

## **New sites of protected and rare vascular plants from Stobrawa Landscape Park**

*Nowe stanowiska chronionych i rzadkich roślin naczyniowych z terenu Stobrawskiego Parku Krajobrazowego*

Karolina Olszanowska-Kuńska

**ABSTRACT:** The paper contains data concerning distribution of 331 new sites of 97 protected and rare vascular plant species occurring in Stobrawa Landscape Park.

**KEY WORDS:** vascular plants, Stobrawa Landscape Park, protected plants, rare plants

### **Introduction**

The area of Stobrawa Landscape Park is characterized by large diversity of habitats. Therefore there are significant number of interesting, often very rare plants.

Researches on flora of the area were done as early as the 18<sup>th</sup> century. Works of Mattuschka and Krockner give important data from that period. In the 19<sup>th</sup> century studies of Wimmer and Fiek appear, and of Schube and Schalow in first half of 20<sup>th</sup> century. After the year 1945 Mądalski, Piórecki, Kuźniewski, Krawiecowa and Kuczyńska did researches there. The most up-to-date data (until the year 2000) are the works of Spalek.

### **Methods**

This paper presents results of field observations made by Park workers during the years 2001-2003. Rare in Poland (Zarzycki, Szelağ 1992; Zarzycki, Kaźmierczakowa 2001) or region (Parusel et al. 1996; Nowak, Spalek 2002; Nowak et al. 2003) and protected species was taken into consideration.

The plants are given in alphabetical order. The nomenclature of the species follows Mirek et al. (1995).

## Results

The following locations of the protected and rare species were found:

*Achillea pannonica* Scheele – to the S of Nowe Kolnie, tens of individuals on the Odra flood embankment.

*Achillea ptarmica* L. – to the S of Nowe Kolnie, several individuals in meadow, near ox-bow lakes; Szubienik, in small numbers in wet meadow located near a fishpond; to the S of Kościerzycy, in great number in humid meadow.

*Actaea spicata* L. – between Barucice and Lubsza, several individuals in wet deciduous forest *Fraxino-Alnetum* transformed into broad-leaved forest from *Carpinion betuli* alliance.

*Ajuga genevensis* L. – between Kup and Murów, several individuals near a road.

*Alisma lanceolatum* With. – to the S of Nowe Kolnie, several individuals in ox-bow lake; to the NW of Ładza, 1 individual on sandbar near the Budkowiczanka river bank; to the SW of Kościerzycy, several individuals in drainage ditch.

*Allium angulosum* L. – to the S of Nowe Kolnie, tens individuals on the Odra flood embankment; to the S of Stare Kolnie, a dozen or so individuals on the Odra flood embankment and in fresh meadow situated near the Sitnica river-mouth; to the SW of Stobrawa, several individuals in meadow situated in the Stobrawa river flooded area; to the SW of Kolonia Popielowska, several individuals in meadow situated near the Odra; between Kolonia Popielowska and Mikolin, about 10 individuals in meadow situated near ox-bow lake; to the S of Kościerzycy, in meadow situated near the Odra; to the S of Stobrawa, in quite large numbers in meadow localized near ox-bow lake; Stobrawa-Odłogi, in small numbers on flood embankment.

*Allium scorodoprasum* L. – to the S of Nowe Kolnie, several individuals on the Odra flood embankment; several individual in meadow localized near the Nysa Kłodzka mouth (to the S of it).

*Allium ursinum* L. – to the E of Wronów, in great number in riverside carr forest; to the NE of PGR Zawadno, in small numbers in riverside carr forest; to the W of Stobrawa, in great number in poplar plantation; to the S of Wielopole, near protected site „Gęsi Staw”, in great number in broad-leaved forest from *Carpinion betuli* alliance.

*Anchusa officinalis* L. – to the SW of Karłowice, several individuals by field-path; to the SW of Kościerzycy, several individuals by field-path.

*Andromeda polifolia* L. – to the N of Dąbrówka Lubniańska, several individuals in peat-bog localized in pinewood.

