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ORIGINAL ARTICLE

Contribution to the nomenclatural knowledge of *Fagus sylvatica* woodlands of southern Italy

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Abstract

The present paper deals with some nomenclatural notes regarding two important southern Italian beech phytosociological associations such as *Aquifolio-Fagetum* and *Asyneumato-Fagetum* which were described about 30 years ago and which still represent the most widespread *Fagus sylvatica* communities in southern Italy. According to the ICPN, *Aquifolio-Fagetum* is confirmed to be a *nomen illegitimum*. This name must be substituted with the name *Anemono-Fagetum* (Gentile 1970) Brullo 1983. Moreover, *Aremonio-Fagetum* Hofmann 1961, a beech forest type very similar to the *Aquifolio-Fagetum* is a *nomen invalidum*. As far as the *Asyneumato-Fagetum* Gentile 1970 is concerned, in our opinion it represents a later syntaxonomical synonym of the *Ranunculo brutii-Fagetum* Bonin 1967. *Geranio-Fagion* Gentile 1970 and *Lamio-Fagenion* Gentile 1970 are typified. A new suballiance named *Doronico-Fagenion* (describing the beech community types of the low montane belt), deriving from the lowering of the rank of the former alliance *Doronico-Fagion* Ubaldi *et al. ex* Ubaldi 1995, is proposed.

Key words: Code of phytosociological nomenclature, Fagetalia, Fagion, Syntaxonomy.

Introduction

Between 1960 and 1970 several phytosociological studies, regarding the beech woodlands developed in southern Italy, were published (Hofmann, 1960, 1961; Gentile, 1964, 1970; Bonin, 1967). These studies, analogous to those dealing with the beech forests of other zones such as the south-western sector of the Balkans (Quezel & Contandriopoulos, 1965; Soo, 1965; Quezel, 1967), were aimed to make up an adequate syntaxonomical scheme describing the south-eastern European montane woodlands. In some papers, especially those regarding very large areas, the name of syntaxa was usually given without the support of tables or, often, only with a generic or provisional meaning. In others, although the proposal of a syntaxon name was effectively accompanied by often very detailed synecological, synchorological and floristic descriptions, the same nevertheless proved very approximate in terms of nomenclatural rules. Even a long time after the publication of the 2nd edition of the Code of Phytosociological Nomenclature (Barkman *et al.* 1986), the Italian

version of which was published only 8 years later (Scoppola, 1994), the adaptation of phytosociological tables or schemes to the Code articles was considered of secondary importance or even optional in the economy of the paper. This lack of control in the use of the Code, led phytosociologists (and not only them) to preserve many names which, from the Code standpoint, had to be considered as illegitimate, invalid, synonyms or other. The publication of the 3rd edition of the ICPN (Weber *et al.*, 2000) with its additions (particularly significant seem to be those regarding the conserved names) should persuade insiders to write new papers in accordance with the nomenclatural rules. The present paper deals with the question of nomenclatural analysis regarding some well-known syntaxa names involved in the syntaxonomy of beech woodlands in Italy. The complex nomenclatural question of these woodlands can be considered as emblematic of how many variables must be taken into consideration to assign the priority to a name. It is important to underline, however, that the solution of the nomenclatural problem of southern Italian beech woodlands does

not regard only this restricted territory but involves very profoundly also other south-eastern European countries (especially Macedonia and Greece), whose beech woodlands appear to belong to syntaxa which exhibit significant nomenclatural and coenological affinities to those occurring in southern Italy (Dzwonko et al., 1999; Dzwonko & Loster, 2000; Bergmaier & Dimopoulos, 2001).

The nomenclature of the species occurring in the text does not follow strictly Flora d'Italia (Pignatti, 1982) but is in accordance with various floras, recent checklists and taxonomic accounts (Greuter et al., 1984–1989; Tutin et al., 1993; Conti, 1998, etc.).

Historical background to the phytosociological nomenclature of southern Italian *Fagus sylvatica* woodlands

Associations

Anthriscio siculae-Fagetum. Hofmann (1960) describes for Sicily the new association *Anthriscio siculae-Fagetum* as “ass. nov. provv.” through a phytosociological table composed of 13 relevés (the expression “ass. nov. provv.” appears both in the table and in the final index).

Aremonio-Fagetum subass. *carpinetosum*. Hofmann (1961) describes for the Gargano promontory (Apulia) the new association *Aremonio-Fagetum* in form of the sole subassociation *carpinetosum* through a phytosociological table of 20 relevés. Always referring to the *Aremonio-Fagetum*, the same author proposed as “probably occurring” two further subassociations such as *lamietosum flexuosi* and *saxifragetosum rotundifoliae* which were distributed respectively in Calabria region (the southeast part of the Italian peninsula) and Abruzzo region (central Italy). However, no reference to phytosociological tables is indicated for these sub-associations.

