TRADICIONALNA KOŠNJA OHRANJA RASTLINSKO BIODIVERZITETO

TRADITIONAL MOWING PRESERVES PLANT BIODIVERSITY

HORTUS BOTANICUS UNIVERSITATIS LABACENSIS, SLOVENIA
INDEX SEMINUM ANNO 2018 COLLECTORUM

TRADICIONALNA KOŠNJA OHRANJA RASTLINSKO BIODIVERZITETO

TRADITIONAL MOWING PRESERVES PLANT BIODIVERSITY

Recenzenti / Reviewers:
Prof. emeritus dr. Franc Batič Biotehniška fakulteta / Biotehnical Faculty Ljubljana
Znan. svet. & Izr. prof. / Research counsellor & Assoc. prof. dr. Andraž Čarni, Biološki inštitut Jovana Hadžija
Naslovnica / Front cover: Ročna košnja / Traditional mowing Foto / Photo: J. Bavcon
Foto / Photo: Jože Bavcon, Marjan Bavcon in Tine Venko
Urednika / Editors: Jože Bavcon, Blanka Ravnjak
Tehnični urednik / Tehnical editor: D. Bavcon
Prevod / Translation: GRENS-TIM d.o.o.
Elektronska izdaja / E-version
Leto izdaje / Year of publication: 2019
Kraj izdaje / Place of publication: Ljubljana
Izdal / Published by:
Botanični vrt, Oddelek za biologijo, Biotehniška fakulteta UL
Ižanska cesta 15, SI-1000 Ljubljana, Slovenija
tel.: +386(0) 1 427-12-80, www.botanicni-vrt.si,
info@botanicni-vrt.si
Zanj: znan. svet. dr. Jože Bavcon
Botanični vrt je del mreže raziskovalnih infrastrukturnih centrov

Botanični vrt Univerze v Ljubljani
200 let
University Botanic gardens Ljubljana

Kataložni zapis o publikaciji (CIP) pripravili v Narodni in univerzitetni knjižnici v Ljubljani
COBISS.SI-ID=300429824
ISBN 978-961-6822-57-2 (pdf)

KAZALO / INDEX

Tradicionalna košnja ohranja rastlinsko biodiverziteto

Jože Bavcon, Blanka Ravnjak & Nada Praprotnik

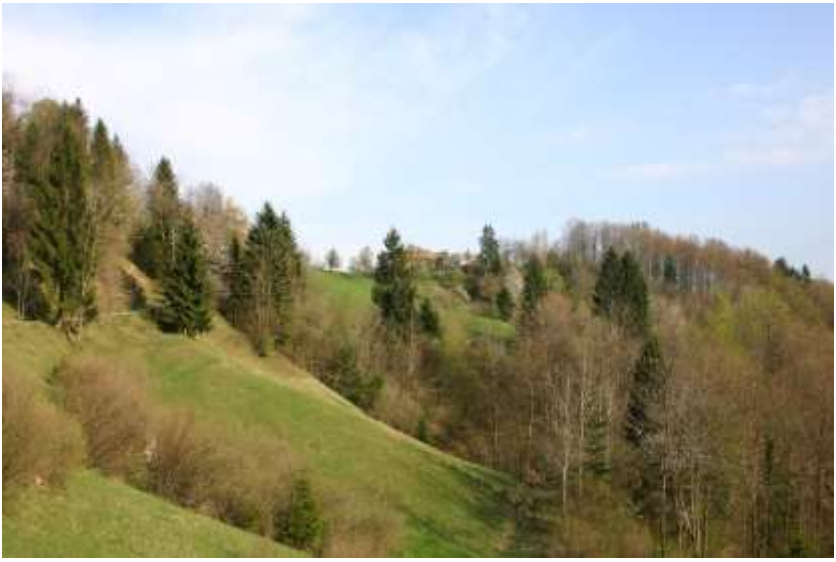
Izvleček

Travniki, nekdaj nepogrešljivi pisani zakladi krajine in ključna dobrina kmečkega človeka, so dandanes že precej ogroženi. Prezgodnja košnja, siliranje in baliranje sena siromašita rastlinsko vrstno pestrost. Prav tako se izgubljata tradicionalno znanje, ki je omogočalo trajnostno rabo prostora in tista primarna vez, ki je povezovala človeka z naravo. Čeprav je bila tradicionalna košnja travnikov težaško delo in je zahtevala veliko časa, je bila za ohranjanje narave boljša kot današnja visoko mehanizirana. Vsaka faza dela je zahtevala spretnosti, znanje in dobro poznavanje okolja. Ob tem pa so se razvila tudi specifična orodja. Le vse skupaj je nato vodilo v uspešno opravljeno delo. Košnja je bila hkrati družaben dogodek, kjer so se ljudje povezovali tako medgeneracijsko kot bližnje ali daljne sosedsko. Med seboj so si pomagali, izmenjevali izkušnje in se po končanem delu tudi poveselili. Ob opravilih kot je bila košnja so se povezali med seboj in z naravo, ki jim je dajala dom in hrano. Travniki so v Sloveniji nastali in ostali prav zaradi človeškega poseganja v prostor.

Ključne besede: enokosni travnik, senožet, tradicionalna košnja, varovanje rastlinskih vrst

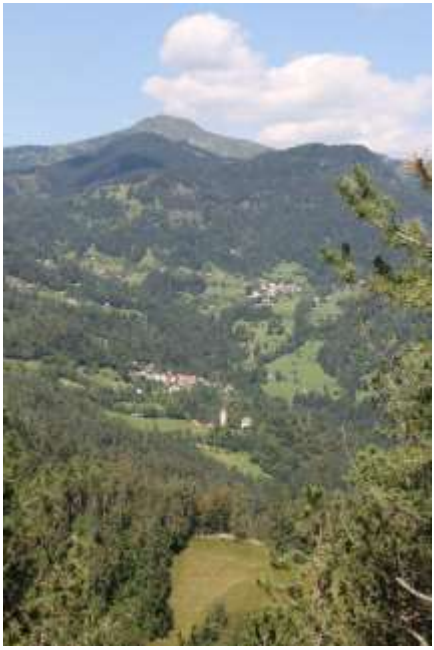
Uvod

Ročna košnja je bila veliko stoletij edini način za pridobivanje živinske krme. Posebej v hribovitih delih Slovenije, kjer so ljudje skozi stoletja krčili gozd, s čimer so dobili površine za senožeti-rovte in še marsikateri drug izraz se je uveljavil za te strme enokosne travnike. (https://www.etno-muzej.si/sl/digitalne-zbirke/kljucne-besede/kosnja, https://www.bohinj.si/stavbarstvo-arhitektura/). Že za časa Marije Terezije so z dekretom 7.12. 1768 skupne površine, ki so jih uporabljali bodisi gospoda bodisi podložniki, razdelili med podložnike glede na velikost njihovih kmetij (Orožen 1971, Štucin 2011).



Slika 1 V začetku maja so s senožeti očistilo veje. / At beginning of May meadows were cleaned of branches. J. B.

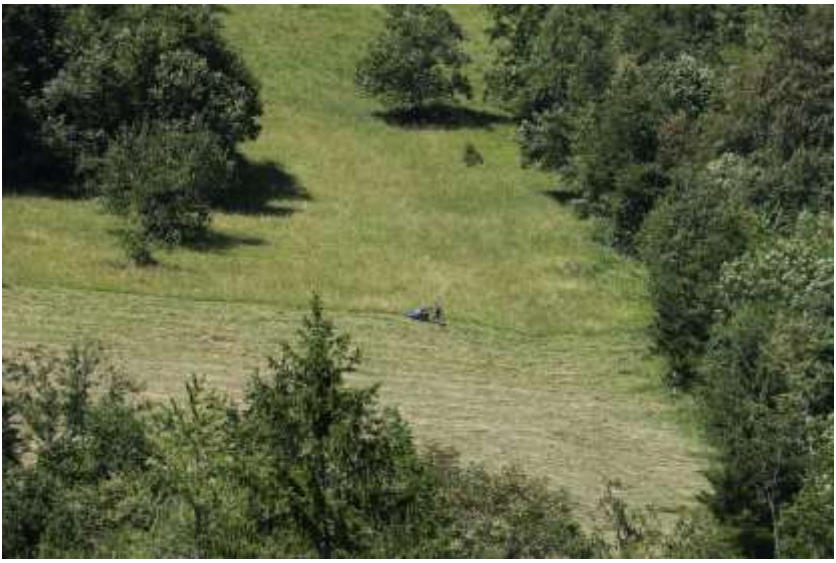
S tem dekretom so želeli zagotoviti boljšo rabo in skrb za omenjene površine. Namreč tožb o zanemarjanju gmajn je bilo veliko, poročali so da so živali morale travo iskati med grmovjem in trnjem (Orožen 1971).



Slika 2 Senožeti in travniki v hribovitem cerkljanskem svetu. / Meadows and grasslands in hilly area of Cerkljansko region. J.B.

Ker so bile senožeti površine, ki so bile v stoletjih iztrgane gozdu, je naravna sukcesija težila nazaj k gozdu. Zato je bila za ohranitev teh površin nujna vsakoletna košnja in na nekaj let ponovno

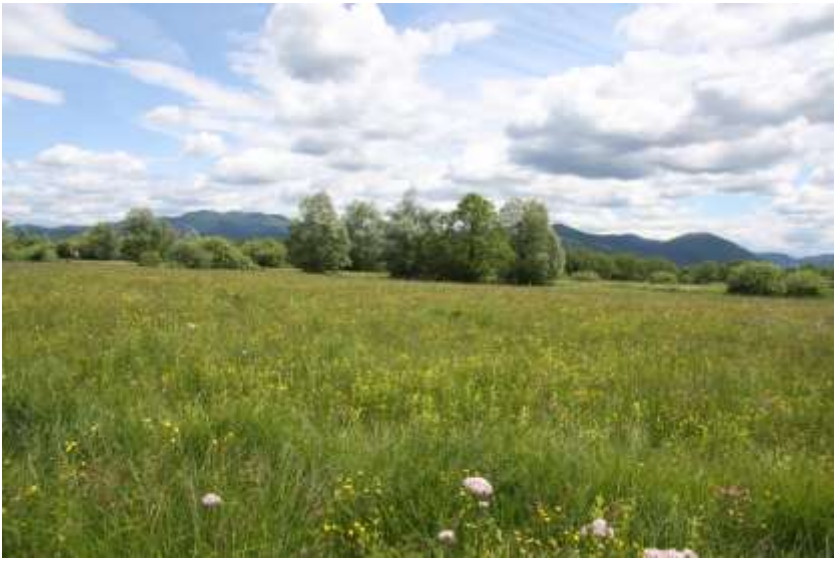
krčenje gozdnega roba. Na vsakih nekaj let so tako gozdni rob posekali in s tem pridobili kurjavo za kurjenje peči, za kuhanje prašičje hrane v kotlih ali pa za žganjekuho. Ničesar niso zavrgli, vse so koristno uporabili (Bavcon 2013 a, Bavcon & Ravnjak 2018). Ko so ročno košnjo zamenjali stroji, pa je večina teh strmih predelov ostala nepokošena. Za strojno košnjo so bile namreč te površine prestrme in prenevarne za delo. Zato so se prav z opuščanjem ročne košnje začele zaraščati. Strojna košnja je prišla v poštev v glavnem le na položnejših površinah, ki so tako še nekaj časa ostajale pokošene.



Slika 3 V sedemdesetih se je že večinoma začelo s strojno košnjo. / In seventies the mowing with mower began. J. B.

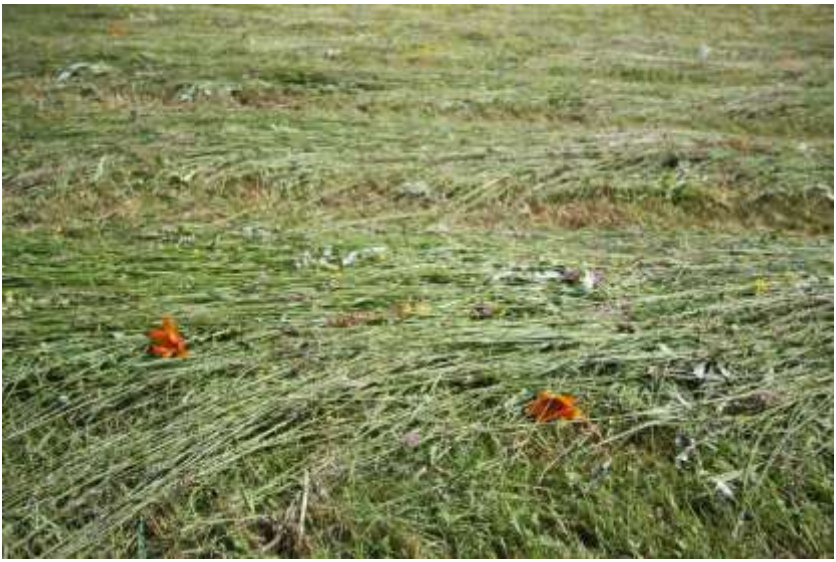
Vendar je s časom tudi mnoge od teh doletela enaka usoda opuščanje in potem zaraščanje. Za mnoge hribovite predele se je tja do začetka sedemdesetih let pogosto navajalo: »Malo njivskih površin, več je senožeti in precejšnja živinoreja.« (Savnik s sod. 1968).

Vendar pa enokosni travniki niso bili le na strmih površinah, prav tako so bili na povsem ravninskem svetu ali v vlažnejših dolinah kot je pogosto navedeno v literaturi (Savnik s sod. 1968). Prav tako so bile to obsežne močvirne površine kot na primer Ljubljansko barje.



Slika 4 Enokosni vlažni travniki na ljubljanskem barju. / One time mowing wet grasslands at Ljubljana moor. J. B.

Na najbolj vlažnih delih so prav tako lahko kosili samo enkrat. Še bolj tipični so enokosni travniki na Krasu, saj so tam zaradi suše prav tako kosili le enkrat ali pa so samo pasli na gmajni. V kolikor se je po košnji vegetacija nekoliko obnovila, pa je sledila lahko še jesenska paša. Travniki, gmajne in pašniki so bili povsod tam, kjer je bila plast zemlje plitva. Plitva tla so navadno prav tako na terasah ob rekah, ali v alpskih dolinah (Komac 2003), v dinarskem svetu in tudi ponekod na ravnini, kjer so reke nanesle veliko proda. Enokosni travniki so se pojavljali tudi na Kočevskem, kjer so večino travnatih površin po naselitvi Kočevarjev izkrčili gozdu. Orne zemlje je bilo ponekod malo zato so tudi tam bili večinoma enokosni travniki ali pašniki (Ferenc &



Slika 5 Ob tradicionalni košnji je pisanost rastlin ostala. / With traditional mowing the plant biodiversity stayed. J. B.

Zupan 2013). Lastniki zemljišč so ločili površine, ki so bile primernejše za konjsko krmo ali pašo od tistih, ki so bili za govejo živino. Za konjsko pašo so bile namenjene površine kjer so prevladovale t. i. trpežne trave (kot so vrste: *Deschampsia cespitosa* in *Molinia arundinacea, Chrysopogon gryllus...*), velikokrat so to tudi večinoma zakisane površine. Goveja živina takšnih trav in pašnikov ni marala.

Tam, kjer so še kosili, le enkratni odkos za spremenjeni način obdelave ni več zadoščal. Z bolj množično uporabo mineralnih gnojil so površine, ustrezne za strojno košnjo, počasi spremenili v vsaj dvakrat, večinoma pa v večkrat kosne površine. Še večja sprememba se je zgodila ob koncu devetdesetih let, ko so tudi v Sloveniji začeli krmo balirati v plastične bale. To pa je pomenilo časovno še zgodnejšo košnjo, s čimer so travniške površine začele zelo hitro izgubljati vso svojo pisanost. Po nekaj letih so vse intenzivno obdelane površine postale le še zelene valujoče planjave, kjer so prevladovale trave, za razliko od prejšnjih površin, kjer je bilo poleg trav prisotnih še mnogo drugih trajnih ali enoletnih zelnatih rastlinskih vrst. Zato so senožeti, ki jih še kosijo, ostale tako dragocene za ohranjanje rastlinske pestrosti in tradicije tedanjega časa. Ni presenetljivo, da je v različnih delih Slovenije v zadnjih letih vzniknilo veliko društev, ki se trudijo to ohranjati (http://www.rtvslo.si/moja-generacija/ohranjanje-tradicije-kako-so-kosili-nekoc/339534, https://www.mojaobcina.si/sevnica/dogodki/vi-tradicionalna-kosnja-na-lisci.html, https://www.facebook.com/DrustvoBaskadediscina/?hc_ref=AR

TKb1YG3vIRqGmqHK5wrQ1oGlAoXFcIkpjGlBJ2C7LOHKv vrklZHM3rb1vg6Jun9ZM&fref=nf, https://www.facebook.com/media/set/?set=a.817846248380679.1073741855.100004659344066&type=3, https://www.mojaobcina.si/kanal-ob-soci/novice/turizem/likof-kosnje-v-vrtacah.html).

Vse to kaže na nek nostalgičen odnos do teh težkih a vseeno lepih časov, saj vsi starejši, ki se tega še spominjajo, zelo radi o njih pripovedujejo še danes. Tudi to in še lastne izkušnje starejših od avtorjev so pripomogle k temu zapisu.

Ob košnji v senožetih so se razvili tudi različni običaji, ki pa so z njenim opuščanjem kasneje šli v pozabo. A še vse do sedemdesetih let 20. stoletja, ponekod še dlje, so bili to običaji, ki so imeli zelo značilno lokalno noto.

Košnja senožeti, rovtov

Košnja senožeti je bila velik zalogaj, saj je tedaj prišlo veliko koscev in grabljic, zato je pomenila kar velik zalogaj za kmetijo tako v organizaciji dela kot v prehrani hkrati pa se tudi zadovoljstvo ob opravljenem delu. (Čemažar 2009, Petek 2004). V notranjosti Slovenije sta košnja in spravilo sena zahtevala več časa in truda. Še posebej, če je vmes deževalo, kar se je v notranjosti dogajalo pogosteje kot na Krasu. Vsekakor je v notranjosti več padavin kot na Krasu, predvsem pa je drugačna

njih razporeditev. Najslabše in najdlje pa se je je sušilo seno na vlažnih in zamočvirjenih površinah, ki so bile večinoma enokosne (http://meteo.arso.gov.si/uploads/probase/www/climate/text/sl/publications/podnebne_razmere_v_sloveniji_71_00.pdf).

Potrebno je poudariti, da so nižje ležeče travnike ali tiste v bližini kmetij gospodarji običajno sami postopno kosili. Bogatejši kmetje pa so za košnjo najemali dninarje. Na Kras so hodili kosit iz različnih delov Primorske. Tisti, ki doma niso imeli več dela, so se v času košnje tako pomikali iz kraja v kraj, da so nekaj zaslužili. Delo je bilo dobro plačano. Seveda pa so na Kras hodili samo dobri kosci. Tudi klep kose je bil na Krasu drugačen. Ožji in bolj pod kotom, da se je trava sploh rezala. V notranjosti je bil klep tanjši in manj pod kotom, kar pomeni tudi večjo širino klepa, ki je za Kras bila ožja (Bavcon J. str. in lit 2018). Trava je na Krasu še bolj ostra ali pusta, kot so včasih rekli in tako jo kosa zelo težko odreže. Zato so jo vedno kosili zgodaj zjutraj, ko je bila še rosna. V vročini pa je bilo to delo še težje; skratka, košnja je bilo težaško delo. To se je kazalo tudi v tem, da je bilo razmerje med kosci in grabljicami tri proti ena t. j. na tri kosce je prišla ena grabljica (Bavcon J. str. in lit 2018, Petek 2004).

Košnja in spravilo sena na velikih travnikih, ki so bili oddaljeni od domačije tudi po uro in več hoda, je ob lepem vremenu trajalo kar tri dni. Prvi dan so kosili in raztresali redi, naslednji dan obračali napol suho seno in če je bilo že dovolj suho, odvisno od sestave rastlinstva in vremena. To se je dogajalo pozno popoldne

drugega dne, sicer pa šele tretji dan, ko so seno še zadnjič obrnili in nato pospravili v svisli ali v mogočno seneno kopo.

Slika 6 Pozna avgustovska košnja. / Late August mowing. J. B.

Vse navedeno delo je lahko nemoteno potekalo le v lepem vremenu. Če pa je vmes deževalo, se je lahko tudi precej zavleklo. Zato so ljudje vreme pozorno spremljali in se odločili za košnjo ob zanesljivejših znakih stanovitnega lepega vremena (izkušnje in nasveti starejših, pregovori o vremenu v zvezi s krščanskimi svetniki, stoletna pratika idr.) (https://www.dlib.si/stream/URN:NBN:SI:DOC-I35XT9U3/57cea8f6-4817-4e82-836a-909641db2668/PDF) (Bavcon 2013 a). Kljub temu se je velikokrat zgodilo, da je bilo v kako senožet potrebno iti večkrat, da so uspeli seno posušiti.

Tedaj je bila krma slabša in seno ni imelo več tako lepe barve. Tako seno so običajno solili, da ga je živina potem vseeno rada jedla. Če pa ni bilo soljeno in slabo posušeno pa se je pogosto pri spravilu tudi kadilo, ker je tako slabše posušeno seno rado plesnelo. Vedno pa se je pazilo, da se ni v svisli dajalo neposušenega ali slabo posušenega sena, ker je bila nevarnost samovžiga. Tako slabše sušeno seno se je dalo lahko edino le v kopo ali v manjše kopice.

Senožeti so bile različno velike, merilo zanje pa je bilo število koscev. Najmanjše so potrebovale 3 do 5 koscev, srednje velike 10, zelo velike pa tudi preko 20 ali celo 30 koscev za en dan (Bavcon J. str. in lit 2018, Petek 2004, Orožen 1971). Na Sorici pa je bilo koscev celo preko 100. (https://www.dlib.si/) Tam, kot tudi drugje po hribovitem svetu zahodne in osrednje Slovenije so senožeti kosili v času od Sv. Ane (26. julija) do Velikega Šmarna (15. avgusta) (Čemažar 2009). Najprej je bilo namreč potrebno požeti žito, še preden bi ga morda sklestila toča, ki je v dneh okrog Sv. Ane že kar pogosto uničevala pridelke. Prva je bila torej skrb za hrano in šele nato je sledila košnja senožeti in spravilo sena, kar je bilo pa tudi zadnje veliko opravilo tistega leta.

Na Sorici so vsi kosci šli v senožeti, ki so bile na višini od 1200 do 1600 m in še več. Tam so bivali velikokrat do konca košnje. (https://www.dlib.si/) Tudi na Cerkljanskem so v višje ležeče predele Škofja, Porezna, Kojce, Lajš in drugih krajev hodili v senožeti ob zgoraj omenjenem času (http://www.pef.uni-lj.si/markor/seno.htm, Bavcon J. str. in lit 2018). Za kasnejši čas je namreč veljalo, da se vreme lahko že poslabša in bo seno težje

posušiti (https://www.dlib.si/stream/URN:NBN:SI:DOC-I35XT9U3/57cea8f6-4817-4e82-836a-909641db2668/PDF, lastna opažanja).

Slika 7 Strmi predeli senožeti so še vedno ostali za ročno košnjo. / Steep parts of meadows remained still for hand mowing. M. B.

Ročna košnja se je začela zelo zgodaj zjutraj. Kosci so se pri gospodarju zbrali še v temi. V času polne lune so na najbolj oddaljeno senožet odšli že kmalu po drugi ali vsaj ob tretji jutranji uri (http://www.pef.uni-lj.si/markor/seno.htm, Kuret 1989, Bavcon J. str. in lit 2017, Guštin in lit. 2018, Petek 2004) Pri tem velja kot del vaške folklore omeniti navado, da so kosci z ostro koso radi urezali kak z okna viseči nagelj in si ga zataknili za klobuk ter s tem ponagajali gospodinjam (Bavcon 2013 a). No,

ljubek običaj pa je bil, ko je domača hči prinesla koscem v senožet hrano in jih razveselila še s pripenjanjem šopkov domačega okenskega cvetja (Kunaver 2007). Ko so prišli v senožet, se je pričelo daniti in kosce je bilo potrebno razporediti. Navadno je to delal gospodar ali pa kdo od bolj izkušenih. Ta je bil običajno tudi prvi, ki je začel kositi. Otroci, ki so se morali temu delu privajati že zgodaj, so bili razporejeni na konec. Potem pa sta peli kosa in osla. Kdaj pa kdaj so se kosci ustavili, s šopom mokre trave obrisali koso, se malo oddahnili in odžejali s češpljevo, hruškovo ali navadno vodo. Ta pijača je bila v leseni posodi, imenovani putrih, ki jo je fantič nosil po travniku od kosca do kosca (Kunaver 2007). Drugod so te lesene sodčke, prirejene za nošnjo na hrbtu, imenovali lempe. Tudi pijača je bila različna, od vode, jabolčnika do vina.

Slika 8 Brušenje kose je bilo stalno opravilo. / A scythe grind was constantly done. M. B.

Vedno je bil nekdo zadolžen tudi za klepanje kose. Tega dela pa niso zaupali komurkoli, ampak le tistemu, ki je znal dobro, pravilno in enakomerno sklepati koso do primerne ostrine. Kajti z nepravilnim klepom je bilo koso možno tudi uničiti. Ko so napredovali s košnjo po strmini, so kosci skrbeli, da se je klepišče in drugo potrebno orodje premikalo z njimi naprej. Zato so ga skladno z napredovanjem odlagali na senčna mesta ob robove senožeti. S tem so si prihranili čas in napor, ker jim ni bilo treba vsakokrat hoditi do senika-svisli in se znova vračati v strmino.

Slika 9 Počitek koscev na vrhu senožeti. / Mowers are resting on the top of meadow. M. B.

Okrog devete ure je bila malica. Hrano, ki je morala biti dobra, saj sicer delavcev ne bi dobili, so koscem prinašale ženske v košarah, ki so jih navadno nosile na glavah. Ponekod pa so to hrano nosili v koših. Nedvomno ni bilo lahko prinesti breme, težko tudi do 25 kg in več do senožeti, oddaljene uro hoda od vasi. Pri tem so jim pomagali tudi večji otroci. Kot pravi pregovor iz okolice Križevcev pri Ljutomeru: »Bolj se koscu streže, bolj mu kosa reže (Kuret 1989 a, Petek 2004). Potem pa so po potrebi nadaljevali s košnjo do 11 ali 12. ure, ko je bilo kosilo.

Tam kjer je bilo možno so uporabljali tudi različne signale, da so sporočili v dolino ali v vas, kdaj je potrebno prinesti kosilo ali pa

kaj drugega. Prej so se dogovorili za signale, ker telefonov, kaj šele prenosnih tedaj ni bilo. Tako je bilo velikokrat potrebno sporočiti ali kosci pridejo na kosilo v dolino, kar je pomenilo, da bodo uspeli vse pokositi ali pa bo kosilo potrebno prinesti v senožet. Tam kjer se je videlo, so tako ob določeni uri, na vidnem mestu senožeti razgrnili belo platneno rjuho, ki se jo je videlo v dolino. Na tak način so poslali sporočilo v dolino.