*Anemone ranunculoides* L. – to the NE of Karłowice, tens individuals in broad-leaved forest from *Carpinion betuli* alliance; to the E of Wronów, tens individuals in riverside carr forest on the Nysa Kłodzka; between Kolonia Popielowska and Wielopole, several individuals on flood embankment.

*Angelica archangelica* L. ssp. *litoralis* (Fries) Thell. – between Prędocin and Golczowice, in a few groups scattered on the Odra banks.

*Anthemis tinctoria* L. - to the E of Stare Budkowice, in small numbers in dry grasses.

*Arnoseris minima* (L.) Schweigg. et Koerte – to the E of Stare Budkowice, sparse in dry grasses.

*Asarum europaeum* L. – between Barucice and Lubsza, in small numbers in alder forest and in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; between Rogalice and Minkowskie, in Nature Reserve „Rogalice”, in large numbers in wet deciduous forest *Fraxino-Alnetum*; to the NW of Mańczok, in large numbers in deciduous forest; between Barucice and Raciszów, in quite large numbers in alder forest; to the SE of Staroścín, in small numbers in alder forest.

*Astragalus cicer* L. – to the NW of Dąbrówka Łubniańska, several individuals in pinewood by forest path; to the S of Rybna, in great number on flood embankment; to the SE of Winna Góra, sparse on fishpond dike.

*Astrantia major* L. – between Barucice and Lubsza, several individuals in clearing of wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance.

*Blechnum spicant* (L.) Roth. – to the N of Dąbrówka Łubniańska, several individuals on scarp of drainage ditch in coniferous forest.

*Butomus umbellatus* L. – to the S of Kościerzycy, several individuals in irrigation canal.

*Campanula glomerata* L. – between PGR Kościerzycy and Nowe Kolnie, sparse on the Odra flood embankment

*Cardamine impatiens* L. – between Murów and Zagwiździe, in quite large numbers in deciduous forest on the Budkowiczanka river.

*Carex appropinquata* Schumacher – to the N of Stobrawa, in small numbers in inner-forest peat-bog; between Kup and Grabczok, in small numbers in humid inner-forest meadow.

*Carex lasiocarpa* Ehrh. – to the N of Kuźnica Dąbrowska, in large numbers in wet place by fishpond dike (in *Caricetum lasiocarpae*); to the NW of Kosowce, in large numbers in inner-forest peat-bog.

*Carex pairaei* F.W. Schultz – to the E of Pokój, sparse in medium-humid meadow situated in forest.

*Carex pilulifera* L. – to the N of Pokój, in great number in pinewood localized on dunes; to the SW of Ładza, in quite large numbers in old-growth pine forest.

*Carex praecox* Schreber – to the S of Stobrawa, sparse on the Stobrawa flood embankment; to the W and S of Nowe Kolnie, in quite large numbers on the Odra flood embankment.

*Centaurium erythraea* Rafn – to the W of Ostrów Narocki, in great number in humid inner-forest meadow; to the NE of PGR Kościerzycy, several individuals in deciduous forest; to the S of Stobrawa, several individuals near ox-bow lakes; to the S of Kościerzycy, in great number in medium-humid meadow.

*Chamaecytisus ratisbonensis* (Schaeffer) Rothm. – Pokój, several individuals in the forest margin; to the NW of Dąbrówka Łubniańska, several individuals in pinewood; to the E of Ładza, several individuals in pinewood localized on dune; several individuals on flood embankment between Nowe Kolnie and Stobrawa-Odłogi.

*Comarum palustre* L. – to the N of Stobrawa, in quite large numbers in inner-forest peat-bog; Dąbrówka Dolna, several individuals in wet meadow; between Kup and Grabczok, dozen or so individuals in wet place near road; to the N of Brynica, in large numbers in wet inner-forest meadow; to the S of Karłowice, dozen or so individuals in wet inner-forest meadow; to the SE of Krzywa Góra, sparse in wet meadow situated near the Budkowiczanka river; between Kup and Grabczok, in quite large numbers in humid inner-forest meadows; to the NW of Kosowce, several individuals in inner-forest peat-bog; to the E of Stare Budkowice, sparse in wet meadows; Szubienik, sparse in wet inner-forest meadow.