Aquifolio-Fagetum. Gentile (1964a) proposed a new association named *Aquifolio-Fagetum* for the Calabrian Apennines. This association was supported by a synoptic table in which the characteristic species of the order (*Fagetalia sylvaticae*), of the class (*Querco-Fagetea*) and the companion species have been omitted.

In the same year (Gentile, 1964b), the author mentioned again the name *Aquifolio-Fagetum* although in this case without including any phytosociological table.

In a paper dated 1966–67 but effectively published in 1968 (see cover, Figure 1), Caputo described the beech woodlands of Taburno-Campsauro (northern Campania region) and included these woodlands (for which a phytosociological table

composed of 18 relevés is presented) in *Aquifolio-Fagetum* Gentile 1964 (Caputo, 1968).

Gentile (1970) improved the diagnosis presented in his previous contributions (Gentile, 1964a) through the publication of some detailed and complete phytosociological table which support his new definition of *Aquifolio-Fagetum*. In the same paper, Gentile analysed the syntaxonomical differences between *Aquifolio-Fagetum* and *Ilici-Fagetum* Br.-Bl. 1967, association proposed to describe some acidophilous beech woodlands of the Cordillera Ibérica-Aragonese, but any nomenclatural collision between these two names was evidenced.

Feoli & Lagonegro (1982) continued to utilize the name *Aquifolio-Fagetum* and proposed several new subassociations.

Brullo (1983) proposes the new name *Anemono-Fagetum* in substitution of *Aquifolio-Fagetum* since this latter results as a *nomen illegitimum* being posterior homonym of *Ilici-Fagetum* Br.-Bl. 1967. In his paper Brullo does not typify the new name proposed. Ubaldi (1995) typified the *Anemono-Fagetum* indicating as nomenclatural type the relevée n° 9 of table 3 (*Aquifolio-Fagetum*), in Gentile, 1970.

Abbate (1990) proposed *Aquifolio-Fagetum abietetosum* as a new subassociation related to a particular type of *Quercus cerris*, *Fagus sylvatica* and *Abies alba* mixed woods found in Molise region (southern Italy). The type-relevé of this new subassociation is not indicated in the paper.

Scoppola & Caporali (1998) accepted the name *Aquifolio-Fagetum* and the subassociations proposed in Feoli & Lagonegro (1982).

On the other hand, the name *Ilici-Fagetum* was correctly proposed by Braun-Blanquet (1967) to describe a type of meso-acidophilous woodland type occurring in northern Spain. At the same time, Durin et al. (1967) described the beech woodlands of Normandy and Picardy through an extended paper in which, in addition to a detailed coenological description, there were different phytosociological tables in which subassociations and variants were also described. These woodlands were included in a association named *Ilici-Fagetum*. Although the authors do not clearly expressed that they were proposing a new association, any reference to *Ilici-Fagetum* Br.-Bl. 1967 was made (although the Braun-Blanquet paper is quoted in the reference) and any relationship between French and Spanish beech woodlands was identified.

Asyneumato-Fagetum. Gentile (1964a) proposed a new association named *Asyneumato-Fagetum* for the Calabrian Apennines. This association was supported by a synoptic table in which the characteristic species of the order (*Fagetalia sylvaticae*), of the class (*Querco-Fagetea*) and the companion species have been omitted.

Gentile (1970) improved the diagnosis presented in his previous contribution (Gentile, 1964a) through the publication of some detailed and complete phytosociological table which support his new definition of *Asyneumato-Fagetum*.

Ubaldi et al. (1990) proposed the name *Campanulo trichocalycinae-Fagetum sylvaticae* apparently to replace the old name *Asyneumato-Fagetum* Gentile 1970 even if no mention is given about the reason which led the authors to change the association's name. In the same paper Ubaldi et al. (*op. cit.*) proposed a new subassociation *Campanulo-Fagetum sorbetosum praemorsae*, three new variants and two "aspects". Both for the new name *Campanulo trichocalycinae-Fagetum* and for the new subassociation *sorbetosum praemorsae*, however, any indication about the relevé-type is provided.

The *Asyneumato-Fagetum* was lectotypified in a further paper by Ubaldi (1995) which indicated the relevé-type as rel. 10, Tab. 1, in Gentile 1970. In the same paper, the *Asyneumato-Fagetum sorbetosum praemorsae* (= *Campanulo-Fagetum sorbetosum praemorsae* Ubaldi et al. 1990) is also lectotypified (rel. 1, Tab. 1, in Gentile 1970).

