

OUTLINE FOR A SYNOPSIS OF PLANT COMMUNITIES IN VAS COUNTY (HUNGARY)

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ABSTRACT

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(Vas megye növénytársulásainak áttekintése)

The work is dealing with the natural vegetation of Vas-county. The analysed territory is situated in the area of the border region of three Central-european countries: Austria, Hungary and Slovenia. Using a large documentation and personal investigations, the author presents a critical review of plant communities after the rules of "Floristic Association System" or "Phytocoenological System", generalized in the Central-european countries. The *plant associations* (equivalents with *plant communities*) grouping in alliance, orders and classes with a short characterization (ecology, floristic, areal) are enumerated. Only in few case are presented *sub associations*, *variants* and *facies*.

The conclusion of the work is that the characteristic plant communities for the Praenoricum floristic province like: *Cyclamini-Fagetum*, *Galio rotundifolio-Fagetum*, *Castaneo-Quercetum*, *Luzulo-Callunetum*, *Genisto nervatae-Pinetum* and others in the *Caricion*, *Molinion* and *Arrhenatherion* alliances with rare and valuable cocnoses, need an urgent protection, and conservation. The essay is dedicated to the memory of VINCE BORBÁS.

Keywords: plant communities, phytocoenology, vegetation ecology, conservation of natural germplasm, ecosystem management, Vas-county, VINCE BORBÁS, HUNGARY.

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VAS-county, relatively a small administrative territory, is situated in the western part of Hungary, in the border region between three Central-European countries: Austria-Hungary and Slovenia. This land known in the recent history of Europe as the "Iron Curtain" region, are very interesting not only for the history of Hungarian vegetation science but also for the moderne landscape ecology.

From this county were started with about four hundred years ago the first botanical (CLUSIUS, 1583), and at the end of last century the phytogeographical (BORBÁS, 1887,1897) investigations in Hungary. In the present time, this region is also an area of application and study for the problems of

environmental changing and the biological adaptation under different types of management (NÉMETH, 1993).

The diversity at the level of plant species and the communities has a profound determination by the natural conditions - relief, hydrology, soil and climate - characterized by the contact of the Carpathian Basin with the Alps. This "status quo" for the territory of the Vas-county emphasize a large intermediary and transgressive elements which guarantee a special place for the vegetation ecology and natural protection.

For the characterization and evaluation of different ecological situations, to apply a good agricultural and forestry management, we need further new knowledge about the plant succession and climax, about the relationships between plant species distribution, environmental and weed controls. Information on vegetation, the mapping of vegetation communities and habitats, the study of indicator species and coenoses etc. may help to solve our urgent ecological problems: the *conservation of biodiversity and ecosystem management*. Therefore, the aim of this work is to realize a critical survey about the present status of the plant communities and their habitats (a synthesis between 1887-1994), as a preparatory work for a community red book.

The structure of plant communities of Vas-county are well determined by the environmental conditions of this region. The geomorphology of this territory are characterized by mountains, hills and plains, like: Alpokalja (Kőszeg-Mountain, "Kőszeg Hegyalja", Vas-Mountain), Hills of Vas ("Vasi Hegyhát", "Kemeneshát"), Hills of Zala ("Region of Kerka"), Plain of Vas-Sopron (valley and terrace of Rába, Gyöngyös etc.). The relief are constituted by metamorphic rocks (crystallized slates and fillites), different gravel and sandy materials, in some places come out volcano rocks ("Ság-hegy", "Kissoömlő"). The predominant soil types are: pseudogleic brown, woody-brown, skeleton soils, alluvial-soils, moist meadow types etc. Hydrologically the precipitation are collected by two river-systems - Rába and Zala in close connection with the brooks: Gyöngyös, Répce, Marcal, Pinka, Kerka. The climate is under the oceanic influence, general humid and mostly cool. The average mean temperature in Szombathely is 9.4 °C, and the annual precipitation are 700 mm. In reality, these vary between 8 °C to 10 °C degree, and 650 mm - 900 mm precipitation in the territory of the county.

The variability of the natural conditions and habitats determines large groups of plant communities: from the vegetation of marshes, fens, peat-bogs to the diverse groups of grassland, ruderal and forest vegetation. The distribution of the natural vegetation in different part of the county, is presented in the annexed map.

The specificity of the local flora and vegetation was evidenced by florists and phytogeographers of last century (BORBÁS, 1897, WAISBECKER 1891), but concerning the development of the coenosystematic works, the theory of "Praenoricum" elaborated by GÁYER (1925), had had a great importance. This author recognized the fact that between the two floristic regions: Noricum and Pannonicum, a transitional zone can be found, named "Praenoricum" floristic province, where the mixture of atlantic, atlantic-mediterranean and central-european elements are characteristic (*Castanea sativa*, *Calluna vulgaris*, *Gentiana asclepiadea*, *Blechnum spicant*, *Doronicum austriacum*, *Hemerocallis* etc.). The transitional features can be recognized also in the structure of vegetation: *Cyclameni-Fagetum*, *Castaneo-Quercetum*, *Luzulo-Callunetum*, *Galio rotundifolio-Fagetum*, *Bryetum schleicheri*, *Carici echinatae-Sphagnetum* and coenoses in alliances *Caricion davallianae*, *Molinion* and *Arrhenatherion* which are very frequent in this part of the country.

The description, characterization and evaluation of varied plant communities has been developed by SOÓ (1934), ZÓLYOMI (1939), ZSOHÁR (1941), BOROS (1944), VIDA (1956), PÓCS and collab. (1958, 1962, 1966), JEANPLONG (1951-1987), KOVÁCS (1962), SZODFRIDT (1961, 1969), CSAPODY (1969, 1980), continued recently by KOVÁCS (1991-1994), KOVÁCS-TAKÁCS (1992-1994), BALOGH (1991), NÉMETH (1993), RÉDEY (1993), MAJER (1994), BARTHA-MARKOVICS (1994), SZOMORAD (1994) etc.

The changing environment and the great economic pressure to the whole nature produced profound transformation in the vegetation of Vas-county. Diverse aspects of disturbancy, degradations and fragmentation of biotops has lead to reduced and even losed specific plant communities. Other vegetation units are reevaluated or are not confirmed by the new researches:

Abieti-Fagetum, *Bazzanio-Abietetum*, *Pino-Quercetum*, *Chamaebuxo-Pinetum*, *Myrtillo-Pinetum*, *Rhynchosporium albae*, *Trisetetum flavescens*, *Myricaricum germanicae* etc.

A large number of plant communities are vulnerable and endangered in Vas-county. For the conservation of the natural germplasm and management of the ecosystems, it is a great responsibility to protect the rare, valuable and characteristic plant communities like: *Hottonietum palustris*, *Trapetum natantis*, *Caricetum elatae*, *Caricetum appropinquatae*, *Carici-echinatae-Sphagnetum*, *Caricetum canescenti-nigrae*, *Seslerietum uliginosae*, *Succiso-Molinietum*, *Junco-Molinietum*, *Arrhenathero-Brometum erecti*, *Brachypodio-Avenuletum*, *Luzulo-Callunetum*, *Stipo-Festucetum pallentis*, *Allium montanum-Sesleria varia* ass., *Dryopteridi-Alnetum*, *Salicetum auritae*,

Quercu-Ulmetum, *Cyclamini-Fagetum*, *Phyllitidi-Aceretum*, *Mercuriali-Tilietum*, *Castaneo-Quercetum*, *Genisto nervatae-Pinetum*, *Aulacomnio-Pinetum*, *Tilio-Fraxinetum* etc. (KOVÁCS et al. 1992).

The coenosystematic survey of plant communities

LEMNETEA W.Koch et Tx. ex Oberd. 57

LEMNETALIA W.Koch et Tx. ex Oberd. 57

Lemnion minoris W.Koch et Tx. ex Oberd.57

1. *Lemnetum minoris* Oberd. ex Müller et Görs 60

(Syn. : *Lemnetum minoris* Rübel 12)

Ecol. : stagnant waters, frequently in eutrophic waters.

Flor. : *Lemna minor*, *Lemna trisulca*.

Area. : alongside the valley of rivers Rába, Csörnóc, Marcal (Szentgotthárd, Körmend, Sárvár), also near the brooks Pinka, Gyöngyös and Répce.

2. *Lemnetum gibbae* Mijawaki et J.Tx.60

Ecol. : stagnant waters, backwaters

Flor. : *Lemna gibba*

Area. : near the river Rába from Alsószőlő to Nick.

3. *Lemno-Spirodeletum polyrhizae* W.Koch 52

Ecol. : backwaters, stagnant waters

Flor. : *Lemna minor*, *L. trisulca*, *Spirodela polyrhiza*

Area. : from Szentgotthárd to Nick alongside the river Rába and Csörnóc.

