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CONTRIBUTION TO THE STUDY OF ROMANIA'S VEGETATION (III)

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Key words: vegetal association, new localities
Abstract: The authors described 5 vegetal association rares in the vegetation of Moldavia. Every association is given out with tables and the diagnosis for each of them.

Following our studies upon the vegetation from various areas in Romania, we presented now other 5 vegetal herbaceous associations of ruderal and segetal plants; all of them were identified in the southern part of Moldavia.

These associations are rares in the vegetation of our country, being in the same time new coenotaxons for the Moldavian vegetation. These are framed out from coenotaxonomical point of view, like this:

Cl. *Festucetea vaginatae* Soó 68
Ord. *Festucetalia vaginatae* Soó 57
Al. *Festucion vaginatae* Soó 29
1. As. ***Trago-Anthemietum ruthenicae*** Puşcaru et al. 63 corr. Popescu et al. 80
Cl. *Chenopodietea* Br.-Bl. 51 emend. Lohm., J. Tx. et Tx. 61
Ord. *Onopordetalia* Br.-Bl. et Tx. 43 emend. Görs 66
Al. *Onopordion acanthii* Br.-Bl. 26 s. str.
2. As. ***Xanthietum spinoso-strumarii*** (A. Paucă 41) nomen novum
Cl. *Artemisietea* Lohm., Prsg. et Tx. 50
Ord. *Artemisietalia* Lohm. et Tx. 47
Al. *Alliarion petiolatae* Oberd. 57, 62, emend. Hejny 67
3. As. ***Cephalarietum pilosae*** Tx. 42
Al. *Arction lappae* Tx. 37 emend. Siss. 46
4. As. ***Urticetum dioicae*** Steffen 31
5. As. ***Galio aparine-Parietarietum officinalis*** Popescu et al. 83

1. As. *Trago-Anthemietum ruthenicae* Puşcaru et al. 63 corr. Popescu et al. 80

This association was described too, from the south-eastern part of the country, as a pioneer association. We have identified 5 relevées in the north-western part of Galaţi county, on sandy soils, on a field uncultivated (in the previous year a sunflower crop was there). One could remark that as early as first year, the phytocoenoses achieved a general coverage of 60-70 % and those two characteristic species have an important contribution. In the incipient stage, in which this association was seen in this region, the association had

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had a floristical composition relatively poor, but over 55 % from the species are characteristics for superior coenotaxons of this association (Table 1).

2. As. *Xanthietum spinoso-strumarii* (A. Paucă 41) nomen novum (= *Xanthium spinosum-X. strumarium* A. Paucă 41)

This is a ruderal association, made by higher weeds, which was identified in the meadows and disturbed plains (at Hanu Conachi and Călmăţui villages, Galaţi county); also, it was seen at the end of the crops (at Ţepu de Jos, Nicoreşti and Furcenii Noi, Galaţi county). The general coverage of the phytocoenoses vary a lot (between 50 % and 100 %), in relation with the evolution stage of the association, the greatest coverage having been achieved in the ruderal meadows, where the effect of the anthropogenic factor are stronger by overgrazing or by storage of remainder of organic matter in decay. Like always, these weed associacions had invaded the edge of the mayze crop, which arrived to cover it and, sometimes even to compromise these crops (at Nicoreşti, for example). Among those 53 species which are met in the floristical table, a great part (almost 80 %) belongs to the characteristic species for the alliance, order and class (Table 2).

3. As. *Cephalarietum pilosae* Tx. 42

This association was identified in the region of Siriu Mountain, too [1], on the cleaned fields. In the subCarpathian region of Vrancea county, at the edge of the forests, affected by erosion of the soils and sometimes by major sliding process we identified 2 phytocoenoses dominated by *Cephalaria pilosa*. One could remark a great general coverage of this weed communities, having been enough taller, also; besides the edificator species there are other species with superior abundance indexes (*Alliaria petiolata, Arctium lappa, Eupatorium cannabinum*). A great number of the species of this association are characteristics for *Chenopodietea* and *Plantaginetea majoris* classes (as a result of anthropogenic disturbance), and a part of these species are immigrated here from the wooden or pasture nearby phytocoenoses (Table 3).

