomen nudum. The combination ‘*Cladanthus arabicus*’ was not published in the generic protologue. – [3, 12].
- Clomenocoma* Cass. in Bull. Sci. Soc. Philom. Paris 1816: 199. Dec 1816 (= *Dyssodia* subg. *Clomenocoma* (Cass.) Strother in Univ. Calif. Publ. Bot. 48: 37. 1969) [= *Adenophyllum* Pers. 1807]. Type: *Aster aurantius* L. (*C. aurantia* (L.) Cass. in Cuvier, Dict. Sci. Nat. 9: 416. Dec 1817, *Dyssodia aurantia* (L.) Druce, *Adenophyllum aurantium* (L.) Strother). – [3].
- [“*Clomenolepis*”, Cass. in Cuvier, Dict. Sci. Nat. 3 (Suppl.): 64. Dec 1816 or Jan 1817, nom. nud. Notes: appears in a list of genera of the *Astereae*, but not mentioned anywhere else by Cassini. Identity unknown. It is listed as a name in *IK*.]
- Coelestina* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 10. Jan 1817 (non Hill 1761) [= *Ageratum* L. 1753]. Type (not in protologue; designated by Cassini, 1818c: 77): *Ageratum corymbosum* Zuccagni. Notes: *ING* lists the type as *Coelestina* (‘*Caelestina*’) *caerulea* Cass. (in Cuvier, Dict. Sci. Nat. 6 (Suppl.): 8. May 1817), presumably a taxonomic synonym of Cassini’s designated type. *Coelestina* is the spelling that appears in the protologue, and it is not correctable to ‘*Caelestina*’ (as subsequently done by Cassini himself), as both spellings are equally correct. True, the ligatured diphthongs *Æ* (for *ae*) and *Œ* (for *oe*) are all but identical in some fonts, especially lower-case italics, and they were often considered to be interchangeable; but when both characters appear side by side, as in the generic protologue, they can be told apart safely. Regardless, *Coelestina*/*Caelestina* Cass. is a later homonym/parahomonym of *Coelestina* Hill and is unavailable for use. Incidentally, judging from the original plate, Hill’s *Coelestina* is nothing else than *Felicia amelloides* (L.) Voss and thus threatens to displace the generic name *Felicia* Cass. unless it is formally rejected against it. – [11].
- Coleosanthus* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 67. Apr 1817, nom. rej. vs. *Brickellia* Elliott 1823. Type: *C. cavanillesii* Cass. (*Brickellia cavanillesii* (Cass.) A. Gray). – [3].
- Coleostephus* Cass. in Cuvier, Dict. Sci. Nat. 41: 43. Jun 1826. Type (not in protologue, designated by *ING* Staff, Washington, in *ING* card No. 33194. 1971): *C. myconis* (L.) Rchb.f. (*Chrysanthemum myconis* L.). Notes: The phrase ‘genre ou sous-genre’ was used in the protologue. The combination ‘*Coleostephus myconis*’ was not published in the generic protologue, where its basionym, *Chrysanthemum myconis*, is not yet definitely included in the genus, as Cassini doubts the identity of his material with the Linnaean species. – [2, 12].
- Cousinia* Cass. in Cuvier, Dict. Sci. Nat. 47: 503. May 1827. Type: *C. carduiformis* Cass. [*Cousinia orientalis* (Adams) K. Koch, *Carduus orientalis* Adams].

Cremocephalum Cass. in Cuvier, Dict. Sci. Nat. 34: 390. Apr 1825, nom. illeg. (≡ *Crassocephalum* Moench, Methodus: 516. 1794, nom. rej. vs. *Gynura* Cass. 1825). Type: *Crassocephalum cernuum* Moench, nom. illeg. (*Senecio rubens* B. Juss. ex Jacq., *Crassocephalum rubens* (B. Juss. ex Jacq.) S. Moore, *Gynura rubens* (B. Juss. ex Jacq.) Muschl.). Notes: The question may be asked whether *Cremocephalum* is validly published in the cited place, i.e., whether it is adopted by Cassini or is merely a provisional, invalid designation. We have concluded the former, also considering that Cassini subsequently (as from Dict. Sci. Nat. 48: 448. Jun 1827) consistently adopted *Cremocephalum*. The heading of the original entry is '*Crassocephalum* ou *Cremocephalum*'. In the subsequent comments, the former name alone is used; but on the following page one finds the comment, regarding *Crassocephalum*: 'Il faut ... peut-être aussi changer son nom, comme étant hybride ou composé d'un mot latin et d'un mot grec. Nous proposons celui de *Cremocephalum*'. The expression 'peut-être' indicates doubt, but the unqualified verb, in indicative mood (proposons), tilts the balance. – [6, 10, 11].

Crinitaria Cass. in Cuvier, Dict. Sci. Nat. 37: 460, 475. Dec 1825 (≡ *Crinita* Moench, Methodus: 578. 1794, non Hoult. 1777) [= *Galatella* Cass. 1825]. Type: *Crinita punctata* Moench (*Crinitaria punctata* (Moench) Cass., l.c.: 476) [= *Galatella sedifolia* (L.) Greuter, *Aster sedifolius* L.]. Notes: The name *Crinitaria* first appears in a synopsis (p. 460) where it is validated as a nom. nov. for *Crinita* Moench non Hoult., then again on p. 475–476 with its own description and discussion. There Cassini refers to '*Chrysocoma biflora* del Linné, sur laquelle Moench a fondé son genre'; but that apparent type designation for *Crinita* has no standing, because Moench includes Linnaeus's binomial only with doubt in his single species, *Crinita punctata*. Two of the combinations listed from the generic protologue by *IK*, and also by the otherwise reliable index in King & Dawson (1975), were not published by Cassini: '*Crinitaria biflora* Cass.' and '*Crinitaria villosa* Cass.'. – [7, 8, 12].

[*Crodisperma* Poit.], Cass. in Cuvier, Dict. Sci. Nat. 46: 403. Apr 1827, pro syn. Notes: It is listed in *IK* on the basis of a herbarium name, '*Crodisperma aspera* Poit.', mentioned by Cassini under his new species *Chatiakella platyglossa* Cass.]

Cryptogyne Cass. in Cuvier, Dict. Sci. Nat. 50: 491. Nov 1827, nom. rej. vs. *Cryptogyne* Hook. f. 1876 (≡ *Eriocephalus* sect. *Cryptogyne* (Cass.) DC., Prodr. 6: 147. 1838) [= *Eriocephalus* L. 1753]. Type: *C. absinthioides* Cass. [= *Eriocephalus racemosus* L.]. – [7].

Cryptopetalon Cass. in Bull. Sci. Soc. Philom. Paris 1817: 12. Jan 1817 [= *Pectis* L. 1759]. Type (not in protologue, designated by Cronquist in *ING* card No. 07430. 1958): *C. ciliare* Cass. in Cuvier, Dict. Sci. Nat. 12: 123. Jan 1819 [= *Pectis sessiliflora* (Less.) Sch. Bip., *Lorentea sessiliflora* Less.]. – [3].

[*Cyanastrum*] Cass. in Cuvier, Dict. Sci. Nat. 44: 36, 39. Dec 1826. Notes: Initially introduced in a generic synopsis as '*Cyanopsis* ou *Cyanastrum*' (p. 36) then discussed as '*Notre genre Cyanopsis* (ou *Cyanastrum*)'. Nowhere in his works does Cassini indicate that he wants to displace his earlier, legitimate *Cyanopsis* with *Cyanastrum*, which is always mentioned second, and sometimes (in Cuvier, Dict. Sci. Nat. 60: 571. Jun 1830) again in parenthesis. In a footnote (in Cuvier, Dict. Sci. Nat. 58: 458. Feb 1829) Cassini explains himself: 'Quoique notre genre *Cyanopsis*, publié en 1816, soit beaucoup plus ancien que le *Cyamopsis* de M. De Candolle, publié en 1825, si l'on jugeoit que les deux noms génériques, très-différents par leur étymologie, se ressemblent trop pour l'œil et pour l'oreille, nous consentirions à changer celui de *Cyanopsis* en *Cyanastrum*'. There can be no question of Cassini's fully accepting his 'alternative'. Contrary to *IK*, and in agreement with *ING*, we regard *Cyanastrum* as not validly published. Therefore *Cyanastrum* Oliv. 1891, and the family name *Cyanastraceae* based on it, are safe.] – [5].

Cyanopsis Cass. in Bull. Sci. Soc. Philom. Paris 1816: 200. Dec 1816 [= *Volutaria* Cass. 1816, nom. cons. prop.]. Type: *Centaurea pubigera* Pers. (*Cyanopsis radiatissima* Cass. in Cuvier, Dict. Sci. Nat. 12: 268. Dec 1818, nom. illeg.) [= *Volutaria muricata* (L.) Maire, *Centaurea muricata* L.]. Notes: An incorrect year (1817) is sometimes given. The combination '*Cyanopsis radiatissima*' (misspelled '*radicatissima*' in *IK*) was not published in the generic protologue. – [6*, 12].

Cyathocline Cass. in Ann. Sci. Nat. (Paris) 17: 419. Aug 1829. Type: *C. lyrata* Cass. [= *C. purpurea* (D. Don) Kuntze, *Tanacetum purpureum* Buch.-Ham. ex D. Don].

Cylindrocline Cass. in Bull. Sci. Soc. Philom. Paris 1817: 11. Jan 1817. Type (not in protologue, designated by *ING* Staff, Washington, in *ING* card No. 32272. 1971): *C. commersonii* Cass. in Cuvier, Dict. Sci. Nat. 12: 318. Dec 1818 or Jan 1819. The combination '*C. commersonii*' was not published in the generic protologue. – [12].

Cymbonotus Cass. in Cuvier, Dict. Sci. Nat. 35: 397. Oct 1825. Type (not in protologue, designated by Holland & Funk, 2006: 266): *C. lawsonianus* Gaudich. in Freycinet, Voy. Uranie, Bot.: 462. 1829. Notes: The species name was first published in the text of the *Voyage*, the plate (t. 86) was distributed in the following year (St. John, 1985). It is nowhere mentioned by Cassini but is obviously based on the same material that was used by him to describe his new genus.

Damatrix Cass. in Bull. Sci. Soc. Philom. Paris 1817: 139. Sep 1817. Type: *D. pudica* Cass. (*Haplocarpha pudica* (Cass.) Beauverd). Notes: Sometimes considered as congeneric with *Haplocarpha* Less. 1831, over which it has priority. – [3].

Damironia Cass. in Cuvier, Dict. Sci. Nat. 56: 224. Sep 1828 [= *Syncarpha* DC. 1810]. Type (designated by Pfeiffer, 1871–1875, 1: 1006. 1873): *D. cernua* Cass. (*Xeranthemum variegatum* [sensu?] L. Oct 1767, non P.J. Bergius Sep 1767) [= *Syncarpha vestita* (L.) B. Nord., *Xeranthemum vestitum* L.]. Notes: As explained by Jarvis (2007), *Xeranthemum variegatum* L. might well be considered an isonym of *X. variegatum* P.J. Bergius rather than its illegitimate later homonym. However, it is not certain that they are the same species: Jarvis (2007) claims that *X. variegatum* L., of which no type exists (!), is the same as *Syncarpha vestita* (L.) B. Nord., and Nordenstam (1989) treats *X. variegatum* P.J. Bergius as a separate species, *S. variegata* (P.J. Bergius) B. Nord. At any rate, we do not consider Cassini's reference to Linnaeus as resulting in the inclusion of Bergius's type, because Linnaeus did not refer to Bergius, and we therefore treat *D. cernua* as a legitimate name. *Damironia* is subsequently (in Cuvier, Dict. Sci. Nat. 60: 588. Jun 1830) considered by Cassini himself as a synonym of the heterotypic *Astelma* R. Br. ex Ker-Gawl. 1821.

Deloderium Cass. in Cuvier, Dict. Sci. Nat. 48: 430. Jun 1827 [= *Scorzonerooides* Moench 1794]. Type: *D. taraxacifolium* Cass. [= *Scorzonerooides hispidula* (Delile) Greuter & Talavera, *Crepis hispidula* Delile, *Leontodon hispidulus* (Delile) Boiss.].

Dicoma Cass. in Bull. Sci. Soc. Philom. Paris 1817: 12. Jan 1817. Type (not in protologue; designated by Cassini, 1818a: 47): *D. tomentosa* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 47. Mar 1818. Notes: Cassini himself in 1818, through the title of his article ('... trois plantes servant de types ...'), designates the generic type, whereas *ING* ascribes the designation to a much later source. – [13].

Diglossus Cass. in Bull. Sci. Soc. Philom. Paris 1817: 70. May 1817 [= *Tagetes* L. 1753]. Type (not in protologue, designated by Cassini, 1818d: 183): *D. variabilis* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 184. Dec 1818 [= *Tagetes filifolia* Lag.]. Notes: See explanations in the introductory discussion, regarding rank. The type designation is found in the title of Cassini's 1818 paper, which reads 'Description des espèces servant de types ...'. – [2, 3].

Dimerostemma Cass. in Bull. Sci. Soc. Philom. Paris 1817: 11. Jan 1817. Type (not in protologue; designated by Cassini, 1818b: 57): *D. brasilianum* ('*brasiliانا*') Cass. in Bull. Sci. Soc. Philom. Paris 1818: 58. Apr 1818. Notes: The type designation is found in the title of Cassini's 1818 paper, which reads 'Description de quatre plantes servant de types ...'.

Dimorphanthes Cass. in Bull. Sci. Soc. Philom. Paris 1818: 30. Feb 1818, nom. illeg., nom. rej. vs. *Conyza* Less. 1832 (≡ *Eschenbachia* Moench, Methodus: 573. 1794) [?= *Erigeron* L. 1753]. Type: *Erigeron aegyptiacus* ('*ægyptiacum*') L. (*Eschenbachia globosa* Moench, nom. illeg., *D. aegyptiaca* (L.) Cass. in Cuvier, Dict. Sci. Nat. 13: 255. Jul 1819, *Conyza*

aegyptiaca (L.) Aiton). Notes: In the protologue of *Dimorphanthes*, Cassini includes various *Erigeron* species in that genus, four of which he mentions by name. In App. III of the *ICBN*, *Dimorphanthes* is listed as not yet typified, but this is a double error. Firstly, Cassini when formally transferring *Erigeron siculus* L. to *Dimorphanthes* as *D. sicula* (L.) Cass. (in Cuvier, Dict. Sci. Nat. 13: 255. Jul 1819), designated it as the type ('on doit la considérer comme le type d'un nouveau genre'). Secondly, as already noted in *ING*, one of the four binomials listed in the protologue is *Erigeron aegyptiacus*, which provides the type of the earlier, legitimate name *Eschenbachia*. The consequence is that Cassini's subsequent type designation becomes irrelevant, because *Dimorphanthes* is automatically typified (*ICBN*, Art. 7.5). It should be removed editorially from App. III of the *Code*, where *Eschenbachia* is already listed as rejected. Whereas in the relevant literature the combination *Conyza aegyptiaca* (L.) Aiton is still in use, according to Richard Noyes (pers. comm.) the species does not belong to the *Erigeron-Conyza* complex, so that the name *Eschenbachia* may eventually be revived. – [3, 11, 13].

Diomedea Cass. in Bull. Sci. Soc. Philom. Paris 1817: 70. May 1817, nom. illeg. (≡ *Borrichia* Adans., Fam. Pl. 2: 130, 527. 1763). Type: *Buphthalmum frutescens* L. (*Diomedea bidentata* Cass. in Cuvier, Dict. Sci. Nat. 13: 283. Jul 1819, nom. illeg., *Borrichia frutescens* (L.) DC.). Notes: *Diomedea* first appears as an invalid designation (nomen nudum) in Bull. Sci. Soc. Philom. Paris 1815: 175. Oct 1815, and again, with comments but without descriptive matter, in J. Phys. Chim. Hist. Nat. Arts 82: 144, 145. Feb 1816, but was not validly published before May 1817. Among the three species names mentioned by Cassini in the protologue of *Diomedea* is *Buphthalmum frutescens*, the single binomial referred to by Adanson (as '*Buphthalmum*. 1. *Lin. Sp.* 903') under *Borrichia* ('*Borrikia*'). – [6, 11].

Diomedella Cass. in Cuvier, Dict. Sci. Nat. 46: 398, 405. Apr 1827, nom. illeg. (≡ *Borrichia* Adans., Fam. Pl. 2: 130, 527. 1763). Type: as for *Diomedea*. Notes: Published as '*Diomedea* seu *Diomedella*' on p. 398, but meant to substitute *Diomedea* on the grounds that there is an earlier, homonymous generic name for a bird. *ING* does not list the name, apparently dismissing it as not validly published; however, this is not an exact parallel of the *Cyanastrum* case (q.v.) because (a) the earlier name *Diomedea* is not legitimate and (b) Cassini, in a later survey (in Cuvier, Dict. Sci. Nat. 54: 461. Apr. 1829), accepts *Diomedella* without alternative. – [11].

Diotostephus Cass. in Cuvier, Dict. Sci. Nat. 48: 543. Jun 1827 [= *Chrysogonum* L. 1753]. Type: *D. repens* Cass. [= *Chrysogonum virginianum* L.].

Diplopappus Cass. in Bull. Sci. Soc. Philom. Paris 1817: 137. Sep 1817 [= *Chrysopsis* (Nutt.) Elliott 1823, nom. cons., *Inula* sect. *Chrysopsis* Nutt. 1818]. Type (not in protologue; designated here): *D. lanatus* Cass. in Cuvier, Dict.

- Sci. Nat. 13: 309. Jul 1819, nom. illeg. (*Inula gossypina* Michx., ***Chrysopsis gossypina*** (Michx.) Elliott). Notes: In the protologue Cassini does not include any named species explicitly, writing instead: 'comprend plusieurs espèces rapportées par les botanistes aux genres *aster* et *inula*'. In an additional note (in Bull. Sci. Soc. Philom. Paris 1818: 77. Mai 1818) Cassini includes *Inula gossypina* Michx., *Aster annuus* L. 'et plusieurs autres espèces' in *Diplopappus*. Next (in Cuvier, Dict. Sci. Nat. 13: 309. Jul 1819) he recognises four named species in the genus, illegitimately renaming the two afore-mentioned ones as *D. lanatus* Cass. and *D. dubius* Cass., respectively. However, commenting on the latter, he adds: 'diffère un peu des vrais *diplopappus* en plusieurs points', particularly in the involucre bracts being of almost the same length rather than truly imbricate. Subsequently, Cassini was to transfer *Aster annuus* to *Stenactis* (q.v.) and eventually to *Phalacrologoma*. On the assumption that his material was correctly identified, the logical generic type of *Diplopappus* is therefore *Inula gossypina*. Nesom (1993) came to a similar conclusion, without formally designating a type, and noted the likely need to list *Diplopappus* as a name rejected against its junior synonym *Chrysopsis* (Nutt.) Elliott, nom. cons. Later Nesom (2000) formally synonymised *Diplopappus* with *Chrysopsis*, but no corresponding proposal has so far been made. It is being submitted by us separately. – [3, 12].
- Distephanus*** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 151. Sep 1817. Type: *Conyza populifolia* Lam. (***D. populifolia*** (Lam.) Cass. in Cuvier, Dict. Sci. Nat. 13: 361. Jul 1819). Notes: See explanations in the introductory discussion, regarding rank. – [2, 3, 12].
- Distreptus*** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 66. Apr 1817, nom. illeg. (≡ ***Pseudelephantopus*** Rohr in Skr. Naturhist.-Selsk. 2(1): 214. 1792, nom. & orth. cons.). Type: *Elephantopus spicatus* B. Juss. ex Aubl. (*D. spicatus* (B. Juss. ex Aubl.) Cass. in Cuvier, Dict. Sci. Nat. 13: 367. Jul 1819, ***Pseudelephantopus spicatus*** (B. Juss. ex Aubl.) C.F. Baker). Notes: The phrase 'genre ou sous-genre' is used in the protologue, but the title of the paper refers to 'genres nouveaux'. – [2, 6, 11].
- Ditrichum*** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 33. Feb 1817. nom. rej. vs. *Ditrichum* Hampe 1867 [= ***Verbesina*** L. 1753]. Type (not in protologue; designated by Cassini, 1818b: 57): *D. macrophyllum* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 59. Apr 1818 (***Verbesina macrophylla*** (Cass.) S.F. Blake). Notes: The type designation is found in the title of Cassini's 1818 paper, which reads 'Description de quatre plantes servant de types ...'. – [12].
- Dolichostylis*** Cass. in Cuvier, Dict. Sci. Nat. 56: 138. Sep 1828, nom. illeg. (≡ *Turpinia* Bonpl. in Humboldt & Bonpland, Pl. Aequinoct. 1: 113. Apr 1807, nom. rej. vs. *Turpinia* Vent., Jul 1807 ≡ ***Fulcaldea*** Poir. in Lamarck, Encycl., Suppl. 5: 375. 1817, nom. illeg.). Type: *D. laurifolia* (Bonpl.) Cass. (*Turpinia laurifolia* Bonpl., ***Fulcaldea laurifolia*** (Bonpl.) Poir.). Notes: The name *Turpinia* has been published independently for no less than three different genera within the single year 1807. The earliest is *Turpinia* Bonpl. *Dolichostylis* Cass. is based on the same type, as were the previously published *Fulcaldea* Poir. 1817 and *Voigtia* Spreng. 1826 (non Roth 1790). All three are illegitimate, and remain so now that *Turpinia* Bonpl. has been rejected (ICBN, Art. 6.4). Currently the monotypic genus in question has no legitimate name. It is known as *Fulcaldea*, a name that will be proposed for conservation separately. – [11].
- Dolichotheca*** Cass. in Cuvier, Dict. Sci. Nat. 51: 476. Dec 1827 [= ***Bidens*** L. 1753]. Type: as for *Campylotheca*. Notes: Alternative name for *Campylotheca* Cass. (q.v.); later Cassini (in Cuvier, Dict. Sci. Nat. 59: 321. Jun 1829) gave preference to the *Campylotheca*. The phrase 'genre ou sous-genre' was used in the protologue. – [2, 4].
- Dorobaea*** Cass. in Cuvier, Dict. Sci. Nat. 48: (447), 453. Jun 1827. Type: *Senecio pimpinellifolius* ('*pimpinellaefolius*') Kunth (***D. pimpinellifolia*** (Kunth) B. Nord.). Notes: The combination '*D. pimpinellifolia*' was not published by Cassini. – [7, 12].
- Dracopis*** (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 38: 17. Dec 1825 (≡ *Obeliscaria* subg. *Dracopis* Cass. in Cuvier, Dict. Sci. Nat. 35: 273. Oct 1825) [= ***Rudbeckia*** L. 1753]. Type (not definitely included in protologue; designated by Cassini in Cuvier, Dict. Sci. Nat. 46: 400. Apr 1827: ***Rudbeckia amplexicaulis*** Vahl (*D. amplexicaulis* (Vahl) Cass. ex Less.). Notes: The combination '*D. amplexicaulis*' was not published by Cassini. – [1*, 12].
- Drozia*** Cass. in Cuvier, Dict. Sci. Nat. 34: 217. Apr 1825 [= ***Perezia*** Lag. 1811]. Type: *D. dicephala* Cass. (***Perezia dicephala*** (Cass.) Less.).
- Duchesnia*** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 153. Oct 1817 (non *Duchesnea* Sm. 1811) (≡ *Francoeuria* Cass. in Cuvier, Dict. Sci. Nat. 34: 44. Apr 1825) [= ***Pulicaria*** Gaertn. 1791]. Type: *Aster crispus* Forssk. (*D. crispus* (Forssk.) Cass. in Cuvier, Dict. Sci. Nat. 13: 546. Jul 1819, *Francoeuria crispus* (Forssk.) Cass. in Cuvier, Dict. Sci. Nat. 38: 374. Dec 1825) [= ***Pulicaria undulata*** (L.) C.A. Mey., *Inula undulata* L., *Francoeuria undulata* (L.) Lack]. – [12].
- Dugaldia*** Cass. in Cuvier, Dict. Sci. Nat. 55: 270. Aug 1828 (≡ *Hymenoxys* subg. *Dugaldia* (Cass.) Bierner in Sida 16: 5. 1994) [= ***Hymenoxys*** Cass. Aug 1828]. Type (designated by Rydberg, 1915: 119): *D. integrifolia* (Kunth) Cass. (*Actinea integrifolia* Kunth, ***Hymenoxys integrifolia*** (Kunth) Bierner). Notes: In the protologue, *Dugaldia* is proposed as 'genre', but also as 'genre ou sous-genre'. – [2].
- Echenais*** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 33. Mar 1818 [= ***Cirsium*** Mill. 1754]. Type: *E. carlinoides* Cass.,

