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International Code of Phytosociological Nomenclature. 3rd edition

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Abstract. This is the 3rd edition of the Code of phytosociological nomenclature, prepared by the Nomenclature Commission of the International Association for Vegetation Science (IAVS) and the Fédération Internationale de Phytosociologie (FIP) on the basis of the 2nd edition. The Code consists of a series of definitions, principles, rules and recommendations which will facilitate the proper use of syntaxonomical names for the denomination of syntaxonomical units.

Keywords: Nomenclature; Syntaxonomy.

Preface

The 3rd edition of this Code has been prepared by the Nomenclature Commission of the International Association for Vegetation Science (IAVS) and the Fédération Internationale de Phytosociologie (FIP) on the basis of the 2nd edition (Barkman et al. 1986, *Vegetatio* 67: 145-195), together with the comments and proposals of the Commission members and some other phytosociologists. The proposals for additions and changes in the Code were summarized by the Standing Committee of the Commission (Weber, Moravec and Theurillat) and discussed through correspondence and at meetings of the Standing Committee in Rinteln (21-23.3.1991) and in Průhonice (17-19.9.1992). The results of these discussions were presented to the members of the Nomenclature Commission for comments at the end of February 1994 and again in February 1995. All comments and proposals were discussed in the plenary session of the Nomenclature Commission in Hannover, 26-27.2.1997. The 3rd Edition of the Code includes only those additions and changes that were accepted in Hannover. This final English edition represents the official version of the Code.

The division of the Code into Chapters and the numbering of the Articles and Recommendations is similar to that in the 2nd edition. The main changes and additions concern Definitions I, II, X, XII, XIII, Principles II, IV, Art. 3b, 3i-o, 5, 6, 10b, 16, 18b-c, 21, 24b, 26-29, 34c, 36, 39b, 40b, 42, 43, 45. The following new Recommendations are added: 1B, 1C, 5A, 36A, 42A, 43A, 45A, 51A; Recomm. 10C is changed into Art. 10b and Recomm. 47A has been abolished. A new Chapter, with a new Art. 52 and Recomm. 52A concerning *nomina conservanda*, is added. Some Definitions and Principles, together with many Articles and Recommendations, are presented with information that is more detailed, together with explanatory notes and many new examples. For a correct application of the Code, the entire text must be taken into account.

To ensure general recognition of new names of syntaxa (incl. *nomina nova*), new combinations, and lectotypifications or neotypifications of names, authors are requested to send a copy of their publications to J.-P. Theurillat, who is in charge of the registration of publication and typification of names. An index of such data will be published on an annual basis.

Readers are kindly requested to submit to the Secretary of the Commission information on errors found in the Code, on difficulties with its application, together with any proposals for changes. Proposals of *nomina ambigua*, *inversa*, *mutata* and *conservanda* should be addressed to the Committee for Nomina Conservanda, Ambigua, Inversa & Mutata (CNC – see App. II for instructions).

Since the publication of the 2nd edition of the Code in 1986, the following changes have occurred in the Nomenclature Commission. In 1988, J.J. Barkman resigned from the position of President of the Commission. In 1989, R. Neuhäusl and V. Westhoff resigned. Barkman died on 14.9.1990, and Neuhäusl on 25.4.1991. On 10.4.1988, during the symposium of the IAVS in Frascati (Italy), H.E. Weber was elected as President of the Commission on Barkman's nomination. In 1989, J.-P. Theurillat and O. Vevle were co-opted as members; J.-P. Theurillat replaced the late S. Rauschert on the Standing Committee.

Interest in the Code was stimulated following the initiation of the international project 'European Vegetation Survey' at the First International Workshop of the International Association for Vegetation Science (IAVS) organized by S. Pignatti in Rome, 13-14. 9.1992. During the Second International Workshop in Rome, 12-13.3.1993, an Accord was proposed between the International Association for Vegetation Science (IAVS), the Fédération Internationale de Phytosociologie (FIP), and the Nomenclature Commission. According to this Accord, the Nomenclature Commission is recognized as the authority for the nomenclature of syntaxa defined on floristic-sociological criteria. The establishment of national (regional) sub-commissions is recommended to

promote and facilitate the application of the Code. The Accord was signed by the President of the Commission, H. E. Weber, and during the 36th IAVS symposium in Tenerife, 12-16.4.1993, by the President of the IAVS, S. Pignatti, and the President of the FIP, S. Rivas-Martínez.

At the plenary session of the Commission in Hannover (26-27.2.1997) the following members participated: H. Dierschke, K. Fujiwara, J.-M. Géhu, G. Grabherr, J. Izco, A. Miyawaki, J. Moravec, J. Pallas, H. Passarge, S. Rivas-Martínez, A. Schwabe-Kratochwil, J.-P. Theurillat, O. Vevle, H.E. Weber and W. Willner.

The present composition of the Nomenclature Commission is as follows: H.E. Weber (DE) President; J.-M. Géhu (FR) Vice-President; J. Moravec (CZ) Secretary; J.-P. Theurillat (CH) Third member of the Standing Committee; C. Ansseau (CA); O. de Bolòs (ES); E.O. Box (US); G.J. Bredenkamp (ZA); H. Dierschke (DE); K. Dierssen (DE); G.J. Doyle (IR); U. Eskuche (AR); G. Ferro (IT); K. Fujiwara (JP); G. Grabherr (AT); M.M. Grandtner (CA); L. Ilijanić (HR); J. Izco (ES); J. Kielland-Lund (NO); J. Kolbek (CZ); A. Miyawaki (JP); L. Mucina (ZA); E. Oberdorfer (DE); J. Pallas (DE); H. Passarge (DE); F. Pedrotti (IT); S. Pignatti (IT); P. Quézel (FR); S. Rivas-Martínez (ES); J.S. Rodwell (GB); A. Schwabe-Kratochwil (DE); J.H.J. Schaminée (NL); A. Scoppola (IT); A.I. Solomeshch (RU); M. Valachovič (SK); O. Vevle (NO); M.J.A. Werger (NL) and W. Willner (AT).

We thank all members of the Nomenclature Commission who participated in the preparation of the present edition of this Code. In particular, we thank G.J. Doyle for his linguistic amendment of the text.

Introduction

Anyone studying the phytosociological literature observes a considerable volume of syntaxonomic names, including countless numbers of synonyms and homonyms, and is often faced with inconsistencies in the application of these names to particular plant communities. Nomenclatural stability is urgently required, to avoid further confusion and allow easy and correct usage of syntaxonomic names by applied vegetation ecologists such as foresters, agriculturalists, and nature conservationists. Such stability can only be achieved by the uniform application of generally accepted nomenclatural rules.

Similar problems were encountered in botanical and zoological idiotaxonomy and were rationalized through the establishment of nomenclatural rules specified in the International Codes for Botanical and Zoological Nomenclature. The Phytosociological Nomenclature Commission was, from the very beginning, unanimously in favour of the priority principle (Principle IV), not because it is the basis of the nomenclature of plants and animals, but because it is the sole objective principle and hence the only one to be adopted by all phytosociologists.

Names are only labels and, as such, they can never be wholly adequate. This is all the more true for the names of syntaxa, since these often have many character and differential species, few of which can be used in their names. It is far more important to know exactly what is meant by a name than to find one that seems in every respect to be characteristic.

While the association was chosen as the basic rank in the system of syntaxa (Principle VI), this did not imply that it was considered to be the fundamental unit. While in earlier times associations were considered to be the smallest units characterized by more or less faithful species, many associations were defined subsequently by differential species so that the fundamental difference between association and subassociation could hardly be sustained.

In this sense, Principle VI has a practical purpose. Subassociations cannot be established without reference to the association to which they belong, whereas the reverse is quite possible. Associations, however, can be defined without establishing or mentioning an alliance to which they might belong. This is in marked contrast with idiotaxonomy where, owing to the binary nomenclature, species cannot be described without attributing them to existing genera.

Some criticize the rules for syntaxonomic names, suggesting that these follow the rules for idiotaxonomic names too closely, arguing that associations cannot be directly compared with species, and vegetation relevés cannot be compared with plant specimens. The Nomenclature Commission has always been fully aware that vegetation classification is not directly comparable with the taxonomy of species. Nomenclature is not a science, however, it is a practical device and as such has much in common with the nomenclature of taxa. Many of the rules deal merely with the matter of names themselves without paying particular attention to the contents of such names. Questions concerning effective and valid publication of names, superfluous names, homonyms, priority of names and other subjects are exactly the same as those affecting idiotaxonomic names. Since idiotaxonomic nomenclature codes have a much longer history, it seems only sensible to profit from the experience gained in taxonomy, insofar as such experience can help in the solution of analogous problems in syntaxonomic nomenclature.

Abstract plant communities are essentially statistical units, based on tables, and not on single relevés. Yet it was agreed that single relevés would meet the requirements for a sufficient original diagnosis of associations and subassociations (Art. 7). Formally and practically, there is no other solution. If more than one relevé were required, the number of relevés would be quite arbitrary. Besides, the required minimum number would largely depend on the variability of the syntaxon in question, being much fewer where the syntaxon was homotoneous (in the sense of Nordhagen) than where it was heterotoneous. Where synoptic tables are employed, the number of relevés may not be apparent. The description of

associations based on one or a few relevés must, of course, be strongly discouraged and such associations are doubtful units. Whether they prove to be 'good' associations, is a matter that must be determined by further research. A code of nomenclature cannot present rules for the standard of scientific work.

In modern taxonomy, species are not based on an individual, but on populations. Nevertheless, one single plant or animal suffices for a valid description of a new species or infraspecific taxon. The method of nomenclatural type specimens is the common basis for the nomenclature of botanical and zoological taxa. A nomenclatural type ('name-bearing type'), usually consists of a permanently preserved specimen of one single plant or animal (or a representative part of it, e.g. a tree branch with its leaves and/or flowers). If there were more specimens, it would remain arbitrary, as to which of these provides, in *sensu strictissimo*, the objective standard of reference by which the application of the name it bears is permanently settled.

The method of nomenclatural types was adopted for syntaxonomic names (Principle V and Article 15). Since, however, a discrete sample of a plant community cannot be permanently preserved, a relevé must serve as a name-bearing type. The relevé cannot be directly compared with an individual plant that belongs to a single taxon or hybrid. A relevé may represent a mixture of different associations, so the rules in this case allow for the rejection of names of syntaxa based on such relevés (Art. 37). On the other hand, there are many more cases in which relevés are more or less homogeneous, whilst the table is not. In these instances, the type method enables an objective decision on which part of an association must retain the original name, where a part of the relevé set is assigned to another syntaxon by division. Therefore, the name-bearing type-relevé is no more than a useful device and must not always be a so-called 'typical' relevé. In future, however, the method will probably contribute to a more precise definition of syntaxa.

Authors, when choosing type-relevés, will generally tend to select the most typical and complete relevé provided in their original diagnosis. The new Art. 16 moves in that direction and requires that (a) the type-relevé of an association must contain its name-giving taxon (taxa), and (b) the type relevé of a subassociation must contain the name-giving taxon of the subassociation. For associations and subassociations published before 1.1.1979, a synoptic table is allowed as a sufficient original diagnosis, although the homotoneity of such syntaxa cannot be effectively assessed. This course of action was adopted to avoid a situation where too many old names would become invalid – the Nomenclature Commission was opposed to the widespread alteration of names.

Where names of syntaxa are to be changed for nomenclatural reasons, there is no justification for adding one's name to communities described by others, since this might lead to a deluge of unnecessary alterations. For this and other reasons, Art. 48 dictates that the second authors name may only be inserted in specific cases.

The use of geographical epithets for syntaxonomic names (if they do not belong to a name-giving taxon) is explicitly forbidden, since these contain no floristic information. Such names are better reserved for geographical races/vicariants, if one wants to use that concept. The formation of names for geographical races/vicariants, variants and subvariants and for the highest units, the division and class group, is completely free, since the Code does not deal with syntaxa of these ranks. Experience with the rules may determine whether or not such units should one day be included in the Code.

This edition of the Code contains some major alterations and additions to the nomenclatural rules. Perhaps the most important one involves the possibility of retaining names in current use as *nomina conservanda* (conserved names). The rigid application of the rules, particularly of the principle of priority, might lead to the rejection of well-known and long-accepted names in favour of previously unused names regarded as the senior synonym. In such cases, the priority principle, originally intended to promote stability, would just serve to load the nomenclature with unknown names produced through constant dredging of the literature. An analogous problem is seen in the unfortunate instability of taxonomic names that has arisen through a similar process. As a result, *nomina conservanda* (not only for taxa of higher rank, but also for species) have been commonly adopted for a considerable period of time in Zoological nomenclature and have become more accepted in the International Code of Botanical Nomenclature. At the International Botanical Congress in Japan, held 1993 in Yokohama, the final plenary session adopted the following resolution relating to nomenclature: "The XV International Botanical Congress urges plant taxonomists, while such work continues, to avoid displacing well-established names for purely nomenclatural reasons, whether by change in their application or by resurrection of long forgotten names." The vast majority of phytosociologists have repeatedly and urgently requested, at congresses and other meetings, that *nomina conservanda* be adopted in syntaxonomy. Future syntaxonomists should seriously consider the value of preserving nomenclatural stability through the use of *nomina conservanda*.

Another change involves Definition I, which now indicates that only phytocoenoses can be considered as syntaxa. Symphytocoenological units, 'sigma-associations', etc., and all synusial units cannot be so designated.

Thus, the 'association names' of the Uppsala School, published before 1.1.1936, with the exception of names of moss and lichen communities, are no longer subject of this Code. They correspond in reality to the 'sociations' of that School and are therefore not identical with the associations of the hierarchical system of syntaxa governed by this Code (Principle II). Some of these 'association names', however, which were applied for a long period of time in accordance with the nomenclatural type, may be proposed as *nomina conservanda* and, after positive decision, will become valid (Principle II, Art. 52).

This Code is moving in the direction of requiring registration of names, so those new syntaxonomic names may be generally known. An article requiring the registration of names as part of their valid publication, was favoured by the Nomenclature Commission, but was withdrawn for pragmatic reasons, and for the time being replaced by a recommendation (Reccom. 1C).

The International Code of Phytosociological Nomenclature (ICPN) is one of several Codes that deal with the rules for names used in Biology. The other Codes include the International Code of Botanical Nomenclature (ICBN), International Code of Nomenclature for Cultivated Plants (ICNCP), International Code of Zoological Nomenclature (ICZN), International Code of the Nomenclature of Bacteria (IBC) and International Code of Virus Classification and Nomenclature (ICV). The ICBN, ICZN and IBC will possibly be governed in future by a general 'BioCode', ruled by IUBS, the International Union of Biological Sciences, which is the premier organization in Biological Sciences, representing the Academies of Sciences from many countries all over the world.

Faced with such unsolved questions, the Nomenclature Commission decided to retain in this edition the terms of the previous ones. Since the next edition of this Code will not appear before 2010, it may be useful to give a brief survey of the terms of the present Code (ICPN) and the terms of the 'BioCode', which may come into use some day.

ICPN Term	'BioCode' Term
Effectively published name	Published name
Validly published name	Established name
Validating	Establishing
Legitimate name	Acceptable name
Correct name	Accepted name
Nomenclatural type	Name-bearing type
Nomenclatural synonym	Homotypic synonym
Syntaxonomic synonym	Heterotypic synonym
Rejected name	Suppressed name
Rejection	Suppression
Priority	Precedence and, in special cases, priority
Original diagnosis	Protologue

This Code consists of Definitions, Principles, Articles, Recommendations and a guide to the correct formation of names of syntaxa based on the names of plant species. Principles and Articles are binding (either retrospectively up to 1.1.1910 or 1.1.1979, or from 1.1.1987 or 11.1.1980, or 1.1.2002 onwards, as indicated specifically).

Modifications to the Code will be decided at future sessions of the Nomenclature Commission, based on comments and suggestions received from colleagues active in phytosociology.

Definitions indicate the meaning of the terms of nomenclature and relevant research as applied in this Code.

Principles form the basis of the system of phytosociological nomenclature.

Articles and Recommendations include the detailed Regulations and Rules of nomenclature. Examples are provided in the text of the Code that explain both Rules and Recommendations.

Rules should confer order on earlier nomenclature and point the way for the future. Names that are formed contrary to a Rule cannot be retained unless they were adopted as *nomina conservanda.*

Recommendations should ensure that future nomenclature is unified and unequivocal. Names contradicting a Recommendation, however, cannot be rejected for that reason alone.

The only justifications for changing names are, after taking cognizance of the possibility of preserving a name as a *nomen conservandum*, the need to abandon a denomination that contradicts the Rules, or the requirement for a name change based on new understanding of syntaxonomic facts, derived as a result of scientific research.

The prevailing current use of a name has to be maintained, where there is no relevant Rule, or where the consequences of a Rule are doubtful.

The present edition of the Code replaces the previous ones: Edition 1 (Vegetatio 32: 131-185, 1976) and Edition 2 (Vegetatio 67: 145-195, 1986).

International Code of Phytosociological nomenclature

DIVISION I. Definitions

Definition I – Syntaxa

The term syntaxon (plural: syntaxa) indicates in this Code an abstract unit of phytocoenoses of any rank, defined by floristic-sociological criteria, which may (in principle) be incorporated into a hierarchical system.

The abstract units of bryophyte, lichen or other cryptogamic communities are also considered as syntaxa when they are treated as particular communities defined by floristic-sociological criteria, despite the fact that they do not always correspond to phytocoenoses.

Note: Syntaxa include the vegetation units of the Zürich-Montpellier School (except the circle of vegetation), the vegetation units of the Uppsala School (except the panformation), abstract units without rank such as 'community', 'community type', 'vegetation type', 'vegetation group', 'Gesellschaft', 'peuplement', 'groupement', 'nodum', 'coenon', etc. when they correspond to phytocoenoses and when they are based on floristic-sociological criteria.

The symphytocoenological units ('vegetation complex', 'sigma-association', 'geosigmassociation', etc.) are not considered as syntaxa, nor are the phytocoenotic units derived from the integration of synusial units.

Definition II – Hierarchy of ranks

The hierarchical system of syntaxa governed by this Code is based on four principal ranks: Association, Alliance, Order and Class. Supplementary ranks may be introduced in addition when, in the author's opinion, a greater number of ranks is required.

The association is defined according to the proposal of the Botanical Congress at Brussels 1910 – Flahault, C. & Schroeter, C. *Nomenclature phytogéographique*. Rapports et propositions. IIIe Congrès international de Botanique, Bruxelles 1910:
"An association (type of stands) is a plant community of definite floristic composition which presents a uniform physiognomy and which grows in uniform habitat conditions".

Definition III – Effective publication

An effective publication is one that is in accordance with the conditions of Art. 1. Not effectively published names will be treated as 'not published names' according to this Code.

Definition IV – Valid publication

A valid publication of names is one that fits the conditions of Art. 2-9. Not validly published names will be treated as 'not published names' according to this Code.

Note: The term 'original name' or 'original form of name' refers to the form of the name used in its first valid publication.

Definition V - Legitimacy of names

Legitimate names or epithets are those that are validly published and whose form fits the prescriptions of Art. 10a sentence 1, Art. 12, Art. 13 sentences 1 and 2, and Art. 31 to 34. The original form of the legitimate name must be corrected correspondingly if it is inadmissible according to Art. 41 to 45.

Illegitimate names or epithets are those that are validly published, but whose form does not fit the prescriptions of Art. 10a sentence 1, Art. 12, Art. 13 sentences 1 and 2, Art. 29b and c or Art. 31 to 34 or those that have been declared as illegitimate by the Nomenclature Commission according to Art. 36.

Definition VI – Correct name

The correct name of a syntaxon is the legitimate name (if necessary corrected according to Art. 41 to 45) that must be adopted for this syntaxon with a particular circumscription, position and rank under the Rules.

Definition VII – Nomenclatural combination

A combination is the name of a subassociation, consisting of an association name followed by a subassociation epithet (see Art. 13).

Definition VIII – Nomenclatural type

A nomenclatural type (a type of the name of a syntaxon) is that element of the syntaxon to which the name of the syntaxon remains permanently attached. The nomenclatural type need not be the most typical (characteristic) or one that is outstanding owing to its particular frequency (see Art. 15).

An element, in the sense of this Code, is a vegetation relevé in the case of associations and subassociations, and a syntaxon of the next subordinate principal rank in syntaxa of higher rank.

A holotype is the element that is indicated as the nomenclatural type in the original diagnosis by the author or that is the only element published or cited there.

A lectotype is a nomenclatural type that is chosen from several elements published and/or cited in the original diagnosis when none of those elements was indicated as the holotype.

A neotype is an element that is chosen as the nomenclatural type when neither the holotype nor an element suitable to be chosen as the lectotype occurs.

Note: Occasionally, the term '*typus*' is erroneously replaced by '*syntypus*' ('*holosyntypus*', '*lectosyntypus*', '*neosyntypus*') in the new literature. The term '*syntypus*' is not used in this Code and therefore must be replaced by '*typus*' ('*holotypus*', respectively '*lectotypus*' or '*neotypus*').

Definition IX – Homonyms

Homonyms are validly published names based on different nomenclatural types and spelt identically.

Differing names are treated as homonyms in particular cases (Art. 32).

Definition X – Synonyms

Synonyms are names in the same rank that denominate the same syntaxon or syntaxa considered as the same syntaxon without regard to their position.

Nomenclatural or homotypical synonyms are based on the same nomenclatural type and are therefore in any case synonymous.

Syntaxonomic or heterotypical synonyms are based on different nomenclatural types, but are considered to belong to the same syntaxon. With a changed circumscription of the syntaxon, they can become nonsynonymous.

Pseudonyms are names used with the original author citation but misinterpreted by later authors (see Recomm. 46J).

Note: Names of syntaxa of different rank that have the same syntaxonomic content are not synonyms and therefore should not be included in the synonymy. These names, as well as pseudonyms, can be cited separately after the synonyms and mentioned as corresponding names.

Definition XI – Basionym

The term basionym indicates the epithet-giving synonym in cases where a subassociation epithet is retained in a new combination with another association name.

