

Settlement pattern changes during the Central Balkans Copper Age

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Introduction

Three case studies are presented in this paper, with the goal to outline some basic characteristics and changes in settlement patterns during three different prehistoric periods – from the Late Neolithic until the Late Eneolithic (in terms of absolute chronology: 5400/5300–4600/4500, 4600/4500–3900/3800 and 3200–2800).² The paper is organised into three sections: the first section follows these patterns in Vinča, the second in Bujanj-Hum I, and the third in Late Eneolithic Coţofeni-Kostolac culture.³ Emphasis is placed on the spatial distribution of settlements in different regions of the Central Balkans, their topographic placement and regional characteristics.⁴

Settlements of the Vinča culture in Pomoravlje, Šumadija and Eastern Serbia

Examination so far of Vinča culture settlements has shown the existence of a nucleated settlement pattern and complex social organisation.⁵ Until recently, this research did not get enough attention, except in several publications referenced below.⁶ The areas chosen for the case study focused on the Vinča culture settlement pattern are the banks of the Velika, Zapadna and Južna Morava rivers, and regions of Šumadija and Eastern Serbia (the Mlava river valley, the Iron Gorge and its hinterlands).

The distribution of surface finds and the complexity of material culture have shown that the largest Vinča settlements existed in Šumadija and the valleys of the Danube, Sava, Mlava, Velika and Južna Morava rivers, the areas which seem to have had particular importance for prehistoric populations. These locations were chosen because of their fertile soils, mineral ores, and an environment with a high diversity of plants and animals (Vinča, Selevac, Pločnik, Belovode, the settlements in middle part of the Velika Morava valley).⁷ In contrast to densely distributed sites

in the river valleys of Central Serbia and Pomoravlje, the low mountain ranges of Western, Central and South-Eastern Serbia are less investigated, and seem to have been sparsely occupied, but with sites nonetheless present in the hinterlands of Zapadna Morava, Južna Morava, Velika Morava and Nišava valleys, and in the Iron Gorge (Fig. 7.1).⁸

Most of the Vinča sites (130) are situated in parts of Southern, Central and Western Serbia (Pomoravlje and Šumadija) (Fig. 7.2a).⁹ Analysis of settlement patterns in the lower part of the Južna Morava basin (the Aleksinac basin) has shown a preference towards slope locations in the contact zone of two or more relief types, especially fluvial and deluvio-proluvial deposits, alluvial and other lighter (eutric cambisols), and heavier soil types (vertisols).¹⁰ Also, we can see a tendency for settling in close proximity to stream and river confluences, places where the largest alluvial sedimentation occurs. A common characteristic for all settlements is a forest pedologic cover that shows people's orientation towards the exploitation of forest resources, and agricultural exploitation of brown forest soils (today all of these sites are located in a mixed oak forest belt, up to 300 masl).

In the Pomoravlje and Šumadija regions, Vinča settlements of different size were also situated on similar slope locations (51 sites), some of them ranging up to a couple of dozens of hectares in size (*e.g.* Pavlovac, Pločnik, Vitkovo, Drenovac, Selevac, Dizaljka, Medvednjak *etc.*) (Fig. 7.2b). Topographically, sites are usually located on gentle slopes (sometimes they lie partly on alluvial plains) (five sites), mostly oriented towards the south to take advantage of maximum insolation and hydrological and pedological characteristics of the terrain. Characteristic for these locations is the proximity to fertile soils used for agriculture and to favourable environments for large-scale animal husbandry, and in some areas, the proximity of

