



VASCULAR FLORA OF HISTORICAL CEMETERIES  
IN THE BIESZCZADY NATIONAL PARK

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**ABSTRACT.** Studies on vascular flora were performed in all the eight cemeteries (seven former Uniate cemeteries and one from World War I) located in the Bieszczady National Park. Three cemeteries were richest in vascular species: Brzegi Górne, Caryńskie and Beniowa, with approx. 100 species each. In turn, botanically the poorest cemetery was the one in Dzwiniacz Górny with 43 species. Among herbaceous plants the following were classified as perennial cultivated species: *Aquilegia vulgaris*, *Centaurea mollis*, *Iris germanica*, *Leucanthemum vulgare*, *Lupinus polyphyllus*, *Telekia speciosa*, *Viola odorata* and *Vinca minor*. Species which were reported most frequently were *Telekia speciosa* (six cemeteries) and *Centaurea mollis* (four cemeteries). It was already observed earlier that in cemeteries in southern Poland *Centaurea mollis* was in the past and still is a very frequent ornamental element. New species for the vascular flora of the Bieszczady National Park were recorded in the analysed cemeteries: *Poa subcaerulea*, *Ranunculus polyanthemus* and *Viola odorata*. On the way from the cemetery in Sianki to the cemetery in Beniowa a scarce population of still another new species for the flora of the Bieszczady National Park was found on the roadside – *Melilotus altissima*. On the basis of conducted investigations vascular flora of the Bieszczady National Park is enriched to include four species and at present consists of 782 species.

**KEY WORDS:** the Bieszczady National Park, cemetery, vascular flora, perennial cultivated species

INTRODUCTION

Irrespective of the epoch and culture, cemeteries – while serving their primary role as burial grounds – have almost always been green areas with strictly marked boundaries. Thus, they have been a special kind of garden in which the atmosphere of quiet, pensiveness and contemplation is maintained. The arrangement design of cemeteries is on the one hand closely dependent on the epoch and on the other hand on the cultural and religious affiliation and thus burial customs. The arrangement design of cemeteries is also connected with specific religious requirements. At times it also depends on the social origin of buried individuals. The design form of a cemetery may also be determined by the surface features of the area. In flat areas cemeteries are usually divided into regular sections. In turn, in areas with varied surface features cemeteries take the landscape arrangement design. Cemeteries were planted with various species characterized by diverse symbolic and practical roles.

The Bieszczady National Park, comprising a small area, was founded in 1973. Several reserves were established in the Park (WINNICKI and ZEMANEK 1998). A complete survey of vascular flora was performed in the Park (ZEMANEK and WINNICKI 1999). In contrast, cemeteries located within the Park were not objects of separate botanical analyses. The aim of this study was to

determine the complete list of vascular species for each analysed cemetery and to identify perennial cultivated species.

MATERIAL AND METHODS

Investigations were conducted in August 2006 in eight cemeteries (seven former Uniate cemeteries and one World War I cemetery) located within the Bieszczady National Park (Fig. 1).

Nomenclature of species was adopted after MIREK et AL. (2002). Data contained in a historical and tourist dictionary of the Lutowska commune (AUGUSTYN et AL. 1995) were used to characterize the cemeteries.

In the list of species the emphasis was put on those species which had been introduced to cultivation earlier and survived or ran wild. In turn, in parentheses the frequency of individual species was given in a 5-point scale, in which respective numbers denote: 1 – a very rare species, 2 – a relatively rare species, 3 – a relatively frequent species, 4 – a frequent species and 5 – a very frequent species.

A list is given of perennial cultivated plants, i.e. those which had been planted in a given site and even after cultivation measures were ceased they still grow in good condition or even spread. These species may be used as valuable ornamental material both in cemeteries and