Definition XII – Author citation

The term 'author citation' refers in this Code to the presentation of the name of the author(s) that published validly or validated the syntaxon name, followed by the year of the valid publication or validation.

Definition XIII – Nomina conservanda

Nomina conservanda are names established according to special criteria, and are protected, irrespective of their priority, and must be retained.

DIVISION II. Principles

Principle I – Governing names of syntaxa

The regulations of this Code apply to the names of syntaxa. No other vegetation units or systems are subject to the regulations of this Code: their names do not influence the applicability of the names of syntaxa.

Principle II – Governing hierarchy of syntaxa

The regulations of this Code govern the nomenclature of the following principal ranks of syntaxa (see Def. II): Association (*associatio*), Alliance (*alliancia**), Order (*ordo*), and Class (*classis*); they also govern the nomenclature of the following supplementary ranks of syntaxa: Subassociation (*subassociatio*), Suballiance (*suballiancia***), Suborder (*subordo*), and Subclass (*subclassis*).

The nomenclature of other ranks, such as 'sociations' and 'consociations' of the Uppsala School and of abstract vegetation units without rank, such as 'community', 'vegetation type', 'Gesellschaft', 'peuplement', 'groupement', etc. is not subject to the regulations of this Code. The same applies to 'association names' of the Uppsala School published before 1.1.1936, as they correspond in reality to 'sociations' (a term established as far back as the Botanical Congress at Amsterdam 1935). In an effort to achieve stabilisation of nomenclature, some of these 'association names', which have been applied for a long time in accordance with the nomenclatural type, can be proposed as *nomina conservanda* (see Def. XIII and Art. 52). In this case, such names would be considered as validly published in so far they fulfil all other requirements. The 'association names' of the Uppsala School for moss and lichen communities will be considered, however, as validly published.

In this Code, changes in rank are governed within the principal and supplementary ranks given in Principle II. For example, the degradation of a subassociation to variant is not governed in this Code. On the contrary, the incorporation of 'groupement', 'Gesellschaft', 'community', 'sociation', etc. to an association is governed by this Code. A change from a supplementary rank to a principal rank, or *vice versa*, does not create a new syntaxon but a new rank of the syntaxon.

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* Formerly also called '*foederatio*'.

** Formerly also called '*subfoederatio*'.

Principle III – Correct names of syntaxa

Each syntaxon with a particular circumscription, position, and rank has only one correct name.

Principle IV – Priority

The correct name of a syntaxon is the earliest validly published that is in accordance with the Rules (Principle of Priority). The principle of priority is to be used to promote stability. It is not intended to be used to reject a long-accepted name in its accustomed meaning through the introduction of an unused name that is its senior synonym. When an author considers that the application of the Principle of Priority would disturb stability or universality or cause confusion, the existing usage is to be maintained and the case referred to the Nomenclature Commission for a ruling (see Def. XIII).

Principle V – Application of the nomenclatural type

The application of the name of a syntaxon is determined by means of its nomenclatural type (type of the name).

Principle VI – Basic rank

The association is the basic rank in the hierarchical system of syntaxa.

Principle VII – Retroactivity of the Code

The Rules of nomenclature are retroactive unless expressly limited.

DIVISION III. Rules and Recommendations

Chapter 1. Conditions and dates of effective publication

Article 1 – Conditions and date of effective publication

Publication is effected only by distribution (sale, exchange, gift) of printed matter (including off-set and photo off-set) to the general public or at least to libraries accessible to botanists generally.

The date of effective publication is the date on which the printed matter became available as defined in § 1. In doubtful cases the date appearing in the printed matter must be accepted as correct unless the correct date cannot be proved from other data.

When reprints from periodicals or other works are issued in advance, the date of effective publication is that on which the reprints became available as defined in § 1.

Examples: 1. The name *Festucetea ovinae* Knapp 1942 is not effectively published since it was only published in a paper that was reproduced by means of a hectograph – Knapp, R. (1942) *Zur Systematik der Wälder, Zwergstrauchheiden und Trockenrasen des eurosibirischen Vegetationskreises*. Arb. Zentralstelle Vegetationskartierung des Reiches, Beil. 12. Rundbr. an die Kameraden im Felde.

2. The name *Puccinellio maritimae-Salicornietum emerici* Géhu et Géhu-Franck 1979 is effectively published though the paper was reproduced by means of a photo off-set directly from the typewritten original – Géhu, J.-M. & Géhu-Franck, J. (1979) Les *Salicornietum emerici* et *ramosissimae* du littoral atlantique français. *Doc. Phytosociol.* N.S. 4: 349-358.

3. The name *Chenopodietea* Br.-Bl. was effectively published in

1952, as indicated on the last page in Braun-Blanquet, J., Roussine, N. & Nègre, R. (1952) Les groupements végétaux de la France Méditerranéenne, p. 298, and not in 1951 as often cited (probably according to the date of the preface).
4. The name *Festucion versicoloris* Krajina 1934 (*Beih. Bot. Centralbl.* 51/II: 53) was already effectively published in the offprint with the date 1933 and previously distributed in 1933.
5. The names *Phragmition* and *Phragmitetalia* were effectively published by Koch in 1926 (*Jahrb. St.-Gall. Naturwiss. Ges.* 61(2): 1-146) and not in 1925 as printed on the cover of the journal number 61(2). This case is not a doubtful case since on p. 62 of the number 61(1) dated '1925' information is provided on the plenary session dated 24 February 1926 where the issue of Koch's paper had been announced. The date 1926 is confirmed on reprints of Koch's publication, which are dated with March 1926.

Recommendation 1A

Authors are requested to confine publication of new names to scientific journals, and to avoid such publication in books, review periodicals, footnotes, indices, introductions or summaries. When published in books, the new names as well as typifications of names should be confirmed in the index.

Recommendation 1B

When it has been shown that a date given on the printed matter is incorrect, the appropriate date should be published with an accompanying account of how the correct date was established.

Recommendation 1C

To ensure general recognition of new names of syntaxa (incl. *nomina nova*), new combinations, and lectotypifications or neotypifications of names, authors are requested to send a copy of their publication to the member-in-charge of the Nomenclatural Commission (see App. II) charged with registration of publication and typification of names. An index of such data will be published on an annual basis.

Chapter 2. Conditions and dates of valid publication of names

Article 2 – Conditions of valid publication of names

The name of a syntaxon is only validly published:

a. If it was effectively published in the year 1910 or later.

Example: The name '*Curvuletum*' Brockmann-Jerosch 1907 is not validly published since it was published before 1910 – Brockmann-Jerosch, H. (1907) *Die Flora des Puschlav (Bezirk Bernina, Kanton Graubünden) und ihre Gesellschaften*, p. 300.)

b. If it is accompanied by a sufficient original diagnosis or by an unambiguous (direct or indirect) reference to an earlier, effectively published, sufficient diagnosis (see Art. 7 and 8).

Note 1: An indirect reference occurs when instead of the first effective publication a later publication of the same name is given that contains a direct reference to the first effective publication.
Note 2: Bibliographical errors in a reference (e.g wrong number of volume or page) do not make the publication invalid. As a bibliographical error the following example is to be considered.
Example: In the alliance *Cardamino-Montion* in Westhoff, Dijk & Passchier (1946) *Overzicht der Plantengemeenschappen Nederland*, Amsterdam, p. 59), the 'associatie van *Philonotis fontana* en *Montia rivularis*' Büker et Tüxen 1941' is given. In the bibliography, only Büker (1941, *Beih. Bot. Centralbl.* 51, Abt. b) is cited, where the '*Philonotis fontana-Montia rivularis*-Ass. Büker et Tx. 1941' is described on p. 470.

Note 3: An unambiguous reference is given only when the place of publication is correctly provided (e.g. name of the journal, title of the book, etc., volume and page) either following directly the author citation or in the bibliography; from 1.1.2002 the page should be included. The author citation as such is not sufficient.

Examples: 1. The name *Triseto-Polygonion* Br.-Bl. et Tüxen 1943 (*Comm. Stat. Int. Géobot. Médit. Alp.* 84: 8 '*Triseteto-Polygonion*') is not validly published since neither a sufficient original diagnosis or a reference to such diagnosis is included.
2. The name *Dentario glandulosae-Fagetum* is not validly published by Matuszkiewicz 1964 (*Mater. Zak. Fitosocjol. Stos. U.W.*, Nr. 4) although 'Klika 1927' is cited in the author citation, since no paper by Klika is referred to and no other original diagnosis is given.
3. The name *Campanulo barbatae-Potentillion aureae* de Foucauld 1994 (*Coll. Phytosociol.* 22: 438) is validly published since its diagnosis contains the name *Aveno versicoloris-Nardetum strictae* Oberdorfer (1950) 1957 accompanied by an indirect reference to the original diagnosis of this name through the reference to the work *Süddeutsche Pflanzengesellschaften, 2. Aufl., Teil II*, Jena, published by Oberdorfer in 1978 which contains the references to Oberdorfer's works (1950, 1957). The fact that the name '*Aveno-Nardetum*' is a *nomen superfluum* for the validly published name *Aveno versicoloris-Hypochoeridetum uniflorae* Oberdorfer 1950 does not intervene in the validity of the name of the new alliance (see Art. 17).
4. The name *Potentillion calabrae* (Bonin 1978) de Foucault 1994 (*Coll. Phytosociol.* 22: 441) is not validly published since there is no reference to the original diagnosis of the type given for the new alliance name (*Luzulo multiflorae-Nardetum strictae* Giacomini et Gentille 1966) in the work *Contribution à la connaissance des montagnes de l'Apennin austro-méridional*, Thèse, Marseille, published by Bonin in 1978, which is cited as an indirect reference.

c. If it is derived from scientific plant names (see Art. 10-14, 31).

d. If it is not published invalidly according to Art. 3-5 and 9.

Article 3 – Causes of invalid publication of names

The name of a syntaxon is not validly published, if the publication is not in accordance with Art. 2, and:

a. When it is merely cited as a synonym.

Example: The name *Dentario enneaphylli-Fagetum* cited by Oberdorfer (1957) *Süddeutsche Pflanzengesellschaften*, Jena, p. 475, '*Dentarieto enneaphyllidis-Fagetum*' as a synonym for the name *Abieti-Fagetum sudeticum* Preis 1938 ('*Abieti*) *Fagetum sudeticum*') is not validly published.

b. When it is suggested by the author as a provisional name (*nom. prov.*) or as the name for a provisional syntaxon (e.g. *ass. prov.*), when it is not clearly adopted by the author(s), or when in the same publication the name is given in some place(s) as provisional and in other(s) as definitive.

Examples: 1. The name *Festuco-Veronicetum vernae* ass. nov. prov. Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 249) is not validly published.

2. Rivas Goday & Borja Carbonell (1961, *Anal. Inst. Bot. Cavanilles* 9: 67) arranged the order *Prunetalia* in the class *Querco-Fagetea*. In the text the following statement was made "We think that a new class (*Rhamno-Prunetea*) could be formed" – translated from the Spanish – but that name was not clearly adopted.

c. When the rank of the vegetation unit is not indicated (see Def. I and II); this includes compound names with 'community', 'community type', 'vegetation type', 'vegetation group', 'Gesellschaft', 'peuplement', 'groupement', '*nodum*', '*coenon*', etc.

Note: When a new syntaxon is indicated in the same publication, as a syntaxon without any rank and also with an appropriate rank, then the page that includes the indication of the rank according to Principle II is accepted as the place of the valid publication of the name.

Examples: 1. The names '*Crithmum maritimum* community' Per Sunding 1972 (*Skr. Nor. Vidensk.-Akad. Mat.-Naturvidensk. Kl.* N.S. 29: 53), '*Agrostis rupestris-Juncus trifidus*-Gesellschaft' Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 307), 'peuplement de *Spartium junceum*' de Bannes-Puigiron 1933 (*Comm. Stat. Int. Géobot. Médit. Alp.* 19: 47), '*Sphagnum cuspidatum-Rhynchospora alba* nodum' Rybníček 1970 (*Folia Geobot. Phytotax.* 5: 247) are not validly published.
2. The new association *Calamagrostio villosae-Franguletum* in Passarge 1973 (*Acta Bot. Acad. Sci. Hung.* 19: 225-267) was validly published on p. 266 although Table 4 on p. 262 was headed with the name '*Calamagrostis villosa-Frangula alnus*-Ges.'.

d. When the indicated rank of the syntaxon does not correspond to ranks of the Code (Principle II).

Examples: 1. The name '*Sedum villosum-Philonotis fontana*-sosiasjon' Nordhagen 1943 (*Bergen. Mus. Skr.* 22: 432) is not validly published.
2. The name *Carici limosae-Amblistegietum scorpioidis* Osvald 1923 (*Die Vegetation des Hochmoores Komosse*, Uppsala, p. 182: '*Carex limosa-Amblystegium scorpioides*-Ass.') is not validly published as this name corresponds in reality to a sociation and not to an association.

e. When the rank indicated does not correspond to the form of the name. The names of suballiances, suborders and subclasses which were formed with the termination of the principal rank before 1.1.1979 (see Art. 41b) are exempt from this prescription.

Examples: 1. The names 'asociace *Fagetum asperuletosum*' Šmarda 1950 (*Čas. Morav. Mus.* 35: 143, 1950) as well as '*Dicranoweisietum cirrhatae*' Duvigneaud 1942, designated in the original publication (*Bull. Soc. Roy. Bot. Belg.* 74: 43, 1942) as a subassociation of the *Syntrichietum laevipilae* (Allorge 1922) Ochsner 1928, are not validly published.
2. The name *Trifolietum alpini* Rübel 1911 (Pflanzengeographische Monographie des Berninagebietes, *Bot. Jahrb. Syst.* 47: 166, 1911) is not validly published since the rank of the syntaxon is indicated as a supplementary rank ('Nebentypus') corresponding to an edaphic variant of a subassociation.

f. When the name-giving taxon or taxa are not indicated in the original diagnosis either directly or indirectly (i.e. in the original diagnoses of the subordinate syntaxa that have been quoted in the original diagnosis of a syntaxon above association).

Example: The name 'as. *Festuca duriuscula-Alyssum saxatile*' Klika 1941 (*Věst. Král. Čes. Spol. Nauk, Tř. Mat.-Přír.* 1941: 6, offprint) is not validly published since *Alyssum saxatile* is not indicated in the two relevés present in the original diagnosis.
g. When it has been published on or after 1.1.1979 and it is not clear from what taxon name(s) (species or infraspecific taxon) it is formed.

Examples: 1. The name *Sorbo-Fraxinetum* Béguin et Theurillat 1982 (*Bot. Helv.* 91: 141) is not validly published since both *Sorbus aria* and *S. mougeotii* are present in the original diagnosis and there is no clear indication from which of these species the name has been formed.
2. The name *Poo-Euphorbietum esulae* Passarge 1989 (*Tuexenia* 9: 125) is published validly, even when *Poa angustifolia* and *P. trivialis* are present in the original diagnosis. It is clear from the table and text that *P. angustifolia* is to be regarded as the name-giving species, and that *P. trivialis* is included in the original diagnosis only as an accidental species.
3. The name *Lathyro-Carpinetalia betuli* Täuber 1987 (*Contr. Bot.* 1987: 180) is not validly published since it is not clear which *Lathyrus* species is used in the formation of the name; *L. hallersteinii* Baumg., *L. transsilvanicus* (Sprengel) Fritsch and *L. velutinus* (Mill.) Wohl. are given as character species of the order.
4. The name *Astragalo-Seslerietum* Richard 1985 (*Bot. Helv.* 95: 200) is not validly published since all the three species of the genus *Astragalus* present in the original diagnosis (*A. leontinus*, *A. australis*, *A. monspessulanus*) are considered by the author to pertain the name ('la pelouse à Seslérie et Astragales'), even though *A. leontinus* is the most abundant of these species and is indicated as a character species in the text.
5. In 1994 Almeida, Cleef, Herrera, Velasquez & Luna published the new name *Bartramio potosicae-Bryoerythrophylletum jamesonii* (*Phytocoenologia* 22: 391-436). Even if both *Bartramia potosica* and *B. ithiphylla* are listed on the same line (*Bartramia potosica/B. ithiphylla*) in the vegetation table, the name of the syntaxon is validly published following to remarks on p. 401.

h. When it has been published on or after 1.1.1979 in the form indicated in Art. 12 § 1 or in Art. 14 § 1 or with a termination not corresponding to the rank according to Art. 11.

Note: Names of syntaxa of principal rank superior to association formed according to Art. 12 and published before 1.1.1979 make an exception when they are divided according to Art. 24 or reduced to a supplementary rank according to Art. 27.

Examples: 1. The name '*Xerobromenalia*' Royer 1991 (*Synthèse eurosib., phytosociol. et phytogéogr. de la classe des Festuco-Brometea*, *Diss. Bot.* 178: 207) is not validly published since it contains a prefix expressing an ecological characteristic, and since it was published after 1.1.1979, its form is not in accordance with Art. 12.
2. The names '*Atriplex halimus-Lycium europaeum* ass.' Bornkamm et Kehl 1990 (*Phytocoenologia* 19: 170) and 'Ass. *Nardus stricta-Helianthemum grandiflorum*' Rajewski 1990 (*Bull. Inst. Jard. Bot. Univ. Beograd* 9: 34) are not validly published since they were published after 1.1.1979 and their form is not in accordance with Art. 14.

i. When it has been published on or after 1.1.2002 without being indicated *expressis verbis* as new (e.g. '*ass. nov.*', '*all nov.*', '*comb. nov.*', '*stat. nov.*', '*nom. nov.*', etc.); this applies also to the validation of invalidly published names (see Art. 6).

j. When it has been published on or after 1.1.2002 simultaneously with one or more alternative names.

k. When it has been published on or after 1.1. 2002 and when it has

not been formed from a taxon of the highest dominant stratum (see Art. 10b and 29).

l. When the name-giving taxon (or taxa) has not been earlier or simultaneously validly published.

Examples: 1. The name *Caricetum oenensis* Seibert 1962 (*Landschaftspfl. Vegetationsk.* 3: 57, Tab. 11) has not been published validly since the name-giving taxon *Carex oenensis* was not validly published at that time.
2. Theurillat (1989, *Saussurea* 20: 76) published the new association *Phyteumo nanae-Caricetum curvulae* [*recte*: *Phyteumato nani-Caricetum curvulae*], which was based upon *Phyteuma nanum* Schur. Although in use in current floras, this name is, however, a *nomen nudum* for *Phyteuma confusum* A. Kerner. Therefore, the name *Phyteumato nani-Caricetum curvulae* is not validly published. It was later substituted by the name *Phyteumato confusi-Caricetum curvulae* Theurillat 1996 (*Diss. Bot.* 258: 280).

m. If it stems from a division (Art. 24), uniting of syntaxa (Art. 25), change in position (Art. 26), change in rank (Art. 27), and it is not in accordance with the corresponding rules.

n. If it is a *nomen novum* and it is not in accordance with Art. 39.

Example: Biondi & Allegrezza (1996, *Giorn. Bot. Ital.* 130: 123) published the *nomen novum Lonicero xylostei-Quercetum cerridis* (Taffetani et Biondi 1993 [*recte* 1995]) without indicating which name it replaced. In the publication of 1993 [*recte* 1995] (Taffetani et Biondi, *Ann. Bot.* (*Roma*) 51 suppl. 10: 229-240), there are four names validly published: *Carpino orientalis-Quercetum cerridis* Blasi ex Taffetani et Biondi 1995, *Daphno laureolae-Quercetum cerridis* Taffetani et Biondi 1995, *Lonicero xylostei-Carpinetum orientalis* Taffetani et Biondi 1995, and *Violo hirtae-Carpinetum orientalis* Taffetani et Biondi 1995. The *nomen novum* is not validly published since there is no indication, which of these names was replaced, and no indirect way to ascertain this information.

o. If it is not typified in accordance with Art. 5.

Article 4 – Causes of invalid publication of subassociation names

The name of a subassociation is not validly published:

a. When the name of the superior association has not been or is not being simultaneously validly published (however, see Art. 30 § 2).

Examples: 1. The name '*Melica*-Buchenwald Subass. von *Luzula nemorosa*' Tüxen 1954 (*Vegetatio* 5-6: 467) is not validly published (see Art. 3c).
2. The name *Ericetum tetralicis typicum* Tüxen 1937 (*Mitt. Florist.-Soziol. Arbeitsgem. Niedersachsen* 3: 110) is validly published though the simultaneously published new association name occurs only within the names of subassociations.

b. When a change in the position is being made and a passing reference is made to the altered association to which it now belongs, but the new name combination is not used.

Article 5 – Indication of nomenclatural type

Publication on or after 1.1.1979 of the name of a new syntaxon is valid only when the nomenclatural type is indicated in accordance with Art. 16 or 17 or when only one element suitable for typification occurs (see Art. 15 and 18).

When a new association is simultaneously published with two or more subassociations and one of these has the epithet *typicum* or is designated as typical subassociation, then the type-relevé of this subassociation is implicitly considered the type of the association name, except when the author established a different solution.

On or after 1.1.2002 the Latin word '*typus*' ('*holotypus*', '*lectotypus*', '*neotypus*') is to be used *expressis verbis* for the designation of the type of a syntaxon name.

On or after 1.1.2002 the type of the name of the subass. *typicum* must be the type of the association name.