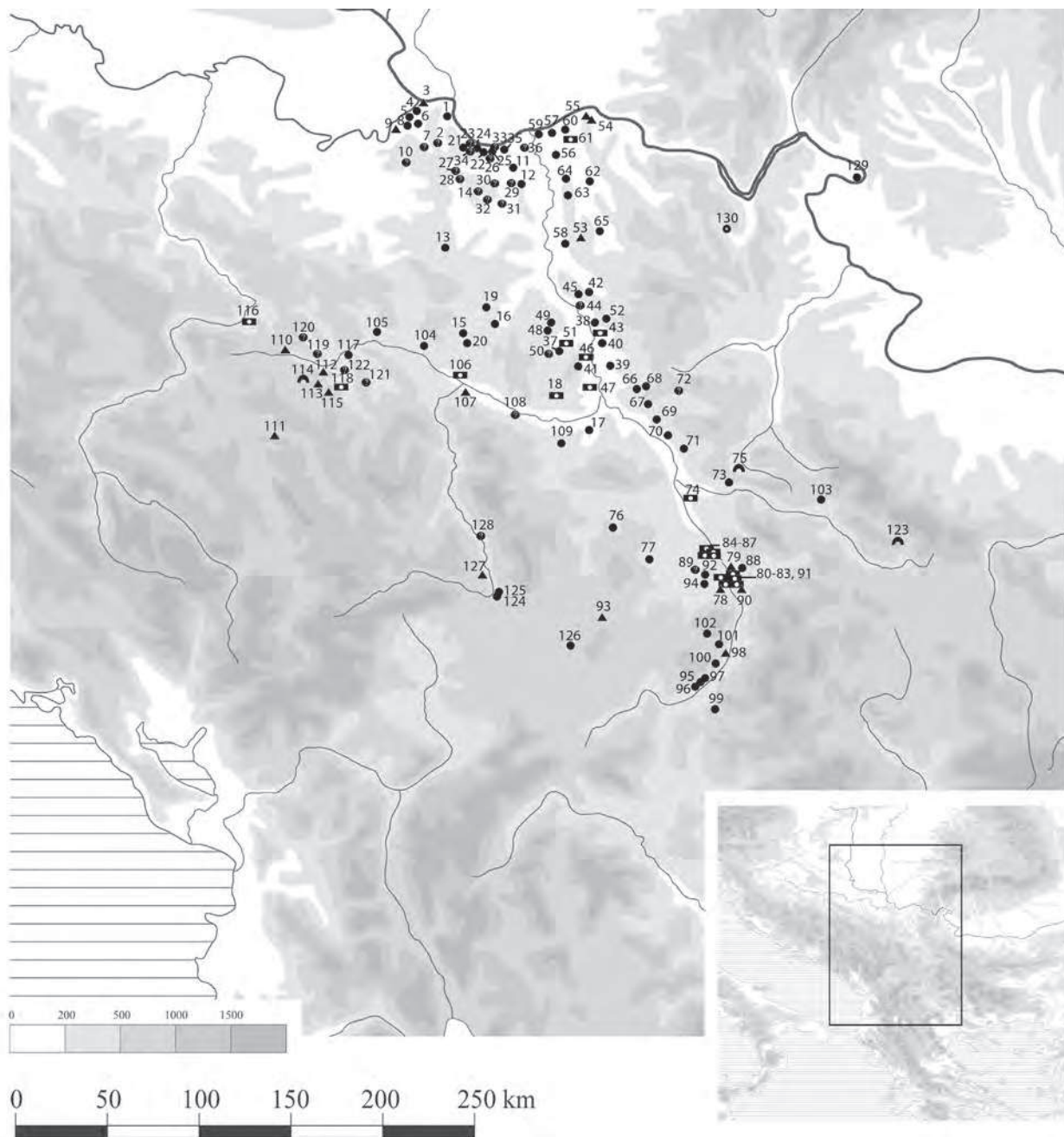


Figure 7.1. Distribution map of the Vinča settlements.

other resources (e.g. forest, salt sources, rock quarries *etc.*). Smaller sites are equally distributed in similar ecosystems (at the contact of fluvial and other geomorphological formations), at approximately the same distances from each other, which implies communication along long or short river flows.¹¹ Settlements are rarely positioned on the higher plateaus of river terraces (Fafos II) or on broader alluvial plains (Čair, Selište, Orašje-Dubravica) (eight sites).¹² Lowland settlements (19 sites) were formed on flat or slightly elevated terrain that is rich in fertile alluvial soil types (e.g. Leskovac and Niš basins).¹³ Although locations such as these could be periodically flooded,¹⁴ it seems that they were often favoured in the Vinča period. The high underground water table and high level of soil moisture guaranteed soil fertility, vast pastures (with the possibility for year-round herding) and plentiful floral and faunal resources, suggesting the strong agricultural and husbandry component of settlements at these locations, along with hunting and gathering as additional activities (mixed economy).