- nom. illeg., nom. superfl. (*Carlina echinus* M. Bieb., *Cirsium echinus* (M. Bieb.) Hand.-Mazz.).
- [“*Echinodium* Poit.”, Cass. in Cuvier, Dict. Sci. Nat. 59: 235. Jun 1829. nom. inval. Notes: Listed as a name in *IK*. Cassini merely mentions ‘*Echinodium*’ in synonymy, without descriptive matter.]
- Edmondia** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 75. May 1818. Type: *Xeranthemum sesamoides* L. (***E. sesamoides*** (L.) Hilliard). – [3].
- Egletes** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 153. Oct 1817. Type: *E. domingensis* Cass. [= ***E. prostrata*** (Sw.) Kuntze, *Matricaria prostrata* Sw.].
- Elphegea** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 30. Feb 1818 [= ***Psiadia*** Jacq. ex Willd. 1803]. Type: *E. hirta* Cass. [***Psiadia lithospermifolia*** (Lam.) Cordem., *Conyza lithospermifolia* Lam.]. – [3].
- Elvira** Cass. in Cuvier, Dict. Sci. Nat. 30: 67. May 1824 [= ***Delilia*** Spreng. 1823]. Type: *E. martynii* (‘*martyni*’) Cass., nom. illeg. (*Milleria biflora* L., *E. biflora* (L.) DC., ***Delilia biflora*** (L.) Kuntze).
- Elytropappus** Cass. in Bull. Sci. Soc. Philom. Paris 1816: 199. Dec 1816. Type: *Gnaphalium hispidum* L. f., (***E. hispidus*** (L. f.) Druce). Notes: Cassini refers to the type as ‘*Gnaphalium hispidum* Willd.’ The name *Elytropappus spinellosus* Cass. (in Cuvier, Dict. Sci. Nat. 14: 377. Aug 1819) is neither homotypic with *Gnaphalium hispidum* nor illegitimate, because the latter name is cited in synonymy with a question mark. It was not published by Cassini in the generic protologue. – [12].
- Emilia** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 68. Apr 1817. Type: *Cacalia sagittata* Willd. 1803 (non Vahl 1794) (*E. flammea* Cass. in Cuvier, Dict. Sci. Nat. 14: 406. Aug 1819, *E. sagittata* DC., nom. illeg.) [= ***E. coccinea*** (Sims) G. Don, *Cacalia coccinea* Sims]. Notes: The phrase ‘genre ou sous-genre’ is used in the protologue. An incorrect citation from a later source (as *Emilia* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 34: 393. 1825), reflects Jeffrey’s (1986) view that *Emilia*, as originally published, is of indefinite rank (‘sine dignitate definita’); but Jeffrey stands alone with that interpretation. He also equates the generic type, given as *E. flammea* Cass., with *E. javanica* (Burm. f.) Merr.) which, as demonstrated by Nicolson (1980), is incorrect. – [2, 3*].
- Enalcida** Cass. in Bull. Sci. Soc. Philom. Paris 1819: 31. Feb 1819 [= ***Tagetes*** L. 1753]. Type: *E. pilifera* Cass. [= ***Tagetes coronopifolia*** Willd.].
- Endoleuca** Cass. in Bull. Sci. Soc. Philom. Paris 1819: 47. Mar 1819 [= ***Metalasia*** R. Br. 1817]. Type: *E. pulchella* Cass. (***Metalasia pulchella*** (Cass.) P.O. Karis). – [3].
- Epaltes** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 139. Sep 1818. Type: *Ethulia divaricata* L. (***Epaltes divaricata*** (L.) Cass. in Cuvier, Dict. Sci. Nat. 15: 7. Nov 1819). Notes: The combination ‘*Epaltes divaricata*’ was not published in the generic protologue. – [3, 12].
- Eriocarpa** Cass. in Cuvier, Dict. Sci. Nat. 59: 236. Jun 1829 (= *Eriocoma* Kunth in Humboldt & al., Nov. Gen. Sp. 4, ed. f°: 210. Oct 1818, non Nutt. Jul 1818) [= ***Montanoa*** Cerv. 1825]. Type: *Eriocoma floribunda* Kunth (non *Montanoa floribunda* K. Koch) [= ***Montanoa tomentosa*** Cerv.]. Notes: Published with a reference to *Eriocoma* Kunth but without a description of its own. – [8].
- Eriocline** (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 15: 191. Nov 1819 (= *Osteospermum* subg. *Eriocline* Cass. in Bull. Sci. Soc. Philom Paris 1818: 142. Sep 1818) [= ***Osteospermum*** L. 1753]. Type: ***Osteospermum spinosum*** L. Notes: Originally definitely described as a subgenus of *Osteospermum*, with the unambiguous statement: ‘ayant pour type l’*O. spinosum*’. In 1819 Cassini is less straightforward. His initial statement ‘Ce nouveau genre de plantes, ou plutôt ce sous-genre ...’ (This new genus of plants, or rather this subgenus ...) does not express the clear intent to raise the taxon to generic rank, and were it not for his reference, on the following page (p. 192) to ‘caractères génériques’, we would be hard put to defend *ING*’s choice of place of publication of the generic name (other, later options also exist). Also, Cassini by 1819 has come to doubt the identity of the material he has studied with *Osteospermum spinosum* L., and now legitimately names it *E. obovata* Cass., which according to Norlindh (1943) is a synonym of *Chrysanthemoides incana* (Burm. f.) Norl. in a different genus. However, the original, definite type designation cannot be changed. – [1, 13].
- Eriolepis** Cass. in Cuvier, Dict. Sci. Nat. 41: 331 [= ***Cirsium*** Mill. 1754]. Jun 1826. Type: *E. lanigera* Cass., nom. illeg. (*Carduus eriophorus* L., ***Cirsium eriophorum*** (L.) Scop.). – [6].
- Eriotrix** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 32. Feb 1817. Type: *E. juniperifolia* Cass. [= ***E. lycopodioides*** (Lam.) DC., *Conyza lycopodioides* Lam.]. Notes: Generic name and typonym are validly published by a common description (descriptio generico-specifica). Later Cassini (in Bull. Sci. Soc. Philom. Paris 1818: 77. May 1818) designates a different type, which is a taxonomic synonym of the original type: *Baccharis lycopodioides* (Lam.) Pers.; but this later designation has no standing. The spelling ‘*Eriothrix*’ is incorrect. – [6].
- Euchiton** Cass. in Cuvier, Dict. Sci. Nat. 56: 214. Sep 1828. Type: *E. pulchellus* Cass. [= ***E. involucratus*** (G. Forst.) Holub, *Gnaphalium involucratum* G. Forst.].
- Eudorus** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 165. Nov 1818 [= ***Senecio*** L. 1753]. Type: *E. senecioides* Cass. (*Senecio eudorus* DC. 1838, nom. illeg.) [= ***Senecio doria*** L.]. – [3].

Eurybia (Cass.) Gray, Nat. Arr. Brit. Pl. 2: 464. 1821 (≡ *Aster* subg. *Eurybia* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 166. Nov 1818). Type (designated by Nesom, 1994: 188, 259): *Aster corymbosus* Aiton (*E. corymbosa* (Aiton) Cass. in Cuvier, Dict. Sci. Nat. 37: 487. Dec 1825) [= *E. divaricata* (L.) G.L. Nesom, *Aster divaricatus* L.]. Notes: The situation resembles that found in *Eriocline* (q.v.), except for one important point that makes all the difference. Here, too, Cassini definitely first described *Eurybia* as a subgenus of *Aster*. Subsequently (in Cuvier, Dict. Sci. Nat. 16: 46. Apr 1820) he refers to *Eurybia* as ‘Ce nouveau genre de plantes, ou plutôt ce sous-genre’ (This new genus of plants, or rather sub-genus). But then he goes on to consistently discuss the taxon as a subgenus, never using the term ‘genre’ or ‘générique’. There is no way of considering that treatment as an upgrading of the subgenus to generic rank, as done in *ING*. As noted above, and as correctly pointed out by Nesom (1994), that upgrading was first effected in the following year by S.F. Gray. – [1, 3].

Euryops (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 16: 49. Apr 1820, nom. cons. prop. (≡ *Othonna* subg. *Euryops* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 140. Sep 1818). Type (designated by Phillips, 1951: 835): *Othonna pectinata* L. (*E. pectinatus* (L.) Cass. in Cuvier, Dict. Sci. Nat. 16: 51. Apr 1820). Notes: Cassini definitely first describes *Euryops* as a subgenus of *Othonna*. In 1820, he refers to *Euryops* as ‘Ce nouveau genre de plantes, ou plutôt ce sous-genre’ (This new genus of plants, or rather sub-genus). In contrast to *Eurybia* above, Cassini then goes on to discuss *Euryops* clearly at generic rank, e.g. as ‘notre genre *Euryops*’ [our genus *Euryops*], thereby effecting its formal transfer to the rank of genus. In the same article, he claims priority of his *Euryops* over *Werneria* Kunth Oct 1818, which would hold true only if *Euryops* had been proposed initially at generic rank. However, *Euryops* and *Werneria* are nowadays regarded as generically distinct and the names do not compete. Greuter & al. (2005a) have proposed the conservation of *Euryops* (Cass.) Cass. against *Jacobaeastrum* Vaill. 1754, a proposal that will no longer be necessary if Vaillant’s generic names should lose their validly published status, as has been proposed (Brummitt, 2008; Greuter, 2008a; Sennikov, 2010). – [1, 6].

Euthamia (Nutt.) Cass. in Cuvier, Dict. Sci. Nat. 37: 459, 471. Dec 1825 (≡ *Solidago* subg. *Euthamia* Nutt., Gen. N. Amer. Pl. 2: 162. 1818). Type (designated by Britton & Brown, 1913: 398): *Solidago graminifolia* (L.) Nutt. (*Chrysocoma graminifolia* L., *E. graminifolia* (L.) Nutt.). Notes: The generic name is validly published on p. 459; on p. 471, a description is provided. – [1, 6*].

Evopis Cass. in Bull. Sci. Soc. Philom. Paris 1818: 32. Feb 1818 [= *Berkheya* Ehrh. 1784, nom. cons.]. Type: *Rohria cynaroides* Vahl (*E. heterophylla* Cass. in Cuvier, Dict. Sci. Nat. 16: 66. Apr 1820, nom. illeg., *Berkheya cynaroides* (Vahl) Willd.) [= *Berkheya herbacea* (L. f.) Druce,

Gorteria herbacea L. f.]. Notes: *Evopis* is not a replacement name for *Rohria* Vahl 1791 (non Schreb. 1789), but a new genus for a species segregated from *Rohria*. Elsewhere in his work, Cassini places in *Berkheya* Ehrh. what he considers as the typical element of *Rohria*. – [3, 6, 12].

Facelis Cass. in Bull. Sci. Soc. Philom. Paris 1819: 94. Jun 1819. Type: *F. apiculata* Cass., nom. illeg. (*Gnaphalium retusum* Lam., *F. retusa* (Lam.) Sch. Bip.). – [3].

Faujasia Cass. in Bull. Sci. Soc. Philom. Paris 1819: 80. May 1819. Type: *F. pinifolia* Cass. – [6*].

Faustula Cass. in Bull. Sci. Soc. Philom. Paris 1818: 140. Sep 1818 [= *Ozothamnus* R. Br. 1817]. Type: *Chrysocoma reticulata* Labill. (*F. reticulata* (Labill.) Cass. in Cuvier, Dict. Sci. Nat. 16: 252. Apr 1820, *Ozothamnus reticulatus* (Labill.) DC.). Notes: The phrase ‘genre ou sous-genre’ is used in the protologue, but ‘genres nouveaux’ in the title of the article. – [2, 3, 6].

Felicia Cass. in Bull. Sci. Soc. Philom. Paris 1818: 165. Nov 1818, nom. cons. vs. *Detris* Adans. 1763. Type: *Aster tenellus* L. (*F. tenella* (L.) Nees). Notes: As explained under *Agathaea*, *Charieis* and *Coelestina*, the widely used and already conserved name *Felicia* is threatened by three earlier, legitimate but unlisted taxonomic synonyms. A relevant conservation proposal has been foreshadowed by Grau (1973: 255) long ago but has never materialised. It is now being published separately. – [3].

Fimbrillaria Cass. in Bull. Sci. Soc. Philom. Paris 1818: 30. Feb 1818 [= *Erigeron* L. 1753]. Type: *Baccharis ivifolia* (*ivaefolia*) L. (*F. baccharoides* Cass. in Cuvier, Dict. Sci. Nat. 17: 54. Jul 1820, nom. illeg., *Conyza ivifolia* (*ivaefolia*) (L.) Desf. 1804, non Burm. f. 1768, *Erigeron ivifolius* (*ivaefolius*) (L.) Sch. Bip.). Notes: Sometimes regarded as belonging to *Conyza* Less. 1832, nom. cons., which it would then displace. In fact it does not, however, represent a threat. On the one hand, as one is led to conclude from the survey of Nesom (2008), *Conyza* is currently not available for use on both taxonomic and nomenclatural grounds, except perhaps in a very restricted sense (Nesom’s “group B”). On the other hand *Conyza*, if it can be sensibly re-defined, is to be a New World genus, whereas *Baccharis ivifolia*, as typified by Reveal (in Jarvis & Turland 1998), is a S. African plant. We prefer, for the time being, to treat elements that had been referred to *Conyza* in *Erigeron* sensu lato. In the future, a better understanding of the systematics of this complex may well result in a revival of the name *Fimbrillaria* for a genus including *Erigeron ivifolius* [= *Conyza scabrida* DC.]. – [3, 6].

Florestina Cass. in Bull. Sci. Soc. Philom. Paris 1817: 11. Jan 1817. Type: *Stevia pedata* Cav. (*F. pedata* (Cav.) Cass. in Cuvier, Dict. Sci. Nat., Planches, Bot., Dicot.: t [86]. ante Jul 1820). Notes: *Florestina* first appears, as a nomen

nudum, in Bull. Sci. Soc. Philom. Paris 1815: 175. Oct 1815, and is sometimes cited from there. In the subsequent protologue of the generic name, the type is incorrectly given as '*Stevia pedata*, Willd.', where the author must be corrected to Cav. The combination '*F. pedata*' was not published by Cassini in 1815. In the other place from which it has been cited (in Cuvier, Dict. Sci. Nat. 17: 156. Jul 1820) there is a reference to 'Atlas du Dict. des Sc. nat., 3^e cahier, pl. 8', with the clear implication that it was published earlier. No details are known of the mode and dates of publication of the plates, but from Cassini's indication we can deduce the following: (1) the (unnumbered) plates were issued in arbitrary order, in instalments (cahiers); (2) numbers were assigned afterward, in a table of contents for the complete volume, to be used for the sequence of binding; (3) the plate with *Florestina pedata* was included in the 3rd instalment (either of Botany or of the Dicotyledons), which was published before July 1820, as the 8th plate either of that instalment or of the whole volume (it was later to be renumbered '86'). – [3, 6, 12].

Fornicium Cass. in Bull. Sci. Soc. Philom. Paris 1819: 93. Jun 1819 [= *Rhaponticum* Vaill. 1754 (or Ludw. 1759, nom. cons. prop.)]. Type: *F. rhaponticoides* Cass. [= *Rhaponticum serratuloides* (Georgi) Bobrov, *Centarea serratuloides* Georgi]. – [3].

Fougerouxia Cass. in Cuvier, Dict. Sci. Nat. 46: 412. Apr 1827, nom. illeg. (≡ *Fougeria* Moench, Suppl. Meth.: 243. 1802) [= *Baltimora* L. 1771, nom. cons.]. Type: *Fougeria tetragona* Moench [= *Baltimora recta* L.]. Notes: Published as a nomenclaturally superfluous 'correction' for *Fougeria* Moench, as Moench's name commemorates Fougeroux (*ICBN*, Art. 52.1). – [3, 11].

Francoeuria Cass. in Cuvier, Dict. Sci. Nat. 34: 44. Apr 1825 (≡ *Duchesnia* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 153. Oct 1817, non *Duchesnea* Sm. 1811) [= *Pulicaria* Gaertn. 1791]. Type: as for *Duchesnia*. Notes: The combination '*F. crispa*' was not published in the generic protologue. – [6, 8, 12].

Galatea (Cass.) Less., Syn. Gen. Compos.: 187. 1832 (≡ *Aster* subg. *Galatea* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 165. Nov 1818 ≡ *Galatella* Cass. in Cuvier, Dict. Sci. Nat. 37: 463, 488. Dec 1825). Type: as for *Galatella*. Notes: Although *Galatella* has priority at generic rank and is therefore nomenclaturally superfluous, it is not an illegitimate name, as it is based on a legitimate epithet-bringing synonym (*ICBN*, Art. 52.3). – [1, 3, 13].

Galatella Cass. in Cuvier, Dict. Sci. Nat. 37: 463, 488. Dec 1825 (≡ *Aster* subg. *Galatea* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 165. Nov 1818). Type (designated by Cvelev in Komarov, 1959: 139): *Aster punctatus* Waldst. & Kit. (*Galatella punctata* (Waldst. & Kit.) Nees) [= *G. sedifolia* (L.) Greuter, *Aster sedifolius* L.]. Notes: Cassini, when

raising his subgenus to generic rank, discarded its epithet to avoid homonymy with the animal (crustacean) *Galatea* Brug. At present the independent use of homonyms across the plant-animal borderline is permissible. Nevertheless, Cassini was free to choose a new name for the genus, despite basing it on a previous, legitimate subgeneric name, because a name does not have priority outside its rank (*ICBN*, Art. 11.2). – [1, 6, 8].

Garuleum Cass. in Bull. Sci. Soc. Philom. Paris 1819: 172. Nov 1819. Type (designated by Pfeiffer, 1871–1875, 1: 1410. 1873–1874): *Osteospermum caeruleum* Jacq. 1787 [= *G. pinnatifidum* (L'Hér.) DC., *G. viscosum* Cass., nom. illeg., *Osteospermum pinnatifidum* L'Hér. 1785]. Notes: *ING* gives the type as *G. viscosum* Cass. This is incorrect. Cassini includes *Osteospermum caeruleum* and *Osteospermum pinnatifidum*, two heterotypic, legitimate names, in the synonymy of *G. viscosum*. The latter has priority, so Cassini ought to have adopted its epithet. However, for the purpose of typifying the generic name either could have been chosen, and Pfeiffer designated the former. – [3, 13].

Gatyona Cass. in Bull. Sci. Soc. Philom. Paris 1818: 168. Nov 1818 [= *Crepis* L. 1753]. Type: *G. globulifera* (Desf.) Cass. (*Picris globulifera* Desf. 1815) [= *Crepis dioscoridis* L.]. – [3].

Gelasia Cass. in Bull. Sci. Soc. Philom. Paris 1818: 33. Mar 1818 [= *Scorzonera* L. 1753]. Type: *Scorzonera villosa* Scop. (*G. villosa* (Scop.) Cass. in Cuvier, Dict. Sci. Nat. 18: 286. Apr 1821).

['*Gerbera*', Cass. in Bull. Sci. Soc. Philom. Paris 1817: 34. Feb 1817, as '*Gerberia*'; now: *Gerbera* L. 1758, nom. cons. Notes: '*Gerbera* Cass.' was for many decades listed as conserved, with a conserved spelling; the entry (*ICBN*, App. III) has now been changed. Cassini's '*Gerberia*', still listed in *IK* in its former capacity, has thus become a mere spelling variant of the currently conserved *Gerbera* L.] – [3, 9].

Gibbaria Cass. in Bull. Sci. Soc. Philom. Paris 1817: 139. Sep 1817. Type: *G. bicolor* Cass. [= *G. scabra* (Thunb.) Norl., *Osteospermum scabrum* Thunb.]. – [3].

Gifola Cass. in Bull. Sci. Soc. Philom. Paris 1819: 142. Sep 1819 [= *Filago* L. 1753, nom. cons.]. Type: *Filago germanica* (L.) Huds. (*Gnaphalium germanicum* L., *Gifola vulgaris* Cass. in Cuvier, Dict. Sci. Nat. 18: 531. Apr 1821, nom. illeg., *Filago vulgaris* Lam., nom. illeg., *Gifola germanica* (L.) Dumort.). Notes: For the nomenclature of the typonym, see Greuter (in Greuter & Rechinger, 1967: 136–138). The combination '*Gifola germanica*' was not published by Cassini. – [12].