Examples: 1. The name '*Ranunculo repentis-Rumicenion crispi*' Hejný et Kopecký 1979 (in Hejný et al.: Rozpr. Čs. Akad. Věd, Ř. Mat.-Přír. Věd 89/2: 74) is not validly published since the nomenclatural type is not indicated.
2. The name *Rumici crispi-Agropyretum repentis* Hejný 1979 (in Hejný et al. l. c. p. 77) is validly published since the original diagnosis contains only one relevé which is the holotype of the name.
3. Vanden Berghen (1990; *Lejeunia* 133: 37, 80) described a new association *Aristidetum sieberianae* with three subassociations: *typicum*, *hibiscetosum asperi* and *loudetosum hordeiformis*. The type of the subassociation *typicum* is implicitly to be considered the type of the association name so the name is thus validly published.
4. Klein & Lacoste (1981, *Ecol. Médit.* 15 (3-4): 81) described a new association *Aceri hircani-Quercetum macranthae* with three subassociations *festucetosum*, *agropyretosum* and *polystichetosum*. Since no type was designated for the association name and since it does not exist implicitly through a subassociation given the epithet *typicum*, the association name is not validly published. The same is true for the subassociation names (according to Art. 4) despite the fact that nomenclatural types have been designated for them.
5. The name *Teucrietum scorodoniae* Pott 1992 (*Pflanzengesellschaften Deutschlands*, Stuttgart, p. 297) has not been validly published since three elements (relevés 1 to 3 in tab. 8) have been indicated as the nomenclatural type instead of one.
6. The validation of the association name *Salvio cryptanthae-Stipetum lessingianae* Akman, Ketenoglu, Quézel et Demirors 1984 (*Phytocoenologia* 12: 570) in Quézel, Barbéro & Akman (1993, *Ecol. Médit.* 18: 86) by the indication of relevé 1 of table 2 in the 1984 work as the type-relevé is not valid since no relevé 1 is included in that table.

Recommendation 5A

The indication of the nomenclatural type should be given as clearly as possible and given in *expressis verbis* (i.e. what element serves as *typus* for what name).

Article 6 – Date of a name or of an epithet

The date of a name or of an epithet is that of its first valid publication. Names not validly published, except those indicated in Art. 2c, Art. 3c to e, 3g and h and 3k, can be validated later. Names not validly published according to Art. 2c, Art. 3c to e, 3g and h and 3k cannot be validated later since the form of the name is not in accordance with the Code: these must be substituted by new names.

The validation is the later effective publication of the missing elements, accompanied with an unambiguous reference to the effective publication of other elements for the valid publication of the given name (see Art. 2). When the various conditions for valid

publication are not simultaneously fulfilled, the date of a name is that on which the last condition is fulfilled.

On or after 1.1.2002, a provisional name is validated only when the validation is indicated *expressis verbis*, and all other conditions are fulfilled (see Art. 3i).

Examples: 1. The name *Parietario-Centranthion rubri* Rivas-Martínez was published in 1960 (*Inst. Esp. R. Acad. Farm.* 1960/2: 165, and not in 1955 as given in this publication). It was not validly published since no subordinate association was given; this condition was first fulfilled in 1969 (Rivas-Martínez: *Publ. Inst. Biol. Aplic.* 46: 10) so that is the date of the name.
2. The name *Sorbo-Fraxinetum* Béguin et Theurillat 1981 was published invalidly (see Art. 3g, Example 1). The validation was effected in 1984 by the designation of the name-giving taxon: *Sorbo ariae-Fraxinetum excelsioris* Béguin et Theurillat (*Candollea* 39: 667, 669).
3. The name *Caricetum oenensis* Seibert 1962 (*Landschaftspfl. Vegetationsk.* 3: 57, Tab. 11) was not validly published since the name-giving taxon was not validly published (Art. 3l) until 1992 (Wallnöfer, *Linz. Biol. Beitr.* 24: 829-849). This condition having been fulfilled, the name *Caricetum oenensis* Seibert ex Balátová-Tuláčková in Grabherr et Mucina 1993 (*Die Pflanzengesellschaften Österreichs, Teil II*, Stuttgart) has been validly published by indicating a type-relevé according to Art. 5. The name, however, may have to be corrected according to Art. 43, since the type of *Carex oenensis* refers to a hybrid, and not to the species, which is *Carex randalpina* (Wallnöfer 1993, *Linz. Biol. Beitr.* 25: 709-744).

Recommendation 6A

A newly published name should be indicated as new in only a single publication.

Article 7 – Original diagnosis of an association or subassociation

The original diagnosis of an association or subassociation is sufficient, in the sense of Art. 2b, only if it contains at least one vegetation relevé i.e. a list of scientific names of plant species or infraspecific taxa from a sample plot with a quantitative indication of their occurrence at least in a scale of three degrees.

A synoptic table based on relevés and containing at a minimum the species with a constancy above 20% given at least in a scale of three degrees is also considered a sufficient original diagnosis for names published before 1.1.1979.

Example: The original diagnosis of the *Juncetum filiformis* Tüxen 1937 (*Mitt. Florist.-Soziol. Arbeitsgem. Niedersachsen* 3: 93) is sufficient although the accompanying species with a constancy below 20% are not given in the synoptic table.

Recommendation 7A

The original diagnosis of an association or subassociation should contain at least 10 vegetation relevés made in different localities, together with the exact details of the locality, the size of the sample plot and the date of each relevé.

Recommendation 7B

In the original diagnosis, the authors of the species and the infraspecific taxa should be indicated directly or indirectly (by means of reference to a particular Flora).

Article 8 – Original diagnosis of superior syntaxa

The original diagnosis of a syntaxon above the rank of association is sufficient in the sense of Art. 2b, only if it contains the valid publication of the name of at least one syntaxon of the next subordinate principal rank assigned to it or an unambiguous reference (see Art. 2b) to at least one such validly published name.

From 1.1.1980 the original diagnosis is sufficient only when the specific or infraspecific character and/or differential taxa are also explicitly indicated.

With syntaxa above the rank of association that contained only a single syntaxon of the next subordinate pricipal rank when published, the specific or infraspecific character and/or differential taxa of the subordinate syntaxon are to be considered character and/or differential taxa of the superior syntaxon, when no such taxa are indicated in the latter.

Note: The indication of 'diagnostic' species (or infraspecific taxa) instead of character and/or differential species can also be accepted as a sufficient diagnosis.

Examples: 1. The original diagnosis of the *Brometalia erecti* Koch 1926 (*Jahrb. St. Gall. Naturwiss. Ges.* 61/2: 20 offprint) is sufficient since it contains the valid publication of the name of the subordinated alliance *Bromion erecti* Koch 1926. This name is validly published since the association *Mesobrometum erecti* Koch 1926, together with a sufficient original diagnosis, is assigned to this alliance.
2. The name *Violo palustris-Lotion uliginosi* Passarge 1989 (*Doc. Phytosociol.* N.S. 11: 85) is not validly published despite the fact that the alliance contains only one association (designated as the type of the alliance name) – the *Equiseto-Lotetum uliginosi* Passarge 1989 – as no character and/or differential species are explicitly indicated for the alliance.
3. Golub & Saveljeva (1992, *Folia Geobot. Phytotax.* 26: 421) described the new alliance *Caricion stenophyllae* with an indication of the diagnostic species; the name *Caricion stenophyllae* is thus validly published.

Article 9 – No automatic validation of names of superior syntaxa

When the name of a syntaxon above the level of the association is published invalidly since the name of the syntaxon cited of the next subordinate principal rank is itself not validly published, the validation of the latter does not automatically validate the name of the superior syntaxon.

Chapter 3. Form of the names of syntaxa

Article 10 – Formation of names of syntaxa

a. The name of an association or of a syntaxon of higher rank is formed from the validly published scientific name(s) of one or two of the plant species or infraspecific taxa mentioned in the original diagnosis (see also Art. 34c). The name includes a definite termination indicating the rank, which is added to the stem of the generic name (see also Art. 12 and 41).

When a syntaxon is named after two plant taxa then, if they belong to different genera, the termination indicating the rank is appended to the stem of the second generic name only; a connecting vowel is appended to the stem of the first generic name (the connecting vowel may be missing; see App. I). When epithets of the name-giving taxa occur, they must be in the genitive, if they are declinable. When an infraspecific taxon is used in the formation of a name, only the infraspecific epithet should be used (see Art. 34c).

When both plant taxa belong to the same genus then the generic name is used only once in the syntaxon name with the rank indicating termination; the epithets are connected by means of the connecting vowel which is appended to the stem of the first epithet. '*O*' is the normal connecting vowel used; '*i*' is used only with true Latin words of the 3rd declension. When the termination indicating the rank or the connecting vowel is appended, the vowels *a*, *e*, *o* and *u* at the end of the stem are elided.

The abbreviated form *Potam-* may be used instead of the stem *Potamogeton-*.

Note: The forms of the genitive, the stems of the taxon names and the correct connecting vowels are to be found in App. I.

Original form of names orthographically incorrect according to the rules are to be corrected (see Art. 41).

Examples: *Centaureo nigrae-Arrhenatheretum* Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 222), *Carici pilosae-Fagetum* Oberdorfer 1957 (l. c., p. 462), *Caricetum inflato-vesicariae* Koch 1926 (*Jahrb. St. Gall. Naturwiss. Ges.* 61/2: 63, offprint), *Luzulo-Fagion* Lohmeyer et Tüxen in Tüxen 1954 (*Vegetatio* 5-6: 460), *Caricion canescenti-goodenowii* Nordhagen 1937 (*Bergen. Mus. Årbok* 1936, *Naturvidensk. R.* 7: 22), *Potametalia* Koch 1926 (l. c., p. 20), *Cakiletea maritimae* Tüxen et Preising in Tüxen 1950 (*Mitt. Florist.-Soziol. Arbeitsgem.* N. F., 2: 99).

b. When a name of an association or a syntaxon of a superior rank is formed from names of two taxa of which one is dominant or belongs to the highest stratum determining the structure, then the name of that taxon appears on the second place. Names that do not follow this rule are legitimate, but must be inverted according to Art. 42. When such names are published on or after 1.1.2002 they are published invalidly (see also Art. 3k).

Examples: The names *Cerastio arvensis-Agrostietum pusillae* Moravec 1967 (*Folia Geobot. Phytotax.* 2: 149 '*Cerastio arvensis-Agrostetum pusillae*'), *Carici pilosae-Fagetum* Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 462), *Luzulo-Fagion* Lohmeyer et Tüxen in Tüxen 1954 (*Vegetatio* 5-6: 460) are formed in the sense of this article; on the other hand, names such as *Calluno-Genistetum* Tüxen 1937 (*Mitt. Florist.-Soziol. Arbeitsgem. Niedersachsen* 3: 117, '*Calluneto-Genistetum*') or *Querco-Lithospermetum* Br.-Bl. 1929 (Sitzungsber. Naturhist. Ver. Preuss. Rheinl. Westf. Bonn, 1928: 51 '*Quercus sessiliflora-Lithospermum purpureo-coeruleum* - Ass.') are not.

Recommendation 10A

When the taxon name from which a syntaxon name is formed is not the same as that applied in the original diagnosis then it should be cited in the original publication as a synonym of the taxon in question.

Recommendation 10B

The name of a syntaxon should be formed from such taxa (taxon) that are characteristic of the syntaxon in question.

Recommendation 10C

To avoid misunderstanding the name of the syntaxon should be completed by adding the taxon epithet (specific or infraspecific) in the genitive, provided that it is clear from which taxon name(s) it is formed.

Article 11 – Rank-indicating terminations

The terminations indicating rank are:

Rank	Termination
Association	*-etum*
Alliance	*-ion*
Order	*-etalia*
Class	*-etea*
Subassociation (see Art. 13)	*-etosum*
Suballiance	*-enion*
Suborder	*-enalia*
Subclass	*-enea*

Note: Originally the terminations *-inea* or *-etales* were used for class names. The application of these terminations before 1.1.1979 does not imply the invalid publication of such class names according to Art. 3e; the termination must be corrected to the regular form according to Art. 41b.

Example: The name '*Molinieto-Arrhenatheretales*' Tüxen 1937 (*Mitt. Florist.-Soziol. Arbeitsgem. Niedersachsen* 3: 73) is validly published, but must be corrected to the regular form *Molinio-Arrhenatheretea* according to Art. 41b.

Article 12 – Compound names of syntaxa

Compound names containing a prefix that expresses certain morphological or ecological characteristics are permissible as correct, as well as compounds with *Eu-* for supplementary ranks. *Rudereto-* is to be orthographically corrected to *Ruderali-*.
Names formed in this way on or after 01.01.1979 are not validly published (see Art. 3h).

Examples: *Parvopotamo-Zannichellietum tenuis* Koch 1926 (*Jahrb. St. Gall. Naturwiss. Ges.* 61/2: 112, offprint, '*Parvopotameto-Zannichellietum tenuis*'), *Magnocaricion elatae* Koch 1926 (l. c., p. 55), *Nanocyperion flavescentis* Koch 1926 (l. c., p. 21), *Thero-Salicornion* Br.-Bl. 1933 (*Prodrome des groupements végétaux* 1, Montpellier, p. 12), *Xerobromenion* Br.-Bl. et Moor 1938 (*Prodrome des groupements végétaux* 5, Montpellier, p. 9, 'Unterverband *Xerobromion*'), '*Seslerio-Xerobromenion*' Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 275 'Unterverband *Seslerio-Xerobromion*'), *Seslerio-Mesobromenion* Oberdorfer 1957 (l. c., 295, 'Unterverband *Seslerio-Mesobromion*'), *Eu-Vaccinio-Piceenion* Oberdorfer 1957 (l. c., 377, 'Unterverband *Eu-Vaccinio-Piceion*'), *Ruderali-Secalietea* Br.-Bl. 1936 (*Prodrome des groupements végétaux* 3, Montpellier, p. 3, '*Rudereto-Secalinetales*').

Article 13 – Names of subassociations

The name of a subassociation consists of the association name followed by the subassociation epithet. The epithet is formed either from the validly published scientific name of a species (or of an infraspecific taxon, see Art. 10a) occurring in the original diagnosis of this subassociation or else it is represented by the adjective '*typicum*' or '*inops*'. When the subassociation epithet is formed from the name of a species (or of an infraspecific taxon) the termination *-etosum* is to be added to the stem of the generic name of this taxon.

Examples: *Galio-Carpinetum circaeetosum* Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 427), *Galio-Carpinetum typicum* Oberdorfer 1957 (l. c., 427), *Molinietum caricetosum tomentosae* Koch 1926 (*Jahrb. St. Gall. Naturwiss. Ges.* 61/2: 112, offprint).

Article 14 – Correction of form of validly published names

Those names of syntaxa are validly published that are formed from one or two unaltered plant names with clear indication of their rank. Similarly, the names of subassociations in which unaltered plant names are used together with an indication of the rank of subassociations take place of the subassociation epithet, are validly published. Such names must, however, be corrected to the regular form (see Art. 41b).

Likewise, the names of subassociations that include the statement 'typical subassociation' are validly published. Such a statement must be replaced by the epithet '*typicum*'.
Names formed in this way on or after 1.1.1979 are not validly published (see Art. 3h).

Examples: The names 'association à *Carex buxbaumii*' Issler 1932 (*Les prairies non fumées*, Colmar, p. 14), '*Sparganium angustifolium-Sphagnum obesum*-Ass.' Tüxen 1937 (*Mitt. Florist.-Soziol. Arbeitsgem.* 3: 43), '*Ericetum tetralicis* Subass. v. *Succisa pratensis*' Tüxen 1937 (l. c., p. 112) are validly published, but must be corrected to the regular form according to Art. 41b.

The same holds for names of syntaxa that are formed from specific epithets used without any mention of the allied generic name. When such a specific epithet is at the same time a generic name published validly up to the date of publication of the syntaxon name, then the name of the syntaxon must be retained in its original form.

Examples: 1. The names '*Seslerio-Semperviretum*' Beger 1922 (*Jahresber. Naturforsch. Ges. Graubündens* 1921-1922: 112, offprint), '*Personato-Petasitetum*' Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 201), '*Rhodoreto-Vaccinietum mugetosum*' Br.-Bl. in Braun-Blanquet, Sissingh et Vlieger 1939 (*Prodrome des groupements végétaux* 6, Montpellier, p. 40) are validly published, but must be corrected in the sense of Art. 41b as the epithets '*sempervirens*', '*personata*', or '*mugo*' do not exist as generic names for the above species.
2. The name *Periclymeno-Abietetum* Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 499) must be retained in its original form since the specific epithet was validly published as a generic name (*Periclymenum* Miller 1754) before 1957.

Chapter 4. Typification of the names of syntaxa

Article 15 – Application of nomenclatural types

The application of a name of a syntaxon is determined by means of its nomenclatural type (the type of the name). The nomenclatural type is that element of the syntaxon with which its name is permanently attached when any syntaxonomic alteration takes place (uniting, division, alteration of position or of rank; see Art. 24 - 28, Recomm. 19A). It needs not necessarily be a particularly typical (characteristic) element of the syntaxon or one that is outstanding because of its particular frequency.

Article 16 – Types of association and subassociation names

The type of the name of an association or of a subassociation is an effectively published relevé of the vegetation. This must not be further completed after its publication even if considered incomplete (see also Art. 37).

On or after 1.1.2002 a type-relevé of an association name must contain the name-giving taxon (taxa), otherwise the typification is invalid. A type-relevé of a subassociation name (except with the epithets *typicum* or *inops*) must contain the name-giving taxon of the subassociation, otherwise the typification is invalid.

Article 17 – Types of names of superior syntaxa

The type of the name of a syntaxon above the rank of association is a syntaxon of the next subordinate principal rank assigned to it and published with a valid name (see Def. VIII).

Note: The illegitimacy of the name of the type-syntaxon does not cause an illegitimate typification or the illegitimacy of the typified name or an invalid publication. However, when the name of the type-syntaxon is published invalidly then the typification is illegitimate.

On or after 1.1.1979, a syntaxon chosen as the type whose name was published invalidly causes the invalid publication of the typified name.

Examples: 1. The name *Coremion* Rothmaler 1943 (*Feddes Repert. Beih.* 128 (1): 60) is validly published and legitimate although the original diagnosis of the alliance contains only the *Coremetum vicentinum*, a validly published name although illegitimate according to Art. 34.
2. Passarge (1989, *Doc. Phytosociol.* N. S. 11: 83) has chosen the alliance *Thalictro-Filipendulion* de Foucault 1984 as the type for the name of the new suborder *Lathyro-Filipendulenalia*. Since the alliance name had not been published effectively (according to Art. 1 – a Thesis distributed as xerocopies only) and its publication is therefore invalid, the new suborder name is also invalidly published.

Article 18 – Holotype

a. If an author of a syntaxon name designated a relevé or a syntaxon of the next subordinate principal rank as the nomenclatural type, or if the original diagnosis of a syntaxon contained only a single relevé or only a single such syntaxon, then it must be accepted as the holotype.

Examples: 1. For the name *Caloplacetum phloginae* Barkman 1958 (*Phytosociology and ecology of cryptogamic epiphytes*, Assen, p. 369) the author has designated relevé 1 (in Tab. 29) as the nomenclatural type; this relevé is the holotype of the above name.
2. In the original diagnosis of the order *Molinietalia caeruleae* Koch 1926 (*Jahrb. St. Gall. Naturwiss. Ges.* 61/2: 20, offprint) the *Molinion caeruleae* Koch 1926 (l. c.) was incorporated as the sole alliance; the *Molinion caeruleae* Koch 1926 is therefore the holotype of the name *Molinietalia caeruleae* Koch 1926.
3. Rivas-Martínez et al. (1990, *Itin. Geobot.* 3: 129) has designated the *Coremetum vicentinum* 'Rothmaler 1954' (*recte* Rothmaler 1943, *Feddes Repert. Beih.* 128(1): 60) as lectotype of the name of the alliance '*Coremion albi*' Rothmaler 1954 (*recte Coremion* Rothmaler 1943, l. c., 60). This lectotypification is superfluous as the *Coremetum vicentinum* represents the only element published with the valid name in the original diagnosis of the alliance and must therefore be accepted as the holotype.
4. Nezadal (1989, *Diss. Bot.* 143: 93) has typified the association name '*Roemerio hybridae-Hypecoetum penduli*' Br.-Bl. et Bolòs (1954) 1957 em. Nezadal (*recte Roemerio-Hypecoetum* Br.-Bl. et Bolòs 1954) by means of a neotype chosen by himself. This typification is superfluous as the original diagnosis of the association contains one relevé that must be accepted as the holotype.

b. A superfluous name (*nomen superfluum*, see Art. 29) is automatically typified by the earliest legitimate name included (e.g. in the synonymy).

Example: In the example of Art. 29c the nomenclatural type of the *Pruno-Crataegetum* Hueck 1931 is simultaneously the type of the superfluous name *Carpino-Prunetum* Tüxen 1952 since the *Pruno-Crataegetum* Hueck 1931 was included in the synonymy of the *Carpino-Prunetum* Tüxen 1952.

c. When a new name replaces those of several syntaxa that have been united, then the nomenclatural type of the earliest validly published name must be accepted as the nomenclatural type of the new name.

Article 19 – Choice of a lectotype

a. When in the original diagnosis the author of a syntaxon indicated, either directly or by reference, several relevés or several syntaxa of the next subordinate principal rank, but did not designate the nomenclatural type, then one of the above elements is to be chosen as lectotype.

When an association was divided into subassociations as early as in the original publication and when one of them was named with the epithet '*typicum*' or as a 'typical subassociation' by the author, then one vegetation relevé belonging to the original diagnosis of this subassociation must be chosen as lectotype both for the association name and for the name of this subassociation. The first effectively published choice of a lectotype must be followed.

On or after 1.1.2002 the effectively published choice of the lectotype must be accompanied by an unambiguous reference to the effective publication of the element chosen for lectotypification.

Examples: 1. The name *Festuco-Sedetalia acris* Tüxen 1951 (*Vegetatio* 3: 163) was published with an original diagnosis containing four alliances without the nomenclatural type being given; Moravec (1967, *Folia Geobot. Phytotax.* 2: 163) chose the *Helichrysion arenarii* Tüxen 1951 as the lectotype. This choice must be followed.
2. Vicherek (1971, *Folia Geobot. Phytotax.* 6: 139) described the *Centaureo odessanae-Elymetum gigantei* as a new association with four subassociations of which one has the epithet *typicum*. Since the author did not designate the nomenclatural type of the association name, the lectotype must be chosen from the relevés of the subassociation *Centaureo odessanae-Elymetum gigantei typicum* and the same relevé must be accepted as the lectotype of the subassociation name.
3. Mucina (1987, *Folia Geobot. Phytotax.* 22: 2) has chosen a lectotype for the name *Malvetum neglectae*. This typification is superfluous and must be rejected as Eliáš (1981, *Acta Bot. Acad. Sci. Hung.* 27: 338) had typified this name earlier.

b. When a syntaxon of a principal rank is divided into syntaxa of the supplementary rank (see Art. 24) and when one of these syntaxa includes the type of the name of the superior syntaxon, then this nomenclatural type must be used also for typification of the name of the corresponding supplementary syntaxon.