Ranunculo brutii-Fagetum. Bonin (1967) describes a new beech wood community type from Calabria named with the term "*Ranunculus brutius* and *Fagus sylvatica* association", for which he shows a phytosociological table of 19 relevés. This association was published in Vol. XXIX of the scientific journal "Annali di Botanica (Roma)" which bears the date 1967–1969 on the cover page. In fact, this particular issue of the journal suffered a delay in publication of a full five years not being effectively published until 1972. The reason for this delay was the death of Rivera (1967), by then Director of the Botanic Institute of Rome, followed soon after by the death of his successor Martinoli (1970). The publication of Bonin's paper had been planned for 1967, but because of events this publication was suddenly postponed. In fact Vol. XXVIII was limited to the first three issues and all the papers destined for the fourth issue (the reprints of which were already in circulation) became included in Vol. XXIX which was to appear in 1972. Nevertheless Bonin's paper had already become available some years previously, when reprints were distributed to botanists. These reprints, however, do not carry a reference to Vol. XXIX of the journal, but instead to Vol. XXVIII (Figure 1). Confirmation of all this can be found firstly, in the difference between the date appearing on the cover page of the reprint and that appearing on the journal, and secondly, in referenced to Bonin's paper appearing in various other papers published between 1968 and 1971. Both the association and the name "*Ranunculo-Fagetum*"

were completely ignored by all the authors who subsequently studied the syntaxonomy of the beech woods of southern Italy (Aita et al., 1974, 1984; Avena & Bruno, 1975; Ubaldi et al., 1990; Ubaldi 1995...). Even Bonin, in two papers published later (Bonin et al., 1977; Bonin, 1980), includes in the *Asyneumato-Fagetum* all the microthermic beech woods of the southern Apennines, apparently ignoring the name which he himself had previously proposed.

Suballiances and alliances

As regards the syntaxonomical rank of suballiance and alliance of southern Italian beech woods, there are various names proposed by different authors in the 1960s. Gentile (1964a) proposed the new suballiance *Aremonio-Fagion*. Gentile (1970) in addition to all that was proposed in his previous paper (Gentile, 1964b), summarizes the proposal of other authors which was aimed to include in a single alliance the beech woodlands of southern Italy and the southern Balkans: *Fagion italicum* Soo (*in verbis*), *Fagion mediterraneo-montanum* Br.-Bl. 1960; *Fagion austro-italicum* Soo 1965, *Fagion meridionale* Quezel 1967. Gentile (*op. cit.*) rejected these previous proposals including his provisional proposal (Gen-

Figure 1. (a) Cover paper of the reprint of Bonin's paper; (b) first page of the reprint; (c) first page of Bonin's paper included in the journal volume XXIX.

tile, 1964a), and proposed resolutely the suballiance *Lamio-Fagenion* and the alliance *Geranio striati-Fagion*, which were both based on the associations *Aquifolio-Fagetum* and *Asyneumato-Fagetum*, and which were related solely to the southern Italian and Sicilian beech woodlands (*Lamio-Fageion*) and to the southern Apennine and Balkan beech woodlands taken as a whole (*Geranio striati-Fagion*).

Corbetta & Ubaldi (in Ubaldi et al., 1986) divided *Geranio-Fagion* Gentile 1970 into two new alliances such as “*Aquifolio-Fagion* all. nov.” and “*Campanulo trichocalycinae-Fagion* all. nov.” by way of the publication of a short note of a single page. This note, however, in addition to be completely lacking in references was also lacking in the indication of the nomenclatural types of both the new alliances proposed.

Ubaldi et al. (1990) proposed the “*Doronico-Fagion* nom. nov.”, to include both the termophilous beech woodlands and the mesophilous turkey oak woodlands of southern Italy. As mentioned by Ubaldi et al. (1990) the name *Doronico-Fagion* substitutes the name *Aquifolio-Fagion* Corbetta & Ubaldi 1986 the latter being a “sort of synonym” of the older *Ilici-Fagion* BR.-BL. 1967 of western Europe. This new alliance, in which *Aquifolio-Fagetum* Gentile 1970 was included, was considered as partially overlapping the coenological space of *Geranio-Fagion sensu* Gentile 1970. Still in this case, the typus of the *Doronico-Fagion* was not indicated. In the same paper Ubaldi et al. keep the *Campanulo trichocalycinae-Fagion* Corbetta & Ubaldi 1986 (which was corresponding to the other part of *Geranio-Fagion* Gentile 1970) as including the microthermic beech woodlands of southern Italy. Although several associations (among which *Asyneumato-Fagetum* Gentile 1970) were included in *Campanulo-Fagion* alliance, any indication about the nomenclatural type of this alliance was provided by the authors.

Ubaldi (1995) typified *Doronico-Fagion* indicating the association *Anemone-Fagetum* (Gentile 1970) Brullo 1983 (= *Aquifolio-Fagetum* Gentile 1970p.p.) as the type of the alliance. Any type association was still provided as far as *Campanulo trichocalycinae-Fagion* which in this new contribution (Ubaldi, 1995) was considered as emended.

Brullo et al. (2001) typified *Campanulo trichocalycinae-Fagion* indicating *Asyneumato-Fagetum* Gentile 1970 as type-association.

On the other hand, Braun-Blanquet (1967) proposed the alliance *Ilici-Fagion* as including part of the beech woodlands of northern Spain. Since just one association (*Ilici-Fagetum*) was solely included in *Ilici-Fagion* in its original description, this association represents the obliged type of the alliance (Art. 20).