*Convallaria majalis* L. – between Krzywa Góra and Okoły, in great number in broad-leaved forest from *Carpinion betuli* alliance; to the N and NE of Murów, in great number in pinewood localized on dunes; to the N of Dąbrówka Łubniańska, in large numbers in pinewood localized on dunes; between Barucice and Lubsza, in quite large numbers in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance and in deciduous forest localized on the Smortawa river; to the S of Stobrawa, in large numbers in broad-leaved forest from *Carpinion betuli* alliance; between Karłowice and Stare Kolnie, in quite large numbers in mixed forest; to the N of Stobrawa, in quite large numbers in mixed coniferous forest; to the NE of PGR Zawadno, in quite large numbers in broad-leaved forest from *Carpinion betuli* alliance; to the SW of Rybna, in quite large numbers in broad-leaved forest from *Carpinion betuli* alliance; between Bielice and Karłowice, in large numbers in broad-leaved forest from *Carpinion betuli* alliance; to the S of Bielice, in great number in mixed coniferous forest; between Dąbrowa and Staroścín, in great number in deciduous forest; to the SW of Barucice, in great number in pinewood; to the SE of Winna Góra, in quite large numbers in oak-beech forest; between Kolonia Popielowska and Wielopole, in great number in broad-leaved forest from *Carpinion betuli* alliance; to the E of Wronów, in great number in wet deciduous forest *Fraxino-Alnetum*.

*Corydalis cava* (L.) Schweigger – to the NE of PGR Zawadno, dozen or so individuals in deciduous forest; to the E of Wronów, in quite large numbers in wet deciduous forest *Fraxino-Alnetum*.

*Corydalis intermedia* (L.) Merat – to the NE of Krogulna, several individuals in alder forest.

*Dactylorhiza fuchsii* (Druce) Soó – between Barucice and Lubsza, several individuals in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance.

*Dactylorhiza incarnata* (L.) Soó – to the N of Kuźnica Dąbrowska, 7 individuals in wet place by fishpond dike.

*Dactylorhiza majalis* (Rchb.) Hunt. et Summ. – between Brynica and Grabczok, 13 individuals in wet inner-forest meadow; to the S of Nowe Budkowice, several individuals in wet meadow (*Cirsietum rivularis*).

*Daphne mezereum* L. – between Barucice and Lubsza, several individuals in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; between Mańczok and Brynica, several individuals in alder forest; to the N of Zieleniec, several individuals in wet deciduous forest from *Alno-Padion* alliance; between Barucice and Raciszów, several individuals in alder forest.

*Dentaria bulbifera* L. - between Barucice and Lubsza, in large numbers in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; between Rogalice and Minkowskie (Nature Reserve „Rogalice”), tens individuals in wet deciduous forest *Fraxino-Alnetum*.

*Dentaria enneaphyllos* L. - between Barucice and Lubsza, dozen or so individuals in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance.

*Dianthus carthusianorum* L. – in quite large numbers on the Odra flood embankment between Kościerzycze and Stobrawa; to the SW of Barucice, in quite large numbers in dry part of inner-forest meadow.

*Dianthus deltoides* L. – to the S of Stobrawa, in quite large numbers on the Stobrawa flood embankment; between Karłowice and Stare Kolnie, dozen or so individuals in small inner-forest meadow; between PGR Kościerzycze and Nowe Kolnie, in quite large numbers on the Odra flood embankment; Ładza, tens individuals on school court; to the W of Krzywa Góra, dozen or so individuals on fishpond dike; to the NW of Ładza, in great number in meadow; to the NE of Pokój, in small numbers in dry parts of inner-forest meadow; to the W of Siedlice, in large numbers in meadow; to the SW of Kościerzycze, dozen or so individuals by field-path.

*Digitalis purpurea* L. – to the NW of Krzywa Góra, several individuals in deciduous forest; to the NE of Radomierowice, in quite large numbers by forest path.

