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PRELIMINARY RED LIST OF THREATENED PLANTS IN TRANSCARPATHIA (UKRAINE)

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The problem of biodiversity conservation has acquired a great social, politic, economic and ethical importance. Not only scientists and environmentalists, but politicians work at it. This problem is especially topical for the Carpathian region where as a result of growing anthropogenic pressure during the last decades the decline of natural ecosystems and reduction of their stability can be observed as well as losses in the diversity of vegetation and wildlife.

The principal step in providing phytogene- and phytocenotic fund is to make the inventory of threatened plant species and plant communities. This gives the necessary basis for developing Red and Green Data Books which is of great importance on the regional level.

The suggested first variant of the Red List of threatened vascular plants in Transcarpathia compiled on the base of the literary sources (Kotov, Chopik, 1960; Fodor, 1965, 1973; Chopik, 1976; Stojko, 1977; Chopyk, 1978; Malynovskyj, 1980; Komendar, Fodor, Vajnahij, 1987; Chopik, 1988; Stojko et al., 1991), reviews of numerous Austrian, Hungarian, Czechoslovakian and some Roumanian and Polish publication, «Flora Ukrajinskoji RSR» (1950-1965), «Opredelitel vysshikh rastenij Ukrainy» (1987) and other works containing the information on the regional flora. The taxa suggested by I.M. Danylyk (11 species) and N.M. Sychak (7 species) are also included into the Red List.

The results of our field studies (1976-1996) as well as processing of the herbarium collections of Ukraine (CHER, KW, LW, LWS, UU), Hungary (BP, DEB), Czech Republic (BRNU, PRC), Slovakia (BRA, SAV, SLO), Austria (LZ, W), Roumania (CL, SIB) and Poland (KRAM) gave the information on 101 plant species which for the first time were included into the Red List.

In the process of work at the Red List a series of species has been singled out which should be studied thoroughly. They can be divided into the following groups: new and forgotten taxa (20 species); taxa with a new status (8); taxa whose presence needs to be acknowledged (28); taxa whose presence has not been acknowledged (24); taxa whose endemism has not been acknowledged (28).

To estimate the zoological status of the threatened vascular plants they have been divided in the following way: I - extinct (14 species); II - endangered (72); III - vulnerable (237); IV - rare (157); V - lower risk (17).

I. EXTINCT (EX)

Asplenium adiantum-nigrum subsp. *nigrum* (Berhnh.) Heufl., *Cardamine trifolia* L., *Carex bicolor* All., *Cypripedium calceolus* L., *Cystopteris regia* (Lam.) Desv., *Diphasiastrum complanatum* (L.) Holub, *Erysimum odoratum* Ehrh. subsp. *odoratum*, *Gladiolus palustris* Gaudin, *Lonicera caerulea* L. subsp. *caerulea*, *Ornithogalum boucheanum* (Kunth) Aschers., *Primula farinosa* L., *Valeriana dioica* L., *Veronica bellidioides* L. subsp. *bellidioides*, *Viola alba* Bess. subsp. *alba*.