In addition, there are some sites that do not follow these patterns, indicating their special function. Such sites are located in caves (three sites), mining shafts (one site), and strategically important places that visually dominate their surroundings (hillfort settlements).¹⁵ Hillfort settlements (17 sites) are positioned on difficult to reach plateaus of low mountain ranges and hills. In addition to being naturally protected they often have added fortification structures.¹⁶ Such special sites may be associated with defensive strategies, mineral and ore prospection and exploitation. Their inhabitants mainly subsisted on herding, hunting and gathering, while farming was often less important or was not practiced at all (e.g. the sites of Rudna Glava in Eastern Serbia, Šuplja Stena on the Avala Mountain, several sites in Western Serbia, cave sites, *etc.*).¹⁷

During the Vinča C–D phases, side by side with large, long lasting settlements (Pavlovac, Pločnik, Vitkovo, Crnokalačka Bara, Drenovac, Medvednjak, Grivac, Vinča, *etc.*), there was an apparent tendency towards establishing new settlements. Population densities shift between different regions of the central Balkans.¹⁸ During these phases we can observe the rise of smaller sites with just one occupation level, as well as hillfort sites.¹⁹

Numerous sites of the Vinča culture have well developed horizontal stratigraphy, which has to do with a tradition of abandonment and the foundation of new settlements in proximity to the old. The shifting in settlement position is documented at Selevac,²⁰ Fafos (I and II),²¹ Pavlovac,²² Parča (I and II)²³ and other sites. The sites that particularly stand out are those with a large number of settlement horizons that are vertically superimposed (e.g. Vinča and Supska).²⁴ Such occupational characteristics, manifested in the form of tells, point to the special place that these kinds of settlements had for Vinča society.

In settlement distribution across the landscape displays a growing tendency of settling in the fertile river valleys and rolling forested hills of Central and Southern Serbia. The same areas were already settled during the previous period (Starčevo culture), and some show continuity of settlement in the same positions.²⁵ On the other hand, remains of Early Eneolithic (Bubanj-Hum I) dwelling horizons above those of the Late Neolithic were not encountered at any location. In general, both horizons together were registered at a considerably small number of sites (this is seen only at the site of Gradac in Zlokućane), although the similarities between material culture often prohibit their exact attribution to Late Neolithic or Early Eneolithic (compare Figs 7.1 and 7.3). The study of the Late Neolithic settlement pattern points to a complex system of settlements often situated in the contact zone between two or more ecological niches, with the existence of large, long-lasting settlements serving as regional central places. This picture becomes more complex, since apart from the nucleated settlement pattern, settlements also exist that differ from that pattern, either because they exploit different resources (which points to different social and economic activities), occupy important strategic locations and command visual control over the landscape, or organise dwelling space in a different manner (vertical instead of the usual horizontal relocation of settlements). On the other hand, the dynamics of abandonment and formation of settlements at the same place, as well as founding settlements on new spots, shows that a considerable degree of residential mobility (of individuals, groups or the entire population of a settlement) was quite common in Vinča society.

Settlements of the Bubanj-Hum I (Bubanj-Salkuca-Krivodol) culture in Serbia

From the middle of the 5th until approximately the beginning of the 4th millennium BC, after the disintegration of the Vinča culture, the Bubanj-Hum I culture developed in the area of Timočka Krajina and in the Južna Morava Basin, as well as in the Južna and Zapadna Morava Rivers contact zone (Fig. 7.3). This archaeological culture was defined during the fifties, and soon after it was recognised as part of the large Balkan cultural complex of Bubanj-Salčuța-Krivodol, named after its main sites in Serbia, Romania and Bulgaria.²⁶ The ornamentation style and the typology of the pottery that can be recognised as belonging to this culture have been found in settlements placed partially in the Zapadna Morava Valley (Ostra, Višesava and Rasna),²⁷ in the Velika Morava Basin (Supska and Panjevački rit),²⁸ but also in the Kolubara Basin (Kalenić), which is, for now, the northernmost find of this culture.²⁹ Unlike during the late Vinča phase, when settlements were placed mostly on larger river terraces, with multi-room houses organised in rows, the Bubanj-Hum I culture settlements were considerably smaller