Glebionis Cass. in Cuvier, Dict. Sci. Nat. 41: 41. Jun 1826. Type (not in protologue; designated by Cassini in Cuvier, Dict. Sci. Nat. 44: 151. Dec 1826): *Chrysanthemum roxburghii* Desf. 1815 (*Pyrethrum indicum* Sims 1813, non

- Chrysanthemum indicum* L. 1753) [= *G. coronaria* (L.) Spach, *Chrysanthemum coronarium* L.]. Notes: This generic name has recently again come into use, following conservation of *Chrysanthemum* L. with *C. indicum* L. as type. In the protologue, Cassini refers to 'La plante cultivée au Jardin du Roi, sous le nom de *Chrysanthemum Roxburghii*', but he does not vouch for that identification by including the name itself. In December 1826, however, he writes: 'la plante ... que M. Desfontaines nomme *Chrysanthemum Roxburghii*, ... est devenue le type de notre genre *Glebionis*'. Concerning Desfontaines' species name, the entries in *IK* and in the current version of IPNI are wrong. The correct citations are: *Pyrethrum indicum* Roxb. ex Sims in Curtis's Bot. Mag.: ad t. 1521. 1813; *Chrysanthemum roxburgii* Desf., Tabl. Ecole Bot., ed. 2: 119. 1815. '*Glebionis roxburgii*' was not validly published by Cvelev (1999) by referring to '*Chrysanthemum roxburgii* Cass.', cited from the generic protologue, because in Cassini's work the conditions for valid publication of that name were not again fulfilled: as he placed the species in *Glebionis*, he did not accept the binomial (see *ICBN*, Art. 33.7(a)). – [12, 13].
- Glossocardia** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 138. Sep 1817. Type: *G. linearifolia* Cass. [= *Glossocardia bosvallia* (L. f.) DC.; *Verbesina bosvallia* L. f.]. – [3].
- Glossogyne* Cass. in Cuvier, Dict. Sci. Nat. 51: 475. Dec 1827 [= *Glossocardia* Cass. 1817]. Type: *Bidens tenuifolia* Labill. (*G. tenuifolia* (Labill.) Cass. ex Less.). [= *Glossogyne bidens* (Retz.) Alston, *Glossocardia bidens* (Retz.) Veldkamp, *Zinnia bidens* Retz.]. Notes: Alternative name for *Gynactis* Cass. (q.v.). The phrase 'genre ou sous-genre' is used twice in the protologue, but once 'genre' alone. We take the words 'ou sous-genre' to indicate taxonomic doubt, same as Cassini's consistent use, in the protologue, of conditional mood. Later (in Cuvier, Dict. Sci. Nat. 59: 320. Jun 1829) Cassini chooses *Glossogyne* over *Gynactis*. The combination '*Glossogyne tenuifolia*' was not published by Cassini. – [2, 3, 4, 12].
- Glycyderas* Cass. in Cuvier, Dict. Sci. Nat. 59: 74. Jun 1829 (≡ *Glyphia* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 141. Sep 1818, non *Glyphis* Ach. 1814) [= *Psiadia* Jacq. ex Willd. 1803]. Type: *Glycyderas lucida* (Cass.) DC. (*Glyphia lucida* Cass., *Psiadia lucida* (Cass.) Drake) [= *Psiadia madagascariensis* (Lam.) DC., *Conyza madagascariensis* Lam.]. Notes: Legitimacy of the name *Glycyderas* depends on whether or not one follows Cassini, as we do, in considering *Glyphia* and *Glyphis* as parohomonyms (confusingly similar names). – [8].
- Glyphia* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 141. Sep 1818 (non *Glyphis* Ach. 1814) [= *Psiadia* Jacq. ex Willd. 1803]. Type: as for *Glycyderas*. – [11].
- Gnephosis** Cass. in Bull. Sci. Soc. Philom. Paris 1820: 43. Mar 1820. Type: *G. tenuissima* Cass. – [3].
- Goniocaulon** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 34. Feb 1817. Type (not in protologue; designated by Cassini in Bull. Sci. Soc. Philom. Paris 1818: 184. Dec 1818): *G. glabrum* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 183. 1818. Notes: The combination '*G. glabrum*' was not published in the generic protologue. *ING* has the type as 'non designatus', but the title of Cassini's 1818 paper reads 'Description des espèces servant de types ...'. – [12, 13].
- Grammarthron* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 32. Feb 1817 [= *Doronicum* L. 1753]. Type: *Arnica scorpioides* L. (*G. scorpioides* (L.) Cass. in Cuvier, Dict. Sci. Nat. 19: 294. Jan 1821) [= *Doronicum pardalianches* L.].
- Guariruma* Cass. in Cuvier, Dict. Sci. Nat. 33: 463, 472. Dec 1824 (≡ *Mutisia* sect. *Guariruma* (Cass.) Cabrera, Opera Lilloana 13: 138. 1965) [= *Mutisia* L. f. 1782]. Type: (designated by Cabrera, 1965: 138): *Mutisia hastata* Cav. Notes: The name appears on p. 463 in a synopsis of genera with a validating Latin description. On p. 472 Cassini refers to 'genres ou sous-genres' and mentions five included species. The combinations for these under *Guariruma* were not published by Cassini, although they are cited from the generic protologue in the usually reliable index to the collation of King & Dawson (1975) as well as in *IK*, where they are treated as synonyms. – [2, 12].
- Guizotia** Cass. in Cuvier, Dict. Sci. Nat. 59: 237, 247. Jun 1829, nom. cons. Type (by conservation): *G. abyssinica* (L. f.) Cass. (*Polymnia abyssinica* L. f.). Notes: The name is first mentioned (p. 237) in a synopsis, without description but with mention of three included species; the description and one new combination follow on p. 247. *Guizotia* was originally conserved against 'Werrinuwia' of Heyne 1814, but this is a vernacular designation not a name, so that conservation is no longer necessary (see *ICBN*, Art. 14.13). *IK* has a mysterious reference, under *Guizotia*, to 'Bull. Sci. Soc. Philom. Paris (1827) 127'. As the *Bulletin* was discontinued after 1824, the most likely explanation for this entry is a triple error: that may refer to the year 1821 and page 187, where *Guizotia* is not mentioned but a species later referred to it, *Heliopsis platyglossa* Cass., is described. – [7, 12].
- Gundelsheimera* Cass. in Cuvier, Dict. Sci. Nat. 57: 344. Dec 1828, nom. illeg. (≡ *Gundelia* L., Sp. Pl.: 814. 1753). Type: *Gundelia tournefortii* L. – [11].
- Gymnanthemum** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 10. Jan 1817. Type (not in protologue; designated by Cassini in Bull. Sci. Soc. Philom. Paris 1817: 66. Apr 1817): *Baccharis senegalensis* Pers. (*G. senegalense* (Pers.) Sch. Bip. ex Walp.) [= *G. coloratum* (Willd.) H. Rob. & B. Kahn, *Eupatorium coloratum* Willd.]. Notes: The type information is given by Cassini in a footnote.
- Gymnocline* Cass. in Bull. Sci. Soc. Philom. Paris 1816: 199. Dec 1816 [= *Tanacetum* L. 1753]. Type (designated by

- Pfeiffer, 1871–1875, 1: 1523. 1874): *Chrysanthemum macrophyllum* Waldst. & Kit. (**Tanacetum macrophyllum** (Waldst. & Kit.) Sch. Bip.). Notes: *Gymnocline* first appears, without description, in an enumeration of genera (in Cuvier, Dict. Sci. Nat. 2 (Suppl.): 75. Oct 1816). – [6].
- Gynactis* Cass. in Cuvier, Dict. Sci. Nat. 51: 475. Dec 1827 [= **Glossocardia** Cass. 1817]. Type: as for *Glossogyne*. Notes: The same remarks as for *Glossogyne* apply. Later (in Cuvier, Dict. Sci. Nat. 59: 320. Jun 1829) Cassini synonymises ‘*Glossogyne* seu *Gynactis*’ with *Glossogyne*. – [2, 4].
- Gynoxys* Cass. in Cuvier, Dict. Sci. Nat. 48: 455. Jun 1827. Type (designated here): **G. baccharoides** (Kunth) Cass. (*Senecio baccharoides* Kunth). Notes: The phrase ‘genre ou sous-genre’ is used in the protologue. *Gynoxys cordifolia* Cass., one of Cassini’s original elements, has become the type of *Pseudogynoxys* (Greenm.) Cabrera. – [2].
- Gynura* Cass. in Cuvier, Dict. Sci. Nat. 34: 391. Apr 1825, nom. cons. vs. *Crassocephalum* Moench 1794. Type (by conservation): *G. auriculata* Cass., Opusc. Phytol. 3: 100. Apr 1834 [= **G. divaricata** (L.) DC., *Senecio divaricatus* L.]. – [6*].
- Gyptis* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 16: 8, 10. Apr 1820 (≡ *Eupatorium* subg. *Gyptis* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 139. Sep 1818. Type (not in protologue, designated by King & Robinson, 1971: 22): *G. pinnatifida* Cass. ex R.M. King & H. Rob, nom. illeg. (**G. tanacetifolia** (Gillies ex Hook. & Arn.) D.J.N. Hind & Flann, **comb. nov.** ≡ *Eupatorium tanacetifolium* Gillies ex Hook. & Arn., Companion Bot. Mag. 1: 242. 1836 [incl. *Eupatorium ceratophyllum* Hook. & Arn.]). Notes: Cassini originally describes *Gyptis* as a subgenus of *Eupatorium*, then upgraded it to generic rank in 1820, but the following year (in Cuvier, Dict. Sci. Nat. 20: 177–178. Jun 1821) reverted to treating it as a subgenus. ‘*Gyptis pinnatifida*’, designating a species described by Cassini, is not a validly published name either in the subgeneric protologue or in the latter place, because it does not have the prescribed form (ICBN, Art. 23.1 + 32.1(c); the exception of Art. 24.4 does not apply). Contrary to the situation in *Ixeris*, Cassini did not publish the name *Eupatorium pinnatifidum* either, which anyway would have been a later homonym. When first validly published by King & Robinson (1971: 23), *Gyptis pinnatifida* was illegitimate because several earlier species names were cited in synonymy. The two earliest, the epithet of one of which ought to have been adopted, are *Eupatorium tanacetifolium* Gillies ex Hook. & Arn. and *E. ceratophyllum* Hook. & Arn. By an extensive interpretation of the first reviser’s rule (ICBN, Art. 11.5) we here select the type of the former as type of *G. pinnatifida*. – [1, 3, 12, 13].
- Hamulium* Cass. in Bull. Sci. Soc. Philom. Paris 1820: 173. Nov 1820 [= **Verbesina** L. 1753]. Type: *H. alatum* (L.) Cass. (*Verbesina alata* L.). – [3].
- Haplopappus* (*Aplopappus*) Cass. in Cuvier, Dict. Sci. Nat. 56: 168. Sep 1828, nom. & orth. cons. Type: **H. (A.) glutinosus** Cass. Notes: The name was originally conserved against a supposed taxonomic synonym, *Hoorebekia* Cornel. 1817, but the latter is in fact a synonym of *Grindelia* Willd. 1807, therefore it is no longer listed as rejected. Also, conservation originally was from a later place of publication, where the orthographic change was made, and IPNI indeed still lists ‘*Haplophyllum* Endl. 1837’ as if it were an independent name and not an orthographic variant. – [3].
- Harpalium* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 38: 17. Dec 1825 (≡ *Helianthus* subg. *Harpalium* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 141. Sep 1818) [= **Helianthus** L. 1753]. Type (not in protologue, designated by Cronquist in ING card No. 24797. 1967): *H. rigidum* Cass. ex DC., Prodr. 5: 583. 1836 [= **Helianthus pauciflorus** Nutt.]. Notes: *Harpalium*, at first treated as a subgenus, was later raised to generic rank by being included in a list of genera. The designation ‘*Harpalium rigidum*’ appears in the sub-generic protologue, and twice more before the generic name was published (in Cuvier, Dict. Sci. Nat. 20: 299. Jun 1821; and 25: 438. Nov 1822), but as it had not the form prescribed for a species name it was not validly published as such (ICBN, Art. 23.1 + 32.1(c)). The name was validly published by Candolle (1836), who also referred to ‘*Helianthus rigidus* Desf.’, but this is not the basionym as Desfontaines (1829: 184) treated it as a synonym of *Helianthus divaricatus* L. – [1, 12].
- Helicta* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 167 [?= **Borrichia** Adans. 1763]. Nov 1818. Type (not in protologue, designated by Cronquist in ING card No. 8020. 1959): *H. sarmentosa* Cass. in Cuvier, Dict. Sci. Nat. 20: 462. Jun 1821 [?= **Borrichia** sp.]. Notes: Cassini, in the generic protologue, stated that *Helicta* ‘a pour type une plante ... cultivée au Jardin du Roi sous le faux nom *Verbesina mutica*’ [has as type a plant cultivated in the Jardin du Roi under the false name *Verbesina mutica*]. The later *H. sarmentosa* is based on that very same plant. We have found no taxonomic assessment of Cassini’s type material; the suggested taxonomic placement in *Borrichia* follows Robinson (1981).
- Henricia* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 11. Jan 1817 [= **Psiadia** Jacq. ex Willd. 1803]. Type: *H. agathaeides* Cass. (**Psiadia agathaeides** (*agathaeoides*) (Cass.) Drake). Notes: Generic name and toponym are validated by a single description (descriptio generico-specifica: ICBN, Art. 42). Cassini provided a full species description in the following year (in Bull. Sci. Soc. Philom. Paris 1818: 183. Dec 1818). The spelling of the epithet is not to be corrected to ‘*agathaeoides*’ as is sometimes done, as ‘*agathaeides*’ is linguistically correct and was used consistently by Cassini later on. – [6].
- Herderia* Cass. in Ann. Sci. Nat. (Paris) 17: 421. Aug 1829. Type: **H. truncata** Cass.

[“*Heteranthus* Bonpl.”, Cass. in Cuvier, Dict. Sci. Nat. 21: 110. Sep 1821, nom. inval. (non Borkh. 1796, nom. rej.). Notes: Apparently proposed as an alternative for the earlier, legitimate *Homoianthus* Bonpl. ex DC. 1812, but as Cassini does not clearly commit himself to accepting *Heteranthus*, we consider it as not validly published, contrary to *IK*.] – [3, 5].

Heterolepis Cass. in Bull. Sci. Soc. Philom. Paris 1820: 26. Feb 1820, nom. cons. (= *Heteromorpha* Cass. 1817, q.v.). Type: *Arnica inuloides* Vahl 1791 [= ***Heterolepis aliena*** (L. f.) Druce, *Oedera aliena* L. f. 1782, *Heterolepis decipiens* Cass. in Cuvier, Dict. Sci. Nat. 21: 120. Sep 1821, nom. illeg.]. Notes: Substitute name for *Heteromorpha* Cass., which Cassini had come to dislike because it is grammatically an adjective rather than a noun. The entry in the *ICBN* (App. III) has a flawed type citation, considering *H. decipiens* as homotypic with *Arnica inuloides*. Cassini, when publishing *H. decipiens*, cited both *Arnica inuloides* Vahl and *Oedera aliena* L. f. in synonymy, so he should have adopted the epithet of the earlier name, *Oedera aliena*. – [8, 13].

Heterolophus Cass. in Cuvier, Dict. Sci. Nat. 50: 250. Nov 1827 [= ***Psephellus*** Cass. 1826]. Type: *H. sibiricus* (L.) Cass. (*Centaurea sibirica* L., ***Psephellus sibiricus*** (L.) Wagenitz).

Heteromorpha Cass. in Bull. Sci. Soc. Philom. Paris 1817: 12. Jan 1817, nom. rej. vs. *Heteromorpha* Cham. & Schldtl. 1826 (= ***Heterolepis*** Cass. in Bull. Sci. Soc. Philom. Paris 1820: 26. Feb 1820, nom. cons.). Type: as for *Heterolepis*.

Heterotheca Cass. in Bull. Sci. Soc. Philom. Paris 1817: 137. Sep 1817. Type: *Inula subaxillaris* Lam. (*H. lamarckii* Cass. in Cuvier, Dict. Sci. Nat. 21: 131. Sep 1821, nom. illeg., ***H. subaxillaris*** (Lam.) Britton & Rusby). Notes: In the protologue, inclusion of *Inula subaxillaris* Lam. is perhaps not quite definite, but sufficiently so to make it acceptable for us: Cassini writes: ‘Ce genre a pour type une plante ... que je crois être l’*inula subaxillaris* de Lamarck’. Later, when publishing *H. lamarckii*, he confirms the identity. – [6].

Hipposeris Cass. in Cuvier, Dict. Sci. Nat. 33: 464, 474, 475. Dec 1824 [= ***Onoseris*** Willd. 1803]. Type (designated by Sancho, 2004): ***Onoseris salicifolia*** Kunth. Notes: The genus is described in Latin on p. 464, diagnosed in French on pp. 474 and 475. The combinations ‘*H. acerifolia*’ and ‘*H. salicifolia*’ were not published by Cassini in the generic protologue. – [7, 12, 13].

Hirnellia Cass. in Bull. Sci. Soc. Philom. Paris 1820: 57. Apr 1820 [= ***Angianthus*** J.C. Wendl. 1808, nom. cons.]. Type: *H. cotuloides* Cass. [= ***Angianthus tomentosus*** J.C. Wendl.].

Hirpicium Cass. in Bull. Sci. Soc. Philom. Paris 1820: 26, 27. Mar 1820. Type: *H. echinulatum* Cass., nom. illeg. (*Oedera*

alienata Thunb., ***H. alienatum*** (Thunb.) Druce). Notes: French diagnosis on p. 26, Latin description on p. 27. – [7].

Hirtellina Cass. in Cuvier, Dict. Sci. Nat. 47: (499), 511. May 1827. Type: *Stachelina fruticosa* (L.) L. (*Centaurea fruticosa* L., *H. lanceolata* Cass. in Cuvier, Dict. Sci. Nat. 50: 441. Nov 1827, nom. illeg., ***H. fruticosa*** (L.) Dittrich). Notes: The name is first mentioned in a synopsis of genera. In the protologue proper, the phrase ‘genre ou sous-genre’ is used. – [2, 3, 7].

Holocheilus Cass. in Bull. Sci. Soc. Philom. Paris 1818: 73. May 1818. Type: ***H. ochroleucus*** Cass.

Homogyne Cass. in Bull. Soc. Philom. Paris 1816: 198. Dec 1816. Type: *Tussilago alpina* L. (***H. alpina*** (L.) Cass. in Cuvier, Dict. Sci. Nat. 21: 412. Sep 1821. – [3].

Hybridella Cass. in Bull. Sci. Soc. Philom. Paris 1817: 12. Jan 1817. Type: *Anthemis globosa* Ortega (***H. globosa*** (Ortega) Cass. in Cuvier, Dict. Sci. Nat. 22: 86. Dec 1821). – [3, 6].

Hymenatherum Cass. in Bull. Sci. Soc. Philom. Paris 1817: 12. Jan 1817 [= ***Thymophylla*** Lag. 1816]. Type (not in protologue; designated by Cassini, 1818d: 183): *H. tenuifolium* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 183. Dec 1818 (***Thymophylla tenuifolia*** (Cass.) Rydb.). Notes: The type designation is found in the title of Cassini’s 1818 paper, which reads ‘Description des espèces servant de types ...’. – [3].

Hymenocentron Cass. in Cuvier, Dict. Sci. Nat. 44: 37. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: ***Centaurea diluta*** Aiton. Notes: The combination ‘*H. dilutum*’ was not published in the generic protologue. – [12].

Hymenolepis Cass. in Bull. Sci. Soc. Philom. Paris 1817: 138. Sep 1817. Type (designated by Källersjö, 1986: 534): *Athanasia parviflora* L. (*Tanacetum crithmifolium* L., non *Athanasia crithmifolia* (L.) L., *H. leptcephala* Cass. in Cuvier, Dict. Sci. Nat. 22: 315. Dec 1821, nom. illeg., *H. parviflora* (L.) DC., ***H. crithmifolia*** (L.) Greuter & al.). Notes: *Hymenolepis* first appears, without description, in an enumeration of genera (in Cuvier, Dict. Sci. Nat. 2 (Suppl.): 75. Oct 1816). In the protologue Cassini includes two elements, *Athanasia parviflora* L. and *A. crithmifolia* (L.) L., but the latter obviously results from a confusion of names: *A. crithmifolia*, based on *Santolina crithmifolia* L., is now the designated type of *Athanasia* L. and does not fit Cassini’s concept of *Hymenolepis*. Cassini when referring to ‘*Athanasia crithmifolia*’ must have had *Tanacetum crithmifolium* in mind, which is the replaced synonym of *A. parviflora* L. In the synonymy of his illegitimate *H. leptcephala* he indeed mentions *A. parviflora* L. and *T. crithmifolium* L., whereas *A. crithmifolia* is no longer mentioned. However this may be, the two original elements of *Hymenolepis* do exist. Källersjö’s type designation enshrined the current use of the generic name. – [3, 13].

- Hymenonema** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 34. Feb 1817. Type (designated by Pfeiffer, 1871–1875, 1: 1707. 1875): *Catananche graeca* L. (*H. tournefortii* Cass. in Cuvier, Dict. Sci. Nat. 22: 316. Dec 1821, nom. illeg., **H. graecum** (L.) DC.). Notes: *ING* currently ignores Pfeiffer's type designation. – [13].
- Hymenoxys** Cass. in Cuvier, Dict. Sci. Nat. 55: 278. Aug 1828. Type: *Hymenopappus anthemoides* Juss. (**Hymenoxys anthemoides** (Juss.) DC.). Notes: Cassini, in the protologue, envisages two alternatives for his generic name, 'Oxypappus' and 'Hymenoxypappus', but judging from the context he does not seriously consider accepting them. We therefore assess them as not validly published, provisional designations, and in conformity with their former general neglect we do not list them separately. The combination 'Hymenoxys anthemoides' was not published in the generic protologue. – [12].
- Ictinus** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 142. Sep 1818 [= **Gorteria** L. 1759]. Type: *I. piloselloides* Cass. (*Gorteria ictinus* Cass. in Cuvier, Dict. Sci. Nat. 33: 455. Dec 1824, nom. illeg.) [= **Gorteria diffusa** Thunb.]. – [3].
- Ifloga** Cass. in Bull. Sci. Soc. Philom. Paris 1819: 142. Sep 1819. Type: *Gnaphalium cauliflorum* Desf. (*I. fontanesii* Cass. in Cuvier, Dict. Sci. Nat. 23: 14. Nov 1822, nom. illeg., *I. cauliflora* (Desf.) C.B. Clarke) [= **Ifloga spicata** (Forssk.) Sch. Bip., *Chrysocoma spicata* Forssk.]. – [3].
- Intybellia** Cass. in Bull. Sci. Soc. Philom. Paris 1821: 124. Nov 1821 [= **Crepis** L. 1753]. Type: *I. rosea* Cass. [**Crepis purpurea** (Willd.) M. Bieb., *Hieracium purpureum* Willd.].
- Iphiona** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 153. Oct 1817, nom. cons. Type (by conservation): *I. dubia* Cass., nom. illeg. (*Conyza pungens* Lam.) [= **I. mucronata** (Forssk.) Asch. & Schweinf., *Chrysocoma mucronata* Forssk., *I. juniperifolia* Cass. in Cuvier, Dict. Sci. Nat. 23: 610. Nov 1822, nom. illeg.]. Notes: In the protologue Cassini includes *I. dubia* in *Iphiona*, but only with reservations, and the features of that species conflict in several respects with the generic description. *Iphiona*, originally, is based primarily on *I. punctata* Cass., now known as *Pentanema indicum* (L.) Ling. Nevertheless, Cassini himself later (in Ann. Sci. Nat. (Paris) 17: 419. Aug 1829) declares the type of the generic name to be *I. juniperifolia* (which belongs to the same species as the current conserved type). Conservation has been proposed (Anderberg, 1983), and accepted, because Cassini's choice of type, while sanctioned by current practice, has no standing because it is in major conflict with the protologue (*ICBN*, Art. 10.5(a)). – [3].
- Ismelia** Cass. in Cuvier, Dict. Sci. Nat. 41: 40. Jun 1826. Type: *I. versicolor* Cass., nom. illeg. (*Chrysanthemum carinatum* Schousb., **I. carinata** (Schousb.) Sch. Bip.).
- Isonema** Cass. in Bull. Sci. Soc. Philom. Paris 1817: 152. Oct 1817 (non R. Br. 1809) [= **Cyanthillium** Blume 1826]. Type: *I. ovatum* ('ovata') Cass. [= **Cyanthillium patulum** (Aiton) H. Rob., *Conyza patula* Aiton]. – [11].
- Ixauchenus** Cass. in Cuvier, Dict. Sci. Nat. 56: 176. Sep 1828 [?= **Lagenophora** Cass. 1816, nom. cons.]. Type: *I. sublyratus* Cass. [?= **Lagenophora** sp.]. Notes: As noted by Drury (1974), the typonym has been equated traditionally with *Lagenophora stipitata* (Labill.) Druce (*Bellis stipitata* Labill.), but some features described in the protologue contradict that placement. The original material (in P?) has not so far been traced.
- Ixeris** (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 25: 62. Nov 1822 (≡ *Taraxacum* subg. *Ixeris* Cass. in Bull. Sci. Soc. Philom. 1821: 173–175. Jul 1821). Type: *Taraxacum polycephalum* Cass. (**I. polycephala** (Cass.) DC.). Notes: See explanations in the introductory discussion. – [1, 3, 12].
- Jasonia** (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 34: 34, 35. Apr 1825 (≡ *Pulicaria* subg. *Jasonia* Cass. in Cuvier, Dict. Sci. Nat. 24: 200. 1822). Type: *Erigeron tuberosus* ('tuberosum') L. (**J. tuberosa** (L.) DC.). Notes: A genus 'Jasonia' was mentioned by Cassini in several earlier publications (in Bull. Sci. Soc. Philom. Paris 1815: 175. Oct 1815; in J. Phys. Chim. Hist. Nat. Arts 82: 144–145. Feb 1816; in Bull. Sci. Soc. Philom. Paris 1821: 127 nom. nud.; and in Cuvier, Dict. Sci. Nat. 23: 565. Nov 1822), but never described and with no reference to a previous description. A description was first supplied, in 1825, for *Pulicaria* subg. *Jasonia*. In the protologue, Cassini mentioned two species designated as '*J. radiata*' and '*J. discoidea*', but neither is a validly published name since it has not the required form (*ICBN*, Arts. 23.1 + 32.1(c)). The single included element available as type is *Erigeron tuberosus* ('tuberosum') L. (*Inula tuberosa* (L.) Lam.). *ING* mentions this type as having been designated by Pfeiffer (1871–1875, 1: 1785. 1875), but in fact no designation was necessary. – [1, 3, 6*, 7, 12, 13].
- Jurinea** Cass. in Bull. Sci. Soc. Philom. Paris 1821: 140. Jul 1821. Type (designated by Pfeiffer, 1871–1875, 1: 1800. 1875): **J. alata** Cass. (*Serratula alata* (Cass.) Desf., Tabl. Ecole Bot., ed. 3 (Cat. Pl. Horti Paris): 155. 1829, non S.G. Gmel. 1770–1774, nec Poir. 1805). Notes: In the protologue Cassini included two species: *J. alata* Cass. and *J. tomentosa* Cass., citing earlier synonyms under both of them, but only doubtfully, so that he did not definitely include their types. Under *J. alata* he did include '*Serratula alata*, Desf. Tabl. de l'Éc. de Bot. du Jard. du Roi, 2^e edit., pag. 108', a nomen nudum that Desfontaines validated in the third edition as a new combination based on *S. alata* Cass. The matter deserves to be mentioned, not only because of the incorrect entries for *J. alata* and *S. alata* in *IK*, but because Pfeiffer's type designation reads '*Serratula alata* Desf.'. – [12, 13].

