

UČNO-SPREHAJALNA POT RAČA



RAČA TRAIL

LEGENDA / LEGEND

-  Naravna zanimivost / Natural heritage
-  Rača / Rača
-  Cesta / Road
-  Kulturna dediščina / Cultural heritage
-  Učno-sprehajalna pot Rača / Rača trail
-  Informativna tabla / The explanatory board
-  Cerkev / Church
-  Mlin / Mill
-  Vodniki / Guide books
-  Versko znamenje / Crucifix
-  Gozd / Wood
-  Turistična ponudba / Tourist destination



UČNO-SPREHAJALNA POT RAČA



RAČA TRAIL



VČNO-SPREHAJALNA POT RAČA



RAČA TRAIL



Zavod Republike Slovenije za varstvo narave,
Območna enota Kranj
Institute of the Republic of Slovenia
for Nature Conservation,
Regional Unit Kranj



Zavod za varstvo
kulturne dediščine Slovenije,
Območna enota Kranj
Institute for the Protection
of Cultural Heritage of Slovenia,
Regional Office Kranj



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VČNO-SPREHAJALNA POT RAČA



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Krašče

Krašče ■ so gručasto naselje, ki je nastalo na blago vzpetem valovitem griču severno nad dolino Rače. Izvor imena je pripisati kraški pokrajini, ki jo spoznamo predvsem po odkriti kamnini. ■ ■

Krašče

Krašče ■ is a densely packed village on a gently rising undulating hill above the Rača stream. Its name is to be attributed to the karst countryside, revealing itself particularly by its bare rock. ■ ■

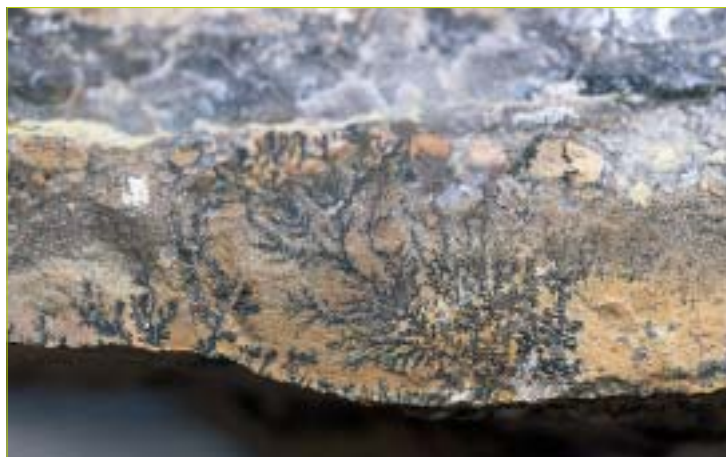


Golica nad Mecetovim mlinom.
Outcrop under Mecetov mill.



Golica nad Mecetovim mlinom.
Outcrop under Mecetov mill.

Manganovi dendriti.
Manganic dendrites.



In the road cuttings below Sv. Andrej and Krašce, dark grey to black manganic dendrites occur in pieces of yellowish grey limestone. ■ These are ramified and moss-like forms of manganic oxide discharged from manganic solutions. These interesting forms are also called fake fossils or pseudofossils.

The heritage of settlement culture in the area shows that the locals made use of those building materials, which they could find in their immediate vicinity – in nature.

The original houses and homesteads were probably built of stone and wood. Later on, when brickworks began to operate below Krašce, bricks were also used. The heritage of the locals' way of life still bears witness to the name of the village of Krašce. All older houses, homesteads and farms were built of stone and covered with roofing made of wood, which was obtained from the forests nearby and owned by the locals. As an example let us mention Javorn'kova house Krašce 6 ■ ■, and house Krašce 14 ■.

V usekih pod Sv. Andrejem in pod Kraščami so v kosih rumenkastosiivega apnenca temnosivi do črni manganovi dendriti. ■ To so vejnate in mahu podobne oblike manganovega oksida, ki se je izločil iz manganovih raztopin. Dendritom pravimo tudi lažni fosili ali psevdofosili.

Tudi dediščina stanovanjske kulture kaže na to, da so ljudje za graditev svojih domov uporabljali material, ki so ga našli v neposredni bližini, v naravi. Prvotne hiše domačije in kmetije so verjetno gradili iz kamna in lesa; pozneje, ko se je pod Krašce preselila opekarna, tudi iz opeke. Dediščina načina življenja ljudi še danes priča o imenu naselja Krašce. Vse starejše hiše, domačije in kmetije so sezidane iz kamna, krite pa z ostrejšem iz lesa, ki je bil v bližini in v lasti domačinov. Kot primer naj navedemo Javorn'kovo hišo, Krašce 6 ■ ■, in hišo Krašce 14 ■. Tudi vhodi v hiše in domačije so izdelani iz domačih materialov, peščenjakov, ki so jih spretni kamnoseki znali vključiti v življenje ljudi. Govorimo o portalih,



Kamnita hiša Krašce 6, po domače Pr' Javorn'k v prenovi.

Stone house Krašce 6, locally known as Pr' Javorn'k in restoration.



Pr' Javorn'k – notranjost hiše.
Pr' Javorn'k – inside of the house.

The entrances to the houses and homesteads, too, were built of domestic materials, i.e. sandstones, which the skilful stonecutters were able to integrate into the people's life. These are porches that carried all kinds of wooden doors, which used to invite,

Primer s kamnom zidane hiše s kukrlom in kamnitim portalom, Krašce 14.

Stone house with peephole and stone porch, Krašce 14.



and still do, the passers-by to drop in. The densely packed village of Krašce consists of several individually standing houses, homesteads and farms as well as buildings constructed after 1970. Its characteristic marks are the small chapel standing at the spot where the side road leading to the village leaves the main road, wayside shrines along the Rača nature trail, and double hayracks (toplars).

The Krašce crucifixes

In the Moravsko area, crucifixes constitute that part of cultural heritage, which speaks of the local carvers and events that leaved such a strong mark on the people that they erected them in remembrance and as a reminder for something not happening again. Quite often, however, crucifixes also appeared at crossroads or as landmarks. Although they are of now special historical value, they are anonymous representatives of settlement history and culture of certain places. In the past, only wooden corpuses (Christ's body in the shape of a statue on the cross) appeared on wooden crucifixes. ■ Owing to their exposure to the natural elements, many of them went to ruin and were eventually replaced with new ones. Often, the wooden corpus was substituted by metal and plaster casts, which of course no longer contained the »life« that the master carver was able to instil into the wooden statue. In the Moravsko area, the crucifixes are most

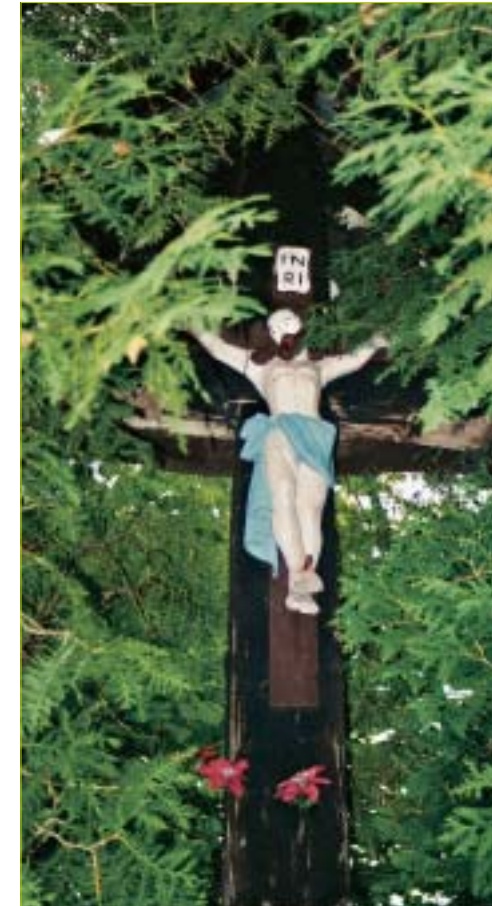
ki so nosili takšna ali drugačna lesena vrata, ki so vabila in še vabijo na obisk. Naselje Krašce je gručaste tlorisne zasnove, ki ga sestavljajo posamezne hiše, domačije in kmetije ter novejša stavbe, zgrajene po letu 1970. Naselje prepoznamo po strnjeni pozidavi; kapelici ob uvozu z glavne ceste v vas; po znamenjih, ki jih srečujemo ob učno-sprehajalni poti; in po dvojnih kozolcih ali toplarjih.

Razpelo v Krašcah

Razpela na Moravškem so tisti del kulturne dediščine, ki govori o domačih rezbarjih in dogodkih, ki so na ljudeh pustili tak pečat, da so jih postavili v zahvalo, spomin ali opomin, da se nekaj ne bi več zgodilo. Velikokrat pa so se razpela pojavljala tudi ob razpotjih ali kot mejniki. Nimajo posebne umetnostno-zgodovinske vrednosti, a so anonimni predstavniki bivanjsko-zgodovinske dediščine kraja.

Na lesenih razpelih ■ je bilo v preteklosti opaziti izključno lesene korpuse (Kristusovo telo v obliki kipa na križu). Zaradi velike izpostavljenosti vremen-skim vplivom so mnogi od križev propadli in so jih kasneje zamenjali z novimi. Velikokrat so leseni korpus zamenjali kovinski in mavčni odlitki, ki v sebi nimajo več tistega »življenja«, ki ga je mojster rezbar znal vdihniti lesenemu.

Na Moravškem so razpela največkrat krita s polkrožno ali dvokapno pločevinasto streho. Mnoga razpela imajo imena, in sicer po domačih imenih



Korpus pri Mecetovem mlinu.
Corpus at Mecetov mill.



Razpelo ob hiši Krašce.
Crucifix at a Krašce house.

hiš. Mnogi vaščani še danes vedo, zakaj je bilo kakšno postavljeno. Križ ob hiši Krašce 7 sredi vasi Krašce ■ je povsem nov. Razpelo, ki danes ni več ohranjeno, naj bi bili v preteklosti na tem mestu postavili kot mejnik. Skrbni lastnik je na istem mestu, kjer je stalo staro, leta 1997 postavil novo. Gre za lesen križ z mavčnim odlitkom Kristusovega korpusa, nad katerim se pne polkrožna pločevinasta streha.

often covered by semicircular or tin gable roofs. Many of them have their own names, mainly after homesteads as known by the locals. The majority of the latter still do not know, however, why certain crucifixes were erected. The cross standing at Krašce 7 in the middle of the village ■ is almost new. The crucifix, which has not been preserved, was presumably erected as a landmark, and on the same spot where the old crucifix used to stand, its owner set up a new one in 1997. This is a wooden cross with a plaster cast of Christ's body with a semicircular tin roof above it.

Rocks along the Rača stream

The Moravče valley is part of the Moravče syncline, which belongs to the Posavje folds.

It extends to Moravče and is filled with Tertiary sediments.

These are predominantly Miocene marlaceous clays, sands and sandstones. The layers under the rock consist mostly of the Upper Triassic and Early Jurassic limestones, dolomized limestones and dolomites, which can be followed on the syncline's wings. Further towards the west, the carbonate rock is bare on the steep banks in the gorge below Krašce, on the karst rise with the little Church of sv. Andrej, and on the karstified edge below Vrhpolje. This type of rock can be followed above the left bank of the Rača stream and further towards Katarija, Cicelj and Trojica. Towards the north it continues towards Dole and Prikrnica. In the west, the stream cut its bed into the erosive patches of the Late Cretaceous flysch and rudist limestones. The Rača leaves the valley on thick alluvial deposits of the Quaternary clay, gravel, sand, and silt. The oldest rocks along our nature trail are Late Triassic and Early Jurassic limestones ■, which were formed on the extensive submarine plain of the Tethys Sea some 210 million years ago. From this shallow sea, groups of islands eventually rose, with lagoons predominating in the coastal zone. The climate was warm. The warm coastal sea was inhabited by up to

Kamnine ob Rači

Moravska dolina je del laške sinklinale, ki pripada Posavskim gubam. Segajo do Moravč in je zapolnjena s terciarnimi sedimenti.

