

Supplementary Material 2 – Archaeological context-sites

Southern Balkans

In the southern Balkans the period covered is the Early Neolithic, which in local periodisation corresponds to the Amzabegovo – Vršnik culture (*Gimbutas 1976; Sanev 1995; Lazarovichi 2006*). The Neolithisation of this territory is considered to have started ~6500 cal BC, based on the earliest dates from Amzabegovo (*Whittle et al. 2005*). The hypothesis of the possible two ‘waves’ of Neolithisation has been proposed, based on the available radiocarbon dates (*Naumov 2009; 2015; Thissen 2000; Whittle et al. 2005*). One new AMS date from this territory (the site of Vrbjanska Čuka)¹ comes from the Middle Ages sequence (see [Supplementary Material 4](#)).

Amzabegovo

The site of Amzabegovo is located in the Ovče Pole region in North Macedonia. It has been excavated by several teams and comprehensive information about the chronology, architecture and material culture has been provided (*Korošec, Korošec 1973; Gimbutas 1976*). Its chronological sequence spans from 6200 to 5100 cal BC, covering the Early, Middle and Late Neolithic. The material culture is common for the Amzabegovo – Vršnik cultural group, with distinct decorated pottery, figurines and ‘altars’. Several buildings were unearthed with mudbrick and daub walls in whose vicinity 34 individuals were recorded. Most of them belong to juveniles and children, while regarding biological sex, the majority are female (*Nemeskéri, Lengyel 1976; Naumov 2015*). Today, the anthropological material from this site has been lost, and the only preserved finding is Burial 8 (9) (see [Supplementary Material 3](#) for a detailed explanation), which was dated within the BIRTH project.

Govrlevo

Govrlevo is a Neolithic settlement situated on a flattened terrace on the southern slope of the Vodno Mountain (the natural southern border of the Skopje Plain), at a relatively high altitude of 500m. The site was excavated as part of several archaeological campaigns in the 1980s and in the first decade of this century (*Bilbija 1985; Fidanoski 2012*). It is a multi-layered site, containing remains from the Early, Middle and Late Neolithic, Chalcolithic, Bronze and Iron Ages. The site was settled in the Early Neolithic (~6000 cal BC), and extensively developed through the Middle Neolithic (~5800 until 5500 cal BC). Settlement continuity at Govrlevo is well exemplified by houses, elevated one above another by various generations of inhabitants, through different cultural (sub)phases. The site’s stratigraphy is very complex due to various geological and anthropogenic factors, resulting in different spread and depth of cultural layers, contexts, and deposits (*Fidanoski 2017*). As a result, the depth of cultural layers within the (small) excavated area (~120m²), is variable, at one space (north-western side) the deposit depth is a mere 0.4m, whilst on the other (south-eastern) side the measured depth is 4.5m. Concerning human skeletal remains at this site, one burial (Burial 1) under house No. 3 of Trench II has been discovered (*Fidanoski 2013*), as well as two fragmented mandibles (bb 1-04 (65) and bb 2-04 (82) (*Fidanoski 2019*). One of those mandibles, marked as bb 1-04 (65), has been dated, and the results are presented in this paper. It was found in the cultural layer which was formed above the stratigraphic unit 82 – a shallow pit within two fragmented ceramic pots and a stone axe. This unit also contained remains of pits, houses, a ‘workplace’ and a ditch (*Fidanoski 2019*).

Tumba Madžari

The first archaeological excavations of the Neolithic settlement in Tumba Madžari in Skopje were carried out back in 1978 by the Museum of Macedonia (*Sanev 1988.10*). In the past four decades of archaeological research nine houses have been fully excavated, while several more have been partially explored. The bases of the houses are usually rectangular and square in shape, apart from two houses, with bases that resemble Cyrillic letter ‘Г’. The dimensions of the houses range from 4.50x6m to 7x10.5m (*Kanzurova, Zdravkovski 2011.140, Fig. 3*). The settlement in Tumba Madžari was dated to the first half of the 6th millennium BC, belonging to the Amzabegovo – Vršnik culture (*Sanev 1988.9–31; Zdravkovski 2016*). The oldest cultural

¹ Since it belongs to the Medieval period and the fact that only one premolar is preserved, this individual is not discussed in the paper.

layer of Tumba Madžari corresponds to the Amzabegovo – Vršnik I phase, *i.e.* the end of the Early Neolithic period. The second and the third cultural layers were attributed to the phases II to III of Amzabegovo – Vršnik culture, corresponding to the Middle Neolithic, within the local periodisation. During the Middle Neolithic the settlement experienced its greatest economic and cultural development and was abandoned at the beginning of the Late Neolithic. The settlement of Tumba Madžari is considered to have been one of the rare centres of luxury pottery production in the Upper Vardar region and beyond. The painted iconography of stylised forms of leaves on the goblets and amphorae, which is known as the ‘floral style’ of the Amzabegovo – Vršnik group, particularly stands out. It is one of the sites where altars known as ‘Great Mother-Goddess’ or anthropomorphic house models, characteristic of the Amzabegovo – Vršnik group, were found. The interpretations of these altars mostly revolve around their potential ideological aspects, and it is suggested that they represent the symbiosis of the house and the female body (*Kolištrkoska Nasteva 2005; Sanev 2009.218–224; Naumov 2009.203–212; Zdravkovski 2018.54–61*). The first human remains were unearthed in 1985, during the excavations of House 4. A skeleton of a 3 to 4 month neonate (Burial 1/1985) (*Veljanovska 1998*) was found along the south wall of the House 4, buried in flexed position, on the right side. In the following years, in 2008 in Tumba Madžari, a mandible from a female individual, aged 40, was discovered (*Stojanova Kanzurova 2011.45*). A fragmented skeleton of a newborn or older foetus (preterm birth?) was discovered during excavations in 2012 (*Stojanova Kanzurova 2020.18, 19*). Within the BIRTH project the neonate burial (Burial 1/1985) was dated.

Pista – Novo Selo, Mamučevo

The site of Pista – Novo Selo is a Neolithic settlement in the region of Ovče Pole, North Macedonia. It was excavated in only one season, and therefore not much information about the site is available. The material culture has common features for the transitional period from Early to the Middle Neolithic. Some sherds of the painted pottery have typical Middle Neolithic patterns, but they are painted with a white colour which is typical for the Early Neolithic decoration of the vessels (*Naumov 2009*). Architectural remains are mostly represented by the daub and wattle walls of the Neolithic buildings. Inside one of the buildings the remains of two individuals are recorded. One of the individuals was buried in a crouched position (Burial 1) while Burial 2 was completely devastated during the earthworks and thus their skeletal remains are not well preserved (*Veljanovska 2001; 2006*). The investigators of the site have concluded that the layer in which the burials were discovered belonged to the Amzabegovo – Vršnik II phase (*Veljanovska 2001*). In this paper, we present the results of AMS dating of the remains from Burial 1.

Central Balkans

From the central Balkans, new AMS dates come from the Early Neolithic Starčevo culture (~6200–5300 cal BC) (*Whittle et al. 2002*) and Late Neolithic Vinča culture (~5300–4600/4500 cal BC) sites (*Tasić et al. 2015; 2016; Tripković 2011*).

Grivac

During the field survey of both banks of the Gruža River near the town of Kragujevac in 1952, traces of pre-historic settlements were found. The site of Grivac is situated on the left bank of the river. In 1953 and 1954 B. Gavella conducted archaeological excavations of several blocks, named Barice IA, Barice IB, Gruža I and Gruža II (*Gavella 1956–7.237–238; Bogdanović 2004.9–16*). Other campaigns were organised in 1969 (*Bogdanović 2004*), 1989 (*Stanković 1990*), 1990 and 1994 (*Bogdanović 2004*). The Neolithic horizons belong to the Early Neolithic Starčevo culture (Grivac I, II and III), and to the Late Neolithic Vinča culture (Grivac IV, Va, VB and VI). The architectural remains consist of ellipsoid and oval pit dwellings, rubbish pits, and hearths (*Gavella 1956–7; Stanković 1990; Bogdanović 2004*). Other archaeological finds were also numerous, and they consist of pottery, figurines, altars, bone, stone and flint tools (*Antonović 2004; Bogosavljević Petrović 2004; Vitezović 2010; 2013*). According to the pottery finds, with a common barbotine decoration, as well as dark-painted motifs, the site of Grivac was assigned to the earliest phases of the Starčevo culture. Human skeletal remains were discovered during the excavations in 1954, inside the pit dwelling (*Gavella 1956–7.243*), in 1969, during the archaeozoological analysis (*Bogdanović 2004*), and in 1989, within the layer marked as Burial 1, and among animal bones (*Bogdanović 2004*). This burial was probably damaged, and skull bones were dislocated (as well as the bones found in 1954 and 1969) when later Vinča

settlement damaged the Starčevo layer (*Bogdanović 2004:45*). The newest analysis of the remains found in 1989 revealed that they belonged to at least two individuals (*Jovanović 2017*). One of them was dated within the BIRTH project.

Jaričište 1

The site of Jaričište 1 is located in the village of Mali Borak in western Serbia, and was archaeologically investigated within the rescue excavations of the coal-mine basin Kolubara, between 2006 and 2010. The excavations were organised by the Institute for the Protection of Cultural Monuments of the Republic of Serbia, led by Mirjana Blagojević, in cooperation with Institute for the Protection of Cultural Monuments Valjevo. At the large, excavated space (200x400m) the remains from several prehistoric periods have been discovered – the Early Neolithic, Late Neolithic, Chalcolithic and Bronze Age (*Marić 2013*).