Kalimeris (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 37: 464, 491. Aug 1825 (≡ *Aster* subg. *Kalimeris* Cass. in Cuvier, Dict. Sci. Nat. 24: 324. Aug 1822). Type (not in protologue, designated by Leussink in Farr & al., 1979: 898): *K.* ('*Calimeris*') *platycephala* Cass. ex Nees, nom. illeg. (*Aster incisus* Fisch., **K.** ('*Calimeris*') *incisa* (Fisch.) DC.). Notes: In the subgeneric protologue Cassini does not mention *Aster incisus*. He uses '*Kalimeris platycephala*' to designate a new species, but this is not a validly published name because it has not the required form (*ICBN*, Arts. 23.1+32.1(c)). When he raises the subgenus to generic rank, Cassini (p. 464) mentions *Aster incisus* Fisch. as its only member. Nees (1832: 226), who adopted the genus (as '*Calimeris*', an orthographic variant), validated the binomial *K. platycephala*, but then it was illegitimate because *Aster incisus* Fisch. was included as a synonym. Gu & Hoch (1997) have raised a delicate point. Nees also cites *Aster tataricus* L. f. 1782 in the synonymy of *K. platycephala*, so that the latter's type (and ultimately the type of *Kalimeris*) would appear to be that of the older name, *A. tataricus*, the epithet of which Nees should have adopted. This would cause problems for the current application of the generic name, as *A. tataricus* is considered a species of *Aster* L. proper. The solution proposed by Gu & Hoch, who designated a 'neotype' for *K. platycephala*, is contrary to the nomenclatural rules. Our answer is that Nees did not definitely include the type of *A. tataricus* in his species, admitting a slight but definite doubt based in view of its original description. We therefore consider the type of *Aster incisus*, included without doubt, as the type of *K. platycephala*. – [1, 3, 7, 12, 13].

Kallias (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 38: 17. Dec 1825 (≡ *Heliopsis* subg. *Kallias* Cass. in Cuvier, Dict. Sci. Nat. 24: 326. 1822) [= *Heliopsis* Pers. 1807, nom. cons.]. Type (designated by Pfeiffer, 1871–1875, 1: 1805. 1875): *Anthemis buphthalmoides* Jacq. (*Heliopsis buphthalmoides* (Jacq.) Dunal) [= *Heliopsis oppositifolia* (Lam.) S. Diaz, *Anthemis oppositifolia* Lam., *Anthemis americana* L. f. 1782, non L. 1753]. Notes: The alternative orthographic variant '*Callias*' was sometimes used by Cassini, first in the subgeneric protologue (p. 327; on p. 333, also cited in *ING*, it stands for a trivial name used in ancient Greece), then occasionally for the genus (e.g., in Cuvier, Dict. Sci. Nat. 46: 399. Apr 1827). '*Kallias ovata*' Cass., published in the subgeneric protologue, is not a validly published name (*ICBN*, Arts. 23.1+32.1(c)). However, four binomials were included in synonymy and are elements available for typification: *Anthemis buphthalmoides* Jacq., two combinations based on it, and *A. ovatifolia* (as '*ovalifolia*') Ortega. – [1, 12, 13].

Klasea Cass. in Cuvier, Dict. Sci. Nat. 35: 173. Oct 1825. Type (not in protologue, designated by Borisova in Komarov, 1963: 272, under *Serratula* sect. *Klasea* (Cass.) DC.): **K. centauroides** (L.) Cass. ex Kitag. (*Serratula centauroides* L.). Notes: In the protologue, Cassini refers to four

species cultivated in the Jardin du Roi, designated by the names under which they were grown, but without committing himself as to whether they were correctly identified, so that he did not formally include the types of these names (one of which is *Serratula centauroides*); nor did he publish any combination under *Klasea*, there or later. – [12, 13].

Laennecia Cass. in Cuvier, Dict. Sci. Nat. 25: 91. Nov 1822, nom. rej. vs. *Conyza* L. Type: **L. gnaphalioides** (Kunth) Cass. (*Conyza gnaphalioides* Kunth). Notes: Although listed as rejected against *Conyza*, this genus is not currently considered a member of the subtribe *Conyzinae* Horan.

Lagenophora ('*Lagenifera*') Cass. in Bull. Sci. Soc. Philom. Paris 1816: 199. Dec 1816, nom. & orth. cons. Type (by conservation): *Calendula magellanica* Willd., nom. illeg. (*Aster nudicaulis* Lam., **L. nudicaulis** (Lam.) Dusén). Notes: Shortly after publishing *Lagenifera*, Cassini (in Bull. Sci. Soc. Philom. Paris 1818: 34. Mar 1818) changed the spelling to *Lagenophora*, and 'henceforward used it consistently, as have all other authors' (Bullock, 1966, when proposing conservation of the latter 'name' against the former). Bullock's proposal failed, but an essentially similar, technically more correct one by Nicolson (1996) was eventually accepted, although meanwhile *Lagenifera* had been taken up by several authors and is still in use in some areas where these plants are found. The combination '*Lagenophora magellanica*' was not published by Cassini. – [12].

Lagrostemon Cass. in Cuvier, Dict. Sci. Nat. 53: 466. May 1828 [= *Saussurea* DC. 1810, nom. cons.]. Type: *L. pygmaeus* (Jacq.) Cass. (*Carduus pygmaeus* Jacq., *Cnicus pygmaeus* (Jacq.) L., *Saussurea pygmaea* (Jacq.) Spreng.). Notes: The phrase 'genre ou sous-genre' is used repeatedly in the protologue, but also 'genre', 'diffère génériquement', etc. – [2].

Lamyra (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 25: 218. Nov 1822 (≡ *Cirsium* subg. *Lamyra* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 168, 225, 226. Nov 1818) [= *Ptilostemon* Cass. 1816]. Type: *Carduus stellatus* L. (*Cirsium stellatum* (L.) All., *L. stipulacea* Cass., nom. illeg., *L. stellata* (L.) Soják, *Ptilostemon stellatus* (L.) Greuter). Notes: In the generic protologue, *Lamyra* is treated as a genus initially; however in the subsequent discussion (p. 225) Cassini treats *Lamyra* as one of six 'genres secondaires' of the 'genre primaire' *Cirsium*, which further down (p. 226) he qualifies as 'genres ou sous-genres'. This is not only a good example of use of the words 'ou sous-genres' to express taxonomic doubt, but also documents Cassini's two-level use of the category genus, a procedure of classification that the Code now explicitly condones (*ICBN*, Art. 33 Notes 3). – [1, 6*].

Lasiopogon Cass. in Bull. Sci. Soc. Philom. Paris 1818: 75. May 1818. Type: *Gnaphalium muscoides* Desf. (**L. muscoides** (Desf.) DC.).

Lasiopus Cass. in Bull. Sci. Soc. Philom. Paris 1817: 152. Sep 1817 [= *Gerbera* L. 1758, nom. cons.]. Type: *L. ambiguus* Cass. (*Gerbera ambigua* (Cass.) Sch. Bip.).

Lasiospora Cass. in Cuvier, Dict. Sci. Nat. 25: 306. Nov 1822 [= *Scorzonera* L. 1753]. Type (designated by Cvelev, 1989: 45, under *Scorzonera* subg. *Lasiospora* (Cass.) Tzvelev): *L. hirsuta* (Gouan) Cass. (*Tragopogon hirsutus* Gouan, *Scorzonera hirsuta* (Gouan) L.).

Lasthenia Cass., Opusc. Phytolog. 3: 88. Apr 1834. Type: *L. obtusifolia* Cass. [= *L. kunthii* (Less.) Hook. & Arn., *Hymenatherum kunthii* Less.].

Launaea Cass. in Cuvier, Dict. Sci. Nat. 25: (61), 321. Nov 1822. Type: *L. bellidifolia* Cass. [= *L. sarmentosa* (Willd.) Kuntze, *Prenanthes sarmentosa* Willd.]. – [7].

Leachia Cass. in Cuvier, Dict. Sci. Nat. 25: 388. Nov 1822 (= *Coreopsis* L., Sp. Pl.: 907. 1753, by type designation). Type (designated by Pfeiffer, 1871–1875, 2: 44. 1872): *Leachia lanceolata* (L.) Cass. (*Coreopsis lanceolata* L.). – [13].

Lebetina Cass. in Cuvier, Dict. Sci. Nat. 25: 394. Nov 1822 [= *Dyssodia* Cav. 1801]. Type: *L. cancellata* Cass. (*Dyssodia cancellata* (Cass.) A. Gray). [= *Dyssodia porophyllum* (Cav.) Cav., *Pteronia porophyllum* Cav.].

Leibnitzia Cass. in Cuvier, Dict. Sci. Nat. 25: 420. 1822. Type (designated by Pfeiffer, 1871–1875, 2: 56. 1872): *L. cryptogama* Cass., nom. illeg. (*Tussilago anandria* L., *L. anandria* (L.) Turcz.). – [6*].

Leighia (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 38: 17. 1825 (non Scop. 1777) (= *Helianthus* subg. *Leighia* Cass. in Cuvier, Dict. Sci. Nat. 25: 435. Nov 1822) [= *Helianthus* L. 1753]. Type (designated by Pfeiffer, 1871–1875, 2: 56. 1872): *Helianthus angustifolius* L. Notes: The generic name is generally but wrongly cited from the subgeneric protologue. The designations '*L. bicolor*' (for *Helianthus angustifolius*), '*L. elegans*' and '*L. microphylla*', used by Cassini in the subgeneric protologue, are not validly published as they have not the required form (*ICBN*, Arts. 23.1 + 32.1(c)). – [1, 3, 12].

Leontonyx Cass. in Cuvier, Dict. Sci. Nat. 25: 466. Nov 1822 [= *Helichrysum* Mill. 1754, nom. cons.]. Type (designated by Pfeiffer, 1871–1875, 2: 66. 1872): *Leontonyx tomentosus* ('*tomentosa*') Cass., nom. illeg. (*Gnaphalium scabrum* L. 1753 (non *Helichrysum scabrum* Less. 1832), *Gnaphalium squarrosum* L., nom. illeg., *Helichrysum spiralepis* Hilliard & B.L. Burt). Notes: This name appears to be absent from the current version of *ING*.

Leontopodium (Pers.) R. Br. ex Cass. in Bull. Sci. Soc. Philom. Paris 1819: 144. Sep 1819 (= *Gnaphalium* subg. *Leontopodium* Pers., Syn. Pl. 2: 422. 1807). Type (by virtue of

ICBN Art. 22.6): *Gnaphalium leontopodium* L. (*Filago leontopodium* (L.) L., *L. alpinum* Cass. in Cuvier, Dict. Sci. Nat. 25: 474. Nov 1822, *L. nivale* subsp. *alpinum* (Cass.) Greuter). Notes: The name is credited to R. Brown in the protologue, p. 143. Both IPNI and *ING* (under the entry *Simpera*) have entries that ascribe the generic name to '(Pers.) R. Br.', or to 'R. Br.' alone. However, Brown (in Trans. Linn. Soc. London 12: 124. 1817) gives no description whatever of his genus '*Leontopodium*', nor does he provide a reference to Persoon, and therefore he did not validly publish the name. In Cassini's protologue there is no reference to Persoon's earlier subgenus either; nevertheless, under *ICBN* Art. 33.3, *Leontopodium* is to be treated as based on the latter. None of the nomenclators used by us has the correct citation. – [1, 3, 13].

Lepidaploa (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 36: 20. Oct 1825 (= *Vernonia* subg. *Lepidaploa* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 66. Apr–May 1817). Type (designated by Robinson & al., 1980: 428): *Vernonia albicaulis* Pers. [= *L. glabra* (Willd.) H. Rob., *Conyza glabra* Willd.]. Notes: In the subgeneric protologue, six species of *Vernonia* are mentioned by name (without author citation). In a subsequent, more elaborate treatment of *Vernonia* subg. *Lepidaploa* (in Cuvier, Dict. Sci. Nat. 26: 16–24. May 1823), Cassini retains three of them and adds four, all with epithets under *Lepidaploa*, i.e., not designated with validly published names (*ICBN*, Arts. 23.1 + 32.1(c); see the *Ixeris* example discussed in the introduction). – [1, 6, 12, 13].

Lepidophorum Neck. ex Cass. in Cuvier, Dict. Sci. Nat. 29: 180, 186. Dec 1823. Type: *Anthemis repanda* L., *L. repandum* (L.) DC.). Notes: *Lepidophorum* is frequently given as published by Candolle (1838), but Cassini is much earlier. The name is based on Necker's (1790) 'species naturalis *Lepidophorum*'. Not only are the various issues of Necker's *Elementa Botanica* now listed among the oppressed works unavailable as sources of generic names, but his 'species naturales' are to be considered as species, so that reference to their descriptions cannot effect the valid publication of subsequent generic names (*ICBN*, Art. 41.2, Art. 20 Note 2, App. VI). Therefore, Cassini's mention of '*Lepidophorum*. Neck.' in a list of genera (l.c., p. 180, where the type element is specified) does not by itself establish the name; but on a later page (p. 186) descriptive matter is present, so that it is validly published there. Some may perhaps have regarded *Lepidophorum* Cass. as a provisional name (*ICBN*, Art. 34.1(b)) on account of Cassini's statement 'ce genre ... n'appartient peut-être pas à la tribu des anthémidées, dans laquelle pourtant nous l'admettons provisoirement et avec doute'. The 'provisional and doubtful acceptance' does not, however, refer to the genus as such but to its tribal placement. – [3, 7, 10].

Lepidophyllum Cass. in Bull. Sci. Soc. Philom. Paris 1816: 199. Dec 1816. Type: *Conyza cupressiformis* Lam. (*L. cupressiforme* (Lam.) Cass. in Cuvier, Dict. Sci. Nat. 26: 37. May

- 1823). Notes: The combination '*Lepidophyllum cupressiforme*' was not published in the generic protologue. – [12].
- Lepiscline* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 31. Feb 1818 [= *Helichrysum* Mill. 1754, nom. cons.]. Type: *Gnaphalium cymosum* L. (*L. cymosa* (L.) Cass. in Cuvier, Dict. Sci. Nat. 26: 49. May 1823, *Helichrysum cymosum* (L.) Less.). – [3].
- Leptinella* Cass. in Bull. Sci. Soc. Philom. Paris 1822: 127. Aug 1822 (≡ *Cotula* sect. *Leptinella* (Cass.) Hook. f.). Type (designated by Lloyd, 1972: 298): *L. scariosa* Cass. (*Cotula scariosa* (Cass.) Franchet).
- Leptophytus* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 11. Jan 1817 (≡ *Leysera* subg. *Leptophytus* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 26: 77. May 1823) [= *Leysera* L. 1763]. Type: *Gnaphalium leyseroides* Desf. (*Leysera leyseroides* (Desf.) Maire). Notes: The combination '*Leptophytus leyseroides*' was not validly published by Cassini: when he proposed it (in Cuvier, Dict. Sci. Nat. 26: 77. May 1823), the species was placed in *Leysera* subg. *Leptophytus* (see the *Ixeris* example discussed in the introduction). – [12].
- Lieberkuhna* Cass. in Cuvier, Dict. Sci. Nat. 26: 286. May 1823 [= *Chaptalia* Vent. 1802]. Type (designated by Pfeiffer, 1871–1875, 2: 111. 1872): *L. bracteata* Cass., nom. illeg. (*Perdium piloselloides* Vahl, *L. piloselloides* (Vahl) Steud., *Chaptalia piloselloides* (Vahl) Baker).
- Ligularia* Cass. in Bull. Sci. Soc. Philom. Paris 1816: 198. Dec 1816, nom. cons. Type: *Cineraria sibirica* (L.) L. (*Othonna sibirica* L., *L. sibirica* (L.) Cass. in Cuvier, Dict. Sci. Nat. 26: 402. May 1823).
- Linosyris* Cass. in Cuvier, Dict. Sci. Nat. 37: (460), 476. Dec 1825 (non Ludw. 1757) [= *Galatella* Cass. 1825]. Type: *Chrysocoma linosyris* L. (*Linosyris vulgaris* DC., *Galatella linosyris* (L.) Rchb. f.). – [11].
- Logfia* Cass. in Bull. Sci. Soc. Philom. Paris 1819: 143. Sep 1819. Type: *Filago gallica* L. (*L. subulata* Cass. in Cuvier, Dict. Sci. Nat. 27: 117. Jun 1823, nom. illeg., *L. gallica* (L.) Coss. & Germ.). Notes: The phrase 'genre ou sous-genre' is used in the protologue, but the included species, it is also said, "différent génériquement du *Gifola*". – [2].
- Lomatolepis* Cass. in Cuvier, Dict. Sci. Nat. 48: 422. Jun 1827 [= *Launaea* Cass. 1822]. Type (designated by Kilian, 1997: 275): *L. glomerata* Cass., nom. illeg. (*Sonchus capitatus* Spreng., *Launaea capitata* (Spreng.) Dandy).
- Lophiolepis* Cass. in Cuvier, Dict. Sci. Nat. 25: 225. 1822 (≡ *Cirsium* subg. *Lophiolepis* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 27: 180. Jun 1823) [= *Cirsium* Mill. 1754]. Type: *Cnicus ciliatus* (Murray) Roth 1799 (non Vitm. 1790) (*Carduus ciliatus* Murray, *L. calocephala* Cass. in Cuvier, Dict. Sci. Nat. 41: 334. Jun 1826, nom. illeg., *Cirsium ciliatum* (Murray) Moench). Notes: Published simultaneously with *Lamyra* Cass., and definitely in the same rank (see discussion of rank questions under the latter name). The illegitimate name *L. calocephala*, and three other binomials under *Lophiolepis*, were first proposed, but not validly published, at the time when Cassini was formally treating *Lophiolepis* at subgeneric level (see discussion of the *Ixeris* example, in the introduction). When he later reverted to granting it generic status, *L. calocephala* was again mentioned and thereby validated, but not the three other binomials. – [3, 12, 13].
- Lopholoma* Cass. in Cuvier, Dict. Sci. Nat. 44: 37. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea scabiosa* L. Notes: The combination '*L. scabiosa*' was not published by Cassini. – [12].
- Loxodon* Cass. in Cuvier, Dict. Sci. Nat. 27: 253. Jun 1823 [= *Chaptalia* Vent. 1802]. Type (designated by Pfeiffer, 1871–1875, 2: 163. 1872): *L. brevipes* Cass., nom. illeg. (*Tussilago exscapa* Pers., *Chaptalia exscapa* (Pers.) Baker).
- Lucilia* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 32. Feb 1817. Type: *Serratula acutifolia* Poir. (*L. acutifolia* (Poir.) Cass. in Cuvier, Dict. Sci. Nat. 27: 264. Jun 1823).
- Lycoseris* Cass. in Cuvier, Dict. Sci. Nat. 33: 463, 474. Dec 1824. Type (Egeröd & Ståhl, 1991: 556: *L. mexicana* (L. f.) Cass. (*Atractylis mexicana* L. f., *Onoseris mexicana* (L. f.) Willd.). Notes: *Lycoseris* appears in a list of genera with a Latin description (p. 463), it is also diagnosed in French (p. 474). – [7].
- Lyonnetia* Cass. in Cuvier, Dict. Sci. Nat. 34: 106. Apr 1825 [= *Anthemis* L. 1753]. Type: *L. pusilla* Cass. [= *Anthemis rigida* Heldr.].
- Macedium* Cass. in Cuvier, Dict. Sci. Nat. 34: 39. Apr 1825. Type: *M. burmannii* ('burmanni') Cass., nom. illeg. (*Xeranthemum spinosum* L., *Dicoma spinosa* (L.) Druce, *M. spinosum* (L.) S. Ortiz).
- Mantisalca* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 142. Sep 1818. Type: *Centaurea salmantica* L. (*M. elegans* Cass. in Cuvier, Dict. Sci. Nat. 29: 81. Dec 1823, nom. illeg., *M. salmantica* (L.) Briq. & Cavill.). Notes: The phrase 'genre ou sous-genre' is used in the protologue. – [2, 6*].
- Marcelia* Cass. in Cuvier, Dict. Sci. Nat. 34: 107. Apr 1825 [= *Chamaemelum* Mill. 1754]. Type: *M. aurea* (L.) Cass. (*Anacyclus aureus* L., *Ormenis nobilis* subsp. *aurea* (L.) Maire) [= *Chamaemelum nobile* (L.) All., *Anthemis nobilis* L.].
- Maruta* (Cass.) Gray, Nat. Arr. Brit. Pl. 2: 456. 1821 (≡ *Anthemis* subg. *Maruta* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 167. Nov 1818) [= *Anthemis* L. 1753]. Type: *Anthemis cotula* L. (*M. foetida* Gray, nom. illeg., *M. cotula* (L.) DC.). Notes: Gray preceded Cassini in treating *Maruta* at generic level,