Recommendation 19A

When one or more elements of a syntaxon have already been transferred to other syntaxa through division or emendation, the lectotype should be chosen from the remaining elements, suitable for typification, so as to preserve current usage of the name.

Article 20 – Lectotypes of names of superior syntaxa based on the same taxon names

When a syntaxon of rank higher than the association contains, in the original diagnosis, two or more syntaxa that are suitable to be chosen as types, and when its name, except for the ending, is identical with the name of one of these syntaxa, then the latter is the lectotype when no syntaxon has been designated as holotype.

Example: The order *Phragmitetalia* Koch 1926 (*Jahrb. St. Gall. Naturwiss. Ges.* 61/2: 20, offprint) contains two alliances in the original diagnosis without designation of the nomenclatural type (holotype): the *Phragmition communis* Koch 1926 is therefore the lectotype of the name *Phragmitetalia* Koch 1926.

Article 21 – Neotypes of association or subassociation names

When the original diagnosis of an association or subassociation contains only a synoptic table but no single relevé or a reference to an effectively published single relevé, then a neotype (see Def. VIII) must be established. The neotype of a name can only be a relevé that was already effectively published or is effectively published at the same time under the same name.

The first effectively published establishment of a neotype must be followed, unless it can be shown that it was based on a misinterpretation of the original diagnosis.

On or after 1.1.2002, the effectively published establishing of a neotype must be accompanied by an unambiguous reference to the effective publication of this element, except when the element serving as neotype is simultaneously published for the first time.

When an author provides a synoptic table and has added a single relevé (or relevés) in order to demonstrate an element as 'not typical', 'fragmentary', 'transitional' or of some other form that, in his opinion, does not really fit in to the named syntaxon, a neotype matching the synoptic table (i.e., the syntaxon *sensu stricto*) should be selected rather than a relevé that was declared by the author as atypical for that syntaxon.

Recommendation 21A

When possible, one of the manuscript relevés that the author of a name used in preparing the synoptic table should be subsequently published and designated as the neotype. Should such a relevé not be available, the neotype should as far as possible be taken from the same geographical area as the relevés of the synoptic table.

Chapter 5. Priority

Article 22 – Correct name of a syntaxon

Each syntaxon with a particular circumscription, position and rank has only one correct name, namely the earliest validly published one that is in accordance with the Rules.

Note: To avoide unnecessary changes of generally used names of syntaxa owing to the rigid application of the Rules (especially of priority) some names can exceptionally be protected according to Art. 52 as *nomina conservanda*.

Article 23 – Dates of valid publication in priority

In disputes about the priority of a name or an epithet, the date of its valid publication is crucial (see Art. 2 and 6).

Note: *Nomina superflua* have no priority except between them and relatively to their effectiveness as homonyms.

Chapter 6. Retention and choice of names and epithets when syntaxonomic changes occur

Article 24 – Division of syntaxa

a. Division of a syntaxon in syntaxa of the same rank: When a syntaxon is divided into two or more syntaxa without alteration of rank, one of these must retain the original name, namely that to which the type of the name belongs. If the original name has not been retained or if it has been retained in an altered sense when the division was made, it must be re-introduced for the syntaxon that contains the type. The retention or re-introduction of a name is forbidden when Art. 35 or Art. 36 are being used.

Example: Pignatti (1953, *Atti Ist. Bot. Univ. Labor. Crittog., Pavia Ser.* 5-11: 206-214) divided the order *Phragmitetalia* Koch 1926 into three orders; he rightly retained the name *Phragmitetalia* for that part of the original order that contains the type-alliance *Phragmition* Koch 1926.

b. Division of a syntaxon in syntaxa of a supplementary rank: This division corresponds to the description and denomination of new syntaxa.

Note: On or after 1.1.2002 the name of a suballiance, suborder, or subclass that includes the type of the legitimate name of the superior syntaxon of principal rank must be formed by altering just the rank-indicating termination, unless this is contrary to any other rules. The author citation corresponds to Art. 46.

Article 25 – Uniting syntaxa

Uniting syntaxa of the same rank: When two or more syntaxa of the same rank are united, the earliest name (in the case of subassociations the earliest epithet) of the original syntaxa must be retained for the resulting syntaxon. The formation of names by joining the original names is not permissible.

When syntaxa bearing names (in the case of subassociations epithets) of the same date are united, then the author who first effectively published this uniting has the right to choose one of these names (epithets) with, however, the following limitation: names defined by (single) relevés take precedence over those accompanied merely by a synoptic table in the original diagnosis. Under such provisions, the first choice must be followed if one accepts this viewpoint.

Examples: 1. Barkman (1958, *Phytosociology and ecology of cryptogamic epiphytes*, Assen, p. 551) united the following associations into a single association: *Anomodonto-Isothecietum* Lippmaa 1935, *Anomodontetum viticulosi* Felföldy 1941, *Brachythecietum salebrosi* Felföldy 1941, *Mnietum cuspidati* Felföldy 1941 and *Homalietum trichomanoidis* Barkman 1949; on the basis of priority the correct name for this association is *Anomodonto-Isothecietum* Lippmaa 1935 (*Acta Inst. Hort. Bot. Univ. Tart.* 4: 24, 'association à *Anomodon longifolius* et *Isothecium myurum*'). 2. Hilitzer (1925, *Publ. Fac. Sci. Univ. Charles Prague* 41) published in the same paper an 'association à *Parmelia furfuracea*' (l. c., p. 122), an 'association à *Parmelia physodes*' (l. c., p. 107), an 'association à *Cetraria glauca*' (l. c., p. 132), an 'association à *Cetraria glauca* et *Ochrolechia androgyna*' (l. c., p. 138); these were united by Barkman (1958, l. c., p. 456) into a single association for which he chose the name *Parmelietum furfuraceae* Hilitzer 1925; this is thus the correct name.

Article 26 – Change in position of a subassociation

When a subassociation is transferred to another association or placed under another association name for the same association, it retains its epithet with its nomenclatural type. When the epithet has not been retained, it must be re-introduced. Retention or re-introduction is forbidden when a later homonym arises or when an earlier epithet is available but for some reason could not be applied in the earlier combination. When the subassociation contains the nomenclatural type of the association name, two associations will be united and Art. 25 must be applied. If this is not the case, and if the association in which the subassociation is transferred has not yet been subdivided into subassociations, a second subassociation, that contains the type of the association name, must be (possibly later) described and denominated.

The reference to the basionym must be unambiguous in the sense of Art. 2b. Bibliographical errors in the reference, however, do not invalidate the publication of a new combination.

Note: On or after 1.1.2002, the new combination is validly published only if it is given together with an unambiguous bibliographic reference (Art. 2b) to the original diagnosis of the subassociation, and if the new combination is followed by the indication '*comb. nov.*' after the authority of the combination (see Art. 3i). The author citation corresponds to Art. 50.

Article 27 – Change in rank

a. Change in rank of a syntaxon superior to association: When a suballiance (suborder, subclass) is raised to the rank of an alliance (order or class, respectively), or *vice versa*, the original diagnosis and the type remain unaltered. The original autor citation is presented in brackets before the author citation of the new name (see Art. 51).

On or after 1.1.1979 the name in the new rank must be formed by changing only the rank-indicating termination unless this is contrary to any other rule.

Example: Oberdorfer (1957, *Süddeutsche Pflanzengesellschaften*, Jena, p. 489) reduced the alliance *Luzulo-Fagion* Lohmeyer et Tüxen in Tüxen 1954 (*Vegetatio* 5-6: 460) to the 'Unterverband *Luzulo-Fagion* (Lohm. et Tx. 54)'; the latter must be named *Luzulo-Fagenion* (Lohmeyer et Tüxen 1954) Oberdorfer 1957.

b. When an alliance (order, class) is reduced to the rank of suballiance (suborder, subclass), syntaxa of the same rank are united and Art. 25 and 28 must be applied.

c. Change in rank of an association: When an association is reduced to the rank of subassociation, the original diagnosis and the type remain unaltered. The new subassociation must be subordinated to another association and a new subassociation name must be validly published for it. Simultaneously, two syntaxa of the same rank will be united and Art. 25 and 28 must be applied.

d. Change in rank of a subassociation: When a subassociation is raised to the rank of association, the original diagnosis and the type remain unaltered. The original author citation is presented in brackets in front of the author citation of the new name (see Art. 51). When the subassociation contains the type of name of an association then the earliest legitimate name in this rank must be used. If no such name is available, a *nomen novum* must be formed (see Art. 39).

Example: Royer (1991, *Diss. Bot.* 178:208) raised the subassociation *Mesobrometum brachypodietosum* Lacoste 1975 to the rank of an association under the new name *Diantho pavonii-Brachypodietum pinnati* (Lacoste 1975) Royer 1991. The name is

validly published though the subassociation name is a later homonym of the *Mesobrometum brachypodietosum* Kuhn 1937.

Note 1: Changes in rank can occur only between principal and supplementary ranks. Changes between principal ranks (e.g. alliance to order and *vice versa*) are not permitted.

Note 2: On or after 1.1.2002, the name in a new rank is validly published only if it is given with an unambiguous bibliographic reference (see Art. 2b) to the original diagnosis of the original rank, and if the new name is followed by the indication '*stat. nov.*' after the authority (see Art. 3i).

Article 28 – Change in position of a syntaxon of principal rank

a. When an alliance is reduced to the rank of a suballiance then it must be subordinated to another alliance. If this alliance has not yet been subdivided into suballiances, a second suballiance that contains the original diagnosis of the alliance or at least the nomenclatural type of its name must be (possibly later) described and denominated. The author(s) of the name of this second suballiance and the year of the first valid publication belong to the author citation (see Art. 46).

On or after 1.1.1979 the name of the second suballiance that includes the type of the alliance name must be formed by altering solely the rank-indicating termination, when such formation is not in contradiction with other rules. The author citation corresponds to Art. 46.

Corresponding regulations hold for orders and classes that are reduced to suborders or subclasses.

b. When an association is reduced to the rank of a subassociation, then it must be subordinated to another association (see Art. 27c). If this association has not yet been divided to subassociations, a second subassociation containing the original diagnosis of the association or at least the nomenclatural type of its name must be (possibly later) described and denominated. The author(s) of the name of this second subassociation and the year of the first valid publication belong to the author citation (see Art. 46).

Chapter 7. Rejection of names and epithets

Article 29 – General limits of rejection of names and epithets

a. The name of a syntaxon must not be rejected or corrected merely because another taxon better characterizes that syntaxon, or because the name-giving taxon occurs in only one or a few subordinate units or relevés of the syntaxon.

Example: The name *Sedo-Scleranthetalia* Br.-Bl. 1955 must not be rejected or substituted by the name '*Sempervivo-Sedetalia*' Th. Müller 1961 (*Beitr. Naturk. Forsch. SW-Deutschl.* 20: 115) since the combination of names *Sedum-Scleranthus* is not informative (see Th. Müller l. c.).

b. As an exception those syntaxon names published before 1.1.2002, will be considered illegitimate where no name-giving taxon belongs to the highest of the dominant strata determining the structure of the vegetation (e.g. no tree species in a forest community, no shrub species in a shrub community, no herb or dwarf shrub species in a herb or dwarf shrub community). When published on or after 1.1.2002 such names are published invalidly (see also Art. 3k). Strata that are considered to determine the vegetation structure, must have the mean dominance degree of over 25 % (at least the value 3 of the Braun-Blanquet cover-abundance scale).

Example: The name *Melicetum uniflorae* Markgraf 1928 (*Veröff. Geobot. Inst. Rübel Zürich* 4: 50 '*Melica uniflora*-Assoziation') must be rejected as illegitimate for a *Melica uniflora* beech forest association since no species from the dominant tree layer was used as a name-giving taxon.

c. A new name for a syntaxon, whose original diagnosis contains the original diagnosis of a syntaxon published earlier or at least the nomenclatural type of its legitimate name (which may be given merely in the synonymy), represents a superfluous name (*nomen superfluum*) that is therefore illegitimate. Such a name is of course not superfluous when the earlier name is later proved to be illegitimate.

Example: The name *Carpino-Prunetum* Tüxen 1952 (*Mitt. Geogr. Ges. Hamburg* 50: 92) has been published as a superfluous name for the *Pruno-Crataegetum* Hueck 1931 (*Beitr. Naturdenkmalpflege*14 (2): 165, '*Prunus spinosa-Crataegus*-Assoziation') which has been cited as a synonym.

Article 30 – Special limits of rejection of names and epithets

The name of a syntaxon formed from a validly published taxon name (either legitimate or illegitimate) must not be rejected or corrected merely because the taxon name in question is relegated to synonymy, unless Art. 44 or 45 apply.

Examples: The following changes must not be made: *Epilobietalia angustifolii* Tüxen 1950 (*Mitt. Florist.-Soziol. Arbeitsgem.* N.F. 2: 165) to *Chamenerietalia* (or *Chamerietalia*) *angustifolii*; *Scirpo-Phragmitetum* Koch 1926 (*Jahrb. St. Gall. Naturwiss. Ges.* 61/2: 20, offprint, '*Scirpeto-Phragmitetum*') to *Schoenoplecto-Phragmitetum*; *Caricion canescenti-goodenowii* Nordhagen 1937 (*Bergen. Mus. Årbok*, 1936, *Naturvidensk. R.*, 7: 22) to '*Caricion canescenti-fuscae*' (as e.g. in Tüxen 1937, *Mitt. Florist.-Soziol. Arbeitsgem. Niedersachsen* 3: 62) or to '*Caricion curto-nigrae*' (as in Westhoff & den Held 1969, *Plantengemeenschappen in Nederland*, Zutphen, p. 198).

A subassociation epithet is not illegitimate merely because it was originally published in combination with an illegitimate association name. It must be considered as a case of priority when this epithet and the corresponding new combination are in accordance with the Rules in other respect (however, see Art. 4a).

Example: The subassociation epithet in the name *Dentario enneaphylli-Fagetum impatientetosum* (Hartmann et Jahn 1967) Moravec 1974 is not illegitimate and must not be rejected for the reason that it was originally published with the illegitimate association name '*Dentario enneaphylli-Abieti-Fagetum*' Hartmann et Jahn 1967 (*Waldgesellschaften des mitteleuropäischen Gebirgsraumes* ..., Stuttgart, p. 408 '*Dentario enneaphyllidis* (*Abieti-*)*Fagetum*').

Article 31 – Homonymy - a reason for rejection of syntaxon names

The name of a syntaxon is illegitimate and must be rejected when it is a later homonym, i.e. when it is spelt exactly like a name previously and validly published for a syntaxon based on another type (that therefore has another author citation). The later homonymous name of the syntaxon is illegitimate and must be rejected, even when the earlier homonym is illegitimate or relegated to synonymy for syntaxonomic reasons, or when it is derived not from the same, but from a homonymous taxon name.

Note 1: Syntaxon names with exactly identical forms are also considered homonyms when they are published later without the original author(s) or without any reference to the author(s) of an earlier name (but see Recomm. 46J).
Note 2: The names of syntaxa that merely appear identical as they were published in the original publication without indication of the specific epithets, are not homonyms when it is clear from the original diagnoses that they are based on different taxa. They are to be completed by the addition of the specific (or infraspecific) epithets so that they appear different.

Examples: 1. The names *Caricetum davallianae* Dutoit 1924 (*Les associations végétales des Sous-Alpes de Vevey*, Lausanne, p. 24), *Caricetum davallianae* Kulczyński 1928 (*Bull. Int. Acad. Pol. Sci. Lettres, Cl. Sci. Math. Nat. B.* 1927: 162), and *Caricetum davallianae* Klečka 1930 (Sbor. Výzk. Úst. Zeměd. R.ČS 52: 87) are homonyms since Kulczyński (1928) and Klečka (1930) did not refer to Dutoit (1924). The names in Kulczyński 1928 and Klečka 1930 must be rejected as later homonyms.
2. The names *Cardamino-Montion* Br.-Bl. 1926 (*Arvernia* 2: 41) and *Cardamino-Montion* Br.-Bl. 1926 in Westhoff, Dijk & Passchier (1946, *Overzicht der plantengemeenschappen in Nederland*, 2nd ed., Amsterdam, p. 58) are no homonyms as the reference to the earlier author of the name is given by means of the author citation.

Article 32 – Special cases of homonymy

Differing names of syntaxa that are based on different nomenclatural types are treated as homonyms in the following cases:

a. When they are orthographic variants. Orthographic variants in the sense of this rule are names that differ in the way a name corrected according to Art. 41 differs from the original form of the name.

Example: The names 'association à *Carpinus betulus*' Issler 1926 (*Les associations végétales des Vosges méridionales*..., Colmar, p. 170) and *Carpinetum* Klika 1928 (*Bull. Int. Acad. Tchéque Sci., Cl. Math.-Nat.-Med.* 29 (1928): 24) are treated as homonyms.

b. When they are formed from nomenclaturally synonymous taxon names (having the same type).

Example: The names 'association à *Hypnum cupressiforme*' Hilitzer 1925 (*Publ. Fac. Sci. Univ. Charles Prague* 41: 180) and *Drepanietum filiformis* Ochsner 1928 (*Jahrb. St. Gall. Naturwiss. Ges.* 63/2: 85) are treated as homonyms.

c. When one name is formed from the specific epithet only and the other from the binomial of the species name (see Art. 14 § 2);

Example: The names 'association à *Isothecium myurum* Hilitzer 1925' (*Publ. Fac. Sci. Univ. Charles Prague* 41: 185) and '*Myuretum*' Waldheim 1944 *(K. Sven. Vetensk. Akad. Avhandl. Naturskyddär.* 4: 126) are treated as homonyms.

d. When they are double names that differ only in the order of the taxon names.

Article 33 – Homonyms of equal age

If homonyms (see Art. 31 and 32) have been published simultaneously for two or more syntaxa (homonyms of equal age), the author must be followed who first adopts one of these names and rejects the other(s), or who introduces other names for the other homonyms.

Article 34 – Special cases of rejection of syntaxon names

a. A name is illegitimate and must be rejected if it contains an epithet in the nominative case that indicates a geographical, ecological or morphological property, but which is not derived from the specific epithet of the name-giving taxon.

Examples: The names *Fagetum sudeticum* Preis 1938 (*Natur. Heimat* 9: 109), *Caricetum goodenowii montanum et collinum* Kästner et Flößner 1933 (*Pflanzengesellschaften des Erzgebirges, Moore*, Dresden, p. 22), *Vaccinietum myrtilli subalpinum* Sillinger 1933 (*Monogr. Stud. Veg. Níz. Tater,* Praha, p. 271), *Asplenietea rupestria* Br.-Bl. in Meier et Braun-Blanquet 1934 (*Prodrome des groupements végétaux* 2, Montpellier, p. 1, '*Asplenietales rupestres*') are illegitimate and must be rejected. On the other hand, the name *Riccietum rhenanae* Knapp et Stoffers 1962 (*Ber. Oberhess. Ges. Natur Heilkunde Gießen, N.F., Naturwiss. Abt.*, 32: 119), which is derived from *Riccia rhenana* Lorb. and whose epithet is therefore in the genitive case, is permissible.

b. Compound names with *Eu-* are illegitimate and must be rejected if they were formed for syntaxa of principal ranks.

Example: The name *Eu-Fagion* Klika in Klika et Novák 1941 (*Praktikum Rostl. Sociol. Půdoznal. Klimatol. Ekol.*, Praha, p. 67), is illegitimate since it was used in the original publication for an alliance.

c. Names whose form does not correspond to Art. 10 and 13 since they have been formed from more than two (subassociation epithets from more than one) scientific taxon names are illegitimate and must be rejected.

Note: Names that contain both specific and infraspecific epithets must not be rejected but corrected and only the infraspecific epithet should be used (in accordance with Art. 10).

Article 35 – Conditions for rejection of double names of syntaxa

A double name of a syntaxon, composed of the names of taxa each of which is confined to either of the two syntaxa of the next subordinate principal rank that are named in the original diagnosis of the superior syntaxon, cannot not be retained when a division of the superior syntaxon separates the subordinate syntaxa.

Example: The class *Molinio-Arrhenatheretea* Tüxen 1937 (*Mitt. Florist.-Soziol. Arbeitsgem. Niedersachsen* 3: 73, '*Molinieto-Arrhenatheretales*') contains in the original diagnosis the two orders *Molinietalia* Koch 1926 and *Arrhenatheretalia* Pawłowski 1928. Should this class be so divided that the *Molinietalia* is placed in a class different from that of the *Arrhenatheretalia*, than the double name *Molinio-Arrhenatheretea* cannot be retained for any of the resulting classes.

Article 36 – Rejection of a nomen ambiguum

A name must be rejected when, as a consequence of earlier misinterpretation or various emendations or for any other reason, it has been so often used in a false sense that excludes its type so that its re-introduction in its original correct sense would be a source of continual errors (*nomen ambiguum*).

Since a judgement on the concept *nomen ambiguum* is necessarily subjective, the rejection of a name on the basis of this article will be regulated by the Nomenclature Commission by the publication of *nomina ambigua rejicienda.*

Until these names have been published the proposed rejection

remains provisional (*nomen ambiguum rejiciendum propositum*, '*nom. amb. rejic. propos.*'). The refused as well as the accepted *nomina ambigua* will be included in App. III.

Recommendation 36A

To facilitate and accelerate the decision of the Nomenclature Commission concerning *nomina ambigua rejicienda*, authors are asked to send a copy of their proposal, together with a statement of the reasons for the rejection to a special Committee (for instructions see App. II).

Article 37 – Rejection of a nomen dubium

The name of an association or subassociation may be rejected when the type-relevé, on which it is based, is considered so incomplete or complex that its assignment to one of the associations or subassociations distinguished today does not seem possible (*nomen dubium*) (see also Art. 16).