The Starčevo culture settlement at Jaričište 1 was positioned at the central part of the plateau above the Kladnica River. It consisted of numerous pit and semi-pit dwellings, with separate sections within each dwelling, and with earth ovens that had some sort of funnels (*O.c.*). The site yielded a great amount of pottery finds, typical for the late phase of the Starčevo culture, ceramic rectangular altars, figurines, and amulets.

Four burials with inhumated individuals were discovered in two pit dwellings. At the bottom of the pit dwelling with two ovens a child was buried within the pelvic region of a woman, both in a flexed position (Burial 2). Two more children were buried within the same pit dwelling – one west (Burial 3) and the other south from the double burial (Burial 4, represented only by several cranial and limb bones). Above the burials a large amount of Starčevo pottery was found, together with cattle horns, ovicaprine bones and ground stone tool fragments (most probably from the grindstone). Radiocarbon dates from the burial confirmed the previously assumed late Starčevo sequence provenience (*Marić 2013; Stefanović, Porčić 2015*), but also pointed to the fact that the woman and child were probably not buried at the same time (*Stefanović, Porčić 2015*). Another burial was discovered at the bottom of the other pit dwelling – it belonged to a child, but the remains were poorly preserved. Within the BIRTH project a cranium sample from Burial 4 was AMS dated.

Vinča – Belo Brdo

The site of Belo Brdo is situated in Vinča, ~14 km from Belgrade, on the right bank of the Danube River, and it is an eponymous site of the Late Neolithic Vinča culture. The site is one of the largest tell sites in the region, with cultural layers reaching the depth of 9 metres, with traces of occupation dating from the Early Neolithic, through the Late Neolithic, Copper, Bronze and Iron Ages, and Medieval period (*Chapman 1981; Tasić 2008; Tasić et al. 1990*). In 1908, Miloje Vasić (*1910*) started the first archaeological excavations, which lasted with breaks until 1934. Renewed excavations, directed by Dragoslav Srejović, Nikola Tasić, Jovan Todorović, Milutin Garašanin and Gordana Marjanović-Vujović, started in 1978, and lasted until 1986. In 1998, N. N. Tasić started new archaeological investigations, which combined new excavation techniques, recording procedures and surveying technologies (*Tasić 2008*).

The Early Neolithic sequence in Vinča is mostly known from one damaged pit, and a pit which contained human remains and Starčevo culture pottery. Most of the Early Neolithic layer was damaged by the Late Neolithic settlement. The Starčevo pit with human remains was discovered during the M. Vasić excavations in the 1930s and has been assigned several different names – an ‘ossuary’, pit-dwelling ‘Z’, and tomb with entrance hall or dromos, because of the existence of the access path (*Vasić 1932; 1936; Letica 1968; Perić, Nikolić 2006*). Anthropological analyses of the human remains from the pit were conducted before WWII by Ilse Schwidetzky, and later revised by the same author in the 1950s and 1970s, due to the damage that occurred during the bombing of Belgrade (*Schwidetzky 1971–1972*). Today, mostly the skulls of those individuals are preserved, and they are marked from I-IX. Another basic anthropological analysis was also done by Živko Mikić (*1988*) who mostly summarized and discussed results obtained by Schwidetzky. The number of individuals buried was thought to be nine, and interpretations of the burial have varied from collective burial to death from a fire in a pit dwelling (*Korošec 1950; Letica 1968; Mikić 1988; Perić, Nikolić 2006; Vasić 1932; 1936*).

New research of the context, radiocarbon dates, and renewed anthropological analysis shed new light on this occurrence (Stefanović et al. 2016; Jovanović 2017; Tasić et al. 2019). Firstly, it was concluded that the minimal number of individuals was not 9, but 12. Another important aspect was assessed – the temporal range of the burial event(s). New radiocarbon dates indicated a span from 5700 to 5500 cal BC, with some individuals having almost the same dates, but some of them being much apart in years (Tasić et al. 2015; *this study*). The reconstruction of the positions of the skeletons indicated an absence of individuals buried according to Starčevo funerary rite – in a flexed position (Stefanović et al. 2016; Jovanović 2017). Pathological changes observed on some of the skeletons point to the traces of violence, but also to the intentional post-mortem dismembering of some skeletal parts. All these indicators led to the conclusion that the burial pit could have been the site of the prehistoric ‘crime scene’, if it wasn’t the consequence of the suffocation in the fire (an option considered to be less likely) (Stefanović et al. 2016; Jovanović 2017). Although most of the individuals from this site were dated in the study by Nenad Tasić and colleagues (2015), in the course of the BIRTH project one more individual was also dated.

Zmajevac

The site of Zmajevac is situated near the village of Cerovac, in the vicinity of the town of Smederevska Palanka. The excavations were organised in 1977, as a part of the *Morava Project in Yugoslavia*, conducted by A. Bankoff (Brooklyn College of New York), Dušan Krstić (National Museum in Belgrade) and Ratko Katunar (National Museum Smederevska Palanka) (Katunar 1988.111).

The site was dated to the earliest phases of the Starčevo culture, based primarily on pottery typology. Pottery finds were the most numerous, including two anthropomorphic and one zoomorphic figurine. Bone and stone objects were scarce, consisting mostly of tools (polished stone trapezoid and tongue-shaped axes, bone and horn awls), but also pendants (Katunar 1988.110). The only architectural feature at the site was a two-partite pit, interpreted as a temporary shelter, while the possibility of above-ground houses was considered based on the remains of daub (Katunar 1988.111).

During the sampling of the faunal remains for the radiocarbon dating at the National Museum Smederevska Palanka, human remains were also found within the boxes. These remains were not mentioned in the field documentation in more detail, other than the note regarding the context of the find, which does not indicate the existence of a burial. Besides that, a child mandibula from the site of Zmajevac was part of the permanent exhibition. From this site one skull fragment was dated within the BIRTH project.

Rudnik Kosovski

The site of Rudnik is located on the slopes of Mokra Gora and Suva planina mountains, near the town of Kosovska Mitrovica, in Kosovo. The site was excavated from 1966 until 1968, and in 1984 by Jovan Glišić and his team (Garašanin 1979). The excavations yielded Early and Late Neolithic cultural layers, with the remains of pit dwellings, rubbish pits and above ground structures, but also numerous animal remains and pottery with barbotine and impresso decoration and dark painted motifs (Tasić 1998). Four burials were discovered at the bottom of one shallow pit inside the settlement, during the 1984 campaign. All individuals were buried in flexed positions. Burials 1, 2, 3 and 4 were at the bottom of one shallow pit. Burial 1 is well preserved, while burials 2, 3, and 4 were damaged since subsequent settlement layers damaged this Starčevo layer (Mikić 1989). Anthropological analysis was done by Mikić (1989) and Jelena Jovanović (2017). The only available individual for AMS dating was the one from Burial 1, which was dated within the BIRTH project.

Danube Gorges

New AMS dates from the Danube Gorges region cover the whole Mesolithic sequence (Lepenski Vir culture) – both Early (~9500–7400 cal BC) and Late Mesolithic (~7400–6300 cal BC); but also, the Transformation phase (~6200–5900 cal BC) and Early Neolithic sequence – Starčevo culture (~5900–5500 cal BC) (Borić, Dimitrijević 2009; Borić 2011). One new AMS date from the Danube Gorges comes from the Middle Ages sequence, from the site of Vlasac (see [Supplementary Material 4](#)).

Lepenski Vir

The site of Lepenski Vir is situated on a Serbian side of the Danube Gorges, more precisely, on the right bank of the Danube in the Upper Gorge. The site was discovered as a part of the archaeological investigations that preceded the construction of the hydroelectric dam in the 1960s, by Dragoslav Srejović and his team from the Faculty of Philosophy, University of Belgrade. The excavations lasted from 1965 until 1970 (*Srejović 1969; 1972; 1981*). During the excavations, rich cultural layers, ~3.5m deep on average, yielded numerous residential and portable archaeological remains, dating from the Mesolithic (~9400–7400 cal BC, with the hiatus during the Late Mesolithic), Early Neolithic (~6200–5550 cal BC), Chalcolithic (the site was not inhabited in the preceding period, the Late Neolithic), Roman and Medieval periods (*Bonsall et al. 2000; 2004; 2008; 2015a; Borić 2002; 2011; Borić, Dimitrijević 2005, 2007; 2009; Cook et al. 2009; Borić, Price 2013; Letica 1970; Porčić, Nikolić 2015*). The site of Lepenski Vir is one of the best documented, intensively radiocarbon dated sites, with numerous studies published regarding different archaeological and bioarchaeological aspects. During the Mesolithic phase, the inhabitants of the Lepenski Vir based their diet mostly on aquatic resources, with hunted game also being an important part of the economy. The funerary practice was characterised by supine inhumations, parallel to the Danube, with several occurrences of individuals buried seated, in a lotus position, or with crossed legs (*Roksandić 1999*).