- and also in publishing the illegitimate name *M. foetida*. Neither name can be attributed to Cassini. – [1, 3, 12].
- Mastigophorus* Cass. in Cuvier, Dict. Sci. Nat. 34: 222. Apr 1825 (≡ *Nassauvia* sect. *Mastigophorus* (Cass.) DC., Prodr. 7: 50. 1838) [= *Nassauvia* Comm. ex Juss. 1789]. Type: *M. gaudichaudii* Cass. (*Nassauvia gaudichaudii* (Cass.) Gaudich. in Ann. Sci. Nat. (Paris) 5: 103. May 1825).
- Mastrucium* Cass. in Cuvier, Dict. Sci. Nat. 35: 173. Oct 1825 [= *Serratula* L. 1753]. Type: *Serratula coronata* L. Notes: The combination '*M. coronatum*' was not published by Cassini. – [12].
- Melanchrysum* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 12. Jan 1817 [= *Gazania* Gaertn. 1791, nom. cons.]. Type: *Gorteria rigens* (L.) L. (*Othonna rigens* L., *M. rigens* (L.) Cass. in Cuvier, Dict. Sci. Nat. 29: 442. Dec 1823, *Gazania rigens* (L.) Gaertn.).
- Melanoloma* Cass. in Cuvier, Dict. Sci. Nat. 29: 472. Dec 1823 [= *Centaurea* L. 1753, nom. cons.]. Type (designated by Pfeiffer, 1871–1875, 2: 258. 1872): *M. humile* ('humilis') Cass., nom. illeg. (*Centaurea pullata* L.).
- Meratia* Cass. in Cuvier, Dict. Sci. Nat. 30: 65. May 1824, nom. illeg. (non Lois. 1818, nom. rej.) (≡ *Delilia* Spreng. in Bull. Sci. Soc. Philom. Paris 1823: 54. 1823). Type: *M. sprengelii* Cass., nom. illeg. (*Delilia berteroi* ('berterii') Spreng.) [= *Delilia biflora* (L.) Kuntze, *Milleria biflora* L.]. Notes: Cassini rejected Sprengel's name *Delilia* because he did not accept that two genera be named for the same person. Today the criterion for rejection (ICBN, Art. 53.3) is not identical meaning of names but confusing similarity, and *Delilia* does not by any standard qualify as confusingly similar to *Lilaea* Bonpl. 1808. – [11].
- Mesocentron* Cass. in Cuvier, Dict. Sci. Nat. 44: 38. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea eriophora* L. Notes: The combination '*M. eriophorum*' was not published by Cassini. – [12].
- Meteorina* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 167. Nov 1818 (≡ *Dimorphotheca* Moench, Methodus: 585. 1794, nom. cons., homotypic by conservation). Type: *Calendula pluvialis* L. (*Meteorina gracilipes* Cass. in Cuvier, Dict. Sci. Nat. 30: 320. May 1824, nom. illeg., *Dimorphotheca pluvialis* (L.) Moench).
- ["*Microgyne*"] Cass. in Cuvier, Dict. Sci. Nat. 50: 493. Nov 1827, nom. inval. Notes: This is one of five alternative names suggested, but not adopted, by Cassini for his newly described genus *Cryptogyne* Cass. It is listed as a valid name in *IK*.] – [5].
- ["*Microlonchus*"] Cass. in Cuvier, Dict. Sci. Nat. 44: 35, 38. Dec 1826, nom. inval. Notes: Proposed as an alternative designation for *Mantisalca* Cass. (q.v.), but never clearly accepted in preference to that earlier, legitimate name. On the contrary, Cassini in his subsequent writings often uses *Mantisalca* alone, or else, only in parenthesis. Contrary to *IK*, *GCI*, *ING* and *TROPICOS*, we consider '*Microlonchus* Cass.' as not validly published. It was later adopted by Candolle (1838: 562) and is to be cited as *Microlonchus* DC., nom. illeg.] – [3, 5].
- Microlophus* Cass. in Cuvier, Dict. Sci. Nat. 44: 37. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea alata* Lam. (*M. alatus* (Lam.) Cass. in Cuvier, Dict. Sci. Nat. 54: 491. Apr 1829 [= *Centaurea behen* L.]).
- Millina* Cass. in Cuvier, Dict. Sci. Nat. 31: 89. Aug 1824 [= *Scorzonerooides* Moench 1794]. Type: *M. leontodontoides* Cass. [*Scorzonerooides cichoriacea* (Ten.) Greuter, *Apargia cichoriacea* Ten., *Leontodon cichoriaceus* (Ten.) Sanguin.].
- Millotia* Cass. in Ann. Sci. Nat. (Paris) 17: 416. Aug 1829. Type: *M. tenuifolia* Cass.
- Molpadia* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 23: 565. Nov 1822 (≡ *Bupthalmum* subg. *Molpadia* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 166. Nov 1818) [= *Telekia* Baumg. 1816]. Type: *Bupthalmum cordifolium* Waldst. & Kit. (*M. suaveolens* Cass. in Cuvier, Dict. Sci. Nat. 32: 401. 1824, nom. illeg.) [= *Telekia speciosa* (Schreb.) Baumg., *Bupthalmum speciosum* Schreb.]. – [1, 3].
- Monarrhenus* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 31. Feb 1817. Type (not in protologue; designated by Cassini, 1818c: 77): *Conyza salicifolia* Lam. 1786 (non Mill. 1768) (*M. salicifolius* Cass. in Cuvier, Dict. Sci. Nat. 32: 434. Nov 1824). – [13].
- Monochlaena* Cass. in Cuvier, Dict. Sci. Nat. 50: 496. Nov 1827 [= *Eriocephalus* L. 1753]. Type: *Eriocephalus racemosus* L. Notes: The combination '*M. racemosa*' was not published by Cassini. – [12].
- Monophalacrus* Cass. in Cuvier, Dict. Sci. Nat. 53: 235. May 1828 [= *Tessaria* Ruiz & Pav. 1794]. Type: as for *Phalacromesius*. Notes: Subsequently abandoned in favour of the alternative name *Phalacromesius*, not mentioned again in Cassini's later articles. – [4].
- Morysia* Cass. in Cuvier, Dict. Sci. Nat. 33: 59. Dec 1824 [= *Athanasia* L. 1763]. Type: *M. diversifolia* Cass., nom. illeg. (*Santolina dentata* L., *Athanasia dentata* (L.) L., *M. dentata* (L.) DC.). Notes: The similar (but not confusingly so), later *Morisia* Gay 1832 is currently used for a genus of *Cruciferae*.
- Mulgedium* Cass. in Cuvier, Dict. Sci. Nat. 33: 296. Dec 1824 [= *Lactuca* L. 1753]. Type (designated here): *M. runcinatum* Cass. [= *Lactuca tatarica* (L.) C.A. Mey., *Sonchus*

- tataricus* L., *M. tataricum* (L.) DC.]. Notes: Cassini includes three validly named new species in his new genus: *M. runcinatum*, *M. lyratum* and *M. integrifolium*. Under each, an earlier synonym is listed, but only with doubt, so that its type is not definitely included. As a result, only the three new, legitimate binomials but not their doubtful synonyms are available for typification purposes. Pfeiffer (1871–1875, 2: 369. 1873) gives the type as ‘*Sonchus tataricus* L.?’ which looks like an intended reference to ‘An? *Sonchus tataricus*, Linn.’, cited by Cassini under *M. runcinatum*, but does not in our opinion effect designation of *M. runcinatum* as type. Kirpičnikov (in Komarov 1964: 278) designates *Sonchus tataricus* L. as type, but this is not an available element. – [13].
- Munychia* Cass. in Cuvier, Dict. Sci. Nat. 37: (462), 483. Dec 1825 [= *Felicia* Cass. 1818, nom. cons.]. Type: *Felicia brachyglossa* Cass. in Cuvier, Dict. Sci. Nat. 25: 97. Nov 1822, nom. illeg. (*Aster cymbalariae* Aiton, *M. cymbalariae* (Aiton) Nees, *Felicia cymbalariae* (Aiton) Bolus & Wolley-Dod). – [7].
- Mycelis* Cass. in Cuvier, Dict. Sci. Nat. 33: 483. Dec 1824 [= *Lactuca* L. 1753]. Type: *M. angulosa* Cass., nom. illeg. (*Prenanthes muralis* L., *M. muralis* (L.) Dumort., *Lactuca muralis* (L.) Gaertn.).
- Myriadenus* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 138. Sep 1817 (non Desv. 1813) (= *Chiliadenus* Cass. in Cuvier, Dict. Sci. Nat. 34: 34. Apr 1825). Type (designated by ING Staff, Washington, in ING card No. 31959. 1970): *Erigeron glutinosus* (‘*glutinosum*’) L. (*Chiliadenus camphoratus* Cass. in Cuvier, Dict. Sci. Nat. 34: 35. Apr 1825, nom. illeg., *Chiliadenus glutinosus* (L.) Fourr.). Notes: Cassini, in the protologue, writes: ‘... type l’*erigeron glutinosum* de Linné, ou *inula saxatilis* de Lamarck’. In other words, as the use of a comma indicates, he accepts a single species, *Erigeron glutinosus* L., with synonym *Inula saxatilis* Lam. Nevertheless, a choice is possible, because the two names are heterotypic. The combination ‘*M. glutinosus*’ was not published by Cassini. – [12].
- Myscolus* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 25: 60. Nov 1822 (= *Scolymus* subg. *Myscolus* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 33. Mar 1818) [= *Scolymus* L. 1753]. Type: *Scolymus hispanicus* L. (*Scolymus gymnospermus* Gaertn., nom. illeg., *M. microcephalus* Cass. in Cuvier, Dict. Sci. Nat. 34: 85. Apr 1825, nom. illeg., *M. hispanicus* (L.) Endl.). Notes: ING gives the type as ‘non designatus’, perhaps through failure to recognise that the two names Cassini lists in the subgeneric protologue for the single included species are homotypic. – [1, 3, 13].
- Nabalus* Cass. in Cuvier, Dict. Sci. Nat. 34: 94. Apr 1825. Type (designated by Britton & Brown, 1913, 3: 334): *N. trifoliolatus* Cass. (*Prenanthes trifoliolata* (Cass.) Fernald). Notes: Pfeiffer (1871–1875, 2: 404. 1873) designates *Prenanthes alba* [L.] as type, but this is not available for typification purposes, because Cassini included it only doubtfully (in the synonymy of *N. integrifolius*).
- Nablonium* Cass. in Cuvier, Dict. Sci. Nat. 34: 101. Apr 1825 [= *Ammobium* R. Br. 1824]. Type: *N. calyceroides* Cass. (*Ammobium calyceroides* (Cass.) Anderb.).
- Nardosmia* Cass. in Cuvier, Dict. Sci. Nat. 34: 186. Apr 1825 [= *Petasites* Mill. 1754]. Type (designated by Pfeiffer, 1871–1875, 2: 412. 1873): *N. denticulata* Cass., nom. illeg. (*Tussilago fragrans* Vill., *N. fragrans* (Vill.) Rchb., *Petasites fragrans* (Vill.) C. Presl) [= *Petasites pyrenaicus* (L.) G. López, *Tussilago pyrenaica* L.].
- Narvalina* Cass. in Cuvier, Dict. Sci. Nat. 38: 17. Dec 1825 (= *Needhamia* Cass. Apr 1825, non Scop. 1777, nom. rej.). Type: *Needhamia domingensis* Cass. (*Narvalina domingensis* (Cass.) Less.). – [8].
- Nauplius* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 23: 566. Nov 1822 (= *Bupthalmum* subg. *Nauplius* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 166. Nov 1818 = *Asteriscus* Mill., Gard. Dict. Abr., ed. 4: [152]. 1754, homotypic by type designation). Type: *Bupthalmum aquaticum* L. (*N. aquaticus* (L.) Cass. in Cuvier, Dict. Sci. Nat. 34: 273. Apr 1825, *Asteriscus aquaticus* (L.) Less.). – [1, 6].
- Needhamia* Cass. in Cuvier, Dict. Sci. Nat. 34: 335. Apr 1825 (non Scop. 1777, nom. rej.) (= *Narvalina* Cass. Dec 1825). Type: as for *Narvalina*. – [11].
- Nemauchenus* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 77. May 1818 [= *Crepis* L. 1753]. Type: *N. ambigua* Cass. (*N. inermis* Cass. in Cuvier, Dict. Sci. Nat. 34: 363. Apr 1825, nom. illeg.) [= *N. aculeata* Cass. in Cuvier, Dict. Sci. Nat. 34: 362. Apr 1825, nom. illeg., *Crepis aspera* L., *N. aspera* (L.) Endl.].
- Neoceis* Cass. in Bull. Sci. Soc. Philom. Paris 1820: 90. Jun 1820 [= *Erechtites* Raf. 1817]. Type (designated by Pfeiffer, 1871–1875, 2: 428. 1873): *N. hieracifolia* (‘*hieracifolia*’) (L.) Cass. (*Senecio hieracifolius* (‘*hieracifolius*’) L., *Erechtites hieracifolius* (‘*hieracifolia*’) (L.) Raf. ex DC.).
- Neuractis* Cass. in Cuvier, Dict. Sci. Nat. 34: 496. Apr 1825 [= *Glossocardia* Cass. 1817]. Type: *N. leschenaultii* Cass. (*Glossocardia leschenaultii* (Cass.) Veldkamp).
- Nidorella* Cass. in Cuvier, Dict. Sci. Nat. 37: (459), 469. Dec 1825. Type: *N. foliosa* Cass., nom. illeg. (*Inula foetida* L., *Erigeron foetidus* (L.) L., *N. foetida* (L.) DC.). Notes: First mentioned in a synopsis lacking validating elements formally described on p. 469. – [6*, 7].
- Nitelium* Cass. in Cuvier, Dict. Sci. Nat. 35: 11. Oct 1825 [= *Macleodium* Cass. 1825]. Type: *N. rubescens* Cass. [=

- Xeranthemum spinosum* L., *Dicoma spinosa* (L.) Druce, *Macleodium spinosum* (L.) S. Ortiz].
- Nolletia** Cass. in Cuvier, Dict. Sci. Nat. 37: (461), 479. Dec 1825. Type: *Conyza chrysocomoides* Desf. (*N. chrysocomoides* (Desf.) Less.). Notes: The combination '*N. chrysocomoides*' was not published by Cassini. – [7, 12].
- Nothites** Cass. in Cuvier, Dict. Sci. Nat. 35: 163. Oct 1825 [= *Stevia* Cav. 1797]. Type (designated by Pfeiffer, 1871–1875, 2: 457. 1873): *N. latifolius* ('*latifolia*') Cass., nom. illeg. (*Eupatorium melissifolium* ('*melissaefolium*') Lam., *N. melissifolius* ('*melissaefolia*') (Lam.) DC., *Stevia melissifolia* (Lam.) Sch. Bip.).
- Notobasis** Cass. in Cuvier, Dict. Sci. Nat. 25: 225. Nov 1822. Type: *Carduus syriacus* L. (*N. syriaca* (L.) Cass. in Cuvier, Dict. Sci. Nat. 35: 171. Oct 1825). Notes: Published simultaneously with *Lamyra* Cass., and definitely in the same rank (see discussion of rank questions under the latter name): '*Cirsium* subg. *Notobasis*', cited from there in *ING*, is an artifact. The combination '*N. syriaca*' was not published in the generic protologue. – [3, 12].
- Obaejaca** (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 35: 270. Oct 1825 (= *Jacobaea* subg. *Obaejaca* Cass. in Cuvier, Dict. Sci. Nat. 24: 113. Aug 1822) [= *Senecio* L. 1753]. Type (not explicit in protologue, designated by Pfeiffer, 1871–1875, 2: 466. 1873): *O. viscosa* (L.) Cass. in Cuvier, Dict. Sci. Nat. 35: 270. Oct 1825 (*Senecio viscosus* L.). Notes: When raising his erstwhile subgenus to generic rank, Cassini still uses the phrase 'genre ou sous-genre', but no longer formally subordinates the taxon to *Senecio*, placing it between the genera *Senecio* and *Jacobaea* instead. Citation of the basionym is regularly omitted. – [1, 2, 6].
- Obeliscaria** Cass. in Cuvier, Dict. Sci. Nat. 35: 272. Oct 1825, nom. illeg. (= *Obelisteca* Raf., Fl. Ludov.: 73. 1817) [= *Ratibida* Raf. 1817]. Type: *O. pinnata* (Vent.) Cass. (*Rudbeckia pinnata* Vent., *Ratibida pinnata* (Vent.) Barnhart). Notes: The phrase 'genre ou sous-genre' is used in the protologue, but the taxon is not formally subordinated to *Rudbeckia*. – [2, 11].
- Odontolophus** Cass. in Cuvier, Dict. Sci. Nat. 50: 252. Nov 1827 [= *Psephellus* Cass. 1826]. Type: *O. cyanooides* Cass., nom. illeg. (*Centaurea trinervia* Stephan ex Willd., *O. trinervius* (Stephan ex Willd.) Dobroc., *Psephellus trinervius* (Stephan ex Willd.) Wagenitz).
- Odontoptera** Cass. in Cuvier, Dict. Sci. Nat. 35: 396. Oct 1825 [= *Arctotis* L. 1753]. Type: *Arctotis sulphurea* Gaertn. [= *Arctotis* sp.]. Notes: *ING* gives an erroneous type, *Arctotis hypochondriaca* Willd. The combination '*O. sulphurea*' was not published by Cassini. – [12, 13].
- Ogcerostylus** Cass. in Cuvier, Dict. Sci. Nat. 49: 221, 224. Sep 1827, nom. illeg. (= *Siloxerus* Labill., Nov. Holl. Pl. 2: 57. 1806, nom. rej. vs. *Angianthus* J.C. Wendl. 1808). Type: *Siloxerus humifusus* Labill. Notes: *ING* misspells the name '*Ogcerostylis*'. It was published as an alternative to *Siloxerus* Labill. and is therefore illegitimate. Although on p. 223 Cassini uses *Siloxerus* alone and appears to accept it, in the following generic synopsis (p. 224) he places it second to *Ogcerostylus*, and on p. 221 he writes 'il nous semble que... le nom [*Siloxerus*] devrait être *Ogcerostylus*'. We therefore take it that Cassini's intent is to reject *Siloxerus*, considering it to be etymologically incorrect, and this assumption is confirmed by Cassini's later (in Cuvier, Dict. Sci. Nat. 60: 580. Jun 1830) mentioning it only parenthetically. The combination '*O. humifusus*' was not published by Cassini. – [6, 10, 11, 12].
- Ogiera** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 32. Feb 1818 [= *Eleutheranthera* Poit. 1802]. Type: *O. triplinervis* Cass. [= *Eleutheranthera ruderalis* (Sw.) Sch. Bip., *Melampodium ruderale* Sw., nom. cons. des.]. Notes: The typonym is sometimes mistakenly cited from a later place of publication (in Cuvier, Dict. Sci. Nat. 35: 445. 1825) and with an incorrect spelling ('*triplinervia*'). – [6, 12].
- Oglifa** (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 23: 564. Nov 1822 (= *Gnaphalium* subg. *Oglifa* Cass. in Bull. Sci. Soc. Philom. Paris 1819: 143. Sep 1819) [= *Filago* L. 1753]. Type: *Gnaphalium arvense* L., nom. altern. (*Filago arvensis* L., nom. altern., *O. arvensis* (L.) Cass. in Cuvier, Dict. Sci. Nat. 35: 448. Oct 1825). Notes: *ING* misquotes the basionym as '*Filago* subg. *Oglifa*' (Linnaeus's *Filago* species were the subject of the article in which the subgenus was proposed). Cassini's assessment of *F. arvensis* essentially reads: 'se rapproche beaucoup des vrais *Gnaphalium*, ... mais elle en differe ... Ces différences suffisent, selon moi, pour autoriser la proposition du sous-genre suivant.' Many sources, including *Index Kewensis*, consider *Gnaphalium arvense* L. as not validly published, but this results from a misinterpretation of the Linnaean protologue, in which both names are accepted as alternatives (see Greuter in Greuter & Rechinger, 1967: 137). – [1, 6*].
- Oligactis** (Kunth) Cass. in Cuvier, Dict. Sci. Nat. 36: 16. Oct 1825 (= *Andromachia* [sect.] *Oligactis* Kunth in Humboldt & al., Nov. Gen. Sp. 4, ed. f°: 79. 1818. Type (designated by Robinson & Brettell, 1974: 57): *Andromachia volubilis* Kunth (*O. volubilis* (Kunth) Cass.). Notes: We list the designated type with some reservation, because *A. volubilis* was considered by Kunth as a doubtful member of the genus ('An vere hujus generis?'), and therefore of the section. It is questionable whether an element included in a taxon with doubt is available for selection as the type of its name. – [1, 6].
- [*Oligaerion*], Cass. in Cuvier, Dict. Sci. Nat. 2 (suppl.): 75. Oct 1816, nom. nud. [*Sphenogyne* R. Br. 1813]. Notes: The name appears in a generic synopsis of *Anthemideae*, without

description, but as Cassini later explains (in Cuvier, Dict. Sci. Nat. 29: 187. Dec 1823), he noticed its synonymy with *Sphenogyne* before he came to validate it.] – [6].

Oliganthes Cass. in Bull. Sci. Soc. Philom. Paris 1817: 10. Jan 1817. Type (not in protologue; designated by Cassini, 1818b: 57): *O. triflora* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 58. Apr 1818. Notes: The type designation is found in the title of Cassini's 1818 paper, which reads 'Description de quatre plantes servant de types ...'.

Oligocarpha Cass. in Bull. Sci. Soc. Philom. Paris 1817: 151. Sep 1817, nom. illeg. (≡ *Brachylaena* R. Br. in Trans. Linn. Soc. London 12: 115. ante Sep 1817). Type: *Conyza neriifolia* (L.) Desf., Tabl. Ecole Bot.: 97. 1804 (*O. neriifolia* (L.) Cass. in Cuvier, Dict. Sci. Nat. 36: 22. Oct 1825 (*Baccharis neriifolia* L., *Brachylaena neriifolia* ('neriifolia') (L.) R. Br. ex Less.)). Notes: The combination *Conyza neriifolia* Desf., cited by Cassini as the type, has so far been by and large ignored. It was validly published as an alternative name. The epithet of the typonym is often misspelt '*neriifolia*', a spelling that already appears in Brown's generic protologue. – [6, 11].

Oligosporus Cass. in Bull. Sci. Soc. Philom. Paris 1817: 33. Feb 1817 [= *Artemisia* L. 1753]. Type: *Artemisia campestris* L. (*O. campestris* (L.) Cass. in Cuvier, Dict. Sci. Nat. 36: 25. Oct 1825). Notes: The name first appears, as a nomen nudum, in Cuvier, Dict. Sci. Nat. 2 (Suppl.): 75. Oct 1816. The phrase 'genre ou sous-genre' is used in the protologue, with no definite statement as to what genus the subgenus would belong to. *ING* treats the name as typified by Pfeiffer (1871–1875), on the grounds that Cassini in the protologue includes several *Artemisia* species in his genus; however, only one of them, *A. campestris*, is mentioned by name. The combination '*O. campestris*' was not published in the generic protologue. – [2, 12, 13].

Omalocline Cass. in Cuvier, Dict. Sci. Nat. 48: 431. Jun 1827 [= *Crepis* L. 1753]. Type: *Hieracium prunellifolium* ('*prunellaefolium*') Gouan, nom. illeg. (*Crepis pygmaea* L., *O. pygmaea* (L.) Rchb. f.). Notes: The combination '*O. prunellifolia*' was not published by Cassini. – [12].