II. ENDANGERED (EN)

Aconitum anthora subsp. *jacquinii* (Reichenb.) Domin, *A. paniculatum* subsp. *degenii* (Gayer) Nyar., *Alchemilla babiogorensis* Pawl., *A. hoverlensis* Pawlus et Lovelius, *A. reniformis* Buser, *Allium rotundum* L., *Andromeda polifolia* L., *Aquilegia nigricans* Baumg., *Arum alpinum* subsp. *intermedium* (Schur) Terpó comb. nova, *Asplenium cuneifolium* Viv., *Aster alpinus* subsp. *subvillosus* (Schur) Dost., *Astragalus australis* subsp. *krajinae* (Domin) Dost., *Biscutella austriaca* subsp. *hungarica* (Soó) Peniasterová, *Botrychium multifidum* (S.G. Gmel.) Rupr., *B. virginianum* subsp. *europaeum* (Angstr.) Jáv., *Bupleurum ranunculoides* subsp. *orbiculatum* Borb., *Calla palustris* L., *Callianthemum coriandrifolium* Reichenb., *Calluna vulgaris* (L.) Hull, *Carex appropinquata* Schum., *C. buxbaumii* Wahlenb., *C. diandra* Schrank, *Comarum palustre* L., *Corallorhiza trifida* Chatel., *Dictamnus albus* L., *Doronicum hungaricum* Reichenb. fil., *Dryas octopetala* L., *Eleocharis multicaulis* (Smith) Desv., *Epipogium aphyllum* (F.W. Schmidt) Sw., *Equisetum ramosissimum* Desf. subsp. *ramosissimum*, *Euphrasia salisburgensis* Funck, *Festuca porcii* Hack., *F. rupicola* subsp. *saxatilis* (Schur) Rauschert, *Fritillaria meleagris* L. subsp. *meleagris*, *Genista tinctoria* subsp. *oligosperma* Andrae, *Helianthemum nitidum* Clementi, *Gentiana lutea* L., *G. nivalis* L., *Iris aphylla* subsp. *hungarica* (Waldst. et Kit.) Hegi, *I. germanica* L., *I. graminea* subsp. *pseudocyperus* (Schur) Soó, *Juniperus sabina* L., *Larix decidua* subsp. *polonica* (Racib.) Domin, *Lathyrus aphaca* L., *Leontopodium alpinum* Cass., *Lilium bulbiferum* L. subsp. *bulbiferum*, *Listera cordata* (L.) R. Br., *Lycopodiella inundata* (L.) Holub, *Muscari botryoides* subsp. *hungaricum* Priszter, *M. botryoides* subsp. *transsylvanicum* (Schur) Soó, *Narcissus poëticus* subsp. *stellaris* (Haw.) A. et Gr., *Nymphaea alba* L., *N. candida* J. et C. Presl, *Orchis laxiflora* subsp. *palustris* (Jacq.) Bonnier et Layens, *O. pallens* L., *O. purpurea* Huds., *Oreochloa disticha* (Wulf.) Link, *Oxycoccus microcarpus* Turcz., *Oxytropis carpathica* Uechtr., *Pinus cembra* L., *P. sylvestris* L., *Platanthera chloranthes* (Cust.) Reichenb., *Poa media* Schur, *Potamogeton alpinus* Balb., *Potentilla crantzii* (Crantz) G. Beck, *P. patula* Waldst. et Kit., *Primula elatior* subsp. *leucophylla* (Pax) H.-Harrison, *Ranunculus hornschurchii* Hoppe, *Rhamnus cathartica* L., *Rhodiola rosea* L., *Salix alpina* Scop., *Saussurea porcii* Degen, *Saxifraga*

bulbifera L., *Sedum hispanicum* L., *Sparganium angustifolium* Michx., *Staphylea pinnata* L., *Stipa pulcherrima* C. Koch, *Swertia perennis* L. subsp. *perennis*, *S. punctata* Baumg., *Taxus baccata* L., *Thlaspi dacicum* Heuff., *Trisetum macrotrichum* Hacq., *Vitis vinifera* subsp. *sylvestris* (C.C.Gmel.) Hegi, *Waldsteinia geoides* Willd., *Woodsia alpina* (Bolt.) S.F.Gray, *W. ilvensis* (L.) R.Br.