To so večinoma miocenske laporne gline, peski in peščenjaki. Talnino tvorijo zgornjetriasni in spodnjejurski apnenci, dolomitizirani apnenci in dolomiti, ki jih sledimo na krilih sinklinale. Dalje proti zahodu so karbonatne kamnine razgaljene na strmih bregovih v soteski pod Kraščami, na kraški vzpetini s cerkvico sv. Andreja in na zakraselem robu pod Vrhpoljem. Take kamnine sledimo nad levim bregom Rače dalje proti Katariji, Cicelju in Trojici. Proti severu se nadaljujejo proti Dolam in Prikrnici. Na zahodu je Rača vrezala strugo v erozijske krpe zgornjekrednih flišnih plasti in rudistnih apnencev. Dolino zapušča na debelih nanosih kvartarne gline, prod, peska in melja.

Najstarejše kamnine na naši učni poti so zgornjetriasni in spodnjejurski apnenci. ■

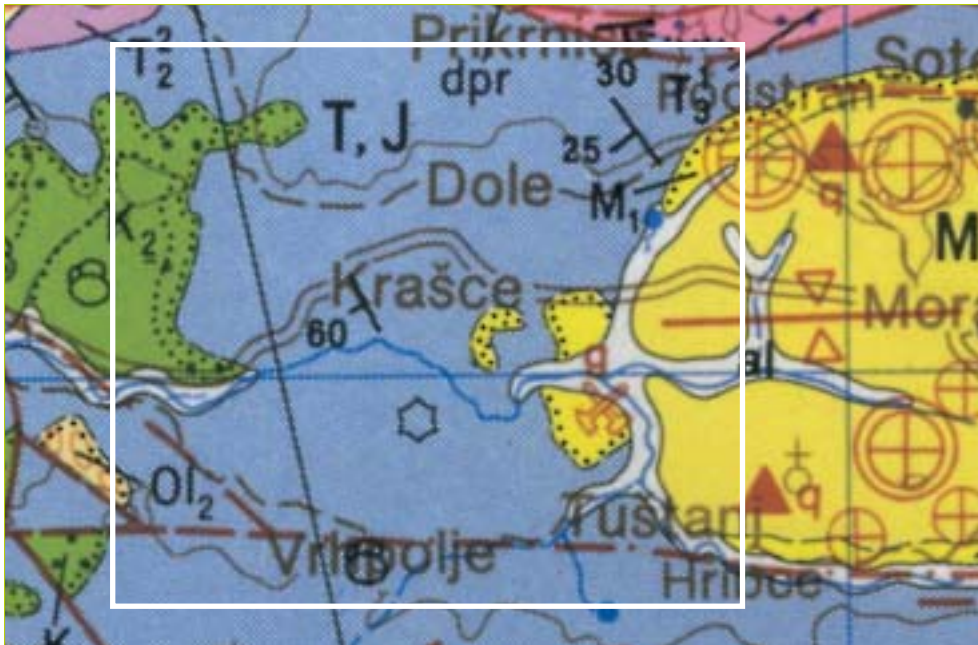
Nastajali so na obsežni podmorski ravnici Tetidinega morja pred približno 210 milijoni let. Iz plitvega morja so se dvigale skupine otokov, v obalnem pasu so prevladovala lagune. Podnebje je bilo toplo. V toplu priobalnem morju so živele megalodontne školjke, velike tudi do 20 cm. V triasnih kamninah osamelega moravskega krasa so to najznačilnejše okamine. Zasledimo jih na zakraselih, deloma z mahom poraščenih kosih apnenca, ki jim pravimo tudi golice ali iz-

VEK / ERA	PERIODA / PERIOD	EPOHA / EPOCH	STOPNJA / STAGE	STAROST / AGE milijoni let / million years
KENOZOIK (Kz) – Novi Zemljin vek / CENOZOIC xxxxxx xxxxxxxx xxxxxx	Kvartar (Q) / Quaternary xxxxxxxx	Holocen / Holocene		0.01
		Pleistocen / Pleistocene		1.8
	Terciar (Tc) / Tertiary xxxxxxxx	Pliocen / Pliocene		
		Miocen / Miocene		
		Oligocen / Oligocene		
		Eocen / Eocene		
MEZOZOIK (Mz) – Srednji Zemljin vek / MESOZOIC xxxxxx xxxxxxxx xxxxxx	Kreda (K) / Cretaceous xxxxx	Zgornja / Upper		
		Spodnja / Xxxxx		135
	Jura (J) / Jurassic xxxxx	Spodnja / Xxxxx		
		Srednja / Xxxxx		
		Spodnja / Xxxxx	Malm / Xxxxxx Dogger / Xxxxxx Lias / Xxxxxx	202
	Trias (T) / Triassic xxxxx	Zgornji / Upper		
		Srednji / Xxxxx		
		Spodnji / Xxxxx		250
PALEOZOIK (Pz) – Stari Zemljin vek / PALAEOZOIC xxxxxx xxxxxxxx xxxxxx				540
PREDKAMBRIJ / PRECAMBRIAN				4600



Geološka časovna lestvica.
Geologic Timescale.

Razgaljena apnenčeva stena.
A bare limestone wall.



Geološka zgradba širšega območja ob Rači.
Geological structure of the wider area along the Rača stream.

Prerejeno po Osnovni geološki karti SFRJ, list Ljubljana, Zvezni geološki zavod, Beograd, 1983, M 1:100.000 / Arranged by Geology of the sheet Ljubljana, XXXXXXXX XXXXXXXX XXXXXXXX, Beograd, 1983, M 1:100.000

LEGENDA / LEGEND

al

Aluvij v splošnem / Alluvium in general

M₂¹

Pesek, melj, prod, glina, peščenjak z vložki laporja / Sand, silt, gravel, clay, sandstone with interbed of marl

M₁

Glina, pesek, melj, peščenjak in prod / Clay, sand, silt, sandstone and gravel

K₂

Fliš: apnenec, lapor, peščenjak, breča / Flysch: limestone, marl, sandstone, breccia

K₂

Rudistni apnenec / Rudist limestone

T, J

Apnenec / Limestone

Geološke meje / Geologic boundaries

25

Vpad plasti / Dip of bed

Mikrofosili / Microfossils

g

Opuščen glinokop / Abandoned clay pit

Prelom / Fault

15

PERIODA / PERIOD	EPOHA / EPOCH	LEGENDA / LEGEND	SIMBOLI / SIMBOLS	OPIS LITOSTRATIGRAFSKIH ENOT / XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
Kvartar (Q) / Quaternary xxxxxxx	Holocen / Holocene		al	Aluvij v splošnem / Alluvium in general
Terciar (Tc) / Tertiary xxxxxxx	Miocen / Miocene		M ₂ ¹	Pesek, melj, prod, glina, peščenjak z vložki laporja / Sand, silt, gravel, clay, sandstone with interbed of marl
			M ₁	Glina, pesek, melj, peščenjak in prod / Clay, sand, silt, sandstone and gravel
Kreda (K) / Cretaceous xxxxx	Zgornja / Upper		K ₂	Fliš: apnenec, lapor, peščenjak, breča / Flysch: limestone, marl, sandstone, breccia
			K ₂	Rudistni apnenec / Rudist limestone
Jura (J) in Trias (T) / Jurassic xxxxx and Triassic xxxxx	Lias in zgornji trias / Lias and Upper Triassic		T, J	Apnenec / Limestone

Geološki stolpec plasti ob Rači.
Geologic column of beds of Rača.

Kamnine ob učni poti ob Rači.
Rock along the Rača nature trail.

20 cm large megalodont bivalves. In the Triassic rock of the isolated Moravče karst, these are the most characteristic fossils. They can be found on karstified pieces of limestone partially overgrown with moss ■, especially when the countryside is bare, without snow, and when trees and bushes are leafless. We will find it almost impossible to overlook the characteristic heart-shaped cross-sections of megalodont bivalves in light grey limestone. Among the fossils, marine gastropods can also be found, although most often the petrified life is represented merely by fragments of various shells of marine molluscs.

danki ■. Najlaže jih najdemo, ko je pokrajina razgaljena, brez snega, grmovje in drevje pa brez listja. Značilnih srčastih presekov megalodontodnih školjk v svetlosivem apnencu skoraj ne moremo zgrešiti. Med okamninami najdemo tudi polžke. Največkrat pa okamenelo življenje ponazarjajo le odlomki različnih lupin morskih mehkužcev.

Rača and its course

Rača was given its name after crayfish, but nowadays only an occasional Mallard can be found on it. We will be surprised by the stream's lively course, which reflects the area's diverse geological past. The stream has two sources. In the karst spring of Češnjiška Rača, water reaches the surface from the karst hinterland of Javoršica. The other upper catchment of the Rača stream will be found at Rudnik. The beds of both tributaries were cut into the soft Tertiary layers. ■ In watertight limestones and clays, there are several springs. Along the confluence, the Rača stream meanders slowly along the clayey wet plain. On our nature trail we will meet the

Rača in njen tok

Rača je dobila ime po potočnih rakih, danes pa bomo tu mogoče srečali raco mlakarico. Preseneti nas njen razgibani tok, ki se odseva v pestri geološki preteklosti. Ima dva izvira. Na kraškem izviru Češnjiške Rače pritečejo na dan vode s kraškega zaledja Javoršice. Drugo povirje Rače je pri Rudniku. Strugi obeh pritokov sta vrezani v mehke terciarne plasti. ■ V vododržnih peščenjakih in ilovicah je več izvirov. Po sotočju počasi vijuga sem ter tja. Ravni na ob njej je ilovnata in vlažna. Na učno-sprehajalni poti se z Račo srečamo v njenem srednjem delu toka. Med Selom in Stegnami je v mezozojskem apnencu vrezala ozko sotesko ■, ki jo opazimo, ko prečkamo



Dolina Rače.
The Rača valley.





Rača in its middle course. Between Selo and Stegne it cut a narrow gorge in Mesozoic limestone. ■ We will catch sight of it when crossing the stream at Mecetov mill.

Here, we will find no arable land or human settlements, the only exception being the old abandoned, crumbling mills and sawmills. In its further course, the Rača valley widens. Characteristic here is its shallow and meandering bed overgrown with riparian vegetation. In this part, the stream often bursts its banks, which is the reason why wetlands have been formed in the wider parts of the valley. ■ On its way, the Rača flows through numerous meanders, hardly accessible gorges and, again, through wider parts of the valley, where its course calms down and spills across the surrounding plains. The same as the Rača changes its face along our trail, so the very different riparian habitats alternate along it.

Ravninska struga Rače.
The lowland Rača bed.

rečico pri Mecetovem mlinu.

Tu ni ne obdelovalnih površin ne naselij, izjema so bili stari mlini in žage, ki so opuščeni in jih najeda zob časa. V nadaljevanju toka se dolina Rače razširi. Zanj je značilna z obrežno vegetacijo obrasla plitka in vijugava struga. V tem delu rečica pogosto prestopa bregove in poplavlja, na dolinskih razširitvah so zato nastala mokrišča. ■

Rača se na svoji poti vije v številnih zavitih okljukih, čez težko prehodne soteske, in se na dolinskih razširitvah, kjer umiri svoj tok, razlije na obvodnih ravninah. Kot spreminja Rača svoj obraz ob naši poti, tako se ob njej vrste različni obvodni življenjski prostori.

Življenjski prostori ali habitati ob Rači

Vodotok v zgornjem delu je naravno ohranjen. Tu najdemo številne različne obvodne in vodne življenjske prostore ali habitate, ki dajejo zavetje mnogim različnim vrstam rastlin in živali. Vzdolžno se v toku reke menjavajo predeli s hitrim pretokom in predeli s počasnim pretokom. Razlike so tudi v pretoku od površine do dna. Hitrost pretoka pada z globino. Zaradi večjih skal in prodnikov na dnu je tok vrtinčast. Rečni tok vpliva z odnašanjem in odlaganjem rečnega materiala na zgradbo rečnega korita. Z občasnim poplavljanjem in erozijskimi procesi vpliva tudi na obliko in vegetacijsko sestavo obrežja. Tako se ustvarjajo številni manjši in večji življenjski prostori, ki spodbujajo rastlinsko in živalsko pestrost ob vodotoku.