*Drosera rotundifolia* L. - to the W of Ładza, in large numbers by drainage ditch localized in pine forest and pine greenwood; to the E of Ładza, several individuals in humid coniferous forest.

*Epipactis helleborine* (L.) Crantz – between Barucice and Lubsza, dozen or so individuals in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; to the S of Stobrawa, several individuals in broad-leaved forest from *Carpinion betuli* alliance; to the E of Wronów, several individuals in wet deciduous forest *Fraxino-Alnetum*; to the SE of Kościerzycy, dozen or so individuals in broad-leaved forest from *Carpinion betuli* alliance; to the SW of Rybna, dozen or so individuals in broad-leaved forest from *Carpinion betuli* alliance; between Grabczok and Mańczok, several individuals in coniferous forest; to the N of Brynica, several individuals in the inner-forest meadow margin and in alder forest; to the NE of Ładza, several individuals by forest path; to the E of Kosowce, several individuals in beech forest; to the S of Stobrawa, dozen or so individuals in scrubs by flood embankment.

*Epipactis purpurata* Sm. – to the SW of Rybna, 1 individual in broad-leaved forest from *Carpinion betuli* alliance.

*Equisetum hiemale* L. – to the S of Kościerzycy, in large numbers in riverside carr forest *Salici-Populetum*.

*Eriophorum vaginatum* L. – to the SW of Nowe Budkowice, dozen or so groups alongside drainage ditch in peat-bog localized in the forest margin.

*Frangula alnus* Miller – to the NE of PGR Kościerzycy, in great number in alder forest; between Mańczok and Grabczok, in great number in alder forest; between Murów and Zagwizdzie, in quite large numbers in thicket on the Budkowiczanka river; to the S of Karłowice, in quite large numbers in wet inner-forest meadow; to the N of Zieleniec, in quite large numbers in wet deciduous forest from *Alno-Padion* alliance; to the N of Kuźnica Dąbrowska, in great number in alder forest; between Barucice and Raciszów, several individuals in deciduous forest.

*Galanthus nivalis* L. – to the S of Stobrawa, in large numbers in broad-leaved forest from *Carpinion betuli* alliance; to the E of Wronów, in large numbers in riverside carr forest and in broad-leaved forest from *Carpinion betuli* alliance; to the NE of PGR Zawadno, in large numbers in broad-leaved forest from *Carpinion betuli* alliance; to the W of Stobrawa, in great number in poplar plantation; to the S of Wielopole, in large numbers in broad-leaved forest from *Carpinion betuli* alliance; to the S of Kolonia Popielowska, in quite large numbers in riverside carr forest *Salici-Populetum*; to the S of Kościerzycy, in quite large numbers in deciduous forest on the Odra; to the N of Prędocin, in small numbers in meadows localized near the Odra; to the E of Brzeg, in riverside carr forest *Salici-Populetum*.

***Galium boreale*** L. – between Stare Kolnie and Stobrawa, sparse in meadow situated on the Sitnica; to the S of PGR Kościerzycy, sparse on the Odra flood embankment.

***Galium odoratum*** (L.) Scop. - between Barucice and Lubsza, in great number in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; to the S of Wielopole, in quite large numbers in broad-leaved forest from *Carpinion betuli* alliance; between Nowe Budkowice and Kały, in large numbers in deciduous forest; to the NE of PGR Zawadno, in quite large numbers in broad-leaved forest from *Carpinion betuli* alliance; between Kolonia Popielowska and Wielopole, in large numbers in broad-leaved forest from *Carpinion betuli* alliance; between Murów a Zagwiździe, in large numbers in deciduous forest.