Order

Gentile (1970), in a note of his paper, advanced the hypothesis that species such as *Aremonia agrimonioides* or *Rubus hirtus* could be assumed as characteristic species of a new provisional order named *Aremonio-Fagetalia* which included all the beech woodlands of south-eastern Europe.

Ubaldi in Ubaldi et al. (1986) proposed the new order *Carpino-Melicetalia uniflorae* in which, in addition to *Aquifolio-Fagion* Corbetta & Ubaldi all. nov., also *Laburno-Ostryon* Ubaldi 1980 was included, but any indication about the type-alliance of this new order was provided. In the same paper he included the microthermic beech woodlands of *Campanulo-Fagion* Corbetta & Ubaldi all. nov. in the *Fagetalia sylvaticae*.

Ubaldi et al. (1990) proposed the name *Lathyro veneti-Carpinetalia* nom. nov. as substituting the name *Carpino-Melicetalia*, and they indicate the alliance *Laburno-Ostryon* as the type-alliance of this order.

Ubaldi (1995) typified the alliance *Laburno-Ostryon* which was not typified neither in the original paper (Ubaldi 1980) nor in the further papers regarding the woodland vegetation of peninsular Italy.

Discussion

Associations

Antrisco siculae-Fagetum. On the basis of the earliest phytosociological research papers, and following the ICPN rules we can state that: in accordance with Art. 3b *Antrisco siculae-Fagetum* is to be considered an invalid name, since it was proposed as a provisional association (in the text, in the phytosociological table and also in the index).

Aremonio-Fagetum subass. carpinetosum. In accordance with Art. 3b, *Aremonio-Fagetum carpinetosum* is also to be considered as invalid, even if in this case the reasons for the invalidation are much less explicit and the decision may give rise to some discussion. The association *Aremonio-Fagetum* was published by Hoffman as the only subassociation *carpinetosum*, in a thirty page extremely detailed paper devoted exclusively to the description of this woodland community type. Nevertheless the fact that the author defined the *Aremonio-Fagetum* as a “provisional association” at only one single point in the paper (page 395) and that it could only be vaguely deduced that a new association was being proposed (the term *ass. nov.* does not appear anywhere in the paper) is sufficient to classify the name *Aremonio-Fagetum* as invalid according with the ICNP.

Aquifolio-Fagetum. The name *Aquifolio-Fagetum* proposed by Gentile (1964a) is to be considered invalid (Art. 2b; 7) in that the columns regarding this association in the final synoptic table (the phytosociological tables are lacking) are decidedly incomplete. In fact, as the author himself declared, the column lacks the characteristic species of both the order and the class (except for *Fagus sylvatica* and *Abies alba*), and the companions species.

The further mention of the *Aquifolio-Fagetum* (Gentile, 1964b) is invalid since the diagnosis is clearly insufficient (Art. 2b, 7).

Caputo (1968) mentions the name *Aquifolio-Fagetum* Gentile 1964 with a developed phytosociological table. So *Aquifolio-Fagetum* Gentile ex Caputo 1968 becomes a valid name (Rec. 46d).

The name *Aquifolio-Fagetum* was proposed again, and validated, with the addition of a detailed phytosociological table by Gentile in a paper dated from 1969, but effectively published in 1970 (see cover, Figure 1).

Concerning the presence of *Aquifolium* in the name of the syntaxon, the ICPN accepts the use of those epithets which are also used as Genus names. *Aquifolium* is the name of a Genus initially proposed by Hall (*Aquifolium* Tourn. ex Hall. Enum. Stirp. Helv. II, 467, 1742). Being a pre-linnean name, the name *Aquifolium* would invalidate all the syntaxon names in which it was found to be involved. Subsequently, however, Miller incorporates the Genus *Aquifolium* in the Linnean system as a plant scientific name (*Aquifolium* Miller, Gard. Dict. Abridg. Ed. 4 (1754); Druce in Rep. Bot. Exch. Cl. Brit. Isles, 1913, iii. 429: *Ilex* Linn.“) (In Prain, 1960: 20). As a consequence *Aquifolio-Fagetum* is to be considered as a valid name.

Aquifolio-Fagetum Gentile ex Caputo 1968 is illegitimate because is a later homonymous of *Ilici-Fagetum* Br.-Bl. 1967 (Art. 31, 32c). Also *Aquifolio-Fagetum* Gentile 1970 is illegitimate because is a later homonymous of *Ilici-Fagetum* Br.-Bl. 1967 and of *Aquifolio-Fagetum* Gentile ex Caputo 1968. Considering the illegitimate condition of *Aquifolio-Fagetum*, Brullo (1983) proposed the new name *Anemono apenninae-Fagetum* for Gentile's association. In this paper Brullo (*op. cit.*) does not indicate any nomenclatural type, but, in fact, it is not necessary (Art. 5). So the authority of the name is *Anemono apenninae-Fagetum* (Gentile 1970) Brullo 1983.