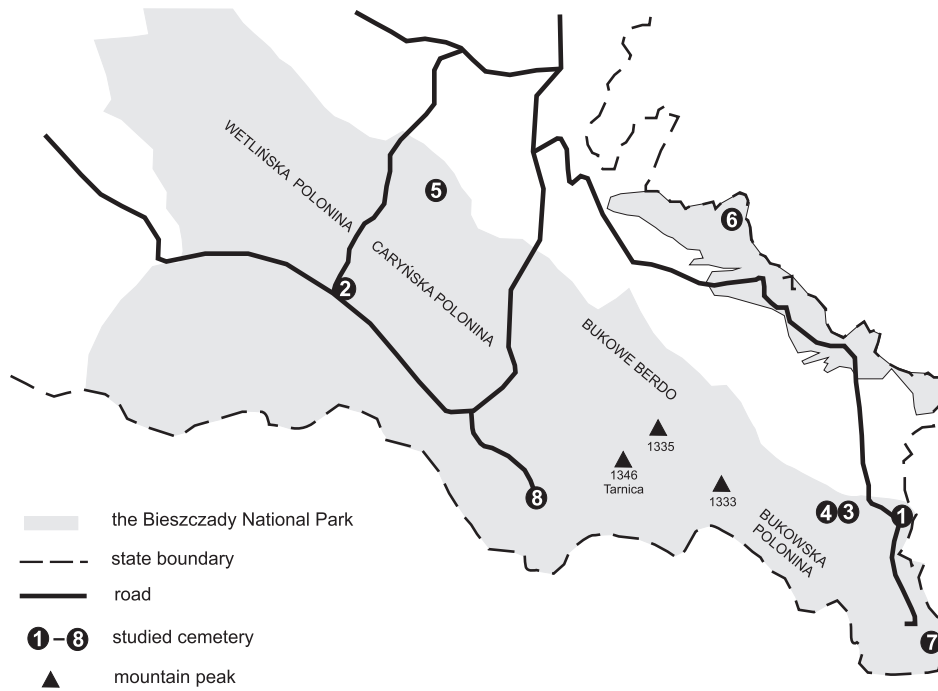


FIG. 1. The location of analysed historical cemeteries in the Bieszczady National Park

home gardens or even municipal parks. These species are underlined in the list.

The herbarium material was deposited in the Herbarium of the Department of Botany, the Agricultural University of Poznań (POZNB).

#### BOTANICAL CHARACTERISTICS OF CEMETERIES

##### 1 Beniowa

The southern part of the cemetery was destroyed during reclamation of the village performed using explosives. The remaining northern part of the necropolis of 45 × 80 m is surrounded by a wooden fence. The entire cemetery is overgrown with trees and shaded. There are no visible signs of mowing.

Thirteen gravestones may be found in the cemetery, together with perfectly preserved underpinnings of successive Uniate churches, built in 1779 and then in 1909, as well as two wrought iron crosses from the church domes. The existing gravestones partly originate from local artisans' workshops and partly they were made by local self-taught craftsmen. Ten of them are made of sandstone and three from concrete. Most of the sandstone gravestones were bases for no longer existing cast iron crosses.

The following vascular species were recorded in the cemetery:

**The tree layer:** *Acer platanoides* (1), *A. pseudoplatanus* (4), *Betula pendula* (1), *Fraxinus excelsior* (1), *Larix decidua* (1), *Picea abies* (3), *Salix alba* (1), *Sorbus aucuparia* (1), *Tilia cordata* (1), *T. platyphyllos* (4), *Ulmus minor* (1).

**The shrub layer:** *Acer platanoides* (1), *A. pseudoplatanus* (1), *Carpinus betulus* (1), *Cornus sericea* (1), *Corylus avellana* (2), *Crataegus monogyna* (1), *Lonicera xylosteum* (1), *Physocarpus opulifolius* (1), *Picea abies* (1), *Pinus strobus* (1), *Populus tremula* (2), *Ribes alpina* (1), *Rosa rugosa*

(1), *Rubus idaeus* (2), *R. hirtus* (1), *R. uva-crispa* (1), *Salix caprea* (1), *S. silesiaca* (1), *Sambucus racemosa* (1), *Sorbus aucuparia* (1), *Ulmus minor* (1), *Viburnum opulus* (1).