***Genista germanica*** L. - to the NW of Mańczok, several individuals on railway embankment in the forest.

***Hedera helix*** L. - between Barucice and Lubsza, in small numbers in undergrowth and on tree trunks in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance and in deciduous forest on the Smortawa; between Murów and Zagwiździe, sparse in deciduous forest; to the N of Zieleniec, sparse in wet deciduous forest from *Alno-Padion* alliance; to the S of Winna Góra, in large numbers in deciduous forest (monumental park); to the NE of Krzywa Góra, sparse in mixed forest; to the NW of Krzywa Góra, in large numbers in deciduous forest; to the N of Dąbrówka Łubniańska, several individuals on tree trunks in deciduous forest; to the NW of Kosowce, sparse in pinewood.

***Hepatica nobilis*** Schreber - between Barucice and Lubsza, in small numbers in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; between Nowe Budkowice and Kały, in small numbers in deciduous forest; between Rogalice and Minkowskie (Nature Reserve „Rogalice”), in small numbers in wet deciduous forest *Fraxino-Alnetum*; between Krzywa Góra and Okoły, in small numbers in broad-leaved forest from *Carpinion betuli* alliance; to the N of Kuźnica Dąbrowska, in small numbers in deciduous forest; between Barucice and Raciszów, in small numbers in deciduous forest.

***Hottonia palustris*** L. – to the E of Pokój, several individuals in drainage ditch in the forest; between Barucice and Lubsza, in quite large numbers in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; to the W of Murów, in the Budkowiczanka river; between Murów and Zagwiździe, in quite large numbers in moat of stronghold; to the NW of Mańczok, in large numbers in drainage ditch in forest; to the S of Stobrawa, in quite large numbers in inner-forest oxbow lake; to the N of Stobrawa, in quite large numbers in drainage ditches in alder forest and mixed forest; between Zieleniec and Żabieniec, in quite large numbers in drainage ditches in forest; Szubienik, in quite large numbers by fishpond shores and in girdling ditch; Kuźnica Dąbrowska, in quite large numbers by fishpond shores; between

Bielice and Karłowice, in quite large numbers in ditch by ground road; to the NE of Karłowice, in quite large numbers in drainage ditches in broad-leaved forest from *Carpinion betuli* alliance; to the NW of Ładza, in quite large numbers in ponds localized in forest; between Kup and Grabczok, in small numbers in humid meadow; between Barucice and Raciszów, in large numbers in deciduous forest; to the E of Kuźnica Katowska, in quite large numbers in wet place in coniferous forest; to the NE of Pokój, in quite large numbers in humid meadow.

***Hydrocharis morsus-ranae*** L. – to the NE of PGR Zawadno, in great number in ox-bow lake located in deciduous forest; to the SW of Stobrawa, in quite large numbers in ox-bow lake located in the Stobrawa river flooded area; to the S and SW of Nowe Kolnie, in quite large numbers in ox-bow lakes and ditches; to the W of Wielopole, in large numbers in ox-bow lake.

***Hydrocotyle vulgaris*** L. – between Kup and Grabczok, in large numbers in wet place near road; between Kup and Grabczok, in quite large numbers in humid meadows; to the E of Grabczok, in large numbers in humid mixed coniferous forest; to the NW of Kosowce, in great number on humid forest path, in pinewood; Szubienik, in large numbers in wet meadow near fishpond; to the NE of Ładza, in large numbers in humid inner-forest meadow; between Radomierowice and Zameczek, in quite large numbers in humid inner-forest meadow.

***Inula salicina*** L. – to the S of Nowe Kolnie, in quite large numbers on the Odra flood embankment.

***Lathraea squamaria*** L. – to the E of Wronów, dozen or so individuals in riverside carr forest on the Nysa Kłodzka; between Bielice and Karłowice, dozen or so individuals in broad-leaved forest from *Carpinion betuli* alliance; between Grabczok and Okoły, in deciduous forest; between Barucice and Lubsza, several individuals in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; to the NE of Murów, in small numbers in deciduous forest.

***Ledum palustre*** L. – to the SW of Ładza, several individuals on scarp of drainage ditch in coniferous forest; to the NE of Zagwiździe, in quite large numbers in humid coniferous forest; to the N of Dąbrówka Łubniańska, in large numbers in inner-forest peat-bog; to the E of Młodnik-Kopiec, in quite large numbers in marshy coniferous forest *Vaccinio uliginosi-Pinetum*; to the NW of Dąbrówka Łubniańska, 1 individual in fresh coniferous forest; to the S of Ładza, in small numbers in old-growth pine forest.