V toku domujejo ribe, pod kamni se skrivajo redki potočni raki, na muljastem dnu in obrežnih naplavinah najdemo celo sladkovodno školjko potočnega škrlčka. ■

Po prodnatem dnu in večjih kamnih in med vodno obrastjo in rastlinjem se zadržujejo vodni polžki, pijavke, vrtinčarji, postranice in ličinke številnih žuželčjih vrst, katerih razvoj je vezan na vodo in obrežno rastlinstvo. Vsi ti organizmi predstavljajo bolj neugledno in povprečnemu opazovalcu skoraj nevidno živalsko družčino, med katero se na koncu zvrstijo še enocelični organizmi in bakterije. Ti bodo nekoč to odmrlo družčino in celo človeško nesnago, razgradili in miner-

Habitats along the Rača stream

In its upper course, the Rača has been well preserved. Here, we will find numerous and diverse riparian and water habitats, giving shelter to many different plant and animal species. Longitudinally, sections with quick flow rates and sections with slow flow rates alternate in its course. There are, however, differences in its flow rates at different depths as well: the speed of the current decreases with its depth. Due to the presence of larger rocks and boulders on the bottom, the current swirls. By carrying away and depositing the river material, the current has a strong impact on the structure of its bed.

With occasional flooding and erosion processes it also affects the shape and vegetation structure of its banks. Thus numerous smaller and larger habitats are created, which stimulate plant and animal diversity along the stream. The water itself is inhabited by fishes, under the stones the rare crayfish are hiding, whereas on the silty bottom and alluvial deposits the shell of the freshwater Painter's Mussel (*Unio pictorum*) can even be found. ■

On shingly bottom, larger stones and in water epigrowth and plants we may catch sight of water snails, leeches, flatworms, amphipods, and larvae of several insect species whose development is closely associated with water and riparian vegetation. All these organisms constitute a more or less insignificant and to average observers almost invisible animal »company«, in



Školjka potočni škržek.
Painter's Mussel.

which one-celled organisms and bacteria are lined up in the end. One day these organisms and bacteria will decompose and mineralise this dying away company and even human filth and create nutrients for a new life cycle. Thus water plants (macrophytes) and algae spread on the bottom rich with minerals as food for plant-eating water animals and at the same time create shelters for various creatures to hide from predators. Of particular significance are riparian plants, which with their role of linking the water and the land in fact enable the great diversity of plant and animal species here. A number of different species can be found on gravel banks, alluvial floodplain woodlands and in the areas rich with riparian vegetation and riverine willow scrub. In this almost impassable greenery, shelter is also found by amphibians, such as frogs and salamanders, and numerous bird species.

alizirali ter ustvarili hranila za nov življenjski krog. Tako se na mineralno bogatem dnu razrašča vodno rastlinje (makrofiti) in alge, ki predstavljajo hrano rastlinojedim vodnim živalim in hkrati tudi skrivališče pred plenilci. Poseben pomen ima obrežno rastlinje, ki ima povezovalno vlogo med vodo in kopnim, zato tu najdemo veliko raznolikost živalskih in rastlinskih vrst. Veliko različnih vrst je na prodiščih, poplavnih lokah in na območjih z bogatim obvodnim rastlinjem in obrečnim vrbovjem. V tem, pogosto skoraj neprehodnem zelenem »šavju« najdejo svoje zavetišče tudi dvoživke kot so žabe in močerad ter številne vrste ptic.

Mecetov mlin in perišče pod Kraščami

Pod naseljem Krašče se skozi gozdno pot, ki se blago spušča proti Rači, srečamo z enim izmed pomnikov življenja in dela ljudi v ne še tako zelo oddaljeni zgodovini, z razvalinami Mecetovega vodnega mlina. ■ Domačijo je sestavljala kamnita stanovanjska stavba, obrtni del, kjer so bile mlevne naprave, ograjen vrt, gospodarsko poslopje, kozolec na kozla (na psa pravijo ponekod na Slovenskem), mlinščica in perišče. Domačija z mlinom, po domače Pri Mecet, je bila po zgodovinskih virih prvotno last tuštanjskega graščaka, a je že v 18. stoletju zamenjala lastnika. Konec 19. stoletja ga je prevzel Andrej Kovič – Mecetov, pozneje je vse skupaj kupil Molkov iz Zgornjega Tuštanja (Stražar 1979 : 555–556). Prvotno je imel tri vodna

Mecetov mill and laundry spot below Krašče

While following the forest path, which descends gently towards the village of Krašče, we will come across one of the reminders of the way of life and work in the not so distant past, the ruins of Mecetov watermill. ■ The homestead used to consist of a stone residential house, industrial part with milling appliances, enclosed garden, outbuilding, goat-type of hayrack (dog hayrack – kozolec na psa – is also known in Slovenia), millrace and laundry spot. According to the available historical sources, the homestead known as Pri Mecet by the locals and the mill were originally owned by the Tuštanj Lord of the Castle who, however, eventually sold it on in the 18th century. At the end of the 19th century, it was bought

Razvaline Mecetovega mlina pod Kraščami.
Ruins of Mecetov mill below Krašče.



by Andrej Kovič – Mecetov, who in turn sold it to Molkov from Zgornji Tuštanj (Stražar 1979 : pp. 555–556). Originally, the mill had three wheels, but the owner later replaced them with a large single wheel with buckets. The mill functioned until 1962, while today the ruins remain ■ there as heritage of the life and work of the former millers along the Rača stream.

Of the former way of the locals' life we will also be reminded by the concrete trough on the right bank of the stream, which is not a watering place for domestic animals as most of you might think. This is the through with washboards or the so-called laundry spot ■, where housewives from the neighbouring homesteads used to rinse their linen, which they had previously washed »manually« at home. The laundry spot is a monument to those that you, the trekkers, could not have known but are still alive today. The local housewives used to carry their washing to be rinsed at the stream at least twice a week. They were standing at the trough, rinsing the washing in the swift-running Rače stream. The laundry spot was abandoned when waterworks appeared in the area and, of course, washing machines with it, although there were women who continued to rinse their washing in the stream.

kolesa, ki jih je lastnik leta 1936 zamenjal z enim večjim na lopatice. Mlin je obratoval do leta 1962. Razvalina ■ danes ostaja kot dediščina načina dela in življenja mlinarjev ob Rači. Kot pomnik nekdanjega načina življenja okoliških ljudi nas nase opozori še betonsko korito na desnem bregu, ki ni napajališče za živino, kot bi mnogi morda pomislili. To je betonsko korito s perilniki ali perišče ■, kamor so hodile gospodinje z okoliških domačij in hiš izpirat doma »na roke« (ročno) oprano perilo. Pomnik je spomenik tistim, ki jih pohodniki niste poznali, a živijo še danes. V potoku so gospodinje izpirale »žehto« vsaj dvakrat tedensko. Stale so ob koritu in izpirale perilo v tekoči vodi potoka Rače. Perilo so nosile v pletenih koših, nekatere tudi v lesenih škafih na glavi. Perišče je bilo opuščeno, ko so na tem območju zgradili vodovod in so se ljudje oskrbeli s pralnimi stroji, pa vendar so nekatere gospodinje še nekaj let hodile izpirat perilo k potoku.



Perišče ob Rači pri Mecetovem vodnem mlinu.
Laundry spot along the Rača stream at Mecetov mill.



Majcetova cave

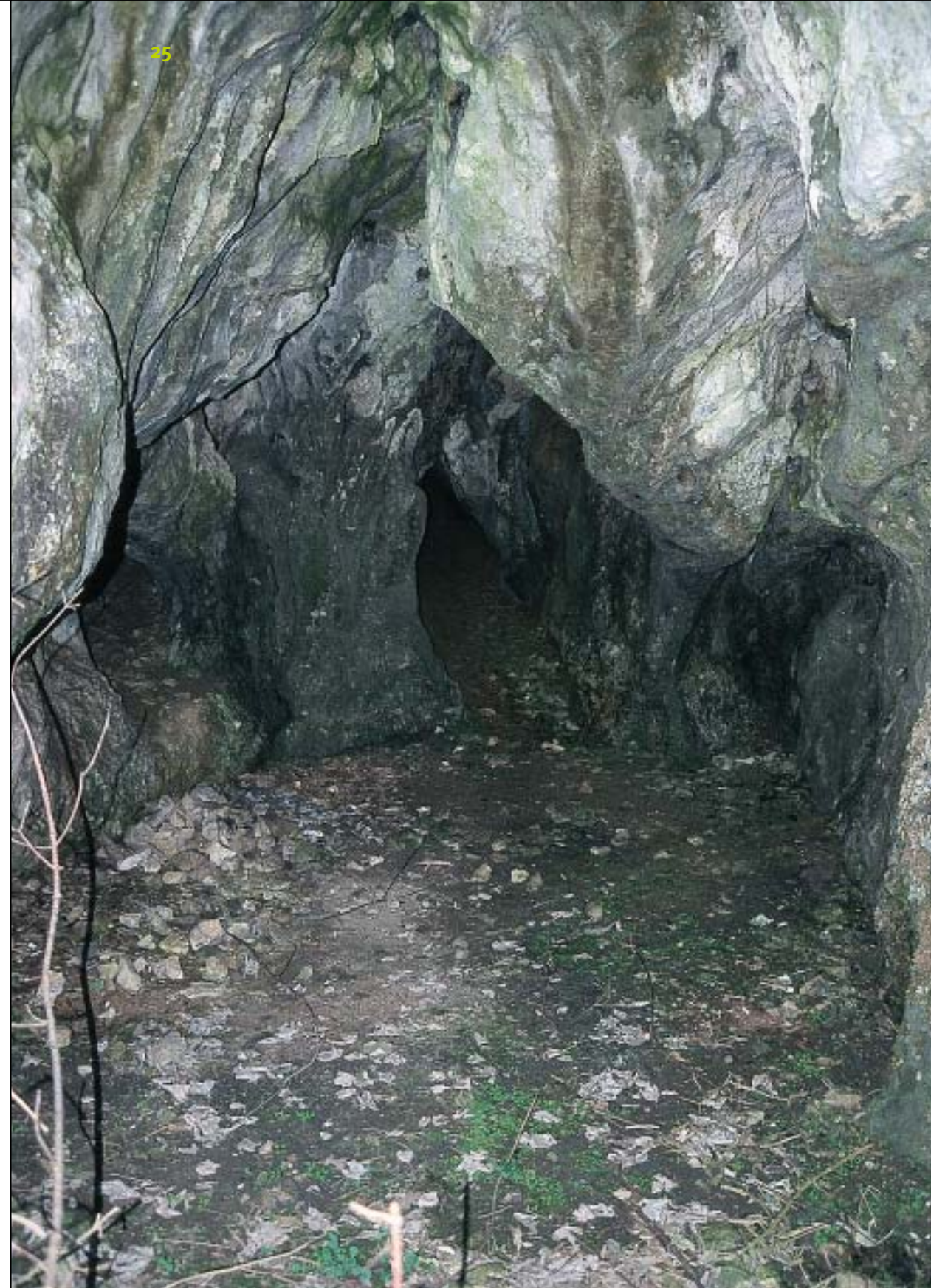
Just before the gorge narrows at the abandoned Mecetov mill below Krašče, the entrance to the Majcetova cave ■ opens up in the distinct left terrace above the Rača stream. It was named after the owner of the land along Mecetov mill. The cave was created along the tectonic fault, which is quite clearly visible in its ceiling. ■ The spacious entrance narrows quickly and continues with almost impassable passages to our eyes hidden underground world. Just a tip: explore this secret underworld only with a torch and, please, take any eventual rubbish away with you in your knapsack!



Majcetova jama

Preden se soteska pod Krašcami pri zapuščenem Mecetovem mlinu zoži, se odpira v izraziti levi terasi nad Račo vhod v Majcetovo jamo. ■ Ime je dobila po lastniku sveta ob Mecetovem mlinu. Jama je nastala ob tektonski prelomnici, ki je dobro vidna na stropu. ■ Prostoren vhod se hitro zoži in nadaljuje v neprehodnih rovih v očem zakriti podzemni svet. Še napotek: raziskujmo skrivnostni svet podzemlja le z baterijo in odnesimo vse smeti nazaj v nahrbtniku!

Vhod v Majcetovo jamo.
Entrance to Majcetova cave.



The woodland along the Rača stream

The woodland has been preserved immediately along the stream and on its steep slopes with unfavourable farming conditions.

Above the Rača valley predominate meadows and fields, while the land is here and there overgrown with small woodland groves. Forest associations along the Rača stream are similar to those elsewhere in the Moravsko area. In the lowest-lying tracts of land, the association of Oak and Hornbeam prevails, while on the higher-lying roundish ascents mainly the association of Beech and Deer Fern, which is places replaced by Goldteller (*Hacquetia*), can be found.