**The herbaceous layer:** *Achillea millefolium* (1), *Aegopodium podagraria* (2), *Agrostis capillaris* (1), *Ajuga reptans* (1), *Alchemilla monticola* (2), *Angelica sylvestris* (1), *Athyrium filix-femina* (1), *Campanula glomerata* (1), *C. patula* (1), *Carduus personata* (4), *Carex brizoides* (1), *C. sylvatica* (1), *Centaurea phrygia* (1), *Chaerophyllum aromaticum* (2), *Ch. hirsutum* (3), *Cirsium oleraceum* (1), *C. palustre* (1), *Cruciata glabra* (1), *C. laevipes* (1), *Dactylis polygama* (2), *Deschampsia caespitosa* (2), *Dryopteris filix-mas* (1), *Epilobium alpestre* (1), *Festuca gigantea* (1), *Filipendula ulmaria* (1), *Fragaria vesca* (1), *Galeobdolon luteum* (1), *Galeopsis speciosa* (1), *Galium aparine* (1), *G. mollugo* (1), *G. odoratum* (1), *G. rivale* (1), *Geranium palustre* (1), *G. phaeum* (1), *Glechoma hederacea* (1), *Heracleum sphondylium* (2), *Holcus mollis* (1), *Hypericum maculatum* (1), *Impatiens noli-tangere* (1), *Lapsana communis* (1), *Lysimachia nummularia* (1), *Melandrium rubrum* (1), *Mycelis muralis* (1), *Myosotis palustris* (1), *Oxalis acetosella* (1), *Phalaris arundinacea* (1), *Phleum pratense* (1), *Plantago major* (1), *Platanthera bifolia* (1), *Poa chaixii* (1), *P. nemoralis* (1), *Primula elatior* (1), *Prunella vulgaris* (1), *Ranunculus repens* (2), *Rumex alpestris* (1), *R. obtusifolius* (1), *Senecio ovatus* (1), *Stachys sylvatica* (1), *Stellaria nemorum* (2), *Symphytum officinale* (1), *Telekia speciosa* (1), *Trifolium hybridum* (1), *T. repens* (1), *Urtica dioica* (2), *Veronica chamaedrys* (1), *Vicia sepium* (2), *Vinca minor* (2).

##### 2 Brzegi Górne

The cemetery is located in the immediate vicinity (north) of ruins of a Uniate church built in 1897. It is situated on a defensive tip towering over the surroundings, located in the forks of small streams. It was established on an irregular square plan. It is surrounded by a low wall made of crushed stone (at present badly damaged)

and a wooden fence. The cemetery is crossed by shallow ditches dividing it into three parts. This is probably the effect of the necropolis being enlarged in the area in the course of the 19th century. At present the cemetery covers the area of 50 × 140 m. The entire cemetery is overgrown with trees and there are no visible signs of mowing of the vegetation cover.

Not long ago there were over one hundred gravestones. In the years 1960-1962, when a road was being built nearby, gravestones from this cemetery were broken into road metal. Only 11 gravestones survived.

A list of species recorded in the cemetery is given below. These include:

**The tree layer:** *Acer pseudoplatanus* (2), *Betula pendula* (1), *Fagus sylvatica* (3), *Fraxinus excelsior* (5), *Picea abies* (4), *Populus tremula* (3), *Sorbus aucuparia* (1), *Tilia cordata* (1).

**The shrub layer:** *Acer pseudoplatanus* (2), *Corylus avellana* (1), *Daphne mezereum* (1), *Fagus sylvatica* (2), *Fraxinus excelsior* (1), *Picea abies* (1), *Populus tremula* (1), *Ribes alpina* (1), *Rosa canina* (1), *Rubus hirtus* (1), *R. idaeus* (1), *Salix alba* (1), *S. silesiaca* (1), *Sambucus racemosa* (1), *Sorbus aucuparia* (1).