III. VULNERABLE (VU)

Achillea lingulata Waldst. et Kit., *A. oxyloba* subsp. *schurii* (Sch. Bip.) Heimerl, *A. ptarmica* L., *A. setacea* Waldst. et Kit., *Acinos alpinus* subsp. *baumgartenii* (Simonk.) Pawl., *Aconitum moldavicum* subsp. *hosteanum* (Schur) Zapal., *A. tauricum* subsp. *nanum* (Baumg.) Grint, *Adenostyles alliariae* subsp. *kernerii* Simonk., *Agrostis rupestris* All. subsp. *rupestris*, *Alchemilla flabellata* Buser, *A. glaberrima* subsp. *firma* (Buser) Gams, *A. incisa* Buser, *A. obtusa* Buser, *A. szaferi* Pawl., *A. turculensis* Pawl., *Allium angulosum* L., *Alopecurus pratensis* subsp. *laguriformis* (Schur) Tzvel., *Anacamptis pyramidalis* (L.) Rich., *Anchusa barrelieri* (All.) Vitm., *A. italica* Retz, *Antennaria carpatica* (Wahlenb.) Bluff et Fingerh., *Anthemis carpatica* Waldst. et Kit., *Anthyllis vulneraria* subsp. *alpestris* (Kit.) A. et Gr., *Aquilegia transsilvanica* Schur, *Aremonia agrimonoides* (L.) DC. subsp. *agrimonoides*, *Artemisia pontica* L., *Arum alpinum* Schott et Kotschy subsp. *alpinum*, *Asplenium ruta-muraria* L., *Bartsia alpina* L., *Beckmannia eruciformis* (L.) Host subsp. *eruciformis*, *Botrychium matricarifolium* A. Br., *Bupleurum longifolium* L. subsp. *longifolium*, *B. longifolium* subsp. *aureum* (Fisch.) Soó, *B. tenuissimum* L., *Calestania palustris* (L.) K.-Pol., *Campanula carpatica* Jacq., *C. serrata* (Kit.) Hendrych, *C. glomerata* subsp. *elliptica* (Kit.) Já v., *Cardamine graeca* L., *Cardaminopsis halleri* subsp. *ovirensis* (Wulf.) Hegi et E. Schmid., *C. neglecta* (Schult.) Hayek, *Carduus collinus* Waldst. et Kit. subsp. *collinus*, *Carex bohemica* Schreb., *C. chordorrhiza* Ehrh., *C. davalliana* Smith, *C. elata* All. subsp. *elata*, *C. fuliginosa* Schkuhr subsp. *fuliginosa*, *C. hartmanii* Cajand., *C. rupestris* All., *Catabrosa aquatica* (L.) Beauv., *Centaurea phrygia* subsp. *nigriceps* (Dobroc.) Dost., *Centaureum pulchellum* (Sw.) Druce, *Cephalanthera longifolia* (L.) Fritsch, *C. rubra* (L.) Rich., *Cerasus fruticosa* Pall., *Chamaecytisus austriacus* (L.) Link, *Ch. podolicus* (Blocki) Klásková, *Ch. ratisbonensis* subsp. *elongatus* (Waldst. et Kit.) Á. et D. Löve, *Chimaphila umbellata* (L.) W. Barton, *Cicuta virosa* L., *Coronilla elegans* Panč., *Cortusa matthioli* L., *Crinitaria linosyris* (L.) Less., *Crocus banaticus* J. Gay, *Cystopteris montana* (Lam.) Desv., *Dactylis glomerata* subsp. *slovenica* Domin, *Dactylorhiza cordigera* (Fries) Soó, *D. incarnata* (L.) Soó subsp. *incarnata*, *D. longibracteata* (F.W. Schmidt) Holub subsp. *longibracteata*, *D. longibracteata* (F.W. Schmidt) Holub subsp. *soóiana* (Borsos) Dost., *D. maculata* subsp. *Schurii* (Klinge) Soó, *Dichodon cerastoides* (L.) Reichenb., *Dichostylis micheliana* (L.) Nees, *Diphasiastrum alpinum* (L.) Holub, *Doronicum clusii* (All.) Tausch, *Draba*