Po kosilu so kosci počivali v senci do četrte ure popoldan, ko so nadaljevali s košnjo, če je bilo ostalo še kaj nepokošenega. Po počitku so se pridružili grabljicam, ki so raztresale redi in obračale seno. Delali so do večera in pomagali tudi pri spravilu sena v drugem ali tretjem dnevu po košnji. Na Krasu so ga z volovsko vprego pripeljali domov, ga spravili v senik in si zaslužili večerjo. Če pa seno tistega dne še ni bilo dovolj suho, so ga ob morebitnem slabem vremenu pograbili v manjše kupe, imenovane tudi plasti, ki so jih naslednji dan znova raztresli in obrnili (Ravnjak B. str. in lit, 2018, Petek 2004).

Slika 10 Pred začetkom grabljenja sena. / Before the beginning of hay raking. M. B.

Za kosce je bila najpomembnejša oprema predvsem dobra kosa in dobra obutev. Sposobni kosci so kose kupovali po pravilnem zvenu, ki je odražal dobro kakovost kovine. Dolžina kose je znašala od 65 do 70 cm, lahko pa tudi več. Posebej dobri kosci so uporabljali kose z 90 cm dolgim rezilom. Za uspešno delo je bilo potrebno na začetku rezilo dvakrat klepati (Bavcon str. in lit 2018). Med obvezno opremo je spadal tudi vodir - oselnik, ponekod imenovan čepur (Kozjansko) ali kako drugače. Bil je najbolj cenjen, če so ga izdelali iz nagnojevega lesa. Dovolj debelo deblo v dolžini brusnega kamna so izvotlili, tako da je znašala debelina oboda približno 1 cm, premer izdelanega oselnika pa do 7 cm. Znotraj je nastala globlja cevasta luknja,

namenjena zadostni količini vode in dobro izbranemu brusnemu kamnu ali osli. Zadnja stran oselnika je morala biti ravna, da ga je bilo možno dobro namestiti za pas. V ta namen je bila proti vrhu naprave privezana lesena deščica z usnjem za zatikanje. Ob desni zunanji strani oselnika je bilo pritrjeno še šilo ali železno ognilo, ki je služilo za poravnavanje rezila na kosi. Na spodnji strani oselnika pa sta bila dva dolga zoba, ki sta omogočila navpično zasaditev oselnika v travno rušo in s tem preprečila izlitje vode, ki so jo, pomešano z malo kisa, skoraj do vrha nalili v to leseno posodo. Oselnik so uporabljali tudi pri klepanju za vlaženje kladiva, čiščenje kose in učinkovit klep. Poleg lesa so za oselnike uporabljali tudi rogove goveje živine. Te so na vrhu podobno izvrtali in tam namestili deščice za pripasanje rogov (Bavcon in lit 2018). Oselniki so bili lahko ponos gospodarjev, včasih tudi okrašeni in krajevno različni in so se prenašali tudi iz roda v rod. Etnografski muzej Slovenije hrani zbirko oselnikov, veliko pa jih visi po različnih domačijah po Sloveniji (Smrdel 1991, 1993) in še danes pa jih izdelujejo kot okrasne dodatke, saj jih mnogo kje uporabljajo za šopke, ki visijo na steni. Ponekod prav mola z nostalgije za nekdanjimi pisanimi travniki vanje polagajo prav travniške rastline.

H koščevi opremi je sodilo še klepišče, katerega pa vsak kosec ni imel s seboj, ker tudi niso bili vsi dobri klepalci. To je bil velik litoželezni klin, ki so ga zabili v štor ali v zemljo. Običajno je imel tri zanke, kamor so lahko zataknili kladivo ali kaj drugega. S tem so ob klepanju preprečili zadiranje klina v štor ali zemljo in omogočili neovirano delo.

Poleg navedene lahko bi rekli tehnične opreme sta bili za kosce značilni še obleka in obutev. Dolge hlače, svetla ali kar bela srajca z dolgimi rokavi, za vratom lahko rdeča ruta, na glavi pa klobuk so bile običajna oprava koscev. Ščitila jih je pred vročim soncem, a so bili kljub pokrivalom njihovi obrazi iz dneva v dan bolj zagoreli, njihova telesa pa zaradi načina dela vitkejša (Kuret 1989 a, Kunaver 2007, Ravnjak B. str. in lit 2018). Tudi obutev je morala biti primerna za košnjo. Nosili so visoke čevlje, ki so bili za boljši oprijem v strmih senožetih podkovani z žeblji. V zelo velikih strminah so kosili tudi z derezami ali pa na poklek, ko je bila noga, ki je bila bliže travi, v pokleku. To je omogočilo koscu, da se je sploh lahko obdržal v strmini in opravil delo. Poleg tega je bila vloga visokih čevljev za kosca tudi v zaščiti nog pred morebitnimi poškodbami s koso, kakor tudi pred ugrizi plazilcev in drugih prebivalcev senožeti, ki niso uspeli pravočasno pobegniti pred ostrimi rezili. Vendar pa je tedanja ročna košnja kljub vsemu ohranila mnogo več življenj živali kot današnja mehanizirana (Ravnjak B. str. in lit. 2018).

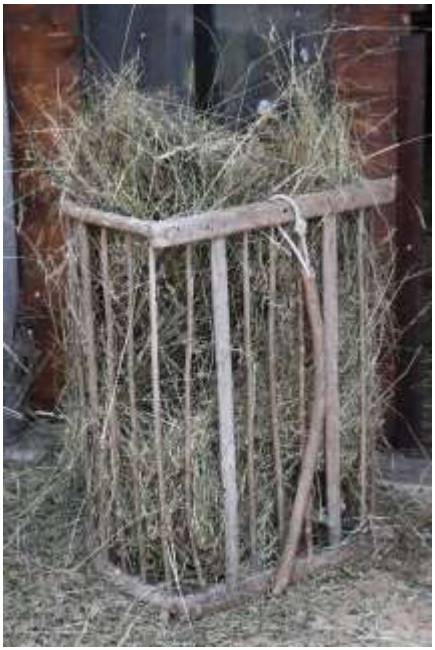
Kosci so morali biti vsi dobri, pa vendar se je vedno našel kakšen, ki je iz nadutosti hotel biti boljši in hitrejši od drugih. Za takega so običajno imeli kako presenečenje, lahko bi rekli skoraj kazen. V travo so mu na skrivaj zapičili ognilo- železno palico za ravnanje zob na kosi. Ko je tak hiter kosec zadel obenj, je njegova kosa potrebovala klepanje, kar ga je seveda ustavilo in verjetno tudi spametovalo. Norčevali so se pa tudi iz tistega, ki je bil prepočasen in so ga ujeli, ko so kosili že drugo red, medtem ko je on šele prvo. Bilo pa je običajno, da je tisti prvi kosec pokosil

skoraj red in pol in s tem vsaj v prvi redi spodbujal ostale. Včasih je prvi kosec počakal vse ostale in ko so vsi prišli do konca redi, so zapeli kakšno pesem. Sploh sta bila petje in vriskanje del običaja med košnjo, vriskanje še posebej na vrhu senožeti. Tedaj so vsi vedeli, da je senožet padla kot so radi rekli (Bavcon str. in lit 2018).

Slika 11 V osemdesetih se je pri spravilu sena uporabljalo tudi stroje. / In eighties for hay storage also machines were used. M. B.

Na Krasu se je v vročih dneh trava v senožetih posušila tudi v enem dnevu. Tako je bilo s sušenjem in obračanjem sena bistveno manj dela kot v notranjosti Slovenije, kjer so seno običajno spravljali drugi, večinoma pa šele tretji dan. Na Krasu je namreč rastlo bolj sušno rastlinstvo, medtem ko so bile v notranjosti

rastline vedno tudi manj dozorele in z več vode tudi bolj sočne. Sestava rastlinstva senožeti je bila od senožeti do senožeti drugačna. Med obronki in grmovjem, kjer je bilo trave malo, so na Krasu želi s srpi. Tisto malo sena pa so potem v žbrincah t. j. zelo odprtih velikih košarah pripeljali domov z volovsko vprego. Toda, ker vsi niso imeli volov, so lastniki pustili žbrince ob poti, nakar jih je eden za vse pripeljal v vas (Guštin in lit 2017, 2018).



Slika 12 Značilen koš za prenašanje sena v slovenski Čičariji. / Special back basket for cariing hay in Slovenian Čičarija. J. B.

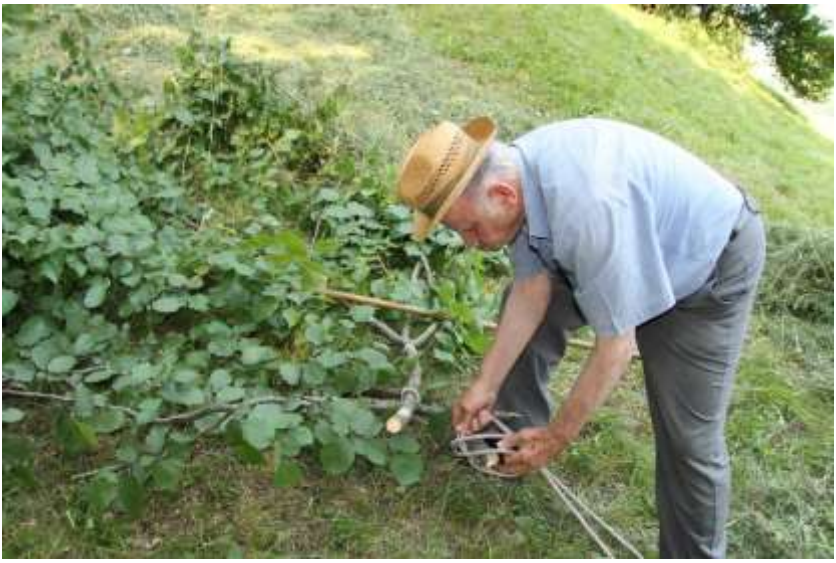
Spravilo sena

Na dan spravila so seno še enkrat obrnili. Potem so nasekali veje in jih zvezali v široko pahljačo. Običajno so za to uporabili lesko, ki je rastla povsod. Pa tudi veje drugih listavcev predvsem bukve in lipe so bile primerne za tako spravilo sena. Veje so morale biti dovolj dolge in na eni strani gladke, da so lahko po strmini dobro tekle. Na to pahljačo so potem z vilami naložili seno in ga po njej pravilno razporedili, da se med vleko po strmini ni razsipalo. Tako kot voz je morala biti torej tudi veja pravilno naložena. To je še posebej veljalo za strme senožeti, kjer so bili seniki-svisli vedno nekje na strani v zavetju drevja, da jih ni pozimi odnesel snežni plaz.

Slika 13 Spravilo sena v senike še vedno krite s slamo. / Hay storage into the hayloft buildings covered with straw. M. B.

Do tja pa je bilo vejo potrebno potegniti. To so včasih naredili s konjem, večinoma pa so veje vlekli ljudje. Po potrebi so zadaj tudi porivali z grabljami ali vilami. Veje so vedno vlekli po že prej določenih poteh. Zato so predvsem v spodnjem delu, tam kjer so prihajale k seniku, bile že povsem utečene, gladke, nekoliko uleknjene široke poti. Ko je veja prispela do senika, jo je bilo potrebno čim hitreje razložiti in iti po novo. Običajno so vse prazne veje pustili zadaj za seniki in jih šele pozno jeseni ali pozimi, ko so z vozovi prišli po seno, odpeljali v dolino. Večja ko je bila senožet, več je bilo naloženih omenjenih vej. Na eno vejo pa so lahko naložili približno toliko sena kot na velik voz. Seno so nato pospravili na senike oz. svisli. (Bavcon str. in lit. 2018)

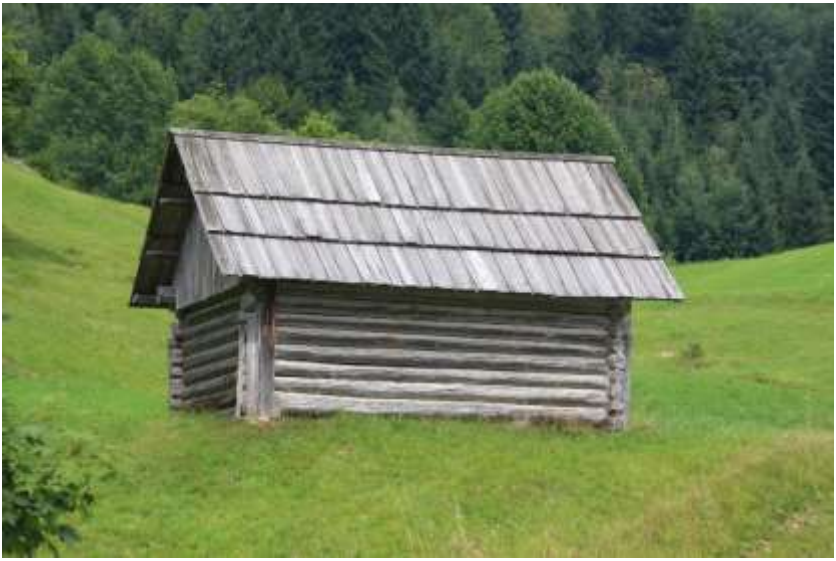
Slika 14 Grabljici ob počitku v senci. / Rakers are resting in the shadow. M. B.



Slika 15 Priprava veje za spravilo sena. / Branch preparing for hay storage. T. V.

Seniki - svisli so bili v raznih koncih Slovenije različni, bodisi kamniti bodisi leseni ali pa kombinacija obojega. Velikokrat so bili kamniti samo stebri, ostala konstrukcija je bila lesena. Lahko so bile tudi zidane zgradbe, katerih spodnji del je bil namenjen živini, ki se je tam v jesenskem času lahko pasla. Seniki so bili večinoma kriti s slamo. Na Primorskem, kjer je tekla soška fronta, pa so jih po prvi svetovni vojni začeli prekrivati z ostanki pločevine od vojne. Pločevino so namreč uporabljali za pokrivanje preštevilnih strelskih jarkov, ki so jih vkopali v teh predelih. Prav tukaj so po končani vojni uporabili tehniko različnih vlečnic, ki jo je uvedla vojska, za izdelavo podobnih žičnic za spravilo lesa in sena. Jeklenice so prinesli tudi v kraje,

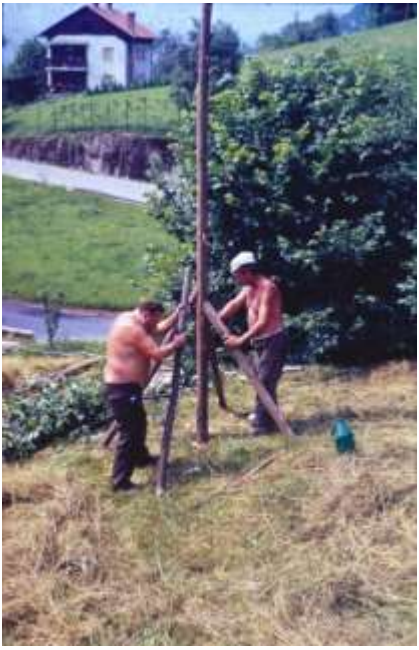
kjer ni bilo fronte (Bavcon 1986, 2013 b, 2018). Po teh jeklenicah so z lesenimi nosili spuščali seno v dolino. Tam, kjer to ni bilo možno, pa so uporabljali velike sani, ki so jih vlekli navzdol. Pri tem so na ravninskih delih med strmino uporabili okroglice, ki so jih položili na tla, da so po njih sani lažje tekle. Za večjo varnost so sani, ki jih je vlekla živina (voli ali konji), podaljšali s tankimi debli. Na njih so nato naložili seno, tako da so se po strmih poteh ta debla vlekla po tleh. To je bilo dobro, saj je zaviralo prehitro vleko, ki bi lahko živali potisnila navzdol in jih poškodovala.



Slika 16 Senik na Gorenjskem. / Hayloft in Gorenjska. J. B.

Podobno so si včasih pomagali z vozom, od katerega so uporabili samo prvi del, prva kolesa, ostalo pa so bila tanka debla naslonjena na tla. Z vsem tem so se na velikih strminah izognili

nenehnemu zaviranju. V vzhodni Sloveniji so seno spravljali nad kravji hlev ali v kopice (Zemljič 2004).



Slika 17 Pripravljanje kopišča. / Preparing of stack. M. B.

Za živali so zelo skrbeli in pazili nanje. Če se je na primer konj zmočil na dežju, so ga takoj obrisali z deko, mu dali kruh z žganjem, da se ne bi prehladil in če je bilo le mogoče, so ga namestili v svisli. Enako so pazili na vole. Pri tem so pomagali otroci, ki so morali z vejami odganjati muhe in obade od živine in jo s tem vsaj delno zavarovali pred piki. Ko so prispeli do senožeti, so poleti živino vedno namestili v senco, pozimi pa so

konje, prepotene od naporne vleke sani ali vozov, ogrnili z dekami kot zaščito pred prehladom (Bavcon str. in lit. 2018).

Slika 18 Kopa v nastajanju. / Stack formatting. M. B.

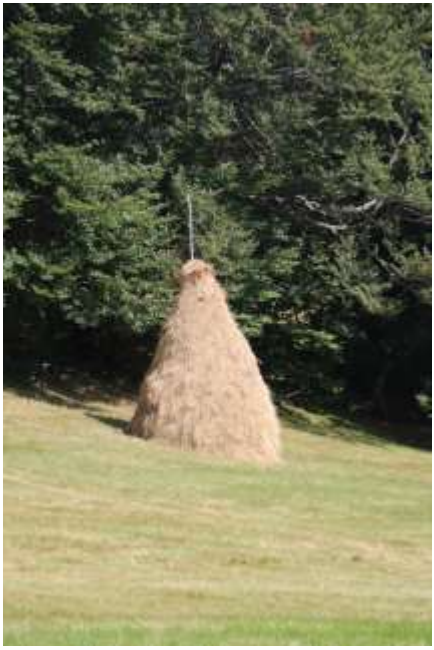
Če je bilo leto dobro in sena dovolj, so velikokrat ob svislih naredili še kopo. Tam, kjer pa svisli ni bilo, so bile kope sploh edini možni način spravila sena. Izdelava senene kope je bila posebno opravilo, ki ga vsakdo ni bil vešč. Zato je kopo delal tisti, ki je to delo najbolje obvladal. Ni nujno, da je bil to ravno gospodar. Sredico kope je predstavljal ošiljen močnejši smrekov

kol, imenovan stožer ali v raznih krajih tudi z drugimi izrazi (stožje, staže, stažišče). Ta kol so zabili v strmino na mestu,

Slika 19 Izdelava kape kope. / Making hat of a stack. M. B.

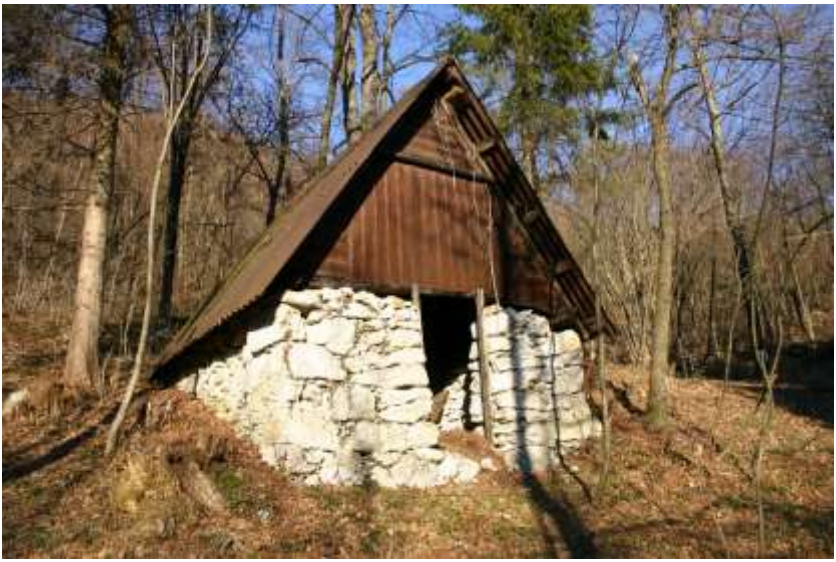
varnem pred snežnimi plazovi. Z vseh strani so ga do višine enega metra podprli z najmanj tremi ali večimi koli – stogami, vse to zvezali s srobotom in utrdili s klini. Spodaj so položili veje, navadno tiste, s katerimi so prej vlekli seno. Najprej so jih nasekali in nato žarkasto postavili na osrednjo os. Potem so naokoli v plasteh polagali seno, da je nastal obod. Kasneje so na te plasti metali seno, graditelj kope pa je skrbel za njegovo pravilno razporejanje in tlačenje. Zlasti je bilo pomembno, da je

bilo seno dobro potlačeno ob stožerju. Po potrebi je graditelj kope vmes zopet naredil senene plasti, ki jih je zaradi boljše vezave polagal navzkrižno. Proti vrhu je bilo potrebno kopo ustrezno ožati, da je postajala podobna jajcu ali opleteni steklenici za vino – kjantarici. Prav na vrh pa so položili venec z vej in lep kos travne ruše, ki je služil kot streha in hkrati tlačil seno. Lahko pa so naredili tudi prave svitke iz sena, ki so jih potem ovili okrog stožja.



Slika 20 Seno je v kopi zdržalo tudi dve leti. / Hay lasted in the stack even two years. J. B.

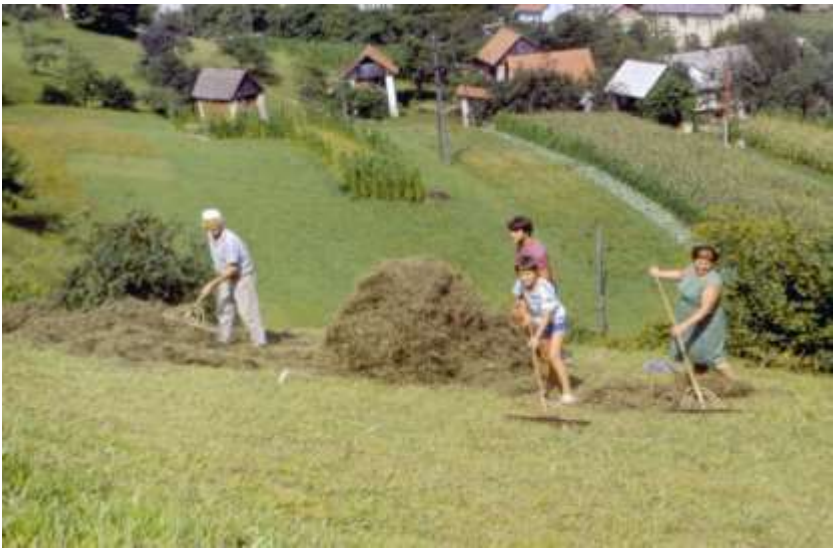
Nekateri so iz vej naredili poseben splet, po katerem je bilo možno iti dol ali kasneje, ko so spravljali seno v dolino, tudi na kopo. Ko je bila kopa lepo zaobljena in pokrita, se je njen izdelovalec z vrvjo spustil na tla. Kopo so nato še ograbili, da se je ob dežju voda lahko lepo stekala z nje in delo je bilo s tem končano. Dobro narejena kopa je lahko seno ohranila tudi po dve leti in več, saj vanjo ni zamakalo. Spodnje veje so se morale videti izpod kope, kar je omogočilo zračenje sena in preprečilo njegovo gnitje (Bavcon str. in lit 2018, http://www.pef.uni-lj.si/markor/seno.htm, http://www.rtvslo.si/moja-generacija/ohranjanje-tradicije-kako-so-kosili-nekoc/).



Slika 21 Svisli na kobariškem. / Hayloft in Kobariško. J. B.

Jedača in običaji

Ko je bila košnja končana in seno pospravljeno, je sledilo praznovanje s pojedino, imenovano pokosnica ali likof. Takrat so se kosci in pomočniki zbrali na domačiji ali pa so praznovali kar v zadnji pokošeni senožeti. Za to priložnost je gospodinja prihranila najboljše, kar je ostalo od prašičjih kolin. Predvsem sta bila to pršut in polnjen želodec, ki sta ob številčnejši udeležbi na pokosnici navadno do konca pošla. Ni pa smelo zmanjkati domačega najraje belega kruha. Kot sladico so ponudili potico, pečen orehov štrukelj ali skladno s krajevnimi običaji kakšno drugo sladko dobroto. Nenazadnje bi lahko sem šteli kompot iz suhih sliv, izdatno začinjen z domačim žganjem (Štajerska).



Slika 22 Spravilo sena. / Hay storage. M. B.

No, doma kuhano žganje iz sliv, hrušk, jabolk ali kakega drugega sadja je bilo nepogrešljivo na domačijah domala po vsej Sloveniji. Zato je razumljivo, da so ga po šilcih bili deležni tudi kosci v zgodnjih jutrih pred odhodom v senožeti (Ravnjak B. str. in lit 2018, Bavcon str. in lit 2018).

Slika 23 Pokosnica - zaključek ob spravilu senožeti. / Feast called 'pokosnica'. M. B.

K jedači je seveda spadala pijača. Žejo so si udeleženci likofa gasili z vinom; kjer pa tega ni bilo, so pili mošt. Mošt je bil prav tako jabolčni sok, ki je prešel alkoholno vrenje. Dober je bil tudi ohlajen čaj ali voda. A ne le vino in mošt ampak vedno tudi kak povabljen godec je s harmoniko pomagal ohranjati veselo razpoloženje tja do noči.

Kot že omenjeno, je bila voda pogosta pijača koscev. Od izvirov so jim jo prinašali otroci. Da pa ne bi predolgo ostajali v senci ob izvirih in da ne bi pili preveč mrzle vode, so se spletle posebne malce strašljive zgodbe o divji babi in divjem možu, ki da živita ob izviru. Otrokom so ukazali, da morajo vodo hitro naliti, da mrzle vode ne smejo piti in da se morajo hitro vrniti, ker jih bosta sicer ugrabila divji mož in baba. Divja baba, ki je predla v bližini izvira, ni ničesar slišala, če je bila voda v lempo natočena hitro. Če pa so otroci to počeli bolj ležerno, jih je lahko doletela neljuba usoda. Zjutraj, ko je bilo še hladno, otrok običajno ni bilo potrebno priganjati. Opoldne in proti tretji uri popoldne, ko je bilo sonce najmočnejše in je pritiskala vročina, pa se otrokom ni nič mudilo. Zato je veljalo, da bolj ko je bil izvir vode oddaljen, bolj strašna in hudobna sta bila divja baba in divji mož. Otroke so seveda vedno na to opozorili, da je bila zgodbica tudi vedno živa. Strah je deloval, otroci so se bali iti po vodo in s strahom so jo točili v sodčke. Zato ti včasih niso bili povsem polni, ker so otroci že prej zbežali od izvira, posebej če je slučajno v bližini kaj počilo. Vzrok so gotovo bile divje živali, ki pa jih otroci niso videli. A ker so slišali pok, je bilo to dovolj strašljivo. Otroci so to pripoved vzeli zares, jo kot odrasli posredovali naprej svojim otrokom in jo tako prenašali iz roda v rod.