**The herbaceous layer:** *Acer pseudoplatanus* (1), *Achillea millefolium* (1), *Actaea spicata* (1), *Aegopodium podagraria* (2), *Agrostis capillaris* (2), *Ajuga reptans* (1), *Alchemilla monticola* (1), *Angelica sylvestris* (1), *Apose-ris foetida* (1), *Aquilegia vulgaris* (1), *Astrantia major* (1), *Athyrium filix-femina* (1), *Briza media* (1), *Bromus bene-kenii* (1), *Calamagrostis epigejos* (1), *Campanula glome-rata* (1), *C. patula* (1), *Cardaminopsis halleri* (2), *Carduus personata* (1), *Carex sylvatica* (2), *Centaurea jacea* (1), *C. mollis* (3), *C. phrygia* (1), *Chaerophyllum aromaticum* (1), *Ch. hirsutum* (2), *Cirsium palustre* (2), *C. vulgare* (1), *Clinopodium vulgare* (1), *Crepis paludosa* (1), *Cruciata gla-bra* (1), *Dactylis polygama* (3), *Dactylorhiza fuchsii* (1), *Deschampsia caespitosa* (1), *Dryopteris carthusiana* (1), *D. filix-mas* (1), *Epilobium alpestre* (1), *Equisetum arvense* (1), *Euphrasia rostkoviana* (1), *Festuca gigantea* (1), *Fra-garia vesca* (1), *Galeobdolon luteum* (1), *Galeopsis bifida/tetrahit* (2), *G. speciosa* (1), *Galium mollugo* (1), *G. odo-ratum* (3), *Gentiana asclepiadea* (2), *Geranium palustre* (1), *G. phaeum* (2), *G. robertianum* (1), *Geum urbanum* (1), *Glechoma hederacea* (1), *Gnaphalium sylvaticum* (2), *Heracleum sphondylium* (2), *Hypericum maculatum* (1), *Impatiens noli-tangere* (1), *Knautia arvensis* (1), *Lathyrus pratensis* (1), *Leucanthemum vulgare* (1), *Luzula luzu-loides* (2), *Lysimachia nemorum* (2), *L. nummularia* (2), *Melandrium rubrum* (1), *Mentha longifolia* (1), *Mycelis muralis* (1), *Myosotis palustris* (1), *Oxalis acetosella* (2), *Paris quadrifolia* (1), *Petasites albus* (2), *Phleum pratense* (1), *Phyteuma spicatum* (1), *Pimpinella saxifraga* (1), *Plantago major* (1), *Platanthera bifolia* (1), *Poa annua* (1), *P. chaixii* (2), *P. nemoralis* (1), *Potentilla erecta* (1), *Pri-mula elatior* (2), *Prunella vulgaris* (1), *Ranunculus acris* (1), *R. platanifolius* (1), *R. repens* (2), *Rumex alpinum* (1), *R. obtusifolius* (1), *Salvia glutinosa* (1), *Sanicula europaea* (1), *Scrophularia nodosa* (1), *Senecio ovatus* (2), *Solidago virgaurea* (1), *Stachys alpina* (3), *S. sylvatica* (1), *Stellaria graminea* (1), *S. nemorum* (1), *Taraxacum officinale* (1), *Telekia speciosa* (1), *Thymus pulegioides* (1), *Trifolium medium* (1), *T. repens* (1), *Urtica dioica* (1), *Veronica chamaedrys* (1), *Vicia sepium* (1), *Vinca minor* (2).

### ③ Bukowiec

The cemetery is located next to the ruin of a Uniate church, approx. 100 m west of it, at a stream called Halicz. Three gravestones remain till today. During land reclamation of the village area spruces surrounding the cemetery were cut down. Thus at present it is difficult to delineate its boundaries. Plants found in the vicinity of graves are typical species for mountain meadows, such as e.g. *Hieracium aurantiacum*. The botanical list given below pertains to the area of the former church of 10 × 20 m, located near the cemetery.

The following vascular plant species were recorded in the area of the former Uniate church:

**The tree layer:** *Betula pendula* (1), *Picea abies* (2), *Salix caprea* (4), *Tilia cordata* (1).

**The shrub layer:** *Fraxinus excelsior* (1), *Picea abies* (3), *Rubus idaeus* (1).

**The herbaceous layer:** *Achillea millefolium* (1), *Agro-stis capillaris* (1), *Ajuga reptans* (1), *Alchemilla monticola* (1), *Angelica sylvestris* (1), *Briza media* (1), *Campanula glomerata* (1), *Cardamine pratensis* (1), *Carex sylvatica* (1), *Chaerophyllum hirsutum* (1), *Cirsium oleraceum* (1), *C. palustre* (1), *Cruciata glabra* (1), *Dryopteris filix-mas* (1), *Filipendula ulmaria* (1), *Fragaria vesca* (2), *Galium mollugo* (2), *Geranium palustre* (1), *G. phaeum* (1), *Heracleum sphondylium* (1), *Hieracium murorum* (1), *Knautia arvensis* (1), *Leontodon hispidus* (2), *Leucanthemum vul-gare* (1), *Mycelis muralis* (1), *Pimpinella major* (1), *P. saxi-fraga* (1), *Poa chaixii* (1), *Ranunculus acris* (1), *R. polyan-themos* (1), *Taraxacum officinale* (1), *Telekia speciosa* (1), *Thymus pulegioides* (1), *Trifolium medium* (1), *T. pratense* (1), *T. repens* (1), *Tussilago farfara* (1), *Urtica dioica* (1), *Valeriana simplicifolia* (2), *Veronica chamaedrys* (1), *Vicia sepium* (2).