The border between the woodland along the Rača and arable land, constitutes of a very diverse woodland edge ■, which is mostly graded, while in some other places it has been levelled, due to annual mowing, into a uniform edge. The woodland edge is home to several light-loving tree and shrub species, such as Common Maple, Field Maple, Bird Cherry, Lime, Rowan, Aspen, Hornbeam (which is indeed more a shadow-loving species), Hazel, Black Elder, and to many other plant species.

The predominant tree on the woodland edge is Hornbeam ■, which to a great extent also forms the forest stands along the Rača stream.

The woodland edge has been given a very special appearance by occasional Aspen ■, which with its round and glit-

Gozd ob Rači

Gozd ob potoku Rača se je ohranil neposredno ob strugi in na strmih brežinah, kjer razmere za kmetijstvo niso ugodne.

Nad dolino Rače prevladujejo travniki in njive, tu in tam pa površine zarašča gozd v obliki manjših zaplat. Gozdne združbe ob Rači so podobne kot druge na Moravškem. Na najnižjih legah prevladuje združba hrasta in belega gabra, na višjih, zaobljenih vzpetinah pa združba bukve in rebrenjače, ki jo ponekod zamenjuje navadno tevje.

Mejo med gozdom ob Rači in kmetijskimi površinami zapolnjuje pester gozdni rob ■, ki je večinoma grajen stopničasto, ponekod pa je zaradi vsakoletne košnje izravnal v enoličen rob. Gozdni rob gradijo svetloljubne drevesne in grmovne vrste, kot so maklen ali poljski javor, divja češnja, lipa, jerebika, trepetlika, beli gaber, ki je že bolj sencoljubna vrsta, navadna leska, črni bezeg in še mnoge druge.

Na gozdnem robu prevladuje beli gaber ■, ki v večji meri gradi tudi gozdne sestoje ob potoku Rača. Posebno zanimiv videz gozdnega roba ponekod daje trepetlika ■, ki s svojimi okroglimi in tudi svetlečimi se listi »trepet« že v lahnem pišu. Na gozdnem robu je moč najti tudi robinijo ■, ki pa je priseljena oziroma ni samonikla drevesna vrsta, je pa še posebej privlačna spomladi, ko belo zacveti.

Hrastov in gabrov gozd ob Rači v večji meri gradi beli gaber, posamično pa so primešani hrasti (graden in dob), navaden kostanj in rdeči bor. Na levem



Gozdni rob.
The woodland edge.



Robinija.
Robinia.



Trepetlika.
Aspen.



Beli gaber.
Hornbeam.

tering leaves trembles even in the lightest breeze. Here, a Robinia ■ can also be found: This nonindigenous species has been introduced here, but is particularly attractive in spring when flowering brilliant white. Oak and Hornbeam forest along the

Rača is composed mostly of Hornbeam trees, with individual oak trees (Durmast Oak and Pedunculate Oak), Spanish Chestnuts and Scotch Pines among them. On the left bank, the above species are joined by Beech as well as Norway Spruce, which in places constitutes monotonous spruce stands. On the same bank, the Beech is present with individual larger trees, which call attention to once immense but eventually cut out Beech forests. Immediately along the Rača stream, Alder, Ash and a few Willow species can be found, although not in stands. Particularly salient is the plantation of Robinia ■ and Willow at Mohorjev mill on the right bank of the stream.



Robinija.
Robinia.

According to the above-stated tree structure, the woodland is indeed fairly diverse although probably changed a great deal. With deforestation, cutting of separate trees (for wood and heating purposes) and woodland mowing for fodder, people affected its structure and species composition. Once double-layered Oak and Hornbeam forest has been recently replaced by predominantly Hornbeam woodland; in certain places this is of coppice origin as a result of the former stump-cutting. Owing to the strong human pressures and steep slopes, this forest is insignificant from the economic point of view. It does have, however, an important hydrological function as well as function of conserving its biodiversity and natural values.

The Rača educational nature trail leads us through an interest forest,

bregu se naštetim vrstam pridružuje ta bukev in smreka, ki ponekod gradi monotone smrekove sestoje. Bukve se na levem bregu pojavlja s posamičnimi večjimi drevesi. Ti opozarjajo na nekdanj mogočnejše bukove gozdove, ki pa so bili izsekani. Neposredno ob potoku je moč najti črno jelšo, veliki jesen in več vrst vrb, vendar ne v sestojih. Še posebno pozornost zbuja nasad robinij ■ in vrb na desnem bregu Rače, pri Mohorjevemu mlinu.

Po naštetih drevesni sestavi je gozd dokaj pester, kljub temu pa je verjetno precej spremenjen. Ljudje so s krčenjem gozdov, s posekom posameznih dreves (za les in kurjavo) in s steljarjenjem vplivali na njihovo strukturo in sestavo drevesnih vrst v njih.

Nekdanj dvoslojne gozdove hrastov in belega gabra je danes zamenjal predvsem gozd belega garba, ki je na določenih delih panjevskega nastanka



Beli gaber – gabrova streha.
Hornbeam's roof.

zaradi sečnje na panj v preteklosti. Zaradi močnega človekovega vpliva in strme brežine ta gozd z gospodarskega vidika ni pomemben. Ima pa pomembno hidrološko funkcijo in funkcijo varovanja biotske raznovrstnosti in varstva naravnih vrednot.

Učno-sprehajalna pot Rača nas vodi skozi zanimiv gozd, ki obdaja potok Račo kot osrednji motiv te poti. Zaradi strmih brežin se ob vodi niso razvili večji kompleksi jelševja in tudi jesenovja, gre bolj za posamezna drevesa teh vrst. Beli gaber sega vse do struge Rače. Tako lahko rečemo, da je pot v gozdu speljana pod »gabrovo streho«. ■ Tudi del poti, ki poteka ob robu gozda, je predvsem v senci dreves belega gabra. Na poti nas vseskozi spremlja beli gaber – drevo z opaznim zasukanim in žlebastim deblom, ki je na omejenem območju najuspešneje kljubovalo človekovemu vplivu in naravnim dejavnikom.

which surrounds the Rača stream as a central motif of this trail. Due to the steep slopes, no large complexes of Alder and Ash trees have developed along the stream. There are only singular trees of these two species, whereas the Hornbeam extends right to the Rača bed. Thus we can say that in the forest the trail has been led under the »Hornbeam's roof«. ■ Even that part of the trail, which runs along the forest edge, is situated mainly in the Hornbeam's shade. On our path, we are therefore constantly accompanied by Hornbeam, the tree with visibly twisted and grooved trunk, which has in this limited area most successfully defied the human impact and natural factors.

Mohorjev mill with the laundry spot

Among the locals, Mohorjev mill is better known as Francin mill. This, too, is a watermill, with concrete troughs serving for the supply of water from the Rača stream leading to it. ■ In front of the sluice gate, there is a reservoir or a dam.

And the origin of the name Francin mill? This mill stood as early as in 1826, when it belonged to the Mohor homestead at Dvorje. The other better known name, however, concerns Frances Cerar from the Finžgar homestead at Selo, who managed the mill from 1916 onwards as widow. From the accounts by the present ow-

Mohorjev mlin in jez, iz katerega so napeljane betonske rake za dovod vode k mlinu.

Mohorjev mill and dam, from which concrete troughs were led to supply the mill with the necessary water.



Mohorjev mlin s periščem

Mohorjev mlin domačini bolj poznajo kot Francin mlin. Tudi v tem primeru gre za vodni mlin, do katerega so napeljane betonske rake kot dovod pogonske moči iz potoka Rače. ■ Pred zapornico je vodni zbiralnik ali jez.

Od kod ime Francin mlin? Ta mlin je stal že leta 1826, pripadal je Mohorjevi domačiji iz Dvorij. Drugo bolj znano ime je povezano s Frančiško Cerar, doma iz Finžgarjeve domačije s Sela, ki ga je od leta 1916 vodila kot vdova. Po pripovedovanju današnjih lastnikov Lebarjevih in Cerarjevih s Sela pri Moravčah smo izvedeli, da so tri vodna kolesa na korce poganjala prvotni mlevni napravi v obliki dveh kamnov s štirimi stopami. Družina je tu živela do leta 1979. Mlinarica Ivana je pove-

dala, da je bil pred drugo svetovno vojno stanovanjski del mlina izdelan iz lesenih brun, obrtni del pa zidan iz kamna. Danes je stavba v celoti zidana, ■ obrtni del je delno podrt, notranja oprema na »štajnpodnu« (podestu, kjer sta stala kamna) je še delno ohranjena, stope pa so v zelo slabem stanju. Stanovanjski del stavbe je sestavljala veža s »hišo« (osrednjim dnevnim prostorom), kuhinjo in kamro. Danes tu obratuje mala hidroelektrarna. Ob mlinščici zahodno od mlina je še danes ohranjeno perišče s perilniki. ■ Prvotno je bilo kamnito, leta 1962 pa so napravili betonsko. Pečarjeva Slavka z Dol pri Krašcah se spominja, da je od leta 1954, ko se je sem prisožila, hodila izpirat »žehto« k potoku Rača. Ker je bilo do Kiževega mlina pod Sv. Andrejem bližje, je pogosteje hodi-

ners, i. e. the Lebar and Cerar families from Selo near Moravče, we learnt that the original milling appliances in the form of two millstones with four stamp mills had been driven by three water wheels with buckets. The family lived here until 1979. Ivana, the female miller, said that the mill's residential part was built, prior to World War II, of wooden beams, while the industrial part was built of stone. Today the building is made entirely of brick and stone; ■ its industrial part is partially destroyed, the internal equipment on the »steinboden« (the landing on which the two stones were situated) has been partially preserved, while the stamp mills are in a very sorry state. The residential part

Mohorjev mlin.
Mohorjev mill.



of the building was composed of »the house« (central living room), kitchen and bedroom. Today, a small hydro-electric plant operates here. Along the millrace west of the mill, the laundry spot with washboards has survived till this very day. ■ Originally it was made of stone and remained such until 1962, when a new one was made of concrete. Slavka Pečar from Dole near Krašce remembers how from 1954 on, when she came here through marriage, she regularly rinsed her washing in the Rača stream. But as Kižev mill below Sv. Andrej was nearer, she preferred to rinse her linen there. She washed it at home first, with home-made soap. This was usually concocted of sheep suet and alkaline stone, which she had cooked for quite some time on her kitchen-range. When the mixture was ready, she poured it in small moulds, and when the matter hardened, it was ready for washing. As they had only rainwater at home, water had to be used sparingly. She soaked the washing in large wooden tubs and washed it with home-made soap on the washboard. Then she went to rinse it at Kižev mill. In the winter months she often went to Franca below Dvorje, for the water was supposed to be warmer there. The Rača's temperature is constant throughout the year, i. e. 8°C in the summer and winter months. In the winter, however, when air temperature was below zero, the Rača's temperature meant, according to the belief of the locals, somewhat warmer water.

la tja. Perilo je oprala najprej doma z doma narejenim milom. Izdelovala ga je iz ovčjega loja in lužnega kamna, ki ga je kar precej dolgo kuhala na štedilniku. Pripravljeno zmes je nalila v manjše modele. Ko se je snov strdila, je bila pripravljena za pranje. Doma so imeli kapnico, zato so z vodo morali varčevati. V večjih lesenih škafih je namakala perilo, z domačim milom ga je oprala s pomočjo »ribežna«. Izpirat ga je hodila h Kiževemu mlinu. Pozimi se je pogosto odpravila tudi k Franci pod Dvorje, saj je bila po pripovedovanju voda tam toplejša. Temperatura Rače je vse leto enaka, poleti in pozimi 8°. V zimskem času, ko je bila zračna temperatura pod nič stopinj, je temperatura vode v Rači v ljudski govorici pomenila toplo vodo.

Perišče zahodno od Mohorjevega mlina.
Laundry spot west of Mohorjev mill.



Kamnine pri Mohorjevem Rock at Mohorjev mill mlinu

Na levem in desnem bregu so razkriti sivi gosti apnenci z ohranjenimi okamenelimi ostanki morskih organizmov. ■■

On the left and right banks of the Rača stream one can see uncovered thick grey limestones with surviving remains of various marine organisms. ■■



Ostanki lupin morskih mehkužcev.
Remains of marine molluscs' shells in the rocky surface.

Okamnena polžja hišica,
velikost 14 mm.
Petrified sea snail,
14 mm in size.