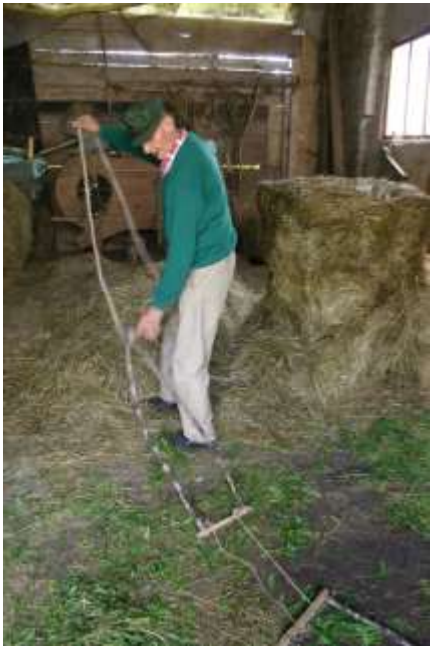
Še sedaj jo na primer vsako leto oživljajo v Cerknem ob pustnem običaju, ko je v mimohodu znamenitih cerkljanskih laufarjev eden izmed likov tudi divji mož. To je tisti, ki je prišel iz divjine in se boji civilizacije. Nad bližnjo reko Idrijco pa se pod Šebreljami nahajajo zelo znamenite Divje babe - jama, kjer so

med drugim našli najstarejšo piščal na svetu, ki so jo uporabljali neandertalci (Turk & Dirjec 1997). Tudi divja baba in divji mož naj bi po zgodbicah, ki so jih pripovedovali otrokom, živela v jamah.

Prevoz sena

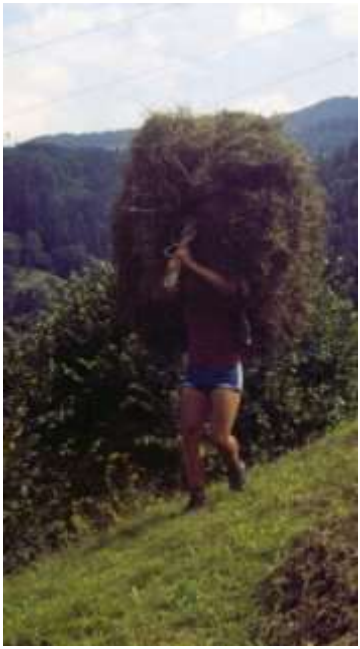
Pomemben del tradicije enokosnih travnikov je pomenilo prevažanje in spravilo sena. Voz sena so vlekli konji, voli ali tudi krave (Petek 2004). Vozovi so bili zelo različni in so jih uporabljali za različne namene (Bahar-Muršič 1992). Za prevažanje sena se je običajno uporabljalo velike lojtrnike. Prevažanje sena je namreč pomenilo tudi raznašanje semen rastlin. Kajti v senu je bilo še vedno dovolj semen, kar se je najbolj videlo na dnu senikov ali kozolcev, kjer je ostal seneni drobir. Tega so na nekaj let pograbili in ga raztresli tam kjer je bilo najmanj trave. Velikokrat so ga uporabili za ozelenitev novih kolovozov, ki so jih delali pozimi, velikokrat v tako imenovanih rabutah, robotah in še kako drugače so imenovali to skupno delo. Seneni drobir je vedno zelo hitro ozelenil površine. Poleg ozelenitve odprtih površin je seneni drobir pomenil tudi vir hrane v zimah, ko je le-te začelo primanjkovati. Če je primanjkovalo krme, so seneni drobir poparili v čebru in ga potem dajali živini za hrano. Drobirju so primešali rezano slamo tako pšenično kot narezana stebla koruze. Vse skupaj so poparili z vrelo vodo in posolili. Na takšen način pripravljena jed za živino je pomenila manjšo potrebo po drugi krmi. Živina se je z njo dobro nasitila.

Lahko so pripravili tudi poparek iz detelje in otave (Bavcon str. in lit 2018).



Slika 24 Na šentviški planoti so za prenos sena uporabljali tako imenovane bergle. / On Šentvid plateau for hay carrying special equipment called 'crutches' were used. J. B.

O raznašanju rastlin s senom na daljše razdalje priča tudi čas prve svetovne vojne, ko so frontne linije oskrbovali s senom zaradi konjev in mul, ki jih je imela vojska. Seno so v balah nabavljali marsikje in tako so se nekatere rastlinske vrste, ki jih verjetno prej pri nas ni bilo, naselile v te predele. Tako je v Bohinj prišla vrsta *Telekia speciosa*. V Malo Lazno je prišel bermudski meček



Slika 25 Nošenje bremena. / Burden carrying. M. B.

(*Sysirinchium bermudiana*) in še nekatere druge (Wraber 2005). Seno je bilo od nekdaj prodajni artikel, tudi na večje razdalje. Seno s senožeti na južnem pobočju Porezna so prodajali že pod Italijo, ki je te predele zasedla po prvi vojni (Bavcon str. in lit 2018). Po drugi vojni pa je izredno dišeče seno izpod Porezna, bilo namenjeno celo za prodajo v Makedonijo, saj so ga rabili za vojaške konje (Štucin 2011).

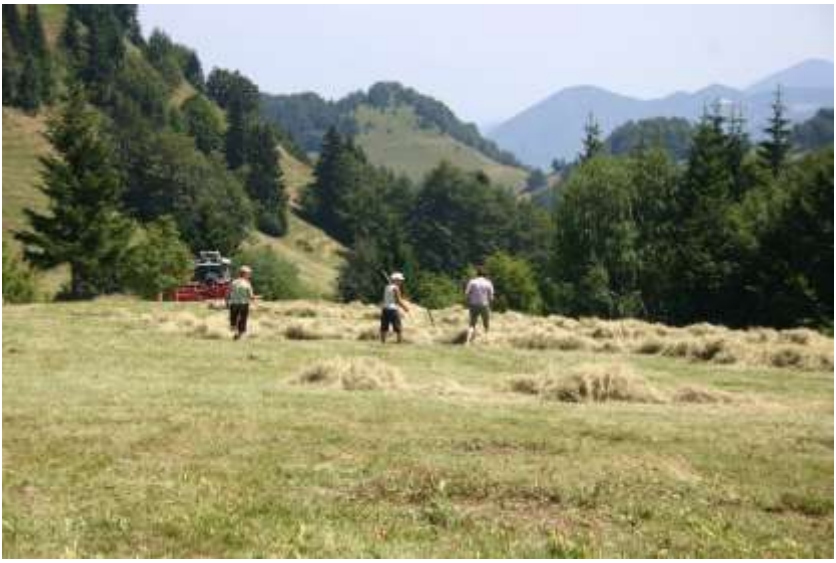
Slika 26 Iz visoko ležečih senikov se je seno spravilo v bremena, ki se jih je naložilo na voz ali sani. / Hay from haylofts at high elevations was collected into bunch and then put on a waggon or sleigh. M. B.

V tradicionalno košenem in sušenem senu so bila še vedno prisotna semena, ki pa jih danes ni več, saj se vsa posušena trava kosi prezgodaj. Redko kje se še ohranja tradicionalni način suhega baliranja enokosnih travnikov. Podobno je tudi nomadska paša ovac, ki je zanašala semena rastlin z juga v naše konce. Prav tako pa je bila taka paša značilna za širši Kras, kjer so se velike črede ovac selile na večje razdalje. V zimskem času, tja do marca so pustili celo pšenične njive popast, da se je pšenica bolj utrdila. Pozimi so se selili v toplejše dele bolj proti morju ob tržaški zaliv in Istro (Smrdel 1989, 1995) Rejo ovac so na Krasu prvič začeli

omejevati z začetki pogozdovanja Krasa od let 1822 naprej (Panjek 2015, Perko 2016, Praprotnik & Bavcon 2016) po drugi vojni pa še zaradi političnih razlogov, ker je to kazalo zaostalost (Smrdel 1995). V današnjem času je za ohranjanje kulturne krajine, velikokrat edini način paša, še posebej na Krasu in Istri (Poldini et al 2014, Pornaro et al. 2014 a, b) ali v strmih predelih v notranjosti (Bavcon 2013 a). Da se s pašo rastline tudi selijo tako nekoč kot danes pričajo tudi naša današnja opažanja na terenu. Na Cerkljanskih planinah, kjer se je po letu 1982 paša začela obnavljati (Štucin 2011), se je npr. panonski svišč z Medrc na sedlu malega Porezna naselil na sam vrh, kjer je z nekaj osebki prisoten tu in tam. Za kočo pa sva avtorja letos naštela kar 26 cvetočih primerkov. Tudi na sestopu na drugi strani proti Otavniku je danes več primerkov kot jih je bilo nekoč. Za kočo pa po vedenju avtorjev in popisovalcev flore Porezna (Seljak 1974) panonskega svišča ni bilo, ali pa je bil tako redek, da je bil spregledan. Danes k sreči temu ni več tako.

Ročno so večinoma kosili vse do šestdesetih let, nato pa so se že začele pojavljati prve motorne kosilnice. Kljub temu je vsaj do sedemdesetih let še marsikje prevladovala le ročna košnja. Predvsem v strminah se ponekod kosilnice nikoli niso uveljavile, ker je bilo tam strojno delo prenevarno. Zato so te strme predele začeli počasi opuščati. V osemdesetih letih so se na položnejših delih uveljavile traktorske in nato rotacijske kosilnice. Na velik kmetijah so sredi sedemdesetih let pričeli z novim načinom spravila krme- siliranjem. V ta namen so pričeli z izgradnjo silosov za siliranje. Travo so po košnji pustili samo oveneti in

nato so jo dali v silose. Ti so bili najprej stolpni kasneje pa še talni. V drugi polovici 90 let pa se je pričelo z baliranjem (Petek 2004).



Slika 27 Na višje ležečih planotastih delih so za spravilo sena kasneje uporabljali tudi traktorje. / At high elevation later on also tractor was used for hay transport. J. B.

Krajevna ali ledinska imena

Ponekod celo imena krajev še danes pričajo o tem, da je šlo za travnate površine. Tako so nastala številna imena, ki poimenujejo različne oblike travnatih površin, ki so jih ljudje uredili s krčenjem gozda, kot so: **Krčevina, Boršt, Zaboršt, Loka, Log,**

Senožeti, Ledine, Seča, Trebež, Laz(e/i), Rovt(e)/Rut(e), ali pa kaže na gospodarsko dejavnost, ki je bila tam prevladujoča: Senožete, Senovica, Otave, Rovte, Travnik, Trata, Senožeti, Senožeče idr (Savnik et al. 1968, Majdič 1994). Že ime senožet nekateri razlagajo, da izhaja iz tega, da so tam zaradi strmine seno včasih želi kar s srpi (Čemažar 2009). Srp je bil pogosto v uporabi tudi na skromnih in majhnih površinah na Krasu, ko je med kamenjem kosa težko prišla do veljave (Guštin in lit. 2018). Ledina je izraz, ki pomeni opuščeno njivo. Njivo so zasejali običajno najprej z mešanico detelje in trav, ker je detelja dobro rastla le prvo leto, potem pa je hitro izginila, trave pa so ostale. Po nekaj letih pa so take površine lahko ponovno preorali. Zanimivo je tudi ime kraja Senuše na Dolenjskem, ki ga nekateri razlagajo, kot da je bilo tam še pozno seno, kar zopet kaže na zamočvirjeno površino, kjer je rast rastlin običajno počasnejša in se je take površine tudi le enkrat kosilo. Poleg tega pa je še mnogo krajevnih ledinskih imen, ki nosijo imena ki se nanašajo na različne oblike dejavnosti, ki so jo ljudje tam izvjali. Zato so domačini pogosto uporabljali izraze gremo v travnik, log, laz, in še kaj

Senožeti, rovti v slovenski literaturi

Janez Jalen (1891-1966) in povest Ovčar Marko

Pisatelj Janez Jalen je bil pravi ljudski pripovednik, njegovi motivi so iz gorenjskega alpskega sveta. Opisi kmečkega

življenja se gibljejo na meji med realizmom in idiličnostjo ter nas nekoliko spominjajo na Frana Saleškega Finžgarja, po katerem se je zgledoval. V vsakdanje in praznično življenje je vpletal šege in navade in preproste ljudske modrosti. Izrazito izstopajo slikoviti opisi rastlinskega sveta in še posebej rastlinska imena. Že v mladih letih ga je oče učil gledati naravo z očmi in srcem, skupaj sta hodila po planinah in prav oče, ki je bil razgledan mož, mu je prebudil zanimanje za cvetje in divjad. Deček se je že v rosnih letih naučil opazovati lepoto narave.

Slika 28 Senožeti pod Sv. Petrom nad Begunjami. / Meadows under St. Peter under Begunje. J. B.

Ovčar Marko je povest, ki je rahlo zgodovinsko obarvana, saj sega v čas čebelarja Antona Janše. Prvič je izšla leta 1929. Dogajanje je postavljeno v pisateljevo rojstno faro, v vasi, ki se stiskajo pod Pečmi, in na planine ob vznožju in na pobočjih Vrtače, Begunjščice in Stola.

Te kraje je dobro poznal, najrazličnejše podatke o šegah in navadah je izbrskal v krajevni kroniki (Jalen 1958, Praprotnik 1985). Za poletne travnike pravi: »Trave so bile kakor mašni plašč vse nasute z rožami. V ravnicah sta gospodarila bela kresnica in zlata sončnica, v bregovih pa modri žajbelj in svetlorumeni vošč.«

Pisal je tudi o košenju sena v rovtih in o navadah, ki so to spremljale.

»V nedeljo popoldne so kljub vročemu soncu oživela pota in steze čez Peči. Senoseki in grabljevke, skoro sami fantje in dekleta, redkokdo je bil oženjen med njimi, so odhajali nad Zavrh na rovte. Bolj praznično kot delavniško oblečeni, z nageljni in rožmarinom na klobukih in modrcih, s koso ali grabljami čez ramo so postajali, peli in vriskali, da je bilo v vaseh pod njimi marsikomu hudo, ker je moral ostati doma … Ko se je znočilo, so zaplapolali ob pobočju Stola številni kresovi … In pesmi in vriski niso potihnili pozno v noč.
… v ponedeljek so vendar senoseki že navsezgodaj sekli, ker zjutraj kosa najbolj reže…
Zvečer so zakurili ogenj, prišli so vasovalci….
… Seno je bilo spravljeno v svisli, do vrha so bile natlačene.

Starosvetne šege in navade

Etnolog Niko Kuret (1906-1995) je raziskal mnoge slovenske etnološke posebnosti. Njegovo življenjsko delo je predstavitev slovenskih ljudskih praznikov z vsak letni čas posebej (Kuret 1989 a, b).

Mrzla rosa, ostra kosa
rada travca se kosi …

Micka zajtrk nese,
ga mimo mene nese,
jaz pa le počasi
jo režem in kosim.
Očka naprej kosijo,
se prav grdo držijo,
jaz pa le počasi
jo režem in kosim …

Fantič je bil vesel,
žvižgal in lépo pel,
v hladnem jutru
kosit je začel.

Tičke mi pojejo,

srce pozdravljajo:
Fantič le hit kosit,
me pa sušit.
(Kuret 1989)

S košnjo so povezani tudi nekateri svetniki. Sv. Medard (8 junij) je zavetnik koscev, ker takrat so včasih ob ugodnem letu že začeli s košnjo. Njemu so se priporočali zato, da bi dobro sušili seno. Dolgoletna opazovanja in izkušnje z vremenom so pokazale, da se tedaj vreme že lahko ustali na lepo ali na grdo. Zato se je ustalil rek: »Kakršno vreme Medarda kane, takšno štirideset dni ostane« (Kuret 1989 a). Včasih ni bilo vremenskih napovedi zato so ljudje držali različnih dolgoletnih opazovanj. Eno izmed takih je povezano z omenjenim dnem.
K sv. Primožu in Felicijanu (9 junij) so se ljudje zatekali po pomoč ko so deželi grozile kobilice. Po pripovedovanjih starejših za kobilicami tudi pri nas ni ostalo nič. Trave ni bilo kar pomeni, da ni bilo krme za živino.

Vidovo (15 junij) je bil praznik poletja, zato se je košnja obetala: (Kuret 1989 a)
Prišel bo sveti Vid, češnje zorijo
Fantje po travnikih
Travco kosijo
Vsaki ima koso
Ostro nabrušeno
Ko se bo storil svit
Grejo kosit

(Kuret 1989)

Zelo pa sta s košnjo v senožetih v hribovskem delu Slovenije povezana Sv. Jakob (25 julij) in Sv. Ana (26 julij), ker so običajno po teh svetnikih kmetje šli kosit v višje ležeče senožeti. Ta dva svetnika sta naznanjala zelo toplo obdobje v poletju. V tem času se je začela pojavljati tudi nevarnost toč. Zato so najprej poželi v dolini in potem pa šli kosit v senožeti.

Slika 29 Ko so poželi žito so šli na košnjo senožeti. / When cereal was harvested the mowing of meadows began. J. B.

S košnjo je povezan še Veliki šmaren to je 15 avgust, do takrat se je še normalno kosilo in sušilo seno. Pokosilo se je še najvišje ležeče senožeti. Med Velikim in Malim šmarnom pa se je kosilo še otavo, potem pa je veljalo, da se trava že slabo suši. Med Velikim in Malim šmarnom so nabirali zdravilna zelišča, ker je veljalo, da imajo tedaj največjo moč (Kuret 1989), to pa tudi kaže, da vse le še ni bilo pokošeno, predvsem tiste najvišje ležeče senožeti.

Zaključek

Ohranjanje velike biodiverzitete travnikov je izredno pomembno ne le zaradi velike estetske vrednosti, ampak tudi zaradi dodane vrednosti v kmetijstvu. Pisanost travnikov je tista, ki dela krajino tako čudovito in lahko predstavlja odličen turistični produkt. Velika rastlinska biodiverziteta travnikov prav tako zagotavlja kvalitetnejšo pašo. Ugotovili so namreč, da mleko živali, ki se pasejo na travnikih z velikim številom različnih rastlinskih vrst, vsebuje več maščob in antioksidantov (Stypinski 2011). Bogata rastlinska pestrost travnikov prav tako vpliva na čebeljo pašo. Če so na travniku različne rastlinske vrste, ki imajo poleg tega še različno obdobje cvetenja, nudijo čebelam pašo vse od zgodnje pomladi do jeseni. Prav tako raznovrstna čebelja paša vpliva na boljšo kvaliteto medu in drugih čebeljih izdelkov. Velike travnate površine s pestrim rastlinstvom shranijo tudi mnogo več ogljika kot revnejše ali njive s poljščinami. So bolj produktivna in dajejo dom večjemu številu različnih organizmov. Hkrati pa

preprečujejo erozijo in izhlapevanje vode. Izredno pomembno je torej, da travnike ohranjamo kar se da pisane. Botanični vrt Univerze v Ljubljani tako na robu Ljubljane v Rojah *in-situ* varuje suhi travnik. Na njem rastejo številne rastlinske vrste, med njimi tudi mnoge, ki so uvrščene na rdeči seznam ogroženih rastlinskih vrst (Bavcon & Marinček 2004). Travnik pokosimo pozno poleti, ko večina rastlin že odcveti in so njihova semena dovolj zrela. S pozno košnjo tako ohranjamo naravno semensko banko travnika. Prav tako sproti odstranjujejo vse invazivne vrste, ki se pojavijo tam zaradi bližnjih opuščenih njiv. Poleg tega ob vsakoletni košnji pridobimo tudi nekaj senenega drobirja z omenjenega travnika in naberemo semena tamkajšnjih rastlinskih vrst za semensko banko v Botaničnem vrtu. Tako poskrbimo za zalogo in varovanje genskega materiala v obliki semen tudi za potrebe reintrodukcije rastlinskih vrst na kakšnih drugih rastiščih.

Traditional mowing preserves plant biodiversity

Jože Bavcon, Blanka Ravnjak & Nada Praprotnik

Abstract

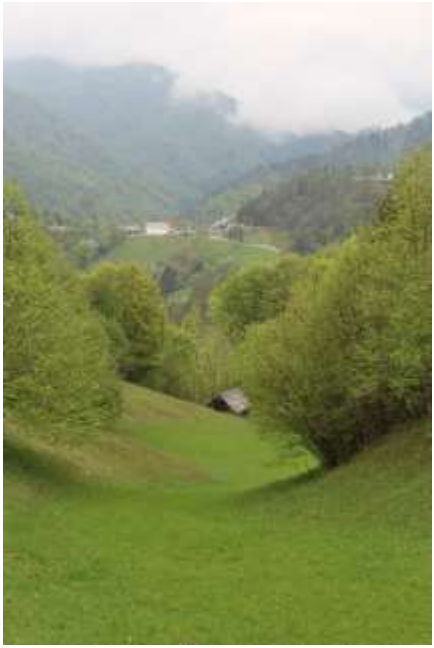
The meadows, once indispensable colourful treasures of the landscape and crucial goods of the peasant man, are now quite at risk. Excessively early mowing, ensilage and hay baling impoverish plant species diversity. Traditional knowledge which enabled the sustainable use of space and was the primary link that connected man to nature is also being lost. Although traditional meadow mowing was a heavy job and demanded a lot of time, it was better nature conservation than today's highly mechanized mowing. Each phase of work required skills, good knowledge and understanding of the environment. At the same time, specific tools have been developed. All this together led to a successful work. Mowing was at the same time a social event where people interconnected intergenerational and from the nearby and distant surroundings. They helped each other, exchanged experiences and have a good time after the work was finished. On tasks like mowing, people connected with each other and with the nature that was giving them home and food. The meadows in Slovenia

were created and remained precisely because of human land development.

Keywords: once a year mowed meadow, upland meadow, traditional mowing, plant species protection

Introduction

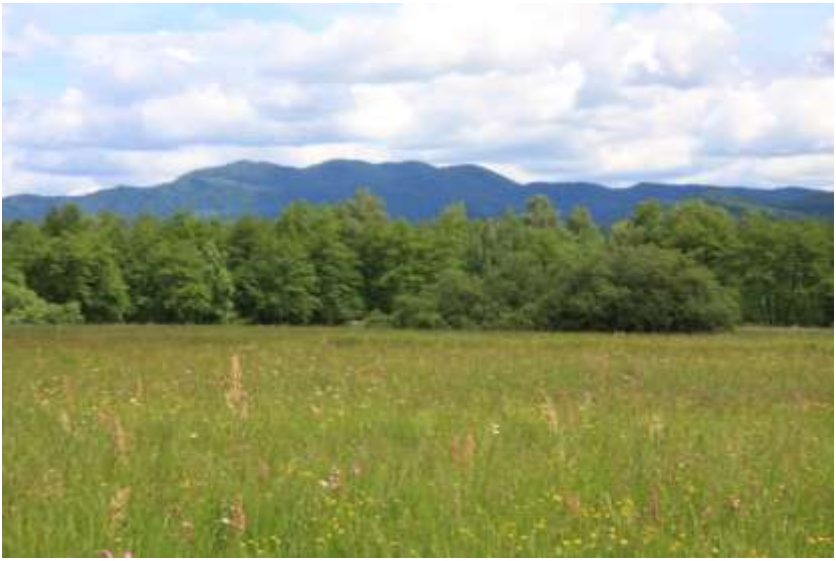
For many centuries, hand mowing has been the only way to obtain livestock feed. Especially in the mountain regions of Slovenia, where people cleared the forest for centuries, giving them areas for upland meadows or once a year mown meadows, for which different expressions were established in Slovenia. (https://www.etno-muzej.si/sl/digitalne-zbirke/kljucne-besede/kosnja, https://www.bohinj.si/stavbarstvo-arhitektura/). Already in the time of Maria Theresa, by decree of 7.12.1768 the common land used either by the gentlemen or by bondmen was divided among bondmen according to the size of their farms (Orožen 1971, Štucin 2011). With this decree, they wanted to provide better use and care for the said surfaces. The lawsuits of neglecting overgrown grassland were numerous, and they reported that the animals had to search the grass between the bushes and thorns (Orožen 1971).



Slika 30 Majska zelenina je pokazala kje se je vleklo veje s senom do senikov. / May greenness showed where last year branches with hay were dragged to hayloft. J. B.

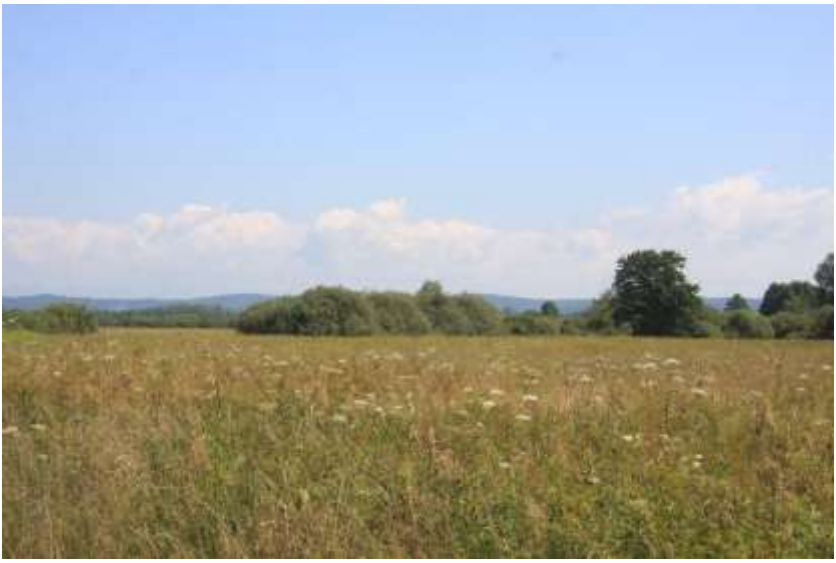
Since the upland meadows were areas that had been created by deforestation over the centuries, the natural succession tended back to the forest. Therefore, in order to preserve these areas, the annual mowing and every few years the shrinkage of the forest edge were necessary. Every few years, the forest edge was cut down, thus obtaining a fire for burning in the stove, for cooking pig feed in cauldrons or for distilling. They did not discard anything and they made good use of every single item (Bavcon 2013 a, Bavcon & Ravnjak 2018). When the hand mowing was

replaced by machines, most of these steep areas remained unmowed. For machine mowing, these surfaces were too steep and too dangerous for this job. Therefore, with the abandonment of hand mowing, steep areas began to overgrow. Machine mowing was generally taken into account only on more level surfaces, which remained mowed for some time. However, with time, many of these met the same fate of abandonment and this was followed by overgrowth. Up to the beginning of the seventies for many of the hilly areas was repeatedly cited: "Less cropland, more upland meadows and a great deal of livestock production." (Savnik et al. 1968).



Slika 31 Travniki na planinskem polju. / Grasslands at Planinsko polje. J. B.