### ④ Bukowiec

The cemetery from the period of World War I is located approx. 100 m south of the ruins of a Uniate church. It is a square of 25 × 25 m. During land reclamation spruces surrounding the cemetery, which had been planted at the time the cemetery was established, were cut down. At present the cemetery is surrounded with a hedge of *Picea abies* and it is mowed. There are 12 mass graves arranged in two rows. In the centre there is a wooden cross.

**The shrub layer:** *Acer pseudoplatanus* (2), *Betula pubescens* (1), *Fagus sylvatica* (1), *Picea abies* (3), *Ribes alpinum* (1), *Rosa canina* (1), *Rubus idaeus* (2), *R. hirtus* (2), *Sorbus aucuparia* (1), *Viburnum opulus* (1).

**The herbaceous layer:** *Achillea millefolium* (1), *Agro-stis capillaris* (1), *Alchemilla monticola* (1), *Angelica sylve-stris* (1), *Athyrium filix-femina* (1), *Campanula patula* (1), *Carex brizoides* (1), *C. sylvatica* (1), *Centaurea phrygia* (1), *Chaerophyllum hirsutum* (1), *Cirsium palustre* (2), *Cruciata glabra* (1), *Deschampsia caespitosa* (4), *Dryopteris carthusiana* (1), *D. filix-mas* (1), *Epilobium alpestre* (1), *Equisetum sylvaticum* (2), *Filipendula ulmaria* (1), *Fraga-ria vesca* (2), *Galeopsis bifida/tetrahit* (1), *G. speciosa* (1), *Galium mollugo* (1), *Gentiana asclepiadea* (1), *Gnaphalium sylvaticum* (1), *Hypericum maculatum* (2), *Juncus effusus* (1), *Knautia dipsacifolia* (1), *Lotus corniculatus* (1), *Lupi-nus polyphyllus* (1), *Luzula luzuloides* (1), *Oxalis aceto-sella* (1), *Phleum pratense* (1), *Pimpinella major* (1), *Poa*



*chaixii* (3), *Potentilla erecta* (2), *Ranunculus repens* (2), *Rumex alpestris* (1), *R. obtusifolius* (1), *Stellaria graminea* (1), *S. nemorum* (1), *Symphytum officinale* (1), *Trifolium hybridum* (1), *Tussilago farfara* (1), *Urtica dioica* (1), *Veronica chamaedrys* (1), *V. officinalis* (1), *Vicia sepium* (1).

### 5 Caryńskie

The cemetery is situated around the former location of a non-existing Uniate church in the forks of the Caryński and Caryńczyk streams. Although a low wall of broken stone remains only on its eastern side, the area is well-marked thanks to wooden fencing. The cemetery covers the area of 50 × 75 m. In the centre of the cemetery relatively well-preserved ruins of a shrine chapel remain today.

Vascular plants in the cemetery include:

**The tree layer:** *Acer pseudoplatanus* (1), *Betula pendula* (2), *Fagus sylvatica* (2), *Fraxinus excelsior* (1), *Larix decidua* (1), *Picea abies* (1), *Tilia cordata* (1).

**The shrub layer:** *Acer pseudoplatanus* (1), *Cerasus avium* (1), *Corylus avellana* (1), *Crataegus monogyna* (1), *Daphne mezereum* (1), *Fagus sylvatica* (1), *Fraxinus excelsior* (1), *Picea abies* (1), *Populus tremula* (1), *Ribes uva-crispa* (1), *Rosa canina* (1), *R. pendulina* (2), *Rubus hirtus* (3), *R. idaeus* (3), *Sambucus racemosa* (1), *Sorbus aucuparia* (1), *Tilia cordata* (1).

