Proposals (26–27): to conserve the names *Nanocyperetalia* Klika 1935 and *Isoetetalia* Braun-Blanquet 1936

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Abstract

After a nomenclatural revision of the higher rank syntaxa of the class *Isoeto-Nanojuncetea*, the conservation of the order name *Nanocyperetalia* against *Nanocypero-Polygonetalia* and a conserved type for the order *Isoetetalia* are proposed.

(26) *Nanocyperetalia* Klika 1935: 292, nom. cons. propos.  
Typus: *Nanocyperion flavescentis* Koch 1926: 20–28 (holotypus)

(≡) *Nanocypero-Polygonetalia* Koch 1926: 20, nom. rejic. propos.

(27) *Isoetetalia* Braun-Blanquet 1936a: 142, typus cons. propos.  
Typus: *Isoetion Braun-Blanquet* 1936a: 141 (typus cons. propos.)

Taxonomic reference: Euro+Med (2020).

Syntaxonomic reference: Mucina et al. (2016).

Abbreviations: ICPN = International Code of Phytosociological Nomenclature.

Keywords  
conserved name, conserved type, ICPN, *Isoeto-Nanojuncetea*, nomenclature, phytosociology, temporary ponds, vegetation

Introduction

The pioneer vegetation of temporary ponds and other periodically flooded soils has claimed the attention of European phytosociologists for almost a century and, therefore, has a complex syntaxonomic and nomenclatural history. This is the case of the three orders described for this type of vegetation (class *Isoeto-Nanojuncetea*) during the 1920s and 1930s, whose nomenclatural vicissitudes are analysed below under the rules of the 4th edition of the ICPN (Theurillat et al. 2021).

*Nanocypero-Polygonetalia* Koch 1926

In his study on the vegetation of the Linth Plain (“Linthebene”), Koch (1926: 20) introduced the order *Nanocypero-Polygonetalia* ['*Nanocypero-Polygonetalia*'] with two alliances (“Assoziationsverband”): *Nanocyperion flavescentis* and *Polygono-Chenopodion polyspermi*. The diagnosis of the *Nanocyperion* includes three new associations present in the Linth Plain (*Eleocharitetum ovato-at-...
rropurpureae ['Eleocharitetum ovato-purpuraceae'], Centunculo-Anthocerotetum punctati ['Centunculo-Anthocerotetum punctati'] and Cyperetum flavescentis and references to other associations described from different areas that the author considers as belonging to the new alliance (Koch 1926: 21, 28). The Eleocharitetum ovato-atropurpureae is invalid because (1) only a species list is given in Koch; (2) the reference to 'Archidietum [phasoidis] ligilli 1922 p.p.' is not accepted as a sufficient diagnosis according to Art. 7, and (3) the other references (Schröter and Wilczek 1902 [recte: 1904], Hayek 1923) contain only species lists. Koch does not provide relevés for the Centunculo-Anthocerotetum punctati. On pages 24–25, he discusses its affinities with the wetter aspects of a community validly described by Allorge (1922b) with a synoptic table under the name 'Association des moissons siliceuses [siliceous crops] à Chrysanthemum segetum et Myosurus minimus', concluding that the latter is a different association not belonging to the Nanocyperion flavescentis. Therefore, the name Centunculo-Anthocerotetum punctati Koch 1926 is a nomen nudum (Art. 2b), and the Chrysanthemo segetum-Myosurettum minimi Allorge 1922 is to be excluded from the original diagnosis of the alliance. It should be noted that Allorge (1922b) is an explicit reprint in book format of the previous publications of Allorge (1921, 1922a) in the Revue Générale de Botanique.

With respect to the Cyperetum flavescentis, Koch does not provide relevés but unambiguously refers to the 'Juncus compressus-Parvo-Cyperus-Assoziation' validly published by Braun-Blanquet (1922: 20) with a relevé containing both Cyperus flavescentis and C. fuscus. Therefore, the Cyperetum flavescentis Koch 1926 is a valid name that is automatically the type of the alliance Nanocyperion flavescentis (Art. 20). However, it is a superfluous name (Art. 29c) for the Junco compressi-Parvo-Cyperetum Braun-Blanquet 1922 (Mucina et al. 2016: 178).

