Peterka T., Hájková P., Jiroušek M., Hinterlang D., Chytrý M., Aunina L., Deme J., Lyons M., Seiler H., Zechmeister H., Apostolova I., Beierkuhnlein C., Bischof M., Biţă-Nicolae C., Brancaleoni L., Ćušterevska R., Dengler J., Didukh Ya., Dítě D., Felbaba-Klushyna L., Garbolino E., Gerdol R., Iemelianova S., Jansen F., Juutinen R., Kamberović J., Kapfer J., Klímová B., Knollová I., Kolari T. H. M., Lazarević P., Luostarinen R., Mikulášková E., Milanović Đ., Miserere L., Moeslund J. E., Molina J. A., Pérez-Haase A., Petraglia A., Puglisi M., Ruprecht E., Šmerdová E., Spitale D., Tomaselli M., Vassilev K. & Hájek M. (2023) Formalized classification of the class *Montio-Cardaminetea* in Europe: towards a consistent typology of spring vegetation. – Preslia 95: 347–383.

Supplementary Data S6. Sociological species groups and formal definitions of cores of spring alliances.

Sociological species groups:

Anthelia julacea
Anthelia julacea
Racomitrium lanuginosum
Sphagnum auriculatum agg.

Arabis soyeri
Arabis soyeri
Bellidiastrum michelii
Palustriella commutata agg.
Pinguicula alpina
Saxifraga aizoides

Cardamine opizii
Aconitum napellus agg.
Alchemilla vulgaris agg.
Caltha palustris
Cardamine amara
Chaerophyllum hirsutum

Chrysosplenium alternifolium
Carex remota
Carex sylvatica
Chrysosplenium alternifolium
Circaea alpina

Chrysosplenium oppositifolium
Chrysosplenium oppositifolium
Kindbergia praelonga
Mnium hornum

Dichodontium palustre
Blindia acuta
Carex frigida

Dichodontium palustre

Epilobium hornemannii
Carex lachenalii
Epilobium hornemannii
Poa alpigena
Rumex lapponicus
Scapania paludosa

Koenigia islandica
Juncus biglumis
Juncus triglumis
Koenigia islandica
Sedum villosum
Triglochin palustris

Myosotis stolonifera
Festuca rivularis
Myosotis stolonifera

Pellia endiviifolia
Eucladium verticillatum
Palustriella commutata agg.
Pellia endiviifolia

Philonotis fontana
Epilobium obscurum
Montia fontana
Philonotis fontana agg.
Stellaria alsine

Philonotis seriata
Epilobium nutans
Philonotis seriata
Saxifraga stellaris
Warnstorfia exannulata

Silene pusilla
Aconitum napellus agg.
Silene pusilla
Viola biflora

Swertia perennis
Allium schoenoprasum
Pedicularis sudetica
Scapania uliginosa
Sphagnum subsecundum
Swertia perennis

calcareous-spring-bryophytes
Cratoneuron filicinum
Palustriella commutata agg.
Philonotis calcarea

Formal definitions of cores of the alliances:

Types of species groups:

###: sociological group with a given number of its member species used in the formula (#01: at least one species of the group must be present to fulfil the criterion, #02 at least two species of the group must be present etc.)

#TC = functional species group (according to Landucci et al. 2015), the percentage cover of all member species of the species group is summed following the protocol of the JUICE software, formally described by Fischer (2015)

Operators:

GR: greater than, i.e. the cover of particular functional species group is greater than the cover of given values expressed in percentages

AND: both elements must be present

OR: at least one of two elements must be present

NOT (= AND NOT): element(s) must not be present

Explanatory notes:

<#02 Epilobium hornemannii> : minimum of two species of the "Epilobium hornemanii" sociological species group must be present in the plot

<#03 Philonotis fontana> : minimum of three species of the "Philonotis fontana" sociological species group must be present in the plot

(<#02 Dichodontium palustre>OR<#01 Silene pusilla>) : either minimum of two species of the "Dichodontium palustre" group OR minimum of one species of "Silene pusilla" group must be present in the plot

<#TC Chrysosplenium alternifolium GR05> : total cover of the "Chrysosplenium alternifolium" group in the plot must be higher than 5% (sociological species group is used here as functional species group)

<#TC Chrysosplenium alternifolium GR25> : total cover of the "Chrysosplenium alternifolium" group must be higher than 25%

NOT<#02 Arabis soyeri> : "Arabis soyeri" soc. species group must not be represented by two or more species

NOT<#03 Arabis soyeri> : "Arabis soyeri" soc. species group must not be represented by three or more species

NOT<#TC Chrysosplenium alternifolium GR05> : total cover of "Chrysosplenium alternifolium" group must not exceed 5%

Definitions of cores of spring alliances:

Anthelion julaceae

<#02 Anthelia julacea>

Caricion remotae

((<#02 Chrysosplenium alternifolium>AND<#TC Chrysosplenium alternifolium GR05>)OR(<#02 Chrysosplenium oppositifolium>AND<#TC Chrysosplenium oppositifolium GR25>)) NOT (<#TC Pellia endiviifolia GR05>OR<#01 Silene pusilla>)

Cratoneurion commutati

(<#03 Arabis soyeri>AND <#TC calcareous-spring-bryophytes GR15>)NOT<#TC Cardamine opizii GR05>

Cratoneuro filicini-Calthion laetae
((<#TC Cardamine opizii GR25>AND<#02 Cardamine opizii>)AND<#01 Silene pusilla>)NOT((<#01 Epilobium hornemannii>OR<#01 Chrysosplenium alternifolium>)OR(<#TC Arabis soyeri GR50>OR<#02 Swertia perennis>))

Epilobio-Montion fontanae
<#03 Philonotis fontana>NOT((<#02 Philonotis seriata>OR<#02 Epilobium hornemannii>)OR(<#TC Chrysosplenium oppositifolium GR25>OR<#01 Myosotis stolonifera>))

Koenigio-Microjuncion
<#03 Koenigia islandica>NOT(<#02 Arabis soyeri>OR<#03 Philonotis fontana>)

Lycopodo-Cratoneurion commutati
(<#02 Pellia endiviifolia>AND<#TC Pellia endiviifolia GR05>)NOT(<#01 Silene pusilla>OR(<#02 Arabis soyeri>OR<#TC Cardamine opizii GR25>))

Mniobryo-Epilobion hornemannii
<#02 Epilobium hornemannii>

Philonotidion seriatae
(<#02 Philonotis seriata>AND<#TC Philonotis seriata GR25>) NOT (<#01 Epilobium hornemannii> OR (<#01 Swertia perennis>OR((<#TC Chrysosplenium alternifolium GR05>OR<#02 Philonotis fontana>)OR(<#TC Cardamine opizii GR15>OR<#02 Arabis soyeri>))))

Swertio perennis-Anisothecion squarrosi
(<#02 Swertia perennis> AND (<#01 Dichodontium palustre>OR<#01 Silene pusilla>)) NOT (<#TC Cardamine opizii GR05>OR<#TC Arabis soyeri GR05>)

References

Fischer H.S. (2015): On the combination of species cover values from different vegetation layers. – Applied Vegetation Science 18: 169–170.

Landucci F., Tichý L., Šumberová K. & Chytrý M. (2015): Formalized classification of species-poor vegetation: a proposal of a consistent protocol for aquatic vegetation. – Journal of Vegetation Science 26: 791–803.