Omalotheca Cass. in Cuvier, Dict. Sci. Nat. 56: 218. Sep 1828 [= *Gnaphalium* L. 1753]. Type: *Gnaphalium supinum* L. (*O. supina* (L.) DC.). Notes: The phrase 'genre ou sous-genre' is used the protologue, but as mentioned on p. 218, *Omalotheca* is one of six 'nouveaux genres' described in that article. The combination '*O. supina*' was not published by Cassini. – [2, 12].

Onotrophe Cass. in Cuvier, Dict. Sci. Nat. 36: 145. Oct 1825 [= *Cirsium* Mill. 1754]. Type (designated here): *O. oleracea* (L.) Cass. (*Cnicus oleraceus* L., *Cirsium oleraceum* (L.) Scop.). Notes: The name also appears, as a nomen nudum, in Cuvier, Dict. Sci. Nat. 35: 172. Oct 1825. According to

protologue information the genus consists of two sections and numerous species; only three of the latter are mentioned by name.

Ormenis (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 29: 180, 185. Dec 1823 (≡ *Anthemis* subg. *Ormenis* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 167. Nov 1818) [= *Cladanthus* Cass. 1816]. Type: *Anthemis mixta* L. (*O. bicolor* Cass. in Cuvier, Dict. Sci. Nat. 36: 356. Oct 1825, nom. illeg., *O. mixta* (L.) Dumort., *Cladanthus mixtus* (L.) Chevall.). – [1, 6].

Orthocentron (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 35: 173. Oct 1825 (≡ *Cirsium* subg. *Orthocentron* Cass. in Cuvier, Dict. Sci. Nat. 27: 184. 1823) [= *Cirsium* Mill. 1754]. Type: *Cnicus pungens* Willd. (*Cirsium pungens* (Willd.) Spreng., *O. glomeratum* Cass. in Cuvier, Dict. Sci. Nat. 36: 481. Oct 1825, nom. illeg.) [= *Cirsium creticum* (Lam.) d'Urv., *Carduus creticus* Lam.]. – [1, 3].

Osmitopsis Cass. in Bull. Sci. Soc. Philom. Paris 1817: 154. Oct 1817. Type: *Osmites asteriscoides* L. ex P.J. Bergius (*Osmitopsis asteriscoides* (L. ex P.J. Bergius) Less.). Notes: The phrase 'genre ou sous-genre' is used in the protologue, but further down on the same page the taxon is referred to as "Ce genre". The combination '*Osmitopsis asteriscoides*' was not published by Cassini. – [2, 3, 12].

Oswalda Cass. in Cuvier, Dict. Sci. Nat. 59: (319), 322. Jun 1829 [= *Clibadium* F. Allam. ex L. 1771]. Type: *O. baillierioides* Cass. [= *Clibadium surinamense* L.]. – [7].

Pachyderis Cass. in Cuvier, Dict. Sci. Nat. 56: 170. Sep 1828 (≡ *Pteronia* sect. *Pachyderis* (Cass.) DC., Prodr. 5: 360. 1836) [= *Pteronia* L. 1763, nom. cons.]. Type: *Pachyderis obtusifolia* Cass. [= *Pteronia* sp.].

Pacourinopsis Cass. in Bull. Sci. Soc. Philom. Paris 1817: 151. Sep 1817 [= *Pacourina* Aubl. 1775]. Type (not in protologue; designated by Pfeiffer (1871–1875, 2: 565. 1873): *Pacourina cirsiifolia* Kunth (*Pacourinopsis dentata* Cass. in Cuvier, Dict. Sci. Nat. 37: 213. Dec 1825, nom. illeg.) [= *Pacourina edulis* Aubl.]. Notes: The logical choice of type would have been *Pacourinopsis integrifolia* Cass. (in Cuvier, Dict. Sci. Nat. 37: 213. Dec 1825), because its type is the single specimen on which the original generic description is based. However Pfeiffer's designation can only be challenged if it can be shown that Kunth's type of *Pacourina cirsiifolia* and Cassini's of *Pacourinopsis integrifolia* belong to different species. Currently, both are assigned to *Pacourina edulis*, the single species of Aublet's genus. The combinations '*Pacourinopsis dentata*' and '*Pacourinopsis integrifolia*' were not published in the generic protologue. – [3, 6, 12].

Paleolaria Cass. in Bull. Sci. Soc. Philom. Paris 1816: 198. Dec 1816 [= *Palafoxia* Lag. 1816]. Type (not in protologue;

- designated by Cassini, 1818a: 47): *Paleolaria carnea* Cass in Bull. Sci. Soc. Philom. Paris 1818: 47. Mar 1818 [= *Palafoxia linearis* (Cav.) Lag., *Ageratum lineare* Cav.]. Notes: The type designation is found in the title of Cassini's 1818 paper, which reads 'Description de trois plantes servant de types ...'. The combination '*Paleolaria carnea*' was not published in the generic protologue. – [12].
- Paleyia* Cass. in Cuvier, Dict. Sci. Nat. 39: 393. Apr 1826 [= *Crepis* L. 1753]. Type: *Crepis albida* Vill. Notes: The combination '*P. albida*' was not published by Cassini. – [12].
- Pallenis* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 23: 566. Nov 1822, nom. cons. (≡ *Bupthalmum* subg. *Pallenis* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 166. Nov 1818. Type: *Bupthalmum spinosum* L. (*P. spinosa* (L.) Cass. in Cuvier, Dict. Sci. Nat. 37: 276. Dec 1825). Notes: The *ING* entry for this name is correct, but not the one in other sources, including App. III of the *ICBN*, which omit the basionym reference, some citing the generic name from the place of publication of the basionym. – [1, 3, 6].
- Panaetia* Cass. in Ann. Sci. Nat. (Paris) 17: (405), 417. Aug 1829 [= *Podolepis* Labill. 1806]. Type: *Panaetia lessonii* Cass. (*Podolepis lessonii* (Cass.) Benth.). – [3, 7].
- Paquerina* Cass. in Cuvier, Dict. Sci. Nat. 37: (464), 492. Dec 1825 (≡ *Bellis* sect. *Paquerina* (Cass.) Kuntze in Post & Kuntze, Lex. Gen. Phan.: 64. 1903 [= *Bellis* L. 1753]. Type: *Bellis graminea* Labill. (*P. graminea* (Labill.) Cass. ex Less.). Notes: The name is also mentioned in a generic synopsis but without associated validating elements. The combination '*P. graminea*' was not published by Cassini. – [7, 12].
- Pectinastrum* Cass. in Cuvier, Dict. Sci. Nat. 44: 38. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea napiifolia* L. (*P. napiifolium* (L.) Cass. in Cuvier, Dict. Sci. Nat. 48: 501. Jun 1827). Notes: The combination '*P. napiifolium*' was not published in the generic protologue. – [12].
- Pegolettia* Cass. in Cuvier, Dict. Sci. Nat. 38: 230. Dec 1825. Type: *P. senegalensis* Cass.
- Pentacalia* Cass. in Cuvier, Dict. Sci. Nat. 48: (449), 461, (466). Jun 1827. Type: *Cacalia arborea* Kunth (*P. arborea* (Kunth) H. Rob. & Cuatrec.). Notes: The phrase 'genre ou sous-genre' is used in the protologue but not in the generic synopses. The combination '*P. arborea*' was not published by Cassini. – [2, 7, 12].
- Pentanema* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 74. May 1818. Type: *P. divaricatum* ('*divaricata*') Cass.
- Pericalia* Cass. in Cuvier, Dict. Sci. Nat. 48: (448), 459. Jun 1827 [= *Roldana* La Llave 1825]. Type: *Cacalia cordifolia* Kunth 1818 (non L. f. 1782) [= *Roldana sessilifolia* (Hook. & Arn.) H. Rob. & Brettell, *Cacalia sessilifolia* Hook. & Arn.]. Notes: The phrase 'genre ou sous-genre' appears in the protologue, and conditional mood is used in text ('pourroit être nommé *Pericalia*'), but the genus is unconditionally accepted as such in the preceding synopsis. The combination '*P. cordifolia*' was not published by Cassini. – [2, 7, 12].
- Perotriche* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 75. May 1818 [= *Stoebe* L. 1753]. Type: *P. tortilis* Cass. [= *Stoebe capitata* P.J. Bergius].
- Petalolepis* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 138. Sep 1817 [= *Ozothamnus* R. Br. 1817 (ante Sep)]. Type (designated by Pfeiffer, 1871–1875, 2: 646. 1873): *Eupatorium ferrugineum* Labill. (*P. ferruginea* (Labill.) Cass. in Cuvier, Dict. Sci. Nat. 39: 195. Apr 1826, *Helichrysum dendroideum* N.A. Wakef., *Ozothamnus ferrugineus* (Labill.) Sweet). – [6].
- Phaecasium* Cass. in Cuvier, Dict. Sci. Nat. 39: 387. Apr 1826 [= *Crepis* L. 1753]. Type: *P. lampsanoides* Cass., nom. illeg. (*Crepis pulchra* L., *P. pulchrum* (L.) Rchb. f.).
- Phaenioxopus* Cass. in Cuvier, Dict. Sci. Nat. 39: 391. Apr 1826 (≡ *Scariola* F.W. Schmidt in Samml. Phys.-Ökon. Aufsätze 1: 270. 1795, homotypic by type designation) [= *Lactuca* L. 1753]. Type (designated by Pfeiffer, 1871–1875, 2: 659. 1873): *Phaenioxopus decurrens* Cass., nom. illeg. (*Prenanthes viminea* L., *Phaenioxopus vimineus* (L.) Rchb., *Lactuca viminea* (L.) J. Presl & C. Presl). Notes: One often finds the name misspelt '*Phoenixopus*', a spelling that apparently results from a misinterpretation of its etymology. As explained by Cassini (l.c.), *Phaenioxopus* means 'with an apparently sticky foot' and has no relation with *phoenix* (either the mythical bird or the date palm). – [6].
- Phaenopoda* Cass. in Cuvier, Dict. Sci. Nat. 42: 84. Aug 1826, nom. illeg. (≡ *Podosperma* Labill., Nov. Holl. Pl. 2: 35. 1806, nom. rej. ≡ *Podotheca* Cass. in Cuvier, Dict. Sci. Nat. 23: 561. Nov 1822, nom. cons.). Type: see under *Podotheca*.
- Phagnalon* Cass. in Bull. Sci. Soc. Philom. Paris 1819: 174. Nov 1819. Type (designated by Pfeiffer, 1871–1875, 2: 660. 1873): *P. saxatile* (L.) Cass. (*Conyza saxatilis* L.). – [13].
- Phalacroloma* Cass. in Cuvier, Dict. Sci. Nat. 39: 404. Apr 1826 [= *Erigeron* L. 1753]. Type (designated by *ING* Staff, Washington, in *ING* card No. 32775. 1971): *P. obtusifolium* ('*obtusifolia*') Cass. [?= *Erigeron hyssopifolius* Michx.]. Notes: The second type element included in the protologue, *P. acutifolium* ('*acutifolia*') Cass., nom. illeg. (*Aster annuus* L., *P. annuum* (L.) Dumort.), was transferred to *Phalacroloma* from *Stenactis* Cass. (q.v.) but was designated eventually as the type of the latter name.
- Phalacromesus* Cass. in Cuvier, Dict. Sci. Nat. 53: 235. May 1828 [= *Tessaria* Ruiz & Pav. 1794]. Type: *Conyza riparia*

- Kunth [= *Tessaria integrifolia* Ruiz & Pav.]. Notes: The alternative name *Monophalacrus* Cass., published in the same place, was abandoned by Cassini in his later articles, in which he accepted *Phalacromesus* alone. The protologue just fulfils minimum standards for valid publication. The diagnosis is rudimentary ('fleur centrale privée d'aigrette'), conditional mood is used in conjunction with doubt as to rank ('pourrait constituer un nouveau genre ou sous-genre'), and only the final phrase clarifies that Cassini does accept the genus as such ('ce genre, que nous hazardons de proposer'). The combination '*P. riparius*' was not published by Cassini. – [4, 10, 12].
- Phalolepis* Cass. in Cuvier, Dict. Sci. Nat. 50: 248. Nov 1827 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea splendens* L., nom. confus. [*Centaurea margaritacea* Ten.]. Notes: The combination '*P. splendens*' was not published by Cassini. – [6, 12].
- Philostizus* Cass. in Cuvier, Dict. Sci. Nat. 39: 498. Apr 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *P. fontanesianus* Cass., nom. illeg. (*Centaurea ferox* Desf.).
- Pinardia* Cass. in Cuvier, Dict. Sci. Nat. 41: 38. Jun 1826 [= *Heteranthemis* Schott 1818]. Type: *P. anisocephala* Cass. [= *Heteranthemis viscidhirta* Schott].
- Pingraea* Cass. in Cuvier, Dict. Sci. Nat. 41: 57. Jun 1826 [= *Baccharis* L. 1753, nom. cons.]. Type: *P. angustifolia* Cass. (*Baccharis angustifolia* (Cass.) Desf. 1829, non Michx. 1803, *Baccharis pingraea* DC.) [= *Baccharis glutinosa* Pers.].
- Piptoceras* Cass. in Cuvier, Dict. Sci. Nat. 54: 487. Apr 1829 [= *Centaurea* L. 1753, nom. cons.]. Type (designated here): *P. behen* (L.) Cass. (*Centaurea behen* L.). Notes: '*Piptoceras*' first appears as a nomen nudum (in Cuvier Dict. Sci. Nat. 50: 469. Nov 1827), and is often erroneously cited from there. – [3, 6].
- Piptocoma* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 10. Jan 1817. Type (not in protologue; designated by Cassini, 1818b: 57): *P. rufescens* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 58. Apr 1818. Notes: The type designation is found in the title of Cassini's 1818 paper, which reads 'Description de quatre plantes servant de types ...'. '*Piptocoma* Less.' (in *Linnaea* 4: 315. 1829) is not a new name but an isonym. The combination '*P. rufescens*' was not published in the generic protologue. – [3, 12].
- Piptopogon* Cass. in Cuvier, Dict. Sci. Nat. 48: (422), 434, 507. Jun 1827 [= *Hypochoeris* L. 1753]. Type: *P. decipiens* Cass. [= *Seriola laevigata* L., *P. laevigatus* ('*laevigatum*') (L.) Sch. Bip., *Hypochoeris laevigata* (L.) Ces. & al.]. Notes: Cassini's statement (p. 434) 'fondé sur la *seriola laevigata*, Desf.' is significant. It shows that Cassini bases this new genus and species on Desfontaine's N African plant but does not mean to include the type of *Seriola laevigata* L., erroneously described as an annual plant growing in Crete. – [13].
- Pithosillum* Cass. in Cuvier, Dict. Sci. Nat. 41: 164. Jun 1826 [= *Emilia* Cass. 1817]. Type: *P. lyratum* Cass. (*Senecio pithosillum* DC., *Emilia lyrata* (Cass.) C. Jeffrey).
- Platycheilus* Cass. in Cuvier, Dict. Sci. Nat. 34: 206, 212. Apr 1825, nom. illeg. (≡ *Holocheilus* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 73. May 1818). Type: as for *Holocheilus*. Notes: Cassini came to reject his earlier name for the same genus because it resulted from an error of observation. In addition to the illegitimate replacement name he tentatively offered two alternatives, '*Homocheilus*' and '*Orthocheilus*'; but as he does not definitely adopt either or both of them, we consider them not to be validly published, without listing them formally. – [11].
- Platylophus* Cass. in Cuvier, Dict. Sci. Nat. 44: 36. Dec 1826, nom. rej. vs. *Platylophus* D. Don 1830 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea nigra* L.
- Platyraphium* Cass. in Cuvier, Dict. Sci. Nat. 35: 173. Oct 1825 [= *Ptilostemon* Cass. 1816]. Type: *Carduus diacantha* Labill. (*Platyraphium billardieri* ('*billardieri*') Cass. in Cuvier, Dict. Sci. Nat. 41: 307. 1826, nom. illeg., *Ptilostemon diacantha* (Labill.) Greuter). Notes: The plant described by Cassini does in fact belong to a different species, *Ptilostemon afer* (Jacq.) Greuter, but this error has no bearing on the generic type, explicitly designated (Greuter, 1973).
- Pluchea* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 31. Feb 1817. Type: *Conyza marilandica* Michx. (*P. marilandica* ('*marylandica*') (Michx.) Cass. in Cuvier, Dict. Sci. Nat. 42: 2. Aug 1826) [*P. odorata* (L.) Cass., *Conyza odorata* L.].
- Podocoma* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 137. Sep 1817. Type: *Erigeron hieraciifolius* ('*hieracifolium*') Poir. (*P. hieraciifolia* ('*hieracifolia*') (Poir.) Cass. in Cuvier, Dict. Sci. Nat. 42: 60. Aug. 1826). Notes: The phrase 'genre ou sous-genre' is used in the protologue, but *Podocoma* is not formally placed subordinate to another genus. *ING* claims that the type was designated by Pfeiffer (1871–1875: 770. 1874), but this is inaccurate. In the protologue Cassini mentions that he includes two species in the genus, but only one of them is named, so that no choice is possible. – [2, 3, 13].
- Podotheca* Cass. in Cuvier, Dict. Sci. Nat. 23: 561. Nov 1822, nom. cons. (≡ *Podosperma* Labill., Nov. Holl. Pl. 2: 35. 1806, nom. rej.). Type: *Podosperma angustifolium* Labill. (*Phaenopoda angustifolia* (Labill.) Cass. in Cuvier, Dict. Sci. Nat. 42: 85. Aug 1826, *Podotheca angustifolia* (Labill.) Less.). Notes: Cassini proposed *Podotheca* as a substitute for *Podosperma* Labill., which he believed (erroneously

under current standards) to be a parahomonym of *Podospermum* DC. 1805. But for having been conserved, *Podotheca* would be an illegitimate name. Later Cassini changed his mind and proposed yet another new name for the same genus, *Phaenopoda* Cass. – [8].

Polyarrhena Cass. in Cuvier, Dict. Sci. Nat. 56: 172. Sep 1828. Type: *P. reflexa* (L.) Cass. (*Aster reflexus* L.). – [6].

Porcellites Cass. in Cuvier, Dict. Sci. Nat. 25: 64. 1822 (≡ ***Hypochoaeris*** L.; Sp: Pl.: 810 1753, homotypic by type designation). Type: ***Hypochoaeris radicata*** L. (*Achyrophorus radicans* (L.) Gaertn., *P. radicata* (L.) Cass. in Cuvier, Dict. Sci. Nat. 43: 42. Sep 1826). Notes: As first proposed in 1822, *Porcellites* was not accompanied by descriptive material, which is presumably why *ING* does not cite it from there. It was nevertheless validly published by reference to two earlier, effectively published generic descriptions, of *Hypochoaeris* by Moench (Methodus: 549. 1794) and of *Achyrophorus* by Gaertner (Fruct. Sem. Pl. 2: 370. 1791). The type, in such a case, must be selected from the context of the validating description(s). It so happens that Gaertner and Moench included a single named species in the genus they described, the same in both: *Hypochoaeris radicata* L. – [3].

Praxelis Cass. in Cuvier, Dict. Sci. Nat. 43: 261. Sep 1826. Type: *P. villosa* Cass. [= *P. diffusa* (Rich.) Pruski, *Cacalia diffusa* Rich.].

Printzia Cass. in Cuvier, Dict. Sci. Nat. 37: (463), 488. Dec 1825, nom. cons. (≡ *Asteropterus* Vaill. in Königl. Akad. Wiss. Paris Phys. Abh. 5: 585. 1754). Type: *Inula cernua* P.J. Bergius (*P. cernua* (P.J. Bergius) Druce) [= *P. polifolia* ('*polifolia*') (L.) Hutch., *Aster polifolius* ('*polifolius*') L.]. Notes: Proposals (by Brummitt, 2008; Greuter, 2008a; and Sennikov, 2010) to “devalidate” Vaillant’s generic names are under consideration. – [7].

Pronacron Cass. in Cuvier, Dict. Sci. Nat. 43: 370. Sep 1826 [= *Unxia* L. f. 1782]. Type: *P. ramosissimum* Cass. [= *Unxia camphorata* L. f.].

Psacalium Cass. in Cuvier, Dict. Sci. Nat. 43: 461. Sep 1826. Type: *P. peltatum* (Kunth) Cass. (*Cacalia peltata* Kunth).

Psephellus Cass. in Cuvier, Dict. Sci. Nat. 43: 488. Sep 1826. Type: *P. calocephalus* Cass., nom. illeg. (*Centaurea dealbata* Willd., *P. dealbatus* (Willd.) K. Koch).

Pterolophus Cass. in Cuvier, Dict. Sci. Nat. 44: 34. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: (not in protologue; designated here): *P. lanceolatus* Cass. in Cuvier, Dict. Sci. Nat. 50: 249. Nov 1827 [*Centaurea* sp.,? = *Centaurea pterolophia* DC.]. Notes: In the protologue, Cassini refers to ‘trois ou quatre espèces, qui sont probablement les *Centaurea alba*, *splendens*, *nitens* etc.’. He is thus careful not

to formally include the types of these names in his genus, which is fortunate. Later (in Cuvier, Dict. Sci. Nat. 50: 248. Nov 1827) he described a different genus, *Phalolepis* (q.v.), for the three mentioned species, stating at the same time that his *Pterolophus* material had turned out to be wrongly named, and describing two new species in the genus. The provenance and taxonomic identity of Cassini’s type material, and of the (independent) type of Candolle’s name that we tentatively synonymise with it, is unknown. It is not unlikely that the plants were hybrids that arose in cultivation.

Pterophyton Cass. in Bull. Sci. Soc. Philom. Paris 1818: 76. May 1818 [= *Verbesina* L. 1753]. Type: *Coreopsis alata* Cav. (*P. alatum* (Cav.) Cass. in Cuvier, Dict. Sci. Nat. 44: 49. Dec. 1826) [= *Verbesina tetraptera* (Ortega) A. Gray, *Helianthus tetrapterus* Ortega].

Pterotheca Cass. in Bull. Sci. Soc. Philom. Paris 1816: 200. Dec 1816 [= *Crepis* L. 1753]. Type: *Andryala nemausensis* Vill., nom. illeg. (*Crepis nemausensis* Gouan, nom. illeg., *P. nemausensis* Cass. in Bull. Sci. Soc. Philom. Paris 1821: 125. Nov 1821, nom. illeg., *P. sancta* (L.) K. Koch, ***Crepis sancta*** (L.) Bornm.). Notes: The combination ‘*P. nemausensis*’ was not published in the generic protologue. – [12].

Ptilostemon Cass. in Bull. Sci. Soc. Philom. Paris 1816: 200. Dec 1816. Type: *Serratula chamaepeuce* L. (*P. muticus* ('*muticum*') Cass. in Cuvier, Dict. Sci. Nat. 44: 59. Dec 1826, nom. illeg., *Chamaepeuce mutica* DC., ***P. chamaepeuce*** (L.) Less.).