However, once a year mown meadows were not only on steep surfaces but they were also on the plains or in humid valleys, as it is often mentioned in the literature (Savnik et al. 1968). Just like that were also extensive swamp areas, such as Ljubljana Marshes. In the most dump areas, they could also mow once a year only. Even more typical are once a year mown meadows in the Karst, because they also mowed only once because of draught, or just grazed on the overgrown grassland. If after the mowing the vegetation was somewhat renewed, the autumn pasture could follow. Meadows, overgrown grassland and pastures were in every place where the soil layer was shallow. Shallow soils are usually also on terraces by rivers, or in the Alpine valleys (Komac 2003), in the Dinaric region and also in some places on the plain where the rivers have accumulated a lot of gravel. Once a year mown meadows also appeared in the Kočevje region, where most of the grasslands were created when the Gottschee German population cleared the forests. In some areas there was not much arable land so also there prevailed once a year mown meadows or pastures (Ferenc & Zupan 2013). Landowners separated areas that were more suitable for horse feed or grazing than those that were for bovine animals. For horse pasture were intended areas where were so called tough grasses were dominant (such as: *Deschampsia cespitosa* and *Molinia arundinacea, Chrysopogon gryllus*...), often these are mostly acidified surfaces. The bovine animals did not like such grasses and pastures.



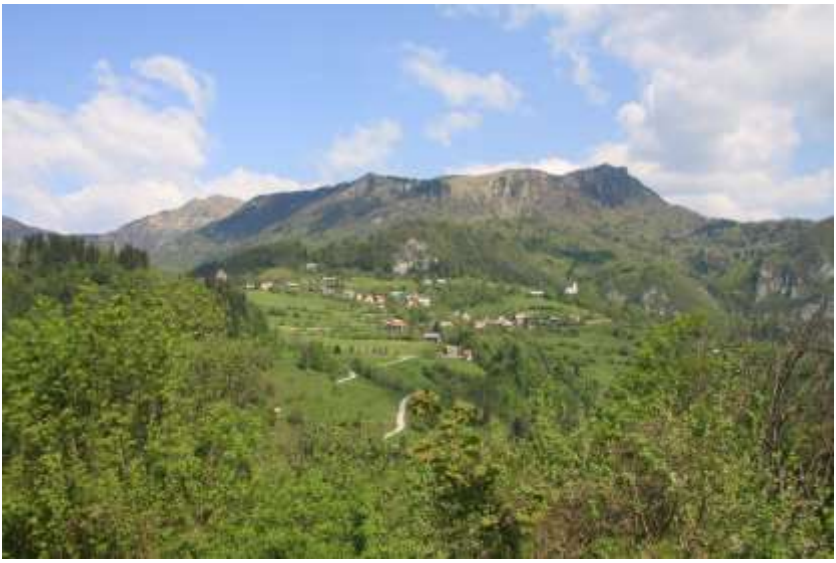
Slika 32 Vlažni travniki na Ljubljanskem barju. / Wet grasslands on Ljubljana marsh. J. B.

Where they were mowing, moving only once a year was no longer sufficient for the modified land treatment. With a more massive use of mineral fertilizers, the surfaces suitable for machine mowing have slowly changed to meadows where two or even more cuts were possible. An even greater change occurred at the end of the 1990s when the fodder in Slovenia began to be balled into plastic bales. This, however, meant an earlier mowing, with which the meadow's surfaces began to lose all their colourfulness very quickly. After a few years, all intensively treated areas became only green, wavy plains, where grasses prevailed, unlike previous surfaces, where many other perennial or annual herbaceous plant species were present in addition to grasses. That

is why the upland meadows that are still mowing remain so valuable to preserve the plant diversity and tradition of the time. It is not surprising that in many parts of Slovenia in recent years many societies have emerged that try to preserve this tradition. (http://www.rtvslo.si/moja-generacija/ohranjanje-tradicije-kako-so-kosili-nekoc/339534, https://www.mojaobcina.si/sevnica/dogodki/vi-tradicionalna-kosnja-na-lisci.html, https://www.facebook.com/DrustvoBaskadediscina/?hc_ref=ARTKb1YG3vIRqGmqHK5wrQ1oGlAoXFcIkpjGlBJ2C7LOHKvvrklZHM3rb1vg6Jun9ZM&fref=nf, https://www.facebook.com/media/set/?set=a.817846248380679.1073741855.100004659344066&type=3, https://www.mojaobcina.si/kanal-ob-soci/novice/turizem/likof-kosnje-v-vrtacah.html)

All of this suggests a nostalgic attitude towards these difficult but still beautiful times since all the elderly who still remember them like to talk about them even today. This and other people's own experiences, which are older than authors, have contributed to this record.

Different customs were developed when mowing the upland meadows, but later, with its abandonment, they were forgotten. By the seventies of the 20th century, in some places even longer, these customs had a very distinctive local note.



Slika 33 Visoko ležeče vasi v cerkljanskem hribovju. Pogled na Labinje s pogorjem Porezna v ozadju. / Villages on high elevations in Cerkljansko hills. Wiew to Labinje with Mt. Porezen in the back. J. B.

Upland and high meadows mowing

The upland meadows mowing was a difficult task, since there were lots of mowers and rakers on the farm, which meant that the work needed to be organized, as well as food for workers, but there was also satisfaction when the work was done. (Čemažar 2009, Petek 2004). In the interior of Slovenia, mowing and haying required more time and effort. Especially if it was raining during the mowing, which happened more often in the interior than in the Karst. In any case, there is more precipitation in the interior

than in the Karst, but above all, there is a different rainfall distribution. The worst and the longest was the hay drying on damp and muddy surfaces, which on which it was mostly mowing once a year. (http://meteo.arso.gov.si/uploads/probase/www/climate/text/sl/publications/podnebne_razmere_v_sloveniji_71_00.pdf.).

It should be noted that the lower lying meadows or those in the vicinity of the farms usually gradually mowed farmers themselves. Richer farmers hired day labourers for mowing. On the Karst mowers came from different parts of Primorska region. During the time of mowing Those who did not have any more work at home moved from place to place to earn some money. Work was well paid. Of course, only good mowers went to the Karst. Sharpen a scythe was also different in the Karst. More narrow and more at an angle that the grass could be cut at all. In the interior a scythe sharpening was thinner and less at an angle, which also meant a greater width which was narrower for the Karst (Bavcon J. p. in lit 2018). The grass is even rougher or dry in the Karst, as they used to say, and it is very hard to cut it with a scythe. That's why they always cut it early in the morning when it was still dewy. In the heat, however, this work was even more difficult; in short, mowing was a tough job. This was also reflected in the fact that the ratio of mowers to rakes was three to one that is one raker to three mowers (Bavcon J. p. in lit 2018, Petek 2004).

Mowing and harvesting of hay on large meadows, which were far from the home even one hour or more, took three days in good

weather. On the first day, they mowed and scattered the swaths, the next day turning half dry hay if it was already dry enough, depending on the composition of the flora and weather. This was happening late in the afternoon the second day or only on the third day, when the hay was turned the last time and then stored in a hayloft or in a mighty hayrick.

All this work could only be done smoothly in good weather. But if it rained in the middle of the day, the work could also be quite delayed. That is why people watched the weather closely and decided to mow at reliable signs of good weather (experience and advice from the elderly, weather proverbs regarding Christian saints, perpetual calendar, etc.) (https://www.dlib.si/stream/URN:NBN:SI:DOC-I35XT9U3/57cea8f6-4817-4e82-836a-909641db2668/PDF) (Bavcon 2013 a). Despite these, it often happened that it was necessary to go several times to the upland meadow that they managed to dry the hay. In such a case, the feed was worse and the hay did not have such a nice colour. This hay was usually salted, that the animal than still liked to eat it. However, if it was not salty and poorly dried, it also often dusted when harvesting, because so poorly dried hay was mouldy. It was always avoided that the hay was not stored in hayloft not dried or poorly dried because there was a risk of self-ignition. Not so good a dried hay could be carried only to the hayrick or to the smaller stacks.

The upland meadows were of different size, and the measure for them was the number of mowers. The smallest needed 3 to 5 mowers, medium sized 10, and very large as well as over 20 or

even 30 mowers for one day (Bavcon in lit 2018, Petek 2004, Orožen 1971). On Sorica there were even more than 100 mowers. (https://www.dlib.si/) There, as well as elsewhere in the hilly world of western and central Slovenia, upland meadows were mown in time from St. Anne (July 26th) to the Assumption (August 15th) (Čemažar 2009). First, it was necessary to harvest the grain before it might have been damaged by the hail which in the days around St. Anne often destroyed crops. The first was, therefore, the concern for food, and only then followed the upland meadows mowing and harvesting of hay, which was also the last major task of that year.

On Sorica all the mowers went to the upland meadows which were at a height of 1200 to 1600 m and more. They often stayed there till the end of the mowing. (https://www.dlib.si/) Even on Cerkno Hills, the higher areas of Škofje, Porezno, Kojce, Lajš and other places, they went on upland meadows in the above mentioned time (http://www.pef.uni-lj.si/markor/seno.htm, Bavcon J. p. in lit 2018). Later it was too late because of the weather which could get worse and it would be difficult for hay dry. (https://www.dlib.si/stream/URN:NBN:SI:DOC-I35XT9U3/57cea8f6-4817-4e82-836a-909641db2668/PDF, own observations)

Hand mowing began very early in the morning. The mowers gathered at the farmer when it was still dark. At the time of the full moon, they went to the outermost upland meadow soon after two or three o'clock in the morning (http://www.pef.uni-lj.si/markor/seno.htm, Kuret 1989, Bavcon J. p. in lit 2017,

Guštin in lit. 2018, Petek 2004). It is necessary to mention as a part of the village folklore the habit of mowers who here and there cut with sharp scythe a carnation hanging from a window and stick it in a hat, and thus teased housewives (Bavcon 2013 a). It was a lovely custom when farmer's daughter brought to the mowers food and delighted them with pinning boutonnière made of window flowers (Kunaver 2007). When they came to the upland meadow, it began to dawn and the mowers had to be sorted out. Usually, this was done by the farmer or by someone who was more experienced. This mower was also the first who started mowing. The children who had to get used to this work early were sorted out on the end. Then only scythes and hones sang. From time to time, the mowers stopped, wiped their scythe with a bunch of wet grass, recovered breathe a little and quenched thirst with plum, pear, or ordinary water. This drink was in a wooden small barrel, called 'putrih', which a boy wore along the meadow from the mower to the mower (Kunaver 2007). In other places, these wooden barrels, adapted for carrying on the back, were called 'lempe'. The drinks were also different from water, cider to wine.

Always someone was in charge of sharpening scythes. This work was not trusted to anyone, but only to those who knew how to sharpen the scythe well, correctly and evenly to a suitable sharpness. Because with an improper sharpening, it was possible to destroy the scythe. As they progressed with mowing along the slopes, the mowers took care that the sharpening-anvil and other necessary tools moved with them. Therefore, in accordance with progress made, they laid it down in the shady places along the

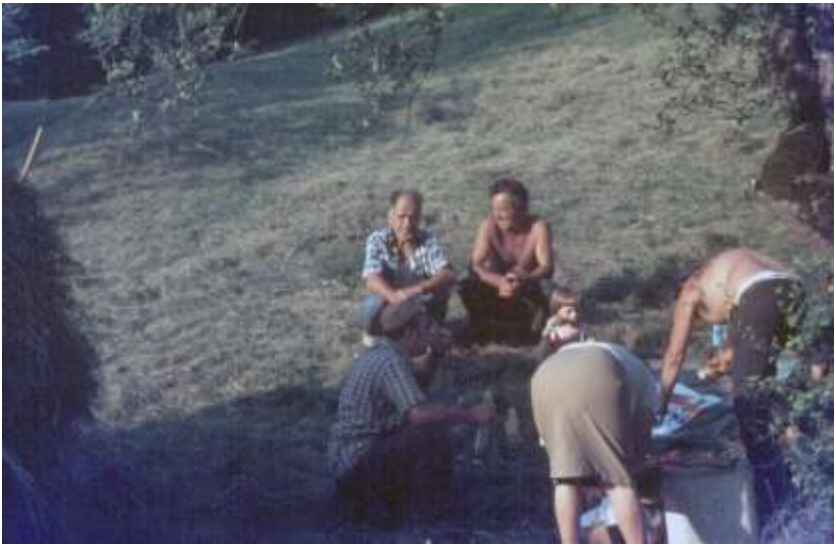
edges of the upland meadow. By doing this, they saved time and effort because they did not have to walk to the hay shed or hayloft every time and climb the slope again.

About nine o'clock it was a snack on the schedule. The food, which had to be good, otherwise they would not get the workers, was brought by women in the baskets, which were usually worn on their heads. In some places, these foods were carried in the baskets on the back. Undoubtedly, it was not easy to bear the burden, which weighed up to 25 kg or more to reach the upland meadow, an hour walk away from the village. Older children also helped them. As the saying goes from the vicinity of Križevci near Ljutomer: "The more the mower is served, the more his scythe cuts (Kuret 1989 a, Petek 2004)". Then, if necessary, they continued to mow until 11 or 12 o'clock when lunch was served.

Wherever possible, they also used different signals to communicate in the valley or to the village, when it was necessary to bring lunch or something else. Previously, they agreed on the signals, because there were no phones, let alone portable at the time. So it was often necessary to communicate whether the mowers came to lunch in the valley, which meant they would manage to mow everything otherwise the lunch had to be brought to the upland meadow. At places that were seen in the valley the white linen sheet was spread at a certain time. In this way, they sent a message to the valley.

After lunch, the mowers were resting in the shade until four in the afternoon, when they continued to mow if there was still anything

left. After a rest, they joined the rakers, which scattered the rows and turned the hay. They worked till evening and they also helped to harvest the hay on the second or third day after mowing. In the Karst, they brought the hay home with a team of oxen, put it in a shade, and had dinner. If the hay that day was not sufficiently dry, in case of bad weather it was raked in smaller piles, also called ‘plasti’ which were scattered and turned around the next day (Ravnjak B. p. in lit, 2018, Petek 2004).



Slika 34 Malica v senožeti. / Snack in the meadows. M. B.

For mowers, the most important equipment was good scythe and good footwear. Skilled mowers bought the scythe by the right sound which reflected the good quality of the metal. The length of the scythe blade ranged from 65 to 70 cm but could have been

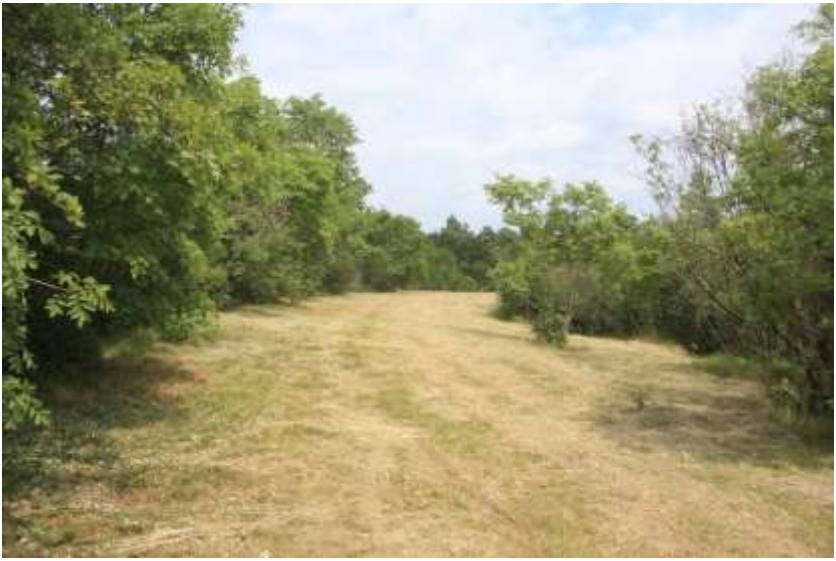
also longer. Especially good mowers used scythes with a 90 cm long blade. For successful work, the blade had to sharpen two times at the beginning (Bavcon p., in lit 2018). Among the mandatory equipment was also the grindstone holder - the 'vodir', sometimes called the 'čepur' (Kozjansko) or otherwise. It was most appreciated if it was made of common laburnum wood. A sufficiently thick trunk was excavated in the length of the grinding stone so that the rim was approx. 1 cm thick and the diameter of the manufactured holder up to 7 cm. Inside a deep tub-shaped hole was created, intended for a sufficient quantity of water and a well-selected grinding stone or hone. The back of the grindstone holder should have been flat so that it could be fitted well on the belt. For this purpose on the top of the device, a small wooden board was fastened with leather for sticking in. On the right outer side of the grindstone holder also an awl was attached to align the blade on the scythe. On the underside of the grindstone holder, there were two long teeth which allowed to trust the holder vertically into the grassy turf, thus preventing the spillage of water, which was mixed with a little vinegar and poured in holder almost to the top. The grindstone holder was also used in hammering to humidify the hammer, cleaning the scythe and for effective sharpening. In addition to wood, horns of beef cattle were also used for the grindstone holder. They were similarly drilled at the top and boards were attached to buckle on the horn (Bavcon in lit 2018). The grindstone holder has been the pride of householders, sometimes decorated and locally diverse, and they were also passed down from generation to generation. The Slovene Ethnographic Museum keeps a collection of

grindstone holders and many of them is still hanging on various homesteads around Slovenia (Smrdel 1991, 1993). Even today they are made as decorative accessories, as they are widely used for bouquets hanging on the wall. In some places just because of nostalgia for colourful grass meadows they put in horns meadow plants.

To the mower's equipment belonged also sharpening-anvil but not every mower had that part of the equipment with him since all the mowers were not good in sharpening. This was a large cast-iron wedge, which was hammered into a stump or into the ground. It usually had three loops where the hammer could be stuck or something else. By doing so, they prevented to push the wedge into the stump or in the ground, thus enabled smooth operation.

In addition to the above mentioned, we could say technical equipment, the clothing and footwear were also typical for mowers. Long trousers, bright or even white long-sleeved shirt, maybe a red neckcloth around the neck, and hat on the head were a common outfit. It sheltered them from the hot sun, but despite their head-covering, their faces were more tanned day by day, and their bodies were slimmer due to the way they worked (Kuret 1989 a, Kunaver 2007, Ravnjak B. in lit 2018). Footwear also had to be suitable for mowing. They were wearing high shoes, which were hobnailed for better grip in steep upland meadows. On very steep slopes they were mowing with crampons or knelt down with the leg which was closer to the grass. This allowed the mower to keep on the slope and to do his job. In addition, the role of high shoe was also to protect legs against possible injuries with a

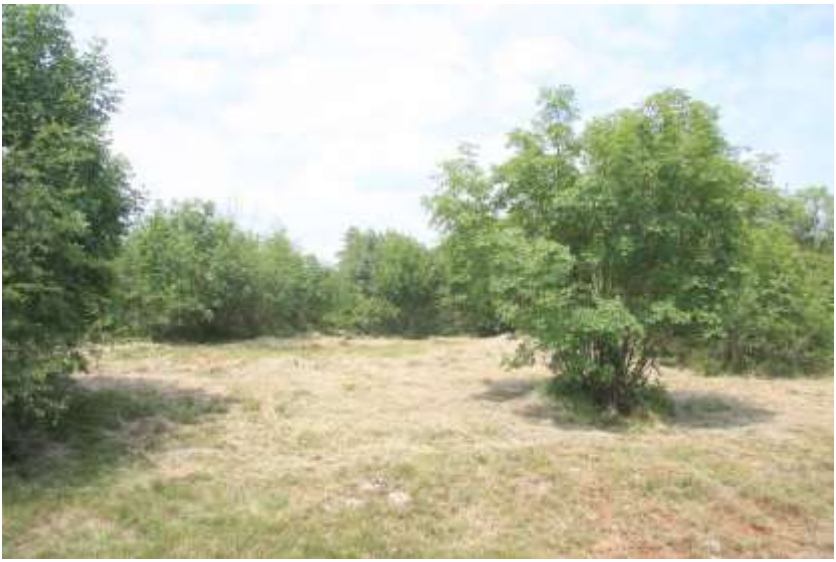
scythe, as well as snakebite and bite of other inhabitants of the upland meadows who did not manage to escape in time from sharp blades. However, the hand mowing of that time nevertheless preserved much more animal lives than today's mechanized mowing (Ravnjak B. p. in lit 2018).



Slika 35 Na Krasu se je seno lahko posušilo v enem dnevu. / In Karst region hay was dry in one day. J. B.

The mowers all had to be good, but there always appeared an individual who wanted to be better and faster than the others. For such a mower the others usually had a surprise, we could say almost a punishment. In the grass, they secretly pinned an iron bar which was used to straighten teeth on the blade. When such a quick mower hit it his scythe needed sharpening which, of course,

stopped the mower and probably brought him to senses. They also made fun from the mower who was too slow and was caught up when the others were on the second swath, while he was just on the first. It was normal, however, that the first mower mowed almost one and a half of the swath, and thus at least in the first swath encouraged the others. Sometimes the first mower waited for everyone else and when everyone came to the end of the swath, they sang a song. Singing and yodelling was part of the custom during the mowing, yodelling especially at the top of the upland meadow.



Slika 36 Na kraških gmajnah je bilo včasih sena zelo malo. / On Karst meadows the production of hay was small. J. B.

Then everyone knew that the upland meadow ‘had fallen’ as they liked to say (Bavcon p. in lit 2018).

Slika 37 Strojno spravilo sena na Krasu. / Machines collecting hay on Karst. J. B.

On the Karst in the hot days grass on the upland meadow was often dried in one day. Thus, drying and turning hay demanded significantly less work than in the interior of Slovenia, where the hay was usually harvested by others, but mostly only as late as the third day. Namely, on the Karst grew more dried flora, while the plants in the interior of the country were always less mature and more succulent with more water. The composition of the vegetation differed among the upland meadows. Among the slopes and shrubs, where there were few grasses, on the Karst the

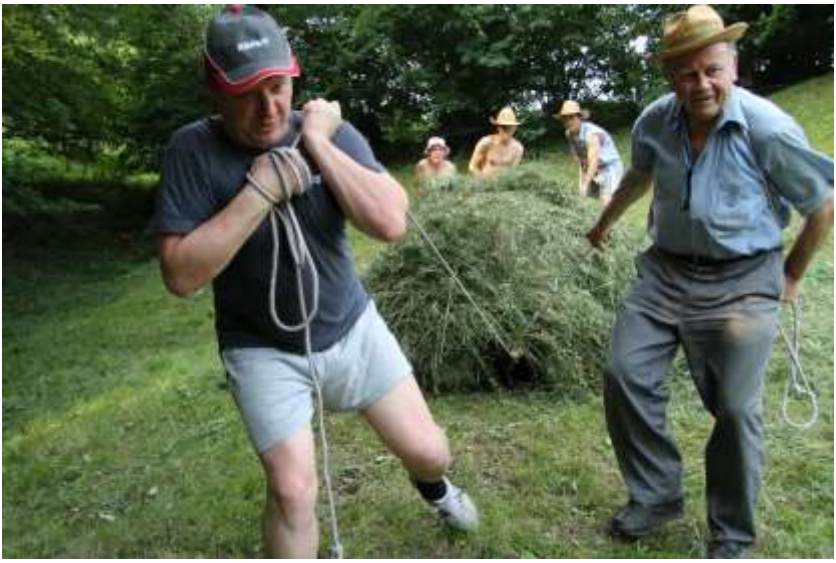
grass was cut with sickles. That little hay then was left in the ‘žbrince’, very open large baskets which were brought home with oxen. But since all did not have oxen, the owners left the baskets on the road, and then one brought them all for the village (Guštin in lit 2017, 2018).

Slika 38 V strmih delih je bilo spravilo sena z velikimi traktorji težavno, zato se je uporabljalo kombinacijo manjših strojev in ročne pomoči. / On steep slopes hay collecting with big tractors was heavy. For this reason a combination of small machines and hands was used. M. B.

Harvesting of hay

On the day of harvest, the hay was turned again. Then branches were cut down and tied into a wide fan. Usually, they used hazel

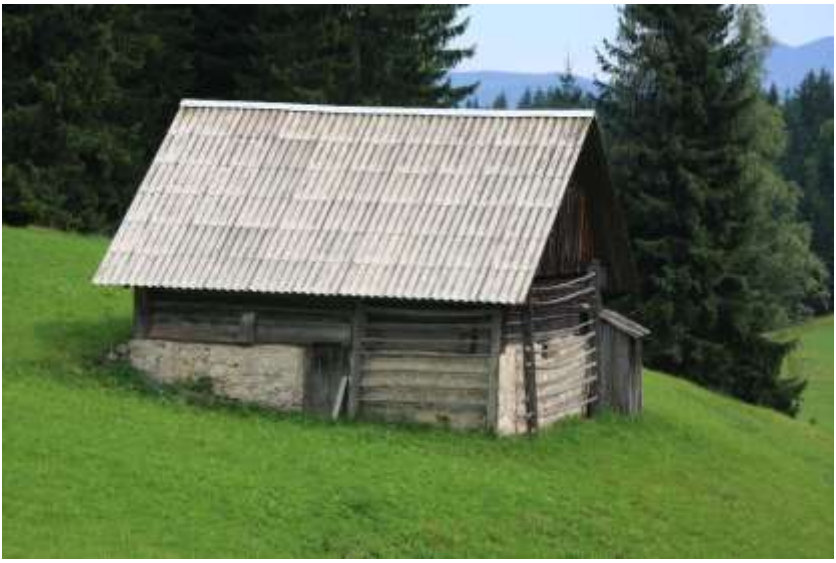
which grew everywhere. Branches of other deciduous trees were also used, above all beech and large-leaved lime were suitable for the harvesting of hay. The branches had to be long enough and, on the one hand, smooth so that they could run smoothly along the slope. Then they loaded hay on that fan with the hay forks and arranged the hay so that it did not dissipate during the hauling along the slopes. As well as the cart also the branch had to be properly loaded. This was especially important on steep upland meadows, where the hay sheds or haylofts were somewhere on the side in the shelter of the trees that they had not been taken off by the avalanche in winter. But the branch had to be pulled to the shed. Sometimes they did this with a horse but mostly they were drawn by people. If necessary, they were also pushed with rakes or hay forks. The branches were always dragged along previously defined paths. That is why especially in the lower part where paths converged near the hay shed they were already smooth and wide. When the branch arrived to the hayloft it had to be unloaded as soon as possible and go for a new one. Usually, all empty branches were left behind in the hay shed, and only late in the autumn or in the winter, when they came to take the hay with carts, they were taken to the valley. The larger the upland meadow, the more branches were loaded. On one branch they could have loaded about as much hay as on a large cart. The hay was then taken to the hayloft or to the haybarn (Bavcon p. in lit. 2018).



Slika 39 Vleka veje sena v senožeti. / Dragging brunch with hay. T. V.

The haylofts - hay sheds were different in various parts of Slovenia, whether made of stone or wood or a combination of both. Often the stony were only pillars, the rest of the construction was wooden. They could also be made of brick or stone, and the lower part of the building was intended for livestock, which could graze there during autumn. The haylofts were mostly covered with straw. In Primorska, where the Isonco Front took place, they began to cover them with the remnants of sheet metal from the Great War. The thin plates were used to cover a number of front-line which were entrenched in these regions. After the end of the war right here the technique of various cableways, introduced by the army, was used for the production of similar cableways for

logging and hay harvesting. Cableways were also brought to the places where there was no front line (Bavcon 1986, 2013 b, 2018). With these cableways the hay was dropped in the valley with wooden stretchers. Where it was not possible they used large sleighs which they dragged downwards. On more level sections round logs of wood were placed under sleigh that it was easier for them to pull. For improved safety, the sleighs were often extended with thin trunks if sleighs were pulled by livestock (oxen or horses).