Article 38 – Rejection of the name of a superior syntaxon based on a nomen dubium

The name of a syntaxon of rank higher than the association must be rejected as a *nomen dubium* when the name of the next subordinate syntaxon that typifies it, is considered a *nomen dubium*.

Article 39 – Substitution of a rejected name

a. When a name is rejected, the next later name in the same rank that is in accordance with the Rules is to be adopted. If no such name is available, a new name must be formed. A new name published explicitly as a substitute (*nomen novum*) for a name rejected according to Art. 29 § b and/or 31, 34, or 36 is typified by the type of the rejected name. The date of the valid publication of the *nomen novum* is crucial in disputes about priority. The original author citation is to be inserted within brackets before the author citation of the *nomen novum*.

Example: The name *Fagetum sudeticum* Preis 1938 must be rejected according to Art. 34; the next later name for this association that is in accordance with the Rules is *Dentario enneaphylli-Fagetum* Oberd. ex W. et A. Matuszkiewicz 1960 (*Acta Soc. Bot. Pol.* 29: 523 '*Dentario enneaphyllidis-Fagetum* Oberdorfer 1947' (*errore, recte* 1957). The name '*Dentario enneaphyllidis-Fagetum*' was not validly published by Oberdorfer (see Art. 3a); but it was validated by W. et A. Matuszkiewicz (l. c.).

b. On or after 01.01.2002, the replaced name must be cited unambiguously with the complete author citation, together with the reference. When the name has been just typified the unambiguous reference to the publication of the typification must be given.

c. When a new name is published as a substitute for a *nomen dubium* (Art. 37, 38), it must be based on a new type. It does not represent a *nomen novum*, but the name of a new syntaxon.

Recommendation 39A

No one should publish a *nomen novum* for a name rejected according to Art. 29 § 2, or Arts. 31, 34 or 36, while the author is still alive, without informing him beforehand of the case and without giving him the opportunity of publishing a *nomen novum*.

Chapter 8. The correction of names

Article 40 – Retention and correction of syntaxon names

a. The original form of a name (see Def. V) should be retained unless a correction must be made according to Arts. 41 to 45 or a correction of printing errors.

Note: This provision does not withdraw the permission to add specific epithets according to Recommendation 10C.

b. When a name is corrected, the type and the author citation always remain unaltered (see Art. 48). In disputes about priority the date of the corrected name is that of the original name except when the correction according to Art. 43 or 45 would form a later homonym of a validly published syntaxon name.

Article 41 – Special cases of correction of syntaxon names

Orthographic corrections: The name of a syntaxon must be corrected in the following cases:

a. When the taxon names contained in it are orthographically incorrect.

Example: The name *Festucion vallesiacae* Klika 1931 (*Beih. Bot. Centralbl.* 47/2: 376) must be corrected to *Festucion valesiacae* Klika 1931.

b. When the name is not in accordance with the orthographic rules for the formation of the names of syntaxa in Art. 10 and 11 (however see Art. 3e and 3h) (incorrect stem or genitive form, incorrect or missing connecting vowel, *-eto-* instead of the connecting vowel, termination *-ion* for a suballiance, termination *-etales* or *-inea* for a class, etc).

Note: When association names have been formed from two unaltered plant names (see Art. 14) Art. 10b must also be taken into consideration.

Examples: The following corrections are for instance necessary: association à *Carex buxbaumii* Issler 1932 (Les Prairies non Fumées .., Colmar, p. 14) to *Caricetum buxbaumii* Issler 1932; *Sparganium angustifolium-Sphagnum obesum*-Ass. Tüxen 1937 (Mitt. Flor.-soz. Arb.-Gem. Niedersachsen, 3: 43) to *Sparganio angustifolii-Sphagnetum obesi* Tüxen 1937; *Ericetum tetralicis* Subass. v. *Succisa pratensis* Tüxen 1937 (l. c. p. 112) to *Ericetum tetralicis succisetosum pratensis* Tüxen 1937; *Seslerieto-Semperviretum* Beger 1922 (Jahresber. Naturforsch. Ges. Graubündens, 1921-1922: 112, offprint) to *Seslerio-Caricetum sempervirentis* Beger 1922; *Personato-Petasitetum* Oberdorfer 1957 (Süddeutsche Pflanzenges., Jena, p. 201) to *Carduo personatae-Petasitetum* Oberdorfer 1957; *Rhodoreto-Vaccinietum mugetosum* Br.-Bl. in Braun-Blanquet, Sissingh et Vlieger 1939 (Prodr. 6, p. 40) to *Rhododendro-Vaccinietum pinetosum mugo* Br.-Bl. in Braun-Blanquet, Sissingh et Vlieger 1939; *Carpinetion* Issler 1931 (Bull. Soc. Bot. France, 72 (1926), Sess. Extraord., p. 83) to *Carpinion* Issler 1931; *Molinieto-Arrhenatheretales* Tüxen 1937 (l. c. p. 73) to *Molinio-Arrhenatheretea* Tüxen 1937; *Convolvuletalia sepii* Tüxen 1950 (Mitt. Flor.-soz. Arb.-Gem., N.F. 2: 160) to *Convolvuletalia sepium* Tüxen 1950.

c. When a part of the name is placed within brackets; the brackets must be omitted.

Example: The name '*Deschampsio-Brometum* (*racemosi*)' Oberdorfer 1957 (*Süddeutsche Pflanzengesellschaften*, Jena, p. 191) is

corrected to *Deschampsio-Brometum racemosi* Oberdorfer 1957.

d. *Rudereto-* is to be orthographically corrected to *Ruderali-*.

Article 42 – Inversion of names

Nomina inversa: When the original diagnosis (or at least the nomenclatural type) shows that the name of a syntaxon has not been formed in accordance with Art. 10b a proposal with reasons for the corresponding inversion of the name may be made to the Nomenclature Commission. The inversion remains provisional when published (*nomen inversum propositum* - '*nom. invers. propos.*') until the Nomenclature Commission verifies and accepts or rejects it. The definitive *nomina inversa* and *nomina inversa rejicienda* will be published and included in App. IV of the Code. The publication of the inverted names makes its application obligatory.

Recommendation 42A

To facilitate and accelerate the decision of the Nomenclature Commission concerning *nomina inversa*, authors are asked to send a copy of the proposal to a special Committee (for instructions see App. II).

Article 43 – Correction of names due to taxonomic errors

Corrections occasioned by taxonomic errors: The name of a syntaxon must be corrected when it can be shown that it is based on a misidentification of the name-giving taxon (taxa). A misidentification in the sense of this article also occurs when the author of the name of a syntaxon used an incorrect taxon name because this name was employed in his identification literature in an incorrect sense (i.e. not in accordance with the nomenclatural type of the taxon name). A correction occasioned by taxonomic error occurs also in the case when the name of an aggregate species is replaced by the name of a narrowly defined species. The author citation of the corrected name corresponds to Art. 48.

On or after 1.1.2002 the new correction must be indicated by means of the words '*nom. corr. hoc loco*' appended to the author citation and accompanied by an unambiguous reference to the valid publication of the original name.

Such a correction is forbidden when it would form a later homonym of an earlier validly published name. For such a syntaxon the next later name in the same rank that is in accordance with the rules must be adopted to replace the name to be corrected. If no such name is available a new name (*nomen novum*, see Art. 39) must be formed according to the Rules.

Examples: 1. The name '*Medicagini marinae-Stachyetum spinosae*' Géhu, Costa, Biondi, Géhu-Franck et Arnold 1988 (*Ecol. Médit.* 13: 99) must be corrected to *Medicagini marinae-Centaureetum spinosae* as the name is based on *Centaurea spinosa* and not on *Stachys spinosa* (Géhu 1992, *Doc. Phytosociol.* N.S. 13: 30). It is not permitted to form a new name ('*Timbro capitati-Centaureetum spinosae*' Géhu 1992 l. c., 31) as subsitute for the name to be corrected (Art. 29) or to choose a new nomenclatural type (Art. 18).
2. Rübel (1911, *Bot. Jahrb. Syst.* 47: 181) has described the association '*Festucetum variae*' (original form of name: '*Varietum*'). In this case the species of the aggregate of *F. varia* occurring in the original diagnosis from the Bernina region is not *F. varia* but *F. scabriculmis* (Hackel) K. Richter. Therefore the name *Festucetum variae* Rübel 1911 has been corrected to *Festucetum scabriculmis* Rübel 1911 corr. Theurillat 1989 (*Saussurea* 20: 74).
3. Rivas-Martínez (1970, *An. Inst. Bot. Cavanilles* 27: 151) has described the association *Cytiso-Genistetum cinerascentis* with *Cytisus purgans*. It was shown later that we are dealing with *Cytisus oromediterraneus* Rivas-Martínez, Díaz, Fernáned Prieto, Loidi et Penas instead of *Cytisus purgans* (L.) Boiss. Therefore Rivas-Martínez & Canto (1987, *Lazaroa* 7: 241) corrected the above association name to '*Genisto cinerascentis-Cytisetum oromediterranei*', however, with an illegitimate inversion. The corrected name is to be cited *Cytiso oromediterranei-Genistetum cinerascentis* Rivas-Martínez 1970 corr. Rivas-Martínez et Canto 1987.
4. Many names of syntaxa containing the name-giving taxon *Sesleria caerulea* (L.) Ard. have been corrected with *S. albicans* Kit., e.g. the name *Seslerion caeruleae* Br.-Bl. in Braun-Blanquet et Jenny 1926 has been corrected to *Seslerion albicantis* Br.-Bl. in Braun-Blanquet et Jenny 1926 corr. Oberdorfer 1983 (*Pflanzensoziologische Exkursionsflora*, 5th ed., Stuttgart, p. 42). This correction was based on the assumption that the basionym of *S. caerulea* (*Cynosurus caeruleus* L.) refers to a taxon of wet habitats, and not to the taxon of limestone habitats, for which *S. albicans* would then be the correct name. However, the lectotypification of the name *Cynosurus caeruleus* L. has been made in the sense of the limestone taxon (Rauschert, *Feddes Repert.* 79: 412, 1969), and no corrections of the names of the syntaxa based on *S. caerulea* need to be made.

Recommendation 43A

For corrections of names of syntaxa that use a species name more narrowly circumscribed than an aggregate, the authors are recommended to verify in several current floras that the specific status is regularly attributed to the taxon in question, i.e. that the taxon is not treated as of different ranks or simply not recognized. When the treatment varies amongst the different floras, the authors are asked not to proceed with a correction.

Article 44 – Correction of names due to homonymy of taxon names

Corrections occasioned by homonymy of taxon names: The name of a syntaxon must be corrected when it is derived from a taxon name that has been rejected as a later homonym. A non-homonymous name of the same taxon is to be used in the correction. When several non-homonymous taxon names are available, the first choice must be followed.

When only such non-homonymous taxon names are available that it is impossible to form a syntaxon name in accordance with all the other Rules, then a *nomen novum* formed from another taxon must be established for the syntaxon (see Art. 39). The author citation of the corrected name corresponds to Art. 48.

Examples: 1. The name *Isoëto setacei-Peplidetum hispidulae* Br.-Bl. 1936 (*Bull. Soc. Etud. Sci. Nat. Nimes* 47 (1930-1935): 17, offprint, 'ass. à *Isoëtes setaceum* et *Peplis hispidula*') is derived from the specific name *Isoëtes setaceum* Bosc ex Delile which has been rejected as a later homonym of the name *Isoëtes setaceum* Lam. Since only the name *Isoëtes delilei* Rothm. is available for that species, the syntaxon must be correctly called *Isoëto delilei-Peplidetum hispidulae* Br.-Bl. 1936 *nom. corr.* even when *Isoëtes setacea* Bosc ex Delile and *I. setacea* Lam. are treated as identical species.
2. The names *Androsacion multiflorae* Br.-Bl. in Braun-Blanquet et Jenny 1926 (*Denkschr. Schweiz. Naturf. Ges.* 63: 190) and *Androsacetalia multiflorae* Br.-Bl. in Meier et Braun-Blanquet 1934 (*Prodrome des groupements végétaux* 2, Montpellier, p. 33) are derived from the taxon name *Androsace multiflora* Moretti 1822 which has been rejected as a later homonym of the name *A. multiflora* Lam. The syntaxon names must therefore be corrected. Braun-Blanquet (1948, *Végétation alpine des Pyrénées*

Orientales, Barcelona, p. 35) corrected the names at first using the name of *Androsace vandellii* (Turra) Chiov. 1919 in the above syntaxon names. This correction must be followed and the names *Androsacion vandellii* Br.-Bl. in Braun-Blanquet et Jenny 1926 nom. corr. and *Androsacetalia vandellii* Br.-Bl. in Meier et Braun-Blanquet 1934 *nom. corr.* must be used for these syntaxa, respectively.

Article 45 – Adaptation of syntaxon names to taxonomic nomenclature

Nomina mutata: The name of a syntaxon that is formed from a taxon name that is no longer used in the most important taxonomic and floristic literature of the past 20 years, or is only quoted as a synonym, may be proposed with corresponding reasons to the Nomenclature Commission to adapt this name to the contemporary taxonomic nomenclature. The corrected name (*nomen mutatum*) retains the original author citation. The publication of a *nomen mutatum* remains provisional (*nomen mutatum propositum*, '*nom. mut. propos.*') until the Nomenclature Commission publishes its adoption or rejection. The adopted *nomina mutata* as well as the rejected ones will be included in App. V of the Code.

The correction is forbidden when it would form a later homonym of an earlier validly published name. In such a case, the next later name of the given syntaxon that is in accordance with the Rules must be adopted to replace the name to be corrected. If no such name is available a new name (*nomen novum*, see Art. 39) must be formed according to the Rules.

Recommendation 45A

To accelerate and facilitate the decision of the Nomenclature Commission concerning *nomina mutata proposita*, authors are asked to send a copy of proposals, outlining their reasons to a special Committee (for instructions see App. II).

Chapter 9. The author citation

Article 46 – Author of the name and year of its valid publication

In order to ensure that the indication of the name of a syntaxon is exact and complete, the name of the author (names of authors) who first validly published or validated this name together with the year of valid publication or validation must be quoted (see Def. XII). In special cases the author citation must be completed according to Art. 48 to 51.

Recommendation 46A

In every publication, the name of each syntaxon should be accompanied by the author citation, at least once.

Recommendation 46B

In the author citation the name of the author(s) may be given in abbreviated form as long as ambiguity is avoided. To distinguish authors with identical names, the author publishing first will be cited without the initial of his first name, later author(s) will be cited with the initial of their first name(s).

Examples: The names 'Braun-Blanquet' (abbreviation 'Br.-Bl.') and 'Tüxen' (abbreviation 'Tx.') are cited for Josias Braun-Blanquet and Reinhold Tüxen, respectively; the names 'G. Braun-Blanquet' and 'J. Tüxen' designate Gabrielle Braun-Blanquet and Jes Tüxen, respectively.

Recommendation 46C

When the name of a syntaxon with a sufficient original diagnosis is validly published by one author in the work of another author(s), then, for bibliographical reasons, the name of the author(s) who merely made the place available should be quoted with the word 'in' before the year of publication and after the name of the author who formed the name and supplied the diagnosis.

Examples: *Preslietum cervinae* Br.-Bl. in Moor 1937 (*Prodrome des groupements végétaux* 4, Leiden, p. 23), *Alysso-Sedion* Oberdorfer et Th. Müller in Th. Müller 1961 (*Beitr. Naturk. Forsch. SW-Deutschl.* 20: 116).

Recommendation 46D

When the name of a syntaxon is published by one author, but not validly due to the absence of a sufficient original diagnosis (Art. 2, *nomen nudum*), or the absence of a name-giving taxon in the original diagnosis (Art. 3f) or published merely as a synonym (Art. 3a), it can be validated later by another author and ascribed to the first author (Art. 6). The validation is effected by a valid publication of the syntaxon name with a sufficient original diagnosis containing the name-giving taxon (taxa), or with an unambiguous reference to such an effectively published diagnosis, or the syntaxon name is published as a correct name (not only in the synonymy). In such cases the name of the validating author is the correct one for the author citation. However, the name of the first author whom the syntaxon name was ascribed by the validating author should be quoted (without the year) before the name of the validating author with the word '*ex*'.

Example: The name *Triseto-Polygonion bistortae* Br.-Bl. et Tüxen 1943 (*Comm. Stat. Int. Géobot. Médit. Alp.* 84: 8) was published as a *nomen nudum*. Marshall (1947, *Die Goldhaferwiesen der Schweiz*, Bern) validated the name by means of an original diagnosis that he himself supplied (character species – l. c. p. 119 and a bibliographical reference to the validly published name of the subordinate association (*Trisetetum flavescentis* Beger 1922 - l. c. p. 105-106). It is recommended that the name *Triseto-Polygonion bistortae* Br.-Bl. et Tüxen ex Marschall 1947 is quoted rather than *Triseto-Polygonion bistortae* Marschall 1947.

Recommendation 46E

When a *nomen nudum* is cited (i.e. without a sufficient original diagnosis or a reference to it, see Art. 2b) the abbreviation '*nom. nud.*' should be added.

When an ineffectively published name is cited (i.e. not in accordance with Art. 1) the abbreviation '*nom. ined.*' (*nomen ineditum*) should be added.

Recommendation 46F

The abbreviation '*pro syn.*' (*pro synonymo*) should be used when a name is given that was originally published merely as a synonym.

Recommendation 46G

In the first effective publication of a change in position of a subassociation (see Art. 26) the abbreviation '*comb. nov.*' (*combinatio nova*) should be added to the original author citation inserted in brackets and followed by the new author citation (see Art. 50) provided that the nomenclatural type of the original combination is retained.

Recommendation 46H

The first effective publication of a change in rank of a syntaxon (see Art. 27 & 28) should be indicated by the abbreviation '*stat. nov.*' (*status novus*) added after the author citation of the syntaxon name in the new rank (see Art. 51).

Recommendation 46I

Should a later homonym (see Art. 31, 32) be cited in synonymy, it should be followed by the word '*non*' or '*nec*' and by the earlier homonym with its author citation.

Recommendation 46J

Pseudonyms (i.e. syntaxon names used with the original author citation or with reference to it but misinterpreted by later authors, see Def. X) should not be included in the synonymy, but presented separately. The misinterpretation of a name should be indicated by citation of the misinterpreting author (with date) preceded by the word '*sensu*' instead of the original author citation of the name. The original author citation should be appended by the word '*non*'. If the misinterpretation occurs by many authors the abbreviation '*auct. non*' (*auctorum non*) should be given instead of the name of the misinterpreting author.

The valid publication of a name substituting a pseudonym must be in accordance with Art. 2 to 9. Such a name does not represent a *nomen novum* in the sense of Art. 39 § 1, but the name for a new syntaxon.

Example: The Austrian authors have applied the name *Festucetum variae* Rübel for a syntaxon other than that for which it was published from Graubünden by Rübel. Thus the name *Festucetum variae* auct. non Rübel 1911 represents a pseudonym of a syntaxon that was validly published as new with the name *Pulsatillo albae-Festucetum variae* Theurillat 1989 (*Saussurea* 20: 74).

Article 47 – Conditions of retention of the original author citation

In an alteration of the circumscription of a syntaxon without exclusion of the nomenclatural type, as well as in an alteration or extension of its diagnostic characters (character and/or differential species), the original author citation remains unaltered when the correct name of the syntaxon remains unaltered.

Article 48 – Special additions to author citations

a. In a correction of printing errors or an orthographic correction (Art. 41) and in a correction due to homonymy (Art. 44) the name of the correcting author and the year of the correction are not given.

b. In a correction by inversion (Art. 42) the abbreviation '*nom. invers.*' (*nomen inversum*) is placed after the author citation.

c. In a correction due to taxonomic errors (Art. 43) the name of the correcting author and the year of the effective publication of the correction are placed after the original author citation and preceded by the abbreviation '*corr.*' (*correxit*).

d. In a correction due to homonymy of taxon names (Art. 44) the abbreviation '*nom. corr.*' is appended to the original author citation.

e. In a correction of a name according to Art. 45 the abbreviation '*nom. mut.*' (*nomen mutatum*) is appended to the author citation.

Article 49 – Author citations for nomina nova

In names that are published as avowed substitutes (*nomina nova* - see Art. 39 § 1), the original author citation is to be inserted within brackets before the author citation of the new name.

Article 50 – Author citation for a new combination of a subassociation

In an alteration of the position of a subassociation (Art. 26), the author citation of the original combination is to be inserted within brackets before the author citation of the new combination. With repeated alterations of the position, the author citation of the oldest combination, and only this, is to be quoted within brackets.

Article 51 – Author citation after change of rank

In changes of rank (Art. 27), the original author citation is to be inserted within brackets before the author citation of the name in its new rank.

Recommendation 51A

When a name of a syntaxon without rank (Art. 3c) or with a rank not corresponding to those given in Principle II (Art. 3d) is validated by a later author by giving it a rank according to the Rules, it is recommended to quote (without the year) the author of the original diagnosis with '*ex*' before the validating author (see also Recomm. 46D).

Chapter 10. *Nomina conservanda*

Article 52 – Conservation of syntaxon names

To avoid inappropriate changes of commonly used, validly published names of syntaxa owing to strict application of the Rules, some names applied in accordance with the nomenclatural type can be established as exceptions according to special criteria. These names can be protected as *nomina conservanda* (see the ruling in Principle IV). This rule particularly applies to well-known and long-accepted names of classes and orders. The adopted *nomina conservanda* as well as the rejected ones will be included in App. VI of the Code.

Recommendation 52A

To facilitate and accelerate the decision of the Nomenclature Commission upon the usefulness of the conservation of certain syntaxon names, authors are asked to send a copy of the proposal on conservation to a special Committee (for instructions see App. II).

DIVISION IV. Provisions for the modification of the Code

Proposals for the expansion and alteration of the Code are to be submitted to the Nomenclature Commission, which will decide on their adoption.