Hydrocharition Rübel 33

1. *Lemno-Utricularietum* Soó 28

Ecol. : backwaters, pools

Flor. : *Utricularia vulgaris*, *Lemna minor*

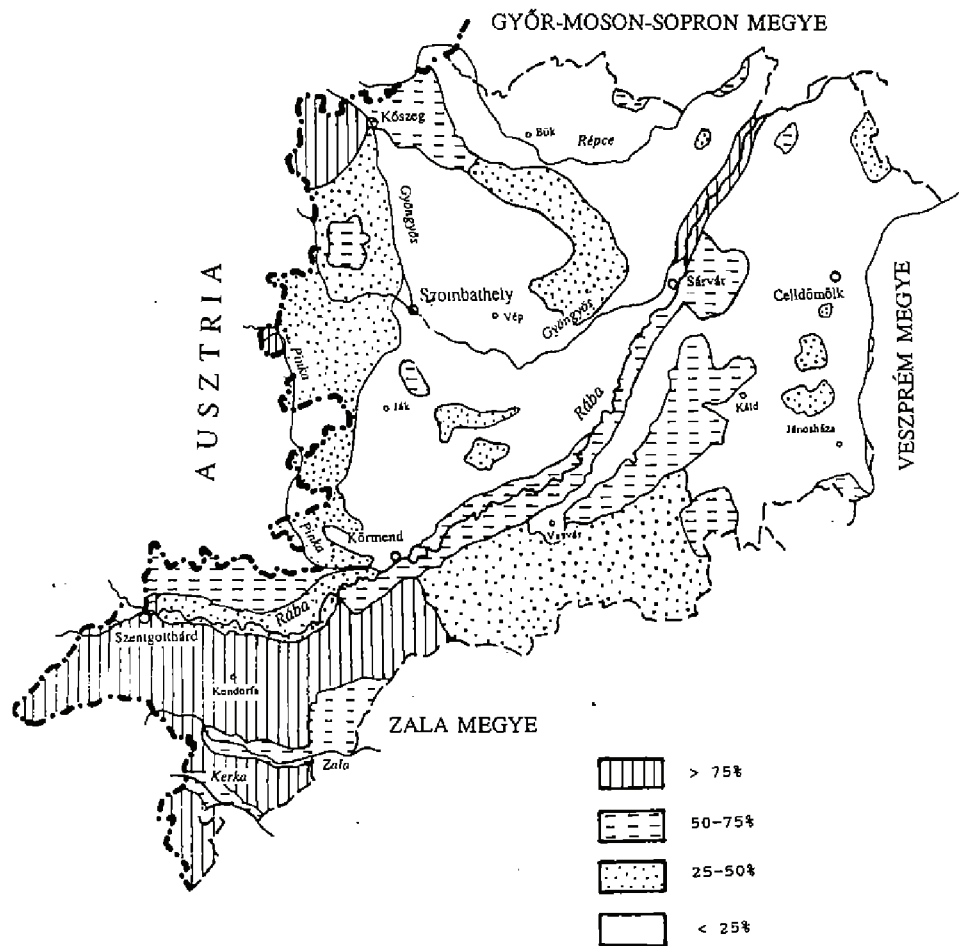
Area. : Vasszentmihály.

2. *Hydrochari-Stratiotetum* (Lang.35) Westhoff 42

Ecol. : stagnant waters, pools

Flor. : *Hydrocharus morsus-ranae*, *Stratiotes aloides*

Area. : Körmend-Molnászecsőd, Vasszentmihály, Hosszúpereszteg (Szajk), Csöngye, Ostffyasszonyfa.



**DISTRIBUTION AND FREQUENCY OF NATURAL VEGETATION
IN VAS COUNTY**

POTAMOGETONETEA PECTINATI Tx. et Prsg 42 corr. Oberd. 79

(Syn.: POTAMETEA Tx et Prsg 42)

POTAMETALIA W.Koch 26

(Syn.: POTAMOGETONETALIA)

Batrachion fluitantis Neuhausl 591. *Callitrichetum cophocarpae* Soó (27) 70

(Syn. : Batrachio-Callitrichetum Soó (27) 60)

Ecol. : puddles, slow-moving, shallow, still waters,

Flor. : *Callitriche cophocarpa*, *C. palustris*

Area. : "Örség", Hills of Vas ("Vasi hegyhát").

2. *Hottonietum palustris* Tx.37

Ecol. : shallow fresh waters

Flor. : *Hottonia palustris*, *Callitriche cophocarpa*

Area. : valley of Csörnöc (Körmend).

Potamion W. Koch 26

(Syn. : Potamogetonion)

1. *Elodeetum canadensis* (Pign.53) Soó 64

Ecol. : base-rich waters, rivers, ditches, canals etc.

Flor. : *Elodea canadensis*

Area. : Hosszúpereszteg (Szajk), Sárvár.

2. *Myriophyllo-Potametum* Soó 34

Ecol. : deep and shallow stagnant and flowing waters

Flor. : *Myriophyllum spicatum*, *Potamogeton crispus*

Area. : Körmend-Molnászezsöd, Hosszúpereszteg.

Nymphaeion Oberd. 56 em. Neuhausl 591. *Potamogetonetum natantis* Soó 27

(Syn. : Potametum natantis Soó 27, Polygono-Potametum natantis Soó 64)

Ecol. : deep and shallow stagnant waters

Flor. : *Potamogeton natans*, *Polygonum amphibium* f. *natans*

Area. : Harasztifalú, Körmend, Molnászezsöd, Rum, Ikervár, Sótöny, Hosszúpereszteg (Szajk)

2. *Nymphaeetum albo-lutae* Now. 28

Ecol. : dead-waters, creeks, ditches, canals, pools

Flor. : *Nymphaea alba* (rare near Körmend), *Nuphar lutea*Area. : coenoses with *Nuphar lutea* are frequent in dead-waters alongside the valley of Rába and Csörnöc (Vasszentmihály, Sárvár, Rábapaty etc.)3. *Trapetum natantis* Müller et Görs 60

(Syn. : Trapetum natantis Kárpáti (63) 68)

- Ecol. : nutrient-rich waters, pools
 Flor. : *Trapa natans*
 Area. : Molnászezsöd ("Lóusztató"), Hosszúpereszteg
 ("Szajki tavak").

PHRAGMITETEA Tx. et Prsg. 42**PHRAGMITETALIA** W. Koch 26**Phragmition** W. Koch 26

1. *Scirpo-Phragmitetum* W. Koch 26 cm. Soó 47 s.l.
 Ecol. : wet places, marshlands, swamps of pools
 Flor. : *Phragmites australis*, *Schoenoplectus lacustris*,
Iris pseudacorus etc. (several *subass.* and invadated
 by *Impatiens glandulifera*, *Solidago gigantea* etc.)
 Area. : alongside the rivers Rába, Csörnóc, Pinka, Gyöngyös
 Répce, Ablánc, Marcal and artificial pools (Döröske, Him-
 fá, Harasztifalu etc.).
2. *Typhaetum latifoliae* Long 73
 Ecol. : wet places near the rivers, canals, swamps of pools
 Flor. : *Typha latifolia*
 Area. : alongside the rivers Rába, Csörnóc, Pinka, Gyöngyös,
 Répce, Marcal and artificial pools.
3. *Glycerietum maximae* Hueck 31
 Ecol. : marshy places, ditches swamps of pools
 Flor. : *Glyceria aquatica*, *Alisma plantago-aquatica*
 Area. : "Órség", Kőszeg-Mountain.
4. *Acoretum calami* Schulz 41
 Ecol. : marshy river banks and shallow waters
 Flor. : *Acorus calamus*, (*Iris pseudacorus*)
 Area. : Alsószőlnök, Csákánydoroszló, Molnászezsöd,
 (subspontaneous).
5. *Rorippo-Oenanthetum* (Soó 27) Lohm. 50
 Ecol. : marshy places, shallow waters
 Flor. : *Rorippa amphibia*, *Oenanthe aquatica*
 Area. : Vasszentmihály, Rábagyarmat, Püspökmolnári,
 Vasvár, Rábapaty.
6. *Leersietum oryzoidis* (Eggler 33) Passarge 57
 Ecol. : wet places and shallow waters
 Flor. : *Leersia oryzoides*
 Area. : alongside the river Rába (Alsószőlnök, Szentgotthárd).