Slika 40 Kombinirani seniki na Gorenjskem. / Combined hayloft in Gorenjska. J. B.

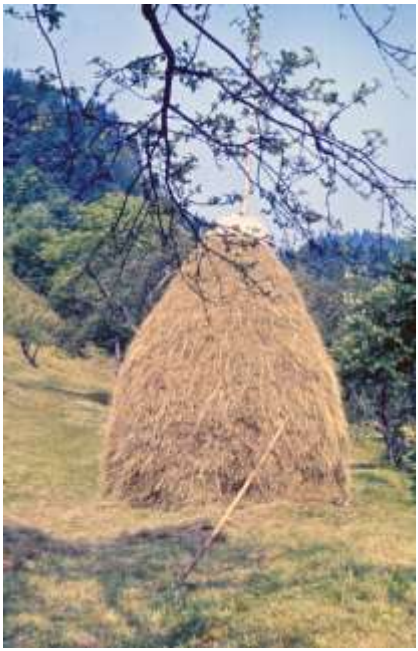
They then loaded hay on the trunks so that trunks dragged on the ground. This was a good thing because it hindered the too fast

towing that could push the animals down the slope and damage them. Similarly, they sometimes they have helped themselves with the cart, from which only the first part was used - the first wheels, while the rest of the cart leaned against the ground on thin trunks. I this way, on steep slopes they avoided continuous braking. In eastern Slovenia, hay was harvested above a cowshed or in stacks (Zemljič 2004).

Slika 41 Zaključevanje kope. / Stack finishing. M. B.

They took care of the animals and looked after them. For example, if a horse got wet in the rain, it was immediately wiped off with a woollen blanket. They gave the animal bread with

spirits that it would not get cold and, if possible, the animal was placed in a hayloft. They were also taking care of the oxen. Children also had to help. They had to keep flies and breezes away with branches and at least partially protected the animal from the bites. When they arrived on the upland meadow, in the summer animals were always placed in the shade, but in winter, horses sweaty due to the heavy towing of sleighs or carts were covered with woollen blankets as protection against cold (Bavcon p. in lit. 2018).

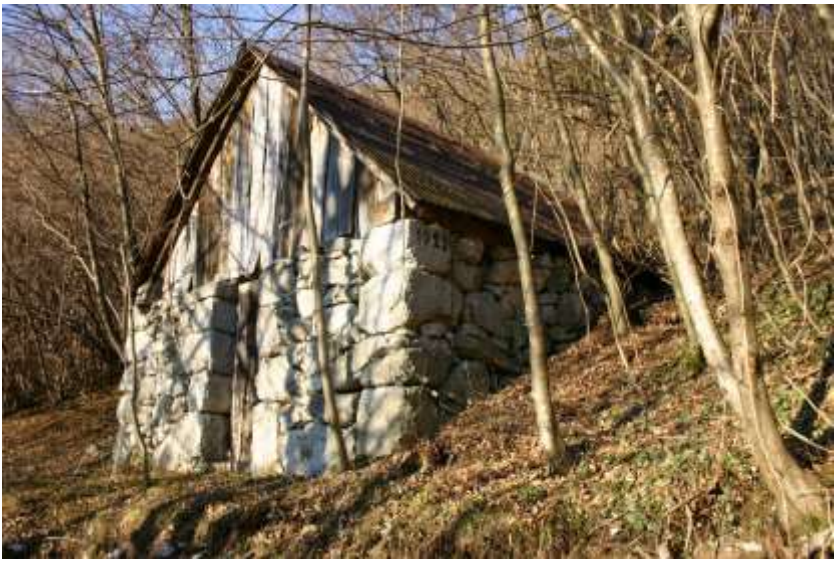


Slika 42 Kopa je na vrhu imela tudi svojo kapo. / Stack had on its top a hat. M. B.

If the year was good and the hay was enough, they often made a stack at the hayloft. But where there was no hayloft the stacks were the only possible way to harvest hay. Creating a stack was a special task that not everyone was skilled enough. That's why the stack was made by someone who best mastered this work. It was not necessarily that this was a householder. The core of the stack was represented by hard and strong spruce pole sharpened to a point, referred to as ‘stožer’ or with other expressions in various places (‘stožje’, ‘staže’, ‘stažišče’). This pole was stuck in the ground on the slope where it was safe from avalanches. From all sides it was supported up to one meter by a minimum of three or more big poles (‘stoge’), and then everything was tied together with clematis and consolidated with the wedges. Below they put branches, usually those with which they dragged the hay. They were first cut the branches and then placed them on a central axis in the form of sunbeams. Then they laid hay in layers so that the circumference was formed. Later, the hay was tossing on these layers, and the builder of the stack took care of its proper arrangement and compressing. In particular, it was important that the hay was well compressed by the central pole. If necessary, the builder of the stack made the hay layers again, putting them crosswise for better binding. Towards the top, it was necessary to narrow the stack appropriately so that the form was similar to egg or wrapped wine bottles - ‘kjantarica’. On top, they laid a wreath made of branches and a beautiful piece of grass turf, which served as a roof and at the same time it compressed the hay. They could also make real hay scoops, which were then wrapped around the cone. Some of them made a special web from branches which

they used to climb up and down the stack even later when the hay had to be brought to the valley. When the bath was well rounded and covered the builder descended to the ground with a rope. The stack was then raked out so that the water could well run from it and with that the work was done. In a well-made stack the hay could be preserved even for two years and more because the water couldn't soak it. The lower branches had to be seen from under the stack, which allowed the ventilation of the hay and prevented its rotting (Bavcon p. in lit 2018, http://www.pef.uni-lj.si/markor/seno.htm, http://www.rtvslo.si/moja-generacija/ohranjanje-tradicije-kako-so-kosili-nekoc/).

Slika 43 V dobrih letinah so poleg senika naredili še kope. / In rich harvest years beside putting hay into hayloft also stacks were done. M. B.



Slika 44 Senik na kobariškem. / Hayloft in Kobariško. J. B.

Food and customs

When the mowing was finished and the hay was harvested, a celebration followed with a feast called ‘pokosnica’ or ‘likof’. At that time the mowers and assistants gathered at the farmhouse or celebrated in the last mowed upland meadow. For this occasion, the housewife saved the best that was left of the pig and sausages. Above all, it was a prosciutto and a stuffed stomach, which were usually out of stock at the end if a lot of people attended the feast. But bread, especially white, should not run out. As a dessert, they offered cake ‘potica’, baked walnut pie, or in accordance with

local customs, some other good things. Last but not least, it could

Slika 45 Baliranje suhega sena ravno tako ohranja pisanost travnikov. / Dry hay baling conserves colourfulness of grasslands. J. B.

be dried plum compote, plentifully 'seasoned' with homemade spirits (Štajerska). Homemade spirit from plums, pears, apples or some other fruit was indispensable in the homesteads of the countryside all over Slovenia. It is therefore understandable that early in the morning mowers also drank it from shot glasses before they left on the upland meadow (Ravnjak B. p. in lit, 2018, Bavcon p. in lit 2018).

Naturally, the food was paired with a drink. The participants of the feast quenched the thirst with wine; where there was no wine

they drank new cider. New cider was an apple juice that went through alcoholic fermentation. Cold tea or water was also good. Not only wine and new cider, a cheerful mood up to the night always helped to maintain a guest with the accordion.

As mentioned earlier, water was a common mowers' beverage. From the springs they were brought by the children. In order not to remain too long in the shade at the springs and not drinking too much cold water a few scary stories were created of a wild hag and a wild man who lived at the spring. The children were told to quickly pour the water, that they should not drink the cold water and that they should return quickly otherwise they would be abducted by the wild man and the hag. The wild hag, who purred near the spring, did not hear anything if the jug was quickly filled with water. But if children filled water too slowly, they could have suffered a cruel fate. In the morning, when it was still cold, children usually didn't have to be urged. At noon and towards the third hour in the afternoon when the sun was the strongest and the heat was pressing, the children did not feel like to be in a hurry no more. If the spring was far away, the adults were telling to the children that the wild hag and the wild man are even scarier and wicked. The adults always made sure the story was convincing. The fear did work and children were scared to go down to fill the water. But when they were at the spring they filled the jugs very quickly. Therefore, the jugs were sometimes not quite full because the children had fled from the spring, especially if it happened by chance that something cracked nearby. These were surely wild animals, which the children did not see. But they

heard the crack and it was scary enough. The children took this narrative seriously, and as adults they passed it on to their children and thus transferred it from generation to generation.

Even today this narrative is revived every year in Cerkno with a carnival tradition where along the famous Cerklje 'laufarji' one of the characters is also a wild man in the procession. This is the man who came from the wilderness and fears civilization. Above the nearby Idrijca river, under the Šebrelja there are very famous Divje babe - caves, where amongst others were found the oldest flute in the world, used by Neanderthals (Turk & Dirjec 1997). According to the stories told to children the wild hag and the wild man lived in caves.

Slika 46 Grabljici v senožeti. / Rakers on meadow. M. B.

Hay transportation

An important part of the tradition of once a year mown meadows was hay transporting and harvesting. The carts with hay were hauled by horses, oxen or cows (Petek 2004). The carts were very different and used for various purposes (Bahar-Muršič 1992). Large rack-waggons were usually used to transport hay. The transfer of hay also meant the spread of plant seeds. In the hay, there was still enough seeds, which was most evident on the bottom of the haylofts or drying-frames, where the hay residue remained. They raked it every few years and scattered it where there was the least grass. Many times it was used for the greening of new cart tracks which were made in winter, often in so-called 'rebate', 'robote', as they called such joint work. The hay residue always greened the surface very quickly. In addition to the greening of open areas, hay debris also constituted a source of food in the winters when shortages began. If there was a shortage of feed, the hay debris was scalded in the bucket and gave this to livestock for feed. Hay residue was mixed with cut wheat straw and cut corn stalks. The mix was scalded with boiling water and salted. In such a way prepared foodstuff for livestock meant a lower need for other feed. The livestock was well fed with it. They were also scalding clover and aftermath (Bavcon p. in lit 2018).

Spreading of seeds on longer distances is also evidenced by the time of the Great War when the front lines were supplied with hay for the horses and mules held by the army. The hay was purchased

on many places in bales, and so some plant species, which probably were not here before, settled in these areas. In this way a species *Telekia speciosa* came to Bohinj. Bermudiana (*Sysirinchium bermudiana*) and some other species (Wraber 2005) came to Malo Lazno. Hay has always been the traded goods, even over long distances. Hay from upland meadows on the southern slope of Porezno was sold when this area was under Italy, which occupied these lands after the Great War (Bavcon p. in lit 2018). After World War II, the extremely odoriferous hay from below Porezna was intended even for sale in Macedonia, because it was used for military horses (Štucin 2011).

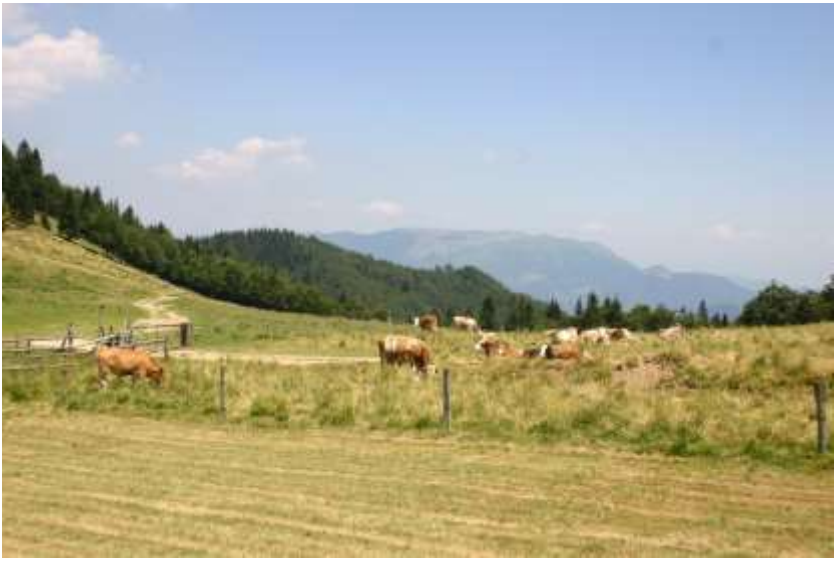
In the traditionally mown and dried hayseeds were still present but today the seeds are not present any more, as all the grass is mowed too early. The traditional way of dry baling on once a year mown meadows is rarely preserved. Similarly, the nomadic pasture of sheep brought the seeds of plants from the south to our territory. Such a pasture was characteristic also of the wider Karst, where large herds of sheep moved on greater distances. In the winter and up to March even the wheat fields were left to graze to make the wheat stronger. In winter they moved to warmer parts towards the sea along the Gulf of Trieste and Istria (Smrdel 1989, 1995). The sheep breeding in Karst was restricted for the first time when they began with afforestation of the Karst in1822 (Panjek 2015, Perko 2016, Praprotnik & Bavcon 2016) and after the World War II also for political reasons, because this was an indicator of underdevelopment (Smrdel 1995). In today's time, the preservation of the cultural landscape is often possible

only with grazing, especially in the Karst and Istria (Poldini et al 2014, Pornaro et al. 2014 a, b) or in steep parts in the interior (Bavcon 2013 a). With grazing plants also migrate, and this is demonstrated with our observations on the ground. At Cerkljanske planine where after 1982 the pasture started to restore (Štucin 2011), for example, brown gentian or Hungarian gentian from Medrce on the saddle of Small Porezno populated the very top, where with some species representative is present here and there. Behind the hut, the authors have listed 26 flowering specimens this year. Even on the descent on the other side towards Otavnik today there are more specimens than they used to be.

Behind the hut, according to the authors of the Porezen flora (Seljak 1974), there were no brown gentian or Hungarian gentian, or it was so rare that it was overlooked. Today, fortunately, this is no longer the case.

The meadows were mostly hand mowed until the sixties, and then the first motor mowers began to appear. However, at least until the seventies, only a hand mowing prevailed. Especially on the slopes in some places the motorised lawnmowers have never been effective because the machine work was too dangerous there. As a result, these steep lands were set aside. In the 1980s, tractors and then rotary lawnmowers were established on more level areas. In the mid-1970s, many farms started a new way of harvesting - with silaging. For this purpose, the construction of

silos for silage began. The grass was left only to fade after the mowing, and then it was placed in silos. The silos were initially tower silos and later bunker silos. In the second half of the 90s, baling began (Petek 2004).



Slika 47 Košnja in paša lahko ohranjata naše višje ležeče travniške površine. / Mowing and pasture can protect grasslands at high elevations. J. B.

Place or fallow names

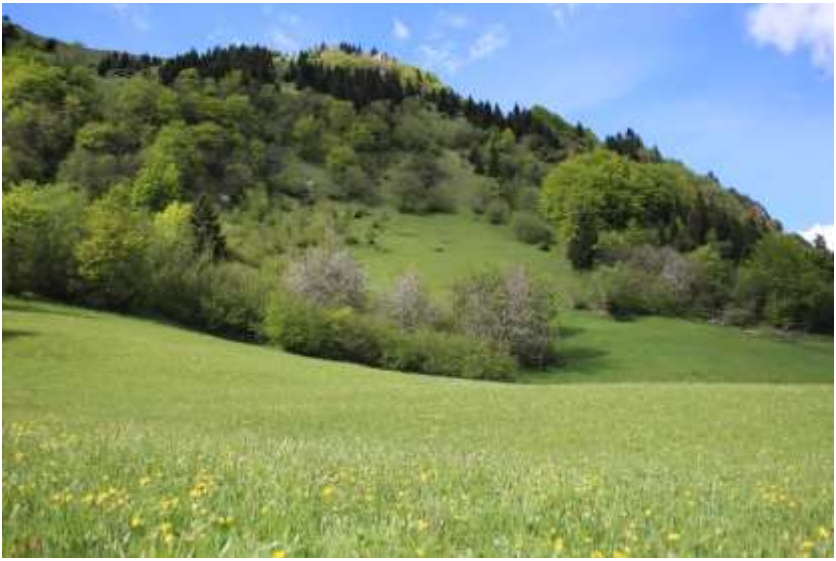
In some places, even the names of places still testify to the fact that it was grassland. Thus, many names have been created that describe the various forms of grassland which people have

obtained by deforestation, such as: **Krčevina, Boršt, Zaboršt, Loka, Log, Senožeti, Ledine, Seča, Trebež, Laz(e/i), Rovt(e)/Rut(e), or indicates an economic activity that was dominant there: Senožete, Senovica, Otave,** Rovte, Travnik, Trata, Senožeti, Senožeče etc. (Savnik et al. 1968, Majdič 1994). The name for upland meadow 'senožet' have been interpreted based on the fact that the hay was here reaped with sickles because of the steep slopes ('žeti seno - senožet') (Čemažar 2009). The sickle was often used also on modest and small surfaces in the Karst, where the scythe between the stones didn't come into effect (Guštin in lit. 2018). The term fallow means an abandoned field. The field was sown usually with a mixture of clover and grasses because the clover grew well only the first year, then quickly disappeared and the grasses remained. After a few years, however, such surfaces could be turned over with the plough again. Interesting is also the name of the village Senuše in Dolenjska, which some explain as if there was late hay. This suggests a muddy surface, where the growth of plants is usually slower, and such a surface is mowed only once a year. In addition, there are still many local fallow names referring to various forms of activity that people have implemented there. Therefore, locals often used the terms 'we go to the meadow', grove, cleared woodland and more.

Upland meadows and high meadows in Slovenian literature

Janez Jalen (1891-1966) and his novel Shepherd Marko

Writer Janez Jalen was a true folk narrator, his motives are taken from the Gorenjska Alpine world. Descriptions of peasant life are on the border between realism and idolizing, and they remind us a little about Fran Saleški Finžgar, who followed his example. In everyday and festive life, he interweaved customs and traditions and simple human wisdom. Picturesque descriptions of the plant world, and especially plant names, stand out remarkably. Already in his youth, his father taught him to look at nature with his eyes and heart; they walked along the mountains together, and his father, who was informed man, awakened in him the interest in flowers and wild animals. During the young years, the boy learned to observe the beauty of nature.



Slika 48 Senožeti v maju. / Meadows in May. J. B.

Shepherd Marko is a story with a touch of history since it reaches the time of beekeeper Anton Janša. The book was first published in 1929. The event is placed in the writer's birth parish, in the village which lies under the Peči and at the foot of Vrtača, Begunjščica and Stol slopes. He knew these places well and found various information about customs and tradition in the local chronicle (Jalen 1958, Praprotnik 1985).

For summer meadows he wrote: “The grass was like a mass scattered over with flowers. In the plains, white astilbe and the gold sunflower prevailed, and blue sage and the bright-yellow gentiana on the hills.”

He also wrote about cutting the grass in the high meadows and about the tradition that accompanied this task.
"On Sunday afternoon, despite the hot sun, the trails and the paths over the Peči were revived. Mowers and rakers, mostly young boys and girls, only a few among them married, went over Zavrh on the mountain meadows. More in festive than work clothing, with carnations and rosemary on hats and corsets, with scythes or rags over their shoulders, they were stopping, singing and shouting that many in the village were sad because they had to stay at home ... When the night fell, plenty of bonfires flared up on the slope of Stol ... And the songs and shouting did not become silent late into the night.

... on Monday, however, early in the morning the mowers were already mowing, because in the morning the scythe cuts the best ...
In the evening, they burned the fire, the lovers came ...
... The hay was harvested in the haylofts and stuffed to the top.

Old customs and traditions

Ethnologist Niko Kuret (1906-1995) studied many Slovenian ethnological features. His lifework is the presentation of Slovenian festivals for each season separately (Kuret 1989 a, b).

Chilly dew, sharp scythe,
The grass is quickly mowing,

Micka is bringing breakfast,
bringing breakfast and passes me by,
But I slowly
Cut the grass and mow.
Daddy is mowing forward,
He is pulling a sour face,
But I slowly
Cut the grass and mow.

The lad was happy,
Whistled and sang nice songs,
In cool morning
He started to mow.

Birds are singing to me
And greet my heart:
Lad, just mow the grass quickly
And we will go to dry the hay.
(Kuret 1989)

Some saints are also connected with mowing. St. Medard (June 8) is a patron of mowers because at that time they used to start mowing if the year was favourable. They prayed to him so that the hay would dry well. Long-term observations and experience connected with a weather have shown that nice or ugly weather can be seated firmly. Therefore, it became a permanent saying: "The weather on Medard day will continue through 40 days" (Kuret 1989 a). There were no weather forecasts in the past, so people took into account years of observation. Such an observation is related also to St. Menard's Day.

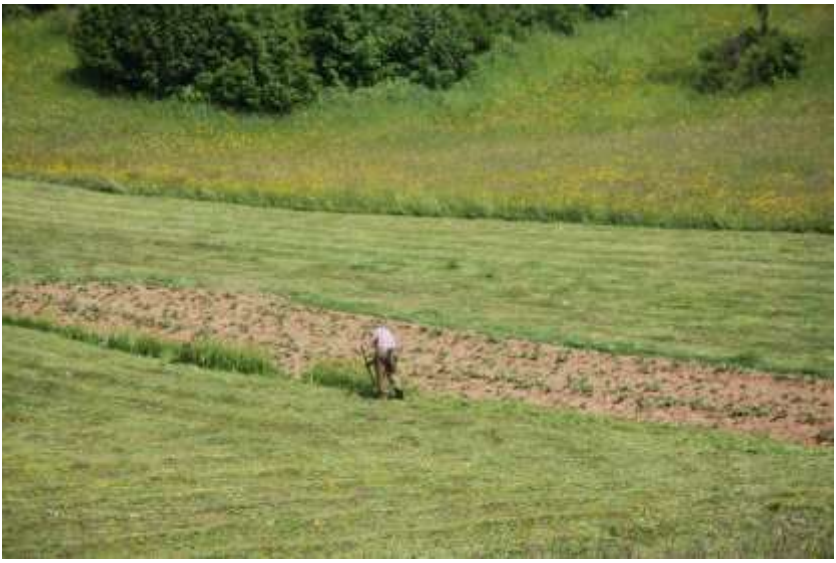
People resorted to St. Primus and Felicianus (June 9) when the country threatened the locusts. According to the narratives of the elderly after locusts nothing left in fields. There was no grass, which meant there was no feed for livestock.

St. Vitus (June 15) was a summer festival and the mowing was promising: (Kuret 1989 a)
Holy Vitus will come, cherries grow ripe,
Lads in the meadows
Are mowing grass,
Everyone has a scythe,
Sharpened and honed.
When it dawns
They are going to mow.
(Kuret 1989)

With the mowing on upland meadows in the hilly parts is closely connected St. James (July 25) and St. Anne (July 26) because farmers usually went on high upland meadows after these days. These two saints announced a very warm period in the summer. During this time, the danger of hail began to appear. Therefore, they first mowed in the valley and then went to the upland meadows.

With the mowing is also connected the Assumption on August 15. Till this day grass was normally mowing and the hay was drying.

Than the highest lying upland meadows were mowed. Between the Assumption and the Nativity of Our Lady the aftermath was cut, after that it was considered that the grass is already drying badly.



Slika 49 Ob njivah je bilo kljub strojni košnji še vedno velikokrat uporabiti koso. / Near fields, despite mowing with machines, scythe was still many time used. J. B.

During the Assumption and the Nativity of Our Lady they collected healing herbs because it was believed that they had the highest power at that time (Kuret 1989), which also shows that everything had not yet been mowed, especially meadows of the highest altitude.

Conclusion

Maintaining high biodiversity of meadows is extremely important not only because of the great aesthetic value but also because of

the added value in agriculture. Colourful meadows are those who make the landscape so beautiful and can represent an excellent tourist product. The high plant biodiversity of the meadows also provides a better pasture quality. They have found that milk of animals grazing in meadows with a large number of different plant species contains more fats and antioxidants (Stypinski 2011). The rich vegetation of the meadows also affects bee pastures. Different plant species on the meadow, which in addition have a different flowering period, offer forage for bees from early spring to autumn. Also, a variety of bee foraging affects the quality of honey and other bee products. Large grassy areas with variegated vegetation also store much more carbon than the poorer ones or fields with agricultural plant species. They are more productive and are giving home a greater number of different organisms. At the same time, they prevent erosion and evaporation of water (Institute of the Republic of Slovenia for Nature Conservation 2011). It is therefore extremely important to keep the meadows as colourful as possible. University Botanic Gardens Ljubljana on the edge of Ljubljana in Roje, protects the dry meadow in-situ. Many plant species grow on it, among them many which are listed on the red list of threatened species (Bavcon & Marinček 2004). We mow the meadow late in the summer, when most plants bloom and their seeds are mature enough. With late mowing we preserve the natural seed bank of the meadow. We also remove all invasive species that occur there due to nearby abandoned fields. In addition to this, with the annual mowing we also obtain some hay residue from the above-mentioned meadow and collect the seeds of the local plant species

for the seed bank in the Botanic Gardens. This way we provide the stocks and we protect the genetic material in the form of seeds for the needs of the reintroduction of plant species at some other sites.

Literatura / Literature

Bahar-Muršič A 1992. Razstava v Kulturnem domu Ajdovščina, maj 1992 Etnolog 2: 313-314.

Bavcon J. & Marinček A. 2004. A dry meadow as a live seed bank and an object of research. *Scripta Botanica Belgica*, 29: 131-134.

Bavcon J. & Ravnjak B. 2018. *Die farbenfrohen Wiesen Sloweniens : Freisinger Gartentage, 11. bis 13. Mai*

Bavcon J. 1986. *Flora okolice "Franje" pri Cerknem : diplomska naloga*. Ljubljana: 71pp.

Bavcon J. 2013 a. Naše rastline. 1. izd. Celovec: Mohorjeva, 2013. 256 pp.

Bavcon J. 2013 b. Rastlinstvo okolice Franje. Ljubljana: Botanični vrt, Oddelek za biologijo, Biotehniška fakulteta, 2013. [18] str., ilustr. ISBN 978-961-6822-17-6. http://www.botanicni-vrt.si/ebooks/rastlinstvo-okolice-franje/.

Bavcon J. 2018. Rastlinstvo okolice "Franje" = The flora of "Franja" and its surrounding. Ljubljana: Botanični vrt Univerze v Ljubljani, Oddelek za biologijo, Biotehniška fakulteta, 2018. 167 str. ISBN 978-961-6822-49-7.

Čemažar V. Z. 2009. Novaki, Novačani in »vaznkaš« skozi čas. Samozaložba, Novaki 264 pp.