One of the most distinctive features of the Lepenski Vir is the existence of the Transformation phase (~6200–5900 cal BC/6140–5980 cal BC, according to *Porčić, Nikolić 2015*), a period that is regarded as a transitional phase between Mesolithic and Neolithic, with indications of intensive contacts between the local hunter-fisher-gatherers, and newly arrived farming communities. The nature and intensity of these contacts has been intensively studied and widely discussed by numerous authors (*Bonsall et al. 1997; 2000; 2008; 2015a; 2015b; Borić 1999; 2002b; 2011; Garašanin, Radovanović 2001; Borić, Stefanović 2004; Borić, Dimitrijević 2005; 2007; 2009; Cook et al. 2009; Borić, Price 2013*). This sequence at the site testifies the intensive occupation, with trapezoidal dwellings and rectangular stone hearths at the centre of each dwelling; the famous sandstone boulders with the depictions interpreted as anthropomorphic fish (*Srejović 1981; Borić, Stefanović 2004*); the appearance of some important technologies, characteristic for the Early Neolithic, such as pottery, the so-called Balkan flint and polished stone tools (*Srejović 1971; Borić 1999; Garašanin, Radovanović 2001; Antonović 2006*). The diet was still mostly based on aquatic resources, but an increase in terrestrial fauna consumption has been attested (*Grupe et al. 2003; Borić et al. 2004; Nehlich et al. 2010; Živaljević 2017; Jovanović et al. 2018*). The presence of individuals of non-local origin was also attested in this period, as indicated by the strontium isotope ratios (*Borić, Price 2013*). As for the burial rites, some of the Mesolithic practices were maintained, mostly regarding the position of the body, with individuals buried beneath the floor of trapezoidal dwellings. The appearance of children (mostly neonates) buried beneath the floors became a new practice, also characteristic for the Neolithic in the eastern Mediterranean and the Balkans (*Stefanović, Borić 2008*).

After the Transformation phase, an Early Neolithic one started, marked by the almost complete disappearance of Mesolithic traditions, including the abandonment of the trapezoidal dwellings. The domesticated fauna appears in this sequence, as testified by the remains of cattle (*Bos taurus*), sheep/goat (*Ovis/Capra*) and pig (*Sus domesticus*), even though fish and wild game remained important (*Borić, Dimitrijević 2007*). A high number of individuals of non-local origin has been attested for this period. After the Early Neolithic phase, which lasted until ~5550 cal BC, the site was abandoned (*O.c.*). A total of 14 samples of human remains were AMS dated within the BIRTH project (see [Supplementary Material 4](#)).

Vlasac

The site of Vlasac lies on the right Danube riverbank, in the Upper Gorge of the Danube Gorges. The first excavations were conducted in 1970 and 1971 by Dragoslav Srejović and Zagorka Letica (*Srejović, Letica 1978*), before the construction of the Đerap I dam, which led to the site being submerged. Renewed excavations, enabled due to a fall in water level, were organised between 2006 and 2009 by Dušan Borić (*Borić 2014*). Life at Vlasac began during the Late Mesolithic and lasted up until the end of the Early Neolithic. Radiocarbon dates indicate the span from the ~7035 until 5500 cal BC, with the Early Neolithic most probably not preceding 6000 cal BC (*Borić et al. 2014*). The excavations in the 1970s revealed the existence of five dwellings with red-crushed limestone and sand floors, over 20 rectangular stone hearths, and numer-

ous stone constructions of uncertain function. Besides that, 87 burials were discovered (*Nemeskéri, Szathmáry 1978; Srejšović, Letica 1978; Roksandić 1999*). During the excavations between 2006 and 2009, two possible dugout dwellings, 16 burials with inhumation and several cremations pits with human remains were discovered (*Borić 2006; 2008; Borić et al. 2014*). Besides the architectural features, numerous portable finds – ground stone tools (anvils, hammerstones, axes *etc.*), rich flint industry (blades, scrapers, microliths, trapezes *etc.*), bone and antler tools (awls, axes, bone splinters *etc.*), animal remains and Early Neolithic Starčevo culture pottery – were found (*Bökönyi 1978; Srejšović, Letica 1978; Kozłowski, Kozłowski 1982; Antonović 2006; Borić et al. 2014*). The economy of the prehistoric communities (both in the Mesolithic and Neolithic) was mostly based on fish consumption, while the hunting of red deer (*Cervus elaphus*), wild boar (*Bos primigenius*), and roe deer (*Capreolus capreolus*) was also important (*Bökönyi 1978; Borić et al. 2014; Živaljević 2017*). Besides that, dog remains with traces of burning and cut marks were discovered, which indicated their dismemberment and possible defleshing by humans, suggesting that dogs could have been used as food (*Borić et al. 2014*), which is also supported by stable isotope analyses (*Jovanović et al. 2018; de Becdelièvre et al. 2020*).

The burial practice did not change much from Mesolithic through the Early Neolithic. The common practice of extended supine inhumations, positioned parallel to the Danube, were represented at Vlasac. Burials of neonates beneath the red-plastered floors were also discovered (*Borić, Stefanović 2004; Stefanović, Borić 2008; Borić et al. 2014*). The novelties that came with the Early Neolithic mostly refer to the changes in body decorations. During the Mesolithic the most common body decorations were from carp teeth and marine gastropod beads. In the Early Neolithic, ovoid shaped *Spondylus* shell beads appeared, as did the white and red discoid limestone beads. These changes are seen as the consequence of the engaging in the network of social interactions between the hunter-fisher-gatherers and farmers (*Borić et al. 2014*). Within the BIRTH project a total of 17 new AMS dates were obtained from the site of Vlasac.

Padina

The site of Padina, located in the Danube Gorges, was excavated between 1968 and 1970 by the Archaeological Institute in Belgrade, directed by Borislav Jovanović (*Jovanović 1969; 1987; 2008*). The occupation of the site started during the Early Mesolithic, and continued during the Early Neolithic, Late Neolithic, Iron Age, Roman and Medieval periods (*Radovanović 1992; Jovanović 2008; Borić 2011*). Radiocarbon dates from the Mesolithic and Early Neolithic sequences range from 9221 to 5700 cal BC (*Borić 2011*). At Padina, numerous architectural features were discovered – 21 dwellings, out of which 17 were trapezoidal in shape, with pit dwellings, hearths and burials. Numerous portable finds were also discovered – Starčevo monochrome pottery, chipped stone tools (blades, perforators, geometric microliths, *etc.*), ground stone tools (anvils, cutting tools, hammer stones, axes, altars, weights, *etc.*) (*Jovanović 1974; 1987; 2008; Radovanović 1981; 1995; Antonović 2003*). The economy was based on wild game, namely red deer (*Cervus elaphus*), wild boar (*Sus scrofa*), aurochs (*Bos primigenius*) and roe deer (*Capreolus capreolus*), with fish remains also being an important part of the subsistence. Domesticated animals such as cattle (*Bos taurus*), caprines (*Ovis/Capra*) and pig (*Sus domesticus*) appear in the Neolithic, even though their remains were not numerous (*Clason 1980; Živaljević 2017*). In the contrast to the other sites in the Danube Gorges, where terrestrial resources became more important in the diet after the beginning of the Neolithic, at Padina this change was minimal – aquatic resources remained the dominant component in the diet, as suggested by stable isotope analyses (*Nehlich et al. 2010; Borić, Price 2013; de Becdelièvre et al. 2015a; 2015b; 2020; Jovanović et al. 2018*). Burial rites during the Mesolithic included extended supine inhumations, with occasional occurrence of individuals being buried in a sitting position with crossed legs. In the Neolithic, individuals were buried mostly in a flexed position. At the site a certain amount of scattered human remains was also found (*Clason 1980; Roksandić 1999*). Within the project BIRTH two new dates were obtained.

Southwestern Carpathian Basin

The region of the southwestern Carpathian Basin yielded AMS dates from the Early Neolithic sequence – the Starčevo culture (~6000–5300 cal BC) (*Botić 2016*), and Late Neolithic sequence, represented by the Vinča (~5300–4600/4500 cal BC) (*Tasić et al. 2015; 2016; Tripković 2011*) and Sopot (~5400–3790 cal BC) (*Obešlić et al. 2004*) cultures. One new AMS date from this region comes from the possible Mesolithic sequence

at the site of Magareći mlin²; one date from the site of Vukovar Gimnazija comes from the Eneolithic period, and one date from the site of Topole – Bač comes from the Bronze Age sequence (see [SM 4](#)).

Starčevo – Grad

The site of Starčevo – Grad, an eponymous site of the Starčevo culture, is situated on the left bank of the Danube River near the town Pančevo, on a terrain that was prone to flooding in the past. The excavations at the Starčevo were carried out within numerous projects and collaborations, starting in 1928 by Miodrag Grbić, who conducted the excavations until 1931. The collaboration between Grbić, Vladimir J. Fewkes and Robert Erich, with the help of the Harvard University and the American School of Prehistoric Research, led to the excavations being continued in 1932. Another archaeological campaign followed several decades later – in 1969 and 1970, conducted by Draga Garašanin and Erich (*Srejšović 1988*). The latest archaeological excavations were organised by the Institute for the Protection of Cultural Monuments Pančevo, and led by Maja Živković in 2003, 2004 and 2007 (*Živković 2008; Živković et al. 2011*). All these campaigns led to the discovery of seven pits and several burials, with numerous archaeological finds – pottery, chipped and ground stone and bone artefacts, figurines, *etc.* Pottery finds discovered in pits served as a basis for the periodisation of the entire Starčevo culture, established by Garašanin (*Arandelović Garašanin 1954*). Archaeozoological analyses indicate the predominance of the domesticated animal species (cattle, ovicaprines, pig), with hunting also being an important part of the economy (*Clason 1980*).