APPENDIX 1.
Guide to the correct formation of names of syntaxa

The following list contains word stems, genitives and connecting vowels of important names of genera and specific epithets in the following order:
(a) the unaltered name,
(b) the word stem to which are appended the terminations indicating syntaxonomic rank or the connecting vowels,
(c) the genitive, a knowledge of which is necessary only with epithets,
(d) the connecting vowel which is appended to the stem.

The names are grouped according to the final letter (printed in bold face type). For the stem ending in a, e, o or u, the final vowel (bracketed in the tables) is always elided [*Festuc(a)* - *Festuc-ion*]. The final vowels *i*, *ia* and *io* in the word stem are elided only before the termination *-ion* [*Molini(a)* - *Molin-ion*]. See Rauschert (1963, *Mitt. Florist.-Soziol. Arbeitsgem.* N.F. 10: 232-249) for more details. The sign like *ă* indicates short vowels, the sign like *ā*, indicate long vowels.

a

1 (a) *-ă* (b) *-(a)-*, (c) *-ae*, (d) *-o*
(a) *Festuca*, (b) *Festuc(a)-*, (c) *Festucae*, (d) *Festuco*
Feminine names.

2 (a) *-mă*, (b) *-măt-*, (c) *-mătis*, (d) *-o*
(a) *Alisma*, (b) *Alismat-*, (c) *Alísmatis*, (d) *Alísmato*
Neuter generic names ending in *-ma*:
Asyneuma, *Corema*, *Onosma*, *Phyteuma*
and compound names with:
-chroma, *-derma*, *-lemma*, *-nema*, *-phryma*, *-sperma*, *-stelma*, *-stema*, *-stemma*, *-stigma*, *-stoma*, *-trema*, etc.
[As feminine names the following belong to 1: *Caralluma*, *Glechoma*, *Psamma*, *Retama*, as well as compound names with *coma*, *-gramma*, *-osma* (excl. *Onosma*) and *-toma*, and adjectival epithets with *-ma* as well as with *-chroma*, *-derma*, etc. (*polychroma*, *holostoma*, *microsperma*)].

b

3 (a) *-b*, (b) *-b-*, (c) *-b*, (d) *-o*
(a) *mahaleb*, (b) *mahaleb-*, (c) *mahaleb*, (d) *mahalebo*

c

4 (a) *-c*, (b) *-c-*, (c) *-c*, (d) *-o*
(a) *Nostoc*, (b) *Nostoc-*, (c) *Nostoc*, (d) *Nostoco*

e

5 (a) *-ē*, (b) *-(a)-*, (c) *-ēs*, (d) *-o*
(a) *Silene*, (b) *Silen(a)-*, (c) *Silenes*, (d) *Sileno*
Substantival feminine names of Greek origin.
Aloë, *Alsine*, *Andrachne*, *Androsace*, *Anemone*, *Asphodeline*, *Atragene*, *Callitriche*, *Calycotome*, *Cardamine*, *Cassiope*, *Catananche*, *Cerinthe*, *Chamaedaphne*, *Chamaepeuce*, *Cistanche*, *Cleome*, *Colobachne*, *Crambe*, *Danaë*, *Daphne*, *Diplachne*, *Elatine*, *Eriosynaphe*, *Halimione*, *Helxine*, *Hierochloë*, *Hippochaete*, *Hippophaë*, *Homogyne*, *Hydrocotyle*, *Jasione*, *Leontice*, *Malope*, *Neottianthe*, *Obione*, *Oenanthe*, *Orobanche*, *Phryne*, *Phyllodoce*, *Pleurochaete*, *Pleurogyne*, *Schizachne*, *Statice*, *Teline*, *Tetracme*, *Triplachne*, etc.; - *alsine*, *andrachne*, *aparine*, *argemone*, *chamaejasme*, *chamaesyce*, *cynocrambe*, *elatine*, *helleborine*, *pneumonanthe*, *peuce*, *stoebe*.

6 (a) *-e*, (b) *-i-*,(c) *-is*, (d) *-i*
(a) *Sécale*, (b) *Secali-*, (c) *Sécalis*,(d) *Sécali*
In addition, true latin adjectival epithets: the neuter forms of 34 and 58 (*acre*, *arvense*, etc.).

7 (a) *-e*, (b) *-(e)-*, (c) *-e*, (d) *-o*
(a) *Cakile*, (b) *Cakil(e)-*, (c) *Cakile*, (d) *Cakilo*
Indeclinable names: *Cakile*, - *gale*.

8 (a) *-ae*, (c) *-ae*, (d) -
Genitives of words inding in *-a*; only epithets.
clavenae, *cornucopiae*, *jankae*, *nathaliae*, *pontederae*, *salviae*, *tatrae*, etc.

h

9 (a) *-h*, (b) *-h-*, (c) *-h*, (d) *-o*
(a) *Ceterach*, (b) *Ceterach-*,(c) *Ceterach*, (d) *Ceteracho*
Indeclinable names: *Ceterach*, - *turbith*.

i

10 (a) *-i*, (b) *-i-*, (c) *-i*, (d) *-o*
(a) *Thlaspi*, (b) *Thlaspi-*, (c) *Thlaspi*, (d) *Thlaspio*
Indeclinable names.
Alhagi, *Ammi*, *Muscari*, *Seseli*, *Thlaspi*, - *alkekengi*, *carvi*, *cheiri*, *genipi*, *jonthlaspi*, *kali*.

11 (a) *-i*, (c) *-i*, (d) -
Genitives of words ending in *-us* or *-um*; only epithets.
aconiti, *breynei*, *dillenii*, *fleischeri*, *gerardii*, *halleri*, *imperati*, *manescavi*, *matthioli*, *myconi*, *oxycedri*, *palinuri*, *parnassi*, *prunastri*, *seelosii*, *serpentini*, *tabernaemontani*, *teucrii*, *thapsi*, *tornabeni*, *triumfettii*, *valerandi*, *villarii*, etc.

l

12 (a) *-l*, (b) *-l-*, (c) *-lis*, (d) *-i*
(a) *exul*, (b) *exul-*, (c) *éxulis*, (d) *éxuli*

13 (a) *-l*, (b) *-l-*, (c) *-l*, (d) *-o*
(a) *metel*, (b) *metel-*, (c) *metel*, (d) *metelo*
Indeclinable names: *Gasoul*, - *metel*.

m

14 (a) *-m*, (b) *-m-*, (c) *-m*,(d) *-o*
(a) *raetam*, (b) *raetam-*, (c) *raetam*, (d) *raetamo*

15 (a) *-um*, (b) *-(o)-*, (c) *-i*, (d)*-o*
(a) *Polygonum*, (b) *Polygon(o)-*, (c) *Polygoni*, (d) *Polygono*
Names ending in *-um*, [except epithets of 16].

16 (a) *-um*, (c) *-um*, (d) -
Genitive plural forms (only epithets) ending in:
-ōrum: *apricorum*, *carthusianorum*, *deorum*, *desertorum*, *dumetorum*, *ericetorum*, *lucorum*, *murorum*, *tectorum*, *tinctorum*, *verlotiorum*, etc.
[As nominatives to 15: *cneōrum*, (*in*)*decōrum*, (*in*)*odōrum*.]
-ārum: *cataractarum*, *fossarum*, *officinarum*, [*cámmarum* - 15];

-ium: *avium*, *sepium*;
[As nominatives to 15:
absinthium, *aegyptium*, *brutium*, *chironium*, *cynapium*, *dolopium*, *ephippium*, *gnidium*, *helenium*, *hymettium*, *lydium*, *orontium*, *ostruthium*, *polium*, *polyceratium*, *pulegium*, *sphondylium*, *strumarium*, *struthium*, *tinctorium*, *tragium*, *tripolium*];
-um: *bávarum*, *fullonum*, *lapponum*, *léporum*, *némorum*, *oreadum*, *segetum*;
[As nominatives to 15: *alypum*, *apulum*, *calabrum*, *colonum*, *ischaemum*, *thessalum*, *trionum*, *venetum*].

n

17 (a) *-ēn*, (b) *-ēn-*, (c) *-ēnis*, (d) *-o*
(a) *macrosolen*, (b) *macrosolen-*, (c) *macrosolénis*,(d) *macrosoléno*
Compound names with *-lichen*, *-pyren*, *-solen*, *-splen*.

18 (a) *-ĕn*, (b) *-ĭn-*,(c) *-ĭnis*, (d) *-i*
(a) *Cyclamen*, (b) *Cyclamin-*, (c) *Cycláminis*, (d) *Cyclámini*

19 (a) *-n*, (b) *-n-*, (c) *-n*, (d) *-o*
(a) *behen*, (b) *behen-*, (c) *behen*, (d) *beheno*

20 (a) *-īn*, (b) *-īn-*, (c) *-īnis*, (d) *-o*
(a) *Triglochin*, (b) *Triglochin-*, (c) *Triglochínis*,(d) *Triglochíno*
Compound names with *-glochin* (*argyroglochin*, *microglochin*, etc.).

21 (a) *-ŏn*, (b) *-(o)-*, (c) *-i*, (d) *-o*
(a) *Onopordon*, (b) *Onopord(o)-*, (c) *Onopordi*, (d) *Onopordo*
Neuter names of Greek origin and with Greek nominative ending.
Abutilon, *Acantholimon*, *Acroptilon*, *Agropyron*, *Aizoon*, *Asterolinon*, *Chamaenerion*, *Chiodecton*, *Cratoneuron*, *Echinopsilon*, *Eriocaulon*, *Galeobdolon*, *Goniolimon*, *Helictotrichon*, *Lycoperdon*, *Myosoton*, *Phagnalon*, *Rhizocarpon*, *Rhododendron*, etc., *- aizoon*, *dactylon*, *galeobdolon*, *linophyllon*.
Also, neuter forms of adjectives ending in *-ŏs* [- 67].

22 (a) *-ōn*, (b) *-ōn-*, (c) *-ōnis*, (d) -o
(a) *Chrysopogon*, (b) *Chrysopogon-*, (c) *Chrysopogónis*, (d) *Chrysopogóno*.
Croton, *Endymion*, *Sison*.
Compound names with *-chiton*, *-codon*, *-croton*, *-mecon*, *-pogon*, *-siphon*.

23 (a) *-ōn*, (b) *-ŏn-*, (c) *-ŏnis*, (d) *-o*
(a) *Cotyledon*, (b) *Cotyledon-*, (c) *Cotylédonis*, (d) *Cotylédono*
Compound names with *-geton*, *-geiton*, *-giton*, *-pepon*, *-stemon*.
The abbreviated form *Potam-* may be used instead of the stem *Potamogeton-* (Art. 10).

24 (a) *-ōn*, (b) *-ont-*, (c) *-ontis*, (d) *-o*
(a) *Erigeron*, (b) *Erigeront-*,(c) *Erigeróntis*, (d) *Erigerónto*
Compound names with *-dracon*, *-geron*, *-odon*.
Anomodon, *Ceratodon*, *Cynodon*, *Didymodon*, *Leontodon*, *Tetraplodon*, *Zygodon*, *- anodon*, *trachyodon*, etc.

25 (a) *-on*, (b) *-on-*, (c) *-on*, (d) *-o*
(a) *martagon*, (b) *martagon-*, (c) *martagon*, (d) *martagono*.

o

26 (a) *-ō*, (b) *-ĭn-*, (c) *-ĭnis*, (d) *-i*
(a) *Plantago*, (b) *Plantagin-*, (c) *Plantáginis*, (d) *Plantágini*
Names with terminations *-āgo*, *-īgo*, *-ūgo*, *-ēdo*:
Borago, *Erucago*, *Ferulago*, *Filago*, *Medicago*, *Mucilago*, *Plumbago*, *Solidago*, *Tussilago*, *Ustilago*, *- erucago*, *fabago*, *githago*, *liliago*, *selago*, *trixago*; *Fuligo*, *Rubigo*; *Albugo*, *Asperugo*, *Mollugo*; *Uredo*, *- mucedo*.
[*Cotyledo* - 23, *unedo* - 27]
Also, *Arundo*.

27 (a) *-ō*, (b) *-ōn-*,(c) *-ōnis*, (d) *-i*
(a) *Senecio*, (b) *Senecion-*, (c) *Seneciónis*, (d) *Senecióni*
Senecio, *- irio*, *laricio*, *morio*, *pumilio*, *unedo*.

28 (a) *-ō*, (b) *-ŏn-*, (c) *-ŏnis*, (d) *-o*
(a) *pepo*, (b) *pepon-*, (c) *péponis*, (d) *pépono*,
melopepo, *pepo*.

29 (a) *-ō*, (b) *-(u)-*, (c) *-ūs*, (d) *-o*
(a) *Calypso*, (b) *Calyps(u)-*, (c) *Calypsus*, (d) *Calypso*

30 (a) *-o*, (c) *-o*, (d) -
Indeclinable names:
Nelumbo, *- farnetto*, *frainetto*, *mugo*, *negundo*, *perado*, *pinsapo*, *ritro*, *stefco*.

r

31 (a) *-ar*, (b) *-ar-*, (c) *-ar*, (d) *-o*
(a) *Nuphar*, (b) *Nuphar-*, (c) *Nuphar*, (d) *Nupharo*.

32 (a) *-ĕr*, (b) *-ĕr(o)-*, (c) *-ĕri*, (d) *-o*
(a) *asper*, (b) *asper(o)-*, (c) *ásperi*, (d) *áspero*
asper, *gibber*, *tener*.
Compound names with *-fer* or *-ger*:
baccifer, *bulbifer*, *prolifer*; *laniger*, *pubiger*, *setiger*, *squamiger*, etc.

33 (a) *-ĕr*, (b) *-r(o)-*, (c) *-ri*, (d) *-o*
(a) *Cotoneaster*, (b) *Cotoneastr(o)-*, (c) *Cotoneastri*, (d) *Cotoneastro*
True latin adjectives:
afer, *ater*, *calaber*, *glaber*, *integer*, *macer*, *niger*, *pulcher*, *ruber*, *scaber*, *triqueter*.
Also, *oleander* as well as names ending in *-aster* (a masculine form of the latin suffix *-astro-*: *Cotoneaster*, *cacaliaster*, *lupinaster*, *oleaster*, *pinaster*, *pyraster*, etc. [but see 36]).

34 (a) *-ĕr*, (b) *-ri-*, (c) *-ris*, (d) -
(a) *alpester*, (b) *alpestri-*, (c) *alpestris*, (d) *alpestri*
acer, *alpester*, *campester*, *lacuster*, *paluster*, *rupester*, *sylvester*, *terrester*.

35 (a) *-ēr*, (b) *-ĕr-*, (c) *-ĕris*, (d) *-i*
(a) *Acer*, (b) *Acer-*, (c) *Áceris*, (d) *Áceri*
Acer, *Cicer*, *Laser*, *Papaver*, *Siler*, *Siser*, *Tuber*, *- cicer*, *hydropiper*, *pseudosuber*, *siler*, *suber*.

36 (a) *-er*, (b) *-ĕr-*, (c) *-ĕris*, (d) *-o*
(a) *Aster*, (b) *Aster-*, (c) *Ásteris*, (d) Ástero
Compound names with *-aster* [star] (*Geaster*, etc. [- but see 33]) or *-gaster*.

37 (a) *-ēr*, (b) *-ēr-*, (c) *-ēris*, (d) -o
(a) *dasycrater*, (b) *dasycrater-*, (c) *dasycratéris*, (d) *dasycratéro*
Compound names with *-crater*.

38 (a) *-er*, (b) *-er-*, (c) *-er*, (d) *-o*
(a) *Amelanchier*, (b) *Amelanchier-*, (c) *Amelanchier*, (d) *Amelanchiero.*

39 (a) *-ŏr*, (b) *-ōr-*, (c) *-ōris*, (d) *-i*
(a) *minor*, (b) *minor-*, (c) *minóris*, (d) *minóri*
Latin comparatives (*elatior*, *excelsior*, *major*, etc.); compound names with *-color*; masculine '*nomina agentis*': *globator*, *necator*, etc.; *Mucor.*

40 (a) *-ŭr*, (b) *-ŏr-*, (c) *-ŏris*, (d) *-i*
(a) *robur*, (b) *robor-*, (c) *róboris*, (d) *róbori* .

s

41 (a) - *ăs*, (b) - *ăd-*, (c) - *ădis*, (d) *-o*
(a) *Najas*, (b) *Najad-*, (c) *Nájadis*, (d) *Nájado*
Asclepias, *Bunias*, *Dryas*, *Haloscias*, *Notothylas*, *Oreas*, *Serapias*, *- achras*, *rhoeas*, *stoechas.*

42 (a) *-ās*, (b) *-āt-*, (c) *-ātis*, (d) *-o*
(a) *Aceras*, (b) *Acerat-*, (c) *Acerátis*, (d) *Aceráto*
Compound names with *-ceras*:
Notoceras, *Octodiceras*, *- leptoceras*, *orthoceras*, etc.

43 (a) *-ās*, (b) *-ant-*, (c) *-antis*, (d) *-o*
(a) *gigas*, (b) *gigant-*, (c) *gigántis*, (d) *gigánto*
elephas, *gigas.*

44 (a) *-ās*, (b) - *ări-*, (c) - *ăris*, (d) -
(a) *mas*, (b) *mari-*,(c) *maris*, (d) *mari.*

45 (a) *-ās*, (b) *-(a)-*, (c) *-ae*, (d) *-o*
(a) *cyparissias*, (b) *cyparissi(a)-*, (c) *cyparissiae*, (d) *cyparissio*
Micrasterias, *- asterias*, *characias*, *paralias.*

46 (a) *-as*, (b) *-as-*, (c) *-as*, (d) *-o*
(a) *fenas*, (b) *fenas-*, (c) *fenas*, (d) *fenaso.*

47 (a) *-es*, (b) -, (c) *-is*, (d) *-o*
(a) *Isoetes*, (b) *Isoet-*, (c) *Isoetis*, (d) *Isoeto*
Compound names with *-anthes*, *-genes*, *-ides*, *-styles*:
Achyranthes, *Aphyllanthes*, *Cheilanthes*, *Menyanthes*, *Prenanthes*, *Spiranthes*, *Trochiscanthes*; *Cleistogenes*, *arctogenes*; *Alyssoides*, *Buglossoides*, *Nymphoides*, *ranunculoides*, etc.; *Adenostyles.*
Names with the termination *-ōdes*:
Omphalodes, *- atherodes*, *botryodes*, *elodes*, *gnaphalodes*, *phryganodes*, *physalodes*, *sphecodes*, etc.;
Aphanes, *- erisithales*, *paralianches*, *trichomanes.*

48 (a) *-ēs*, (b) *-(a)-*, (c) *-ae*, (d) *-o*
(a) *Phragmites*, (b) *Phragmit(a)-*, (c) *Phragmitae*, (d) *Phragmito*
Names with the Greek masculine termination *-ites*:
Galactites, *Odontites*, *Petasites*, *- arachnites*, *hesperites*, *myrsinites*, *onites*, *otites*, *pseudophragmites*, *tridactylites*; *Stratiotes*, *Trametes*, *- cephalotes*, *heleonastes.*

49 (a) *-ēs*, (b) *-ĕt-*, (c) *-ĕtis*, (d) *-i*
(a) *Abies*, (b) *Abiet-*, (c) *Abíetis*, (d) *Abíeti.*

50 (a) *-ēs*, (b) *-ēt-*, (c) *-ētis*, (d) *-o*
(a) *Baeomyces*, (b) *Baeomycet-*, (c) *Baeomycétis*, (d) *Baeomycéto*
Compound names with *-myces.*

51 (a) *-ĕs*, (b) *-ĕt-*, (c) *-ĕtis*, (d) *-i*
(a) *teres*, (b) *teret-*, (c) *téretis*, (d) *téreti.*

52 (a) *-ēs*, (b) *-ĕd-*, (c) *-ĕdis*, (d) *-i*
(a) *longipes*, (b) *longiped-*, (c) *longípedis*, (d) *longípedi*
Compound names with *-pes* [foot] (*brevipes*, *crassipes*, etc.).

53 (a) *-ĕs*, (b) *-ĭt-*, (c) *-ĭtis*, (d) *-i*
(a) *Fomes*, (b) *Fomit-*, (c) *Fómitis*, (d) *Fómiti*
Compound names with *-stipes* (*longistipes*, etc.).

54 (a) *-ēs*, (c) *-ēs*, (d) -
Genitives of the words ending in *-e*; only epithets.
anemones, *cardamines*, etc.