4. As. *Urticetum dioicae* Steffen 31

This association is different of other phytocoenoses in which *Urtica dioica* is a codominant species (*Urtico-Aegopodietum* (Tx. 63) Oberd. 64, *Rumici obtusifoliae-Urticetum dioicae* Kornas 68) by the fact that here in the subCarpathian region of Vrancea county, these cluster of high weed communities are densely and obvious bordered, occupying those fields affected by over sheep folding. The edificator species (*Urtica dioica*) has a strong dominance, seldom being obvious by coverage indexes other nitrophylous plants. The height of these phytocoenoses reach 120-140 cm, and this aspect in relation with a great density of the weeds led to the accumulation every year a great quantity of biomass, which will be decayed on the spot, and it created favourable conditions for this kind of vegetation (Table 4).

5. As. *Galio aparine-Parietarietum officinalis*

In a cleared forest steppe zone in north-eastern part of piedmont plain belonging to the glacis subhilly area (in Vrancea county), we have made 6 relevees, in which the 2 edificator species are both codominants also in this association: *Parietaria officinalis* and

Galium aparine. On those fields with deep soils, which keep a litle humidity due to the shading of the stand of *Quercus pedunculiflora*, there were installed small communities (20-70 sq. m.) of weeds; among these weeds one could met typical species for forest communities in that region, too. The general coverage is 75-90 %, but the 2 edificator species achieved themselves a coverage of 55-80 %. Besides those 2 species one could remark other species having superior indexes of dominance, for example: *Artemisia vulgaris*, *Geum urbanum*, *Tanacetum vulgare*, *Lamium maculatum*, *Eupatorium cannabinum*, *Ballota nigra*, and so forth (Table 5).

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Table 1

As. *Trago-Anthemietum ruthenicae*

Surface, sq. m. Coverage, % Relevé no.	25 70 1	25 60 2	25 60 3	25 65 4	25 70 5	K
Anthemis ruthenica	3	2	2	2	3	V
Tragus racemosus	1	2	2	3	1	V
Festucion vaginatae						
Arabidopsis thaliana	+	-	-	+	+	III
Erigeron canadensis	-	+	+	-	+	III
Polygonum arenarium	+	-	-	-	-	I
Kochia laniflora	-	-	+	-	+	II
Tribulus terrestris	+	+	-	-	+	III
Chondrilla juncea	+	-	-	+	-	II
Plantago arenaria	+	-	-	-	+	II
Bromion tectorum						
Bromus tectorum	+	+	+	+	+	V
Festucetalia et Festucetea vaginatae						
Veronica praecox	+	-	-	+	+	III
Syrenia cana	-	+	-	-	+	II
Alyssum desertorum	+	-	-	+	+	III

Crepis tectorum	-	+	+	-	-	II
Potentilla argentea	+	-	+	+	-	III
Xeranthemum foetidum	-	+	-	+	-	II
Lithospermum arvense	-	+	+	-	-	II
Aliae						
Poa bulbosa	+	-	+	-	-	II
Convolvulus arvensis	-	-	+	-	-	I
Aristolochia clematites	+	-	-	+	-	II
Vicia villosa	-	+	+	-	-	II
Carduus acanthoides	-	+	-	-	-	I
Descurainia sophia	+	-	+	+	+	IV
Vicia cracca	-	-	+	+	-	II
Trifolium repens	+	-	-	-	+	II
Chenopodium album	-	+	+	-	+	III
Capsella bursa-pastoris	+	-	-	+	-	II
Cichorium intybus	-	+	+	-	-	II
Geranium pusillum	+	-	-	-	+	II
Medicago falcata	-	-	+	-	-	I
Cynodon dactylon	+	-	-	+	+	III

Place of the relevées: 1-5: between Barcea and Umbrăreşti (Galaţi county)

Table 2

As. Xanthietum spinoso-strumarii

Surface, sq. m. Coverage, % Relevé no.	50 60 1	50 95 2	25 50 3	50 100 4	100 80 5	K
Xanthium strumarium	2	2	2	3	-	IV
Xanthium spinosum	2	2	1	2	5	V
Onopordion						
Amaranthus crispus	-	+	-	-	-	I
Descurainia sophia	-	+	-	1	-	II
Artemisia absinthium	-	+	-	+	-	II
Cirsium arvense	-	+	-	-	-	I
Onopordon acanthium	-	-	-	+	+	II
Carduus nutans	-	-	-	-	+	I
Onopordetalia						
Arctium minus	-	+	-	-	+	II
Tripleurospermum inodorum	-	+	-	+	-	II
Carduus acanthoides	-	+	-	-	+	II
Arctium lappa	-	-	-	+	-	I
Cirsium vulgare	-	-	-	-	+	I