Karst spring

At the junction of the rising karst ground with the Rače valley, or at the junction of the impermeable rock with permeable, karst springs occur. ■ ■ At the spot where underground water reaches the surface, a spring is formed. The spring west of Mohorjev mill is visited by the locals for supplies of fresh water and is used by them as an inexhaustible source of drinking water during droughts. Its temperature is constant, which speaks of the fact that it runs underground, for the karst under world is not influenced by the natural elements from the surface and above it (e.g. winds, sun). In the past, when Mohorjev mill was still functioning, people had to break ice on the Rača stream, which froze in places east of the mill. Here, where the river water mixes with the water that reaches the surface from the karst hinterland of Javoršica, the Rača never freezes. There are several springs between Mohorjev and **Vehovčev mills**, depending on the Rača stream's water-level. During and after heavy rainfall, water virtually gushes from the springs south above the Rača valley. During medium Rača's flow rates, springs can be noticed immediately above the stream. During droughts, on the other hand, one can watch, if attentive enough, bubbles rising from the stream's bottom. Here, a very abundant population of *Hauffenia erythropomatia* cave snail ■ and numerous tiny amphipods (*Gammarus* sp.) ■ can be found. As the area in the middle of the

Kraški izvir

Na stiku vzpetega kraškega sveta z dolino Rače oziroma na stiku neprepustnih kamnin s prepustnimi se pojavljajo kraški izviri. ■ ■ Tam, kjer podzemna voda privre na površje zemlje, nastane izvir. K izviru zahodno od Mohorjevega mlinarstva domačini hodijo po vodo in jo uporabljajo ob suši kot pitno vodo, ki nikoli ne presahne. Ima stalno temperaturo, kar je dokaz za podzemeljsko pretakanje, saj v kraškem podzemlju ni vpliva s površja (npr. vetrovi, sončno obsevanje) in so temperature stalne. V preteklosti, ko je Mohorjev mlin še deloval, so morali razbijati led na Rači, ki je vzhodno od izvira zamrznila. Tu, kjer se rečna voda meša z vodo, ki se precej na površje s kraškega zaledja Javoršice, pa Rača nikoli ne zamrzne. Izvirov med Mohorjevim in Vehovčevim mlinom je več, odvisno od višine vode v Rači. Ob in po obilnih padavinah voda vre iz izvirov južno nad dolino Rače. Ob srednjih pretokih opazimo izvire tik nad Račo. Ob suši pa je ob pozornem opazovanju možno opazovati mehurčke, ki izvirajo z dna Rače. Tu najdemo bogato populacijo jamskega polža *Hauffenia erythropomatia* ■ in številne majhne postranice (*Gammarus* sp.) ■. Ker območje sredi gozda in ob veliki vodi še posebej rado ostane dlje časa poplavljen, se tu bogato razraščata vlagoljubno rastlinje (kalužnice, preslice, kislice, potočna sretena, spominčice itd.). Še posebej opazni so veliki listi odcvetelega navadnega repuha. Kraški izviri so zelo občutljivi za onesnaženje, kot so gnojenje travnikov,



Izvir pri Mohorjevem mlinu.
Spring at Mohorjev mill.

Jamski polž (*Hauffenia erythropomatia*).
Cave snail.



Postranica
(*Gammarus pulex*).
Amphipod.

spuščanje kanalizacijskih odpadkov, ob njih so pogosto nedovoljena divja odlagališča odpadkov embalaže motornih olj, kemikalij, akumulatorjev, pločevine in drugih nevarnih odpadkov. Voda, ki se pretaka po podzemlju, nima samočistilnih lastnosti kot površinska voda, ki teče po produ, gruščnatem in kamnittem dnu, poraslem z vodnim rastlinjem, in kjer je to gradivo nekakšen filter za njeno očiščenje (samočiščenje). Ker so mnogi izviri vir pitne vode, bi jih morali bolj varovati.



Izvir pri Mohorjevem mlinu.
Spring at Mohorjev mill.

forest and during high waters tends to be inundated for quite some time, hygrophilous plants thrive here (Marsh Marigold, Horsetail, Common Sorrel, Globe Daisy, Forget-Me-Not, etc.). Particularly noticeable are the large leaves of the no longer flowering Butterbur. Karst springs are most sensitive to pollution, such as fertilisation of meadows and discharge of sewage. Very problematic are illegal refuse dumps, where plastic packing materials, chemicals, batteries, plate scrap and other dangerous waste is deposited. The water running underground has no such self-purifying characteristics as surface waters running over gravel and rocky bottom overgrown with water plants, which constitute a kind of filter for its purification (self-purification). Considering that many of the springs are sources of drinking water, more should be done to protect them.

Birds along the Rača stream

When following the Rača nature trail, you need no radio with you. If you are not too loud, you can listen to harmonious singing by a large bird choir composed of at least 42 different vocals (as was the number of birds established during the survey made along the Rača trail). But the great diversity of the Rača area does not mean that you will see all these birds in the same place. While following the trail through different habitat types, the birds' melodies will change as well. In the villages and surrounding orchards you can listen to the calling of small birds, such as Spotted Flycatcher, Black Redstart, Pied Wagtail, Greenfinch, Goldfinch, Serin, House and Tree Sparrows, Barn Swallow, Great and Blue Tits, Starling and the endangered Redstart ■, while in the grove you will be able to listen to the melodies sung by the Robin, Blackbird, Song Thrush, Blackcap, Chaffinch and, along the Rača itself, Marsh Warbler.

The wet meadows with sedges, the stream and willow scrub are home to the Mallard, Grey Heron searching for fish and frogs, tiny Marsh Warblers, Blackcap, Hooded Crow, Magpie, Yellowhammer, Red-backed Shrike, Common Buzzard and Common Kestrel preying on rodents.

Between Dole and Krašce, the Rača meanders through the gorge with its beech forest and then past meadows, orchards and the village of Dvorje. In

Ptice ob Rači

Na učni poti ob Rači ne boste potrebovali radia. Če ne boste preglasni, boste lahko prisluhnili ubranemu petju številnega ptičjega pevskega zbora, ki ga sestavlja najmanj 42 različnih vokalov (toliko različnih vrst ptic je bilo popisanih ob učni poti). Vendar, tako kot je pester svet ob Rači, tudi vseh vrst ptičev ne boste srečali na enem kraju.

Med sprehodom skozi različne habitate tipe se menjavajo tudi ptičji napevi. V vaseh in okoliških sadovnjakih lahko prisluhnemo oglašanju sivega muharja, šmarnice, bele pastirice, zelenca, liščka, grlička, domačega in poljskega vrabca, lastovk, velike sinice in plavčka, škorca ter ogroženega pogorelčka ■, v logu pa taščice, kosa, cikovta, črnoglavke, ščinkavca in ob Rači tudi močvirske trsnice.

Močvirnati travniki s šašjem, potokom in vrbovjem so življenjski prostor mlakarice, sive čaplje, ki opreza za ribami in žabami, drobne močvirske trsnice, črnoglavke, sive vrane, srake, rumenega strnada, rjavega srakoperja ter kanje in postovke, ki lovita glodalce.

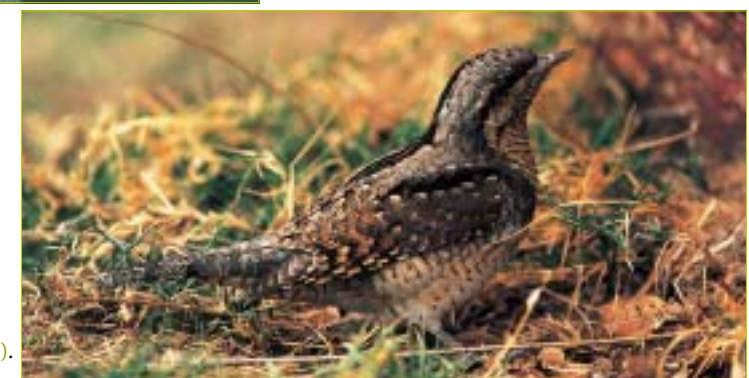
Med Dolami in Krašcami Rača vijuga v soteski skozi bukov gozd ter mimo travnikov, sadovnjakov in vasi Dvorje. V gozdu lahko slišimo kanjo, ki kroži nad Račo, goloba grivarja, velikega detla, ki z glasnim trkanjem po trhljem lesu skrbi za tolkala, drobnega stržka, taščico, kosa, cikovta, črnoglavko, vrbjega kovačka, rumenoglavega kraljička, meniščka, veliko in močvirsko sinico, brgleza in ščinkavca, zagotovo pa ne moremo preslišati vreščече šoje.

Pozorni obiskovalci bodo na travnikih in v sadovnjaku morda videli gibčno vijeglavko ■, velikega detla in zeleno žolno, kmečko lastovko, ki v zraku z veliko hitrostjo in spretnostjo lovi žuželke, stržka, taščico, kosa, cikovta, črnoglavko, vrbjega kovačka, plavčka in veliko sinico, brgleza, rjavega srakoperja, šoj, škorca, ščinkavca, rumenega strnada, belo pastirico in kobilarja. Na robu gozda, ob potoku in nizkem barju živi tudi prosnik in močvirska trstnica. Ptice le opazujte in poslušajte. Ne vznemirjajte jih in tudi ne iščite njihovih gnezd, da jih bomo ob naslednjem obisku lahko spet občudovali. Za njihovo lažje prepoznavanje pa s seboj le vzemite priročnik za določanje ptičev.



Pogorelec (*Phoenicurus phoenicurus*).
Redstart.

Vijeglavka (*Jynx torquilla*).
Wryneck.



the forest you can listen to the Common Buzzard circling above the Rača, Woodpigeon, Great Spotted Woodpecker, which with its loud knocking against putrid wood has taken care of percussions, the tiny Wren, Robin, Blackbird, Song Thrush, Blackcap, Chiffchaff, Goldcrest, Coal Tit, Great and Marsh Tits, Nuthatch and Chaffinch. You of course cannot overhear the screeching Jay.

In the meadows and orchards, attentive visitors may catch sight of the lithe Wryneck ■ as well as Great Spotted and Green Woodpeckers, Barn Swallow hunting insects in the air with great speed and skill, Wren, Robin, Blackbird, Song Thrush, Blackcap, Chiffchaff, Red-backed Shrike, Jay, Starling, Chaffinch, Yellowhammer, Pied Wagtail and Golden Oriole.

The forest edge, the area along the Rača stream and the fen are also inhabited by Stonechat and Marsh Warbler. The birds should be only observed and listened to. Do not disturb them or search for their nests, if you wish to admire them again during your next visit. And for their easier identification, take a bird field guide with you.

Vehovčev mill below Stegne near Vrhopolje

Vehovčev mill ■■ is yet another water-mill ■ consisting of a groundfloor elongated building with gable roof, living room and industrial quarters. The millrace runs from the Rača stream to the mill along concrete troughs. The original mill, which had one over-shot wheel with buckets, was built in the mid-19th century. In 1936, its owners built additional three wheels. In its interior, the wooden landing has been fully preserved, with three pairs of millstones and six stamp mills. Its current owners live at Stegne near Avblju.

Vehovčev mlin pod Stegnami pri Vrhopolju

Vehovčev mlin ■■ je prav tako vodni mlin ■, ki ga sestavlja pritlična stegnena stavba z dvokapno streho ter bivalnim in obrtnim delom. Iz potoka Rače je izpeljana mlinščica po betonskih rakah do mlina. Prvotni mlin je imel eno vodno kolo na korce, na zgornjo odlivno vodo, zgrajen je bil sredi 19. stoletja. Leta 1936 so ga lastniki povečali na štiri vodna kolesa. V notranjosti je v celoti ohranjen lesen podest s tremi pari kamnov in šestimi stopami. Sedanji lastniki živijo v Stegnah, pri Avblju.



Vehovčev mlin pod Stegnami pri Vrhopolju.

Vehovčev mill below Stegne near Vrhopolje.

Vehovčevo vodno kolo. Vehovčev water wheel.