NASTURTIO-GLYCERETALIA Pign. 53

Glycerio-Sparganion Br.-Bl. et Sissing ex Baer 421. *Sparganio- Glycerietum fluitantis* Br.-Bl. 25

Ecol. : shallow waters, marshy places, banks of ditches

Flor. : *Sparganium erectum*, *Glyceria fluitans*,
Glyceria plicata, *Myosotis palustris*,
Veronica beccabunga

Area. : "Őrség", Hills of Vas ("Vasi hegyhát").

MAGNOCARICETALIA Pign. 53

Magnocaricion elatae W. Koch 26a) **Caricion rostratae** (Bal.-Tul. 63) Oberd. 671. *Caricetum elatae* W. Koch 26

Ecol. : wet fens and swamps of pools

Flor. : *Carex elata*, *Galium palustre* (*Sphagnum platyphyllum*
facies, *Eriophorum angustifolium* facies)

Area. : "Őrség", Hills of Vas ("Vasi hegyhát"),

Localities: Alsószőlőnk, Vasszentmihály,

Kőszeg, Kőszegdoroszló, Tömörd, Rábapaty etc.

2. *Caricetum appropinquatae* (W.Koch 26) Soó 38

Ecol. : fens meadows, marshes

Flor. : *Carex appropinquata*

Area. : Alsószőlőnk, Körmend, Tömörd, Kőszegdoroszló.

3. *Caricetum rostratae* Rübel 12(Syn. : *Caricetum inflato-vesicariae* W.Koch 26 p.p.,*Caricetum rostrato-vesicariae* Soó 64)

Ecol. : shallow waters, bogs, swamps of pools

Flor. : *Carex rostrata*

Area. : "Őrség", Hills of Vas ("Vasi hegyhát")

4. *Caricetum paniculatae* Wangerin 16 ex Rocher 51(Syn. : *Caricetum paniculatae-paradoxae* Soó (27) 47)

Ecol. : wet places, usually in base-rich habitats

Flor. : *Carex paniculata*, *Caltha palustris*

Area. : "Őrség".

5. *Calamagrostietum canescentis* Simon 60(Syn. : *Calamagrostio-Salicetum cinereae* auct. p.p.)

Ecol. : fens and wet places

Flor. : *Calamagrostis canescens*, *Carex elata*

Area. : "Őrség", Körmend-Halagy.

b) **Caricion gracilis** (Neuhausl 59) Oberd. 671. *Caricetum acutiformis-ripariae* Soó (27) 69

- Ecol. : marshes and ditches, wet places
 Flor. : *Carex acutiformis*, *Carex riparia*, *Lythrum salicaria*
 Area. : frequent in "Őrség", Kőszeg-Mountain, Hills of Vas ("Vasi Hegyhát").
2. *Caricetum gracilis* Almquist 29
 Ecol. : riversides, marshes, wet places
 Flor. : *Carex gracilis*
 Area. : alongside the valley of Rába (less frequent).
3. *Caricetum vesicariae* Zólyomi 31
 (Syn. : *Caricetum inflato-vesicariae* auct. p.p.)
 Ecol. : marshes, shallow waters
 Flor. : *Carex vesicaria*
 Area. : Szentgotthárd, Körmend, Rábapaty.
4. *Caricetum vulpinae* Soó 27
 Ecol. : wet places, wet grasslands
 Flor. : *Carex vulpina*
 Area. : frequent in the valley of Rába, Csörnök, Pinka.
5. *Carici-Typhoidetum* Soó 71
 (Syn. : *Phalaridetum arundinaceae* auct. div.)
 Ecol. : wet places, shallow waters, wet grasslands
 Flor. : *Typhoides* (*Phalaroides*) *arundinacea*, *Carex hirta*,
Carex gracilis
 Area. : frequent alongside the rivers and river-branches
 in all county.

ISOETO-NANOJUNCETEA Br.-Bl. et Tx.43**NANOCYPERETALIA** Klika 35**Nanocyperion flavescens** W. Koch 26

1. *Eleocharitetum ovatae* (Hay 23) Moor 36
 Ecol. : damp, marshy ground, open habitats
 Flor. : *Eleocharis ovata*, *E. carniolica*
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát").
2. *Cypero-Juncetum bufonii* Philippi 68
 (Syn. : *Cypero-Juncetum Csűrös* 44 p.p.)
 Ecol. : wet places, open habitats
 Flor. : *Cyperus fuscus*, *Pycnus flavescens*, *Juncus bufonius*
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát").

Verbenion supinae Slavnic 51

1. *Centunculo-Radioletum linoidis* Krippel 59
 (Syn. : *Centunculo-Anthocerotetum* W. Koch 26 p.p.)

- Ecol. : sesonally damp, sandy, open habitats
 Flor. : *Centunculus minimus*, *Radiola linoides*
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát").

MONTIO-CARDAMINETEA Br.-Bl. et Tx. 43

MONTIO-CARDAMINETALIA Pawl. 28

Cardamini-Montion Br.-Bl. 26

1. *Cardaminetum amarae* (Rübel 12) Br.-Bl. 26
 (Syn. : *Chrysosplenio-Cardaminetum* Maas 59)
 Ecol. : fens near acidophilous springs
 Flor. : Cardamine amara
 Area. : "Őrség" (only few places).
2. *Bryetum schleicheri* (Br.-Bl. 26) W. Koch 28
 Ecol. : mossy habitats
 Flor. : *Bryum schleicheri*, *Riccardia multifida*
 Area. : "Őrség".

SCHEUZERIO-CARICETEA NIGRAE Nordh. 36

SCHEUZERIO-CARICETALIA NIGRAE Görs et Müller ex Oberd. 67

Rhynchosporion albae W.Koch 26

1. *Rhynchosporium albae* W. Koch 26
 Ecol. : wet acid peaty habitats
 Flor. : *Rhynchospora alba*
 Area. : Szőce ("Őrség"). Described by Pócs (1958),
 recently was not confirmed.

Caricion canescenti-nigrae (W. Koch 26) Nordh. 36

1. *Carici echinatae-Sphagnetum* Soó (34) 54
 (Syn. : *Carici stellulatae-Sphagnetum*)
 Ecol. : acid peat bogs
 Flor. : *Carex echinata*, *Sphagnum acutifolium*, *Sph. palustre*
 Area. : "Őrség": Felsőszölnök, Apátistvánfalva, Kétvölgy,
 Kondorfa, Szőce. Hills of Vas ("Vasi hegyhát"):
 Petőmihályfalva.
2. *Caricetum canescenti-nigrae* Vlieger 37
 Ecol. : wet acid places, peat mossy habitats
 Flor. : *Carex canescens*, *C. nigra*
 Area. : "Őrség": Szakonyfalu-Kétvölgy (valley of Grajka).

MOLINIO-JUNCETEA Br.-Bl. 47

CARICETALIA DAVALLIANAE Br.-Bl. 49

Caricion davallianae Klika 34

(Syn. : Eriophorion latifolii Br.-Bl. et Tx.43)

1. *Juncetum subnodulosi* (All. 22) W.Koch 26
Ecol. : wet places, fens, on peaty base-rich soil
Flor. : *Juncus subnodulosus*
Area. : Vas-county (Soó 1934).
2. *Carici flavae-Eriophoretum* Soó 44
Ecol. : wet places, fen meadows
Flor. : *Carex flava*, *Eriophorum latifolium*, *E. angustifolium*
Area. : "Őrség", Hills of Vas ("Vasi hegyhát").
3. *Seslerietum uliginosae* (Palmgr. 15) Soó 41
Ecol. : fen meadows, wet places
Flor. : *Sesleria uliginosa*, *Carex hostiana*, *Galium boreale*
Area. : Kőszeg-hegyalja (Bozsok, Kőszegdorozló, Kőszeg)

MOLINIETALIA W. Koch 26**Molinion caeruleae** W. Koch 34

1. *Succiso-Molinietum* Soó 68
(Syn. : *Molinietum caeruleae* (All. 22) W. Koch 26)
Ecol. : fen meadows, damp, humus-rich soils
Flor. : *Molinia caerulea* agg., *Succisa pratensis*
Area. : Bozsok, Kőszegdorozló, Kőszeg.
2. *Junco-Molinietum* Prsg. 51
Ecol. : fen meadows, damp, humus-poor soils
Flor. : *Molinia caerulea* agg, *M. arundinacea* agg., *Juncus effusus*,
J. articulatus, *Agrostis capillaris* (*Hemerocallis*)
Area. : "Őrség", Hills of Vas ("Vasi hegyhát").
3. *Molinio-Salicetum rosmarinifoliae* (Magyar 33) Soó 57
Ecol. : fen meadows, wet places
Flor. : *Salix repens* ssp. *rosmarinifolia*
Area. : Alsószőlőnk, Vasszentmihály, Körmend.