Chenopodietea						
Amaranthus retroflexus	1	+	+	+	+	V
Amaranthus albus	+	-	-	-	-	I
Amaranthus blitoides	+	+	-	+	-	III
Solanum nigrum	+	-	-	+	-	II
Echinochloa crus-galli	+	+	1	-	-	III
Datura stramonium	-	+	-	-	+	II
Conium maculatum	-	+	-	+	+	III
Atriplex tatarica	-	+	-	-	+	II
Ballota nigra	-	+	-	-	-	I
Lepidium ruderale	-	+	-	+	-	II
Matricaria chamomilla	-	+	-	-	-	I
Leonurus cardiaca	-	+	-	-	-	I
Cirsium arvense	-	+	-	-	-	I
Cardaria draba	-	+	-	-	-	I
Artemisia vulgaris	-	+	-	-	-	I
Setaria lutescens	-	+	-	-	-	I
Cannabis ruderalis	-	+	-	+	-	I
Convolvulus arvensis	-	+	-	-	+	II
Erigeron canadensis	-	+	-	-	+	II
Chenopodium album	-	+	+	+	-	II
Sonchus arvensis	-	+	-	-	-	I
Hordeum murinum	-	-	+	-	-	I
Setaria viridis	-	-	+	-	-	I
Sisymbrium loeselii	-	-	-	+	+	II
Artemisia annua	-	-	-	+	-	I
Portulaca oleracea	-	-	-	-	+	I
Cuscuta campestris (on Xanthium spinosum)	-	-	-	-	+	I
Salsola kali ssp. ruthenica	-	-	-	-	+	I
Aliae						
Polygonum aviculare	-	+	-	+	+	III
Poa angustifolia	-	+	-	-	-	I
Plantago major	-	+	-	-	+	II
Cynodon dactylon	-	+	-	+	-	II
Achillea setacea	-	+	-	-	-	I
Cichorium intybus	-	+	-	-	-	I
Tribulus terrestris	-	-	+	-	-	I
Heliotropium europaeum	-	-	+	-	-	I
Lactuca tatarica	-	-	-	+	-	I
Trifolium repens	-	-	-	-	+	I
Taraxacum officinale	-	-	-	-	+	I
Galium mollugo	-	-	-	-	+	I

Place of the relevées: 1-Ţepu de Jos (Galaţi county); 2-Nicoreşti (Galaţi county); 3-Furcenii Noi (Galaţi county); 4-Hanu Conachi (Galaţi county); 5-Călmăţui (Galaţi county)

Table 3

As. *Cephalarietum pilosae*

Surface, sq. m	50	65
Coverage, %	90	85
Relevé no.	1	2
Cephalaria pilosa	4	4
Alliarion		
Alliaria petiolata	+	1
Lapsana communis	+	+
Scrophularia nodosa	+	-
Artemisietalia et Artemisietea		
Arctium lappa	+	1
Artemisia vulgaris	+	+
Urtica dioica	+	+
Cirsium vulgare	+	-
Arctium tomentosum	+	-
Torilis japonica	+	-
Rumex obtusifolius	+	+
Silene alba	-	+
Cirsium arvense	-	+
Inula helenium	-	+
Erigeron annuus	-	+
Aliae		
Eupatorium cannabinum	1	+
Brachypodium sylvaticum	+	-
Mentha longifolia	1	+
Lolium perenne	+	+
Daucus carota	+	-
Heracleum sphondyllium	+	-
Geum urbanum	+	+
Cichorium intybus	+	+
Stachys sylvatica	+	-
Galeopsis tetrahit	+	-
Poa compressa	-	+
Plantago major	-	+
Prunella vulgaris	-	+
Sonchus asper	-	+
Veronica chamaedrys	-	+
Campanula persicifolia	-	+
Hypericum perforatum	-	+

Place of the relevées: 1-Andreiașul de Sus (Vrancea county); 2-Monteoru (Milcov basin-Vrancea county)