***Lilium martagon*** L. - between Barucice and Lubsza, several individuals in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance.

***Limosella aquatica*** L. – to the N of PGR Zawadno, tens individuals in wet place on the meadow; to the S from Kościerzycy, in quite large numbers in ditch located on fields.

**Listera ovata** (L.) R.Br. - between Barucice and Lubsza, several individuals in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance.

**Logfia arvensis** (L.) Holub – to the E from PGR Kościerzycy, in quite large numbers on the Odra flood embankment.

**Logfia minima** (Sm.) Dumort – to the E from Budkowice Stare, in quite large numbers in dry grasses.

**Lycopodium annotinum** L. – between Brynica and Grabczok, several individuals in pinewood; to the E of Ładza, in small numbers in pinewood; to the S of Ładza, on area about 0,5 m<sup>2</sup> in pinewood; to the W of Ładza, 1 individual in pinewood; to the E of Młodnik-Kopiec, in small numbers in old-growth pine forest; to the S of Młodnik-Kopiec, on area about 1m<sup>2</sup> in alder tree stand; to the N of Dąbrówka Łubniańska, on area about several m<sup>2</sup>.

**Lysimachia thyrsiflora** L. - between Kup and Grabczok, in wet place near road; to the E of Ładza, in great number in humid coniferous forest; to the NW of Dąbrówka Łubniańska, in fresh coniferous forest; between Kup and Grabczok, in quite large numbers in humid inner-forest meadows.

**Melica uniflora** Retz. - between Barucice and Lubsza, in small numbers in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance.

**Menyanthes trifoliata** L. - to the N and NW of Brynica, in quite large numbers in wet inner-forest meadows.

**Myosurus minimus** L. – to the W of Krzywa Góra, in great number in barren land.

**Nuphar lutea** (L.) Sibth. et Sm. – to the NE of Golczowice, several individuals in the Krzywula river; between Popielów-Kabachy and Stare Kolnie, several individuals in pond; to the E of Kościerzycy, to the N and NE of PGR Zawadno, to the SW of Stobrawa, to the S and SW of Nowe Kolnie, to the S of Wielopole, to the S of Kościerzycy, to the E of Wronów – in small numbers in ox-bow lakes; Stobrawa-Odłogi, in large numbers in ox-bow lake; in the S of Nowe Kolnie, in large numbers in ditch connecting ox-bow lake with the Stobrawa river; to the SW of Kościerzycy, in quite large numbers in irrigation canal.

**Nymphaea alba** L. – between Karłowice and Kuźnica Katowska, several individuals in pond located by road; to the E of Kościerzycy, to the S of Nowe Kolnie, to the NE of PGR Zawadno, to the S of Stobrawa, to the S of Wielopole – in small numbers in ox-bow lakes.

**Ornithogalum umbellatum** L. – to the S of Wielopole, in quite large numbers in broad-leaved forest from *Carpinion betuli* alliance; between Miejsce and Przygorzele, in quite large numbers in fresh meadow; Ładza, dozen or so individuals on school court.

*Ornithopus perpusillus* L. – to the N of Murów, several individuals in the meadow.

*Oxycoccus palustris* Pers. – to the SW of Ładza, in large numbers on area about several m<sup>2</sup> by drainage ditch, in pine greenwood; to the S of Ładza, several individuals by drainage ditch in pinewood; to the N of Dąbrówka Łubniańska, in quite large numbers in peat-bog and on forest path in coniferous forest.

*Platanthera bifolia* (L.) L.C.M. Rich. - between Barucice and Lubsza, several individuals in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance.

*Polypodium vulgare* L. – to the NE of Murów, several individuals in the rest of stronghold; to the W of Krzywa Góra, several individuals in the rest of stronghold; to the NW of Krzywa Góra, several individuals in deciduous forest; to the S of Winna Góra, in large numbers on the wall of Elizjum in monumental park.