The lectotypification of *Anemono apenninae-Fagetum* was subsequently provided by Ubaldi (1995) who indicated the nomenclatural type (rel. 9, table 3, in Gentile, 1970).

In this way the Caputo's name has not been formally legitimated, and never has been used by phytosociologists. The various subassociations of *Aquifolio-Fagetum* proposed by Feoli & Lagonegro

(1982), Abbate (1990) and Scoppola & Caporali (1998) are to be all considered as invalid since the lack of the nomenclatural type.

If *Ilici-Fagetum* Durin *et al.* 1967 is an association to be considered as independent from *Ilici-Fagetum* Br.-Bl. 1967, priority should be given to the association proposed by Braun-Blanquet because his paper is quoted in the reference list of Durin *et al.* (1967). On the other hand, if *Ilici-Fagetum* Br.-Bl. 1967 is considered a syntaxonomical synonym of *Galio rotundifolii-Fagetum* Rivas-Martínez 1963, the latter being an association proposed at first to describe the beech woodlands of Sierra de Ayllón and afterwards extended to the entire Iberian System, the priority is to be given to the name *Galio-Fagetum*. This principle has been adopted in Rivas-Martínez *et al.* (2001). The fact that *Ilici-Fagetum* Br.-Bl. 1967 is considered a later syntaxonomical synonym of another name, does not bring any implication concerning its position as anterior homonym against *Aquifolio-Fagetum* Gentile 1970.

Asyneumato-Fagetum. As for *Aquifolio-Fagetum*, the name *Asyneumato-Fagetum* proposed by Gentile (1964a) is also to be considered invalid (Art. 2b; 7) and the final synoptic table (the developed phytosociological tables are lacking) is decidedly incomplete. The further mention of the *Asyneumato-Fagetum* (Gentile, 1964b) is invalid since the diagnosis is clearly insufficient.

The name *Asyneumato-Fagetum* was proposed, with the addition of a detailed phytosociological table, in Gentile (1970). As a consequence the right and complete form of the name of the association is *Asyneumato-Fagetum* Gentile 1970. The proposal of the *nomen mutatum* *Campanulo trichocalycinae-Fagetum* is a competence of the Nomenclatural Commission; at any rate the type is not necessary because *Asyneumato-Fagetum* has been validly described before 1979. The name *Campanulo-Fagetum sorbetosum praemorsae*, made by Ubaldi *et al.* (1990) to replace the old name *Asyneumato-Fagetum* is invalid (Art. 7, 2b, 5).

Asyneumato-Fagetum was lectotypified in a further paper (Ubaldi, 1995) where the name *Campanulo-Fagetum* is not mentioned. According with Art. 45 of the ICPN, we propose to the Nomenclatural Commission to adopt definitively the name *Campanulo trichocalycinae-Fagetum sylvaticae* since the name *Asyneuma trichocalycinum* Maly is no longer used or is quoted only as synonym of the name *Campanula trichocalycina* Ten., in the most important taxonomic and floristic literature of the last 20 years (cfr. Tutin *et al.*, 1976; Pignatti, 1982, Strid & Tan, 1991). Note that the new name proposed here would not form (at least at the moment) a later homonym of the *Campanulo trichocalycinae-Fagetum* Dzwonko *et al.*

1999 since the name of this last syntaxon has been formed from the species name *Fagus moesiaca*.

Ranunculo brutii-Fagetum. The name “*Ranunculus brutius* and *Fagus sylvatica*” association which Bonin (1967) proposed to describe the beech woodlands of the upper mountain belt of the Pollino massif, is to be considered as validly published (Art. 14), but it must be corrected to the regular form (*Ranunculo brutii-Fagetum*) according to Art. 41b. In this way *Ranunculo-Fagetum* predated Gentile’s *Asyneumato-Fagetum*, which, as already noted, also described beech woodlands found at that altitude. Both associations are virtually indistinguishable from the floristic and coenological point of view, since they concern the same woodland type and bioclimatical belt and furthermore they also share several relevés sites. In fact both Bonin (referring to Gentile’s proposal of *Asyneumato-Fagetum* in 1964) and Gentile (referring to Bonin’s proposal in 1967) showed that they were aware of the strong similarity between the two associations. However they justified their choice of their respective names for the association mainly on the basis of the degree of coenological and biogeographical significance of the characteristic species. For this reason we consider it appropriate to treat *Ranunculo-Fagetum* and *Asyneumato-Fagetum* as syntaxonomic synonyms.

The subsequent vicissitudes surrounding the name *Asyneumato-Fagetum*, together with the recent proposal of the homonymous *Campanulo-Fagetum* in the Balkans, lead us, in order to avoid yet further confusion, to exclude the possibility of making recourse to Def. XIII, Principle II, and Art. 52 of ICPN which would allow the *Asyneumato-Fagetum* to be considered a *nomen conservandum*. Application of the principle of Nomenclatural Priority conserves the earliest validly published name (Art. 23), that is *Ranunculo-Fagetum* for which the lectotype is indicated in our proposed syntaxonomical scheme.