Deschampsion caespitosae (Horvatić 30) Soó 71

1. *Deschampsietum caespitosae* Horvatić 30
(Syn. : *Agrostio-Deschampsietum* Ujvárosi 47)
Ecol. : damp grasslands, wet places
Flor. : *Deschampsia caespitosa*, *Juncus effusus*,
Agrostis stolonifera, *Succisella inflexa*
Area. : alongside the rivers Rába, Csörnöc, Gyöngyös,
Kerka, Zala, Pinka, Répce, Marcal.
2. *Agrostietum stoloniferae* Ujv. 41 (s.l.)
(Syn. : *Agrostio-Poëtum trivialis* Soó 71)

- Ecol. : wet places, wet grasslands
 Flor. : *Agrostis stolonifera*, *Poa trivialis*,
Trifolium hybridum
 Area. : alongside the rivers Rába, Csörnóc, Gyöngyös,
 Pinka, Répce, Marcal.
3. *Alopecuretum pratensis* Regel 25 s.l.
 (Syn. : *Carici-Alopecuretum pratensis* Soó 71)
 Ecol. : wet meadows, damp grasslands
 Flor. : *Alopecurus pratensis*, *Carex hirta*, *C. acutiformis*
 Area. : alongside the rivers Rába, Csörnóc, Gyöngyös,
 Kerka, Zala, Pinka, Répce, Marcal.
4. *Festucetum pratensis* Soó (38) 69
 Ecol. : meadows on rich moist soils
 Flor. : *Festuca pratensis*, *Cirsium canum*
 Area. : alongside the rivers Rába, Csörnóc, Gyöngyös.
- Filipendulo-Petasition** Br.-Bl. 47
1. *Petasitetum hybridi* (Dostal 33) Soó 40
 (Syn. : *Aegopodio-Petasitetum* Tx. 47 p.maj.p.)
 Ecol. : river banks and damp fields
 Flor. : *Petasites hybridus*, *Aegopodium podagraria*
 Area. : "Őrség", Hills of Vas, Kőszeg-Mountain.
2. *Filipendulo-Geraniumetum palustris* W. Koch 26
 (Syn. : *Filipendulietum ulmariae* Pass. 64 p.p.)
 Ecol. : wet and damp places, river banks
 Flor. : *Filipendula ulmaria*, *Geranium palustre*,
Carex acutiformis
 Area. : Alsószőlőnk, Vasszentmihály, Nemesmedves,
 Kőszegdoroszló.
3. *Lysimachio-Filipenduletum* Bal.-Tul. 78
 Ecol. : damp fields
 Flor. : *Lysimachia vulgaris*, *Filipendula ulmaria*,
Carex panicea, *Carex hirta*
 Area. : Alsószőlőnk, Vasszentmihály, Körmend.
4. *Angelico-Cirsietum oleracei* Tx.37
 Ecol. : damp meadows and shadow places
 Flor. : *Angelica sylvestris*, *Cirsium oleraceum*
 Area. : "Őrség", Kőszeg-Mountain.

ARRHENATHERETEA Br.-Bl. 47

ARRHENATHERETALIA Pawl. 28

Arrhenatherion elatioris Br.-Bl. 251. *Pastinaco-Arrhenatheretum* Passarge 64

(Syn. : Arrhenatheretum elatioris Br.-Bl. 19 s.l.)

Incl. *trisetetosum flavescens*, *avenuletosum pubescentis*

Ecol. : fresh meadows, rich fertilized soils

Flor. : Arrhenatherum elatius, Pastinaca sativa, Campanula patula, Geranium pratense

Area. : alongside the rivers Rába, Csörnöc, Gyöngyös, and: Hills of Vas, Kőszeg-Mountain.

2. *Alopecuro-Arrhenatheretum* (Máthé et Kovács 60) Soó 71

Ecol. : wet meadows, damp rich soils

Flor. : Arrhenatherum elatius, Alopecurus pratensis, Sanguisorba officinalis

Area. : flooding plain of Rába, Csörnöc, Répce etc.

3. *Arrhenathero-Brometum erecti* Balázs 51

Ecol. : meso-xerophilous sites, slopes

Flor. : Bromus erectus, Arrhenatherum elatius, Dianthus carthusianorum, Trifolium montanum, Salvia pratensis
Coronilla varia, Euphorbia virgata

Area. : Bozsok, Cák, Kőszeg, Felsőcsatár.

4. *Anthyllido-Festucetum rubrae* (Máthé et Kovács 60) Soó 71

(Syn. : Festuco rubrae- Cynosuretum auct. hung.)

Ecol. : mountain grasslands

Flor. : Festuca rubra, Cynosurus cristatus, Anthyllis polyphylla, Agrostis capillaris

Area. : "Őrség", Hills of Vas, Kőszeg-Mountain.

Trisetio-Polygonion bistortae Marschall 471. *Trisetetum flavescens* (Schrötter) Brockmann J. 07 s.l.

(Syn. : Trisetetum flavescens Beger 22)

Ecol. : mountain grasslands

Flor. : Trisetum flavescens, Centaurea pseudophrygia, Alchemilla vulgaris agg., Hypericum maculatum

Area. : indicated for the Kőszeg-Mountain (by Soó 1964, 1971), but to this time was confirmed only as subass. *trisetetosum* belonging to the *Arrhenatheretum* or *Festucetum rubrae* (Jeanplong 1970, Kovács 1994).**Cynosurion cristati** Tx.471. *Lolio-Cynosuretum* (Br.-Bl. et Leeuw 36) Tx.37

Ecol. : fertile grasslands

Flor. : Lolium perenne, Cynosurus cristatus,

(*Festuca rubra*)

Area. : "Őrség".

NARDO-CALLUNETEA Prsg.49

NARDETALIA Prsg.49

Nardo-Agrostion Sillinger 33

1. *Festuco tenuifoliae-Agrostietum capillaris* Soó 71

(Syn. : *Agrostietum tenuis* auct. s.l., *Festuca tenuifolia* stádium Pócs 58)

Ecol. : mountain grasslands on poor acid soils

Flor. : *Agrostis capillaris*, *Festuca tenuifolia*, *Peucedanum oreoselinum* (*Holcus lanatus*, *Helianthemum ovatum*).

Area. : "Őrség", Hills of Vas, Kőszeg-Mountain.

2. *Festuco ovinae-Nardetum* Dostál 33 em. Soó 57

Ecol. : grasslands on poor acid soils

Flor. : *Festuca ovina*, *Nardus stricta*

Area. : "Őrség" (only fragments).

Calluno-Genistion pilosae Duvigneaud 44

1. *Luzulo luzuloidis-Callunetum* (I.Horvat. 31) Soó 71

(Syn. : *Calluno-Genistetum* I. Horvat. 31)

Ecol. : border of forests, open woodlands on acid soils

Flor. : *Calluna vulgaris*, *Vaccinium myrtyllus*, *Genista germanica*, *Carex fritschii*

Area. : "Őrség", Hills of Vas, Kőszeg-Mountain.

2. *Genisto pilosae-Sarothamnetum* Lohn. 86

Syn. : *Sarothamnetum* auct. s.l.)

Ecol. : open woodlands, acid soils

Flor. : *Sarothamnus (Cytisus) scoparius*

Area. : Kőszeg-Mountain, "Őrség", Vát, Jeli-Kám.

FESTUCO-BROMETEA Br.-Bl. et Tx.43

BROMETALIA ERECTI Br.-Bl. 31

Bromion erecti W.Koch 26

(Syn. : *Mesobromion* Br.-Bl. et Moor 38 em. Oberd.49)

1. *Onobrychido viciifoliae-Brometum* T. Müller 66

(Syn. : *Brometum erecti* Scherer 25 s.l.)

Ecol. : dry grasslands on base-rich soils

Flor. : *Bromus erectus*, *Onobrychis viciifolia*, *Coronilla varia*, *Carlina vulgaris*, *Anthyllis vulneraria*

Area. : Kőszeg-Mountain (coenologically uncertain communi-

ties in relationships with Arrhenathero-Brometum erecti from Arrhenatherion).

Cirsio-Brachypodion Hadac et Klika 44

1. *Lino tenuifolio-Brachypodietum pinnati* (Dostál 33) Soó 71

Ecol. : dry sites on forest border, grasslands

Flor. : *Brachypodium pinnatum*, *Linum tenuifolium*,
Fragaria viridis, *Peucedanum cervaria*

Area. : Kőszeg-Mountain (only fragments).

2. *Trifolio montani-Brachypodietum rupestris* Ranner 88

Ecol. : dry grasslands on slopes

Flor. : *Trifolium montanum*, *Brachypodium pinnatum* ssp.
rupestre, *Polygala comosa*

Area. : Kőszeg-Mountain (only fragments).