Human remains were discovered during the excavations in the 1930s – a total of five individuals, which are kept in the collection of the Peabody Museum of Harvard University (*Arandelović Garašanin 1954*). Among these remains, two belonged to the children. Two of the other three burials were dated by Whittle and colleagues (*2002*) and were confirmed to be from the Early Neolithic. During the excavations in 2004, two additional burials were found at the bottom of the pit dwelling (*Živković 2008*) and were dated within the BIRTH project.

Topole – Bač

The site of Topole – Bač was discovered in the 1970s during the rescue excavations at the place of a future sugar factory in Bač (Vojvodina, Serbia), by the Town Museum in Sombor, under the supervision of Čedomir Trajković. Besides the Eneolithic pits, the Early Neolithic Starčevo culture site was also discovered (*Trajković 1978*). It consisted of several features – four pits and the remains of a floor that probably belonged to the habitation structure. The vast amount of material, mostly pottery, but also stone and bone tools, indicated that the site was inhabited during the late phase of the Starčevo culture (*Trajković 1988.99–101*). One of the important features of the Topole – Bač site is the discovery of burials, which is a rare occurrence at Starčevo sites. Three individuals were discovered buried in a crouched position – two of them (Individuals 1 and 2) were found beneath the floor of a feature that was in irregular rectangular shape and interpreted as a habitation structure. These individuals were found at the same level, next to each other, and therefore considered to be the part of a single burial event (*Jovanović et al. 2017.257*). Nevertheless, radiocarbon dates indicated a gap of almost 1000 years between them (*Whittle et al. 2002*). One more individual (Individual 3) was found buried several metres away from the first two, also mostly placed beneath the floor of the same structure. The contextual analysis revealed that all the indicators of the single burial event for the Individuals 1 and 2 are high, and that a contamination error in the sampling process probably occurred, giving the false Mesolithic date.

New AMS dates were obtained for all three individuals within the BIRTH project. Dates obtained on human remains of Individuals 1 and 2 were already discussed in by Sofija Stefanović and colleagues (*2020*), and confirmed that those individuals were buried at the same time, since the calibrated dates almost completely overlap (see [Supplementary Material 4](#); *Stefanović et al. 2020*). The obtained date for Burial 3 and its relation to Individuals 1 and 2 is discussed in this study.

² Since this individual has been thoroughly presented and analysed in the study by Ivana Živaljević *et al.* (*2021*), we will not discuss it further in this paper.

Klisa

The multilayered site of Klisa (northern part of the city of Novi Sad) was discovered during the rescue excavations conducted by the Provincial Institute for the Heritage Protection, as a part of the construction of the pipeline route. The excavations that took place in 2000 were directed by Dragan Anđelić. Layers from the Early Neolithic, Bronze Age, Iron Age, Roman and Medieval periods were discovered. The remains of the Starčevo culture settlement consisted of both dug-in and above-ground structures, and the remains of daub, pottery, animal bones, stone, and bone tools. Within the settlement five burials were discovered, of which only three individuals were available for the anthropological and isotopic analysis (Jovanović 2017; Jovanović et al. 2018). All three individuals were dated as a part of the BIRTH project program.

Sremski Karlovci – Sonje Marinković 1

During the construction of a sewage network in 1997 in the town of Sremski Karlovci, near Novi Sad, a human skeleton was discovered by Divna Gačić and her team from the City Museum of Novi Sad. Pottery finds associated with the burial indicated Starčevo culture provenience (Jovanović 2017:50). The following rescue excavations at the site, situated on the old bank of the Danube River, were conducted by the Provincial Institute for Heritage Protection, under the supervision of Ljiljana Tadin. The site is multilayered, containing remains from the Early Neolithic, Roman and Medieval periods. One of the two investigated trenches contained the remains of an object with a construction inside, made of shells and snails. This object also contained two subsequent burials, for which it was assumed to belong to the Medieval period (Jovanović 2017). Monochrome, barbotine and impresso pottery, stone and bone tools, indicative of the Starčevo culture, together with animal bones, were also found. Another excavated trench yielded only Starčevo pottery fragments. During the BIRTH project one rib fragment from Burial 1 was AMS dated, while anthropological and isotopic analysis was done within previous studies (Jovanović 2017; Jovanović et al. 2018).

Baštine – Obrež

During the field survey in 1951 the Early Neolithic site of Baštine near the village Obrež in Srem was discovered. Small rescue excavations were conducted in 1960 by Bogdan Brukner from the Museum of Vojvodina (Brukner 1960a; 1960b). These excavations yielded one burial, several pits and the remains of hearths and daub, all attributed to the Starčevo culture. A possibility of the above-ground structures was mentioned by Brukner – an assumption made based on the remains of daub and the continuity of the occupation at the site (Brukner 1960a). Numerous pottery, bone and stone artefacts were discovered, all typical for the Starčevo culture repertoire. Globular, conical, and semi-spherical bowls, with red and yellow painted ornaments, were the most numerous among the pottery finds. Clay altars on three and four legs were also discovered (Brukner 1960b). The bone and stone industry yielded various artefacts for everyday use (such as mold and tongue-like axes; needles, projectile points, burnishes, hafts, etc.), but also some decorative objects (such as discs and buckles) (Vitezović 2010). Faunal remains are mostly represented by cattle, ovicaprines and deer remains. An abundance of mollusc remains (such as *Helix*, *Unio*, *Vivipara*, *Limnaea* and *Planorbis* genera) was also discovered (Brukner 1960a; 1960b). Anthropological and isotopic analysis of the individual discovered inside the only burial found at the site was done in the study by Jelena Jovanović (2017), while the date was obtained within the BIRTH project.

Bezdan – Bački Monoštor

The site marked as 1a was discovered during the rescue excavations associated with the construction of a gas pipeline in 2013, conducted by the Town Museum in Sombor. The site was situated along the eastern side of the road Bezdan – Bački Monoštor. It represents a part of the wider archaeological zone in the area. During the excavations, numerous structures from the Late Neolithic/Early Eneolithic (determined by the excavators as the Sopot – Lengyel culture) to the Roman period were found. Prehistoric structures included pits, oval and rectangular above-ground dwellings, and parts of floors. They were usually filled with pottery, animal remains, stone and bone tools, with sporadic silex objects, figurines, and weights. High concentrations of daub were also found in association with all the objects. Inside one of the Neolithic pit-dwellings (marked as Object 2v), beneath the house floor level, a burial pit with human inhumation remains was discovered (Burial 1). Another burial (2) was found inside another living structure, marked as Object 5, while Burial 3 was discovered inside the ditch (Object 4). Both individuals from Burials 1 and 2 were buried in a flexed position, while the individual from Burial 3 was buried in a specific position laying on its back

with legs bent at the knees, above the pelvis (see [Supplementary Material 3](#) for detailed description). The site and its finds have not yet been published, and all the data was gathered from the field documentation, with the courtesy of the Town Museum in Sombor. Within the BIRTH project a human rib from the Burial 3 was sampled and AMS dated.

Iđoš

The site of Gradište near Iđoš is located in the vicinity of the town of Kikinda, on the terrace of the River Tisza. The site is multilayered, containing remains from the Early Neolithic period (Starčevo/Körös culture), Late Neolithic period (Vinča and Tisza cultures) and from the Late Bronze and Early Iron Age periods (Belegiš II – Gava cultural groups) (Marić et al. 2016.126). The site has been investigated on multiple occasions, starting in 1913, when the first research was conducted by Julius Nagy (Girić 1957). The next archaeological excavations were undertaken in 1947 by Luka Nadlački and Miodrag Grbić from the National Museum in Kikinda (Grbić 1950). Renewed excavations with the same director (Nadlački) happened in 1952 (Girić 1957). After a two-decade break, the National Museum in Kikinda and Provincial Institute for the Protection of Cultural Monuments in Novi Sad returned to the site of Gradište, with small-scale (four trenches) excavations, which covered the part of the site where Neolithic settlement was situated (Medović 1984). These excavations confirmed the existence of two Neolithic horizons – the younger Late Neolithic horizon, and the older Early Neolithic horizon (Mirković-Marić 2016). The most recent archaeological investigations with published results happened in 2014, and they included a geophysical survey, geological drilling, and small-scale excavations (several test trenches) (Marić et al. 2016). These investigations revealed that the Neolithic settlement consisted of a tell, which had 2.5m deep cultural layers that contained remains from Starčevo/Körös, Vinča and Tisza cultures. The Late Neolithic tell with rectangular houses organised in small clusters was probably surrounded by some sort of a wall or fence, with an associated ditch. Another part of the settlement was a flat settlement, located near the tell (Marić et al. 2016.141). During 2016 in Trench 5, in a pit, human skeletal remains were discovered and marked as Burial 1/16, while other human skeletal remains were discovered a year later in Trench 6. Within the BIRTH project a human rib from Burial 1 was dated.

Zmajevo – Livnice

During the rescue archaeological excavations, as a part of the construction of Highway E-75, the site of Zmajevo – Livnice was investigated. The excavations were conducted by the Provincial Institute for the Protection of Cultural Monuments in Novi Sad in 2010. The site is located near the village of Feketić, in the North Bačka district. No published data on the site and its findings are yet available – the data presented here come from the field documentation, courtesy of Dragan Anđelić from the Provincial Institute for the Protection of Cultural Monuments.