*Potamogeton pectinatus* L. – to the S of Dąbrowa, in quite large numbers in fishpond.

*Potentilla alba* L. – to the SW of Nowe Kolnie, several individuals on flood embankment.

*Ranunculus circinatus* Sibth. – to the N of Kuźnica Dąbrowska, in quite large numbers in fishpond; to the NE of PGR Zawadno, in great number in ox-bow lake located in forest.

*Ranunculus trichophyllus* Chaix – to the N of Kuźnica Dąbrowska, in quite large numbers in fishpond.

*Ribes nigrum* L. – between Bielice and Karłowice, several individuals in broad-leaved forest from *Carpinion betuli* alliance; to the N of Kuźnica Dąbrowska, dozen or so individuals in alder forest by fishponds; between Barucice and Raciszów, several individuals in alder forest; to the SE of Staroścín, in small numbers in alder forest.

*Ribes spicatum* Robson – to the S of Kościerzycy, in quite large numbers in riverside carr forest *Salici-Populetum*.

*Salvinia natans* (L.) All. – to the SW of Stobrawa, to the NE of PGR Zawadno, to the S of Nowe Kolnie - in small numbers in ox-bow lakes; to the N of Kuźnica Dąbrowska, in large numbers in fishpond.

*Senecio fluviatilis* Wallr. – to the N of Kopanie, several individuals on the right Odra bank.

*Senecio rivularis* (W. et K.) DC. – to the E of Pokój, several individuals by drainage ditch in forest; between Barucice and Lubsza, several individuals in alder forest and in wet deciduous forest *Fraxino-Alnetum* transforming into broad-leaved forest from *Carpinion betuli* alliance; to the N of Kuźnica Dąbrowska, several individuals in alder forest by fishponds; to the NW of Mańczok, several individuals by

drainage ditch in alder forest; to the E of Ładza, in large numbers in humid inner-forest meadow.

*Serratula tinctoria* L. – to the W of Nowe Kolnie, tens individuals on the Odra flood embankment; to the SW of Stobrawa, several individuals on the Stobrawa flood embankment.

*Spirodela polyrhiza* (L.) Schleiden – to the S of Nowe Kolnie, in large numbers on shores of ox-bow lake; Stobrawa-Odłogi, in large numbers in ox-bow lake; between Kolonia Popielowska and Wielopole, in large numbers in ox-bow lake.

*Stratiotes aloides* L. – to the S of Nowe Kolnie, in small numbers in ox-bow lakes; to the SW of Stobrawa, several individuals in ox-bow lake, near flood-gate; to the S of Stobrawa, in great number in ox-bow lake; Stobrawa-Odłogi, in quite large numbers in ox-bow lake.

*Thalictrum lucidum* L. – to the N of PGR Zawadno, in small numbers on shores of ox-bow lake; to the SW of Karłowice, dozen or so individuals by drainage ditch on meadow; to the NW of Mikolin, several individuals on the left Odra bank; Stare Kolnie, several individuals by drainage ditch on meadow; to the SE of Dąbrowa, in small numbers by pond situated on meadow.

*Trapa natans* L. – to the SW of Stobrawa, in small numbers in ox-bow lake situated in the Stobrawa river flooded area; to the S of Stobrawa, in three ox-bow lakes; to the N of PGR Zawadno, in two ox-bow lakes situated on meadows; to the S of Nowe Kolnie, in large numbers in ox-bow lake “Rogalik”; to the SE of Winna Góra, in quite large numbers in fishponds; to the S of Wielopole, in quite large numbers in ox-bow lake “Gęsi Staw”.

*Vaccinium uliginosum* L. – to the E of Pokój, several individuals by drainage ditch in pinewood; to the SW of Ładza, several individuals by drainage ditch in pinewood; to the N of Brynica, several individuals in coniferous forest by forest path; to the SE of Grabice, several individuals in forest; to the NW of Dąbrówka Łubniańska, several individuals in fresh coniferous forest; to the SW of Ładza, in large numbers in old-growth pine forest; to the E of Kosowce, several individuals in humid coniferous forest; to the E of Młodnik-Kopiec, in quite large numbers in marshy coniferous forest.