Suballiances and alliances

Because the invalidation of both *Aquifolio-Fagetum* and *Asyneumato-Fagetum* as proposed by Gentile (1964a), also *Aremonio-Fagion* Gentile 1964 is to be considered as invalid because it lacks a validly published syntaxon of the next subordinate principal rank (Art. 2b, 8). *Aremonio-Fagion* will be indicated again as a new suballiance in Gentile (1964b), although invalidly because of the same reasons.

The various names proposed by different authors in 1960s (*Fagion mediterraneo-montanum* Br.-Bl. & Hoffman in Hoffman 1960; *Fagion austro-italicum* Soó 1965, *Fagion meridionale* Quézel 1967) are to be considered as invalid or illegitimate in accordance

with Art. 2b, 34 and 8, and must be substituted by the earlier validly published name.

Lamio-Fageion Gentile 1970 is a valid name and it is based on two associations which have been validly published. The termination indicating rank is not right (Art. 11), and must be corrected to the regular form *Lamio-Fagenion* (Art. 41).

Geranio striati-Fagion Gentile 1970 is a valid name and it is based on two associations which have been validly published. In spite of the fact that the most recent phytosociological papers quote 1969 as the reference year for the *Geranio striati-Fagion*, the effective publication date was 1970. Although the original name proposed in 1970 by the author was *Geranio striati-Fagion*, there were other authors (Paglia, 1995; Pignatti, 1998; Di Pietro, 2002; Biondi et al., 2002), which subsequently used the name *Geranio versicoloris-Fagion sylvaticae*, changing the epithet of the species of the first component whereas this change is restricted to Nomenclatural Commission. We propose to the Nomenclatural Commission to adopt definitively the name *Geranio versicoloris-Fagion sylvaticae* since the name *Geranium striatum* is no longer used or is quoted only as synonym of the name *Geranium versicolor* in the most important taxonomic and floristic literature of the last 20 years (Art. 45).

Geranio versicoloris-Fagion has not been typified. Its original publication includes *Aquifolio-Fagetum* (lower montane belt) and *Asyneumato-Fagetum* (upper montane belt). In this paper we propose that the nomenclatural type of this alliance is *Asyneumato-Fagetum* Gentile 1970. Hence this association becomes the type of the alliance and also of the suballiance *Lamio flexuosi-Fagenion*. The fact that we consider *Asyneumato-Fagetum* Gentile 1970 as later syntaxonomical synonym of *Ranunculo brutii-Fagetum* Bonin 1967, does not bring any implication concerning its position as “Typus” of *Geranio-Fagion* and *Lamio-Fagenion*.

The fact that the association *Asyneumato-Fagetum* has been recently utilised (Brullo et al., 2001) as nomenclatural type of the alliance *Campanulo trichocalycinae-Fagion* does not imply any obstacle to its use also as nomenclatural type of *Geranio-Fagion*. In fact, *Aquifolio-Fagetum* and *Asyneumato-Fagetum* were the only associations occurring in Gentile’s original description of *Geranio-Fagion*. Since Ubaldi (1995) indicated *Aquifolio-Fagetum* as nomenclatural type of *Doronic-Fagion*, the other association (*Asyneumato-Fagetum*) should necessarily be considered as nomenclatural type of *Geranio-Fagion* (Art. 18).

The characteristic specific component of the alliance *Geranio striati-Fagion* remains the same proposed in the original paper (*Geranium versicolor*, *Cardamine chelidonia*, *Cyclamen hederifolium*, *Doronicum orientale*, *Anemone apennina*, *Lamium flexuosum*)