aizoides L. subsp. *aizoides*, *Echinops exaltatus* Schrad., *E. sphaerocephalus* L. subsp. *sphaerocephalus*, *Elatine hungarica* Moesz, *Epipactis atrorubens* (Hoffm.) Schult., *Equisetum hyemale* L., *Erigeron alpinus* L., *Erythronium dens-canis* L. subsp. *dens-canis*, *E. dens-canis* subsp. *albiflorum* Kricsfalusy, *Euphorbia lingulata* Heuff., *Euphrasia curta* subsp. *glabrescens* (Wettst.) Smejkal., *Ferulago sylvatica* (Bess.) Reichenb., *Festuca amethystina* subsp. *tatrae* (Csakó) Soó, *F. pseudodalmatica* Krajina, *F. tenuifolia* Sibth., *Fraxinus angustifolia* subsp. *pannonica* Soó et Simon, *F. ornus* L., *Gagea pratensis* (Pers.) Dumort., *G. spathacea* (Hayne) Salisb., *Galium abaujense* subsp. *polonicum* (Blocki) Soó, *G. anisophyllum* subsp. *bellatulum* (Klokov) Dost., *Genistella sagittalis* (L.) Gams, *Gentiana punctata* L., *G. verna* L. subsp. *verna*, *Gladiolus imbricatus* L., *Glyceria nemoralis* (Uechtr.) Uechtr. et Koern., *Goodyera repens* (L.) R. Br., *Gymnadenia odoratissima* (L.) Rich., *Hammarbya paludosa* (L.) O. Kuntze, *Hedysarum hedysaroides* (L.) Schinz et Thell. subsp. *hedysaroides*, *Heracleum carpaticum* Porc., *H. sphondylium* subsp. *transsilvanicum* (Schur) Brummitt, *Herminium monorchis* (L.) R. Br., *Hieracium atrellum* (Lahn) Juxip, *H. caesiogenum* Wołoszcz. et Zahn, *H. igoschinae* Juxip, *H. kotschyanum* Heuff., *H. krasanii* Wołoszcz. et Zahn, *H. lomnicense* Wołoszcz., *H. mukacevense* Juxip, *H. rapunculoidiforme* Wołoszcz. et Zahn, *H. rubellum* subsp. *roxolanicum* Zahn, *H. villosum* Jacq., *H. wimmeri* Uechtr., *Hottonia palustris* L., *Inula helenium* L., *Iris graminea* L. subsp. *graminea*, *I. sibirica* L., *Jovibarba hirta* subsp. *glabrescens* (Sabr.) Holub, *J. sobolifera* (Sims) Opiz, *Juncus bulbosus* L. subsp. *bulbosus*, *J. subnodulosus* Schrank, *Knautia kitaibelii* subsp. *alpigena* (Schur) Soó, *Lathyrus transsylvanicus* (Spreng.) Reichenb. fil., *Ledum palustre* L., *Leontodon montanus* subsp. *pseudotaraxaci* (Schur) Finch et P.D. Sell, *Leucanthemella serotina* (L.) Tzvel., *Leucojum aestivum* L. subsp. *aestivum*, *Lindernia procumbens* (Krock.) Borb., *Linum perenne* subsp. *extraaxillare* (Kit.) Neyman, *L. trigynum* L., *Liparis loeselii* (L.) Rich., *Lloydia serotina* (L.) Reichenb., *Loiseleuria procumbens* (L.) Desv., *Lotus tenuis* Waldst. et Kit., *Ludvigia palustris* (L.) Ell., *Malaxis monophyllos* (L.) Sw., *Marsilea quadrifolia* L., *Melica ciliata* L., *Minuartia zarczyni* (Zapał.) Klok., *Myricaria germanica* (L.) Desv., *Nepeta cataria* L., *N. pannonica* L. subsp. *pannonica*, *Nuphar lutea* (L.) Smith, *Nymphoides peltata* (S.G. Gmel.) O. Kuntze, *Omphalodes scorpioides* (Haenke) Schrank, *Ophioglossum vulgatum* L., *Ophrys insectifera* L., *Orchis coriophora* L., *O. mascula* L. subsp. *mascula*, *O. morio* L., *Orlaya grandiflora* (L.) Hoffm., *Ornithogalum orthophyllum* subsp. *kochii* (Parl) Lehar., *Padus avium* subsp. *petraea* (Tausch.) Pawł., *Parietaria officinalis* L., *Pedicularis oederi* Vahl, *P. palustris* L. subsp. *palustris*, *P. sylvatica* L. subsp. *sylvatica*, *Peucedanum cervaria* (L.) Lapeyr., *Physalis alkekengi* L., *Pinguicula alpina* L., *Plantago atrata* subsp. *carpatica* (Pilg.) Soó, *Poa granitica* subsp. *disparilis* Nyár., *P. nemoralis* subsp. *carpatica* Jirás., *P. remota* Forsell., *Polygala amarella* Crantz subsp. *amarella*, *P. amara* subsp. *brachyptera* Chodat, *Potamogeton friesii* Rupr., *P. trichoides* Cham. et Schlecht., *Potentilla alba* L.,