During the excavations, traces of numerous structures and portable archaeological material, dating from the Early Neolithic (Starčevo culture), Late Neolithic (Vinča culture), Middle and New Ages, have been discovered. Neolithic layers and structures contained predominantly Starčevo culture material – pottery, flint and stone tools, obsidian blades, spindle whorls and animal bones. Vinča culture material was also mentioned as discovered mixed with Starčevo artefacts, beneath the two possible habitational structures (houses?), marked as Objects 36 and 37. Dislocated human remains were discovered within the cultural layer. They were marked as Burial 1, even though no traces of a grave construction or a pit were found. Inside one of the structures (Object 57) two round pits were found, one of them contained human remains, a spindle disc, and fragments of Neolithic pottery. This structure was marked as Burial 2. The individual was laying on its back with the legs bent at the knees, and based on its positioning it was concluded by the excavators that this person was buried inside the house. This house was not fully investigated during the excavations. The remains of this individual were radiocarbon dated within the BIRTH project.

Gospodinci – Nove zemlje

The site of Nove zemlje is located in the village of Gospodinci, Bačka district in Vojvodina, and it was discovered during the rescue excavations within the construction of a fruit and vegetable processing factory in 2017. The archaeological investigations were carried out by the Provincial Institute for the Protection of Cultural Monuments team, led by Anđelić. No published data about the site is yet available, and all the information is taken from the field documentation, provided by Anđelić from the Provincial Institute for the Protection of Cultural Monuments.

Archaeological excavations revealed a multi-layered site, with the remains from the Early Neolithic (Starčevo culture), Late Iron Age, Middle and Modern Ages. As for the Early Neolithic layer, six pits were discovered, containing fragments of pottery, chipped and ground stone tools, bone tools, a fragmented figurine, remains of shells and animal bones. Human remains were discovered in the pit labelled Pit 37. Within the BIRTH project one new AMS date was obtained from a human coxal bone sample.

Sajlovo

Sajlovo represents a multilayered archaeological site, located in the western part of Novi Sad. The first excavations were conducted in 2010 by the Institute for the Protection of Cultural Monuments in Novi Sad, under the direction of Dušanka Veselinov. On that occasion, 6800m² were excavated and remains from the Early Neolithic, Eneolithic, Bronze Age, Roman, Medieval and Modern Ages have been discovered (*Veselinov 2013*). The Early Neolithic layer revealed the remains of dwellings, with some daub and pottery fragments, indicative of Starčevo/Körös cultural group. Concerning human remains from this period, two burials were discovered at this site (Sajlovo 5), marked as Burial 19 and Burial 22 (*O.c.*). Burial 19 was found inside a shallow, oval pit (object 62), while Burial 22 was found in Object 15. The individual from Burial 19 was buried in the flexed position and better preserved, while the remains of Burial 22 were poorly preserved. Based on fragments of pottery found inside these objects and burials, they were attributed to the Early Neolithic period (*O.c.*). Within the BIRTH project both individuals have been AMS dated.

Highway E-70, 521km

Numerous archaeological sites have been discovered and excavated during the construction of Highway E-70 through the Sarmia region in Vojvodina, in a long period between 1979 and 1990, mostly directed by the Provincial Institute for the Protection of Cultural Monuments in Novi Sad (*Leković 1995*). A multilayered site was discovered during the excavations in 1986 at the road section on the 521stkm of the high route Ruma – Sremska Mitrovica. Unfortunately, an extensive field documentation gathered over the years left some ambiguities regarding the naming of sites. Therefore, the site presented here will be addressed as Site 521, for the sake of precision, even though the notes that were associated with the material dated refer to it as a Site 1 found at the 521stkm. Since it was not possible to trace the site within the field documentation, the only data available comes from the notes that state that the site was multilayered, with Starčevo culture pottery, and that it contained several burials. From one of these (Burial 1) a human skull fragment was AMS dated within the BIRTH project and, together with other 10 dates obtained on animal bones (*Porčić et al. 2021*), it places this site in the second half of the Starčevo culture sequence (see [Supplementary Material 4](#)).

Novi Sad – Gornja šuma

The site of Gornja šuma is located in the Klisa – an urban neighbourhood of the town of Novi Sad. It was archaeologically investigated by the Provincial Institute for the Protection of Cultural Monuments in Novi Sad, under the direction of Anđelić in 2007, during the rescue archaeological excavations due to the construction of the Highway E-75 interchange. None of the data about the site or related findings have been published so far, and they were thus obtained through the field documentation, courtesy of Anđelić.

During the excavations numerous architectural features were discovered – the remains of wattle and daub houses, possible pit-dwellings, rubbish pits and one ditch. Portable archaeological finds were represented by the Starčevo, Vinča, and possible Sopot – Lengyel culture pottery, flint tools, numerous bone and antler tools (spatulae, needles, harpoons, awls), ground stone tools (axes, hammers), shells and animal bones. One zone with a layer of broken shells was also discovered.

The remains of four burials were also found. The first one (Burial 1) was found in Trench 2 with associated chipped stone tools near the skeleton. The individual from Burial 2 was found in Trench 5 (Object 2), buried in a flexed position on the right side with the arms bent at the elbows and the legs bent at the knees. Burial 3 was found in Trench 9. The individual was buried in a flexed position on the left side, with associated shells and pottery fragments. However, traces of green colour were detected on some bones of Burial 3, which usually occur when bones come into contact with copper or bronze that has begun to degrade. Thus, this individual was excluded from further study since it could be dated to a younger period. Burial 4 was found in Trench 17, while the individual was buried in a flexed position on the left side, with similar finds

as Burial 3 – several pottery fragments and shells. Two human phalanges were found in one of the architectural features (Object 8), which is a pit-like object that contained fragments of Starčevo and Vinča culture pottery, animal bones, daub, remains of the floor, flint knife and a bone needle. BIRTH project dating program included human remains from Burials 1, 2 and 4.

Beli Manastir – Popova zemlja

The site is located near the town of Beli Manastir in Osijek-Baranja County in eastern Croatia. The rescue excavations took place in 2014 and 2015 and covered a surface of approximately 37 000m². Two main cultural layers were identified at the site: a prehistoric layer consisting of several Neolithic and Chalcolithic strata, and a Roman period layer. The prehistoric layers of interest are dated to the early and middle Neolithic periods in which the remains of a large settlement and 39 inhumation burials were found. Most of the burials were found in a contracted position on either the left or right side with different orientations. In several cases, one or more ceramic vessels were placed by the head of the deceased. Most of the burials were located under the houses, but some were also registered at the bottom of a large ditch. Nine individuals from this site have been AMS dated within the BIRTH project.

Vukovar – Gimnazija

The rescue excavations were conducted by the Vukovar Municipal Museum in 1999, during the extensive reconstruction of the local high school in Vukovar. During the excavation, five skeletons were uncovered at a depth of approx. 1m below ground level in the basement of the high school under the concrete floor. Due to previous construction activities, it was not possible to determine the shape of the burials. Only Burial 3 has been AMS dated within the BIRTH project.

Vinkovci Ervenica – Poljski jarak

Georheo d.o.o. from Zagreb in 2011 conducted rescue archaeological excavations on the site Ervenica, on the left bank of Bosut River in SE part of Vinkovci. A total surface of 2560m² uncovered five layers and 350 pits of various dimensions, shapes, and purposes. A multi-layered archaeological site with several cultural horizons was revealed: prehistoric, Roman and Medieval periods. The oldest layers date to the Neolithic period, with the Starčevo and Sopot cultures. The Starčevo layer is represented by settlement and approx. 20 structures that were fully excavated, of which 12 were of larger dimensions. At the site a total of 10 burials were investigated, eight belonging to the Neolithic period and two to Late Antiquity. The Neolithic burials were mostly without grave goods. Burial 2 contained a painted Starčevo pot and fragments of another clay vessel, according to which the site was reliably dated. Burials 1 and 3 were found on the top of the fill of larger Starčevo structures which connects them to the end of the Linear B stage of the Starčevo culture. Burials 4, 7, 8, 9 and 10 are grouped near to each other making a distinct group of burials (*Maljković 2011; 2014*). BIRTH project dating program yielded new AMS dates for Burials 2 and 3.

∴

References

- | | |
|---|---|
| <p>Antonović D. 2004. Predmeti od glačanog kamena. In M. Bogdanović (ed.), <i>Grivac: naselje protostarčevačke i vinčanske kulture</i>. Centar za naučna istraživanja. Kragujevac: 439–464.</p> <p>2006. <i>Stone tools from Lepenski Vir</i>. Arheološki institut. Beograd.</p> <p>Arandelović Garašanin D. 1954. <i>Starčevačka kultura</i>. Arheološki seminar Univerziteta u Ljubljani. Ljubljana.</p> <p>Bilbija M. 1985. Cerje, neolitsko naselje. <i>Arheološki pregled</i> 26: 35–36.</p> | <p>Bogdanović M. 2004. <i>Grivac, naselja protostarčevačke i vinčanske kulture</i>. Centar za naučna istraživanja Srpske akademije nauka i umetnosti, Univerziteta u Kragujevcu i Narodni muzej Kragujevac. Kragujevac.</p> <p>Bogosavljević-Petrović V. 2004. Predmeti od okresanog kamena. In M. Bogdanović (ed.), <i>Grivac – naselje protostarčevačke i vinčanske kulture</i>. Centar za naučna istraživanja SANU i Univerzitet u Kragujevcu. Kragujevac: 379–411.</p> <p>Bökönyi S. 1978. The vertebrate fauna of Vlasac. In D. Srejović, Z. Letica (eds.), <i>Vlasac: mezolitsko naselje u Đer-</i></p> |
|---|---|

dapu. Vol. 2. *Geologija, biologija, antropologija*. Posebna izdanja, knjiga 512. Srpska akademija nauka i umetnosti. Beograd: 35–65.