3. *Brachypodio-Avenuletum adsurgentis* Kovács J. A. (92) 94

Ecol. : semi-dry habitats, stony places

Flor. : *Avenula adsurgens*, *Brachypodium pinnatum*

Area. : Kőszeg-Mountain (Bozsok, Kőszegszerdahely, Cák).

FESTUCETALIA VALESIIACAE Br.-Bl. et Tx.43

Festucion rupicolae Soó (29) 40 s.l.

1. *Pulsatillo-Festucetum rupicolae* (Dostál 33) Soó 63

(Syn. : *Diantho (deltoides)-Festucetum rupicolae* auct.p.p.)

Ecol. : dry grasslands

Flor. : *Festuca rupicola*, *Pulsatilla nigricans*,
Poa angustifolia

Area. : Bozsok, Cák, Felsőcsatár, Celldömölk (Hill of Ság), Tömörd.

2. *Potentillo-Festucetum pseudodalmaticae* (Domin 33) Májovsky 54

Ecol. : dry, rocky and stony places

Flor. : *Festuca pseudodalmatica*, *Potentilla arenaria*,
Teucrium chamaedrys

Area. : Kőszeg-Mountain: uncertain community indicated from the "Széleskő" (Soó apud Pócs and Vida, 1956).

3. *Stipo-Festucetum pallentis* (Zólyomi 50) Soó 64

Ecol. : dry habitats

Flor. : *Festuca pallens*, *Galium glaucum*

Area. : Felsőcsatár ("Vashegy").

4. *Allium montanum-Sesleria varia* Smettan 81

Ecol. : rocky and stony places

Flor. : *Sesleria varia*, *Allium montanum*, *Anthericum ramosum*, *Galium glaucum*

- Area. : Kőszeg-Mountain (fragments only).
 5. *Galio-Calamagrostidetum epigeii* (prov.)
 Ecol. : disturbed ground, damp places
 Flor. : Calamagrostis epigeios, Galium verum,
 Agropyron repens
 Area. : "Őrség", Kőszeg-Mountain (frequent).

SECALINETEA Br.-Bl. 31 emend 51

APERETALIA R. et J. Tx. 60

Aphanion R. et J. Tx 60

1. *Aphani-Matricarietum* Tx. 37
 Ecol. : wastelands, acidiferous well drained soils
 Flor. : Aphanes arvensis, Matricaria inodora, M. recutita
Anthemis arvensis (facies), *Ambrosia artemisiifolia*
 (facies), *Aira caryophylla*
 Area. : Rábatótfalú, Alsószőlők.
2. *Sclerantho-Trifolietum arvensis* Morariu 43
 Ecol. : cultivated ground, stubble fields
 Flor. : Scleranthus annuus, Trifolium arvense,
 Spargula arvensis
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát").
3. *Spergulo-Aperetum spicae-venti* Soó (53) 62
 Ecol. : sandy arable fields, acidiferous soils
 Flor. : Spargula arvensis, *Apera spica-venti*
 Area. : "Őrség", valley of Rába.
4. *Setario-Digitalietum* Felf. 42 emend. Soó 61
 Ecol. : cultivated and waste grounds
 Flor. : *Setaria pumila*, *Digitalia sanguinalis*
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát").
5. *Stenactis annua* stadium (KJA)
 Ecol. : uncultivated arable lands
 Flor. : *Stenactis annua*
 Area. : Őrség (Ivác, Őriszentpéter).

SECALINETALIA Br.-Bl. 31 emend. J. et R. Tx. 60

Caucalidion platycarpus Tx. 50

1. *Setario-Stachyetum annuae* (Soó 32) Felföldi 42
 Ecol. : cultivated stubble fields, fixed soils
 Flor. : *Setaria pumila*, *Stachys annua*, *Oxalis europea*
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát") (frequent).
- Trifolio-Medicagion sativae** Balázs 44 emend. Soó 59

2. *Plantagini lanceolatae-Medicaginetum* (Balázs 44) Soó et Timár 54

Ecol. : weeds in Trifolium and Medicago cultures

Flor. : *Plantago lanceolata*, *Erigeron canadensis*,
Ventenata dubia, *Agropyron repens*

Area. : Kőszeg, Sárvár.

ERAGROSTIETALIA J. Tx. 61 emend. Soó 68

Consolido-Eragrostion pooidis Soó et Timár 57

1. *Amarantho-Chenopodietum albi* (Morariu 43) Soó 47

Ecol. : gardens and arable lands

Flor. : *Amaranthus retroflexus*, *Chenopodium album*,
Solanum nigrum, *Convolvulus arvensis*
Abutilon theophrasti (facies)

Area. : frequent in the whole territon, of Vas-county.

CHENOPODIETEA Br.-Bl. 51 emend. Lohm., J.Tx. et R.Tx. 61

SISYMBRIETALIA J.Tx. 61

Sisymbrium officinalis Tx., Lohm. et Prsg. 50

1. *Hordeetum murini* Libbert 32 emnd. Pass. 64

Ecol. : waste and rough ground, alongside roads

Flor. : *Hordeum murinum*, *Bromus arvensis*, *Rorippa austriaca*

Area. : frequent in all Vas-county.

2. *Malvetum neglectae* Aiechinger 33 emend. Pass. 64

Ecol. : waste ground, alongside roads

Flor. : *Malva neglecta*, *Bromus sterilis*

Area. : frequent in all Vas-county.

Colvolvulo-Agropyrion repentis Görs 60

1. *Agropyretum repentis* Felf. 42

(Syn. : *Agropyro-Convolvuletum arvensis* Felf. 43)

Ecol. : waste and rough ground, alongside roads,
uncultivated lands

Flor. : *Agropyron repens*, *Convolvulus arvensis*,
Lepidium draba

Area. : frequent in all Vas-county.

2. *Agropyro-Solidaginetum* Kovács J.A. 93

Ecol. : wastelands, alongside roads, uncultivated fields

Flor. : *Solidago gigantea*, *Agropyron repens*, *Tanacetum vulgare*

Area. : "Őrség", Hills of Vas ("Vasi hegyhát") etc.

ONOPORDIETALIA Br.-Bl. et Tx. 43 emend. Görs 66.

Dauco-Melilotion Görs 661. *Echio-Melilotetum albi* Tx. 42

Ecol. : waste places, uncultivated and degraded land

Flor. : *Melilotus albus*, *M. officinalis*, *Echium vulgare*,
Centaurea micrantha, *Reseda lutea*

Area. : frequent.

Onopordion acanthii Br.-Bl. 261. *Onopordietum acanthii* Br.-Bl.(23) 26

Ecol. : waste and rough ground, pastures, uncult. lands

Flor. : *Onopordum acanthium*, *Carduus acanthoides*

Area. : Hills of Vas ("Kemeneshát") (fragments only).

ARTEMISIETEA Lohm., Prsg. et Tx. 50

ARTEMISIETALIA Lohm., et Tx. 47

Arction lappae Tx. 371. *Tanaceto-Artemisietum vulgare* (Br.-Bl. 31) 49Ecol. : rough ground, waste places, alongside roads,
uncultivated fieldsFlor. : *Tanacetum (Chrysanthemum) vulgare*, *Artemisia*
vulgare, *Inula britannica*

Area. : common throughout.

2. *Conietum maculati* I.Pop 68

Ecol. : damp ground, roadside banks, ditches

Flor. : *Conium maculatum*, *Urtica dioica*

Area. : Hills of Vas ("Kemeneshát").

3. *Lycietum barbarum* Felf. 42

Ecol. : hedgerows (fences)

Flor. : *Lycium barbarum*

Area. : Kőszeg, Sárvár, Celldömök etc. (planted).

4. *Sambucetum ebuli* Felf. 42

Ecol. : waysides, rough and waste grounds

Flor. : *Sambucus ebulus*, *Echium vulgare*, *Urtica dioica*

Area. : common throughout.

5. *Arctio-Ballotetum nigrae* (Felf. 42) Morariu 43(Syn. : *Arctietum lappae* Felf. 42)

Ecol. : rough ground, waysides, hedgerows

Flor. : *Arctium lappa*, *A. tomentosum*, *Ballota nigra*,
Leonurus cardiaca

Area. : Hills of Vas ("Kemeneshát").

6. *Junco-Tussilaginetum* Soó 27 s.l.

(*Tussilaginetum* Oberd. 49)

Ecol. : disturbed ground in many open or semi-open habitats

Flor. : *Tussilago farfara*, *Juncus bufonius*

Area. : common throughout.