**The herbaceous layer:** *Achillea millefolium* (1), *Actaea spicata* (1), *Aegopodium podagraria* (1), *Agrostis capillaris* (1), *Ajuga reptans* (1), *Alchemilla monticola* (1), *Anemone nemorosa* (1), *Angelica sylvestris* (1), *Aposeris foetida* (2), *Aruncus sylvestris* (2), *Asarum europaeum* (2), *Athyrium filix-femina* (4), *Brachypodium sylvaticum* (1), *Calamagrostis arundinacea* (1), *Campanula patula* (1), *Carduus personata* (1), *Carex brizoides* (3), *C. pilosa* (2), *C. sylvatica* (1), *Centaurea mollis* (2), *Chaerophyllum aromaticum* (1), *Ch. hirsutum* (1), *Cirsium oleraceum* (1), *C. palustre* (1), *Clinopodium vulgare* (1), *Cruciata glabra* (1), *Cystopteris fragilis* (1), *Dactylis glomerata* (1), *Dactylorhiza fuchsii* (2), *Deschampsia caespitosa* (1), *Dryopteris filix-mas* (2), *Epilobium montanum* (1), *Festuca gigantea* (1), *Filipendula ulmaria* (1), *Fragaria vesca* (2), *Galeopsis bifida/tetrahit* (1), *Galium mollugo* (1), *G. odoratum* (3), *Gentiana asclepiadea* (2), *Geranium phaeum* (1), *G. robertianum* (1), *Geum rivale* (1), *Glechoma hederacea* (2), *Gymnocarpium dryopteris* (2), *Heracleum sphondylium* (1), *Hypericum maculatum* (1), *Impatiens noli-tangere* (1), *Knautia dipsacifolia* (1), *Lamium maculatum* (2), *Lapsana communis* (1), *Lathyrus pratensis* (1), *Luzula luzuloides* (1), *Lysimachia nummularia* (1), *Melandrium rubrum* (1), *Milium effusum* (1), *Moehringia trinervia* (1), *Mycelis muralis* (1), *Oxalis acetosella* (1), *Paris quadrifolia* (1), *Petasites albus* (1), *Phyteuma spicatum* (1), *Pimpinella major* (1), *Poa chaixii* (2), *P. nemoralis* (1), *Polygonatum verticillatum* (1), *Polypodium vulgare* (2), *Polystichum lobatum* (1), *Potentilla erecta* (1), *Primula elatior* (2), *Prunella vulgaris* (1), *Salvia glutinosa* (3), *Scrophularia nodosa* (1), *Sedum fabaria* (1), *Senecio ovatus* (2), *Solidago virgaurea* (1), *Stachys sylvatica* (2), *Stellaria nemorum* (1), *Telekia speciosa* (1), *Urtica dioica* (2), *Vaccinium myrtillus* (1), *Veronica chamaedrys* (1), *Vicia sepium* (1).

### 6 Dzwiniać Górny

The cemetery is located on a hill, in the vicinity of the non-existing manor and the previous Uniate church. The

cemetery covers the area of 15 × 20 m. It is surrounded by a ring of old trees and a fence made from wooden poles. The stand is loose and the vegetation cover is mowed. 17 gravestones remain to this day.

Vascular plants recorded in the cemetery include:

**The tree layer:** *Acer platanoides* (1), *Fraxinus excelsior* (1), *Malus domestica* (1), *Populus tremula* (4), *Tilia platyphyllos* (2).

**The shrub layer:** *Crataegus monogyna* (1), *Padus avium* (1), *Salix alba* (1).

**The herbaceous layer:** *Aegopodium podagraria* (2), *Angelica sylvestris* (3), *Anthriscus sylvestris* (2), *Aquilegia vulgaris* (1), *Arctium tomentosum* (1), *Campanula glomerata* (1), *Centaurea mollis* (2), *Chaerophyllum aromaticum* (1), *Cruciata glabra* (2), *C. laevipes* (1), *Elymus caninus* (1), *Epilobium alpestre* (1), *Filipendula ulmaria* (1), *Fragaria vesca* (1), *Galium mollugo* (1), *G. rivale* (1), *Geranium palustre* (1), *G. phaeum* (2), *Geum urbanum* (1), *Glechoma hederacea* (1), *Heracleum sphondylium* (3), *Iris pseudacorus* (2), *Lapsana communis* (1), *Lysimachia nummularia* (3), *Pimpinella major* (2), *Populus tremula* (1), *Primula elatior* (1), *Ranunculus acris* (1), *R. repens* (1), *Taraxacum officinale* (1), *Telekia speciosa* (1), *Trifolium pratense* (1), *T. repens* (1), *Urtica dioica* (1), *Vicia sepium* (1), *Viola odorata* (1).