In the description of the Cyperetum flavescentis, Koch also recognizes, as floristically related but taxonomically independent unit, the 'Association à Cicendia filiformis et Stereodon arcuatus' described by Allorge, with direct bibliographic references to Allorge (1922b), Gadeceau (1909) and Gaume (1924). Allorge's original diagnosis of the association contains 14 presence-absence relevés of vascular plants (table XXI) that would meet Art. 7. Nevertheless, Stereodon arcuatus Lindb. (Calliergonella lindbergii (Mitt.) Hedenäs in modern florás) is absent from the table XXI because bryophyte species “present in the association” are listed separately in the text, without an indication of their frequency meeting Art. 7 or a statement about their presence in table XXI. Therefore, the name Cicendia filiformis-Stereodontetum arcuati Allorge 1922 is invalid according to Art. 3f Note 1, which requires that the name-giving taxa must be present in the relevés or synoptic tables. Allorge also uses the form ‘association à Cicendia filiformis’ in the text, always in descriptive sentences and in most cases close to sentences in which the form used is ‘association à Cicendia filiformis et Stereodon arcuatus’, the latter being the form used in the header of the section describing the association and in the header of table XXI. Therefore, it is clear that the double name is the one really proposed by Allorge, and the form ‘association à Cicendia filiformis’ is a literary shortcut to refer to the community, not a true alternative name in the sense of Art. 30a. Gadeceau (1909: 117–118), cited for the association both by Allorge (1922a) and Koch (1926), contains only a species list under the name ‘Pusillaevincietum’ that is invalid according to Arts. 2a and 2b. Gaume (1924: 169), for his part, provides a synoptic table under the name ’Association à Cicendia filiformis (Cicendietum)’, validating in this way Allorge’s association to whom reference is made, and whose correct name is, therefore, Cicendietum filiformis Allorge ex Gaume 1924. Finally, the ’Isolepis-Stellaria uliginosa-Assoziation’ introduced by Koch (1926: 28) is another nomen nudum (Art. 2b).

The diagnosis of the Polygono-Chenopodion polyspermii, the second alliance of the order, contains (1) the association Bidentetum tripartitae Koch 1926, validly published with a relevé on page 29, and unambiguous bibliographical references to (2) the ‘association à Bidens tripartita et Brassica nigra’, validly described by Allorge (1921) with a synoptic table; (3) to Gaume (1924) who described an ‘association à Bidens tripartita’ with a species list (Art. 2b); and (4) to Braun-Blanquet (1921, 1923) who introduced the nomen nudum ‘Panic-Chenopodietum polyspermii’ (Art. 2b). However, because the valid elements of the alliance (Bidentetum tripartitae Koch 1926 and Bidenti tripartitae-Brassicetum nigrae Allorge 1921) do not contain Chenopodium polyspermum, the name Polygono-Chenopodion polyspermii is invalid according to Art. 3f (Mucina et al. 2016: 205).

In conclusion, the original diagnosis of the order Nanocypero-Polygonetalia Koch 1926 includes only the Nanocyperion flavescentis as a valid alliance. Among the valid elements of the alliance, Polygonum species are lacking in the original diagnosis of the Cyperetum flavescentis. However, in the original diagnosis of the Cicendietum filiformis Allorge ex Gaume 1924, Polygonum hydropiper occurs in Gaume’s synoptic table; besides, P. minus is also present in table XXI of Allorge (1922b) to whom Gaume refers. Therefore, Koch validly published the order’s name according to Art. 3f, and its holotype is the Nanocyperion flavescentis Koch 1926.

**Nanocyperetalia Klika 1935**

In a study about the Central European vegetation on temporarily flooded soils, Klika (1935) revised the alliance Nanocyperion flavescentis with unambiguous bibliographical references to Koch (1926) on pages 298–299 and 301, subordinating it to the order ‘Nanocyperetalia’ as the sole alliance on page 292. No rationale is given for the new name of the order. The renaming was probably due to a change of the taxonomic concept since Klika subordinated the alliance Polygono-Chenopodion polyspermii to a
different order (Chenopodietalia). In any case, the Nano-
cyperetalia Klika 1935 is a valid name and its holotype is
the Nanocyperion flavescentis Koch 1926. However, the or-
er's name is superfluous since it contains the type of the
earlier Nanocypero-Polygonetalia Koch 1926 (Art. 29c).
According to the indication provided on the front page
of the issue 2/3 of Beihette zum botanischen Centralblatt
volume 53, Klika's paper was published in May 1935.

**Isoetetalia Braun-Blanquet 1936**

The order Isoetetalia was validly published by
Braun-Blanquet in volume 47 of the Bulletin de la Société
d'Étude des Sciences Naturelles de Nîmes (Braun-Blan-
quet 1936a) as well as in the Communication 42 of the
SIGMA (Braun-Blanquet 1936b). Text and format are
identical in both publications, except for the page num-
bering. The Communication is dated 'January 1936' on
the cover page and contains a reference to the Bulletin
on the last page: 'Extrait du [reprint from] Bulletin de la
Société d'Étude des Sciences Naturelles de Nîmes, t.
XLVII, 1930–35'. An additional evidence that the Com-
munication is a reprint of the Bulletin is that in both pub-
lications a reference to the 'Communication de la Station
Intern. de Géobotanique Méditerranéenne et Alpine N°
40' is given under the title on the first page, but the actual
number of the Communication series is 42, suggesting
that it was postponed until the Bulletin was published,
leading to an earlier publication of volumes 40 and 41 of
the Communications that are dated 1935 and 1936, re-
spectively. The precise date of publication of volume 47
of the Bulletin is unknown. However, on page 252, there
is a reference to a meeting of the Société held on 29 No-
vember 1935. Hence, it is very unlikely that the volume
could have been printed and distributed before 1936 (D.
Kania, personal communication). Although in many
publications, including the EuroVegChecklist (Mucina
et al. 2016), Braun-Blanquet's publication is dated 1935,
in the 4th edition of the ICPN (Theurillat et al. 2021) the
date has been corrected to 1936. The order Isoetetalia had
been mentioned in previous publications (Braun-Blan-
quet 1931, Moor 1935), but without a sufficient original
diagnosis (Art. 2b).