Pyrarda Cass. in Cuvier, Dict. Sci. Nat. 41: 120. Jun 1826, nom. altern. (non *Pirarda* Adans. 1763) (≡ *Grangea* subg. *Pyrarda* Cass., l.c.: 122, nom. altern.) [= ***Grangea*** Adans. 1763]. Type: *P. ceruanoides* (Cass.) Cass. (*Grangea ceruanoides* Cass. in Cuvier, Dict. Sci. Nat. 19: 307. Jan 1821) [= ***Grangea maderaspatana*** (L.) Poir., *Artemisia maderaspatana* L.]. Notes: At the rank of genus *Pyrarda* is best regarded as a parahomonym of *Pirarda*. As neither is in use, the question of homonymy may remain unresolved. This is a rare exception in which Cassini has published genuine alternative names at different ranks (see also *Tetrodus*), of which the subgeneric one is legitimate and available for use. – [4, 11].

Quinetia Cass. in Ann. Sci. Nat. (Paris) 17: 415. Aug 1829. Type: ***Q. urvillei*** Cass. Notes: Often cited from a later publication (Cuvier, Dict. Sci. Nat. 60: 590. Jun 1830). – [3].

Rhabdotheca Cass. in Cuvier, Dict. Sci. Nat. 48: 424. Jun 1827 [***Launaea*** Cass. 1822]. Type: *R. sonchoides* Cass. [= ***Launaea mucronata*** subsp. *cassiana* (Jaub. & Spach) N. Kilian, *Sonchus cassianus* Jaub. & Spach, *Launaea cassiana* (Jaub. & Spach) Kuntze].

Riencourtia ('*Riencurtia*') Cass. in Bull. Sci. Soc. Philom. Paris 1818: 76. May 1818. Type: *R. spiculifera* Cass. [=

- Riencourtia pedunculosa** (Rich.) Pruski, *Trixis pedunculosa* Rich.]. Notes: The name commemorates Cassini's wife Catherine-Elisabeth Agathe de Riencourt (King & Dawson, 1975: xi). It was originally published with the spelling '*Riencurtia*', later corrected by Cassini himself (in Cuvier, Dict. Sci. Nat. 43: 371. Aug 1826), which is an acceptable correction (*ICBN*, Art. 60.1). – [6].
- Sabazia** Cass. in Cuvier, Dict. Sci. Nat. 46: 480. Apr 1827. Type: *S. humilis* (Kunth) Cass. (*Eclipta humilis* Kunth). Notes: Both *Sabazia* Cass. and *Sabatia* Adans. 1763 are in current use. In spite of their obvious similarity, this has not so far led to appreciable confusion. Hind & Jeffrey (2001) have identified the type of *Eclipta humilis* as *Eclipta prostrata* (L.) L., and if that interpretation is correct this would make *Sabazia* a synonym of *Eclipta* and would leave the Latin American genus known as *Sabazia*, and its 17 species, without a name. Clearly conservation would be needed, perhaps best by conserving the binomial *Eclipta humilis* with a type that conforms with current usage, but this will have to await renewed, careful verification of the identity of Kunth's original type.
- Sarcanthemum** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 74. May 1818. Type: *Conyza coronopus* Lam. (*S. coronopus* (Lam.) Cass. in Cuvier, Dict. Sci. Nat. 47: 350. May 1827). Notes: The combination '*S. coronopus*' was not published in the generic protologue. – [12].
- Scepinia** Neck. ex Cass. in Cuvier, Dict. Sci. Nat. 37: 475. Dec 1825 [= *Pteronia* L. 1763, nom. cons.]. Type (not in protologue; designated here): *S. lepidophylla* Cass. in Cuvier, Dict. Sci. Nat. 48: 45. Jun 1827, nom. illeg. (*Pteronia glomerata* L. f.). Notes: Cassini originally described the genus based on a herbarium specimen labelled *Pteronia glomerata*, but does not definitely accept its identification. He did accept it in 1827, and we follow his judgement, noting that, should the identification prove wrong, the type will have to change (*ICBN*, Art. 10.2). *ING* currently cites the generic name from a later place of publication. – [3].
- Schizogyne** Cass. in Cuvier, Dict. Sci. Nat. 56: 23. Sep 1828. Type: *S. obtusifolia* Cass. [= *S. sericea* (L. f.) DC., *Chrysocoma sericea* L. f.].
- Sclerobasis** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 73. May 1818 [?= *Senecio* L. 1753]. Type: *S. somneratii* Cass. [?= *Senecio* sp.]. Notes: The species has not been assessed as far as we know. A second species later added to the genus by Cassini (*Sclerobasis rigida* (L.) Cass. in Cuvier, Dict. Sci. Nat. 48: 146. Jun 1827, *Senecio rigidus* L.) is currently placed in *Senecio*.
- Sclerolepis** Cass. in Bull. Sci. Soc. Philom. Paris 1816: 198. Dec 1816. Type: *Sparganophorus verticillatus* Michx. (*Sclerolepis verticillata* (Michx.) Cass. in Cuvier, Dict. Sci. Nat. 48: 155. Jun 1827) [= *Sclerolepis uniflora* (Walter) Britton & al., *Ethulia uniflora* Walter]. Notes: The combination '*S. coronopus*' was not published by Cassini before 1927. – [3].
- Scrobicaria** Cass. in Cuvier, Dict. Sci. Nat. 48: 456. Jun 1827. Type: *Cacalia ilicifolia* (L. f.) Kunth (*Staehelina ilicifolia* L. f., *Scrobicaria ilicifolia* (L. f.) B. Nord.). Notes: The combination '*Scrobicaria ilicifolia*' was not published by Cassini. – [12].
- [“*Siphonogyne*” Cass. in Cuvier, Dict. Sci. Nat. 50: 493. Nov 1827, nom. inval. Notes: This is one of five alternative names suggested, but not adopted, by Cassini for his newly described genus *Cryptogyne* Cass. Listed in *IK*.] – [5, 6].
- Sogalgina** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 31. Feb 1818 [= *Tridax* L. 1753]. Type: *Galinsoga trilobata* Cav. (*S. trilobata* (Cav.) Cass. in Cuvier, Dict. Sci. Nat. 49: 397. Sep 1827, *Tridax trilobata* (Cav.) Hemsl.).
- [“*Solenogyne*” Cass. in Cuvier, Dict. Sci. Nat. 50: 493. 1827, nom. inval. Notes: This is one of five alternative names suggested, but not adopted, by Cassini for his newly described genus *Cryptogyne* Cass. Listed in *IK* instead of the following.] – [5].
- Solenogyne** Cass. in Cuvier, Dict. Sci. Nat. 56: 174. Sep 1828. Type: *S. bellioides* Cass. – [6*].
- Solvaea** Cass. in Cuvier, Dict. Sci. Nat. 29: 177, 184. Dec 1823, nom. illeg. (≡ *Soliva* Ruiz. & Pav., Prodr.: 113. 1794). Type: *Soliva sessilis* Ruiz & Pav. – [13].
- Spadactis** Cass. in Cuvier, Dict. Sci. Nat. 47: 510. May 1827 [*Atractylis* L. 1753]. Type (not in protologue; designated here): *S. radicyflora* Cass. in Cuvier, Dict. Sci. Nat. 50: 53. Nov 1827 (*Atractylis radicyflora* (Cass.) DC.) [?= *Atractylis humilis* L.]. Notes: The phrase 'genre ou sous-genre' is used in the protologue, but in the preceding synopsis (p. 499) generic rank is applied. *TROPICOS* cites a later isonym. – [2, 3].
- Spilacron** Cass. in Cuvier, Dict. Sci. Nat. 50: 238. Nov 1827 [= *Centaurea* L. 1753, nom. cons.]. Type: *S. crupinoides* Cass., nom. illeg. (*Centaurea arenaria* M. Bieb. ex Willd.).
- Stegonotus** Cass. in Cuvier, Dict. Sci. Nat. 35: 396. Oct 1825 [= *Arctotis* L. 1753]. Type: *Arctotis undulata* (P.J. Bergius) Gaertn. (*Arctotis aspera* var. *undulata* P.J. Bergius) [= *Arctotis* sp.]. Notes: Cassini in the protologue uses conditional mood throughout, so that one is easily misled to believe that he is not definitely accepting the new genus (which is perhaps the reason why the name is missing from the current version of *ING*). However, from the context, and taking into account Cassini's circumspect way of expressing himself, it is obvious that Cassini, albeit with some hesitation, wants to introduce a new genus. This is corroborated by the inclusion of *Stegonotus* in later synopses

- of *Arctoteae* genera. The combination '*S. undulatus*' was not published by Cassini. – [3, 10, 12].
- Stemmacantha* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 12. Jan 1817 [= *Rhaponticum* Vaill. 1754 (or Ludw. 1759, nom. cons. prop.)]. Type: *Serratula cynaroides* DC., nom. illeg. (*Stemmacantha cynaroides* ('*cinaroides*') Cass. in Cuvier, Dict. Sci. Nat. 50: 461. Nov 1827, nom. illeg., *Cnicus centauroides* L., *Stemmacantha centauroides* (L.) Dittrich, *Rhaponticum centauroides* (L.) O. Bolós). – [6].
- Stemmodontia* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 11. Jan 1817 [= *Wedelia* Jacq. 1760, nom. cons.]. Type (not in protologue; designated by Cronquist in ING card No. 18596. 1964. *S. scaberrima* Cass. in Cuvier, Dict. Sci. Nat. 46: 407. Apr 1827 [?= *Wedelia acapulcensis* Kunth]).
- Stenactis* Cass. in Cuvier, Dict. Sci. Nat. 37: (462), 485. Dec 1825 [= *Erigeron* L. 1753]. Type (designated by Pfeiffer, 1871–1875, 2: 1272): *Aster annuus* L. (*Diplopappus dubius* Cass. in Cuvier, Dict. Sci. Nat. 13: 309. Jul 1819, nom. illeg., *Phalacroloma acutifolium* ('*acutifolia*') Cass. in Cuvier, Dict. Sci. Nat. 39: 405. Apr 1826, nom. illeg.; *S. annua* (L.) Cass. ex Less., *Erigeron annuus* (L.) Desf.). Notes: The name first appears in a generic synopsis lacking description. *ING* accepts a different type, *S. delphinifolia* (Willd.) Cass. (*Erigeron delphinifolius* Willd.), allegedly designated by Cassini (in Cuvier, Dict. Sci. Nat. 50: 485. Nov 1827) himself. However, Cassini does not use the word type or an equivalent in that article. True, he had by then excluded *Aster annuus* from his concept of *Stenactis* by transferring it to his genus *Phalacroloma* (q.v.), but this does not, under the rules of nomenclature, make it unavailable for typification purposes. The combination '*S. annua*' was not published by Cassini. – [7, 12, 13].
- ['*Stenogyne*'] Cass. in Cuvier, Dict. Sci. Nat. 50: 491. Nov 1827, nom. inval. Notes: This is one of five alternative names suggested, but not adopted, by Cassini for his newly described genus *Cryptogyne* Cass. It was originally considered as validly published, and is so listed in *IK*, probably because Cassini adopts the French common name sténogyne for his *Cryptogyne*. It was once listed as rejected in favour of *Stenogyne* Benth. 1830, but was subsequently removed as it does not constitute a threat.] – [5].
- Stenolophus* Cass. in Cuvier, Dict. Sci. Nat. 44: (35), 36. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea phrygia* L. – [7].
- ['*Stiftia*'] Cass. in Cuvier, Dict. Sci. Nat. 47: 499, 511. May 1827, orth. var., error for *Stiffia* J.C. Mikan 1820, nom. cons. Notes: Corrected by Cassini himself in his later writings.] – [9].
- Stizolophus* Cass. in Cuvier, Dict. Sci. Nat. 44: (35), 36. Dec 1826. Type: *Centaurea balsamita* Lam. (*S. balsamitifolius* ('*balsamitaefolius*') Cass. in Cuvier, Dict. Sci. Nat. 51: 49, 50. Dec 1827, nom. illeg., *S. balsamita* (Lam.) K. Koch). – [7].
- Synarthrum* Cass. in Cuvier, Dict. Sci. Nat. 48: (448), 455. Jun 1827 [= *Senecio* L. 1753]. Type: *Conyza appendiculata* Lam. (*Synarthrum appendiculatum* (Lam.) Cass. in Cuvier, Dict. Sci. Nat. 51: 457. Dec 1827, *Senecio appendiculatus* (Lam.) DC. 1838, non Poir. 1806, *Senecio lamarckianus* Bullock). Notes: The combination '*S. annua*' was not published in the generic protologue. The name first appears in a generic synopsis lacking description. – [7, 12].
- Tetrodus* Cass. in Cuvier, Dict. Sci. Nat. 55: 264. Aug 1828, nom. altern. (≡ *Helenium* subg. *Tetrodus* Cass. in Cuvier, Dict. Sci. Nat. 55: 272. Aug 1828) [= *Helenium* L. 1753]. Type: *Helenium quadridentatum* Labill. (*T. quadridentatus* (Labill.) Less.). Notes: *ING* ascribes the generic name to Lessing (1832), considering (correctly) that Cassini (l.c.: 272) unequivocally accepts the taxon at subgeneric level. However, in the preceding generic synopsis (p. 264) he equally unequivocally places it on the same level as the other genera he enumerates. This is, therefore, a rare exception in which Cassini validly publishes alternative names of different rank (see also *Pyrarda*). *ING* furthermore treats *Tetrodus* as homotypic with *Mesodetra* Raf. 1817, but this again is inaccurate, because *Mesodetra* is typified by *M. alata* (Jacq.) Raf. (*Rudbeckia alata* Jacq. 1795), which is a later taxonomic synonym of, but not an illegitimate substitute for, *Helenium quadridentatum* Labill. 1792. The combination '*T. quadridentatus*' was not published by Cassini. – [3, 4, 7, 12, 13].
- Theodorea* (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 35: 13. Jul 1819 (≡ *Saussurea* subg. *Theodorea* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 168. Nov 1818) [= *Saussurea* DC. 1810, nom. cons.]. Type: *Saussurea amara* (L.) DC. (*Serratula amara* L., *T. amara* (L.) Cass. in Cuvier, Dict. Sci. Nat. 47: 513. May 1827). Notes: The place of publication of the generic name has been generally overlooked, it is cited (with or without basionym) from the place in which the typonym was published. – [1, 3, 6].
- Triachne* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 11. Jan 1817 [= *Nassauvia* Comm. ex Juss. 1789]. Type: *T. pygmaea* Cass. (*Nassauvia pygmaea* (Cass.) Hook. f.). Notes: *Triachne* and its typonym were validated by a common description (descriptio generico-specifica; see also the entry *Henricia*). A full species description was provided by Cassini in the following year (in Bull. Sci. Soc. Philom. Paris 1818: 48. Mar 1818), from which place both the generic name and the typonym have sometimes been cited. – [3, 12].
- Trichocline* Cass. in Bull. Sci. Soc. Philom. Paris 1817: 13. Jan 1817. Type: *Doronicum incanum* Lam. (*T. incana* (Lam.) Cass. in Cuvier, Dict. Sci. Nat. 55: 216. Aug 1828).

Trichostemma Cass. in Cuvier, Dict. Sci. Nat. 46: (399), 409. Apr 1827 (non *Trichostema* L. 1753) [?= *Wedelia* Jacq. 1760, nom. cons.]. Type: *T. hispidum* ('*hispida*') Cass. (*Wedelia trichostephia* DC.). Notes: See the next following entry for the question of possible parohomonymy. The name first appears (p. 399) in a generic synopsis. In the formal treatment (p. 409), Cassini suggests that *Trichostemma* may be considered a sub-genus of *Wedelia* ('peut être considéré comme un sous-genre du *Wedelia*') but on the following page he refers to his 'description générale'. – [2, 7].

Trichostephium Cass. in Cuvier, Dict. Sci. Nat. 55: 266. Aug 1828, nom. illeg. (≡ *Trichostemma* Cass.) [?= *Wedelia* Jacq. 1760, nom. cons.]. Type: as for *Trichostemma*. Notes: Proposed as a replacement name for *Trichostemma* Cass., considered to be a parohomonym of *Trichostema* L. 1753. *ING* apparently agrees with Cassini on that account, but we see little justification in so doing. The greek words *stemma* (wreath, garland) and *stema* (stamen) have different meanings and are not variants of the same word (Nicolson, 1994). As *Trichostemma* and *Trichostema* belong to different families (*Compositae* and *Labiatae*, respectively), there is little risk of their being confused. – [3, 11].

Trichostephus Cass. in Ann. Sci. Nat. (Paris) 17: 401. Aug 1829, nom. illeg. (≡ *Trichostemma* Cass.) [?= *Wedelia* Jacq. 1760, nom. cons.]. Type: as for *Trichostemma*. Notes: Cassini does not justify his change from *Trichostephium* to *Trichostephus*. *ING* does not list the latter name, apparently considering it an orthographical variant of the former, but here again we must disagree. The two are not inflectional forms of one name (*ICBN*, Art. 61.2). They are names with the same stem but differing in termination and indeed gender; they are not by common standards confusingly similar and cannot be considered as variants on that account (*ICBN*, Art. 61.5). The combination '*Trichostephus hispidus*' was not published by Cassini. – [12].

Trilisa (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 16: 8, 10. Apr 1820 (≡ *Liatris* subg. *Trilisa* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 140. Sep 1818). Type: *Liatris odoratissima* (J.F. Gmel.) Willd. (*Chrysocoma odoratissima* J.F. Gmel., *Carphephorus odoratissimus* (J.F. Gmel.) H.J.-C. Hebert, *T. odoratissima* (J.F. Gmel.) Cass. in Cuvier, Dict. Sci. Nat. 55: 310. Aug 1828). Notes: The combination '*Trilisa odoratissima*' has been used by Cassini in the subgeneric protologue, but was not validly published there (see introductory comments under *Ixeris*). – [1, 3*, 12].

Trimeranthes (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 59: 237. Jun 1829 (≡ *Sigesbeckia* subg. *Trimeranthes* Cass. in Cuvier, Dict. Sci. Nat. 49: 115. 1827, *Schkuhria* ('*Schkuhria*') Moench, Methodus: 566. 1794, nom. rej. against *Schkuhria* Roth 1797) [= *Sigesbeckia* L. 1753]. Type: *Sigesbeckia* ('*Sigesbeckia*') *flosculosa* L'Hér. (*Schkuhria* ('*Schkuhria*') *dichotoma* Moench, nom. illeg.). Notes: The combination

'*Trimeranthes dichotoma*' has been used by Cassini in the subgeneric protologue, but was not validly published either there (see introductory comments under *Ixeris*) or subsequently. – [3, 6, 12].

Trimorpha Cass. in Bull. Sci. Soc. Philom. Paris 1817: 137. Sep 1817 [= *Erigeron* L. 1753]. Type: *Erigeron acris* ('*acre*') L. (*Trimorphaea vulgaris* Cass. in Cuvier, Dict. Sci. Nat. 55: 323, 324. Aug 1828, nom. illeg., *Trimorpha acris* ('*acre*') (L.) Gray). Notes: The phrase 'genre ou sous-genre' is used in the protologue. The combination *Trimorphaea vulgaris* has been misspelt '*Trimorpha vulgaris*'. – [2, 6].

Trimorphaea Cass. in Cuvier, Dict. Sci. Nat. 37: 462, 482, nom. illeg. (≡ *Trimorpha* Cass.) [= *Erigeron* L. 1753]. Type: as for *Trimorpha*. Notes: *ING* does not list this name, apparently considering it an orthographical variant of *Trimorpha*, but the two are not inflectional forms of one name (*ICBN*, Art. 61.2). They are words with the same stem but differing in quality, one being an adjective and the other a noun, as explained by Cassini himself: 'Le nom de *Trimorpha*, que nous avons d'abord imposé à ce genre, étant un adjectif, doit être modifié comme nous le proposons ici' [The name of *Trimorpha*, that we had initially given this genus, being an adjective, must be modified as we propose here]. – [11].

Triplocentron Cass. in Cuvier, Dict. Sci. Nat. 44: 38. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea melitensis* L. (*T. melitense* (L.) Cass. in Cuvier, Dict. Sci. Nat. 55: 349. Aug 1828). Notes: The combination '*T. melitense*' was not published in the generic protologue. – [12].

Tubilium Cass. in Bull. Sci. Soc. Philom. Paris 1817: 153. Oct 1817 [= *Pulicaria* Gaertn. 1791]. Type: *Erigeron inuloides* Poir. (*T. angustifolium* Cass. in Cuvier, Dict. Sci. Nat. 56: 20. Sep 1828, nom. illeg., *Pulicaria inuloides* (Poir.) DC. 1836, non Hornem. 1815) [= *Pulicaria longifolia* Boiss.].

Tursenia Cass. in Cuvier, Dict. Sci. Nat. 37: (461), 480. Dec 1825 [= *Baccharis* L. 1753, nom. cons.]. Type (designated here): *Baccharis humifusa* Spach [= *Baccharis caespitosa* (Ruiz & Pav.) Pers., *Molina caespitosa* Ruiz & Pav.]. Notes: The combinations '*T. humifusa*' and '*T. sinuata*' were not published in by Cassini. – [7, 12].

Tyrimnus (Cass.) Cass. in Cuvier, Dict. Sci. Nat. 18: 35. Apr 1821 (≡ *Carduus* subg. *Tyrimnus* Cass. in Bull. Sci. Soc. Philom. Paris 1818: 168. Nov 1818). Type: *Carduus leucographus* L. (*T. leucographus* (L.) Cass. in Cuvier, Dict. Sci. Nat. 56: 207. Sep 1828). Notes: Usually, the generic name and the typonym combination with it are both cited from the same source (in Cuvier, Dict. Sci. Nat. 41: 314, 335. Jun 1826), where neither has been validly published. – [1, 3*, 6*, 12].

[*Ucacea*], Cass. in J. Phys. Chim. Hist. Nat. Arts 96: 212, 216. May 1823, orth. var. of *Ucacou* Adans. 1763, nom. rej.

vs. *Synedrella* Gaertn. 1791. Notes: The reference usually given for 'Ucacea' is Cass. in Cuvier, Dict. Sci. Nat. 27: 9. Jun 1823; the paper in the *Journal* (Cassini, 1823) quotes that of the *Dictionnaire* literally, without page reference, but was apparently published a month earlier. As to the status of 'Ucacea', we accept the policy established in the list of conserved generic names (*ICBN*, App. III), to treat as orthographical variants the intentional Latinisations, by later authors, of Adanson's "barbarian" generic names. Accordingly, 'Ucacea' is a mere variant of *Ucacou* Adans. 1763, through change of Adanson's non-Latin ending to a Latin inflexion. This, in turn, is now listed as a homotypic nomen rejiciendum against *Synedrella* Gaertn. 1791 (Type: *S. nodiflora* (L.) Gaertn., *Verbesina nodiflora* L.). *Verbesina nodiflora* has been designated as the type of *Ucacou* by Cassini himself (in J. Phys. Chim. Hist. Nat. Arts 96: 212, 216. May 1823), and this designation was accepted by Dandy when he proposed the conservation of *Synedrella*. Unfortunately it is flawed under the current nomenclatural rules (*ICBN*, Art. 10.1). As Cassini points out, Adanson included two named species in his genus *Ucacou*: *Bidens nodiflorus* L. (a taxonomic synonym of *Bidens tripartitus* L.) and *Bidens niveus* L. (today: *Melanthera nivea* (L.) Small). Cassini suspected that Adanson meant *Verbesina nodiflora* when he referred to *Bidens nodiflorus*, but whether he was right or not in his assumption, what matters is what Adanson wrote, and the type of *Ucacou* must be selected from among the two Linnaean *Bidens* elements. Selecting *Bidens niveus* would make it necessary to conserve the name *Melanthera* Rohr against *Ucacou*. We therefore designate the second element, *Bidens nodiflorus* L., as the type of *Ucacou* Adans. The entry of *Synedrella* in App. III of the *ICBN* will have to be amended accordingly. – [9, 13].