### 7 Sianki

The church cemetery, located around a Uniate church built in 1831, is preserved on a polygon plan. In the 1860's a small brick chapel was created from the chancel of the church and tombstones of Klara and Franciszek Stroińskis were placed between the church and the chapel. Probably in the beginning of the 20th century the cemetery was enlarged to the area of 25 × 25 m. In the 1930's it was fenced using wire netting mounted on metal posts. Two metal gates, on which wrought cast iron crosses were mounted, were situated in the western side of the fence. During the church fire in 1947 the roof of the chapel also burned down and after that the chapel started to fall into ruin. In the 1980's "treasure hunters" searched the Stroiński tomb, moving gravestones and digging up the graves. When the cemetery was cleared it turned out that there are approx. 30 earth graves. Some of them have stone surrounds.

Vascular plants recorded here include:

**The tree layer:** *Alnus glutinosa* (2), *Picea abies* (3), *Populus tremula* (1), *Tilia cordata* (2).

**The shrub layer:** *Acer pseudoplatanus* (1), *Picea abies* (1), *Populus tremula* (3), *Rubus idaeus* (1), *Sambucus racemosa* (2), *Salix caprea* × *silesiaca* (1), *S. silesiaca* (1), *Sorbus aucuparia* (1).

**The herbaceous layer:** *Achillea millefolium* (1), *Aegopodium podagraria* (2), *Agrostis capillaris* (1), *Alchemilla monticola* (1), *Angelica sylvestris* (3), *Athyrium filix-femina* (1), *Campanula glomerata* (1), *Carduus personata* (1), *Carex brizoides* (2), *Chaerophyllum aromaticum* (2), *Ch. hirsutum* (2), *Chamaenerion angustifolium* (1), *Cruciata glabra* (1), *Dactylis glomerata* (1), *Deschampsia caespitosa* (3), *Dryopteris carthusiana* (1), *Filipendula ulmaria* (1), *Galeopsis bifida/tetrahit* (1), *G. speciosa* (1), *Galium mollugo* (1), *Gymnocarpium dryopteris* (1), *Heracleum sphondylium* (1), *Holcus mollis* (1), *Hypericum maculatum* (3), *Impatiens noli-tangere* (1), *Iris germanica* (1),

*I. pseudacorus* (1), *Juncus effusus* (1), *Knautia arvensis* (1), *Lotus corniculatus* (1), *Lysimachia nummularia* (1), *Mycelis muralis* (1), *Oxalis acetosella* (1), *Petasites albus* (1), *Phleum pratense* (1), *Pimpinella major* (1), *Plantago major* (1), *Poa annua* (3), *P. palustris* (1), *P. subcaerulea* (1), *Potentilla erecta* (1), *Ranunculus repens* (1), *Rumex alpestris* (2), *Scrophularia nodosa* (1), *Stachys palustris* (1), *Stellaria graminea* (1), *S. nemorum* (2), *Trifolium hybridum* (1), *T. repens* (1), *Urtica dioica* (2), *Veronica chamaedrys* (1), *Vicia sepium* (1).

### ⑧ Wołosate

The church cemetery was located around the Uniate church on land belonging to the commune. Up to mid-19th century it was probably enlarged. In 1852 it was irregular in shape. In this form it survived to our times. At present the diagonals of the cemetery are 41 × 43 m. After 1946 it was very badly devastated so that none of the gravestones remained whole and most of them were completely destroyed. In 1994 the cemetery was fenced using wooden poles by workers of the Bieszczady National Park.

The list of vascular plants found in the cemetery includes:

**The tree layer:** *Acer pseudoplatanus* (3), *Betula pendula* (2), *Fraxinus excelsior* (4), *Picea abies* (1), *Populus tremula* (2), *Sobus aucuparia* (5), *Tilia platyphyllos* (2).

**The shrub layer:** *Fraxinus excelsior* (1), *Rubus hirtus* (1), *Salix aurita* × *silesiaca* (1), *Sambucus racemosa* (1), *Sorbus aucuparia* (1), *Tilia platyphyllos* (1).