*Veronica longifolia* L. – to the E of PGR Kościerzycy, a dozen or so individuals near the Odra flood embankment; Stare Kolnie, a dozen or so individuals on the Stobrawa river; to the SW of Karłowice, a dozen or so individuals near drainage ditch situated on meadow; to the NW of Skorogoszcz, in small numbers in ox-bow lake; to the S of Nowe Kolnie, a dozen or so individuals on shores of two ox-bow lakes.

*Veronica scutellata* L. – Szubienik, in quite large numbers in wet meadow.

*Veronica triphyllos* L. - Pokój, 1 individual in dry barren lands.

*Viburnum opulus* L. – to the N of Kuźnica Dąbrowska, in quite large numbers in alder forest near ponds; to the S of Kościerzycy, several individuals in riverside carr forest *Salici-Populetum*; to the E of Wronów, several individuals by field-path; to the S of Stobrawa, 1 individual by field-path.

*Vinca minor* L. – to the E of Dębiniec, on area about 1 m<sup>2</sup> in pinewood, by road; to the NW of Dąbrówka Łubniańska, on area about 2 m<sup>2</sup> in fresh coniferous forest by road; Kosowce, in large numbers in the forest margin; to the E of Siedlice, in great number in pinewood.

*Vincetoxicum hirundinaria* Med. – to the W and S of Nowe Kolnie, several individuals on the Odra flood embankment; to the SE of Stobrawa, a dozen or so individuals by forest path in broad-leaved forest from *Carpinion betuli* alliance.

During the years 2001-2003 331 new sites of 97 species of protected and rare plants were found in Stobrawa Landscape Park.

### Bibliography

- M i r e k Z., P i ę k o ś-M i r k o w a H., Z a j ą c A., Z a j ą c M. 1995. Vascular Plants of Poland – a checklist. Polish Bot. Stud. Guideb. Ser. 15:3-303.
- N o w a k A., N o w a k S., S p a ł e k K. 2003. Czerwona lista roślin naczyniowych województwa opolskiego. Nature Journal No 36: 5-20. Opole Scientific Society.
- N o w a k A., S p a ł e k K. (red.) 2002. Czerwona Księga Roślin Województwa Opolskiego. Śląskie Wydawnictwo ADAN, Opole.
- P a r u s e l J.B., W i k a S., B u l a R. (red.) 1996. Czerwona lista roślin naczyniowych Górnego Śląska. Raporty i Opinie 1: 8-42. Centrum Dziedzictwa Przyrody Górnego Śląska, Katowice.
- Z a r z y c k i K., K a ź m i e r c z a k o w a R. (red.) 2001. Polska Czerwona Księga Roślin. Inst. Botaniki im. W. Szafera, Inst. Ochrony Przyrody, PAN, Kraków.
- Z a r z y c k i K., S z e ł ą g Z. 1992. Czerwona lista roślin naczyniowych zagrożonych w Polsce, ss. 87-98. W: Zarzycki, K., Wojewoda W, Heinrich Z. (red.) Lista roślin zagrożonych w Polsce. Wyd. 2. Inst. Bot. im. W. Szafera, PAN, Kraków.

Received: 20.10.2004

Author's address:

Karolina Olszanowska-Kuńska  
Zespół Opolskich Parków Krajobrazowych  
Oddział w Ładzy  
Ładza ul. Reymonta 3, 46-034 p-ta Pokój

**Streszczenie**

W latach 2001-2003 na terenie Stobrawskiego Parku Krajobrazowego stwierdzono 331 nowych stanowisk chronionych i rzadkich roślin naczyniowych. Są to stanowiska 97 gatunków roślin.

Uwaga: zmiana liternictwa tytułu angielskiego „,autora”, zmiana układu bibliografii, brak daty wpływu. EK.