with the addition of a group of geographical differential species which exhibit a mainly southern Italian distribution (sometimes amphiadriatic) such as *Acer cappadocicum* subsp. *lobelii*, *Luzula sicala*, *Senecio stabianus*, *Anthriscus nemorosa*, *Milium vernale*, *Myosotis sylvatica* subsp. *elongata*, *Silene sicala*, *Hypochaeris laevigata*, *Arum cylindraceum*, *Satureja vulgaris* subsp. *orientalis*, *Lamium garganicum* subsp. *laevigatum* and *Sorbus aria* subsp. *cretica*. Through the proposal of the suballiance *Lamio-Fagenion*, however, Gentile's original intention was to distinguish beech woodlands of southern Italy and Sicily from those of central and south-eastern Europe. This more or less is how the alliance *Geranio-Fagion* is interpreted at present in comparison with *Fagion sylvaticae* Luquet 1926 (central Europe) and *Aremonio-Fagion* (Bohrdi 1963) Török *et al.* 1989 (south-eastern Europe). In the original paper the differential species of *Lamio-Fagenion* were only indicated in *Lamium flexuosum* and *Ranunculus lanuginosus* var. *umbrosus*. According with the new framework proposed in the present paper, instead, *Lamio-Fagenion* represents the high altitude part of the *Geranio-Fagion* alliance. For this reason we consider it more appropriate to select a group of differential species that can act as environmental indicators of the ecology of microthermic beech woodlands as distinct from the ecology of lower montane belt beech woodlands, such as *Campanula trachelium*, *Ranunculus brutius*, *Stellaria nemorum*, *Orthilia secunda*, *Adoxa moschatellina*, *Sorbus aucuparia* subsp. *praemorsa*, *Silene vulgaris* subsp. *commutata*, *Lamiastrum galeobdolon* subsp. *montanum*, *cerinthe auriculata*, *Hieracium grovesianum*, *Hordelymus europaeus*, *Oxalis acetosella* and *Lathyrus vernus*. The beech woodlands of southern Apennine lower mountain belt which are rich in *Quercetalia pubescenti-petreae* transgressive species should be included in an autonomous suballiance which is distinct from *Lamio-Fagenion*. The occurrence of two distinct beech woodland types related to two different altitudinal belts was implied by Ubaldi *et al.* (1990) and in Ubaldi (1995) where *Geranio-Fagion* was divided into two new alliances named *Doronico-Fagion* and *Campanulo trachelium-Fagion*. These syntaxa included, respectively, the beech woods of the lower mountain belt and those of the upper mountain belt. It must to be noted, however, that such division of *Geranio-Fagion* is clearly not provided for in the ICPN (Art. 24) since one of the two new alliances proposed must retain the original name of the syntaxon of the same rank which has been originally divided.

Although we agree with this sharp separation of southern Apennine beechwoods based on altitude, we nevertheless hold that it is more appropriate in syntaxonomical terms to express this separation only

at the suballiance level. As a consequence, the alliance *Campanulo-Fagion* coincides with the suballiance *Lamio-Fagenion*, while the rank of the alliance *Doronico-Fagion* in this paper becomes lowered to the level of sub-alliance (*Doronico-Fagenion*). For this latter, the nomenclatural type (*Anemone-Fagetum* = *Aquifolio-Fagetum*) which was originally chosen for *Doronico-Fagion* is maintained (Art. 27). Nevertheless a *Doronico-Fagenion moesiaca* Raus 1980 has been proposed for Macedonia (Dzwonko & Loster, 2000; Bergmeier & Dimopoulos, 2001). This name, however, is based on *Fagus moesiaca* (K. Malý) Czeck, a species whose taxonomical rank is debatable and that in *Flora Europaea* was considered simply to be a variety of *Fagus sylvatica* (cfr. Tutin *et al.*, 1993). The entire group of characteristic species defined by Ubaldi *et al.* (1990) for *Doronico-Fagion* cannot be maintained because many of them are characteristic of *Geranio-Fagion*. Consequently a new group of differential species is defined, including *Alnus cordata*, *Allium pendulinum*, *Cardamine graeca*, *Festuca exaltata*, *Epipactis meridionalis*, and several species which are commonly found in mesophilous oak-woods of the submontane and lower montane belts, such as *Luzula forsteri*, *Potentilla micrantha*, *Euphorbia amygdaloides* subsp. *amygdaloides*, *Acer opalus* subsp. *obtusatum*, *Pulmonaria apennina*, *Taxus baccata*, *Saxifraga rotundifolia* subsp. *rotundifolia* and *Melittis alba* [Obviously these species assume the role of "differential" of suballiance only when the higher level of alliance (*Geranio versicoloris-Fagion*) and order (*Fagetalia sylvaticae*) are also clearly characterized in floristic terms]. The name *Aquifolio-Fagion* Corbetta & Ubaldi in Ubaldi *et al.* 1986 is a later homonym of *Ilici-Fagion* Br.-Bl. 1967 (Art. 31, 32). Actually there is not a real collision between these two names because *Aquifolio-Fagion* is invalid since it has never been typified.

At present, the number of associations included both in *Doronico-Fagenion* and in *Lamio-Fagenion* is highly variable and subjective, and it is clearly related to the easiness degree used by the different authors in proposing new associations (e.g. Ubaldi *et al.*, 1990). The aim of this paper, however, is limited to clarifying the nomenclatural and syntaxonomical meaning of just those well-known but frequently improperly utilized, beech forests of southern Italy. (The Eventual syntaxonomical synonymy at the association and subassociation levels is not discussed, as this is to be the subject of a further paper currently being prepared.)

Order

The proposal of *Aremonio-Fagetalia* made in Gentile (1970) is to be considered invalid (Art. 3b).

Carpino-Melicetalia uniflorae Ubaldi in Ubaldi et al. 1986 includes two alliances but is not validly published because it lacks the nomenclatural type (Art. 5).

Lathyro veneti-Carpinetalia proposed by Ubaldi et al. (1990) to substitute the old name *Carpino-Melicetalia uniflorae* is an invalid name because the appointed type (*Laburno-Ostryon*) is also invalid because it lacks the nomenclatural type (Art. 9).