**The herbaceous layer:** *Acer pseudoplatanus* (1), *Achillea millefolium* (1), *Aegopodium podagraria* (3), *Ajuga reptans* (1), *Angelica sylvestris* (1), *Athyrium filix-femina* (2), *Campanula patula* (1), *Cardaminopsis halleri* (2), *Carduus personata* (1), *Carex sylvatica* (1), *Centaurea jacea* (1), *C. mollis* (2), *Chaerophyllum hirsutum* (3), *Cirsium palustre* (1), *Cruciata glabra* (1), *C. laevipes* (1), *Dactylis polygama* (2), *Deschampsia caespitosa* (3), *Dianthus compactus* (1), *Dryopteris carthusiana* (1), *D. filix-mas* (1), *Epilobium alpestre* (1), *Festuca gigantea* (1), *Fragaria vesca* (1), *Galeopsis bifida/tetrahit* (1), *Galium mollugo* (1), *G. odoratum* (1), *Geranium phaeum* (1), *Glechoma hederacea* (2), *Heracleum sphondylium* (2), *Hypericum maculatum* (1), *Impatiens noli-tangere* (1), *Juncus tenuis* (1), *Plantago major* (1), *Poa annua* (1), *P. chaixii* (3), *Populus tremula* (1), *Potentilla erecta* (1), *Ranunculus repens* (1), *Rumex alpestris* (2), *R. alpinus* (1), *R. obtusifolius* (1), *Scrophularia nodosa* (1), *S. scopoli* (1), *Silene inflata* (1), *Sorbus aucuparia* (1), *Stellaria graminea* (1), *S. nemorum* (2), *Succisa pratensis* (1), *Taraxacum officinale* (1), *Telekia speciosa* (3), *Trifolium repens* (1), *Urtica dioica* (3), *Veronica chamaedrys* (1), *Vicia sepium* (1), *Vinca minor* (3).

## DISCUSSION

Three cemeteries are richest in terms of vascular species: Brzegi Górne, Caryńskie and Beniowa, with approx. 100 species each. In contrast, botanically the poorest cemetery is the one in Dzwiniacz Górny – with 43 species (Table 1).

Among herbaceous plants the following were classified as perennial cultivated species: *Aquilegia vulgaris*,

TABLE 1. The number of vascular species in individual cemeteries of the Bieszczady National Park

Cemetery	Number of species	Number of herbaceous species originating from cultivation
①	97	2
②	118	5
③	47	2
④	57	1
⑤	101	2
⑥	43	5
⑦	62	1
⑧	64	3

*Centaurea mollis*, *Iris germanica*, *Leucanthemum vulgare*, *Lupinus polyphyllus*, *Telekia speciosa*, *Viola odorata* and *Vinca minor*. Among them the most frequent was *Telekia speciosa* (found in six cemeteries) and *Centaurea mollis* (recorded in four cemeteries).

It was already observed earlier that in cemeteries in southern Poland *Centaurea mollis* was in the past and still remains a very common ornamental element (CZARNA and PISKORZ 2005, CZARNA et AL. 2006, 2007). *Centaurea mollis* is found in nature only in mountain pastures in the Bieszczady Mountains situated above 1100 m above sea level in communities from order *Calamagrostetalia* (JASIEWICZ 1965). It is a highly expansive perennial plant, forming long, strongly branched rhizomes. When planted in a garden it grows rank very fast and after a few years it may turn out to be a persistent weed. In the Magura National Park it was also one of the most commonly planted ornamental plants (DUBIEL et AL. 1998).

In turn, *Telekia speciosa* is a general mountain species, found in natural stands only in the Bieszczady Mountains in the mountain alder carr *Alnetum incanae*. Due to its attractive habit and large flowers it was commonly planted in many places in the Carpathians and it ran wild. It remains both in sites similar to natural ones and distinctly anthropogenic ones. In the Magura National Park it was recorded e.g. also in cemeteries (DUBIEL et AL. 1998).

In the analysed cemeteries new species were reported for vascular flora of the Bieszczady National Park: *Poa subcaerulea*, *Ranunculus polyanthemus* and *Viola odorata*. On the way from the cemetery in Sianki to the cemetery in Beniowa we found a still small population of a new species for the flora of the Bieszczady National Park, *Melilotus altissima*, growing on the roadside. Thus, the flora of vascular plants in this national park increased from 778 (ZEMANEK and WINNICKI 1999) to 782 species.

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