CONVOLVULETALIA SEPIUM Tx. 50

(Syn.: GALIO-URTICETALIA Passarge ex Kopecky 69)

Calystegion sepium Tx. 47 ex Oberd 49

1. *Chaerophylletum bulbosi* Tx.37

Ecol. : hedgerows, alongside roads and fences

Flor. : *Chaerophyllum bulbosum*, *Galium aparine*

Area. : "Őrség", Hills of Vas ("Vasi hegyhát").

2. *Calystegietum sepium* (Tx. 47) emend. Pass. 64

(Syn. : *Urtico-Calystegietum* Görs 69)

Ecol. : wet places, ditches, marshes

Flor. : *Calystegia sepium*, *Urtica dioica*

Area. : frequent alongside the rivers Rába, Csörnök, Gyöngyös.

3. *Impatiens-Calystegietum* (Gondola 65) Soó 71

(Syn. : *Bidenti-Calystegietum* Felf. 43)

Ecol. : wet places, alongside rivers

Flor. : *Impatiens glandulifera*, *I. parviflora*,
Calystegia sepium

Area. : frequent near the rivers Rába, Csörnök, Gyöngyös, Pinka, Répce.

4. *Eupatorio-Solidaginetum* Kovács J.A. 93

Ecol. : damp places, rough ground, uncultivated fields

Flor. : *Eupatorium cannabinum*, *Solidago gigantea*, *Calystegia sepium*, *Aristolochia clematitis*, *Barbarea vulgaris*

Area. : "Őrség", Hills of Vas ("Vasi hegyhát").

Communities in disturbed ground and wet places:

- Ass. *Helianthus decapetalus*,
- Ass. *Helianthus tuberosus*,
- Ass. *Impatiens glandulifera*,
- Ass. *Reynoutria japonica*,
- Ass. *Rubus caesius*,
- Ass. *Rudbeckia laciniata*,
- Ass. *Solidago gigantea* etc.

BIDETETEA TRIPARTITI Tx., Lohm. et Prsg. 50**BIDENTETALIA TRIPARTITI** Br.-Bl. et Tx. 43**Bidentetion tripartiti** Nordh. 401. *Bidentetum tripartiti* W. Koch 26(Syn. : *Polygono lapathifolio-Bidentetum* (Felf.43) Klika 35)

Ecol. : damp places, marshes, ditches

Flor. : *Bidens tripartita*, *Polygonum lapathifolium*,
P. hydropiper, (*Bidens cernua*)

Area. : alongside th river Rába, Csörnóc, Pinka etc.

Chenopodium fluviatile (rubri) Tx. 601. *Chenopodietum rubri* Timár 47(Syn. : *Dichostylidi-Chenopodietum rubri* Soó 71)

Ecol. : waste ground, cultivated damp places

Flor. : *Chenopodium rubrum*

Area. : Hills of Vas (Szombathely-Körmend).

2. *Echinochloo-Polygonetum lapathifolii* (Ujv. 40) Soó et Csűrös 44

Ecol. : damp ground, alongside the rivers

Flor. : *Echinochloa crus-galli*, *Polygonum lapathifolium*Area. : alongside the rivers Rába, Csörnóc, Pinka, Gyöngyös,
Répce, Kerka.3. *Echinochloo-Setarietum* Felf. 42 corr. Soó 71

Ecol. : damp places, cultivated- and uncultivated fields

Flor. : *Echinochloa crus-galli*, *Setaria pumila*,
Ambrosia artemisiifolia (facies)

Area. : "Órség", Hills of Vas ("Vasi hegyhát").

PLANTAGINETEA MAJORIS Tx. et Prsg. 50**PLANTAGINETALIA MAJORIS** Tx. (47) 50**Polygonion avicularis** Br.-Bl. 31 emend. Tx. 501. *Lolio-Plantaginetum majoris* (Linkola 21) Beger 30

Ecol. : rough ground, alongside treated path and roads

Flor. : *Lolium perenne*, *Plantago major*, *Prunella vulgaris*

Area. : frequent in all county.

2. *Poetum annuae* Gams 27 emend Soó 71

Ecol. : damp places, waysides, paths

Flor. : *Poa annua*, *Lolium perenne*

Area. : frequent in all county.

3. *Sclerochloo-Polygonetum avicularis* (Gams 27) Soó 40

Ecol. : open ground, ruderal places

- Flor. : *Polygonum aviculare*, *Sclerochloa dura*,
Lepidium draba
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát").
4. *Juncetum tenuis* (Diem., Siss. et Westhoff 40) Tx. 50
 Ecol. : damp places, tracks and paths
 Flor. : *Juncus tenuis*
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát"),
 Kőszeg-Mountain.
- Agropyro-Rumicion crispi** Nordh. 40
1. *Lolio-Potentilletum anserinae* (Rapaics 27) Knapp 46
 Ecol. : waste places, damp and treaded habitats
 Flor. : *Potentilla anserina*, *Lolium perenne*, *Juncus*
bufonius, *Juncus inflexus*
 Area. : "Őrség", Hills of Vas ("Vasi hegyhát").
2. *Trifolio repenti-Lolietum* Krippelová 67
 (Syn. : *Lolio-Trifolietum repentis* Rezm., Spirchez et
 Csűrös 67)
 Ecol. : fresh grasslands, rough ground
 Flor. : *Lolium perenne*, *Trifolium repens*,
Agrostis stolonifera
 Area. : "Őrség", Hills of Vas (fragments only).
3. *Rorippo sylvestri-Agrostietum stoloniferae* (Moor 58)
 Ecol. : damp places, wet grasslands
 Flor. : *Agrostis stolonifera*, *Rorippa sylvestris*
 Area. : alongside the rivers Rába, Csörnöc.
4. *Rorippo austriacae-Agropyretum repentis* (Timár 47) Tx.50
 Ecol. : waste ground, wet places by roads and rivers
 Flor. : *Agropyron repens*, *Rorippa austriaca*
 Area. : alongside the rivers Rába, Csörnöc.
5. *Juncetum effusi* (Soó 31) Egger 33
 Ecol. : wet and damp places mostly on acid soils
 Flor. : *Juncus effusus*, *J. conglomeratus*, *Ranunculus repens*
 Area. : flooded plains of rivers Rába, Csörnöc.
6. *Junco-Menthetum longifoliae* Lohm. 53
 Ecol. : marshes, ditches, wet fields and ponds
 Flor. : *Mentha longifolia*, *Juncus effusus*
 Area. : "Őrség", Hills of Vas.

EPILOBIETEA ANGUSTIFOLII Tx. et Prsg. 50

EPILOBIETALIA ANGUSTIFOLII (Vlieger 37) Tx. 50 corr. Soó 61

Epilobion angustifolii Soó (33) 401. *Calamagrostietum epigeii* (Jurasc. 28) Eggler 33

Ecol. : damp places, wood-margins on acidiferous soils

Flor. : Calamagrostis epigeios, Erechtites hieracifolia,
(Epilobium angustifolium)

Area. : "Őrség", Hills of Vas, Kőszeg-Mountain.

2. *Calamagrostietum arundinaceae* Soó 60

Ecol. : open woodlands, deciduous forests

Flor. : Calamagrostis arundinacea, Digitalis grandiflora,
Senecio sylvaticus

Area. : "Őrség", Hills of Vas, Kőszeg-Mountain.

Atropion bella-donnae Br.-Bl. 30 emend. Oberd. 571. *Atropetum bella-donnae* (Br.-Bl. 30) Tx. 51

Ecol. : opening places in beech forests

Flor. : Atropa bella-donna, Fragaria vesca,
Hypericum hirsutum, Bromus ramosus

Area. : "Őrség", Kőszeg-Mountain.

SAMBUCETALIA Oberd. 57**Sambuco-Salicion caprae** Tx. et Neuman 501. *Fragario-Rubetum* (Pfeiffer 36) Siss. 46

Ecol. : mountain forests

Flor. : Rubus idaeus, R. hirtus, Fragaria vesca

Area. : "Őrség", Kőszeg-Mountain.

2. *Salici caprae-Sambucetum racemosae* (Soó 60) Kovács 61

Ecol. : open woodlands, alongside roads and paths in forests

Flor. : Sambucus racemosa, Salix caprea, Rubus fruticosus
agg.

Area. : "Őrség", Kőszeg-Mountain.

SALICETEA PURPUREAE Moor 58**SALICETALIA PURPUREAE** Moor 58**Salicion eleagni** (Aichinger 33) Moor 581. *Myricarietum germanicae* Rübel 12 s.l.