Kižev mill below Sv. Andrej

Kižev watermill ■ is situated below the hamlet of Sv. Andrej along the millrace leading from the Rača stream. It consists of a groundfloor elongated building with gable roof, attics, groundfloor living quarters and industrial part. In the documents, the mill is for the first time referred to in 1734, when it had three water wheels with buckets and stamp mills. The interior of the industrial part has been preserved in full. ■ ■ The wooden landing for millstones (steinboden) and the

Kižev mlin pod Sv. Andrejem

Kižev vodni mlin ■ leži pod zaselkom Sv. Andrej ob mlinščici, speljani iz potoka Rača. Sestavlja ga pritlična zidana stegnjena stavba z dvokapno streho, podstrešnimi sobami, pritličnim bivalnim in obrtnim delom. V listinah je bil ta mlin prvič omenjen leta 1734, imel je tri vodna kolesa na korce in stope. Danes je notranjost obrtnega prostora z mlinško opremo v celoti ohranjena. ■ ■ Leseni podest za mlinške kamne (štajnboden) in trije pari mlinških kamnov s stopami bi lahko

Kižev vodni mlin pod Sv. Andrejem.
Kižev watermill below Sv. Andrej.



Mlinški red.
The watermill orders.



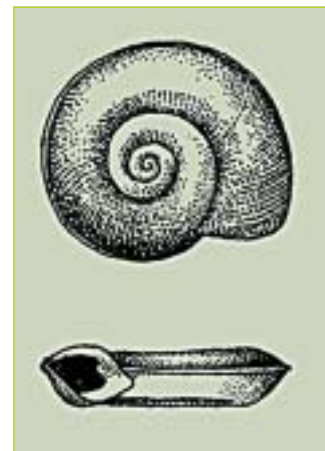
Kižev vodni mlin – notranjost.
Kižev watermill – its interior.



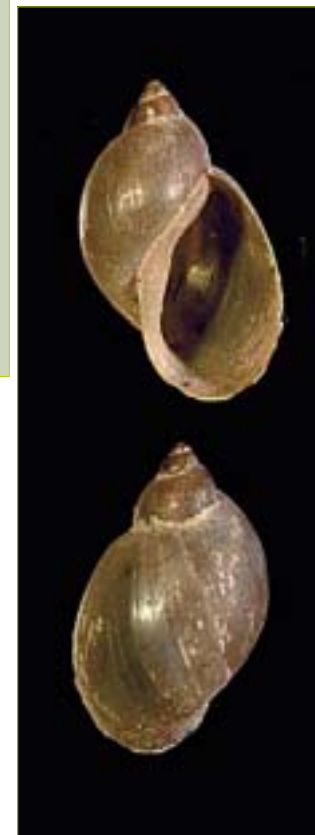
še zaživel in z ustreznim programom in vodenjem prikazali radovednim obiskovalcem način dela mlinarjev v okviru turistične ponudbe. Stanovanjski del je opuščen, a vzdrževan.

Mlinški kanal pri Kiževem mlinu je danes opuščen, zato v kanalu voda zastaja in se zarašča z vodnim rastlinjem in algami. Med to vodno obrastjo ima svoj življenjski prostor pogosta vrsta vodnega polža – svitek (*Planorbis carinatus*) ■, katerega hišica je diskasto sploščena in ima na zunanjem navoju značilno izražen greben. Tu najdemo tudi malemu mlakarju sorodno vrsto polža (*Lymnaea peregra*) ■.

three pairs of millstones with stamp mills could be made functional again, and with a suitable management programme the former millers' work could be presented to the inquisitive visitors within the local tourist framework. The residential part has been abandoned, but is regularly maintained. The Kižev mill channel, on the other hand, has not been maintained. As water stagnates in it, the channel is becoming increasingly overgrown with water plants and algae. Among them, a common water snail has found its home, i.e. *Planorbis carinatus* ■, with disc-like shell and characteristic ridge on the outer whorl. Here, the snail *Lymnaea peregra* ■ can also be found.



Svitek (*Planorbis carinatus*).
Water snail.



Vodni polž (*Lymnaea peregra*).
Water snail.

Suha dolina (Dry Valley) Suha dolina



Odtis podkve.
The impression of the horse shoe.



Suha dolina.
Suha dolina (Dry Valley).

On our way to the Church of sv. Andrej, a small old-time valley will open in front of us, on both sides surrounded by steep woody slopes. ■ ■

We can infer that it was created by a former watercourse. Today our path will be crossed by a stream rising from a water cave and running along the edge of the southern bank of the former watercourse and joining the Rača at the abandoned Kižev mill.

Na poti pod cerkvijo sv. Andreja nas preseneti nekdanja dolinica, ki jo z obeh strani obdajajo strma gozdnata pobočja. ■ ■

Sklepamo lahko, da jo je izoblikoval nekdanji vodni tok. Danes nam pot prekrži potok, ki izvira iz vodne jame in teče po robu nekdanje južne brežine nekdanjega vodnega toka in se pri opuščnem Kiževem mlinu izlije v Račo.

Karst spring – water cave below the Church of sv. Andrej

At the foot of the karst world of Javoršica between Češnjice and Zalog, there are a number of springs rising to the surface along the Rača bed or in its immediate vicinity. Some of the springs occur in karst caves near the Rača stream. Such is the spring below the Church of sv. Andrej, where resumes its way underground through

Kraški izvir – vodna jama pod cerkvijo sv. Andreja

V vznožju kraškega sveta Javoršice med Češnjicami in Zalogom izvira več studencev, ki pritečejo na dan v strugi Rače ali v njeni neposredni bližini. Nekateri izviri se pojavljajo podzemljsko v bližini struge v kraških jamah. Tak je izvir pod cerkvijo sv. Andreja. Izvir se nadaljuje pod zemljo kot neprehodna jama. Ta vodna jama je



Kraški izvir pod sv. Andrejem.
Karst spring below sv. Andrej.

značilen kraški izvir ■, kjer voda teče po dolgem rovu s sifonom in se sprva zadrži v majhni kotanjici. Iz nje se prelije v potoček, ki se izliva v Račo pri Kiževem mlinu.

Ekološke značilnosti izvirov so zelo specifične, zato v njih živijo tudi zelo specifične vrste živali in rastlin. Med najpomembnejša ekološka dejavnika, ki določata njihovo vrstno sestavo, sta temperatura vode in količina kisika v vodi. Temperatura izvirske vode je enaka temperaturi tal, iz katerih priteka. Navadno ustreza srednji letni temperaturi kraja in je dokaj stalna. Glede vsebnosti kisika pa so kraški izviri med najbogatejšimi, ker se njihova voda, preden priteče na površje, pretaka po prevotljenem podzemlju in se pri tem dobro prezrači. Izvir je hkrati prehod med podzemnim svetom brez svetlobe in osvetljenim svetom površinske vode. Poleg tega je v izviru malo rastlinske hrane. Tu živijo rastlinojede živali so odvisne od redkih razpadajočih ostankov vodnih rastlin in organskega drobirja, ki ga voda nosi s seboj, ali od ra-

an impassable cave. The water cave below sv. Andrej is a characteristic karst spring ■, where the water runs along a long passage with siphon and is initially restrained in a small basin: from there it flows into a brook that eventually joins the Rača at Kižev mill.

As the springs' ecological characteristics are very specific, highly specific plant and animal species also live in them. Among the most important ecological factors, which stipulate species composition, are the temperature of the water and the quantity of oxygen in it. The temperature of springwater is equal to the temperature of the ground, from which it rises and usually corresponds to the annual and fairly constant temperature of the place. As far as oxygen content is concerned, karst springs are certainly among the richest entities, as their water, before it reaches the surface, runs along the hollowed-through underground, getting well aired on the way. Springs also constitute a kind of transition between the lightless underground world and

the lit world of the surface water. Apart from this, vegetable food is scarce in them. The plant-eating animals that live here thus depend on the rare decaying remains of water plants and organic matter carried by the water with it, or on plant parts that have fallen into the water purely by chance. The characteristic spring animals (crenobionts) are mostly small and adapted to clean, constantly cold water with enough oxygen and small amount of food. In the spring below the Church of sv. Andrej, one can find flatworms, water mites, beetles, caddis fly larvae, mayflies, stoneflies and flat-winged flies, as well as amphipods (of the genus *Gammarus*), which are otherwise smaller in the springs than in streams. Amphibian tadpoles can also be seen, particularly the Fire Salamander. As far as snails are concerned, the spring is inhabited by the common *Ancylus fluviatilis* ■. A special feature here are two cave snails *Paladilhopsia robiciana* ■ and *Hauffenia erythropomatia* with only two known localities in the entire Slovenia. A tiny Red-cruled Pea Mussel (*Pisidium personatum*) ■ can also be found here. Although these molluscs are barely visible with the naked eye, as their shells do not exceed 5 mm, they are important harbingers of clean water.



Jamski polž
(*Paladilhopsia robiciana*).
Cave snail.

stlinskih delov, ki so po naključju padli v vodo. Značilne živali izvirov (krenobionti) so večinoma majhna bitja, prilagojena čisti, stalno hladni vodi, v kateri je zadosti kisika in malo hrane. V izviru pod cerkvijo sv. Andreja najdemo vrtničarje, vodne pršice, hrošče, ličinke mladoletnic, enodnevnice, vrbnic in dvokrilcev pa tudi rake postranice (iz rodu *Gammarus*), ki so v izviri navadno manjši kot v potokih. Vidi mo lahko tudi paglavce dvoživk, največkrat navadnega močerada. Med predstavniki polžev najdemo tu precej pogosto vrsto prilepka (*Ancylus fluviatilis*) ■, posebnost sta dve jamski vrsti polžev *Paladilhopsia robiciana* ■ in *Hauffenia erythropomatia*, ki imata v Sloveniji le par lokalitet. Najdemo pa tudi drobno školjko iz rodu grašec (*Pisidium personatum*) ■. Vsi ti mehkužci so s prostim očesom komaj opazni, saj njihove hišice ne presegajo 5 mm, so pa pomembni znanilci čiste vode.

Prilepek (*Ancylus fluviatilis*).
Snail.



Grašec (*Pisidium personatum*).
Red-cruled Pea Mussel.



Cerkev sv. Andreja, Dole pri Krašcah

Cerkev sv. Andreja ■ stoji na valovitem kraškem svetu nad strmo dolino potoka Rače. Cerkev je orientirana, kar pomeni, da je prezbitenari postavljen na vzhod. Cerkev je bila prvokrat omenjena leta 1526 ob zbiranju denarja za obrambo proti Turkom. Valvasor jo prišteva med moravške podružnice, kot S. Andreae bey S. Andreae ■.

Cerkev naj bi nekdanj obdajal protiturski tabor, o čemer najbolj zgovorno pričča samostojno postavljeni zvonik – nekdanji obrambni stolp, kjer so še vedno ohranjeni ostanki »gornjega« vhoda, in dve strelni lini na ključ na vzhodni in zahodni strani zvonika. Ima tudi izredno debele stene, ki so sezidane s kamnitimi bloki iz moravškega peščenjaka. Nekdanjo gotško cerkev, od katere je danes ohranjen samo mrežasto obokani prezbitenari, so v 1. polovici 18. stoletja barokizirali. Današnja cerkev ima torej na vzhodu triosminsko zaključeni gotški prezbitenari in novo baročno ladjo okroglega tlorisa s kupolo, ki jo krasi lanterna. Proti zahodu je ladja podaljšana. Kljub centralno oblikovani ladji cerkev zaradi prezbitenarija na vzhodu in »podaljška« na zahodu učinkuje longitudinalno (vzdolžno). Na severni strani je cerkvi prizidana zakristija pravokotnega tlorisa.

Baročna ladja je v notranjosti razčlenjena s pilastri, ki vodijo do stranskih kapel. Nad ladjo se pne kupola s svetlobnico. Za eno stopnico višje stoji gotški prezbitenari, ki je poslikan s poznogotškimi freskami ■. Na severni steni

Church of sv. Andrej, Dole near Krašce

The Church of sv. Andrej ■ stands in an undulating karst countryside above the steep valley of the Rača stream. The church is oriented, which means that its presbytery constitutes the building's eastern side. The church was mentioned for the first time in 1526, when money was collected for the protection against the Turks. Valvasor, our renowned polymath, referred to it as to Moravsko succursal church, i. e. S. Andreae bey S. Andreae ■.

The church was once most probably surrounded by fortification against the Turks, of which speaks the separately standing belfry – the former defensive tower, in which remains of the »upper« entrance and two embrasures on the belfry's eastern and western sides have been preserved. Its extremely thick walls were built of Moravsko sandstone blocks.

In the first half of the 18th century, the former Gothic church, of which only the reticularly vaulted presbytery has survived till this day, was baroquised. The present church thus has, on the eastern side, on the eastern side, a polygonally closed Gothic presbytery and new round Baroque nave with dome adorned with lantern. The nave was extended towards the west. In spite of the centrally shaped nave, the church appears to be longitudinal due to the presbytery in the east and the »extension« in the west. On the northern side, rectangular vestry was added to the church at a later date.