55 (a) *-es*, (b) *-es-*, (c) *-es*, (d) *-o*
(a) *Ribes*, (b) *Ribes-*, (c) *Ribes*, (d) *Ribeso.*

56 (a) *-īs*, (b) *-ĭ-*, (c) *-ĭs*, (d) *-o*
(a) *Agrostis*, (b) *Agrosti-*, (c) *Agrostis*, (d) *Agrostio*
Substantives with Greek stems ending in *-i*. Compound names with *-agrostis*, *-basis*, *-cystis*, *-opsis*, *-taxis*:
Anabasis, *Anagyris*, *Arabidopsis*, *Atraphaxis*, *Calamagrostis*, *Cannabis*, *Cardaminopsis*, *Coris*, *Crypsis*, *Diplotaxis*, *Echinocystis*, *Eragrostis*, *Galeopsis*, *Lycopsis*, *Magydaris*, *Malaxis*, *Meconopsis*, *Melittis*, *Metabasis*, *Notobasis*, *Osyris*, *Oryzopsis*, *Rhynchosinapis*, *Sinapis*, *Sparassis*, *- calamagrostis*, *coris*, *eragrostis*, *linosyris.*

57 (a) *-ĭs*, (b) *-ĭd-*, (c) *-ĭdis*, (d) *-o*
(a) *Phalaris*, (b) *Phalarid-*, (c) *Phaláridis*, (d) *Phalárido*
Names with stems ending in *-d*; primarily names and substantival adjectives of Greek origin. Compound names with *-aspis*, *-blepharis*, *-callis*, *-cephalis*, *-cuspis*, *-glottis*, *-graphis*, *-lepis*, *-meris*, *-orchis*, *-otis*, *-peltis*, *-phlyctis*, *-pholis*, *-pteris*, *-pyxis*, *-rhachis*, *-r(h)aphis*, *-seris*, *-stylis*, *-tropis*; names with terminations *-itis* or *-otis*; in addition, adjectival compound names with *-aspis*, *-cuspis*, *-lepis*, *-peltis*, *-pteris* (*tetraspis*, *rubricuspis*, *homolepis*, *tripteris*, etc.).
Adonis, *Anacamptis*, *Anagallis*, *Anthemis*, *Anthyllis*, *Aposeris*, *Arabis*, *Arnoseris*, *Atractylis*, *Atropis*, *Berberis*, *Caucalis*, *Celtis*, *Cercis*, *Chamorchis*, *Chartolepis*, *Clematis*, *Coptis*, *Corydalis*, *Cystopteris*, *Dactylis*, *Dactylorchis*, *Dichostylis*, *Diotis*, *Dryopteris*, *Drypis*, *Epipactis*, *Eranthis*, *Fimbristylis*, *Geopyxis*, *Grammitis*, *Halopeplis*, *Hedypnois*, *Hemerocallis*, *Hesperis*, *Hippuris*, *Hypochoeris*, *Iberis*, *Ionaspis*, *Iris*, *Isatis*, *Isolepis*, *Lagoseris*, *Lagotis*, *Lepidotis*, *Leucorchis*, *Libanotis*, *Liparis*, *Lotononis*, *Lychnis*, *Microstylis*, *Mycelis*, *Myosotis*, *Myrrhis*, *Onobrychis*, *Ononis*, *Orchis*, *Ormenis*, *Oxalis*, *Oxytropis*, *Parapholis*, *Paris*, *Peplis*, *Petrocallis*, *Petrocoptis*, *Phalaris*, *Philonotis*, *Phlomis*, *Phlyctis*, *Phyllitis*, *Physalis*, *Picris*, *Pteris*, *Ptychotis*, *Sideritis*, *Simethis*, *Stictis*, *Tetraclinis*, *Tetradiclis*, *Tetraphis*, *Tolpis*, *Torilis*, etc. *- aethiopis*, *caucalis*, *cerris*, *chamaeiris*, *clematitis*, *colocynthis*, *dryopteris*, *epiglottis*, *epipactis*, *hemionitis*, *hypocistis*, *lathyris*, *libanotis*, *lonchitis*, *lychnitis*, *meleagris*, *myosotis*, *oxyglottis*, *peplis*, *picris*, *psammitis*, *scorodotis*, *zygis.*

58 (a) *-ĭs*, (b) *-ĭ-*, (c) *-ĭs*, (d) -
(a) *Trientalis*, (b) *Trientali-*, (c) *Trientalis*, (d) *Trientali*
True latin names ending in *-is* [not the adjective compound names of Greek origin in 57], compound names with *-caulis*, *-collis*, *-cornis*, *-culmis*, *-formis*, *-glumis*, *-nervis*, *-retis*, *-rostris*, and names ending in *-alis*, *-aris*, *-ensis*, *-estris*, *-ĭlis*, *-īlis*, *-ustris.*
Digitalis, *Fontinalis*, *Mercurialis*, *Pedicularis*, *Physocaulis*,

Trientalis, Vitis, - victorialis; nivalis, vulgaris, pratensis, campestris, húmilis, gentílis, palustris, etc.; *acris, affinis, agrestis, biennis, brevis, communis, dulcis, edulis, grandis, inermis, laevis, mitis, mollis, perennis, suavis, tenuis, tristis, turpis, viridis,* etc.

59 (a) *-ĭs*, (b) *-ĭd-*, (c) *-ĭdis*, (d) *-i*
(a) *Bellis*, (b) *Bellid-*, (c) *Béllidis*, (d) *Béllidi.*

60 (a) *-ĭs*, (b) *-ĭt-*, (c) *-ĭtis*, (d) *-o*
(a) *Hydrocharis*, (b) *Hydrocharit-*, (c) *Hydrocháritis*, (d) *Hydrochárito*
Compound names with *-charis.*

61 (a) *-īs*, (b) *-īd-*, (c) *-īdis*, (d) *-o*
(a) *Crepis*, (b) *Crepid-*, (c) *Crepídis*, (d) *Crepído*
Compound names with *-cnemis* (*Halimocnmemis*) or *-crepis* (*Hippocrepis*).

62 (a) *-īs*, (b) *-īn-*, (c) *-īnis*, (d) *-o*
(a) *Stenactis*, (b) *Stenactin-*, (c) *Stenactínis*, (d) *Stenactíno*
Compound names with *-actis.*

63 (a) *-ĭs*, (b) *-ĕr-*, (c) *-ĕris*, (d) *-i*
(a) *Cucumis*, (b) *Cucumer-*, (c) *Cucúmeris*, (d) *Cucúmeri.*

64 (a) *-ĭs*, (c) *-ĭs*, (d) -
Genitives; only epithets.
abíetis, ajacis, apollinis, carduelis, dioscoridis, joannis, orphanidis, ottonis, peisonis, picridis, trichomanis, veris, etc.

65 (a) *-ns*, (b) *-nt-*, (c) *-ntis*, (d) *-i*
(a) *Bidens*, (b) *Bident-*, (c) *Bidentis*, (d) *Bidenti*
Lens; *- ingens.*
Compound names with *-dens* or *-frons* [side] (*Rubus bifrons*, [*frons* = foliage - 66]); participles ending in *-ans* or *-ens* (*Impatiens*; *ambigens, canescens, caulescens, decipiens, elegans, hians, natans, repens, sempervirens, stans,* etc.; [*nefrens* - 66]).

66 (a) *-ns*, (b) *-nd-*, (c) *-ndis*, (d) *-i*
(a) *Juglans*, (b) *Jugland-*, (c) *Juglándis*, (d) *Juglándi*
Compound names with *-frons* [foliage] (*albifrons, latifrons*, etc. [*frons* = side - 65]); *nefrens.*

67 (a) *-ŏs*, (b) *-(o)-*, (c) *-i*, (d) *-o*
(a) *oxycoccos*, (b) *oxycocc(o)-*, (c) *oxycocci*, (d) *oxycocco*
Masculine and feminine names of Greek origin and with Greek nominative termination.
Acinos, Apios, Arctostaphylos, Symphoricarpos, etc., *- acinos, calomelanos, eleagnos, epigejos,* etc.
Compound names with *-caulos, -clados, -phyllos, -stachyos, -uros,* etc.

68 (a) *-ōs*, (b) *-ōt-*, (c) *-ōtis*, (d) *-o*
(a) *Anthoceros*, (b) *Anthocerot-*, (c) *Anthocerótis, Anchoceróto*
Compound names with *-ceros*; *anacampseros.*

69 (a) *-ĕps*, (b) *-ĭp-*, (c) *-ĭpis*, (d) *-i*
(a) *princeps*, (b) *princip-*, (c) *príncipis*, (d) *príncipi.*

70 (a) *-ĕps*, (b) *-ĭpit-*, (c) *-ĭpĭtis*, (d) *-i*
(a) *anceps*, (b) *ancipit-*, (c) *ancípitis*, (d) *ancípiti*
Compound names with *-ceps* (only in the meaning -headed):
Claviceps, Cordyceps; *- anceps, biceps, curticeps, multiceps, oviceps,* etc. [*princeps* - 69].

71 (a) *-ōps*, (b) *-ōp-*, (c) *-ōpis*, (d) *-o*
(a) *Aegilops*, (b) *Aegilop-*, (c) *Aegilópis* (d) *Aegilópo*
Aegilops, Chamaerops.
Also, compound names with *-ops* (eyed):
Echinops, - cyclops, cunops, glaucops, lithops, melanops, etc.

72 (a) *-ŏps*, (b) *-ŏp-*, (c) *-ŏpis*, (d) *-i*
(a) *inops*, (b) *inop-*, (c) *ínopis, ínopi.*

73 (a) *-ŭs*, (b) *-(o)-*, (c) *-i*, (d) *-o*
(a) *Scleranthus*, (b) *Scleranth(o)-*, (c) *Scleranthi*, (d) *Sclerantho*
Most names ending in *-us.*

74 (a) *-ŭs*, (b) *-ōr-*, (c) *-ōris*, (d) *-i*
(a) *minus*, (b) *minor-*, (c) *minóris*, (d) *minóri*
Neuter forms of latin comparatives [- 39].

75 (a) *-ūs*, (b) *-ŏd-*, (c) *-ŏdis*, (d) *-o*
(a) *Coronopus*, (b) *Coronopod-*, (c) *Coronópodis, Coronópodo*
Compound names with *-pus* [foot]:
Aeluropus, Campylopus, Lycopus, Micropus, Ornithopus, Plagiopus, Rhizopus, Sphenopus, Streptopus, - eriopus, lagopus, etc. [*Hyssopus, Priapus* - 73].

76 (a) *-ūs*, (b) *-ŏ-*, (c) *-ŏĭs*, (d) *-o*
(a) *Rhus*, (b) *Rho-*, (c) *Rhois*, (d) *Rhoo.*

77 (a) *-ŭs*, (b) *-(u)-*, (c) *-ūs*, (d) *-o*
(a) *Quercus*, (b) *Querc(u)-*, (c) *Quercus*, (d) *Querco.*

78 (a) *-ūs*, (b) *-ont-*, (c) *-ontis*, (d) *-o*
(a) *Anodus*, (b) *Anodont-*, (c) *Anodóntis, Anodónto*
Compound names with *-odus* [tooth] (*Anodus, Brachyodus, Polyodus*).

79 (a) *-ys*, (b) *-ў-*, (c) *-ўŏs*, (d) *-o*
(a) *Stachys*, (b) *Stachy-*, (c) *Stáchyos*, (d) *Stáchyo*
Compound names with *-botrys, -oxys, -stachys:*
Cachrys, Halidrys, Ophrys, Phorcys, -botrys, chamaedrys, hypopitys.

80 (a) *-ўs*, (b) *-ўth-*, *-ўthĭs*, (d) *-o*
(a) *Rhynchocorys*, (b) *Rhynchocoryth-*, (c) *Rhynchocórythis*, (d) *Rhynchocórytho*
Compound names with *-corys.*

81 (a) *-ўs*, (b) *-ўd-*, *-ўdĭs*, (d) *-o*
(a) *heterochlamys*, (b) *heterochlamyd-*, (c) *heterochlámydis*, (d) *heterochlámydo*
Compound names with *-chlamys.*

t

82 (a) *-t*, (b) *-t-*, (c) *-t*, (d) *-o*
(a) *tetrahit*, (b) *tetrahit-*, (c) *tetrahit*, (d) *tetrahito*
Indeclinable names: *spicant, tetrahit.*

u

83 (a) *-ū*, (b) *-(u)-*, (c) *-us*, (d) *-o*
(a) *longicornu*, (b) *longicorn(u)-*, (c) *longicornus*, (d) *longicorno*
Compound names with *-cornu.*

x

84 (a) - *ăx*, (b) - *ăc-*, (c) - *ăcĭs*, (d) *-o*
(a) *Smilax*, (b) *Smilac-*, (c) *Smilacis*, (d) *Smilaco*
Compound names with *-panax* (*Opopanax*, etc.);
Evax, *Leptoplax*, *Styrax*, - *donax*, *panax*, *scolopax*.

85 (a) *-āx*, (b) *-āc-*, (c) *-ācis*, (d) *-i*
(a) *tenax*, (b) *tenac-*, (c) *tenácis*, (d) *tenáci*
fallax, *ferax*, *fugax*, *tenax*.

86 (a) *-ĕx*, (b) *-ĭc-*, (c) *-ĭcĭs*, (d) *-i*
(a) *Carex*, (b) *Caric-*, (c) *Cáricis*, (d) *Cárici*
Atriplex, *Emex*, *Ilex*, *Irpex*, *Rumex*, *Ulex*, *Vitex*, - *frutex*, *ilex*, *imbrex*, *murex*.
Compound names with *-plex* (*simplex*, *duplex*, *triplex*, etc.).

87 (a) *-ĭx*, (b) *-ĭc-*, (c) *-ĭcĭs*, (d) *-i*
(a) *Salix*, (b) *Salic-*, (c) *Sálicis*, *Sálici*
Larix, - *natrix*.
Compound names with *-calix* (*eriocalix*, etc.) or *-filix*.

88 (a) *-ĭx*, (b) *-ĭc-*, (c) *-ĭcĭs*, (d) *-o*
(a) *tetralix*, (b) *tetralic-*, (c) *tetrálici*, (d) *tetrálico*
helix, *histrix*, *hystrix*.

89 (a) *-īx*, (b) *-īc-*, (c) *-īcĭs*, (d) *-i*
(a) *Tamarix*, (b) *Tamaric-*, (c) *Tamarícis*, (d) *Tamaríci*
Also, feminine forms of the '*nomina agentis*' [- 39]: *cunctatrix*, etc.

90 (a) *-īx*, (b) *-īc-*, (c) *-īcĭs*, (d) *-o*
(a) *Scandix*, (b) *Scandic-* (c) *Scandícis*, (d) *Scandíco*
Phoenix.
Compound names with *-spadix*.

91 (a) *-ĭx*, (b) *-ĭch-*, (c) *-ĭchĭs*, (d) *-o*
(a) *Ulothrix*, (b) *Ulotrich-*, (c) *Ulótrichis*, (d) *Ulótricho*
Compound name with *-thrix*; change *th* - *t*!
Cladothrix; - *callithrix*, *sphaerothrix*, etc.

92 (a) *-nx*, (b) *-ng-*, (c) *-ngis*, (d) *-o*
(a) *macrosyrinx*, (b) *macrosyring-*, (c) *macrosyríngis*, (d) *macrosyríngo*
Compound names with *-pharynx*, *-salpinx*, *-syrinx*.

93 (a) *-ōx*, (b) *-ōc-*, (c) *-ōcĭs*, (d) *-i*
(a) *ferox*, (b) *feroc-*, (c) *ferócis*, (d) *feróci*
ferox, *volvox*.

94 (a) *-ŏx*, (b) *-ŏc-*, (c) *-ŏcĭs*, (d) *-i*
(a) *praecox*, (b) *praecoc-*, (c) *praécocis*, *praécoci*.

95 (a) *-aux*, (b) *-auc-* (c) *-aucis*, (d) *-o*
(a) *Glaux*, (b) *Glauc-*, (c) *Glaucis*, (d) *Glauco*.

96 (a) *-ўx*, (b) *-ўc-*, (c) *-ўcĭs*, (d) *-o*
(a) *microcalyx*, (b) *microcalyc-*, (c) *microcálycis*, (d) *microcályco*
Compound names with *-calyx* (*Geocalyx*, etc.).

97 (a) *-ўx*, (b) *-ўch-*, (c) *-ўchis*, (d) *-o*
(a) *megalonyx*, (b) *megalonych-*, (c) *meglónychis*, (d) *megalónycho*
Compound names with *-onyx*.

98 (a) *-ўx*, (b) *-ўg-*, (c) *-ўgis*, (d) *-o*
(a) *Pompholyx*, (b) *Pompholyg-*, (c) *Pomphólygis*, (d) *Pomphólygo*
Compound names with *-pteryx*.

y

99 (a) *-ў*, (b) *-y-*, (c) *-ўŏs*, (d) *-o*
(a) *moly*, (b) *moly-*, (c) *mólyos*, (d) *mólyo*
chamaemoly, *moly*.

Pseudocompound names

Epithets formed from two words (first and second element) joined by a hyphen.
In the following lists, only the genitive is given. The connecting vowel is determined by the second element and may be found in the Tables 1-99; in the following lists, the connecting vowel is only given in the first example of each subgroup.

100 Both elements change. The connecting vowel present only in the second element.
Substantive nominative + adjective nominative
(a) *adiantum-nigrum*, (c) *adianti-nigri*, (d) *adianti-nigro*;
agnus-castus, *agni-casti*; *anagallis-aquatica*, *anagállidis-aquaticae*; *ferrum-equinum*, *ferri-equini*; *ficus-indica*, *fici-indicae*; *filix-femina*, *filicis-feminae*; *filix-mas*, *filicis-maris*; *foenum-graecum*, *foeni-graeci*; *crista-castrensis*, *cristae-castrensis*; *herba-alba*, *herbae-albae*; *linum-stellatum*, *lini-stellati*; *melilotus-coerulea*, *meliloti-coeruleae*; *plantago-aquatica*, *plantáginis-aquaticae*; *ruta-muraria*, *rutae-murariae*; *sceptrum-carolinum*, *sceptri-carolini*; *spina-alba*, *spinae-albae*; *uva-crispa*, *uvae-crispae*; *vitis-idaea*, *vitis-idaeae*.
Adjective nominative + substantive nominative
(a) *bella-donna*, (c) *bellae-donnae* (d) *bellae-donno*
bonus-henricus, *boni-henrici*.

101 Only the first element changes. The connecting vowel is missing.
Substantive nominative + substantive genitive
(a) *barba-jovis*, (c) *barbae-jovis*, (d) *barbae-jovis*
bursa-pastoris, *bursae-pastoris*; *capillus-veneris*, *capilli-veneris*; *caput-felis*, *capitis-felis*; *caput-galli*, *capitis-galli*; *caput-medusae*, *capitis-medusae*; *corona-sancti-stephani*, *coronae-sancti-stephani*; *crista-galli*, *cristae-galli*; *crus-galli*, *cruris-galli*; *dens-canis*, *dentis-canis*; *flos-cuculi*, *floris-cuculi*; *flos-jovis*, *floris-jovis*; *herba-venti*, *herbae-venti*; *morsŭs-ranae*, *morsūs-ranae*; *nidus-avis*, *nidi-avis*; *oculus-christi*, *oculi-christi*; *oculus-solis*, *oculi-solis*; *pecten-veneris*, *péctinis-veneris*; *pes-caprae*, *pedis-caprae*; *rapum-genistae*, *rapi-genistae*; *sanguis-christi*, *sánguinis-christi*; *speculum-veneris*, *speculi-veneris*; *spica-venti*, *spicae-venti*; *spina-christi*, *spinae-christi*; *umbilicus-veneris*, *umbilici-veneris*; *uva-ursi*, *uvae-ursi*.

102 Only the second element changes. The connecting vowel is present only in the second element.
Substantive genitive + substantive nominative
(a) *coeli-rosa*, (c) *coeli-rosae*, (d) *coeli-roso*.

103 Without changes. The connecting vowel is missing. Genitives: *borisii-regis*, *equi-trojani*, *ferdinandi-coburgi*, *friderici-augusti*, *laserpitii-sileris*, *novi-belgii*, *novae-angliae*, etc.
In addition: *noli-tangere*.

APPENDIX II.
Some instructions

A. Instruction for the registration of new names of syntaxa, and typification of syntaxa

To ensure general recognition of new names of syntaxa (incl. *nomina nova*), new combinations, and lectotypifications or neotypifications of names, authors are requested to send a copy of their publication to the person of the Nomenclature Commission in charge of the registration, at present J.-P. Theurillat, using the address:

Dr. J.-P. Theurillat, Centre alpien de Phytogéographie, Fondation J.-M. Aubert, CH-1938 Champex, Switzerland.

B. Instructions for proposals to be sent to the Committee for Nomina Conservanda, Ambigua, Inversa & Mutata (CNC)

The following members of the Nomenclature Commission belong at present to the CNC: G. Grabherr (Secretary), J. Pallas, H.E. Weber and W. Willner. Since it is not possible for the members of the CNC to do literature research, proposals can only be treated if all supporting documents are enclosed. Otherwise the proposal has to be returned for completion.

Proposals are to be sent to the Secretary of the CNC using the address:
Prof. Dr. Georg Grabherr, Department of Vegetation Ecology and Nature Conservation, University of Vienna, Althanstr. 14, A-1090 Wien, Austria.

List of possibly needed supporting documents:

A. Comments on and reasons for the proposal.
B. Copy of the protologue (i.e. the original diagnosis) of the name in question.
C. In case of syntaxa above association: Copy of the protologues of the subordinate syntaxa which have been quoted in the original diagnosis – at least the protologue of the type-syntaxon (see Art. 8 and 17 ICPN).
D. Copy of the lecto- or neotypification of the name in question if there is no holotypus designated in the original diagnosis (see note below).
E. Copy of further literature for pointing out the current use of the name, e.g. in proof of its 'name in current use' status.
F. Copy of the protologue of those names which the proposed *nomen conservandum* should be protected against.
G. Copies from the most important taxonomic and floristic literature of the past 20 years giving evidence of the contemporary taxonomic nomenclature (not necessary for Central Europe).

To come to a decision the following supporting documents are required:

1. *Nomina conservanda*: A, B, C, D, E, F
2. *Nomina ambigua*: A, B, C, D, E
3. *Nomina inversa*: B, C, D
4. *Nomina mutata*: A, B, C, G

Note: If the name in question has not been typified so far the authors are recommended to choose a lecto- or neotype which will be published under their names simultaneously with the decision of the Nomenclature Commission.

APPENDIX III.
Nomina ambigua

APPENDIX IV.
Nomina inversa

APPENDIX IV.
Nomina conservanda

These Appendices will be published later on.