The name *Lathyro veneti-Carpinetalia* was considered again by Ubaldi (1995). In this paper the author preserved the syntaxon name indicating the alliance *Laburno-Ostryon* as its nomenclatural type. At the same time Ubaldi (*op. cit.*) validated the association *Ostryo-Aceretum opulifolii* which was indicated as nomenclatural type of *Laburno-Ostryon*.

In the present paper, however, we are in accordance with the position expressed in Scoppola et al. (1995), which does not provide for the occurrence of an Apennine order such as *Lathyro veneti-Carpinetalia* to be considered as a later syntaxonomical synonym of *Quercetalia pubescenti-petraeae* Klika 1933 (and of *Fagetalia sylvaticae* Pawl. in Pawl et al. 1928p.p.).

Conclusions

The main result emerging from the present study is that it has proposed a updated syntaxonomical scheme regarding the most common beech forest community of southern Italy (see Appendix). This result is all the more significant because phytosociology is today passing through a period in which eighty years of research and study are being subjected to coenological, syntaxonomical and nomenclatural revision (cfr. Theurillat et al., 1995; Mucina, 1997; Rivas-Martínez et al., 2001). Among these revisions there are some which concern the syntaxonomy of the beech woods of the southern Balkans (Dzwonko & Loster, 2000; Bergmeier & Dimopoulos, 2001) with which the southern Apennines exhibit strong bio-geographical connections.

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Appendix: Syntaxonomical scheme

□ **Quercus-Fagetum Br.-Bl. & Vlieger in Vlieger 1937**➤ **Fagetalia sylvaticae Pawlowski. in Pawlowski, Sokolowski & Wallisch 1928**

[*Aremonio-Fagetalia* 1970 *nom. inval.* (Art. 3b); *Carpino-Melicetalia* Ubaldi et al. 1986 *nom. inval.* (art. 5, 17); *Lathyro veneti-Carpinetalia betuli* Ubaldi 1995 *Syntax Syn p.p.*].

▪ **Geranio versicoloris-Fagion sylvaticae Gentile 1970 (nom. mut. propos. hoc loco)**

(= **Geranio striati-Fagion Gentile 1970**)

(Lectotypus hoc loco designatus: *Asyneumato-Fagetum sylvaticae* Gentile 1970).

[*Fagion mediterraneo-montanum* Br.-Bl. 1960 *nom. illeg.* (art. 34); *Aremonio-Fagion* Gentile 1963 *nom. inval.* (Art. 2b; 7); *Fagion austro-italicum* Soo 1965 *nom. illeg.* (art. 34); *Fagion meridionale* Quezel 1967 *nom. illeg.* (art. 34)]

✓ **LAMIO FLEXUOSI- FAGENION SYLVATICAE GENTILE 1970**

(Lectotypus hoc loco designatus: *Asyneumato-Fagetum sylvaticae* Gentile 1970).

[= *Campanulo trichocalycinae-Fagion* Ubaldi, Zanotti, Puppi, Speranza & Corbetta 1990 *nom. inval.* (Art. 5); *Campanulo trichocalycinae-Fagion* Ubaldi, Zanotti, Puppi, Speranza & Corbetta ex Brullo, Scelsi & Spampinato 2001 *Syntax. Syn.*]

○ ***Ranunculo brutii-Fagetum sylvaticae* Bonin 1967**

(Lectotypus hoc loco: rel. 19, Table 1 in: BONIN, 1967).

[= *Campanulo trichocalycinae-Fagetum sylvaticae* Gentile 1970 *nom. mut. propos. hoc loco: Syntax. Syn.*;

Campanulo trichocalycinae-Fagetum (sylvaticae) subass. *sorbetosum praemorsae* Ubaldi 1995 *nom. mut. propos. hoc loco* (= *Asyneumato trichocalycinae-Fagetum* (Gentile 1970) Ubaldi 1995)]

✓ **DORONICO ORIENTALIS-FAGENION SYLVATICAE (UBALDI, ZANOTTI, PUPPI, SPERANZA & CORBETTA EX UBALDI 1995) STAT. NOV. HOC LOCO**

(Typus: *Aquifolio-Fagetum* Gentile 1970)

[= *Doronico-Fagion* Ubaldi, Zanotti, Puppi, Speranza, Corbetta ex Ubaldi 1995 (basion.)]

○ ***Anemone apenninae-Fagetum sylvaticae* (Gentile 1970) Brullo 1983**

(Typus: Gentile, 1970, table 3, rel. 9, in UBALDI, 1995, pag. 119.)

[= *Aquifolio-Fagetum* Gentile 1964 *nom. inval.* (Art. 2b; 7); *Aquifolio-Fagetum* Gentile ex Caputo 1968; *nom. illeg.* (Art. 31); *Aquifolio-Fagetum* Gentile 1970 *nom. illeg.* (Art. 31), *Anthriscus sicalae-Fagetum* Hofmann 1960 *nom. inval.* (Art. 3b), *Aremonio-Fagetum* subass. *carpinetosum* Hofmann 1961 (Art. 3b.) *Syntax. Syn.*]