Ferenc M. & Zupan G. 2013. Po sledeh Kočevarjev v Črmošnjiško-Poljanski dolini. Auf den Spuren der Gottscheer in der Mocshnitze. Dolenjske toplice; Društvo Kočevarjev staroselcev. 299 pp.

http://meteo.arso.gov.si/uploads/probase/www/climate/text/sl/publications/podnebne_razmere_v_sloveniji_71_00.pdf.

http://www.pef.uni-lj.si/markor/seno.htm

http://www.rtvslo.si/moja-generacija/ohranjanje-tradicije-kako-so-kosili-nekoc/339534

https://www.dlib.si/stream/URN:NBN:SI:DOC-I35XT9U3/57cea8f6-4817-4e82-836a-909641db2668/PDF
https://www.etno-muzej.si/sl/digitalne-zbirke/kljucne-besede/kosnja
https://www.bohinj.si/stavbarstvo-arhitektura/
https://www.facebook.com/DrustvoBaskadediscina/?hc_ref=ARTKb1YG3vIRqGmqHK5wrQ1oGlAoXFcIkpjGlBJ2C7LOHKvvrklZHM3rb1vg6Jun9ZM&fref=nf
https://www.facebook.com/media/set/?set=a.817846248380679.1073741855.100004659344066&type=3
https://www.mojaobcina.si/kanal-ob-soci/novice/turizem/likof-kosnje-v-vrtacah.html
https://www.mojaobcina.si/sevnica/dogodki/vi-tradicionalna-kosnja-na-lisci.html
Jalen J. 1958. Ovčar Marko. Vozarji. 1. del. Mohorjeva družba. Celje.
Komac V. T. 2003. Zakladnica bovške preteklosti. Založba Bogataj, Idrija. 176 pp.
Kunaver D. 2007. Pod Šmarno goro nekoč. Samozal. 206 pp.
Kuret N. 1989 a. Praznično leto Slovencev. Starosvetne šege in navade od pomladi do zime. Prva knjiga. Družina. Druga izdaja. 621 pp. (pp. 452: Košnja).
Kuret N. 1989 b. Praznično leto Slovencev. Starosvetne šege in navade od pomladi do zime. Druga knjiga. Družina. Druga izdaja. 627 pp. (pp. 22: Iz planine v dolino).
Orožen J. 1971. Zgodovina Celja in okolice. I del. Celjski Zbornik. Kulturna skupnost Celje. 658 pp.
Panjek A. 2015. Kulturna krajina in okolje Krasa. Založba Univerze na Primorskem. 149 str.
Perko F. 2016. Od ogolega do gozdnatega krasa. Pogozdovanje krasa. Zveza gozdarskih društev Slovenije. Gozdarska Založba. Založništvo Jutro. 269 str.

Petek T. 2004. Inovacije spreminjajo vsakdanjik. In: Stopinje Življenja zbornik občine Benedikt. Ed.: M. Toš pp. 271-288.
Poldini L., Vidali M., Castello M., Francescato C. & P. Ganis. 2014. Conservation on plant diversity of Karst dry Grasslands by the reintroduction of grazing.The case study of Bazovica. 165- 180. In: Buzan, E. V. & A. Pallavicini. BioDiNet. Koper. Str. 165–180.
Pornaro C., Macolino S. & Zilioto U. 2014 b. Productivity and forage quality of Karst Meadows under range of mowing management. In E. Bužan & A. Pallavacini BiDi Net. Pp181-194.
Pornaro C., Macolino S. & Ziliotto U. 2014 a. Spatial and seasonal variation of herbage yield and quality of some Karst pastures. In: E. V. Buzan & A. Pallavicini. BioDiNet. Koper. Str. 195–209.
Praprotnik N. & Bavcon J. 2016. *Andrej Fleischmann (1804-1867), vrtnar in vodja v Botaničnem vrtu v Ljubljani = Andrej Fleischmann (1804-1867), gardener and head of the Botanic Gardens in Ljubljana*. V Ljubljani: Botanični vrt Univerze: = University Botanic Gardens, 2016. 455 pp.
Praprotnik N. 1985. Rastlinstvo na stezah ovčarja Marka. Proteus 47: 194-198.
Savnik R., Planina F., Šifrer Ž. 1968. Krajevni leksikon Slovenije. I knjiga Zahodni del Slovenije, 487 str.
Smrdel I. 1989. Ovčarstvo na Pivki. Transhumanca od srede 19 do srede 20 stoletja ali trije »ovčarji« Koper.
Smrdel I. 1991. Pet oselnikov iz Zgornje Savinjske doline. Etnolog Nova vrsta (Ljubljana) letnik 1=52: 201-204.
Smrdel I. 1993. Turkova zbirka oselnikov. Etnolog Nova vrsta (Ljubljana) letnik 3=54: 295-297.
Smrdel I. 1995. Pastirji se vračajo (ali res?). Etnolog Nova vrsta (Ljubljana) letnik 5=56: 105- 130.

Stypinski P. 2011. The Effect of Grassland-based Forages on Milk Quality and Quantity. Agronomy Research 9: 479-488.
Štucin A. 2011. Kraji in ljudje pod Poreznom. Sprehod skozi cerkljansko preteklost. Mestni muzej Idrija- muzej za Idrijsko in Cerkljansko. 302 pp.
Turk I. & Dirjec J. 1997. Analiza usedlin = Analysis of sediments. V: Turk I. (ur.), Bastiani G., Turk I. *Moustérienska "koščena piščal" in druge najdbe iz Divjih bab I v Sloveniji = Mousterian "bone flute" and other finds from Divje Babe I cave site in Slovenia*, (Opera Instituti archaeologici Sloveniae, 2). Ljubljana: Znanstvenoraziskovalni center SAZU, Inštitut za arheologijo: Založba ZRC. Pp. 41-49.
Wraber T. 2005. O verjetnosti nesamoniklosti nekaterih semenk, primerov za floro castrensis, v flori Slovenije. Hladnikia 18: 3-10 (2005).
Zemljič I. 2004. Sprehod skozi zgodovino Benedikta od časov Marije Terezije do konca prve svetovne vojne. In: Stopinje Življenja zbornik občine Benedikt. Ed.: M. Toš pp. 167- 184.

Index seminum annis 2018 et 2017 collectorum

Jože Bavcon, Janja Makše, Blanka Ravnjak

CONIFEROPHYTINA (Gymnospermae)

Cupressaceae
1. *Juniperus communis* L. XX-0-LJU-*G*-555-681

Ginkgoaceae
2. *Ginkgo biloba* L. XX-0-LJU-*G*-555-439

Pinaceae
3. *Larix decidua* Mill. XX-0-LJU-*G*-555-682
4. *Pinus mugo* Turra SI-0-LJU-*G*-555-546
5. *Tsuga canadensis* (L.) Carriere XX-0-LJU-*G*-555-744

Taxaceae
6. *Taxus cuspidata* Sieb. & Succ. XX-1-LJU-*G*-555-740

Taxodiaceae
7. *Metasequoia glyptostroboides* Hu & Cheng 2017 XX-0-LJU-*G*-555-511

MAGNOLIOPHYTINA (Angiospermae)

Acanthaceae

8. *Acanthus balcanicus* Heywood & I.B.K. Richardson XX-0-LJU-*G*-555-289

Aceraceae

9. *Acer ginnala* Maxim. XX-0-LJU-*G*-555-290
10. *Acer griseum* (Franch.) Pax. XX-0-LJU-*G*-555-291
11. *Acer pseudoplatanus* L. XX-0-LJU-*G*-555-634
12. *Acer tataricum* L. SI-1-LJU-*G*-844-293

Actinidiaceae

13. *Actinidia melanandra* Franch. XX-0-LJU-*G*-555-636

Alismataceae

14. *Alisma plantago-aquatica* L. SI-0-LJU-*G*-555-303

Alliaceae

15. *Allium angulosum* L. SI-1-LJU-*G*-555-304
16. *Allium ericetorum* Thore XX-0-LJU-*G*-555-638
17. *Allium senescens* L. XX-0-LJU-*G*-555-639
18. *Allium sphaerocephalon* L. SI-0-LJU-*G*-555-307
19. *Allium tuberosum* Roxb. XX-0-LJU-*G*-999-308
20. *Allium ursinum* L. SI-0-LJU-*G*-555-309

Aloeaceae

* 21. *Gasteria pillansii* Kensit XX-0-LJU-*G*-555-670

Amaranthaceae

22. *Celosia argentea* L. XX-0-MJG-19--37440
23. *Froelichia gracilis* Moq. XX-0-LJU-*G*-555-424
24. *Gomphrena globosa* L. XX-0-MJG-19--37470

Amaryllidaceae

25. *Galanthus nivalis* L. SI-1-LJU-*G*-555-426
26. *Leucojum vernum* L. XX-1-LJU-*G*-555-685

Anacardiaceae

27. *Rhus verniciflua* Stokes XX-0-LJU-*G*-555-283
* 28. *Schinus polygamus* xx-GZU-yy-110232

* 29. *Schinus terebinthifolius* Raddi 2017 XX-0-LJU-G-555-584

Apiaceae

30. *Astrantia carniolica* Jacq. SI-0-LJU-G-004-332
31. *Astrantia major* L. SI-0-LJU-G-001-644
32. *Athamanta haynaldii* Borb. & Uechtr. XX-0-LJU-G-555-645
33. *Conium maculatum* L. SI-1-LJU-G-555-268
34. *Daucus carota* L. SI-0-LJU-G-555-393
35. *Eryngium amethystinum* L. SI-0-LJU-G-000-413
36. *Eryngium campestre* L. 2017 XX-1-LJU-G-555-414
37. *Eryngium giganteum* Bieb. 2017 XX-0-LJU-G-555-415
38. *Grafia golaka* (Hacq.) Rchb. SI-0-LJU-G-002-672
39. *Hacquetia epipactis* (Scop.) DC. SI-0-LJU-G-555-448
40. *Libanotis sibirica* (L.) C. A. Mey SI-0-LJU-G-555-492
41. *Meum athamanticum* Jacq. XX-0-LJU-G-555-696
42. *Pastinaca sativa* L. SI-0-LJU-G-002-710
43. *Pastinaca sativa* L. var. *fleischmanni* (Hladnik) Burnat SI-1-LJU-G-555-711
44. *Peucedanum officinale* L. XX-0-LJU-G-555-714
45. *Peucedanum schottii* Besser ex DC. SI-0-LJU-G-555-544
46. *Peucedanum venetum* (Spr.) Koch SI-0-LJU-G-002-715
47. *Sanicula europaea* L. SI-0-LJU-G-002-727
48. *Smyrnium perfoliatum* L. SI-0-LJU-G-555-599

Apocynaceae

49. *Amsonia tabernaemontana* Walt. XX-0-LJU-G-555-317

Aquifoliaceae

50. *Ilex aquifolium* L. SI-1-LJU-G-555-677
* 51. *Ilex perado* Aiton 2017 XX-0-LJU-G-555-469

Araceae

52. *Arum italicum* Mill. SI-0-LJU-G-555-327

Araliaceae

53. *Acanthopanax sieboldianus* Mak. XX-0-LJU-*G*-555-259
54. *Hedera helix* L. XX-0-LJU-*G*-555-673

Arecaceae
***** 55. *Caryota urens* L. XX-0-LJU-*G*-555-655

Aristolochiaceae
56. *Aristolochia clematitis* L. XX-0-LJU-*G*-555-324

Asclepiadaceae
57. *Vincetoxicum hirundinaria* Medik. SI-0-LJU-*G*-555-627

Asparagaceae
***** 58. *Asparagus sprengeri* Regel. XX-0-LJU-*G*-555-643

Asphodelaceae
59. *Anthericum ramosum* L. SI-0-LJU-*G*-555-323

Asteraceae
60. *Achillea clypeolata* Sibth. & Sm. RS-0-LJU-*G*-555-294
61. *Ageratum houstonianum* Mill. XX-0-LJU-*G*-555-298
62. *Anthemis tinctoria* L. RS-0-LJU-*G*-555-322
63. *Aster amellus* L. SI-0-LJU-*G*-002-329
64. *Bidens tripartita* L. SI-0-LJU-*G*-555-340
65. *Buphthalmum salicifolium* L. XX-0-LJU-*G*-555-649
66. *Calendula officinalis* L. XX-0-LJU-*G*-555-344
67. *Carduus nutans* L. SI-0-LJU-*G*-001-354
68. *Carlina vulgaris* L. subsp. *brevibracteata* (Andrae) K. Werner SI-0-LJU-*G*-555-652
69. *Centaurea cyanus* L. XX-1-LJU-*G*-555-360
70. *Chamomilla recutita* (L.) Rauschert XX-0-LJU-*G*-555-365
71. *Cirsium eriophorum* (L.) Scop. SI-0-LJU-*G*-555-371
72. *Cirsium palustre* (L.) Scop. SI-0-LJU-*G*-555-373
73. *Cirsium vulgare* (Savi) Ten. SI-0-LJU-*G*-555-659
74. *Coreopsis grandiflora* Hogg. XX-0-LJU-*G*-555-378

75. *Coreopsis verticillata* L. XX-0-LJU-G-555-379
76. *Cosmos sulphureus* Cav. XX-0-LJU-G-555-383
77. *Echinops exaltatus* Schrader XX-0-LJU-G-555-408
78. *Eupatorium cannabinum* L. SI-0-LJU-G-555-418
79. *Eupatorium purpureum* L. XX-0-LJU-G-555-419
80. *Gaillardia pulchella* Foug. XX-0-LJU-G-555-272
81. *Inula helenium* L. XX-0-LJU-G-555-471
82. *Inula hirta* L. SI-0-LJU-G-984-472
83. *Inula magnifica* L. XX-0-LJU-G-555-473
84. *Inula spiraeifolia* L. SI-0-LJU-G-555-474
85. *Leucanthemum ircutianum* (Turcz.) DC. SI-0-LJU-G-001-684
86. *Liatris graminifolia* (Walt.) Wild. XX-0-LJU-G-555-490
87. *Liatris pycnostachya* (Alexander) Geiser ex Fernald XX-0-LJU-G-555-491
88. *Petasites albus* (L.) Gaertner SI-0-LJU-G-555-712
89. *Pulicaria dysenterica* (L.) Bernh. XX-0-LJU-G-555-558
90. *Serratula lycopifolia* (Vill.) A.Kern. SI-1-LJU-G-555-589
91. *Silphium integrifolium* Michx. XX-0-LJU-G-555-594
92. *Silphium perfoliatum* L. XX-0-LJU-G-555-595
93. *Silybum marianum* (L.) Gaertner XX-0-LJU-G-555-596
94. *Solidago graminifolia* (L.) Salisb. XX-0-LJU-G-555-601
95. *Solidago virgaurea* L. SI-0-LJU-G-998-602
96. *Tagetes tenuifolia* Cav. XX-0-LJU-G-555-608
97. *Tanacetum corymbosum* (L.) Schultz Bip. subsp. *clusii* (Fischer ex Reichenb.) Heywood SI-0-LJU-G-555-609
98. *Telekia speciosa* (Schreb.) Baumg. XX-0-LJU-G-555-611
99. *Tithonia tagetiflora* Desf. SI-0-LJU-G-003-743
100. *Xeranthemum cylindraceum* Sibth. & Smith XX-1-LJU-G-555-630
101. *Zinnia elegans* Jacq. XX-0-LJU-G-555-631

Basellaceae

102. *Basella rubra* L. XX-0-LJU-G-018-633

Berberidaceae

103. *Gymnospermium scipetarum* Paparisto & Qosja ex E.Mayer & Pulević XK-0-LJU-G-555-447

Betulaceae
104. *Alnus glutinosa* (L.) Gaertner XX-0-LJU-G-555-640
105. *Betula platyphylla* Suk. XX-0-LJU-G-555-647

Boraginaceae
106. *Anchusa officinalis* L. XX-0-LJU-G-555-260
107. *Echium vulgare* L. SI-0-LJU-G-001-409
108. *Lithospermum officinale* L. SI-0-LJU-G-002-497
109. *Solenanthus scardicus* Bornm. XK-0-LJU-G-555-600
110. *Symphytum officinale* L. XX-0-LJU-G-555-738

Brassicaceae
111. *Aethionema saxatile* (L.) R. Br. SI-0-LJU-G-002-297
112. *Alyssoides utriculata* (L.) Medicus ME-0-LJU-G-001-314
113. *Alyssum montanum* L. SI-0-LJU-G-003-315
114. *Alyssum montanum* L. subsp. *pluscanescens* (Raim. ex J.Baumg.) Trpin SI-1-LJU-G-000-316
115. *Alyssum petraeum* Ard. CH-0-LJU-G-555-641
116. *Aurinia sinuata* (L.) Griseb. 2017 XX-0-LJU-G-555-313
117. *Fibigia clypeata* (L.) Medicus HR-0-LJU-G-555-420
118. *Isatis tinctoria* L. XX-0-LJU-G-555-481
119. *Lunaria rediviva* L. SI-0-LJU-G-555-500

Buxaceae
120. *Sarcococca saligna* Müll. Arg. xx-GZU-83-130436

Caesalpiniaceae
121. *Gleditsia triacanthos* L. XX-0-LJU-G-555-441

Calycanthaceae
122. *Chimonanthus praecox* (L.) Link 2017 XX-0-LJU-G-555-367
123. *Sinocalycanthus chinensis* Cheng & S.Y.Chang XX-0-LJU-G-555-597

Campanulaceae
124. *Campanula patula* L. SI-0-LJU-*G*-555-348
125. *Campanula rapunculoides* L. SI-0-LJU-*G*-555-351
126. *Campanula trachelium* L. SI-0-LJU-*G*-555-352
127. *Lobelia siphilitica* L. XX-0-LJU-*G*-555-498

Cannabaceae
128. *Humulus lupulus* L. XX-0-LJU-*G*-555-462

Caprifoliaceae
129. *Lonicera alpigena* L. SI-0-LJU-*G*-555-688

Carpinaceae
130. *Carpinus orientalis* Mill. XX-0-LJU-*G*-555-653
131. *Ostrya carpinifolia* Scop. SI-0-LJU-*G*-555-703

Caryophyllaceae
132. *Agrostemma githago* L. XX-1-LJU-*G*-555-300
133. *Dianthus armeria* L. SI-1-LJU-*G*-000-395
134. *Dianthus barbatus* L. XX-0-LJU-*G*-555-663
135. *Dianthus giganteus* D'uru XX-0-LJU-*G*-555-397
136. *Dianthus monspessulanus* L. XX-1-LJU-*G*-555-398
137. *Dianthus sternbergii* Sieber XX-1-LJU-*G*-555-665
138. *Dianthus tergestinus* (Rchb.) Kerner SI-1-LJU-*G*-555-400
139. *Lychnis coronaria* (L.) Desr. XX-0-LJU-*G*-555-691
140. *Lychnis flos-cuculi* L. 2017 SI-0-LJU-*G*-555-501
141. *Petrorhagia prolifera* (L.) P.W.Ball & Heyw. XX-0-LJU-*G*-555-713
142. *Petrorhagia saxifraga* (L.) Link SI-0-LJU-*G*-555-543
143. *Silene dioica* (L. em. Mill.) Clairv. AT-0-LJU-*G*-002-734
144. *Silene vulgaris* (Moench) Garcke SI-0-LJU-*G*-001-735
145. *Viscaria vulgaris* Bernh. XX-0-LJU-*G*-555-628

Celastraceae
146. *Euonymus europaeus* L. SI-0-LJU-*G*-555-417

Cichoriaceae

147. *Hieracium aurantiacum* L. XX-0-LJU-*G*-555-457
148. *Hieracium lanatum* Vill. XX-0-LJU-*G*-555-459
149. *Hieracium pilosella* L. SI-0-LJU-*G*-001-460
150. *Leontodon hispidus* L. subsp. *brumatii* (Rchb.) T.Wraber SI-0-LJU-*G*-555-488
151. *Leontodon hispidus* L. subsp. *danubialis* (Jacq.) Simonkai SI-0-LJU-*G*-010-489
152. *Tragopogon balcanicus* Velen. RS-0-LJU-*G*-998-615
153. *Tragopogon pterodes* Pančić RS-0-LJU-*G*-998-616

Cistaceae

154. *Helianthemum apenninum* (L.) Mill. XX-0-LJU-*G*-555-450
155. *Helianthemum nummularium* (L.) Mill. XX-0-LJU-*G*-555-451

Convallariaceae

156. *Convallaria majalis* L. SI-1-LJU-*G*-555-377
157. *Danaë racemosa* (L.) Medicus XX-0-LJU-*G*-555-389
158. *Polygonatum latifolium* (Jacq.) Desf. XX-1-LJU-*G*-555-549

Convolvulaceae

159. *Ipomoea purpurea* (L.) Roh. XX-0-LJU-*G*-002-475
160. *Ipomoea quamoclit* L. XX-0-LJU-*G*-555-678

Cornaceae

161. *Cornus mas* L. SI-0-LJU-*G*-555-380
162. *Davidia involucrata* Baill. XX-0-LJU-*G*-555-662

Crassulaceae

163. *Sedum maximum* Suter SI-1-LJU-*G*-555-587

Cucurbitaceae

164. *Bryonia dioica* Jacq. XX-0-LJU-*G*-555-648
* 165. *Ecballium elaterium* (L.) Rich. XX-1-LJU-*G*-555-406

166. *Momordica charantia* L. XX-0-MJG-19--54610

Cyperaceae
167. *Carex limosa* L. SI-1-LJU-G-555-355

Datiscaceae
168. *Datisca cannabina* L. XX-0-LJU-G-555-390

Dioscoreaceae
169. *Dioscorea balcanica* Košanin SI-0-LJU-G-555-402

Dipsacaceae
170. *Cephalaria gigantea* (Ledeb.) Bobrov XX-0-LJU-G-555-361
171. *Dipsacus fullonum* L. 2017 SI-0-LJU-G-555-403
172. *Dipsacus strigosus* Willd. ex Roem & Schult XX-0-LJU-G-555-404
173. *Scabiosa graminifolia* L. SI-0-LJU-G-555-582
174. *Scabiosa hladnikiana* Host. SI-0-LJU-G-009-730
175. *Scabiosa lucida* Vill. SI-0-LJU-G-555-583
176. *Scabiosa triandra* L. SI-0-LJU-G-003-731
177. *Succisa pratensis* Moench SI-0-LJU-G-002-607

Elaeagnaceae
178. *Elaeagnus multiflora* Thunb. XX-0-LJU-G-555-667

Euphorbiaceae
179. *Ricinus communis* L. XX-0-LJU-G-555-724

Fabaceae
180. *Astragalus falcatus* Lam. 2017 XX-0-LJU-G-555-331
181. *Desmodium canadense* (L.) DC. XX-0-LJU-G-555-271
182. *Dorycnium germanicum* (Gremli) Rouy. XX-0-LJU-G-555-666
183. *Glycine max* (L.) Merr. 'Lutea' XX-0-LJU-G-555-443
184. *Glycine max* (L.) Merr. 'Nigra' XX-0-LJU-G-555-671
185. *Glycyrrhiza glabra* L. XX-1-LJU-G-555-444
186. *Laburnum alschingeri* (Vis.) K. Koch SI-1-LJU-G-555-483

187. *Laburnum anagyroides* Medik SI-0-LJU-*G*-555-484
188. *Lathyrus vernus* (L.) Bernh. subsp. *vernus* XX-0-LJU-*G*-555-683
* 189. *Leucaena leucocephala* (Lam.) de Wit xx-GZU-yy-110257
190. *Melilotus altissimus* Thuill. XX-0-LJU-*G*-555-694
191. *Spartium junceum* L. SI-0-LJU-*G*-002-603
192. *Thermopsis montana* Nutt. XX-0-LJU-*G*-555-742

Fumariaceae
193. *Corydalis cava* (L.) Schweigg. & Körte SI-0-LJU-*G*-555-381
194. *Corydalis solida* (L.) Clairv. SI-0-LJU-*G*-555-382

Gentianaceae
195. *Centaurium erythraea* Rafn XX-0-LJU-*G*-555-657

Geraniaceae
196. *Geranium macrorrhizum* L. SI-0-LJU-*G*-555-433
197. *Geranium pratense* L. SI-0-LJU-*G*-555-435
198. *Geranium robertianum* L. SI-0-LJU-*G*-555-436

Globulariaceae
199. *Globularia punctata* Hegetschw. SI-0-LJU-*G*-003-442

Hamamelidaceae
200. *Liquidambar styraciflua* L. 2017 XX-0-LJU-*G*-555-496

Hyacinthaceae
201. *Bellevalia romana* (L.) Reichenb. SI-1-LJU-*G*-555-335
* 202. *Bowiea volubilis* Harv. XX-0-LJU-*G*-555-341
203. *Muscari comosum* (L.) Miller SI-1-LJU-*G*-555-519
204. *Muscari neglectum* Guss. ex Ten. XX-1-LJU-*G*-555-520

Hydrophyllaceae
205. *Nemophila maculata* Lindl. XX-0-LJU-*G*-555-523

Hypericaceae

206. *Hypericum kalmianum* L. XX-0-LJU-*G*-555-463
207. *Hypericum olympicum* L. XX-0-LJU-*G*-555-464
208. *Hypericum perforatum* L. SI-0-LJU-*G*-555-676
209. *Hypericum tetrapterum* Fries SI-0-LJU-*G*-555-466

Iridaceae

210. *Crocus speciosus* Bieb. 2017 XX-0-LJU-*G*-555-386
211. *Crocus vernus* (L.) Hill. SI-0-LJU-*G*-555-387
212. *Gladiolus palustris* Gaudin SI-1-LJU-*G*-555-440
213. *Iris sibirica* L. subsp. *erirrhiza* (Pospichal) T. Wraber SI-1-LJU-*G*-555-479
214. *Iris sibirica* L. subsp. *sibirica* SI-1-LJU-*G*-555-480
215. *Sisyrinchium bermudiana* L. SI-0-LJU-*G*-555-598

Juglandaceae

216. *Carya ovata* K. Koch XX-0-LJU-*G*-555-654
217. *Juglans cinerea* L. XX-0-LJU-*G*-555-679
218. *Juglans nigra* L. XX-0-LJU-*G*-555-680
219. *Pterocarya fraxinifolia* (Lam.) Spach. XX-0-LJU-*G*-555-557

Juncaceae

220. *Luzula sylvatica* (Huds.) Gaud. XX-0-LJU-*G*-555-690

Lamiaceae

221. *Ajuga reptans* L. XX-0-LJU-*G*-555-637
222. *Ballota rupestris* (Biv.) Vis. XX-1-LJU-*G*-555-334
223. *Betonica officinalis* L. SI-0-LJU-*G*-555-336
224. *Betonica officinalis* L. subsp. *serotina* (Host) Hayek SI-0-LJU-*G*-555-337
225. *Clinopodium vulgare* L. XX-0-LJU-*G*-555-660
226. *Horminum pyrenaicum* L. XX-1-LJU-*G*-555-675
227. *Lavandula angustifolia* Mill. SI-0-LJU-*G*-555-487
228. *Lycopus europaeus* L. SI-0-LJU-*G*-555-503
229. *Marrubium vulgare* L. SI-0-LJU-*G*-555-507
230. *Melissa officinalis* L. SI-0-LJU-*G*-555-278