Bonsall C., Lennon R., McSweeney K., +5 authors, and Chapman J. 1997. Mesolithic and Early Neolithic in the Iron Gates: A palaeodietary perspective. *Journal of European Archaeology* 5(1): 50–92.

<https://doi.org/10.1179/096576697800703575>

Bonsall C., Cook G., Lennon R., Harkness D., Scott M., Bartosiewicz L., and McSweeney K. 2000. Stable isotopes, radiocarbon and the Mesolithic-Neolithic transition in the Iron Gates. *Documenta Praehistorica* 27: 119–132.

Bonsall C., Cook G. T., Hedges R. E. M., Higham T. F. G., Pickard C., and Radovanović I. 2004. Radiocarbon and stable isotope evidence of dietary change from the Mesolithic to the Middle Ages in the Iron Gates: new results from Lepenski Vir. *Radiocarbon* 46(1): 293–300.

<https://doi.org/10.1017/S0033822200039606>

Bonsall C., Radovanović I., Roksandić M., Cook G., Higham T., and Pickard C. 2008. Dating burial practices and architecture at Lepenski Vir. In C. Bonsall, V. Boroneant, and I. Radovanović (eds.), *The Iron Gates in prehistory: new perspectives*. BAR International Series 1893. Archaeopress. Oxford: 175–204.

Bonsall C., Vasić R., Boroneant A., +9 authors, and Cook G. 2015. New AMS ¹⁴C dates for human remains from stone age sites in the Iron Gates reach of the Danube, Southeast Europe. *Radiocarbon* 57(1): 33–46.

https://doi.org/10.2458/azu_rc.57.18188

Bonsall C., Cook G., Pickard C., +6 authors, and Boroneant A. 2015b. Food for Thought: Re-Assessing Mesolithic Diets in the Iron Gates. *Radiocarbon* 57(4): 1–11.

https://doi.org/10.2458/azu_rc.57.18440

Borić D. 1999. Places that created time in the Danube Gorges and beyond, c. 9000–5500 BC. *Documenta Praehistorica* 26: 41–70. <http://www.dlib.si/stream/URN:NBN:SI:DOC-L7DU8DTU/fdfd6565-255a-4685-9038-f89c82dc200a/PDF>

2002. The Lepenski Vir conundrum: reinterpretation of the Mesolithic and Neolithic sequences in the Danube Gorges. *Antiquity* 76(294): 1026–1039.

<https://doi.org/10.1017/S0003598X00091833>

2006. New discoveries at the Mesolithic–Early Neolithic site of Vlasac: Preliminary notes. *Mesolithic Miscellany* 18(1): 7–14.

2008. First households and ‘house societies’ in European prehistory. In A. Jones (ed.), *Prehistoric Europe*. Blackwell Publishing. Malden: 109–142.

2011. Adaptations and transformations of the Danube Gorges foragers c. 13,000–5500 cal. BC: an overview. In R. Krauß (ed.), *Beginnings – new research in the appearance of the Neolithic between Northwest Anatolia and the Carpathian Basin*. Verlag Marie Leidorf GmbH. Rahden/Westfalen: 157–203.

2014. Mortuary Practices, Bodies and Persons in the Neolithic and Early – Middle Copper Age of Southeast Europe. In C. Fowler, J. Harding, and D. Hofmann (eds.), *The Oxford Handbook of Neolithic Europe*. Oxford University Press. Oxford: 1–23.

Borić D., Stefanović S. 2004. Birth and death: infant burials from Vlasac and Lepenski Vir. *Antiquity* 78(301): 526–546. <https://doi.org/10.1017/S0003598X00113201>

Borić D., Dimitrijević V. 2005. Continuity of foraging strategies in Mesolithic-Neolithic transformations: Dating faunal patterns at Lepenski Vir (Serbia). *Atti della Società per la preistoria e protostoria della regione Friuli-Venezia Giulia XV (2004–2005)*: 33–107.

2007. When did the ‘Neolithic package’ reach Lepenski Vir? Radiometric and faunal evidence. *Documenta Praehistorica* 34: 53–72. <https://doi.org/10.4312/dp.34.5>

2009. Apsolutna hronologija i stratigrafija Lepenskog Vira. *Starinar LVII/2007(2009)*: 9–55.

Borić D., Price T. D. 2013. Strontium isotopes document greater human mobility at the start of the Balkan Neolithic. *Proceedings of the National Academy of Sciences* 110(9): 3298–3303.

<https://doi.org/10.1073/pnas.1211474110>

Borić D., French C. A. I., Stefanović S., +5 authors, and Filipović D. 2014. Late Mesolithic lifeways and deathways at Vlasac (Serbia). *Journal of Field Archaeology* 39(1): 1–31. <https://doi.org/10.1179/0093469013Z.00000000070>

Botić K. 2016. Neolithisation of Sava-Drava-Danube interfluvium at the end of the 6600–6000 BC period of Rapid Climate Change: a new solution to an old problem. *Documenta Praehistorica* 43: 183–207.

<https://doi.org/10.4312/dp.43.9>

Brukner B. 1960a. Rezultati zaštitnog iskopavanja lokaliteta ‘Baštine’ kod sela Obreža. *Rad Vojvodanskih muzeja* 9: 81–111.

1960b. Baštine – Obrež – Srem – Naselje. *Arheološki pregled* 2: 18–24.

Chapman J. 1981. *The Vinča culture of south-east Europe: Studies in chronology, economy and society*. BAR International Series 117. BAR Publishing. Oxford.

- Clason A. T. 1980. Padina and Starčevo: game, fish and cattle. *Palaeohistoria* 22: 142–173.
- Cook G., Bonsall C., Pickard C., McSweeney K., Bartosiewicz L., and Boroneanț A. 2009. The Mesolithic-Neolithic transition in the Iron Gates, southeast Europe: Calibration and dietary issues. In Ph. Crombé, M. Van Strydonck, J. Sergeant, M. Boudin, and Bats M. (eds.), *Chronology and Evolution within the Mesolithic of north-west Europe*. Cambridge Scholars Publishing. Newcastle upon Tyne: 497–515.
- de Becdelievre C., Porčić M., Goude G., Nešić M., Jovanović J., and Stefanović S. 2015a. *From individual mobility to population dynamics during the Mesolithic and Neolithic transformations in the Danube Gorges (Balkans, ca. 9500–5500 BC): Adaptations and interactions*. MESO 2015, The Ninth International Conference on the Mesolithic in Europe (14.–18. September, 2015). Institute of Archeology. Beograd.
- de Becdelievre C., Jovanović J., Goude G., Le Roy M., Rotier S., and Stefanović S. 2015b. Prehistoric Motherhood: diet from the pregnancy stage to the process of baby weaning in the Mesolithic-Neolithic Danube Gorges (Balkans, 9500–5500BC). *American Journal of Physical Anthropology* 156: 116. <https://doi.org/10.1002/ajpa.22716>
- de Becdelievre C., Jovanović J., Hofmanová Z., Goude G., and Stefanović S. 2020. Direct insight into dietary adaptations and the individual experience of Neolithisation: comparing subsistence, provenance and ancestry of Early Neolithic humans from the Danube Gorges c. 6200–5500 cal BC. In K. J. Gron, L. Sørensen, and P. Rowley-Conwy (eds.), *Farmers at the Frontier. A Pan – European Perspective on Neolithisation*. Oxbow books. Oxford, Philadelphia: 45–75.
- Fidanoski L. 2012. *Cerje-Govrlevo and Miloš Bilbija*. Museum of the city of Skopje. Skopje.
2013. Review of the archaeological researches of the Neolithic Settlement of Cerje-Govrlevo. *Cultural and historic heritage of the R. Macedonia LXII*: 7–24.
2017. Layers. In L. Fidanoski (ed.), *Skopje Before 8 Millennia: The Earliest Builders from Cerje-Govrlevo*. Museum of the city of Skopje. Skopje: 13–36.
2019. The Beginning of the End: the Story of the Neolithisation of North Macedonia. *Eurasian Prehistory* 15 (1–2): 163–212.
- Garašanin M. 1979. Centralnobalkanska zona. In A. Benac (ed.), *Praistorija jugoslavenskih zemalja II*. Akademija nauka i umjetnosti Bosne i Hercegovine. Svjetlost. Sarajevo: 79–212.
- Garašanin M., Radovanović I. 2001. A pot in house 54 at Lepenski Vir I. *Antiquity* 75(287): 118–125. <https://doi.org/10.1017/S0003598X00052819>
- Gavela B. 1956–57. Eneolitska naselja u Grivcu. *Starinar VII-VIII*: 237–268.
- Gimbutas M. 1976. *Neolithic Macedonia as reflected by excavation at Anza, southeast Yugoslavia*. Monumenta archaeologica 1. Institute of Archaeology. University of California, Los Angeles.
- Grbić M. 1950. Gradište kod Kikinde. *Starinar 1(1950)*: 113–118.
1957. Neolitsko naselje kod Idoša (Parcijalni izveštaj o iskopavanjima u 1954. godini). *Rad vojvodanskih muzeja* 6: 219–230.
- Grupe G., Peters J., and Mikić Ž. 2003. The exploitation of freshwater food resources by Meso – and Neolithic populations of Central Europe. In G. Burenhult, S. Westergaard (eds.), *Stones and bones: formal disposal of the dead in Atlantic Europe during the Mesolithic-Neolithic interface 6000–3000 BC*. Archaeopress. Oxford: 177–187.
- Jovanović B. 1969. Chronological frames of the Iron Gate group of the Early Neolithic period. *Archaeologica Iugoslavica* 10: 1–23.
1974. Praistorija gornjeg Djerdapa. *Starinar XII*: 1–22.
1987. Die Architektur und Keramik der Siedlung Padina B am Eisernen Tor, Jugoslawien. *Germania* 65(1): 1–16.
2008. Micro-regions of the Lepenski Vir culture Padina in the Upper Gorge and Hajdučka Vodenica in the Lower Gorge of the Danube. *Documenta Praehistorica* 35: 289–324. <https://doi.org/10.4312/dp.35.21>
- Jovanović J. 2017. *The diet and health status of the Early Neolithic communities of the Central Balkans (6200–5200 BC)*. Unpublished PhD thesis. Faculty of Philosophy. University of Beograd. Beograd. <https://nardus.mpn.gov.rs/handle/123456789/8238>
- Jovanović J., Blagojević T., Živanović S., Putica A., and Stefanović S. 2017. Kontekstualna i antropološka analiza ljudskih skeletnih ostataka sa lokaliteta Topole-Bač. *Glasnik srpskog arheološkog društva* 33: 255–281.
- Jovanović J., de Becdelievre C., Stefanović S., Živaljević I., Dimitrijević V., and Goude G. 2018. Last hunters-first farmers: new insight into subsistence strategies in the Central Balkans through isotopic analysis. *Archaeological and Anthropological Sciences* 8: 1–20. <https://doi.org/10.1007/s12520-018-0744-1>