In its interior, the Baroque nave is divided into separate parts with pilasters leading to side chapels. Above the nave rises a dome with a lantern. By a step higher stands a Gothic presbytery adorned with late Gothic frescoes ■. On its northern side we can admire the image of the Enclosed Garden (*Hortus conclusus*). On the south wall, two saints are depicted, i. e. Nicholas calming down the storm, and St. Martin sharing his coat with a beggar. Under the console on the south wall there is the coat-of-arms of the Limbars, and judging by the figures of sv. Jurij (St. George) and sv. Andrej (St. Andrew) between the windows, this church was ordered to be built by the brothers Jurij and Andrej from the nearby Limberk Castle. On the walls under the arcs four scenes from the Passion of Christ are depicted. The vault is decorated with plant ornamentation with various saintly and other symbolic figures in between. The frescoes were painted between 1504 and 1505, which is testified by only recently discovered painter's signature: *Leonardus perfecit millesimo D IIII*. At the same time, the painter's name was identified: Master Leonard, who had been till this discovery provisionally called Master of the Enclosed Garden. Master Leonard also painted the church at Krtina. His works in fact presents a continuity of two painting workshops, i. e. the Master Bolfgang's and the Master of Mače workshops. Their common characteristics are the painting technique, figuration, similar choice of colours, use of graphic

prezbiterija je naslikana podoba Zaprtega vrta (*Hortus conclusus*). Na južni steni imamo dvoje svetniških podob, in sicer sv. Miklavž pomiri vihar, sv. Martin pa deli svoj plašč z beračem. Pod konzolo na južni steni je naslikan tudi grb Limbarskih, in sodeč po likih sv. Jurija in sv. Andreja med okni naj bi bila to cerkev dala zgraditi brata Jurij in Andrej z bližnjega gradu Limberk. V podločnih poljih sten so naslikani še štirje prizori iz Kristusevega pasijona. Obok je poslikan z rastlinsko ornamentiko, med katero so vpeti svetniški in drugi simbolični liki.

Freske so bile naslikane med letoma 1504 in 1505, kar govori pred nedavnim odkrita slikarjeva signatura: *Leonardus perfecit millesimo D IIII*. Ob odkritju letnice je bilo odkrito tudi ime slikarja – Mojster Leonard, ki je bil do te najdbe imenovan z zasilnim imenom – Mojster zaprtega vrta. Mojster Leonard je poslikal tudi cerkev v Krtini. S svojimi deli predstavlja kontinuiteto dveh slikarskih delavnic, in sicer delavnico Mojstra Bolfganga in Maškega mojstra. Družijo jih tehnika slikanja, oblikovanje figuralike, podobni izbori barv, uporaba grafičnih predlog itd. V naslikani krajini, plastično oblikovanih telesih apostolov pa lahko že zaslutimo zgodnje renesančno usmerjeno roko, ki je morda pripadala mlajšemu pomočniku Leonardove delavnice.

Ikonografsko najzanimivejša je freska Zaprti vrt, kjer gre za alegorično predstavitev Marijinega oznanjenja oz. Kristusove inkarnacije v podobi Lova



Naselje Sv. Andrej.
The settlement of Sv. Andrej.



Značilne freske v notranjosti cerkve sv. Andreja.
The frescoes of the church of sv. Andrej.

Zunanost cerkve sv. Andreja.
The church of sv. Andrej – its exterior.

models, etc. In the painted countryside and vividly shaped apostles' bodies we can conjecture, however, by the Early Renaissance directed hand, which perhaps belonged to a young assistant in Master Leonard's workshop. Iconographically most interesting is the fresco The Enclosed Garden, an allegorical presentation on the Annunciation of St. Mary and Christ's Incarnation in the image of Unicorn Hunt-



ting. The motif was highly topical in 15th century Europe. The entire image is supplemented with Marian symbols taken from The Song of Solomon: »A bolted enclosed garden is my sister, my spouse; a spring locked up, a fountain sealed . . .«, and from the text Defensorium Frances of Retz. With its symbols, the motif of the Enclosed Garden is a proof of St. Mary's virginity, while the inscriptions painted next to the people and animals speak of St. Mary's highest qualities. The entire course of events was set in an enclosed garden surrounded by towers, which protect St. Mary's virginity. The fountain as a sealed spring symbolises her preserved virginity. The latter is also presented by the burning bush which, however, never burns down, the same as did not »burn down« Mary's virginity, even though she became a mother. In her arms, the Unicorn (the symbol of virginity) finds shelter. It is pursued by angel-hunter, blowing a horn and leading dogs on the leash. Around the corner, there is a lion waiting, etc. ■ The frescoes, which were whitewashed when the church was baroquised, were for the first time discovered in 1894 by Bishop Jakob Missia during his visit of the church. During 1969 and 1970 they were uncovered and restored by experts under supervision of the Regional Institute for the Conservation of Monuments Kranj. With their iconography, design, quality and degree of preservation they constitute a significant monument for the entire Slovenia.

na enorožca. Motiv je bil izredno aktualen v 15. stoletju v Evropi. Celotna podoba je dopolnjena še z marijanskimi simboli, vzetimi iz Salamonove Visoke pesmi: »Ograjen vrt si, zapečaten studenec, sestra moja, itd. « in iz teksta Defensorium Frančiška iz Retza. Motiv Zaprtega vrta s svojimi simboli dokazuje Marijino deviškost. Napisi, ki jih vidimo naslikane ob osebah in živalih, govorijo o najlepših Marijinih lastnostih. Celotno dogajanje je postavljeno v zaprt vrt, ograjen s stolpi, ki varujejo Marijino devištvo. Vodnjak kot zapečaten studenec simbolizira ohranjeno devištvo. Prav tako devištvo ponazarja grm, ki gori, pa ne zgore, kot tudi ni »zgorelo« Marijino devištvo, čeprav je postala mati. Mariji v naročje se je zatekel samorog (simbol devištva), ki ga preganja angel lovec, ki trobi v lovski rog in vodi na vrvi pse. Okoli vogla že opreza lev, itd. ■ Freske, ki so jih ob barokizaciji zabelili, je ob vizitaciji leta 1894 prvič odkril škof Jakob Missia. Med letoma 1969 in 1970 so jih odkrili in restavrirali restavratorji pod nadzorom Zavoda za spomeniško varstvo Kranj. Freske so s svojo ikonografijo, oblikovanjem, kakovostjo in stopnjo ohranjenosti pomemben spomenik za celoten slovenski prostor.



Wooden homestead – »Pri Lesjak«, Sv. Andrej 1

Opposite the Church of sv. Andrej stands yet another of those recognizable architectural achievements in the area of Moravče – the Lesjak homestead or »Pri Lesjak« as known by the locals. ■ ■

Its component parts are a wooden structure built on top of cowsheds and pigsties, gable roof and traditional partitioning of the inner quarters. The building's lower part, which was built of stone, was intended for domestic animals, whereas the upper wooden part was used for residential purposes. The latter is made up of a hall, »the house« (as central residential and working quarters) with a bedroom and, once in the past, of the so-called »black kitchen« at the end of the hall. The farm building continues north from the residential part. This type of

Lesena domačija – po domače Pri Lesjak, Sv. Andrej 1

Prav nasproti cerkve svetega Andreja stoji še eden izmed prepoznavnih stavbnih dosežkov na območju Moravč – Lesjakova domačija. ■ ■ Sestavlja jo lesena vrhhlevna stavba z dvokapno streho in tradicionalno delitvijo notranjih prostorov. Zidani spodnji del je bil namenjen živalim, gornji leseni del za stanovanje, ki ga sestavlja veža, »hiša« (kot osrednji dnevni, bivalni in delovni prostor) s kamro in svojčas na koncu veže tudi s črno kuhinjo. Gospodarski del se na-



Lesjakova domačija
v Sv. Andreju.
Lesjak homestead
at Sv. Andrej.



Lesjakova domačija
v Sv. Andreju.
Lesjak homestead
at Sv. Andrej.

daljuje severno od stanovanjskega. Tovrstne stavbe, ki so rezultat znanja mojstrov tesarjev, krovcev ter zidarjev, danes varujemo kot kulturno dediščino – dediščino načina življenja kmečkega človeka na Moravškem.

Kamnine v okolici Sv. Andreja

Pod Sv. Andrejem in v bližnji okolici so odkriti izdanki svetlosivega in sivega, tu in tam rdečkastega in rumenkastega apnenca. Prepredajo ga številne kalcitne žile in žilice. V novem useku poti pod cerkvijo je v močno zakraselem apnencu ■ vidna manjša tektonska drsa ■, nastala zaradi premika kamnitih skladov ob prelo-mu. Kamnina je močno spremenjena.

Tektonska drsa ob novi poti pod cerkvijo.
Smooth tectonic plane along the new road leading
to the church.



houses, which speak of the life and work of the country people in the Moravsko area and are the result of knowledge of master carpenters, roofers and masons, are today protected as cultural heritage.

Rock in the surroundings of Sv. Andrej

Below Sv. Andrej and in its immediate vicinity one can examine surface rock of light grey and grey, here and there even reddish and yellowish limestone interwoven with numerous calcite veins and veinlets.

In the place below the church, where a new road was cut into the slope, a minor tectonic smooth plane ■, which originated due to the shifting of stone beds, can be seen in highly karstified limestone ■.



Zakrasela golica ob poti k cerkvi sv. Andreja.
Karstified bare bank of the road leading to the
Church of sv. Andrej.

Hayracks

Characteristic of the Ljubljana micro region, which in terms of its landscape includes the village of Krašče in the Moravsko area, are double hayracks – toplars – these distinct companions of the rural way of life and work as well as of numerous secrets hidden by cultural history. They are the result of knowledge of one of the oldest trades – carpentry and mastery in this sphere of work. Carpenters were true wood experts; they knew precisely when to cut it down, how to process it, and finally how to use it in the construction of, for example, hayracks or roofs for houses, homesteads and outbuildings.

The characteristic hayrack – kozolec – has always been constructed entirely of wood and is a material witness to our history and past.

We will come across this true work of art along the Rača nature trail, too, as

Kozolci

Za ljubljansko regionalno mikro območje, kamor pokrajinsko umeščamo naselje Krašče na Moravškem, so dvojni kozolci – toplarji prav značilni spremljevalci dediščine kmečkega načina življenja in dela pa tudi premnogih skrivnosti, ki jih skriva kulturna zgodovina. So rezultat dediščine znanja ene izmed najstarejših obrti – tesarstva (cimpermanstva) in mojstrstva na tem področju dela. Tesarji so bili odlični poznavalci lesa, časa njegovega poseka, njegove obdelave in končne uporabe za izdelavo na primer kozolca ali strešne konstrukcije za hiše, domačije, gospodarska poslopja in nove stavbe. Kozolec, ki je bil v zgodovini v celoti zgrajen iz lesa in je materialna priča zgodovine in sedanjosti, srečamo tudi na učno-sprehajalni poti Rača.

Je umetnina in dokaz, da so ga še do konca osemdesetih let 20. stoletja zelo spoštovali, saj je bil za kmeta »hiša« za

Primerek enojnega kozolca v Kraščah.
Example of the simple hayrack in Krašče.



sušenje in shranjevanje živinske krme pa tudi parkirišče za poljske stroje. Kozolci imajo na različnih koncih Slovenije pokrajinsko različna imena. Tako jih na Bohinjskem imenujejo na primer stogovi, na območju Moravč in dela Dolenjske kozouc ali kozuc ■. Če je dvojen, je toplar. Včasih na travnikih vidimo tudi enojne kozolce, ki imajo na enem delu streho, ki je podaljšana do tal, zanje obstaja ime na plašč. Na kozla ■ ■, na osla, na psa pa so nizki toplarji. Na območju Krašč stojita toplarja, eden s podaljšanimi kraki v obliki dveh nepovezanih enojnih kozolcev. Vsak del lesene konstrukcije nosi tudi svoje ime. Temelji, ki so bili prvotno v celoti leseni, pozneje tudi kamniti, se imenujejo »babe«. Pokončni stebri podpirajo celotno konstrukcijo s streho. Prostor med dvema stebroma se imenuje okno ali štant, ki ga sestavlja različno število prečnih lat. Na latah je ponekod obesjen lesen stol (hlapec), ki so ga uporabljali med ročnim nalaganjem in za-

a proof that it had been highly respected till the end of the 1980s, when serving its owners as a »house« for drying hay and storing fodder, and even for parking agricultural machinery under it. In different parts of Slovenia, some very different terms are used for it. In the area of Bohinj, for example, it is known as stog, in the area of Moravče and in certain parts of the Dolenjska region as kozouc or kozuc ■. Double hayracks are called toplars.