Ecol. : river banks, wet places

Flor. : Myricaria germanica

Area. : Vasvár-Püspökmolnári, alongside the river Rába
(apud Soó 1934).**Salicion triandrae** Müller et Görs 581. *Salicetum purpureae* (Soó 34) Wendelb.-Zelinka 52

(Syn. : *Salicetum incanae-purpureae* Sillinger 37)
 Ecol. : river banks, bush vegetation
 Flor. : *Salix purpurea*, *S. incana*, *Angelica sylvestris*
 Area. : alongside the river Rába (Szentgotthárd-Nick).

2. *Salicetum triandrae* Malcuit 29

Ecol. : river banks, bush vegetation.
 Flor. : *Salix triandra*, *S. viminalis*, *Rorippa amphibia*
 Area. : alongside the river Rába (Szentgotthárd-Nick).

Salicion albae (Soó 30) Müller et Görs 58

1. *Salicetum albae-fragilis* Issler 24 s.l.

(Syn. : *Salicetum albae* Issler s.l., *Salici-Populetum*
 (Tx.31) Meijer Drees 36 p.p.)
 Ecol. : river banks, wet places
 Flor. : *Salix alba*, *S. fragilis*, *Populus alba*, *Rubus caesius*,
Stellaria nemorum, *Brachypodium sylvaticum*
 Area. : alongside the rivers Rába, Csörnök, Gyöngyös,
 Pinka, Répce, Kerka.

ALNETEA GLUTINOSAE Br.-Bl. et Tx. 43

ALNETALIA GLUTINOSAE Tx. 37

Alnion glutinosae (Malcuit 29) Meijer Drees 36 emend.
 Müller et Görs 58

1. *Dryopteridi-Alnetum* Klika 40

(Syn. : *Carici elongatae-Alnetum*)
 Ecol. : fens, wet places
 Flor. : *Dryopteris cristata*, *D. carthusiana*, *C. elongata*,
C. elata, *C. acutiformis*, *Alnus glutinosa*
 (*Frangula alnus*)
 Area. : "Órség", Hills of Vas, Kőszeg-hegylánya (Tömörd)

SALICETALIA AURITAE Doing 62 emend. Westhoff 69

Salicion cinereae Müller et Görs

1. *Calamagrosti-Salicetum cinereae* (Soó 34, Zólyomi 34)

Soó et Zólyomi 55 (Syn.: *Salix cinerea* ass. Zólyomi 31)
 Ecol. : fens, wet places
 Flor. : *Salix cinerea*, *Calamagrostis canescens*, *C. neglecta*,
Carex elata, *C. acutiformis*, *Symphytum officinale*,
Peucedanum officinale

Area. : "Órség", Hills of Vas, Kőszeg-Mountain. praenoricum

2. *Salici cinereae-Sphagnetum recurvi* (Zólyomi 31) Soó 54

(Syn. : *Salix cinerea* ass. Zólyomi 31)

- Ecol. : fens, peat bogs
 Flor. : *Salix cinerea*, *Betula pubescens*, *Sphagnum recurvum*
 Area. : "Őrség", Hills of Vas, Kőszeg-Olmód.
3. *Salicetum auritae* Jonas 35
 Ecol. : fens, peat bogs, wet places
 Flor. : *Salix aurita*, *Betula pubescens*, *Salix cinerea*,
Sphagnum recurvum,
 Area. : "Őrség".

CARPINO-FAGETEA Jakucs 60**FAGETALIA SYLVATICAE** Pawl. 28**Alno-Padion Knapp** 42 emend. Medvecka-Kornas 57

1. *Querc-Ulmetum* Issler 24 s.l.
 (Syn. : *Fraxino pannonicae-Ulmetum* Soó 60 p.p.)
 Ecol. : wet places, river banks
 Flor. : *Quercus robur*, *Ulmus laevis*, *U. minor*, *Fraxinus*
excelsior, *Prunus padus*, *Astrantia major*
 Area. : only as fragments alongside the river Rába:
 Sárvár, ("Szatmár-forest"), Megyehíd, Kenyeri-Nick.

Alnion glutinosae-incanae Br.-Bl. 15 Oberd. 53

1. *Carici brizoidis-Alnetum* I. Horvat 38
 (Syn. : *Alnetum glutinosae-incanae* auct. hung.)
 Ecol. : montaneous river banks
 Flor. : *Carex brizoides*, *Alnus glutinosa*, *Rubus caesius*,
Circaea lutetiana, *Matteuccia struthiopteris*,
Petasites hybridus
 Area. : "Őrség", Hills of Vas, Kőszeg-Mountain.
2. *Aegopodio-Alnetum* I. Kárpáti et Jurko 61
 Ecol. : wet places, river banks
 Flor. : *Aegopodium podagraria*, *Knautia drymeia*,
Alnus glutinosa, *Carpinus betulus*, *Primula vulgaris*
 Area. : "Őrség", Hills of Vas.

Fagion medio-europaeum Soó (60) 62**Asperulo-Fagion** Knapp 42, Tx.55

1. *Melittio-Fagetum* Soó 62
 (Syn. : *Melico-Fagetum* auct. hung.)
 Ecol. : mesophilous woods, well drained soils
 Flor. : *Fagus sylvatica*, *Carpinus betulus*, (*Quercus petraea*),
Galium odoratum, *Lamium galeobdolon*, *Actaea spicata*,
Carex pilosa, *Galium schultesii*

Area. : "Őrség": Csörötnek, Magyarlak, Halogy (Himfa), Hills of Vas: Káld, Bögöte (Szajk).

2. *Cyclamini-Fagetum* Soó 71

(Syn. : Melitti-Fagetum noricum Soó (34) 62)

Ecol. : mesophilous woods, well drained soils

Flor. : *Fagus sylvatica*, *Carpinus betulus*, *Cyclamen purpurascens*, *Festuca drymeia*, *Stellaria nemorum*, *Gentiana asclepiadea*, (*Dentaria enneaphyllos*, *Cardamine trifolia*)

Area. : Kőszeg-Mountain: Irottkő, Stájer-házak, Hörmannforrás, Asztalkő, "Őrség": Rábagyarmat, Szaknyér, Felsőszőlők, Hetés: Velemér, Magyarszombatfa .

Tilio-Acerion Klika 55

1. *Phyllitidi-Aceretum* Moor 52

(Syn. : *Aceri-Fraxinetum* Koch 26 p.p., *Parietario-Aceretum* (Domin 32) Soó 57 p.p.)

Ecol. : damp valleys, defiles

Flor. : *Acer platanoides*, *A. pseudoplatanus*, *Parietaria officinalis*, *Campanula latifolia*, *Lunaria rediviva*, *Adoxa moschatellina*, *Anthriscus nitida*

Area. : Kőszeg-Mountain: Irottkő, Hármashatárhegy.

2. *Mercuriali-Tilietum* Zólyomi et Jakucs 58

Ecol. : shadow slopes with broken fragments

Flor. : *Tilia platyphyllos*, (*T. cordata*), *Mercurialis perennis*, *Anthriscus sylvestris*, *Melica uniflora*

Area. : Kőszeg-Mountain: Oház.

Carpiniom betuli (Issler 31 p.p.) Soó 62

1. *Quercus robori-Carpinetum* Soó et Pócs 57

(Syn. : *Quercus robori-Carpinetum transdanubicum* Soó (34) 61, *Stellario-Carpinetum* Oberd. 57 p.p.)

Ecol. : mesophilous oak-hornbeam woods

Flor. : *Quercus robur*, *Carpinus betulus*, *Stellaria holostea*, *Corydalis cava*, *Carex digitata*

Area. : Kemestaródfa (Bagóné-forest), Körmend (Dobogó), Rum, Sárvár (Szatmár-forest), Acsád (Szapár-Ablánc forest), Káld, Uraújfalú etc.

2. *Quercus petraeae-Carpinetum* Soó et Pócs 57

(Syn. : *Quercus petraeae-Carpinetum transdanubicum* Soó et Zólyomi 57, Incl. : *Castaneo-Quercus-Carpinetum* Soó 71)

Ecol. : mesophilous transdanubian oak-hornbeam forests

- Flor. : *Quercus petraea*, *Carpinus betulus*, *Castanea sativa*,
Carex pilosa, *Melica uniflora*, *Aruncus sylvestris*,
Cyclamen purpurascens
 Area. : Kőszeg-Mountain, "Őrség": Hegyhátszentmárton,
 Szalafő, Kondorfa, Szakonyfalú, Alsószőlők-
 Felsőszőlők (fragments), Hills of Vas (Katafa,
 Káld, Bejcgertyános) etc.