Table 4

As. *Urticetum dioicae*

Altitude, m. s. l.	760	765	670	495
Exposition	SE	-	N	NV
Slope	3	-	5	10
Surface, sq. m.	100	50	65	100
Coverage, %	95	90	85	90
Relevé no.	1	2	3	4
Urtica dioica	5	5	4	5
Arction lappae				
Artemisia vulgaris	-	-	-	+
Alliaria petiolata	+	-	-	+
Erigeron annuus	-	-	-	+
Rumex obtusifolius	+	+	-	+
Verbena officinalis	-	-	+	-
Arctium lappa	-	+	+	-
Nepeta cataria	+	+	-	-
Ballota nigra	-	-	+	+
Conium maculatum	-	-	-	+
Artemisietalia et Artemisietea				
Sambucus ebulus	+	+	-	+
Cirsium arvense	+	+	1	+
Taraxacum officinale	-	+	+	-
Tripleurospermum inodorum	-	-	-	+
Silene alba	-	-	+	-
Aliae				
Eupatorium cannabinum	+	-	+	+
Chenopodium bonus-henricus	-	+	-	-
Stellaria media	+	-	+	+
Capsella bursa-pastoris	+	+	-	+
Veronica serpyllifolia	-	-	+	-
Galium aparine	-	+	-	-
Cichorium intybus	-	-	+	-
Epilobium hirsutum	-	+	-	-
Lamium maculatum	-	+	-	+
Chaerophyllum bulbosum	-	-	-	+
Poa annua	+	+	+	-
Lolium perenne	-	+	+	-
Xanthium strumarium	-	-	-	+
Sisymbrium loeselii	+	+	-	-

Place of the relevées: 1-2 Dealul Plaiului-Vintileasca (Vrancea county); 3-Dealul Sării-Jitia (Vrancea county); 4 Potorac-Reghiu (Vrancea county)

Table 5

As. *Galio aparine-Parietarietum officinalis*

Altitude, m. s. l.	85	82	80	85	80	80	
Exposition	-	-	E	SE	-	-	
Slope	-	-	3	3	-	-	K
Coverage, %	85	80	90	85	80	75	
Surface, sq. m.	25	50	20	50	65	35	
Releve no.	1	2	3	4	5	6	
Parietaria officinalis	3	3	4	2	3	1	V
Galium aparine	2	2	1	3	1	3	V
Arction lappae							
Tanacetum vulgare	1	+	+	+	1	+	V
Artemisia vulgare	+	1	-	-	-	+	III
Chelidonium majus	+	-	-	+	+	-	III
Leonurus cardiaca	+	+	-	+	+	+	V
Artemisia absinthium	-	+	-	-	+	+	III
Conium maculatum	-	-	-	+	-	-	I
Ballota nigra	-	-	-	+	+	1	III
Artemisietalia et Artemisietea							
Glechoma hederacea	+	-	+	+	-	+	III
Malva sylvestris	+	+	+	-	+	-	III
Lapsana communis	+	-	-	-	-	-	I
Rumex obtusifolius	-	-	+	-	-	+	II
Chaerophyllum bulbosum	-	-	-	+	-	+	II
Cruciata laevipes	-	-	-	-	+	-	I
Viola odorata	-	-	-	-	-	+	I
Urtica dioica	+	-	+	-	-	+	III
Aliae							
Geum urbanum	+	+	-	+	1	+	V
Lamium maculatum	+	-	-	1	1	+	III
Stellaria holostea	+	+	-	-	+	-	III
Clematis vitalba	+	-	-	-	-	-	I
Brachypodium sylvaticum	+	-	+	-	-	+	III
Eupatorium cannabinum	-	+	-	-	-	1	I
Senecio vernalis	-	+	+	-	-	-	II
Cichorium intybus	-	+	-	+	+	-	III
Lolium perenne	-	-	+	+	+	-	III
Veronica chamaedrys	-	-	+	-	+	-	II
Stellaria media	-	-	-	-	+	+	II
Bilderdykia dumetorum	-	-	-	-	+	+	II
Torilis arvensis	-	-	-	-	+	-	I
Physalis alkekengi	-	-	-	-	-	+	I
Galeopsis speciosa	-	-	-	-	-	+	I
Lysimachia nummularia	-	-	-	-	-	+	I
Stachys sylvatica	-	-	-	-	-	+	I

Place of the relevées: 1-4 – Pădurea Roata, com. Voietinu (Vrancea county); 5-6 – Pădurea Fasolea, com. Voietinu (Vrancea county)