INDEX OF TERMS

abbreviation of an author citation - Rec. 46B
accepted name - see correct name
adaptation of names to taxonomic nomenclature - Art. 45
adding of an epithet - Rec. 10C
adding of specific epithets - Art. 40a
additions - to author citations - Art. 48
aggregate species - replaced by the name of a segregate taxon - Art. 43
alliance - Def. II, Principle II
- reduced to the rank of a suballiance - Art. 27b, 28
- termination - Art. 11
alliancia - Principle II
alteration - of the Code - Div. IV
- of position - Art. 15
- of rank - Art. 15
alternative names - Art. 3j
application - of names - Principles IV and V
- of nomenclatural types - Art. 15
association - Def. II, Principle II
- basic rank in the hierarchical system - Principle VI
- change in rank - Art. 27c, 28b
- definition - Def. II
- form of its name - Art. 10a, 11
- name rejected as a *nomen dubium* - Art. 37
- neotypification - Art. 21
- original diagnosis - Art. 7
- reduced to the rank of a subassociation - Art. 27c, 28b
- typification - Art. 16
- Uppsala School - Principle II
auctorum non (*auct. non*) in author citations - Rec. 46J
author citation - Def. XII, Art. 46-51
- abbreviated - Rec. 46B
- at least once in each publication - Rec. 46A
- in case of a homomym - Art. 31
- in case of a new combination (*combinatio nova*) - Rec. 46G, Art. 50
- in case of a corrected name - Art. 43, 44, 48c-d
- in case of a *nomen novum* - Art. 39a, 49
- in case of change in rank - Art. 27, Rec. 46H, Art. 51
- in case of change in position of a syntaxon of supplementary rank - Art. 28
- in case of change of position of a subassociation - Art. 26
- retention of the original citation - Art. 47
basic rank - Principle VI
basionym - Def. XI, Art. 26
bibliographical error - Art. 2b
brackets in a syntaxon name - Art. 41c
brackets in author citation - in case of a *nomen novum* - Art. 49
- in case of change in rank - Art. 51
change in position - Art. 26, 28
- in rank - Principle II, Art. 27
- - author citation - Rec. 46H, Art. 51
- - of a syntaxon of supplementary rank - Art. 28
- - only between principal and supplementary rank - Art. 27
character taxa - explicit indication - Art. 8
circle of vegetation - Def. I
citation - of authors - see author citation
- of ineffectively published names - Rec. 46E
- of a *nomen nudum* - Rec. 46E
- of pseudonyms - Rec. 46J
- of synonyms - Art. 3a, Rec. 10A, Art. 29c
- *pro synonymo* (*pro syn.*) - Rec. 46F
class (classis) - Def. II, Principle II
- reduced to the rank of a subclass - Art. 27b, 28a
- termination - Art. 11
classis - Principle II
coenon - Def. I, Art. 3c
combination - Def. VII
comb. nov. (*combinatio nova*) - Art. 26
- author citation - Art. 50
- citation - Rec. 46G
- not used - Art. 4b
- registration - Rec. 1C
community - Def. I, Principle II, Art. 3c
community type - Def. I, Art. 3c
completion - of author citations - Art. 46
- of names - Art. 31
compound names - Art. 12
connecting vowel - Art. 10a, 41
conserved name - see *nomen conservandum*
consociation - Principle II
constancy of taxa in a synoptic table - Art. 7
corr. (*correxit*) - in author citation - Art. 48c-d
correct name - Def. VI, Principle III, Art. 22
correction of names - Def. V, Art. 14, 40-41, 43-45
- author citation - Art. 43, 48c-d
- by adding specific epithets - Rec. 10c
- by inversion - Art. 48b
- due to homonymy of taxon names - Art. 44, Rec. 43A
- due to obsolete taxon names - Art. 45
- due to taxonomic errors - Art. 43
- in doubtful cases - Rec. 43A
- orthography - Art. 10a, 41
- printing error - Art. 48a
- special cases - Art. 41
- termination - Art. 11
- with infraspecific epithet - Art. 34c
corresponding name - Def. X
cryptogamic communities - Def. I
date - of a name - Art. 6
- of a corrected name - Art. 40b
- of a *nomen novum* - Art. 39a
- of a publication - Art. 1
derivation from plant names - Art. 2c
diagnostic taxa - explicit indication - Art. 8
differential taxa - explicit indication - Art. 8
division of syntaxa - Art. 3m, 15, 24
- cause of rejection of names - Art. 35
- of principal rank into syntaxa of supplementary rank - Art. 19b
- into syntaxa of the same rank - Art. 24a
- into syntaxa of a supplementary rank - Art. 24b
dominant (highest) stratum - Art. 3k, 10b, 29b
dubious name - see *nomen dubium*
ecological epithet in a syntaxon name - Art. 34a
effective publication - Def. III, Art. 1, 2, 6, 16, 19, 21, 25, Rec. 46G-H, Art. 48c
element - Def. VIII, Art. 15
emendation - Rec. 19A, Art. 36
-enalia - Art. 11
-enea - Art. 11
-enion - Art. 11
epithet - ecological in a syntaxon name - Art. 34a
- geographical in a syntaxon name - Art. 34a
- in a syntaxon name - Art. 34a
- infraspecific - Art. 10a, 34c
- morphological in a syntaxon name - Art. 34a
- of a subassociation name - Def. VII, Art. 13
- of a taxon - added - Rec. 10C
- of the name giving taxon - Art. 10a
- specific - Art. 14
- specific epithets added - Rec. 10C, Art. 40a
established name = validly published name
-etales - Art. 11, 41
-etalia - Art. 11
-etea - Art. 11
-eto - Art. 41
-etosum - Art. 11, 13
-etum - Art. 11
Eu- - Art. 12, 34b
ex - in author citation - Rec. 46D, 51A
foederatio - Principle II
genitive of taxon epithets in syntaxonomic names - Art. 10a
geographical area - regarding typification - Rec. 21A
geographical epithet in a syntaxon name - Art. 34a
geosigmassociation - Def. I
Gesellschaft - Def. I, Principle II, Art. 3c
groupement - Def. I, Principle II, Art. 3c
heterotypical synonyms - Def. X
hierarchy of ranks of syntaxa - Def. II, Principle II
highest stratum - Art. 10b, 29
holosyntypus - Def. VIII

holotype - Def.VIII, Art. 18
holotypus - Art. 5
homonym - Def. IX, Art. 31, 32, 33
- due to homonomy of taxon names - Art. 44
- later homonym as an illegitimate name - Art. 31
- later homonym cited in synonymy - Rec. 46I
- merely appearing due to use of taxon names without epithets - Art. 31
- published simultaneously (homonyms of equal age) - Art. 33
- rejection - Art. 31
- resulting from a correction of a name - Art. 40b, 43, 45
- resulting from nomenclaturally synonymous (homotypic) taxon names - Art. 32b
- special cases - Art. 32
- without author citation - Art. 31
homonymy - see homonym
homotypical synonyms - Def. X
homotypical taxon names - Art. 32b
illegitimate name - Def. V, Art. 29b-c, 30, 31, 34
in - in author citations - Rec. 46C
incomplete relevé(s) - Art. 16
indication - of character taxa - Art. 8
- of constancy of taxa - Art. 7
- of diagnostic taxa - Art. 8
- of differential taxa - Art. 8
- of quantitative occurrence of taxa - Art. 7
- of rank by termination of the name - Art. 11
- of rank omitted - Art. 3c
-inea - Art. 11, 41
infraspecific taxon as name giving taxon - Art. 10a
inops - Art. 13
invalid publication - Art. 1, 3-4, 9, 10b, 11, 17, 29b
- causes of - Art. 3
- of subassociation names - Art. 4
inversion of a name (see *nomen inversum*) - Art. 42
lectosyntypus - Def. VIII
lectotype - Def. VIII, Art. 19-20
- remaining if elements are transferred or a syntaxon is emendatet - Rec. 19A
lectotypification - choice of the type - Art. 19
- of an association - Art. 19a
- of a subassociation - Art. 19a
- of names of superior syntaxa based on the same taxon names - Art. 20
lectotypus - Art. 5
legitimate name or epithet - Def. V-VI, Art. 10b, 18b, 24b, 27d, 29c, 30
lichen communities - Def. I, Principle II
manuscript relevé(s) - Rec. 21A
misidentification of a name-giving taxon - Art. 43
misinterpretation of a name - Art. 36
moss communities- Principle II
name - above subassociation and formed from more than two taxa - Art. 34c
- adaptation to taxonomic nomenclature - Art. 45
- ambiguous - see *nomen ambiguum*
- appearing as homonymous merely because without indication of specific epithets - Art. 31
- application - Principle V
- completion by epithet - Art. 31
- conserved - see *nomen conservandum*
- correct - see correct name
- correction - see correction of names
- corresponding - Def. X
- date - Art. 6
- dubious - see *nomen dubium*
- effectively published - Def. III, Art. 1, 2a
- form not corresponding to the rank - Art. 3e
- formation - Art. 10
- formed from the epithet of a taxon only - Art. 32c
- homonymous - see homonym
- illegitimate - Def. V, Art. 29b-c, 30-31, 34
- invalid - see invalidly published name
- inverted - see *nomen inversum*
- legitimate - Def. V, VI, Art. 10b, 18b, 24b, 27d, 29c, 30
- misinterpretation - Art. 36
- new - Rec. 1A, 1C, Art. 3g, 3n, 4b, 6, 18c, 27a, d, 29c, 39a, c, 43, 45, Rec. 46J, Art. 49
- not clear from what taxon (taxa) formed - Art. 3g
- not effectively published - Def. III, Art. 1
- not formed from a taxon of the highest of the dominant strata - Art. 3k, 10b, 29b
- not indicated as new (*ass. nov.*, *stat. nov.*, etc.) - Art. 3i
- not validly published - Def. IV, Art. 2a-b, 3-6, 8-9, 12, 14, 39a, Rec. 46D
- of an association - form - Art. 10a
- - typification - Art. 16
- of a subassociation - Art. 13
- - typification - Art. 16
- - formed from more than one taxon - Art. 34c
- of a superior syntaxon based on a *nomen dubium* - Art. 38
- of a taxon relegated to synonymy - Art. 30
- of a type-syntaxon - illegitimate - Art. 17
- only differrent in the order of taxon names - Art. 32d
- original form - Def. IV-V, Art. 10a, 14, 32a, 40a, 43
- registration - Rec. 1C
- rejection - see rejection of names
- substitution - Art. 39
- superfluous - see *nomen superfluum*
- termination - Art. 10a, 11
- typification - see typification
- validation - Def. XII, Art. 3i, 5-6, 9, 46, Rec. 46D
- validly published - Def. IV-V, IX, XII, Principle II, IV, Art. 2, 3c, g, n, 4a, 5-6, 8, 11, 14, 17, 18c, 22, 26, 27c, d, 31, 40b, 43, 45-46, Rec. 46C-D, J, Art. 52
- with unaltered plant names - Art. 14
name-bearing type = nomenclatural type
name-giving taxon - Art. 3f-g, l, 10a, 16, 29a, b, 3l, 34a, 43, Rec. 46d
- in nomenclatural type - Art. 16
- lacking in the original diagnosis belonging to that name - Art. 3f
- not earlier or simultaneously validly published - Art. 3l
- present only in a few relevés - Art. 29a
names of suballiances, suborders and subclasses - Art. 3e
nec - in author citations - Rec. 46I
neosyntypus - Def. VIII
neotype - Def. VIII, Art. 21, Rec. 21A
neotypification - of associations and subassociations - Art. 21, Rec. 21A
neotypus - Def. VIII, Art. 5
new combination - Def. XI, Rec. 1C, Art. 26, 30, 50
- author citation - Art. 27b, 50, Rec. 46G
- not used - Art. 4b
new name - see *nomen novum*
new syntaxon - Principle II, Art. 3c, 5, 39c, Rec. 46J
nodum - Def. I, Art. 3c
nom. ined. - see *nomen ineditum*
nom. invers. - see *nomen inversum*
nom. mut. (*nomen mutatum*) - in author citations - Art. 48e
nom. prov. (*nomen provisorium*) - Art. 3b
nomen - ambiguum - Art. 36
- - *rejiciendum propositum* (*nom. amb. rejic. propos.*) - Art. 36, Rec. 36A
- *conservandum* - Def. XIII, Principle II, Art. 22, 52
- *correctum* (*nom. corr.* - corrected name) - Art. 43-44, 48d
- - author citation - Art. 43, 48c-d
- - due to homonymy of taxon names - Art. 44
- - due to obsolete taxon names - see *nomen mutatum*
- - in doubtful cases - Rec. 43A
- *dubium* - Art. 37-38, 39c
- *illegitimum* - see illegitimate name
- - of a type-syntaxon - Art. 17
- - regarding the number of name-giving taxa - Art. 34c
- *ineditum* (*nom. ined.*) - Rec. 46E
- *invalidum* - see invalidly published name

- *inversum* (*nom. invers.*) - Art. 42, Rec. 42A, Art. 48
- - author citation - Art. 48b
- - *propositum* (*nom. invers. propos.*) - Art. 42
- - *rejiciendum* - Art. 42
- *mutatum* - Art. 45, 48
- - author citation - Art. 48
- - *propositum* (*nom. mut. propos.*) - Art. 45, Rec. 45A
- *novum* - Art. 3n, 27d, 39a, c, Rec. 39A, Art. 43-45, Rec. 46J, Art. 49
- - author citation - Art. 49
- - due to correction of obsolete taxon names - see *nomen mutatum*
- - for a subassociation - Art. 27d
- - if the author of the substituted name is still alive - Rec. 39A
- - in case of a *nomen correctum* - Art. 43-44
- - not in case of the subsitution of a pseudonym - Rec. 46J
- *nudum* - Rec. 46D, 46E
- *provisorium* - see provisional name (*nom. prov.*)
- *rejectum* - see rejection of names
- *rejicendum* - see rejection of names
- *superfluum* - Art. 2b, 18b, 29c
- - priority - Art. 23

nomenclatural type - Def. VIII-X, Principle II, V, Art. 5, Rec. 5A, Art. 15, 18-20, 26, 28, 29c, 32, 42-43, Rec. 46G, Art. 47, 52
- application - Art. 15
- containing name-giving taxon (taxa) - Art. 16
- if rank is changed - Art. 27
- in case of correction of a name - Art. 40b
- indication - Art. 5, Rec. 5A
- of an association name - Art. 16
- of a *nomen novum* - Art. 39a
- of a *nomen superfluum* - Art. 18b
- of a subassociation name - Art. 16
- of the name of a superior syntaxon - Art. 17

non - in author citations - Rec. 46I-J
not adopted name - see provisional name
order (*ordo*) - Def. II, Principle II
- reduced to the rank of a suborder - Art. 27b, 28a
- termination - Art. 11

order of taxon names - Art. 32d
ordo - Principle II
original diagnosis - Def. VIII, Art. 2b, 3f-g, 5, 10a, Rec. 10A, Art. 18-19, 25, 27-29, 35, 42, Rec. 46C-E, 51A
- of an association or subassociation - Art. 7, Rec. 7A-B, Art. 13, 21, 26
- of syntaxa superior to associacion - Art. 8, 20

original form of a name - Def. IV-V, Art. 10a, 14, 32a, 40a
original name - Def. IV, Art. 24-25, 40b, 43
orthographic correction - Art. 10a, 12, 41, 48
- author citation - Art. 48a

orthographic variants - Art. 32a
panformation - Def. I
peuplement - Def. I, Principle II, Art. 3c
phytocoenosis - Def. I
precedence - see priority
prefix *Eu-* - Art. 12
- expressing morphological or ecological characters - Art. 12

principal ranks - Def. II, Principle II, Art. 3e, h, 8-9, 17-19, 24, 27, 34b, 35
printed matter - Art. 1
printing error - Art. 40, 48a
priority - Principle IV, Art. 22-23, 25, 30, 40b
- of a *nomen novum* - Art. 39a
- of a *nomen superfluum* - Art. 23
- of a corrected name - Art. 40b

pro synonymo (*pro syn.*) - Rec. 46F
proposals to amend the Code - Div. IV
protologue = original diagnosis
provisional name - Art. 3b, 6
pseudonym - Def. X, Rec. 46J
- citation - Rec. 46J

publication of names - date with respect to priority - Art. 6, 22-23
- effective -Def. III, Art. 1
- in books, etc. - Rec. 1A
- in scientific journals only - Rec. 1A
- invalid - causes of - Art. 3
- valid - Art. 2

rank - Def. I-II, VI, X, Principle II-III
- basic - Principle VI
- change - see change of rank
- defined by termination - Art. 10a
- hierarchy - Def. II, Principle II
- indicating termination - Art. 11, 24b
- not corresponding to the form of the name - Art. 3e, h
- not corresponding to the ranks of the Code - Art. 3d
- not indicated - Art. 3c
- principal - Def. II, Principle II, Art. 8
- supplementary - Def. II, Principle II

re-introduction - of an epithet - Art. 26
- of a name - Art. 24a, 36

reference - see unambiguous bibliographic reference
registration of new names, combinations, typifications - Rec. 1C
rejection of a name - Art. 29-31, 34-39
- general limits - Art. 29
- if a syntaxon is divided - Art. 35
- *nomen ambiguum* - Art. 36
- *nomen dubium* - Art. 37-38
- homonyms - Art. 31
- special cases - Art. 30, 34

relevé - considered as incomplete - Art. 16
reprints of periodicals, etc. - Art. 1
retaining of names - Art. 24, 40
retention of the author citation - Rec. 47
- of an epithet of a subassociation in case of change in its position - Art. 26
- of a name - Art. 24, 40

retroactivity of the rules - Principle VII
Ruderali- - Art. 12, 41d
Rudereto- - Art. 12, 41d
rules - retroactivity - Principle VII
scale for indication of quantitative occurrence - Art. 7
sensu - in author citations - Rec. 46J
sigmassociation - Def. I
single relevé(s) - added to a synoptic table - Art. 21
- precedence over a synoptic table - Art. 25

sociation - Principle II, Art. 3d
specific epithet - Art. 14, 32c, 34, 40a
splitting - see division of syntaxa
stability of nomenclature - Principle IV
status novus (*stat. nov.*) - Art. 3i, 27, Rec. 46H
structure of vegetation - Art. 29b
suballiance - Principle II, Art. 3e
- change in rank - Art. 27a
- name - Art. 24b
- termination - Art. 11

subassociation - Def. VII-VIII, Principle II, Art. 4, 7, Rec. 7A, Art. 11, 13, 16, 19, 21
- a second one to be described and denominated - Art. 28
- change in rank - 27d
- change of position - Art. 26, 27
- combination - Def. VIII
- containing the type of the association - Art. 26
- epithet - Def. XI, Art. 13
- *inops* - Art. 13
- name - Art. 13, 27c
- - causes of invalid publication - Art. 4
- - formed from more than one taxon - Art. 34c
- - new - Art. 27c
- - rejected as a *nomen dubium* - Art. 37
- neotypification - Art. 21
- original diagnosis - Art. 7
- originally published in combination with an illegitimate association name - Art. 30
- placed under another association - Art. 26
- termination - Art. 11
- two or more simultaneously published - Art. 5
- typical - Art. 14
- typification - Art. 5, 16, 27c-d
- *typicum* - Art. 5, 13, 19a

subclass - Principle II, Art. 3e
- change in rank - Art. 27a
- name - Art. 24b
- termination - Art. 11

suborder - Principle II, Art. 3e
- change in rank - Art. 27a
- name - Art. 24b
- termination - Art. 11
substituted name - Art. 39c
substitution of a rejected name - Art. 39
superfluous name - Art. 18b, 29c
superfluous typification - Art. 18a
superior syntaxa - not automatically validated - Art. 9
supplementary ranks - Def. II, Principle II, Art. 3e, h, 19b, 24b, 27-28
suppressed name = rejected name
symphytocoenological units - Def. I
synonym - Def. X
- citation - Art. 3a, Rec. 10A, Art. 29c, Rec. 46D, F
- epithet-giving Def. XI
- heterotypical - Def. X
- homotypical - Def. X
- nomenclatural - Def. X
- syntaxonomical - Def. X
synoptic table - considered second to single relevé(s) - Art. 25
- indication of constancy of taxa - Art. 7
- regarding original diagnosis - Art. 7
- regarding typification - Art. 21, Rec. 21A
syntaxon (syntaxa) - Def. I, Principle I, II
- hierarchy - Def. II, Principle II
- of basic rank - Principle VI
- of higher rank - form of their names - Def. II, Principle II, Art. 10a
- of principal rank - Def. II, Principle II, Art. 34b
- of supplementary rank - Def. II, Principle II
- original diagnosis if superior to association - Art. 8
syntypus (syntype) - Def. VIII
synusial units - Def. I
table - synoptic - see synoptic table
taxon name - epithet added - Rec. 10C
- author citation - Rec. 7B
- being an obsolete synonym - Art. 45
- rejected as a later homonym - Art. 44
taxon names - order in syntaxon names - Art. 32d
taxonomic error regarding a name-giving taxon - Art. 43
taxonomic synonym - obsolete - Art. 45
termination - alteration - Art. 28a
- in case of change in rank - Art. 27a
- indicating the rank - Art. 10a, 11
- not corresponding to the rank - Art. 3e, h
- to be corrected - Art. 11
type - see nomenclatural type
type of stands - Def. II
type-relevé - Art. 5, 16
- incomplete or complex - Art. 37
type-syntaxon - Art. 17
typification - Art. 15-21 - see also lecto- and neotypification
- not in accordance with the rules - Art. 3o
- illegitimate - Art. 17
- in case of a synoptic table - Art. 21
- indication of the type as clearly as possible - Rec. 5A
- of a subassociation name - Art. 5, 16
- of names of superior syntaxa - Art. 17
- regarding name-giving taxon (taxa) - Art. 16
- registration - Rec. 1C
- superfluous - Art. 18a
- unambiguous bibliographic reference - Art. 39b
typicum (typical subassociation) - Art. 5, 13
- importance for typification - Art. 19a
typus - term to be used *expressis verbis* - Art. 5
unambiguous bibliographic reference - Art. 2b, 6, 8, 19a, 21, 26-27
- in case of a corrected name - Art. 43
- in case of a *nomen novum* - Art. 39b
- in case of valid publication - Rec. 46D
- to the nomenclatural type - Art. 19a
uniting of syntaxa - Art. 3m, 15, 25, 27b
- of the same rank - Art. 25
Uppsala-School - Def. I, Principle II
- association names - Principle II
valid publication of a name - Def. IV, Art. 2, 5-6, 8, 23, 28, 39a, 43, 46, Rec. 46D, J
- conditions - Art. 2
- only with indication of a nomenclatural type - Art. 5
validation of a name - Def. XII, Art. 3i, 6, 46
- by another author - Rec. 46D
- names of superior syntaxa not automatically validated - Art. 9
vegetation complex - Def. I
vegetation group - Def. I, Art. 3c
vegetation type - Def. I, Principle II, Art. 3c
vegetation units - Def. I, Principle I
vowel - connecting words or syllables - Art. 10a, 41
Zürich-Montpellier-School - Def. I