Primula halleri subsp. *platyphylla* Sw., *Primula minima* L., *Pyrola carpatica* Holub et Křisa, *Quercus cerris* L., *Q. dalechampii* Ten., *Q. polycarpa* Schur, *Ranunculus lingua* L., *R. malynovskii* Jelen. et Derv.-Sok., *R. montanus* Willd., *Rhynchospora alba* (L.) Vahl, *Rosa heterostyla* Chrshan., *Rumex scutatus* L., *Salix herbacea* L., *S. retusa* L. subsp. *retusa*, *Saussurea alpina* (L.) DC. subsp. *alpina*, *Saxifraga androsacea* L., *S. bryoides* L., *S. oppositifolia* L. subsp. *oppositifolia*, *Scheuchzeria palustris* L., *Schoenus ferrugineus* L., *Scirpus radicans* Schkuhr, *Sedum album* L. subsp. *album*, *S. alpestre* Vill., *S. annuum* L., *S. atratum* L., *Selaginella helvetica* (L.) Spring, *S. selaginoides* (L.) Link, *Sideritis montana* subsp. *comosa* (Rochel) Soó, *Silene jundzillii* Zapal., *S. viridiflora* L., *S. zavadskii* Herbich, *Sium latifolium* L., *Stellaria barthiana* Schur, *Svertia perennis* subsp. *alpestris* (Baumg.) Simonk., *Symphytum besseri* Zaverucha, *S. tanaicense* Stev., *Syringa josikaea* Jacq. fil., *Thelypteris palustris* subsp. *glabra* Holub, *Tilia tomentosa* Moench, *Trapa natans* L., *Trifolium pratense* subsp. *frigidum* (Gaudin) Simonk., *Trisetum alpestre* (Host) Beauv., *Typha schuttleworthii* Koch et Sond., *Urtica dioica* subsp. *kioviensis* (Rogow.) Domin, *Utricularia bremii* Heer, *Verbascum densiflorum* Bertol., *V. lanatum* Schrad. subsp. *lanatum*, *V. lanatum* subsp. *hinkei* Murb., *V. phoeniceum* L., *Veronica fruticans* Jacq., *V. spicata* L., *Viola dacica* Borb., *V. saxatilis* F.W.Schmidt subsp. *saxatilis*, *V. uliginosa* Bess.