- Kanzurova E., Zdravkovski D. 2011. Latest Archaeological Research Regarding the Neolithic Period in the Republic of Macedonia. In R. Krauss (ed.), *Beginnings – New Research in the Appearance of the Neolithic between Northwest Anatolia and the Carpathian Basin*. Menschen – Kulturen – Traditionen. Studien aus den Forschungslustren des Deutschen Archäologischen Instituts 1. Rahden: 139–157.
- Katunar R. 1988. Zmajevac – Smederevska Palanka. In D. Srejskić (ed.), *The Neolithic of Serbia. Archaeological Research 1948–1988*. Center for Archaeological Research. Faculty of Philosophy. University of Beograd. Beograd: 110–111.
- Kolištrkoska Nasteva I. 2005. *Praistoriskite dami od Makedonija*. Kataloag za istoimenata izložba. Muzej na Makedonija. Skopje.
- Korošec J. 1950. Grobovi u Vinči. *Arheološki vestnik 1 (1–2): 156–169*.
- Korošec J., Korošec P. 1973. *Predistoriska naselba Barutnica*. Arheološko društvo na Makedonija. Prilep.
- Kozłowski J. K., Kozłowski S. 1982. Lithic industries from the multi-layer Mesolithic site Vlasac in Yugoslavia. In J. K. Kozłowski (ed.), *Origin of the Early Farming Cultures in the Balkans*. Panstwowe Wydawnictwo Naukowe. Warszawa-Krakow: 11–109.
- Lazarovichi G. 2006: The Anzabegovo – Gura Baciului Axis and the First Stage of the Neolithisation Process in Southern – Central Europe and the Balkans. In N. Tasić, C. Grozdanov (eds.), *Homage to Milutin Garašanin*. Serbian Academy of Sciences and Arts Special Editions. Serbian Academy of Sciences and Arts. Macedonian Academy of Sciences and Arts. Beograd, Skopje: 111–158.
- Leković V. 1995. Neolitska naselja. In Vapa Z. (ed.), *Arheološka istraživanja duž autoputa kroz Srem*. Pokrajinski zavod za zaštitu spomenika kulture. Novi Sad: 25–44.
- Letica Z. 1968. Starčevo and Körös culture at Vinča. *Archaeologia Iugoslavica 9: 11–18*.
1970. Grob Salkuca kulture sa Lepenskog vira. *Starinar XXI: 117–124*.
- Maljković B. 2011. Vinkovci – Ervenica – Poljski jarak. *Hrvatski arheološki godišnjak 8: 73–77*.
2014. Vinkovci – Ervenica. In J. Balen, T. Hršak, and R. Šošić Klindžić (eds.), *Darovi zemlje: neolitik između Save, Drave i Dunava. Drugi dio kataloške jedinice (Gifts of the Earth: The Neolithic between the Sava, Drava and Danube, part two)*. Arheološki muzej u Zagrebu. Filozofski fakultet u Zagrebu. Muzej Slavonije Osijek. Zagreb – Osijek: 102–105.
- Marić M. 2013. Zaštitna arheološka istraživanja na lokalitetu Japičište 1. In V. Filipović, P. Apsić, and D. Antonović (eds.), *Rezultati novih arheoloških istraživanja u severozapadnoj Srbiji i susednim oblastima*. Srpsko arheološko društvo. Zavod za zaštitu spomenika kulture Valjevo. Beograd-Valjevo: 17–31.
- Marić M., Mirković-Marić N., Molloy B., Jovanović D., Mertl P., Milašinović L., and Pendić J. 2016. New results of the archaeological investigations on the site Gradište near Idoš: season 2014. *Glasnik srpskog arheološkog društva 32: 125–153*.
- Medović P. 1984. *Odbrambeni sistemi u praistoriji i antici na tlu Jugoslavije: referati XII kongresa arheologa Jugoslavije (Verteidigungssysteme in der Vorgeschichte und Antike im Gebiet von Jugoslawien)*. Arheološko društvo Vojvodine. Savez arheoloških društava Jugoslavije. Novi Sad.
- Mikić Ž. 1988. Anthropological Remains from the Neolithic Sites in Serbia. In D. Srejskić (ed.), *Neolithic of Serbia: Archaeological Research 1948–1988*. The University of Belgrade, Faculty of Philosophy. Centre for Archaeological Research. Beograd: 20–23.
1989. Prilog antropološkom upoznavanju neolita u Srbiji. *Glasnik srpskog arheološkog društva 5: 18–26*.
- Marković-Marić N. 2016. *Materijalna kultura, ortganizacija naselja i interakcije u poznom neolitu na području vojvodjanskog Banata*. Unpublished PhD thesis. Faculty of Philosophy. University of Beograd. Beograd.
- Naumov G. 2009. Neolitska vizuelna kultura I obredi. In G. Naumov, L. Fidanovski, I. Tolevski, and A. Ivkowska (eds.), *Neolitskite zaednici vo Republika Makedonia*. Dante. Skopje: 169–251
2009. *Patterns and Corporeality: Neolithic Visual Culture from the Republic of Macedonia*. BAR International Series 1910. Archaeopress. Oxford.
2015. The Early Neolithic communities in Macedonia. *Archeologické Rozhledy 67(3): 331–355*.
- Nehlich O., Borić D., Stefanović S., and Richards M. P. 2010. Sulphur isotope evidence for freshwater fish consumption: a case study from the Danube Gorges, SE Europe. *Journal of Archaeological Science 37(5): 1131–1139*. <https://doi.org/10.1016/j.jas.2009.12.013>
- Nemeskéri J., Lengyel L. 1976. Neolithic Skeletal Finds. In M. Gimbutas (ed.), *Neolithic Macedonia: As Reflected by*