Verutina Cass. in Cuvier, Dict. Sci. Nat. 44: 38. Dec 1826 [= *Centaurea* L. 1753, nom. cons.]. Type: *Centaurea verutum* L. (*V. heterophylla* Cass. in Cuvier, Dict. Sci. Nat. 58: 9. Feb 1829, nom. illeg.).

Vicoa Cass. in Ann. Sci. Nat. (Paris) 17: 418. Aug 1829 [= *Pentanema* Cass. 1818]. Type: *V. auriculata* Cass. [= *Pentanema indicum* (L.) Ling, *Inula indica* L.]. – [6*].

Volutarella Cass. in Cuvier, Dict. Sci. Nat. (36), 44: 39. Dec 1826, nom. illeg. (≡ *Volutaria* Cass.). Type: as for *Volutaria*. Notes: Cassini describes *Volutarella*, based on the same species as *Volutaria*, without mentioning the latter. Not until much later (in Cuvier, Dict. Sci. Nat. 58: 456. Feb 1829) does he explain: 'nous avons ... modifié la désinence de son nom [*Volutaria*], pour le mieux différencier d'avec le nom d'un genre de mollusques' ['we have modified ... the ending of its name [*Volutaria*], better to differentiate it from the name of a genus of molluscs']. We have found no generic name *Volutaria* in the domain of zoology and assume that Cassini was worried by the similarity of *Volutaria* with *Voluta* L., a marine gastropod. However this may be, *Volutaria* is a legitimate name and *Volutarella*

is nomenclaturally superfluous and illegitimate (*ICBN*, Art. 52.1). The combination '*Volutarella lippii*' was not published in the generic protologue. – [7, 11, 12].

Volutaria Cass. in Bull. Sci. Soc. Philom. Paris 1816. 200. Dec 1816, nom. cons. prop. (≡ *Amberboi* Adans., Fam. Pl. 2: 117. 1763, nom. rej. prop., non Vaill. 1754). Type: *Centaurea lippii* L. (*Volutarella lippii* (L.) Cass. in Cuvier, Dict. Sci. Nat. 50: 256. Nov 1827, *Volutaria lippii* (L.) Cass. ex Maire). Notes: The conservation proposal (Greuter, 2008b) becomes relevant if any of the three pending proposals to outlaw the German translation of Vaillant's work on *Compositae* for nomenclatural purposes (Brummitt, 2008; Greuter, 2008a; Sennikov, 2010) is accepted. The combination '*Volutaria lippii*' was not published by Cassini. – [8, 12].

Wulffia Neck. ex Cass. in J. Phys. Chim. Hist. Nat. Arts 96: 214. May 1823 [= *Tilesia* G. Mey. 1818]. Type: *Coreopsis baccata* L. (*W. baccata* (L.) Kuntze, *Tilesia baccata* (L.) Pruski). Notes: The name, credited to Necker, is first accepted by Cassini (in Cuvier, Dict. Sci. Nat. 9: 184. Dec 1817) in preference to '*Chylodia*' of Richard (unpublished), but without reference to validating descriptive matter (see comments under *Lepidophorum*). In the article in the *Journal*, here cited, it is accompanied by the short but technically sufficient statement 'fruits succulents et bacciformes'. A subsequent reprint of that article (in Cuvier, Dict. Sci. Nat. 29: 491. Dec 1823) is usually but incorrectly cited as the source of the name. – [3].

Xenocarpus Cass. in Cuvier, Dict. Sci. Nat. 59: 108. Jun 1829 (≡ *Cineraria* L. 1763, homotypic by type designation). Type: *X. geifolius* (L.) Cass. (*Othonna geifolia* L., *Cineraria geifolia* (L.) L.).

Xerobius Cass. in Cuvier, Dict. Sci. Nat. 59: 127. Jun 1829 [= *Egletes* Cass. 1817]. Type: *X. lanatus* Cass. [= *Egletes prostrata* (Sw.) Kuntze, *Matricaria prostrata* Sw.].

Xeroloma Cass. in Cuvier, Dict. Sci. Nat. 59: 120. Jun 1829 [= *Xeranthemum* L. 1753]. Type: *X. fetidum* Cass., nom. illeg. (*Xeranthemum cylindraceum* Sm., *Xeroloma cylindraceum* (Sm.) Holub). Notes: *ING*, in its current version, considers the illegitimate *Xeroloma fetidum* as identical with *Xeranthemum annuum* L., and by consequence lists *Xeroloma* as a homotypic synonym of *Xeranthemum* L. This is definitely wrong. Based on Cassini's extensive comments, a case could perhaps be made for treating *Xeroloma fetidum* as including the type of *Xeranthemum inapertum* (L.) Mill., but whereas Cassini treats *Xeranthemum cylindraceum* as a straightforward synonym of *Xeroloma fetidum*, inclusion of *Xeranthemum inapertum* is qualified ('presque indubitable'). – [13].

Youngia Cass. in Ann. Sci. Nat. (Paris) 23: 88. May 1831. Type (Babcock & Stebbins, 1937: 5): *Y. lyrata* Cass. [=

Y. japonica (L.) DC., [*Prenanthes japonica* L.]. Notes: Babcock & Stebbins (l.c.) write: ‘Type species *Youngia japonica* (L.) DC. = *Y. lyrata* Cass. in Herb. DC.!’. Cassini, in the protologue, described *Y. lyrata* and *Y. integrifolia* as new species (both are now included in *Y. japonica*) without mentioning *Prenanthes japonica*. We interpret the type paragraph quoted above to mean that the type is *Y. lyrata* and its correct name, *Y. japonica*. It is also possible to argue that Babcock & Stebbins cite two elements as type, so that their designation has no standing. For those favouring the latter approach, the type is designated here (subsequent authors refer to the type as *Y. japonica*, which is not a potential type element). – [13].

Zarabellia Cass. in Cuvier, Dict. Sci. Nat. 59: 240. Jun 1829 [= *Melampodium* L. 1753]. Type: *Z. rhomboidea* Cass. (*Melampodium rhomboideum* (Cass.) DC.) [= *Melampodium longifolium* Cerv. ex Cav.].

Zyrphelis Cass. in Ann. Sci. Nat. (Paris) 17: 420. Aug 1829. Type: *Z. amoena* Cass. [= *Z. taxifolia* (L.) Nees, *Aster taxifolius* L.].

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LITERATURE CITED

Anderberg, A.A. 1983. Proposal to conserve the type of 9065 *Iphione* Cassini (*Compositae* – *Inuleae*). *Taxon* 32: 651–653.
 Babcock, E.B. & Stebbins, G.L. 1937. The genus *Youngia*. *Publ. Carnegie Inst. Wash.* 484: 1–106.
 Britton, N.L. & Brown, A. 1913. *An illustrated flora of the northern United States, Canada and the British possessions*, ed. 2, vol. 3. New York: Scribner.

Brown, G. & Sakkir, S. 2004. *The vascular plants of Abu Dhabi Emirate*. Abu Dhabi: Terrestrial Environment Research Centre, Environmental Research & Wildlife Development Agency.
 Brummitt, R.K. 1993. Report of the Committee for *Spermatophyta*: 38. *Taxon* 42: 687–697.
 Brummitt, R.K. 2008. Proposal to add the 1754–1756 German translation of S. Vaillant, *Établissement de nouveaux caractères de trois familles, 1719–1725*, to the “Opera utique oppressa”. *Taxon* 57: 663.
 Bullock, A.A. 1966. Two examples of the application of Art. 73. *Taxon* 15: 75–77.
 Cabrera, A.L. 1965. Revisión del género *Mutisia* (*Compositae*). *Opera Lilloana* 13: 1–227.
 Candolle, A.P. de 1836. *Prodromus systematis naturalis regni vegetabilis*, vol. 5. Paris: Treuttel & Würtz.
 Candolle, A.P. de 1838. *Prodromus systematis naturalis regni vegetabilis*, vol. 6. Paris: Treuttel & Würtz.
 Cassini, H. 1818a. Description de trois plantes servant de types aux nouveaux genres *Paloelaria*, *Dicoma* et *Triachne*. *Bull. Sci. Soc. Philom. Paris*, 1818: 47–48.
 Cassini, H. 1818b. Description de quatre plantes servant de types aux nouveaux genres *Oliganthes*, *Piptocoma*, *Dimerostemma* et *Ditrichum*. *Bull. Sci. Soc. Philom. Paris*, 1818: 57–60.
 Cassini, H. 1818c. Aperçu des genres nouveaux formés par M. Henri Cassini, dans la famille des Synanthérées. Huitième fascicule. *Bull. Sci. Soc. Philom. Paris*, 1818: 73–77.
 Cassini, H. 1818d. Description de espèces servant de types à quatre genres de plantes récemment proposés. *Bull. Sci. Soc. Philom. Paris*, 1818: 183–185.
 Cassini, H. 1823. Mémoire sur les genres *Melanthera*, *Chylocodia* et *Blainvillea*. *J. Phys. Chim. Hist. Nat. Arts* 96: 207–220.
 Cassini, H. 1829. Tableau synoptique des Synanthérées. *Ann. Sci. Nat. (Paris)* 17: 387–423.
 Cassini, H. 1831. Descriptions de quelques Synanthérées de l’île Maurice. *Ann. Sci. Nat. (Paris)* 23: 84–93.
 Cassini, H. 1834. *Opusculs phytologiques tome troisième ou supplémentaire*. Paris: F.G. Levrault.
 Castelo, E., Ricalde, O. & Panero, J.L. 2005. Actualización del catálogo de autoridades de las *Asteraceae*, Tribu *Heliantheae* y *Eupatorieae*. Herbarium, The University of Texas. Base de datos SNIBCOnabio, proyecto CS011.
 Cvelev, N.N. (ed.). 1989. *Flora evropejskoj časti SSSR*, vol. 8. Leningrad: Nauka.
 Cvelev, N.N. 1999. Ob ob’eme i nomenklature nekotoryh rodov sosudistyh rastenij evropejskoj Rossii. *Bot. Zhurn.* 84(7): 109–118.
 Desfontaines, R.L. 1829. *Catalogus plantarum Horti Regii Parisiensis*. Paris: Chaudé.
 Drury, D.G. 1974. A broadly based taxonomy of *Lagenifera* section *Lagenifera* and *Solenogyne* (*Compositae*-*Astereae*), with an account of their species in New Zealand. *New Zealand J. Bot.* 12: 365–395.
 Farr, E.R., Leussink, J.A. & Stafleu, F.A. (eds.). 1979. *Index nominum genericorum (plantarum)*. Regnum Vegetabile 100–102. Utrecht: Bohn, Scheltema & Holkema; The Hague: Junk.
 Farr, E.R. & Zijlstra, G. (eds.). 1996+. *Index nominum genericorum (plantarum)*. Retrieved Sept.–Oct. 2009 from <http://botany.si.edu/ing/>.
 Funk, V., Hollowell, T., Berry, P., Kelloff, C. & Alexander, S.N. 2007. Checklist of the plants of the Guiana Shield (Venezuela: Amazonas, Bolivar, Delta Amacuro; Guyana, Surinam, French Guiana). *Contr. U.S. Natl. Herb.* 55: 1–584.
 Gaudichaud, C. 1825. Rapport sur la flore des Iles Malouines. *Ann. Sci. Nat. (Paris)* 5: 89–110.
 Grau, J. 1973. Revision der Gattung *Felicia* (*Asteraceae*). *Mitt. Bot. Staatssamml. München* 9: 195–705.
 Greuter, W. 1973. Monographie der Gattung *Ptilostemon* (*Compositae*). *Boissiera* 22: 1–215.
 Greuter, W. 1985. The “Index Kewensis” as a source of validation

- of new specific names. Pp. 211–216 in: Burdet, H.M. (ed.), *Med-Checklist notulae bibliographicae*, 9 à 13. *Candollea* 40: 211–216.
- Greuter, W.** 2003. The Euro+Med treatment of *Gnaphalieae* and *Inuleae* (*Compositae*) – generic concepts and required new names. *Willdenowia* 33: 239–244.
- Greuter, W.** 2008a. Damn Vaillant? A reply to Brummitt in *Taxon* 57: 663. 2008, and some alternative proposals, including adding all Steinwehr's translations in *Königl. Akad. Wiss. Paris Phys. Abh.* 5–9. 1754–1760 to the “Opera utique oppressa”. *Taxon* 57: 1015–1016.
- Greuter, W.** 2008b. (1839–1842) Proposals to conserve the names *Leysera* against *Asteropterus*, *Voluntaria* against *Amberboi*, *Rhaponticum* with a conserved type, and *Rhaponticoides* against *Bielzia* (*Compositae*). *Taxon* 57: 1001.
- Greuter, W.** 2008c. *Med-Checklist: A critical inventory of vascular plants of the circum-mediterranean countries*, vol. 2, *Dicotyledones* (*Compositae*). Palermo: OPTIMA Secretariat.
- Greuter, W., Aghababian, M. & Wagenitz, G.** 2005a. Vaillant on *Compositae* – systematic concepts and nomenclatural impact. *Taxon* 54: 149–174.
- Greuter, W., Aghababian, M. & Wagenitz, G.** 2005b. (1670–1675) Proposals to conserve the names *Bellidiastrum*, *Berkheya*, *Euryops*, *Notobasis*, *Picnomon* and *Urospermum* (*Compositae*) against six generic names of Vaillant. *Taxon* 54: 196–198.
- Greuter, W. & Rechinger, K.H.** 1967. Flora der Insel Kythera, gleichzeitig Beginn einer nomenklatorischen Überprüfung der griechischen Gefäßpflanzenarten. *Boissiera* 13: 1–206.
- Gu, H. & Hoch, P.C.** 1997. Systematics of *Kalimeris* (*Asteraceae: Astereae*). *Ann. Missouri Bot. Gard.* 84: 762–814.
- Hilliard, O.M. & Burtt, B.L.** 1980. (529) Proposal to conserve *Petalacte* D. Don (1826) against *Bilya* Cassini (1825) (*Compositae*). *Taxon* 29: 507.
- Hind, D.J.N. & Jeffrey, C.** 1988. *Brachycome* Cass. corr. Cass. and *Lagenophora* Cass. corr. Cass. are correct. *Kew Bull.* 43: 329–331.
- Hind, D.J.N. & Jeffrey, C.** 2001. A checklist of the *Compositae* of vol. IV of Humboldt, Bonpland & Kunth's *Nova genera et species plantarum*. *Compositae Newsl.* 37.
- Holland, A.E. & Funk, V.A.** 2006. A revision of *Cymbonotus* (*Compositae: Arctotideae, Arctotidinae*). *Telopea* 11: 266–275.
- Jarvis, C.** 2007. *Order out of chaos: Linnaean plant names and their types*. London: Linnean Society of London in association with the Natural History Museum.
- Jarvis, C.E. & Turland, N.J.** 1998. Typification of Linnaean specific and varietal names in the *Compositae* (*Asteraceae*). *Taxon* 47: 347–370.
- Jeffrey, C.** 1986. The *Senecioneae* in East Tropical Africa. *Kew Bull.* 41: 873–943.
- Kadereit, J.W. & Jeffrey, C. (eds.)**. 2006. *The families and genera of vascular plants*, vol. 8, *Flowering plants: Eudicots; Asterales*. Berlin: Springer.
- Källersjö, M.** 1986. Fruit structure and generic delimitation of *Athanasia* (*Asteraceae-Anthemideae*) and related South African genera. *Nord. J. Bot.* 5: 527–542.
- Kilian, N.** 1997. Revision of *Launaea* Cass. (*Compositae, Lactuceae, Sonchinae*). *Englera* 17: 1–478.
- King, R.M. & Dawson, H.W.** 1975. *Cassini on Compositae collected from the Dictionnaire des Sciences Naturelles*, vols. 1–3. New York: Oriole Editions.
- King, R.M. & Robinson, H.** 1969. Studies in the *Compositae-Eupatorieae*, XI. Typification of genera. *Sida* 3: 329–342.
- King, R.M. & Robinson, H.** 1971. Studies in the *Eupatorieae* (*Compositae*). XXXIII. The genus *Gyptis*. *Phytologia* 21: 22–25.
- King, R.M., Janaske, P.C. & Lellinger, D.B.** 1995a. Cassini on *Compositae* II collected from the *Bulletin des Sciences par la Société Philomatique de Paris*. *Monogr. Syst. Bot. Missouri Bot. Gard.* 54: i–xii, 1–189.
- King, R.M., Janaske, P.C. & Lellinger, D.B.** 1995b. Cassini on *Compositae* III collected from the *Journal de Physique, de Chimie, d'Histoire Naturelle et des Arts* and from the *Annales des Sciences Naturelles*. *Monogr. Syst. Bot. Missouri Bot. Gard.* 55: i–vii, 1–507.
- Komarov, V.L. (ed.)**. 1959. *Flora SSSR*, vol. 25. Moscow & Leningrad: Akademija Nauk SSSR.
- Komarov, V.L. (ed.)**. 1963. *Flora SSSR*, vol. 28. Moscow & Leningrad: Akademija Nauk SSSR.
- Komarov, V.L. (ed.)**. 1964. *Flora SSSR*, vol. 29. Moscow & Leningrad: Akademija Nauk SSSR.
- Lessing, C.F.** 1832. *Synopsis generum Compositarum earumque dispositionis novae tentamen, monographiis multarum Capensium interjectis*. Berlin: Duncker & Humblot.
- Lloyd, D.G.** 1972. A revision of the New Zealand, subantarctic, and South American species of *Cotula*, section *Leptinella*. *New Zealand J. Bot.* 10: 277–372.
- McNeill, J., Barrie, F.R., Burdet, H.M., Demoulin, V., Hawksworth, D.L., Marhold, K., Nicolson, D.H., Prado, J., Silva, P.C., Skog, J.E., Wierssema, J.H. & Turland, N.J. (ed.)**. 2006. *International code of botanical nomenclature (Vienna Code): Adopted by the Seventeenth International Botanical Congress Vienna, Austria, July 2005*. Regnum Vegetabile 146. Ruggell: Gantner.
- Mota, J.F., Medina-Cazorla, J.M., Navarro, F.B., Pérezia, F.J., Pérez-Latorre, A., Sánchez-Gómez, P., Torres, J.A., Benavente, A., Gabriel Blanca, G., Gil, C., Lorite, J. & Merloa, M.E.** 2008. Dolomite flora of the Baetic Ranges glades (South Spain). *Flora* 203: 359–375.
- Necker, N.M.J.** 1790. *Elementa botanica*. Neuwied am Rhein.
- Nees von Esenbeck, C.G.D.** 1832. *Genera et species Asterearum*. Breslau: Gruson.
- Nesom, G.L.** 1993. Comments on the definition of the genus *Diplopappus* Cass. (*Asteraceae: Astereae*). *Phytologia* 75: 113–117.
- Nesom, G.L.** 1994. Review of the taxonomy of *Aster* sensu lato (*Asteraceae: Astereae*), emphasizing the New World species. *Phytologia* 77: 141–297.
- Nesom, G.L.** 2000. Generic conspectus of the tribe *Astereae* (*Asteraceae*) in North America, Central America, the Antilles, and Hawaii. *Sida, Bot. Misc.* 20: 1–100.
- Nesom, G.L.** 2008. Classification of subtribe *Conyzinae* (*Asteraceae: Astereae*). *Lundellia* 11: 8–38.
- Nicolson, D.H.** 1980. Summary of cytological information on *Emilia* and the taxonomy of four Pacific taxa of *Emilia* (*Asteraceae: Senecioneae*). *Syst. Bot.* 5: 391–407.
- Nicolson, D.H.** 1994. Gender of generic names, particularly those ending in *-ma*, in the ‘Names in current use’ list. *Taxon* 43: 97–107.
- Nicolson, D.H.** 1996. Proposal to conserve the name *Lagenophora* (*Compositae*) with a conserved spelling. *Taxon* 45: 341–342.
- Nicolson, D.H.** 1999a. Report of the General Committee: 8. *Taxon* 48(2): 373–378.
- Nordenstam, B.** 1989. A synopsis of the genus *Syncarpha* (*Compositae-Gnaphalieae*). *Compositae Newsl.* 17: 2–6.
- Norlindh, T.** 1943. *Studies in the Calenduleae I. Monograph of the genera Dimorphotheca, Castalis, Osteospermum, Gibbaria and Chrysanthemoides*. Lund: Gleerup.
- Orchard, A.E.** 2005. (1676) Proposal to conserve *Cassinia* R. Br. (1817) nom. cons. (*Asteraceae*) against an additional name, *Ozothamnus*, or to change its date of publication to *Cassinia* R. Br. (1813). *Taxon* 54: 199–201.
- Pfeiffer, L.K.G.** 1871–1875. *Nomenclator botanicus*. Kassel: Fischer.
- Phillips, E.P.** 1951. *The genera of South African flowering plants*, ed. 2. Pretoria: Government Printer.
- Robinson, H.** 1981. A revision of the tribal and subtribal limits of the *Heliantheae* (*Asteraceae*). *Smithsonian Contr. Bot.* 51: 1–102.
- Robinson, H.** 1999. Generic and subtribal classification of American *Vernoniaeae*. *Smithsonian Contr. Bot.* 89: 1–116.
- Robinson, H., Bohlmann, F. & King, R.M.** 1980. Chemosystematic notes on the *Asteraceae*. III. Natural subdivisions of the *Vernoniaeae*. *Phytologia* 46: 421–436.

- Robinson, H. & Brettell, R.D.** 1974. Studies in the *Liabeae* (*Asteraceae*) II. Preliminary survey of the genera. *Phytologia* 28: 43–63.
- Rydberg, P.A.** 1915. *North American Flora*, vol. 34(2). New York: New York Botanical Garden.
- Sancho, G.** 2004. Phylogenetic relationships within the genus *Onoseris* (*Asteraceae*, *Mutisieae*) inferred from morphology. *Syst. Bot.* 29: 432–447.
- Sayre, G.** 1959. *Dates of publications describing Musci, 1801–1821*. New York: Troy.
- Sennikov, A.** 2010. (089) Proposal to discard the nomenclatural value of reprints and translations of botanical publications first printed before the relevant nomenclatural starting-point date. *Taxon* 59: 307–308.
- St. John, H.** 1985. Earlier dates of valid publication of some genera and species in Gaudichaud's Botany of the Uranie voyage. *Taxon* 34: 663–665.
- Stafleu, F.A. & Cowan, R.S.** 1976. *Taxonomic literature: A selective guide to botanical publications and collections, with dates, commentaries and types*, 2nd ed., vol. 1, A–G. Regnum Vegetabile 94. Utrecht: Bohn, Scheltema & Holkema.
- Swenson, U.** 1995. Systematics of *Abrotanella*, an amphi-Pacific genus of *Asteraceae* (*Senecioneae*). *Pl. Syst. Evol.* 197: 149–193.
- Ulloa Ulloa, C. & Neill, D.A.** 2005. *Cinco años de adiciones a la flora del Ecuador: 1999–2004*. Loja: Editorial Universidad Técnica Particular de Loja.
- Ulloa Ulloa, C., Zarucchi, J.L. & León, B.** 2004. Diez años de adiciones a la flora del Perú: 1993–2003. *Arnaldoa*, Edición Especial Nov. 2004: 1–242.
- Wilton, A. & Richards, K.** 2007. C-INT Checklist Integration Software. Landcare Research, New Zealand.