IV. RARE (R)

Acer tataricum L., *Achillea carpatica* Blocki, *Aconitum firmum* subsp. *firmum* (Reichenb) Gayer, *A. firmum* subsp. *bucoviense* (Zapal.) A. et Gr., *A. paniculatum* Lam. subsp. *paniculatum*, *A. variegatum* L. subsp. *variegatum*, *A. variegatum* subsp. *gracile* (Reichenb.) Gayer, *Alchemilla pseudincisa* Pawl., *A. walasii* Pawl., *Aegonychon purpureo-caeruleum* (L.) Holub, *Allium sphaerocephalon* L., *A. ursinum* L., *Anemone narcissiflora* L., *Arnica montana* L., *Atropa bella-donna* L., *Bellardiochloa violacea* (Bell.) Chiov., *Blechnum spicant* (L.) Roth subsp. *spicant*, *Bothriochloa ischaemum* (L.) Keng, *Botrychium lunaria* (L.) Sw., *Callitriche stagnalis* Scop., *Campanula rotundifolia* subsp. *polymorpha* (Witas.) Tacik, *Carduus personata* subsp. *albidus* (Adamov.) Kazmi, *Carex limosa* L., *C. pauciflora* Lightf., *C. umbrosa* Host subsp. *umbrosa*, *Centaurea mollis* subsp. *maramarosiensis* (Jáv.) Soó, *Cephalanthera damasonium* (Mill.) Druce, *Cerastium alpinum* subsp. *lanatum* (Lam.) A. et Gr., *Chrysosplenium alpinum* Schur, *Cimicifuga foetida* L., *Coeloglossum viride* (L.) C.Hartm., *Colchicum autumnale* L., *Conioselinum tataricum* Hoffm., *Cornus mas* L., *Cotoneaster integerrimus* Medic., *Crataegus lipskyi* Klok., *Dactylorhiza majalis* (Reichenb.) P.F. Hunt et Summer. subsp. *majalis*, *D. sambucina* (L.) Soó, *Daphne mezereum* L., *Dianthus carthusianorum* subsp. *saxigenus* (Schur) Jáv. et Soó, *D. pseudobarbatus* Bess., *Doronicum carpaticum* (Griseb. et Schenk) Nym., *Dorycnium herbaceum* Vill., *Draba carinthiaca* Hoppe, *Drosera rotundifolia* L., *Eleocharis carniolica* Koch, *Epilobium dominii* M. Pop., *Epipactis helleborine*

(L.) Crantz subsp. *helleborine*, *E. microphylla* (Ehrh.) Sw., *E. palustris* (L.) Crantz, *E. purpurata* Smith, *Equisetum telmateia* Ehrh., *Euphorbia austriaca* subsp. *sojakii* Chrtek et Křisa, *Festuca amethystina* subsp. *inarmata* (Schur) Krajina, *F. carpatica* F. Dietr., *F. drymeia* Mert. et Koch, *Filago minima* (Smith) Pers., *Fraxinus angustifolia* subsp. *oxycarpa* (Willd.) Franco et Rocha Afonso, *Gagea minima* (L.) Ker-Gawl., *G. villosa* (Bieb.) Duby, *Galium carpaticum* Klok., *G. rotundifolium* L., *G. suberectum* Klok., *G. transcarpaticum* Stojko et Tasenkevitch, *Gentiana acaulis* L., *G. laciniata* Kit. ex Kanitz, *Geranium macrorrhizum* L., *Helianthemum grandiflorum* (Scop.) DC. subsp. *grandiflorum*, *Helleborus purpurascens* Waldst. et Kit., *Helichrysum arenarium* (L.) Moench, *Hesperis matronalis* subsp. *candida* (Kit.) Thell., *Hieracium jablonicense* Wołoszcz., *Huperzia selago* (L.) Bernh. subsp. *selago*, *Juncus castaneus* Smith, *J. triglumis* L., *Kohlruschia prolifera* (L.) Kunth, *Leersia oryoides* (L.) Sw., *Lemna gibba* L., *Leontodon gutzutorum* V. Vassil., *L. repens* Schur, *Leucanthemum subalpinum* (Schur) Tzvel., *L. waldsteinii* (Sch. Bip.) Pouzar, *Leucojum vernum* subsp. *carpaticum* (Spring.) Sw., *Leucorchis albida* (L.) E. Mey., *Lilium martagon* L. subsp. *martagon*, *Limosella aquatica* L., *Listera ovata* (L.) R.Br., *Matteuccia struthiopteris* (L.) Tod., *Melica picta* C. Koch, *M. transsilvanica* Schur, *Menyanthes trifoliata* L., *Muscari comosum* (L.) Mill., *Narcissus poeticus* subsp. *angustifolius* (Curt.) A. et Gr., *Neottia nidus-avis* (L.) Rich., *Orchis laxiflora* subsp. *elegans* (Heuffel) Soó, *O. mascula* subsp. *signifera* (Vest.) Soó, *O. militaris* L., *O. ustulata* L., *Ornithogalum umbellatum* L. subsp. *umbellatum*, *O. umbellatum* subsp. *divergens* (Bor.) A. et Gr., *Orobanche caryophyllacea* Smith., *O. reticulata* Wallr., *Oxyria digyna* (L.) Hill, *Phyllitis scolopendrium* (L.) Newm., *Pinguicula vulgaris* L., *Plantago altissima* L., *Polygonum viviparum* L., *Potamogeton praelongus* Wulf., *Primula elatior* subsp. *poloninensis* (Domin) Dost., *Pulsatilla scherfelii* subsp. *alba* (Reichenb.) Domin, *Ranunculus carpaticus* Herbich, *R. tatrae* Borb., *Rhododendron myrtifolium* Schott et Kotschy, *Salix phylicifolia* L., *S. retusa* subsp. *kitaibeliana* Willd., *S. repens* subsp. *rosmarinifolia* (L.) Čelak., *Salvinia natans* (L.) All., *Saxifraga adscendens* L. subsp. *adscendens*, *S. aizoides* L., *Scabiosa lucida* subsp. *barbata* Nyár., *S. opaca* Klok., *Scorzonera humilis* L., *Sempervivum montanum* L. subsp. *montanum*, *Senecio abrotanifolius* subsp. *carpathicus* (Herbich) Nyman, *Sesleria heuflerana* Schur subsp. *heuflerana*, *Silene carpatica* (Zapał.) Czopik, *S. nutans* subsp. *dubia* (Herbich) Zapał., *Soldanella hungarica* subsp. *hungarica* S. Pawł., *Sorbus torminalis* (L.) Crantz., *Thymus circumcinctus* Klok., *Th. clandestinus* Schur, *Tozzia alpina* subsp. *carpathica* (Wołoszcz.) Pawł., *Traunsteinera globosa* (L.) Reichenb., *Trifolium badium* Schreb., *Trisetum ciliare* (Kit.) Domin, *Valeriana transsilvanica* Schur, *Veronica alpina* subsp. *australis* (Wahlenb.) Á. et D. Löve, *V. aphylla* L., *V. austriaca* subsp. *dentata* (F.W. Schmidt) Watzl., *V. baumgartenii* Roem. et Schult., *Viola declinata* Waldst. et Kit.