- Excavation at Anza, Southeast Yugoslavia. The Regents of the University of California. Los Angeles: 375-410.
- Nemeskéri J., Szathmàry L. 1978. Individual data of the Vlasac anthropological service. In Garašanin M. (ed.), *Vlasac: mezolitsko naselje u Derdapu. Vol. 2. Geologija, biologija, antropologija*. Posebna izdanja, knj. 512. Srpska akademija nauka i umetnosti. Beograd: 285-426.
- Obelić B., Krznarić Škrivanko M., Marijan B., and Krajcar Bronić I. 2004. Radiocarbon dating of Sopot culture sites (Late Neolithic) in Eastern Croatia. *Radiocarbon* 46(1): 245-258. <https://doi.org/10.1017/S0033822200039564>
- Perić S., Nikolić D. 2006. On the issue of an ossuary – pit dwelling Z in the oldest horizon at Vinča. *Starinar LVI*: 47-72.
- Porčić M., Nikolić M. 2015. The Approximate Bayesian Computation approach to reconstructing population dynamics and size from settlement data: demography of the Mesolithic – Neolithic transition at Lepenski Vir. *Archaeological and Anthropological Sciences* 8: 169-186. <https://doi.org/10.1007/s12520-014-0223-2>
- Porčić M., Blagojević T., Pendić J., and Stefanović S. 2021. The Neolithic Demographic Transition in the Central Balkans: population dynamics reconstruction based on new radiocarbon evidence. *Philosophical Transactions of the Royal Society B: Biological Sciences* 376: 20190712. <https://doi.org/10.1098/rstb.2019.0712>
- Radovanović I. 1981. *Ranoholocenska kremenjača sa lokaliteta Padina u Derdapu*. Centar za arheološka istraživanja. Beograd.
1992. *Mezolit Derdapa*. Unpublished PhD thesis. Faculty of Philosophy. University of Beograd. Beograd.
1995. *Mesolithic and Early Neolithic in the Iron Gates Region, Settlements, Subsistence and Chronology*. Paper presented at the Épipaléolithique et mésolithique en Europe, Paléoenvironnement, peuplement et systems culturels, 5ème Congres International U.I.S.P.P., Commission mésolithique. Grenoble.
- Roksandić M. 1999. *Transition from Mesolithic to Neolithic in the Iron Gates gorge: Physical anthropology perspective*. Unpublished PhD thesis. Simon Fraser University. Burnaby.
- Sanev V. 1988. Neolitsko svetilište od Tumba vo Madžari, Skopsko, preliminarno soopštenie od iskopuvanjata vo 1981. *Macedoniae acta archaeologica* 9: 9-31.
2009. Antropomorfna kulturna plastika vo Anzabegovo-Vršnik kulturnata grupa vo Makedonija. In V. Sanev (ed.), *Anzabegovo naselba od raniom I sredniom neolit vo Makedonija*. Zavod za zaštita na spomenicite na kulturata i muzej Štip. Štip: 207-237.
- Sanev M. 1995. Neolitot i neolitskite kulturi vo Makedonija. In G. Stardelov, C. Grozdanov, and M. Matevski (eds.), *Civilizacii na počvata na Makedonija 2*. Makedonska akademija na nauite i umetnostite. Skopje: 21-46.
- Schwidetzky I. 1971-1972. Menschliche Skelettreste von Vinca. *Glasnik antropološkog društva Jugoslavije* 8-9: 101-112.
- Srejski D. 1969. *Lepenski Vir – Nova praistorijska kultura u Podunavlju*. Srpska književna zadruga. Beograd.
1971. Die Lepenski Vir-Kultur und der Beginn der Jungsteinzeit und der mittleren Donau. In Schwabedissen H. (ed.), *Die Anfänge des Neolithikums vom Orient bis Nordeuropa, Teil 2: Östliches Mitteleuropa*. Fundamenta. Monographien zur Urgeschichte. Reihe A. Band 3. Köln/Wien: 1-19.
1972. *Europe's First Monumental Sculpture: New Discoveries at Lepenski Vir*. Thames & Hudson. London.
1981. *Lepenski Vir: Menschenbilder einer frühen europäischen Kultur*. Verlag Philipp von Zabern. Mainz am Rhein.
1988. *The Neolithic of Serbia. Archaeological Research 1948-1988*. The University of Beograd. Faculty of Philosophy. Centre for Archaeological Research. Beograd.
- Srejski D., Letica Z. 1978. *Vlasac: Mezolitsko naselje u Derdapu, vol. 1 Arheologija*. Srpska akademija nauka i umetnosti. Posebna izdanja, knjiga 512. Beograd.
- Stanković S. 1990. Grivac – višeslojno naselje (iskopavanja 1989. godine). *Glasnik Srpskog arheološkog društva* 6: 60-64.
- Stefanović S., Borić D. 2008. The newborn infant burials from Lepenski Vir: In pursuit of contextual meanings. In Bonsall C., Radovanović I., and Boroneanț V. (eds.), *The Iron Gates in prehistory: New perspectives*. BAR International Series 1893. Archaeopress. Oxford: 131-169.
- Stefanović S., Porčić M. 2015. Starčevački grobovi na Jaričištu – antropološka analiza. *Arhaika* 3: 68-88.
- Stefanović S., Jovanović J., Miljević M., and Živanović S. 2016. Starčevačka grupna grobnica na Vinči ili mesto neolitskog zločina? In *XXXVIII skup Srpskog arheološkog društva. Vršac 2.-4.06.2016. Program, izveštaji i apstrakti*. Srpsko arheološko društvo. Vršac: 88.

Stojanova Kanzurova E. 2011. Arhitektonski nedvižni objekti od Tumba-Madžari. *Macedoniae acta archaeologica 20*: 35–52.

2020. Novi soznania od tretiot kulturen horizont na neolitskata naselba Tumba Madžari, Skopje (arheološki istraživanja vo periodot 2002–2005 i 2012 godina). *Macedoniae acta archaeologica 22*: 9–28.

Tasić N. N. 1998. *Rudnik kod Srbice. Naselje starčevačke kulture. Arheološko blago Kosova i Metohije, od neolita do ranog srednjeg veka*. Katalog. Srpska akademija nauka i umetnosti i Muzej u Prištini. Priština.

2008. Vinča – metropola kasnog neolita. In D. Nikolić (ed.), *Vinča – Praistorijska metropola. Istraživanja 1908–2008*. Narodni muzej u Beogradu. Beograd: 15–37.

Tasić N, Srejić D, Stojanović B. 1990. *Vinča: Centre of the Neolithic culture of the Danubian region*. Cultura. Beograd.

Tasić N. N, Marić M., Bronk Ramsey C., + 5 authors, and Whittle A. 2015. Vinča – Belo Brdo, Serbia: The times of a tell. *Germania 93*: 1–75.

Tasić N. N., Marić M., Filipović D., + 5 authors, and Whittle A. 2016. Interwoven Strands for refining the Chronology of the Neolithic tell of Vinča-Belo Brdo, Serbia. *Radiocarbon 58(4)*: 795–831.
<https://doi.org/10.1017/RDC.2016.56>

Thissen L. C. 2000. *Early Village Communities in Anatolia and the Balkans 6500–5500 cal BC: Studies in chronology and culture contact*. Unpublished PhD thesis. Universiteit Leiden. Leiden.

Trajković D. 1978. Šećerana, Topole, Bač – praistorijsko naselje i grobovi. *Arheološki pregled 19*: 23–24.

Trajković Č. 1988. Topola-Bač. In D. Srejić (ed.), *The Neolithic of Serbia. Archaeological Research 1948–1988*. Center for Archaeological Research. Faculty of Philosophy. University of Beograd. Beograd: 99–101.

Tripković B. 2011. Containers and grains: food storage and symbolism in the Central Balkans (Vinča period). *Documenta Praehistorica 38*: 159–172.
<https://doi.org/10.4312/dp.38.13>

Vasić M. M. 1910. Die Hauptergebnisse der prähistorischen Ausgrabung in Vinča im Jahre 1908. *Prähistorische Zeitschrift II(1)*: 23–39.

Vasić M. 1932. *Preistoriska Vinča 1. Industrija cinabara i kosmetika u Vinči: uvod i proučavanje Vinče: sa dodacima: I. Vezano božanstvo u preistorijskoj religiji. II. Vinča i hiperborejski mit*. Državne štamparije Kraljevine Jugoslavije. Beograd.

1936. *Preistoriska Vinča 2*. Državne štamparije Kraljevine Jugoslavije. Beograd.

Veljanovska F. 1998. *Antropološke karakteristike stanovništva na tlu R. Makedonije od neolita do srednjeg veka*. Unpublished PhD thesis. Faculty of Philosophy. University of Beograd. Beograd.

2001. Neolitski skeletni naodi od Pista – Novo Selo, *Macedoniae Acta Archaeologica 17(1999–2001)*: 341–350.

Veselinov D. 2013. *Zaštita arheološkog nasleđa*. Zavod za zaštitu spomenika kulture grada Novog sada. Novi Sad.

Vitezović S. 2010. *Koštana industrija u starijem i srednjem neolitu centralnog Balkana*. Unpublished PhD thesis. Faculty of Philosophy, University of Beograd. Beograd.

Whittle A., Bartosiewicz L., Borić D., Pettitt P., and Richards M. 2002. In the beginning: new radiocarbon dates for the early Neolithic in northern Serbia and south-east Hungary. *Antaeus 25*: 63–117.

2005. New Radiocarbon Dates for the Early Neolithic in Northern Serbia and South-East Hungary: Some Omission and Corrections. *Antaeus 28*: 347–355.

Zdravkovski D. 2016. *The Neolithic village of Tumba Mađari*. Skopje.

2018. *Geneza i razvoj na Anzabegovo-Vršnikata kulturna madjarigrupa vo periodot na neolitot na teritorijata od Republika Makedonija*. Arheološki muzej na Makedonija. Skopje.

Živaljević 2017. *Ribolov na Đerdapu u ranom holocenu (10.–6. milenijum p.n.e.)*. Unpublished PhD thesis. Faculty of Philosophy. University of Beograd. Beograd.
<https://nardus.mpn.gov.rs/handle/123456789/8257>

Živković M. 2008. Zaštitna istraživanja arheološkog nalazišta Grad-Starčevo 2003. i 2004. godine. *Arheološki pregled 2(3)*: 11.

Živković M., Medović I., and Jovanov J. 2011. Okresano i glačano kameno oruđe sa zaštitnih arheoloških iskopavanja naselja Starčevo-Grad u periodu od 2003. do 2008. godine. *Rad vojvođanskih muzeja 53*: 23–43.