QUERCETEA ROBORI-PETREAE Br.-Bl. et Tx. 43

PINO-QUERCETALIA Soó 62

Castaneo-Quercion Soó 62

1. *Castaneo-Quercetum* I. Horvat 38 emend. Soó 71

(Syn. : *Luzulo-Quercetum* auct.)

Ecol. : acidiferous-subcalcareous soils

Flor. : *Castanea sativa*, *Q. petraea*, *Melampyrum pratense*,
Deschampsia flexuosa, *Festuca tenuifolia*

Area. : Kőszeg-Mountain, "Őrség", Hills of Vas (frequent).

2. *Luzulo-Quercu-Carpinetum* Soó 57

(Syn. : *Luzulo-Quercu-Carpinetum noricum* Soó (34) 57)

Ecol. : acidiferous, subcalcareous habitats

Flor. : *Quercus petraea*, *Carpinus betulus*, *Luzula luzuloides*,
Vaccinium myrtillus, *Cyclamen purpurascens*,
Convallaria majalis, *Deschampsia caespitosa*,
Calamagrostis arundinacea

Area. : Kőszeg-Kegység (Pintér-tető), "Őrség" (Szakonyfalú,
 Alsószőlők-Felsőszőlők-Kétyölgy), Hills of Vas.

Deschampsio-Fagion Soó 62

1. *Galio rotundifolio-Fagetum* Soó 71

(Syn. : *Deschampsio-Fagetum noricum* Soó (34) 62)

Ecol. : acidiferous beech forests

Flor. : *Fagus sylvatica*, *Castanea sativa*, *Galium*
rotundifolium, *Luzula luzuloides*, *Deschampsia*
flexuosa, *Cytisus supinus*, *Cyclamen purpurascens*,
Prenanthes purpurea

Area. : Kőszeg-Mountain, "Őrség" (Szakonyfalú, Alsószőlők,
 Felsőszőlők, Szalafő, Rábagyarmat), Hills of Vas.

Pino-Quercion Medvecka-Kornas, Kornas, Pawl. 59

1. *Genisto nervatae-Pinetum* Pócs 66

(Syn. : *Pino-Quercetum* (Hartman 34) Reinh. 39, *Pino-Quer-*
cetum praenoricum Pócs 60, *Myrtillio-Pinetum* auct.)

- Subass. : *quercetosum, fagetosum* etc.
 Ecol. : pine scotch forest with deciduous species mixture
 Flor. : *Pinus sylvestris*, *Quercus robur*, *Q. petraea*, *Fagus sylvatica*, *Genista ovata* ssp. *nervata*, *Daphne cneorum* ssp. *arbusculoides*, *Hieracium australe* ssp. *castriferrei*, *Chimaphila umbellata*, *Cirsium paluste*, *Hypericum maculatum*, *Frangula alnus*, *Pyrus pyraeaster* etc.
 Area. : "Őrség" (Szalafő, Farkasfa, Apátistvánfalva, Kétvölgy, Orfalu, Felsőszőlőnk, Szakonyfalu, Szőce-Rimány, Nádasd, Szatta, Nagyrákos, Óriszentpéter etc.)

2. *Aulacomnio-Pinetum* Pócs 66

- (Syn. : *Myrtillo-Pinetum molinietosum* Pócs 58)
 Ecol. : wet places, acidiferous pine-Scotch fir forests
 Flor. : *Pinus sylvestris*, *Betula pubescens*, *Molinia arundinacea* agg., *Aulacomnium palustre*
 Area. : "Őrség" (Szalafő, Farkasfa, Kondorfa, Orfalu, Kétvölgy, Szakonyfalu etc.).

QUERCETEA PUBESCENTI-PETREAE (Oberd. 48) Jakucs 60

ORNO-COTINETALIA Jakucs 60

Orno-Cotinion Soó 60

1. *Orno-Quercetum pubescenti-cerris* (Soó 57) Horánszky-Jakucs-Zólyomi 58
 Ecol. : dry, sunny places
 Flor. : *Quercus pubescens*, *Q. cerris*, *Q. petraea*, *Mercurialis ovata*, *Corydalis pumila*, *Orchis purpurea*
 Area. : Celldömölk (Ság), Kemenesmagasi (? planted), the data for this community are uncertain.

QUERCETALIA PUBESCENTIS Br.-Bl. 31

Quercion pubescenti-petraeae Br.-Bl 31 emend Tx.

Quercion petraeae (Zólyomi et Jakucs 57) Soó 63

1. *Quercetum petraeae-cerris* Soó 57
 Ecol. : mesoxerophilous forests
 Flor. : *Quercus petraea*, *Q. cerris*, *Poa nemoralis*, *Smyrnum perfoliatum*, *Veratrum nigrum*
 Area. : Hills of Vas ("Kemeneshát, (Kemenesmagasi fragments).
 2. *Deschampsio-Quercetum robori-cerris* (Pócs 58) Soó 71
 (Syn. : *Potentillo albae-Quercetum praenoricum* Pócs 58,

Quercetum petraeae-cerris praenoricum Soó 57)

Ecol. : mesoxerophilous forests

Flor. : *Quercus robur*, *Q. cerris*, *Poa nemoralis*, *Festuca heterophylla*, *Brachypodium sylvaticum*, *Deschampsia caespitosa*, *Festuca tenuifolia*, *Agrostis capillaris*

Area. : "Őrség" (Szőce, Nádasd, Körmend), Hills of Vas (Káld, Kemenesmagasi).

3. **Asphodelo-Quercetum robori-cerris** Borhidi 69(Syn. : **Quercetum petraeae-cerris transdanubicum** Soó (50) 60, **Potentillo albae-Quercetum petraeae-cerris asphodeletosum praeillyricum** Tallós 59)

Ecol. : xeromesophilous forests

Flor. : *Quercus robur*, *Q. cerris*, *Carex fritschi*, *Asphodelus albus*, *Festuca heterophylla*

Area. : Sitke, Ostffyasszonyfa, Celldömök, Kám-Jeli.

Aceri tatarico-Quercion (Zólyomi et Jakucs 57) Soó 631. **Tilio-Fraxinetum Zólyomi** (34) 36subass. *praenoricum* Szmorad 94

Ecol. : forests on rocky and stony places

Flor. : *Fraxinus excelsior*, *Tilia platyphyllos*, *T. cordata*, *Acer campestre*, *Sorbus aria*, *Poa nemoralis*, *Melica uniflora*

Area. : Kőszeg-Mountain (local plant community).

PRUNETALIA Tx. 52

Prunio spinosae Soó (30) 401. **Pruno spinosae-Crataegetum** (Soó 27) Hueck 31

Ecol. : bushes on forest border

Flor. : *Prunus spinosa*, *Crataegus monogyna*, *Festuca rupicola*, *Agrostis capillaris*

Area. : "Őrség", Hills of Vas.

ERICO-PINETEA I Horvat 59**ERICO-PINETALIA I.** Horvat 59**Erico-Pinion** Br.-Bl. 391. **Calamagrosti variaie-Pinetum** Pócs 66

Ecol. : dry rocky places

Flor. : *Pinus sylvestris*, *Rosa spinosissima*, *Calamagrostis varia*, *Anthericum ramosum*

Area. : Kőszeg-Mountain (Péterics-hegy).

VACCINIO-PICEETEA Br.-Bl. 39**VACCINIO-PICEETALIA** Br.-Bl. 39**Abieti-Piceion** Br.-Bl. 391. *Bazzanio-Abietetum* Wraber 53(Syn. : *Abieti-Piceetum* (Szafer 23) *noricum* Soó 45)

Ecol. : acidifilous Spruce forests

Flor. : *Picea abies*, *Oxalis acetosella*, *Prenanthes purpurea*, *Oreopteris limbosperma*, *Gentiana asclepiadea*, *Circaea intermedia*, *Blechnum spicant*

Area. : "Őrség" (valley of Grajka, Hármashatár), Kőszeg-Mountain (Hármas patak). (? planted)

SILVAE CULTAE

- *Piceetum excelsae*: "Őrség", Hills of Vas, Kőszeg-Mountain.
- *Pinetum sylvestris*: "Őrség", Hills of Vas, Kőszeg-Mountain.
- *Quercetum cerris*: Hills of Vas.
- *Populetum canadensis*: alongside the rivers (Rába, Répce).
- *Bromo sterili-Robinetum*: Hills of Vas (Vönöck, Kenyeri, Kemenesmagasi, Ostffyasszonyfa etc.).
- *Castanetum sativae*: Kőszeg-Mountain, Hills of Vas.



Vegetation of meadows in Kőszeg-Mountain (Ass. *Pastinaco-Arrhenatheretum*)



Backwater alongside the river Rába (Ass. *Salicetum albae-fragilis*,
Petasitetum, *Rudbeckia*)