V. LOWER RISK (LR)

Astrantia major L. subsp. *major*, *Carduus kernerii* Simonk., *Centaurea phrygia* subsp. *carpatica* (Porc.) Dost., *Crocus vernus* subsp. *vernus* Mathew, *Dactylorhiza maculata* (L.) Soó, *D. maculata* (L.) Soó subsp. *maculata*, *Elatine alsinastrum* L., *Euphorbia carpatica* Wotoszcz., *Galanthus nivalis* L., *Gymnadenia conopsea* (L.) R.Br. subsp. *conopsea*, *Leucjum vernum* L. subsp. *vernum*, *Lunaria rediviva* L., *Lycopodium annotinum* L., *Melampyrum saxosum* Baumg., *Melittis melissophyllum* subsp. *carpatica* (Klok.) P.W. Ball., *Phyteuma tetramerum* Schur, *Ph. vagneri* A. Kerner, *Platanthera bifolia* subsp. *laxiflora* (Drejer) Lojtnant, *Pulmonaria filarszkyana* Jáv., *Rumex carpaticus* Zapal., *Scilla bifolia* subsp. *subtriphylla* (Schur) Domin, *Scopolia carniolica* Jacq., *Thymus alpestris* Tausch, *Th. alternans* Klok., *Th. pulcherrimus* Schur, *Tragopogon transcarpaticus* Klok., *Valeriana simplicifolia* (Reichenb.) Kabath.

The critical analysis of the Transcarpathian rarity phytozenofund showed that 499 vascular plant taxa belonging to 83 families and 258 genera should be identified as rare ones.

We do not claim that the Red List prepared by us has been perfectly completed. This is only its preliminary version which will be added, amended and improved. So, we would highly appreciate any useful notes and suggestions.

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