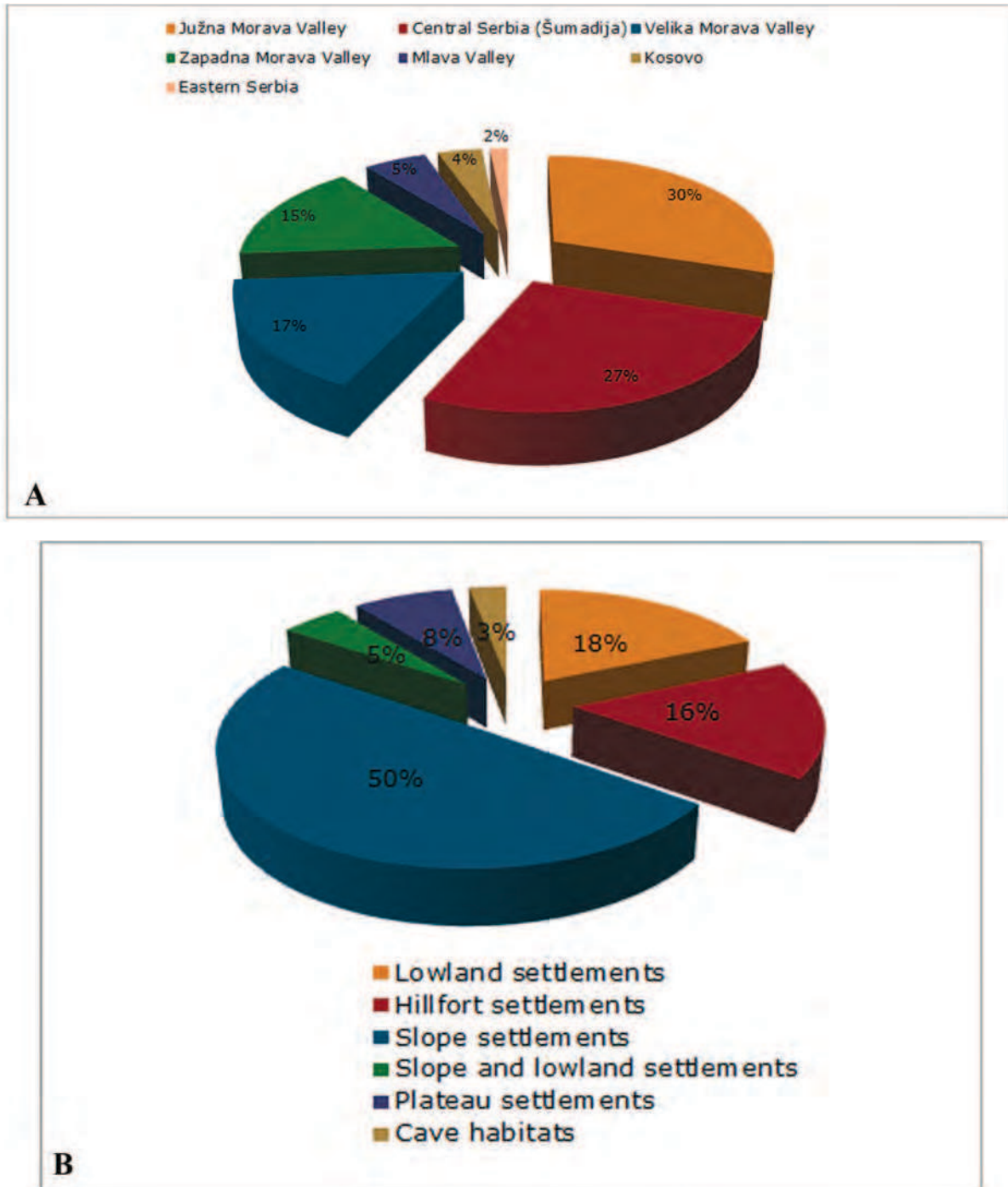


Figure 7.2. a. Regional distribution of the Vinča settlements: 1. Belo Brdo, Vinča; 2. Šuplja Stena, Vrčin; 3. Gornji grad, Beograd; 4. Senjak, Beograd; 5. Čukarica, Beograd; 6. Usek-Banjica, Beograd; 7. Čaršija, Ripanj; 8. Ledine, Žarkovo, Beograd; 9. Sremački rt, Železnik, Beograd; 10. Kremenite njive, Barajevo; 11. Staro Selo, Selevac; 12. Medvednjak, Grčac; 13. Dizaljka, Lipovac; 14. Jablanica, Međulužje; 15. Barice-Gruža, Grivac; 16. Divostin; 17. Lazarica, Kruševac; 18. Šljivik, Stragari; 19. Rajac, Donje Grbice; 20. Brdo, Kusovac; 21. Zaklopača; 22. Dubočaj, Grocka; 23. Periferija, Grocka; 24. Agino Brdo, Grocka; 25. Karaula, Brestovik; 26. Jalija, Brestovik; 27. Mali Drum, Veliki Popović; 28. Madjarsko groblje, Veliki Popović; 29. Krnjevski put, Grčac; 30. Ive, Kusadak; 31. Šiljakovac, Ratari; 32. Kućerine, Jagnjilo; 33. Mikulje, Brestovik; 34. Jugovo, Grocka; 35. Goli Breg, Brestovik; 36. Lipe, Smederevo; 37. Gradina, Lođika; 38. Stublina, Supska; 39. Slatina, Drenovac; 40. Motel Slatina, Paraćin; 41. Livade i Sastavci, Svojnovo; 42. Buljička bara, Veliki Popović; 43. Briketnica, Čuprija; 44. Ključ, Duboka; 45. Čair, Dobre Vode; 46. An, Svojnovo; 47. Selište, Varvarin; 48. Crkvine, Lozovik; 49. Jaruge, Lozovik; 50. Ciganski potok, Tečić; 51. Ključevi, Batal njive, Medojevac; 52. Kraljevo Polje, Ivankovac; 53. Zbegovište-Selište,