The original diagnosis of the order in Braun-Blan-
quet (1936a) contains three alliances. One is the Isoection
Braun-Blanquet 1936 whose description covers almost
the entire publication. It includes six valid associations
together with one provisional association. The second al-
liance, the Preslion cervinae, is a nomen nudum (Art. 2b)
validated later by Moor (1937) (see Silva et al. 2021). The
third alliance is the Nanocyperion flavescentis Koch 1926,
with an unambiguous bibliographical reference to Koch
(1926) on p. 142. Since the Nanocyperion flavescentis is
the type of the earlier name Nanocypero-Polygonetalia, the
name Isoetetalia is superfluous (Art. 29c). Consequently
(Art. 18b), the alliance Nanocyperion flavescentis Koch
1926 is the type of the name Isoetetalia.

**Conservation of the order names Nanocyperetalia and
Isoetetalia**

Until now, it was considered that the Nanocypero-Poly-
gonetalia was an invalid name (Mucina et al. 2016), or a
name to be rejected due to its heterogeneous content
(Moor 1935, 1937, Braun-Blanquet 1936a). Currently,
the alliance Nanocyperion flavescentis is included in the
class Isoeto-Nanojuncetalia while the original valid con-
tent of Koch's Polygono-Chenopodion polyspermi would
belong to the Bidentetalia (Mucina et al. 2016). Authors
that recognize only one order in the Isoeto-Nanojunc-
setalia have given priority to Isoetetalia over Nanocyper-
etalia following Moor (1937). However, the majority of
authors after 1970 recognizes two or more orders (see
Brullo and Minissale 1998 for a synopsis of the different
syntaxonomic systems), including the EuroVegChecklist
(Mucina et al. 2016). According to such a syntaxonomic
concept, the Mediterranean communities flowering in
spring and early summer are included in the order Isoe-
etetalia, assuming that its nomenclatural type would be
automatically the Isecton according to Art. 20, while the
temperate European and Mediterranean communi-
ties flowering in late summer and autumn are included in
the order Nanocyperetalia. However, both names Na-
ncyperetalia Klika 1935 and Isoetetalia Braun-Blanquet
1936 are homotypic superfluous names because their
original diagnoses include the nomenclatural type of the
Nanocypero-Polygonetalia Koch 1926. This name cannot
be considered an ambiguous name (Art. 36) because it
has been rarely used, nor a dubious name (Arts. 37 and
38) because the nomenclatural type of its type alliance,
the Cypertetum flavescentis (for which the correct name
is Junco compressi-Parvo-Cyperetum), has been widely
accepted and used.

Accepting the consequences of the strict application of
the nomenclatural rules would imply important changes,
because a new syntaxon name would be needed for the
traditional concept of the Isoetetalia. Moreover, it would
make the future understanding of almost a century of
phytosociological literature on this type of vegetation
extremely difficult, because Isoetetalia and Nanocyperet-
alia are nomenclatural synonyms of Nanocypero-Poly-
gonetalia, a name disused for the last 90 years. Brullo and
Minissale (1998) list 130 papers dealing with the syntax-
onomy of Isoeto-Nanojuncetalia, a number that has prob-
ably multiplied in the last 20 years given the relevance of
this habitat type for biodiversity conservation (Foucault
2013a, b, Sumberová and Hrivnak 2013). Conserving the
name Nanocyperetalia against Nanocypero-Polygonetalia
would not solve the problem of the Isoetetalia for which
a new name should be published. However, the introd-
cuction of the new Art. 53 in the ICPN (Theurillat et al. 2021)
allows preserving the common use of a name by choosing
a nomenclatural type other than the one determined by
the application of the rules. Therefore, we propose here to
conserve the name Isoetalia Braun-Blanquet 1936 with a conserved type, the Isoetion Braun-Blanquet 1936 that has been traditionally considered the type of that order. At the same time, we propose to conserve the name Nanocyperetalia Klika 1935 against the disused name Nanocypero-Polygonetalia Koch 1926.

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Author contributions

All authors have contributed to the nomenclature research and the critical revision of the manuscript.

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