Sometimes, single hayracks can be seen in the meadows, with roof extended to the ground on one side. For them, very different folk names are used, in Slovenia such as mantle hayrack. Goat hayrack ■ ■, jackass hayrack, dog hayrack are low type of toplars. In the area of Krašče we can have a look at two toplars, one with extended arms in the form of two unlinked single hayracks.

Each part of the wooden structure has, of course, its own (regional)



Kozolec na kozla.
Example of "goat-type" hayrack.

Kozolec na kozla.
Example of "goat-type" hayrack.



name. The foundations, which were originally entirely wooden and later on also made of stone, are called babe (hags). The upright pillars support the entire structure, including the roof. The space between two columns is called okno (window) or štant (stall), which consists of a different number of wooden transverse bars. On them, a wooden chair, known as a farmhand, can sometimes be seen hanging; it was used for manual loading of not completely dry grass in between the bars in the window. Toplar consisting of three pillars on each side is called four-windowed hayrack, or hayrack with two pairs of windows. The upper storey is made of small beams in the form of a grid, which has, on its front part, a door for the loading of dry grass – hay. Its central part is called brana (harrow). The reticular structure was made by carpenters on the ground and then put together, piece by piece, to form a structure with gable roof, as can be today seen along the Rača trail (Tercelj Otorepec 2004 : 41). Under the brana and end-pillars, the toplar is linked with wooden and often skilfully carved arms ■.

The same as the hayrack's constructional part, the parts of its roofing have their special names and demands, too, of course in total control of the former carpenters. The roof of a house, kozolec or outbuilding was composed of longitudinally laid purlins, with rafters transversally placed on them, while laths attached to the rafters were necessary for the strengthening of the roof. As the manners of putting roofs

devanjem še ne v celoti posušene trave med late v oknu. Kozolcu toplarju ■, ki ga sestavljajo po trije stebri na vsaki strani, rečemo toplar na štiri okna, ali na dva para oken. Nadstropje je izdelano iz tramičev v obliki mreže, ki ima na čelni strani tudi vrata za nalaganje posušene trave, sena (na Moravškem mrve). Osrednji del se imenuje »brana«. Celotno mrežno konstrukcijo so tesarji izdelali na tleh in jo kos za kosom sestavili v stavbo s streho dvokapnico, ki jo danes srečamo na sprehodu po poti ob Rači (Tercelj Otorepec 2004 : 41). Pod »brano« in končnimi stebri toplar povezujeta še leseni roki ■, ki sta pogosto umetelno izrezljani. Tako kot konstrukcijski deli kozolca imajo tudi strešni deli posebna imena in svoje zakonitosti, ki so jih prav tako obvladovali tesarji. Streho hiše, kozolca ali gospodarskega poslopja sestavljajo podolžne lege ali grede, nanje so pritrjeni prečni trami, škarniki ali po domače špirovci, lesene late, ki so pritrjene na škarnike, pa rabijo za učvrstitev kritine. Načini sestavljanja strehe so tudi različni, na primer: streha na »škarje«, na trapez, »na osla«, ki je značilna za nekatere planšarske stavbe v Bohinju (Cevc 1993 : 103), ali na »kašto«, tudi značilnost bohinjskih stanov in staj na pašnih planinah. Ob učno-sprehajalni poti srečamo tudi toplarje, ki imajo po enega ali dva dodatna enojna kozolca, prislonjena na osnovno konstrukcijo. Kozolec, enojni ali dvojni ■, je svojevrsten spomenik dediščine tesarских znanj, dediščine ustvarjalnosti in likovnega izražanja teh obrtnikov, ki jih je



Kozolec toplar s prislonjenim enojnim kozolcem.
The double type of hayrack with the simple one.

Kozolec toplar s podaljšanimi kraki, mojstrovin tesarjev, ki je danes le poredkoma poln sena.
Kozolec – toplar with extended arms, a true carpenters' masterpiece, today very seldom seen full of hay.



vodilo tudi spoštovanje kulture načina dela in kmetovanja. Je spomenik, ki pa danes ni del kulturne krajine le zato, ker v njej stoji. Je rezultat človeka, ki je naravno krajino s svojim znanjem prilagodil svojemu življenju in delu, ji postavil spomenik, z uporabo tega znanja in spoštovanja do nje. Kozolci vseh tipov so bili vseskozi motiv za slikarje, grafike, fotografe in izdelovalce miniaturn. Kmetu so pomenili pomembno stavbo za preživetje živine v zimskem času.

together varied a great deal, roofs had all kinds of names, e.g.: scissor roof, trapezoid roof, jackass roof, which is characteristic of some mountain pasture buildings around Bohinj (Cevc 1993 : 103), or »kašta« roof, also typical of the mountain pasture houses and cattle pens above Bohinj. Along the Rača educational nature trail, you can see toplars with one or two additional single hayracks leaning against the basic structure.

Single or double kozolec ■ is a unique monument of the heritage of carpentry knowledge, creativeness and figurative expression by these craftsmen, who were led, in their profession, by great respect for culture regarding the way of work and farming – the monument, which today does not constitute part of the cultural landscape only for the fact that it stands in it. It is the result of the people who adapted, with their knowledge, the natural landscape to their lives and work, and thus erected a monument to it with the aid of this knowledge and respect for it. Toplar, kozolec and other types of hayracks have always been a precious motif for painters, graphic artists, photographers and miniature makers, while to the farmers they meant important edifices for the survival of their stock during the winter.



Detajl roke na kozolcu.
Detail of the arm on the hayrack.

Traditional orchards

Orchards have long been part of the traditional countryside landscape. Old trees could thus tell us many interesting stories from farmers' lives in the past, stories that took place in the ample shadow of their crowns.

Through history, orchards have developed very gradually, but reached their peak in the last 200 years. The Moravško area is one of those well known for their rich fruit-growing tradition.

Franc Pirz, the father of Slovene fruit-growing who in the early 19th century held the office of a priest at Peče, in fact wrote the first instructions for

Stari sadovnjaki

Sadovnjaki so že dolgo del tradicionalne podeželske krajine. Stara sadna drevesa bi nam lahko povedala veliko zanimivih zgodb iz kmečkega življenja v preteklosti, zgodb, ki so se dogajale v bogati senci njihovih krošenj.

Skozi zgodovino so se sadovnjaki razvijali postopoma, največji razmah pa so dosegli v zadnjih 200 letih. Z bogato tradicijo sadjarstva se lahko pohvalijo tudi na Moravškem. Oče slovenskega sadjarstva, Franc Pirz, ki je v začetku 19. stoletja župnikoval v Pečah, je spisal prva navodila za vzgojo sadnih dreves in mnoge kmete spodbudil k



fruit-tree growers and stimulated many farmers to take interest in this branch of agriculture. On the basis of his rich practical experience he also wrote one of the first Slovene books on this subject, entitled *Kranjski vertnar* (The Carniolan Gardener). In those times, fruit-trees stood primarily in the immediate vicinity of the peoples' homes and along the roads leading to the larger towns in the Gorenjska region. Apart from getting people accustomed to fruit-growing, these trees planted along the roads had a very similar role as today's cat's eyes along the asphalt roads. They showed the road's edge to the carters.

Old orchards are often called high-stemmed-tree or meadow orchards ■. Their very names tell us that the surface under their crowns was always accessible and overgrown with grass. Under fruit-trees cattle was grazing, or the fruit-tree meadows were mown. Thus the same surfaces were used not only as orchards but meadows as well. With small investments, the farms' income was supplemented. At every house, fruit brandy and dried fruits could be obtained at any time.

Traditional orchard is a very interesting ecosystem, in fact comparable with well lit-through deciduous woodlands. Its fruit-trees can be up to 200 years old, and even more. As forest and grassland ecosystems interact in this type of orchards, they are known for their exceptional biodiversity, since as many as 5, 000 different plant and animal species can be found in them, as well as numerous fungus and lichen

pridelavi sadja. Na podlagi svojih bogatih praktičnih izkušenj je napisal tudi eno prvih slovenskih knjig o sadjarstvu z naslovom *Kranjski vertnar*. Sadna drevesa so v tistih časih sadili predvsem v okolici hiš ter ob poteh v večje kraje na Gorenjskem. Poleg navajanja ljudi na sadjerejo so imela drevesa ob poteh v vasi podobno vlogo kot danes mačja očesa ob današnjih asfaltnih poteh. Voznikom so kazala rob vozišča. Starim sadovnjakom pogosto rečemo visokodebelni ali travniški sadovnjaki ■. Že ime pove, da je bila površina pod krošnjami dostopna in porasla s travo. Pod sadnim drevjem se je pasla živina ali pa so travnike pod sadnim drevjem kosili. Tako je bila ista površina uporabna tako za pridelavo sadja kot travnik. Z majhnimi vlaganji so dopolnjevali dohodek kmetije. Dober sadjevec in krhlje je imela vsaka hiša. Tradicionalen sadovnjak je zelo zanimiv ekosistem, ki bi ga lahko primerjali tudi z redkim svetlim listnatim gozdom. Sadna drevesa lahko dočakajo 200 let in več. Ker se v njem mešata gozdni in travniški ekosistem, je zanj značilna izjemna pestrost živih bitij, saj lahko v takih sadovnjakih najdemo celo do 5000 različnih vrst rastlin in živali pa tudi mnoge vrste gliv in lišajev. Poleg dreves so med rastlinami najbolj opazne različne vrste trav in cvetlic, med živalmi pa ptiči in metulji. Posebno vrednost v sadovnjaku imajo drevesa z dupli, ki jih v debela in debele veje votlih ali delno trhljih dreves iztešejo detli in žolne, predvsem pivka. Ko se odselijo, njihova dupla zasedejo nekatere vrste sinic, pogorelček, vijeglavka, br-

glez itd., večja tudi lesne sove in čuki. Ptice niso edine prebivalke dupel. Uporabljajo jih tudi polhi, kune, podlasice, netopirji, ose, čebele in druge živali. Če so sadovnjaki v stiku z gozdom in živimi mejami, v bližini pa je voda, je pestrost vrst še posebej bogata. Žal mnogi stari sadovnjaki izginjajo. Posekajo jih, da travnik pod njimi lažje kosijo. Površine s starimi drevesi pozidajo, ponekod, kjer se prebivalstvo izseljuje, jih preraščajo gozdovi. Njihovo vlogo pridelave sadja prevzemajo intenzivni sadovnjaki novih, občutljivih sort, ki potrebujejo intenzivno, drago vzdrževanje z rednim zatiranjem različnih bolezni.

Mnogi stari sadovnjaki na srečo še vedno bogatijo podobo vasi. Eden izmed njih je tudi Smrkoljev sadovnjak v Krašcah. Ob njihovi hiši rastejo hrške prapršnice in črnjevke, jablane bobovec, krivopecelj in voščenka ter orehi in slive.

species. Particularly noticeable among the plants are, apart from the trees themselves, different grass and flower species, as well as numerous birds and butterflies. Of special value in these orchards are trees with holes, made in trunks and thick branches of hollow or partially putrid trees by woodpeckers, especially by the Grey-headed Woodpecker. When they move away, their holes are occupied by some tit species, Redstart, Wryneck, Nuthatch, etc., the larger holes even by Tawny and Little Owls. Birds, however, are not the only inhabitants of tree holes. They are also used by dormice, martens, weasels, bats, wasps, bees, and other animals. If the orchards are in contact with woodlands and hedges, and there happens to be water nearby, their biodiversity is even greater.

Unfortunately, many traditional orchards are disappearing rapidly. They are usually cut down in order to mitigate mowing of the meadows under them. Surfaces with old trees are built up, and in places where their owners left for larger towns, they are gradually overgrown by forests. Thus their role of fruit-growing is assumed by intensively-farmed orchards with new, sensible varieties, which are in need of intensive, expensive maintenance with regular extermination of various illnesses.

Luckily, there are some traditional orchards that are still enriching the image of old villages. One of them is Smrkoljev orchard at Krašce. In it, several apple and pear varieties are still thriving, as well as nut and plum trees.

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