231. *Mentha aquatica* L. XX-0-LJU-*G*-555-695
232. *Mentha pulegium* L. SI-0-LJU-*G*-555-510
233. *Monarda didyma* L. XX-0-LJU-*G*-555-698
234. *Monarda fistulosa* L. XX-0-LJU-*G*-555-517
235. *Nepeta cataria* L. XX-0-LJU-*G*-555-699
236. *Nepeta micrantha* Bunge XX-0-LJU-*G*-555-700
237. *Nepeta pannonica* L. SI-0-LJU-*G*-555-524
238. *Origanum vulgare* L. SI-0-LJU-*G*-555-530
239. *Phlomis tuberosa* L. XX-0-LJU-*G*-555-545
240. *Salvia sclarea* L. SI-1-LJU-*G*-555-576
241. *Satureja montana* L. subsp. *variegata* (Host) P.W. Ball SI-0-LJU-*G*-555-580
242. *Scutellaria altissima* L. SI-1-LJU-*G*-555-586
243. *Sideritis scardica* Griseb. DE-0-LJU-*G*-002-733
244. *Stachys germanica* L. XX-0-LJU-*G*-555-736
245. *Stachys recta* L. XX-0-LJU-*G*-555-737
246. *Teucrium arduini* L. XX-0-LJU-*G*-555-612
247. *Teucrium chamaedrys* L. SI-0-LJU-*G*-555-613
248. *Teucrium hircanicum* L. XX-0-LJU-*G*-555-741

Lardizabalaceae
249. *Decaisnea fargesii* Franch. XX-0-LJU-*G*-555-394

Liliaceae
250. *Hosta ventricosa* (Salisb.) Stearn XX-0-LJU-*G*-555-461

Linaceae
251. *Linum usitatissimum* L. SI-0-LJU-*G*-555-276

Lythraceae
252. *Lythrum salicaria* L. SI-0-LJU-*G*-555-505

Magnoliaceae
* 253. *Magnolia champaca* (L.) Figlar XX-0-LJU-*G*-011-506

Malvaceae
254. *Althaea armeniaca* Ten. XX-0-LJU-G-555-311
255. *Althaea officinalis* L. XX-0-LJU-G-555-312
* 256. *Gossypium arboreum* L. XX-0-LJU-G-555-446
* 257. *Gossypium hirsutum* L. XX-0-LJU-G-555-445
* 258. *Hibiscus coccineus* Walter XX-0-LJU-G-555-455
* 259. *Hibiscus sabdariffa* L. XX-0-LJU-G-555-674
260. *Hibiscus trionum* L. XX-0-LJU-G-555-456

Martyniaceae
261. *Proboscidea louisianica* (Mill.) Thell. XX-0-LJU-G-555-720

Melanthiaceae
262. *Veratrum album* L. XX-0-LJU-G-555-746

Meliaceae
* 263. *Melia azedarach* L. XX-0-LJU-G-555-509

Mimosaceae
* 264. *Mimosa pudica* L. XX-0-LJU-G-555-513

Moraceae
265. *Maclura pomifera* (Raf.) Schneid. XX-0-LJU-G-555-692

Musaceae
* 266. *Musa basjoo* Sieb. & Zucc. XX-0-LJU-G-555-518

Myrtaceae
* 267. *Psidium cattleianum* Sabine xx-GZU-yy-110137

Nyctaginaceae
268. *Mirabilis jalapa* L. XX-0-LJU-G-555-514

Oleaceae
269. *Chionanthus virginicus* L. 2017 XX-0-LJU-G-555-368

270. *Fraxinus ornus* L. SI-0-LJU-*G*-555-423

Onagraceae
271. *Epilobium parviflorum* Schreber XX-0-LJU-*G*-555-410
272. *Lopezia racemosa* Cav. XX-0-LJU-*G*-555-689

Paeoniaceae
273. *Paeonia lactiflora* Pall. XX-0-LJU-*G*-555-704
274. *Paeonia lutea* Delavay 2017 XX-0-LJU-*G*-996-534
275. *Paeonia officinalis* L. subsp. *officinalis* SI-1-LJU-*G*-555-535
276. *Paeonia romanica* Brandz. XX-0-LJU-*G*-555-536
277. *Paeonia tenuifolia* L. XX-0-LJU-*G*-555-706
278. *Paeonia wittmanniana* Hartw. XX-0-LJU-*G*-555-707

Papaveraceae
279. *Eschscholzia californica* Cham. XX-0-LJU-*G*-555-416
280. *Papaver rhoeas* L. SI-0-LJU-*G*-555-537
281. *Papaver somniferum* L. XX-0-LJU-*G*-555-708

Passifloraceae
* 282. *Passiflora edulis* Sims XX-0-LJU-*G*-555-709

Pedaliaceae
* 283. *Sesamum indicum* L. XX-0-LJU-*G*-555-732

Phytolaccaceae
* 284. *Rivina humilis* L. XX-0-LJU-*G*-555-725

Poaceae
285. *Achnatherum calamagrostis* (L.) P.Beauv XX-0-LJU-*G*-555-635
286. *Avena sativa* L. XX-0-LJU-*G*-555-333
287. *Chrysopogon gryllus* (L.) Trin. XX-0-LJU-*G*-555-658
288. *Festuca bosniaca* Kumm. & Sendt. XX-1-LJU-*G*-555-668

Portulacaceae

289. *Calandrinia grandiflora* Lindl DE-0-LJU-*G*-018-650
290. *Portulaca grandiflora* Hook. XX-0-LJU-*G*-555-716
291. *Portulaca oleracea* L. subsp. *oleracea* XX-0-LJU-*G*-555-717

Primulaceae

292. *Anagallis arvensis* L. XX-0-LJU-*G*-555-318
293. *Lysimachia vulgaris* L. XX-0-LJU-*G*-555-504
294. *Primula veris* L. SI-0-LJU-*G*-555-553

Ranunculaceae

295. *Anemone hortensis* L. XX-1-LJU-*G*-555-642
296. *Anemone hupehensis* Lemoine XX-0-LJU-*G*-555-319
297. *Anemone ranunculoides* L. SI-0-LJU-*G*-555-320
298. *Anemone sylvestris* L. XX-1-LJU-*G*-555-321
299. *Caltha palustris* L. SI-0-LJU-*G*-555-346
300. *Clematis recta* L. SI-0-LJU-*G*-555-374
301. *Consolida regalis* S.F. Gray XX-0-LJU-*G*-555-376
302. *Eranthis hyemalis* (L.) Salisb. SI-1-LJU-*G*-555-411
303. *Nigella damascena* L. XX-0-LJU-*G*-555-701
304. *Pulsatilla halleri* (All.) Willd. subsp. *slavica* (G. Reuss) Zamels XX-0-LJU-*G*-555-560
305. *Pulsatilla vulgaris* Mill. XX-0-LJU-*G*-555-562
306. *Ranunculus arvensis* L. XX-0-LJU-*G*-555-722

Rhamnaceae

307. *Frangula alnus* Mill. XX-0-LJU-*G*-555-669

Rosaceae

308. *Filipendula ulmaria* (L.) Maxim. SI-0-LJU-*G*-555-421
309. *Geum coccineum* Sibth. & Sm. XX-0-LJU-*G*-555-437
310. *Malus sylvestris* (L.) Mill. XX-0-LJU-*G*-555-693
311. *Potentilla alba* L. XX-0-LJU-*G*-555-718
312. *Potentilla nivea* L. XX-0-LJU-*G*-555-551
313. *Potentilla rupestris* L. XX-0-LJU-*G*-555-552
314. *Potentilla thuringiaca* Bernh. ex Link. XX-0-LJU-*G*-555-719

315. *Prunus laurocerasus* L. XX-0-LJU-*G*-555-721
316. *Prunus tenella* Batsch XK-0-LJU-*G*-555-554
* 317. *Rhaphiolepis umbellata* (Thunb.) Makino xx-GZU-yy-110258
318. *Rhodotypos scandens* (Thunb.) Mak. XX-0-LJU-*G*-555-565
319. *Rosa gallica* L. SI-0-LJU-*G*-555-567
320. *Rosa multiflora* Thunb. XX-0-LJU-*G*-555-726
321. *Rosa sempervirens* L. SI-0-LJU-*G*-555-572
322. *Stephanandra tanakae* Franch. & Sav. XX-0-LJU-*G*-555-605

Rutaceae
323. *Phellodendron amurense* Rupr. XX-0-LJU-*G*-555-280
324. *Poncirus trifoliata* (L.) Raf. XX-0-LJU-*G*-555-550
325. *Zanthoxylum simulans* Hance XX-0-LJU-*G*-555-287

Sambucaceae
326. *Viburnum sargentii* Koehne. XX-0-LJU-*G*-555-626

Saxifragaceae
327. *Heuchera americana* L. XX-0-LJU-*G*-555-453
328. *Saxifraga paniculata* Miller SI-0-LJU-*G*-555-729

Scrophulariaceae
329. *Digitalis grandiflora* Miller XX-0-LJU-*G*-555-401
330. *Erinus alpinus* L. XX-0-LJU-*G*-555-412
331. *Verbascum austriacum* Schott ex Roem. & Schult. SI-0-LJU-*G*-555-621
332. *Verbascum blattaria* L. XX-0-LJU-*G*-555-747
333. *Verbascum densiflorum* Bertol. SI-0-LJU-*G*-555-622
334. *Veronica austriaca* L. agg. XX-0-LJU-*G*-555-748
335. *Veronicastrum virginicum* (L.) Farw. XX-0-LJU-*G*-555-625

Solanaceae
336. *Atropa bella-donna* L. XX-0-LJU-*G*-555-646
* 337. *Cestrum nocturnum* L. US-GZU-00-110172
338. *Datura metel* L. XX-O-LJU-555-391

339. *Datura metel* L. f. *inermis* XX-O-LJU-G-555-392
340. *Nicandra physalodes* (L.) Gaertner XX-O-LJU-555-525
341. *Nicotiana rustica* L. SI-0-LJU-G-003-526
342. *Nicotiana tabacum* L. XX-O-LJU-G-555-527
343. *Nicotiana viscosa* Lehm. XX-0-LJU-G-003-528
344. *Scopolia carniolica* Jacq. SI-0-LJU-G-555-585

Staphyleaceae
345. *Staphylea pinnata* L. SI-0-LJU-G-555-604

Styracaceae
346. *Halesia carolina* L. XX-0-LJU-G-555-273

Typhaceae
347. *Typha latifolia* L. SI-0-LJU-G-555-619

Ulmaceae
348. *Celtis occidentalis* L. XX-0-LJU-G-555-656
349. *Zelkova carpinifolia* (Pall.) K. Koch XX-0-LJU-G-555-288

Valerianaceae
350. *Valeriana officinalis* L. XX-0-LJU-G-555-745

Verbenaceae
351. *Callicarpa japonica* Thunb. XX-0-LJU-G-555-651

***** Semina plantarum in caladariis cultarum.

Horti praefectus: dr. Jože Bavcon
Seminum Curator, hortulana: Janja Makše
Plantae Curator: Mag. Blanka Ravnjak

Semina e plantis spontaneis in loco natali annis 2018 et 2017 lecta

Jože Bavcon, Igor Dakskobler, Ljudmila Dakskobler, Janja Makše, Blanka Ravnjak

352. *Pleurospermum austriacum* (L.) Hoffm. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-872
353. *Acer monspessulanum* L. - Dragonja, 2018, J. B., SI-0-LJU-N-018-749
354. *Adenostyles alliariae* (Gouan) A. Kerner - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-750
355. *Adenostyles glabra* (Miller) DC. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-751
356. *Agrimonia eupatoria* L. - Šalovci, 2018, J. B., B. R., SI-0-LJU-N-018-752
357. *Alisma plantago-aquatica* L. - Tomišelj, 2018, J. B., B. R., SI-0-LJU-N-018-753
358. *Allium senescens* L. - Štefan, 2018, J. B., SI-0-LJU-N-018-757
359. *Allium senescens* L. - Štivan, 2018, L. & I. D., SI-0-LJU-N-018-755
360. *Allium senescens* L. - Bala, Logje, 2018, L. & I. D., SI-0-LJU-N-018-754
361. *Allium senescens* L. - Osp, 2018, J. B., SI-0-LJU-N-018-756
362. *Allium sphaerocephalon* L. - Lipnik, 2018, J. B., B. R., SI-0-LJU-N-018-758
363. *Allium ursinum* L. - Poljane, 2018, J. M., SI-0-LJU-N-018-759
364. *Allium victorialis* L. - Bala, Lanževica, 2018, L. & I. D., SI-0-LJU-N-018-761
365. *Allium victorialis* L. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-760
366. *Anemone nemorosa* L. - Poljanska gora, 2018, J. M., SI-0-LJU-N-018-762

367. *Anthericum ramosum* L. - Šentvid-Roje, 2018, J. B., B. R., SI-0-LJU-N-018-763
368. *Anthericum ramosum* L. - Lipnik, 2018, J. B., B. R., SI-0-LJU-N-018-764
369. *Anthyllis jacquinii* Kern. - Kucelj, 2018, J. B., B. R., SI-0-LJU-N-018-765
370. *Arctostaphylos uva-ursi* (L.) Spreng. - Spodnja Trenta, pod Berebico, 2018, L. & I. D., SI-0-LJU-N-018-766
371. *Armeria alpina* (DC.) Willd. - Peca , 2018, J. B., B. R., SI-0-LJU-N-018-767
372. *Arthrocnemum macrostachyum* (Moric.) Moris - Ankaran, 2018, J. B., SI-0-LJU-N-018-768
373. *Aruncus dioicus* (Walter) Fernald - Koreno, 2018, J. M., SI-0-LJU-N-018-769
374. *Asarum europaeum* L. - Hrastje, 2018, J. M., SI-0-LJU-N-018-770
375. *Asparagus acutifolius* L. - Škofije, 2018, J. M., SI-0-LJU-N-018-771
376. *Aster amellus* L. - Kucelj, 2018, J. B., B. R., SI-0-LJU-N-018-772
377. *Aster linosyris* (L.) Bernh. - Dragonja, 2018, J. B., SI-0-LJU-N-018-773
378. *Astragalus carniolicus* Kern. - Kucelj, 2018, J. B., B. R., SI-0-LJU-N-018-774
379. *Astrantia bavarica* F. W. Schultz - Peca, 2018, J. B., B. R., SI-0-LJU-N-018-775
380. *Astrantia major* L. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-776
381. *Astrantia major* L. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-777
382. *Atropa bella-donna* L. - nad Drago, 2018, J. B., B. R., SI-0-LJU-N-018-778
383. *Atropa bella-donna* L. - Velike Lipljene, 2018, B. D., SI-0-LJU-N-018-779
384. *Betonica alopecuros* L. - Kopa, 2018, J. B., B. R., SI-0-LJU-N-018-780
385. *Betonica officinalis* L. - Dragonja, 2018, J. B., SI-0-LJU-N-018-782
386. *Betonica officinalis* L. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-781

387. *Biscutella laevigata* L. - Kucelj, 2018, J. B., SI-0-LJU-N-018-783
388. *Briza media* L. - Šentvid, 2018, J. B., SI-0-LJU-N-018-784
389. *Buglossoides purpurocaerulea* (L.) J.M. Johnston - Gabrovica, 2017, J. B., SI-0-LJU-N-017-77
390. *Buphthalmum salicifolium* L. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-785
391. *Bupleurum petraeum* L. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-786
392. *Caltha palustris* L. - Poljane, 2018, J. M., SI-0-LJU-N-018-787
393. *Capparis spinosa* L. - Piran, 2018, J. B., B. R., SI-0-LJU-N-018-788
394. *Cardamine enneaphyllos* (L.) Crantz - Čaven, 2018, J. B., SI-0-LJU-N-018-789
395. *Carex flacca* Schreb. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-790
396. *Centaurium erythraea* Rafn - Boštanj, 2018, J. B., B. R., SI-0-LJU-N-018-791
397. *Cephalaria leucantha* (L.) Roemer & Schultes - Štivan, 2018, L. & I. D., SI-1-LJU-N-018-792
398. *Cirsium montanum* (Waldst. & Kit. ex Willd.) Sprengel - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-793
399. *Cirsium panonnicum* (L.f.) Link - Šentvid, 2018, J. B., B. R., SI-0-LJU-N-018-794
400. *Clematis alpina* (L.) Mill. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-795
401. *Clematis recta* L. - Lipnik - Kavčiče, 2017, J. B., SI-0-LJU-N-017-98
402. *Clematis vitalba* L. - Dragonja, 2018, J. B., SI-0-LJU-N-018-796
403. *Colchicum autumnale* L. - Trebelno, 2018, J. M., SI-0-LJU-N-018-797
404. *Cornus mas* L. - Motovun, Divača, 2017, J. B., SI-0-LJU-N-017-105
405. *Cornus sanguinea* L. - Križišče, dolina Mirne, 2018, J. B., B. R., SI-0-LJU-N-018-799
406. *Cornus sanguinea* L. - Rakitovec, 2018, J. B., B. R., SI-0-LJU-N-018-798
407. *Cornus sanguinea* L. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-800
408. *Coronilla emerus* L. subsp. *emeroides* - Strunjan, 2018, J. B., B. R., SI-0-LJU-N-018-801

409. *Corydalis cava* (L.) Schweigg. & Körte - Trebelno, 2018, J. M., SI-0-LJU-N-018-802
410. *Cotinus coggygria* Scop. - Dragonja, 2018, J. B., SI-0-LJU-N-018-803
411. *Cotinus coggygria* Scop. - Marezige, 2017, J. M., SI-0-LJU-N-017-106
412. *Crocus vernus* (L.) Hill subsp. *vernus* - Šmartinsko jezero, 2018, B. R., SI-0-LJU-N-018-805
413. *Crocus vernus* (L.) Hill subsp. *vernus* - Poljane, 2018, J. M., SI-0-LJU-N-018-804
414. *Daucus carota* L. - Strunjan, 2018, J. B., B. R., SI-0-LJU-N-018-806
415. *Deschampsia cespitosa* (L.) P. Beauv. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-807
416. *Dianthus carthusianorum* L. - Uršlja gora, 2018, J. B., B. R., SI-1-LJU-N-018-808
417. *Dianthus tergestinus* (Rchb.) Kerner - Lipnik, 2018, J. B., B. R., SI-1-LJU-N-018-809
418. *Digitalis grandiflora* Miller - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-810
419. *Dryas octopetala* L. - Peca , 2018, J. B., B. R., SI-0-LJU-N-018-811
420. *Echinops ritro* L. subsp. *ruthenicus* - Čaven, 2018, J. B., B. R., SI-0-LJU-N-018-812
421. *Echinops ritro* L. subsp. *ruthenicus* - Kavčiče, 2017, J. B., SI-0-LJU-N-017-114
422. *Epimedium alpinum* L. - Šentjurij, 2018, J. M., SI-0-LJU-N-018-813
423. *Epipactis atrorubens* (Hoffm.) Besser - Kucelj, 2018, J. B., B. R., SI-1-LJU-N-018-814
424. *Epipactis palustris* (L.) Crantz - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-815
425. *Epipactis palustris* (L.) Crantz - Vojsko, Gačnik, 2018, L. & I. D., SI-0-LJU-N-018-816
426. *Epipactis palustris* (L.) Crantz var. *alba* - Godovič, 2018, P. G., SI-0-LJU-N-018-817
427. *Eryngium alpinum* L. - Porezen, 2018, J. B., B. R., SI-1-LJU-N-018-818

428. *Eupatorium cannabinum* L. - Čaven - Kucelj, 2017, J. B., B. R., SI-0-LJU-N-017-123
429. *Fagus sylvatica* L. - Reber pri Trojanah, 2018, J. M., SI-0-LJU-N-018-819
430. *Ferulago campestris* (Besser) Grecescu - Lipnik - Kavčiče, 2018, J. B., B. R., SI-0-LJU-N-018-820
431. *Ferulago campestris* (Besser) Grecescu - Motovun, Divača, 2017, J. B., SI-0-LJU-N-017-124
432. *Filipendula vulgaris* Moench. - Šentvid, 2018, J. B., B. R., SI-0-LJU-N-018-822
433. *Filipendula vulgaris* Moench. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-821
434. *Frangula rupestris* (Scop.) Schur - Lipnik, 2018, J. B., B. R., SI-0-LJU-N-018-823
435. *Fraxinus ornus* L. - Dragonja, 2018, J. B., SI-0-LJU-N-018-824
436. *Fraxinus ornus* L. - Osp, 2018, J. B., SI-0-LJU-N-018-825
437. *Galium purpureum* L. - Lipnik, 2018, J. B., B. R., SI-0-LJU-N-018-826
438. *Galium verum* L. - Šentvid, 2017, J. B., B. R., SI-0-LJU-N-017-129
439. *Gentiana asclepiadea* L. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-827
440. *Gentiana clusii* Perr. & Song. - Kucelj, 2018, J. B., B. R., SI-1-LJU-N-018-828
441. *Gentiana lutea* L. - Lipnik, 2018, J. B., B. R., SI-0-LJU-N-018-829
442. *Gentiana lutea* L. subsp. *symphyandra* - Slatnik, 2017, L. & I. D., SI-1-LJU-N-017-134
443. *Gentiana pannonica* Scopoli - Porezen - Mederce, 2018, J. B., B. R., SI-1-LJU-N-018-830
444. *Geum montanum* L. - Peca, 2018, J. B., B. R., SI-0-LJU-N-018-831
445. *Gladiolus illyricus* Koch - Lipnik, 2018, J. B., B. R., SI-1-LJU-N-018-833
446. *Gladiolus illyricus* Koch - Rodne na Cerkljanskem, 2018, L. & I. D., SI-1-LJU-N-018-834
447. *Gladiolus illyricus* Koch - Roje, 2018, J. B., B. R., SI-1-LJU-N-018-832

448. *Globularia cordifolia* L. - Kucelj, 2018, J. B., B. R., SI-0-LJU-N-018-835
449. *Globularia cordifolia* L. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-836
450. *Gymnadenia conopsea* (L.) R. BR. subsp. *densiflora* (Wahlenb.) K. Richt. - Godovič, 2018, P. G., SI-0-LJU-N-018-838
451. *Hacquetia epipactis* (Scop.) DC. - Šentjurij, 2018, J. M., SI-0-LJU-N-018-839
452. *Hacquetia epipactis* (Scop.) DC. - sv. Ana, 2018, J. B., B. R., SI-0-LJU-N-018-840
453. *Hacquetia epipactis* (Scop.) DC. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-841
454. *Helianthemum alpestre* (Jacq.) DC. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-842
455. *Helleborus atrorubens* Waldst. & Kit. - Šentjurij, 2018, J. M., SI-1-LJU-N-018-843
456. *Helleborus niger* L. - Peca, 2018, J. B., B. R., SI-1-LJU-N-018-844
457. *Hemerocallis lilioasphodelus* L. - Vojsko, Gačnik, 2018, L. & I. D., SI-1-LJU-N-018-845
458. *Heracleum sphondylium* L. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-846
459. *Hieracium villosum* Jacq. - Kucelj, 2018, J. B., B. R., SI-0-LJU-N-018-847
460. *Hladnikia pastinacifolia* Rchb. - Kucelj, 2018, J. B., B. R., SI-1-LJU-N-018-848
461. *Homogyne sylvestris* Cass. - Voje, 2018, B. R., SI-0-LJU-N-018-849
462. *Hordelymus europaeus* (L.) Harz - Goteniška gora, 2018, J. B., B. R., SI-0-LJU-N-018-850
463. *Hypochoeris maculata* L. - Šentvid, 2018, J. B., B. R., SI-0-LJU-N-018-851
464. *Inula conyza* L. - Klavže, 2018, L. & I. D., SI-0-LJU-N-018-852
465. *Inula crithmoides* L. - Škocjanski zatok, 2018, J. B., B. R., SI-0-LJU-N-018-853
466. *Inula hirta* L. - Čaven, 2018, J. B., B. R., SI-0-LJU-N-018-854
467. *Inula spiraeifolia* L. - Štivan, 2018, L. & I. D., SI-0-LJU-N-018-855

468. *Iris sibirica* L. subsp. *erirrhiza* - Kotel, 2018, L. & I. D., SI-1-LJU-N-018-857
469. *Iris sibirica* L. subsp. *erirrhiza* - Lipnik, 2018, J. B., B. R., SI-1-LJU-N-018-856
470. *Juniperus communis* L. - Šentjurij, 2017, J. M., SI-0-LJU-N-017-167
471. *Juniperus oxycedrus* L. - Dragonja, 2017, J. B., SI-0-LJU-N-017-168
472. *Laburnum alpinum* (Mill.) Presl. - Kopa, 2018, J. B., B. R., SI-0-LJU-N-018-858
473. *Laserpitium krapfii* Crantz - nad Drago, 2018, J. B., B. R., SI-0-LJU-N-018-859
474. *Laserpitium latifolium* L. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-860
475. *Laserpitium siler* L. - Kopa, 2018, J. B., B. R., SI-0-LJU-N-018-861
476. *Legousia speculum-veneris* (L.) Chaix - Biška vas, 2018, J. M., SI-0-LJU-N-018-862
477. *Ligustrum vulgare* L. - Škocjanski zatok, 2018, J. B., B. R., SI-0-LJU-N-018-864
478. *Ligustrum vulgare* L. - Dragonja, 2018, J. B., SI-0-LJU-N-018-863
479. *Lilium carniolicum* Bernh. - Porezen, 2018, J. B., B. R., SI-1-LJU-N-018-865
480. *Lilium martagon* L. - Porezen, 2018, J. B., B. R., SI-1-LJU-N-018-866
481. *Lilium martagon* L. - Vojsko, Gačnik, 2018, L. & I. D., SI-1-LJU-N-018-867
482. *Linum viscosum* L. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-868
483. *Lonicera alpigena* L. - Peca, 2018, J. B., B. R., SI-0-LJU-N-018-869
484. *Lunaria rediviva* L. - pod Donačko goro, 2018, J. B., B. R., SI-0-LJU-N-018-870
485. *Lychnis flos-cuculi* L. - Tomišelj, 2018, J. B., B. R., SI-0-LJU-N-018-871
486. *Lythrum salicaria* L. - Potočna vas, 2017, J. M., SI-0-LJU-N-017-186
487. *Myrrhis odorata* (L.) Scop. - Kopa - Vrše, 2018, J. B., B. R., SI-0-LJU-N-018-873
488. *Omalotheca sylvatica* (L.) Schultz Bip.& F.W. Schultz - Porezen - Mederce, 2018, J. B., B. R., SI-0-LJU-N-018-837

489. *Omphalodes verna* Moench. - Poljane, 2018, J. M., SI-0-LJU-N-018-874
490. *Ornithogalum pyrenaicum* L. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-875
491. *Ostrya carpinifolia* Scop. - Rakitovec, 2018, J. B., B. R., SI-0-LJU-N-018-876
492. *Paederota lutea* Scop. - Bala, pod Bedinjim vrhom, 2018, L. & I. D., SI-0-LJU-N-018-877
493. *Paeonia officinalis* L. - Lipnik - Kavčiče, 2018, J. B., B. R., SI-0-LJU-N-018-878
494. *Paliurus spina-christi* Mill. - Štivan, 2018, L. & I. D., SI-0-LJU-N-018-880
495. *Paliurus spina-christi* Mill. - Dragonja, 2018, J. B., SI-0-LJU-N-018-879
496. *Paris quadrifolia* L. - nad Drago, 2018, J. B., B. R., SI-0-LJU-N-018-881
497. *Parnassia palustris* L. - Porezen - Mederce, 2018, J. B., B. R., SI-0-LJU-N-018-882
498. *Petasites paradoxus* Baumg. - Okrešelj, 2018, J. B., B. R., SI-0-LJU-N-018-883
499. *Peucedanum cervaria* (L.) Lapeyr. - Dol, Hrastovlje, 2017, J. B., SI-0-LJU-N-017-193
500. *Peucedanum oreoselinum* (L.) Moench - Roje , 2018, B. R., SI-0-LJU-N-018-884
501. *Peucedanum ostruthium* (L.) Koch - Bala, Lanževica, 2018, L. & I. D., SI-0-LJU-N-018-885
502. *Phillyrea latifolia* L. - Štefan, 2018, J. B., SI-1-LJU-N-018-886
503. *Picea abies* (L.) Karsten - Gorjanci, 2018, J. M., SI-0-LJU-N-018-887
504. *Picea abies* L. f. *virgata* (Casp.) Rehder - Godovič, 2018, P. G., SI-0-LJU-N-018-888
505. *Pistacia terebinthus* L. - Dragonja, 2018, J. B., B. R., SI-1-LJU-N-018-889
506. *Plantago altissima* L. - Rakov Škocjan, 2018, J. B., SI-0-LJU-N-018-890

507. *Pleurospermum austriacum* (L.) Hoffm. - Bala, Lanževica, 2018, L. & I. D., SI-0-LJU-N-018-891
508. *Prenanthes purpurea* L. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-892
509. *Primula auricula* L. - Brinova glava nad dolino Vrata, 2018, L. & I. D., SI-1-LJU-N-018-893
510. *Primula veris* L. - Čaven, 2018, J. B., B. R., SI-0-LJU-N-018-894
511. *Pulsatilla nigricans* Ströck. - Žadovinek, 2018, J. B., SI-1-LJU-N-018-895
512. *Quercus ilex* L. - Štivan, 2018, L. & I. D., SI-1-LJU-N-018-896
513. *Quercus pubescens* Willd. - Osp, 2018, J. B., SI-0-LJU-N-018-897
514. *Rhamnus catharticus* L. - Roje, 2018, J. B., B. R., SI-0-LJU-N-018-898
515. *Rhamnus fallax* Boiss. - Čaven, 2018, J. B., B. R., SI-0-LJU-N-018-899
516. *Rhododendron hirsutum* L. - Uršlja gora, 2018, J. B., B. R., SI-1-LJU-N-018-900
517. *Ribes petraeum* Wulfen - Peca, 2018, J. B., B. R., SI-0-LJU-N-018-901
518. *Rosa pendulina* L. - Škraplje, 2018, J. B., B. R., SI-0-LJU-N-018-902
519. *Rosa pendulina* L. - Bala, 2018, L. & I. D., SI-0-LJU-N-018-903
520. *Rosa rubiginosa* L. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-904
521. *Rosa sempervirens* L. - Dragonja, 2018, J. B., SI-0-LJU-N-018-905
522. *Rosa subcanina* (H. Christ) Dalla Torre & Sarnth. - Škocjanski zatok, 2018, J. B., SI-0-LJU-N-018-906
523. *Rosa villosa* L. - Bala, 2018, L. & I. D., SI-0-LJU-N-018-907
524. *Rubia tinctorum* L. - Dragonja, 2018, J. B., SI-0-LJU-N-018-908
525. *Rumex hydrolapathum* Hudson - Rakov Škocjan, 2018, J. B., SI-0-LJU-N-018-909
526. *Ruscus aculeatus* L. - Dragonja, 2018, J. B., SI-1-LJU-N-018-910
527. *Salvia glutinosa* L. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-911
528. *Sambucus racemosa* L. - Čaven, 2018, J. B., B. R., SI-0-LJU-N-018-912

529. *Sanicula europaea* L. - Vrhtrebnje, 2017, J. M., SI-0-LJU-N-017-226
530. *Satureja montana* L. - Dragonja, 2018, J. B., SI-0-LJU-N-018-913
531. *Satureja montana* L. - Osp, 2018, J. B., SI-0-LJU-N-018-914
532. *Saxifraga crustata* Vest - Kucelj, 2018, J. B., B. R., SI-0-LJU-N-018-915
533. *Scabiosa graminifolia* L. - Čaven, 2018, J. B., B. R., SI-0-LJU-N-018-916
534. *Scabiosa hladnikiana* Host. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-917
535. *Scabiosa lucida* Vill. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-918
536. *Scrophularia juratensis* Schleicher - Bala, pod Bedinjim vrhom, 2018, L. & I. D., SI-0-LJU-N-018-920
537. *Scrophularia juratensis* Schleicher - Peca, 2018, J. B., B. R., SI-0-LJU-N-018-919
538. *Sedum maximum* Suter - Dragonja, 2018, J. B., SI-1-LJU-N-018-921
539. *Serratula lycopifolia* (Vill.) A.Kern. - Lipnik, 2018, J. B., B. R., SI-1-LJU-N-018-922
540. *Solidago virgaurea* L. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-923
541. *Sorbus aucuparia* L. - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-924
542. *Sorbus aucuparia* L. subsp. *aucuparia* - Banjšice, Lipce, 2018, L. & I. D., SI-0-LJU-N-018-925
543. *Sorbus domestica* L. - Drenovec-Senuše, 2018, J. B., SI-0-LJU-N-018-926
544. *Sparganium erectum* L. - Tomišelj, 2018, J. B., B. R., SI-0-LJU-N-018-927
545. *Spartium junceum* L. - Strunjan, 2018, J. B., B. R., SI-0-LJU-N-018-928
546. *Stachys sylvatica* L. - Goteniška gora, 2018, J. B., B. R., SI-0-LJU-N-018-929
547. *Tanacetum vulgare* L. - Karteljevo, 2017, J. M., SI-0-LJU-N-017-245
548. *Tephroseris pseudocrispa* (Fiori) Holub - Šmaver, 2018, G. S., SI-0-LJU-N-018-930

549. *Teucrium flavum* L. - Osp, 2018, J. B., SI-0-LJU-N-018-931
550. *Thalictrum aquilegiifolium* L. - Čaven, 2018, J. B., B. R., SI-0-LJU-N-018-933
551. *Thalictrum aquilegiifolium* L. - Lipnik - Kavčiče, 2018, J. B., B. R., SI-0-LJU-N-018-932
552. *Thalictrum minus* L. - Lipnik, 2018, J. B., B. R., SI-0-LJU-N-018-934
553. *Tragopogon dubius* Scop. - Dovje - Mojstrana, 2017, J. B., B. R., SI-0-LJU-N-017-248
554. *Trifolium badium* Schreb. - Bala, Lanževica, 2018, L. & I. D., SI-0-LJU-N-018-935
555. *Trollius europaeus* L. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-936
556. *Tussilago farfara* L. - Trebelno, 2018, J. M., SI-0-LJU-N-018-937
557. *Urtica dioica* L. - Grmada, 2017, J. M., SI-0-LJU-N-017-254
558. *Valeriana officinalis* L. - Rakov Škocjan, 2018, J. B., SI-0-LJU-N-018-938
559. *Valeriana tripteris* L. - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-939
560. *Veratrum album* L. subsp. *album* - Velike Bloke, 2018, P. G., SI-0-LJU-N-018-940
561. *Veratrum album* L. subsp. *lobelianum* (Bernh. in Schrader) Suessenguth - pod Goteniškim Snežnikom, 2018, J. B., B. R., SI-0-LJU-N-018-941
562. *Veratrum album* L. subsp. *lobelianum* (Bernh. in Schrader) Suessenguth - Porezen, 2018, J. B., B. R., SI-0-LJU-N-018-942
563. *Veratrum album* L. subsp. *lobelianum* (Bernh. in Schrader) Suessenguth - Uršlja gora, 2018, J. B., B. R., SI-0-LJU-N-018-943
564. *Veratrum nigrum* L. - Lipnik - Kavčiče, 2018, J. B., B. R., SI-1-LJU-N-018-944
565. *Viburnum lantana* L. - Roje, 2018, B. R., SI-0-LJU-N-018-945
566. *Viburnum tinus* L. - Piran, 2017, J. B., SI-0-LJU-N-017-258
567. *Viola arvensis* Murray - Biška vas, 2018, J. M., SI-0-LJU-N-018-946

Collectors of the wild seeds:

dr. Jože Bavcon (J. B.)

dr. Igor Dakskobler (I. D.)
Ljudmila Dakskobler (L. D.)
Janja Makše (J. M.)
mag. Blanka Ravnjak (B. R.)
A few seed species are collected by:
Branko Dolinar (B. D.)
Peter Grošelj (P. G.)
mag. Gabrijel Seljak (G. S.)

Literatura (citirana in uporabljena) / Literature (cited and used)

Aeschimann D., K. Lauber, D.M. Moser, J– P. Theurillat, 2004. Flora alpina. Haupt Verlag Bern–Stutgart–Wien.

Anderberg A–L, 1994. Atlas of seeds and small fruits of Northest – Europaean plant species with morfological descriptions Part 4, Resedaceae- Umbelliferae, 277 pp.

Bailey L. H. 1914. The standard cyclopedia of Horticulture. Vol I/ A–E, Vol II/F–O, Vol III/ P–Z, Macmillan New York Chicago, Dallas, Atlanta, San Francisco, Toronto.

Bavcon J. 2009. *Common cyclamen (Cyclamen purpurascens Mill.) and its diversity in Slovenia*. Ljubljana: Botanic Garden, Department of Biology, Biotechnical Faculty, 163 pp.

Bavcon J. 2010. *Botanični vrt Univerze v Ljubljani = University Botanic Gardens Ljubljana*. Ljubljana: Kmečki glas, 2010. 231 pp.

Bertalanič R., Demšar M., Dolinar M., Dvoršek D., Nadbath M., Pavčič B., Roethel-Kovač M., Vertačnik G., Vičar Z. 2010. Spremenljivost podnebja v Sloveniji, Ed. M. Dolinar, Ministrstvo za okolje in prostor, Agencija RS za okolje, Ljubljana.

Berggren G. 1969. Atlas of seeds. Part 2. Cyperaceae, 65 pp.

Berggren G. 1981. Atlas of seeds and small fruits of Northwest-European plant species with morfological descriptions Part 3 Salicaceae – Cruciferae, 261 pp.

Bisby F.A., Roskov Y.R., Orrell T.M., Nicolson D., Paglinawan L.E., Bailly N., Kirk P.M., Bourgoin T., Baillargeon G., Ouvrard D., eds (2011). Species 2000 & ITIS Catalogue of Life, 26th July 2011. Digital resource at www.catalogueoflife.org/col/. Species 2000: Reading, UK.

Bown D. 1995. Encyclopedia of Herbs & their uses. The Royal Horticulture Society Dorling Kindersley London, New York Stutgart, Moscow, 424 pp.

Bramwel D. 1997 Flora de Las Islas Canarias, Ed. Rueda. Cabildo de Gran Canaria, 219 pp.

Brickel C. 1996. A–Z Encyclopedia of Garden Plants. Dorling Kindersley London, NewYork, Stuttgart, Moscow,1080 pp.

Brouwer W. & A. Stählin 1955. Handbuch der Samenkunde für Landwirtschaft. Gartenbau und Fortswirtschaft. DLG-Verlag-GMBH., Franhkfurt am Main, 656 pp.

Burnie G., S. Forester D. Greig et. all., 1999. Botanica: the illustrated A–Z of over 10,000 garden plants and how to cultivate them. 3rd ed., revised ed., Könemann, Cologne, 1020 pp.

Ellison D. P. 1995. Cultivated Plants of the World Trees Shrubs Climbers. Flora Publication International PTY LTD. Brisbane, 598 pp.

Encke F., 1961. Pareys Blumengärtenerei, Zwite AuflageVol 1, 2. Paul Parey in Berlin und Hamburg, 826 pp.

Gates P. & Ardle J. 2002. Climate change The Garden 127 (12): 912- 917.

Hacquet B. 1782. Plantae alpinae carniolicae. Viennae. 16 pp.

Haeupler H. T. Muer 2000. Bildatlas der Farn-und Blüttenpflanzen Deutschlands.

Hayek A. 1927–1933. Prodromus Florae Peninsulae Balcanicae, Berlin – Dahlem, vol 1–3.

Hegi 1906–1931: Illustrierte Flora von Mittel – Europa. Lehmans Verlag. München.

http://www.botanicni-vrt.si/ 2017

http://ipni.org/ 2017

http://meteo.arso.gov.si/met/sl/app/webmet/

http://www.arso.gov.si/ 2017

Kaligarič M. 1997. *Rastlinstvo Primorskega krasa in Slovenske Istre : travniki in pašniki*, Annales. Koper: Zgodovinsko društvo za južno Primorsko: Znanstveno-raziskovalno središče Republike Slovenije, 1997. 111 pp.

Lauber K. & G. Wagner 1998. Flora Helvetica. Verlag Paul Haupt, Bern–Stuttgart–Wien 1614 pp.

Martinčič A., T. Wraber, N. Jogan, A. Podobnik, B. Turk, B. Vreš, V. Ravnik, B. Frajman, S. Strgulc Krajšek, B. Trčak, T. Bačič, M. Fisher, K. Eler., B. Surina 2007. Mala flora Slovenije. Ključ za določanje praprotnic in semenk. Tehniška založba Slovenije, Ljubljana, 967 pp.

Petkovšek V. 1935. Blagayev volčin. Proteus 2: 181-188.

Polunin O. 1980. Flowers of Greece and the Balkans a field guide. Oxford University Press. Reprinted 1997, 592 pp.

Rohwer J. G. 2000. Pflanzen der Tropen. BLV Verlagsgesellschaft mbH, Munchen Wien Zurich, 287 pp.

Schönfelder P&I 1997. Die Kosmos Kanarenflora, Kosmos Naturführer Stuttgart, 319 pp.

Schönfelder P&I 2000. Was blüht am Mittelmeer? Kosmos Naturführer, Stuttgart, 319 pp.

Trpin D. & B. Vreš 1995. Register flore Slovenije. Praprotnice in cvetnice. Znanstveno raziskovalni center SAZU Ljubljana, zbirka ZRC 7: 143.

Tutin T. G. et AL., 1964–1980. Flora europaea 1–5 Cambridge, University Press.

Wraber T. 1990. Sto znamenitih rastlin. Prešernova družba. Ljubljana 239 pp.

Wraber T. 1996. Rastlinstvo. In Enciklopedija Slovenije 10 Pt/Savn. Mladinska knjiga, Ljubljana pp. 85-93.

Alpski botanični vrt Juliana v Trenti

Ustanovitev: 1926, Albert Bois de Chesne

Nadmorska višina: 800 m

Površina 2.572 m2

Letna povprečna T zraka: ca. 6°C

Letna povprečna količina padavin: ca. 2000 mm

Upravitelj: Prirodoslovni muzej Slovenije

Nabiralca semen v letu 2018: Marija Završnik, Klemen Završnik, dipl. ing. agr. in h.

Kustosinja: Špela Pungaršek

Juliana je najstarejši alpski botanični vrt v naravnem okolju na slovenskem ozemlju. Leta 1926 ga je ustanovil tržaški posestnik Albert Bois de Chesne, pri ureditvi pa mu je pomagal prijatelj, alpinist, poznavalec flore in pisatelj, Julius Kugy. Po njegovi zaslugi se je pomen in mednarodni ugled alpinetuma širil že pred drugo svetovno vojno.

Vrt Juliana se nahaja v Trenti, na pobočju Kukle, v bližini cerkvice sv. Marije, na nadmorski višini približno **800 metrov**, nekaj deset metrov nižje pa teče reka Soča. Pokriva

površino 2.572 kvadratnih metrov, nad njim se dviga slap Skok, ki napaja vrt z vodo.

V Juliani danes uspeva približno **600 različnih vrst rastlin travišč, pašnikov, skalovij, melišč, povirij, prodišč in gozdov**. Med njimi najdemo tudi endemite, rastline, ki rastejo samo v Sloveniji, zavarovane, redke, ogrožene, Natura vrste in vrste s klasičnim nahajališčem na slovenskem ozemlju.

Juliana je botanična naravna vrednota državnega pomena in je zavarovana od leta 1951. V evropskem prostoru predstavlja edinstveno živo zbirko alpskih in kraških rastlin, za katero že več kot pol stoletja skrbi Prirodoslovni muzej Slovenije.

Vrt je odprt od 1. maja do 30. septembra.

The Alpine Botanical Garden Juliana

Juliana is the oldest Alpine Botanical Garden in Slovenia. It was founded in 1926 by Albert Bois de Chesne, a landowner from Trieste. His major adviser was his friend dr. Julius Kugy, a legendary mountanineer, botanist and writer, focusing on the Alps.

The garden is situated in Trenta Valley (NW Slovenia), it covers 2.572 m2 on the slope of Kukla, at an altitude of 800 m a.s.l., near the Church of St. Mary, with the Soča River flowing few tens of metres below.

Today, about **600 different plant species** prosper in the garden. It is special by its mixture of alpine and thermofillous karst species. The garden shelters **more then 100** protected, rare, endangered and endemic species. Juliana has been officially protected since 1951 and managed by The Slovenian Museum of Natural History since 1962.

The garden is opened every day from May 1 to September 30.

Semina in horto alpino Juliana Museum historiae naturalis Sloveniae anno 2018 lecta

Špela Pungaršek, Marija Završnik, Klemen Završnik

568. *Aconitum lycoctonum* L. subsp. *ranunculifolium* (Rchb.) Schniz & Keller
569. *Adenophora liliifolia* (L.) A. DC.
570. *Ajuga reptans* L.
571. *Allium senescens* L.
572. *Allium victorialis* L.
573. *Alyssum moellendorfianum* Asch. ex Beck
574. *Anemone nemorosa* L.
575. *Anemone ranunculoides* L.
576. *Anthericum ramosum* L.
577. *Aposeris foetida* (L.) Cass. ex Less.
578. *Aquilegia einseleana* F. W. Schultz
579. *Aquilegia vulgaris* L.
580. *Aruncus dioicus* (Walter) Fernald
581. *Aster amellus* L.
582. *Astrantia carniolica* Jacq.
583. *Astrantia major* L.
584. *Athamanta turbith* (L.) Brot. p. p., em. H. Karst.
585. *Betonica alopecuros* L.
586. *Caltha palustris* L. subsp. *palustris*
587. *Campanula cespitosa* Scop.
588. *Campanula glomerata* L. subsp. *glomerata*
589. *Campanula rapunculoides* L.
590. *Campanula spicata* L.
591. *Campanula trachelium* L.
592. *Cardamine enneaphyllos* (L.) Crantz
593. *Cardamine pentaphyllos* (L.) Crantz
594. *Carduus defloratus* L. sensu Kazmi
595. *Carex flacca* Schreb.

596. *Centaurea alpina* L.
597. *Centaurea dichroantha* A. Kern.
598. *Centaurea scabiosa* L. subsp. *fritschii* (Hayek) Hayek
599. *Centaurea scabiosa* L. subsp. *scabiosa*
600. *Cephalaria leucantha* (L.) Schrad. ex Roem. & Schult.
601. *Cerinthe glabra* Miller
602. *Chaerophyllum hirsutum* L.
603. *Chamaecytisus purpureus* Scop.
604. *Cirsium erisithales* (Jacq.) Scop.
605. *Cirsium oleraceum* (L.) Scop.
606. *Cirsium pannonicum* Link
607. *Clematis recta* L.
608. *Clinopodium vulgare* L.
609. *Convallaria majalis* L.
610. *Coronilla emerus* L. subsp. *emerus*
611. *Crepis aurea* (L.) Cass.
612. *Crepis slovenica* Holub
613. *Crocus vernus* (L.) Hill
614. *Crocus vernus* (L.) Hill subsp. *albiflorus* (Kit.) Ascherson & Graebner
615. *Dianthus barbatus* L. subsp. *barbatus*
616. *Dianthus carthusianorum* L. subsp. *carthusianorum*
617. *Dianthus sanguineus* Vis.
618. *Dianthus sternbergii* Sieber
619. *Dianthus sylvestris* Wulfen
620. *Dictamnus albus* L.
621. *Digitalis grandiflora* Miller
622. *Digitalis laevigata* Waldst. & Kit.
623. *Dorycnium germanicum* (Gremli) Rikli
624. *Dryas octopetala* L.
625. *Drypis spinosa* L. subsp. *jacquiniana* Murb. et Wettst.
626. *Echinops ritro* L. subsp. *ruthenicus* (Bieb.) Nyman.
627. *Epilobium montanum* L.
628. *Epimedium alpinum* L.
629. *Erinus alpinus* L.
630. *Eryngium amethystinum* L.

631. *Euonymus latifolius* (L.) Mill
632. *Eupatorium cannabinum* L.
633. *Filipendula ulmaria* (L.) Maxim.
634. *Fragaria vesca* L.
635. *Galanthus nivalis* L.
636. *Galium sylvaticum* L.
637. *Galium verum* L.
638. *Gentiana angustifolia* Vill.
639. *Gentiana asclepiadea* L.
640. *Gentiana cruciata* L.
641. *Geranium macrorrhizum* L.
642. *Geranium pratense* L.
643. *Geranium sanguineum* L.
644. *Geum rivale* L.
645. *Geum speciosum* Albov
646. *Gladiolus illyricus* Koch
647. *Globularia nudicaulis* L.
648. *Globularia punctata* Lapeyr.
649. *Grafia golaka* (Hacq.) Rchb.
650. *Helianthemum nummularium* (L.) Mill. subsp. *grandiflorum* (Scop.) Schinz & Thell.
651. *Heliosperma alpestre* (Jacq.) Griseb.
652. *Helleborus niger* L.
653. *Helleborus odorus* Waldst. & Kit. ex Willd.
654. *Hemerocallis lilioasphodelus* L.
655. *Hepatica nobilis* Mill.
656. *Hesperis matronalis* subsp. *candida* (Kit.) Hegi & Em.Schmid
657. *Hieracium glaucinum* Jord.
658. *Hieracium pilosella* L.
659. *Hieracium piloselloides* Vill.
660. *Hippocrepis comosa* L.
661. *Hladnikia pastinacifolia* Rchb.
662. *Horminum pyrenaicum* L.
663. *Hypericum montanum* L.
664. *Hypericum perforatum* L.

665. *Iris sibirica* L. subsp. *sibirica*
666. *Kernera saxatilis* (L.) Sweet
667. *Laserpitium archangelica* Wulfen
668. *Laserpitium latifolium* L.
669. *Laserpitium siler* L.
670. *Lathyrus occidentalis* (Fisch. & Meyer) Fritsch var. *montanus* (Scop.) Fritsch
671. *Lathyrus pratensis* L.
672. *Lathyrus vernus* (L.) Bernh. subsp. *vernus*
673. *Leontodon hispidus* L.
674. *Leucojum vernum* L.
675. *Libanotis sibirica* (L.) C. A. Mey.
676. *Lunaria rediviva* L.
677. *Luzula nivea* (L.) DC.
678. *Lysimachia vulgaris* L.
679. *Lythrum salicaria* L.
680. *Medicago lupulina* L.
681. *Mentha longifolia* (L.) Huds. subsp. *longifolia*
682. *Orchis militaris* L.
683. *Origanum vulgare* L.
684. *Paeonia officinalis* L.
685. *Paris quadrifolia* L.
686. *Petasites paradoxus* Baumg.
687. *Peucedanum oreoselinum* (L.) Moench
688. *Peucedanum schottii* Besser.
689. *Peucedanum verticillare* (L.) Koch
690. *Phyteuma spicatum* L. subsp. *spicatum*
691. *Plantago atrata* Hoppe subsp. *fuscescens* (Jord.) Pilg.
692. *Polygonatum odoratum* (Mill.) Druce
693. *Potentilla rupestris* L.
694. *Prenanthes purpurea* L.
695. *Primula elatior* (L.) Hill.
696. *Primula veris* L. subsp. *veris*
697. *Prunella grandiflora* (L.) Turra
698. *Pulmonaria officinalis* L.

699. *Ranunculus platanifolius* L.
700. *Rhodothamnus chamaecistus* (L.) Rchb.
701. *Ruta divaricata* Ten.
702. *Salvia glutinosa* L.
703. *Sanguisorba minor* Scop.
704. *Saponaria officinalis* L.
705. *Satureja montana* L. subsp. *variegata* (Host) P. W. Ball
706. *Satureja subspicata* Bartl. ex Vis. subsp. *liburnica* Šilić
707. *Saxifraga crustata* Vest
708. *Saxifraga hostii* Tausch
709. *Saxifraga paniculata* Miller
710. *Scabiosa caucasica* M.Bieb.
711. *Scabiosa graminifolia* L.
712. *Scabiosa silenifolia* Waldst. & Kit.
713. *Scorzonera villosa* Scop.
714. *Seseli gouanii* Koch
715. *Sibirea croatica* Degen
716. *Silene nutans* L.
717. *Silene saxifraga* L.
718. *Silene vulgaris* (Moench) Garcke subsp. *antelopum* (Vest) Hayek
719. *Solidago virgaurea* L. subsp. *minuta* (L.) Arcangeli
720. *Stachys sylvatica* L.
721. *Tanacetum corymbosum* (L.) Schultz Bip. subsp. *clusii* (Fischer ex Reichenb.) Heywood
722. *Telekia speciosa* (Schreber) Baumg.
723. *Tephroseris pseudocrispa* (Fiori) Holub
724. *Thalictrum minus* L.
725. *Thymus pulegioides* L.
726. *Tofieldia calyculata* (L.) Wahlenb.
727. *Trifolium rubens* L.
728. *Trollius europaeus* L.
729. *Valeriana officinalis* L.
730. *Veratrum album* L. subsp. *lobelianum* (Bernh. in Schrader) Suessenguth

731. *Veratrum nigrum* L.
732. *Verbascum blattaria* L.
733. *Veronica aphylla* L.
734. *Veronica urticifolia* Jacq.
735. *Vicia oroboides* Wulfen
736. *Vincetoxicum hirundinaria* Medik. subsp. *hirundinaria*
737. *Viola rupestris* F.W.Schmidt

Curator: Špela Pungaršek
Hortulani: Marija Završnik & Klemen Završnik, dipl. inž. agr. in h.

Literatura / Literature

Martinčič, A. & T. Wraber, N. Jogan, A. Podobnik, B. Turk, B. Vreš, V. Ravnik, B. Frajman, S. Strgulc Krajšek, B. Trčak, T. Bačič, M. A. Fischer, K. Eler, B. Surina, 2007: Mala flora Slovenije. Ključ za določanje praprotnic in semenk. Tehniška založba Slovenije. Ljubljana. 967 pp.

Praprotnik, N., 2011: Alpski botanični vrt Juliana. Prirodoslovni muzej Slovenije. 133 pp.

The International Plant Names Index. www.ipni.org (30. 11. 2018)

http://meteo.arso.gov.si

Stvarno kazalo / Subject index

Please send all seeds orders to the:
Botanični vrt Univerze v Ljubljani
Ižanska cesta 15
SI-1000 Ljubljana
Slovenija
Tel.: +386(0) 1 427-12-80
Website: www.botanicni-vrt.si
e-mail: index.seminum@botanicni-vrt.si

Desiderata 2018

Your address:

In response to the International Convention on Biological Diversity (Rio de Janeiro, 1992), the Hortus Botanicus Universitatis Labacensis supplies the seeds requested as laid down in the present Convention.

I agree to comply with the conditions above.

Signature _____ Date _____

Please return this order form with numbers you wish to receive!