Oreškovića; 54. Ladne Vode, Rečica; 55. Hrastova Humka, Kličevac; 56. Minine Vode, Požarevac; 57. Čair, Kostolac; 58. Konjušica, Viteževo; 59. Orašje, Dubravica; 60. Selište, Kostolac; 61. Lugovi, Drmno; 62. Staričino, Kobilje; 63. Centar sela, Simičevo; 64. Poljana, Požarevac; 65. Belovode, Veliko Laole; 66. Šetka, Ražanj; 67. Crnokalačka bara, Rujište; 68. Lukički breg, Vitoševac; 69. Bradarac; 70. Drugo aleksinačko okno, Aleksinac; 71. Neine njive, Katun; 72. Međukamenje, Vrmdža; 73. Radačje, Malča; 74. Mustajbegovo polje, Pasipoljana; 75. Golema đuvka, Prekonoška pećina; 76. Pločnik, Prokuplje; 77. Kremen, Mačina; 78. Progon, Mala Grabovnica; 79. Gradac, Zlokućani; 80. Izvor, Bobište; 81. Putište, Bobište; 82. Sastanci, Bobište; 83. Selište, Bratmilovce; 84. Kućište, Čekmin; 85. Sastanci, Čekmin; 86. Selište, Čekmin; 87. Ševarike, Čekmin; 88. Prkljivica, Gornja Slatina; 89. Staro Selo, Milanovo; 90. Vranja noga, Gornje Guberevce; 91. Božja bara, Mrštane; 92. Na kamen, Priboj; 93. Redžov vis, Tulare; 94. Selište, Vinarce; 95. Čukar, Pavlovac; 96. Gumnište, Pavlovac; 97. Kovačke njive, Pavlovac; 98. Dva brata, Ranutovac; 99. Kačamačke njive-Slatina, Klinovac; 100. Rašina okućnica, Vranje; 101. Goleme livade, Tesovište; 102. Semensko drvo, Golemo Selo; 103. Stranje, Osmakova; 104. Poljčine, Ostra; 105. Trsine, Gornja Gorevnica; 106. Okruglica, Vitanovac; 107. Divlje Polje, Ratina; 108. Ladjarište, Vrnjci; 109. Vitkovo, Aleksandrovac; 110. Velika Gradina, Stapani; 111. Plosna stijena, Radoinja; 112. Šengoljska gradina, Rasna; 113. Kuline, Roge; 114. Potpečka pećina; 115. Vraneška stena, Radobuđa; 116. Kremenilo, Višesava; 117. Vinogradi, Ridage; 118. Klještine, Svrackovo; 119. Kaljevina, Vranjani; 120. Naplav, Karan; 121. Breg, Guča; 122. Velike livade, Krstac; 123. Petrlaška pećina; 124. Fafos I; 125. Fafos II; 126. Predionica, Priština; 127. Valački krš, Valač; 128. Karagač, Žitkovac; 129. Zbradila, Korbovo; 130. Rudna Glava, Majdanpek; b. Topography of the Vinča settlements.

with apparently more modest residential architecture.³⁰ Hillfort settlements were more numerous in this period, built on naturally fortified hills near main communications, while the number of lowland settlements is also much higher (Bubanj, Škodrina Polje).

More than 50 Bubanj-Hum I settlements have been found so far in Serbia, of which 17 are hillfort settlements placed on dominant and hardly accessible plateaus, one is a cave site, 10 are located on high plateaus or gentle slopes near rivers, 21 are on larger river terraces (lowland settlements), and five settlements are not topographically defined because their exact position could not be precisely located (Fig. 7.4a).

Sites containing remains of settlements from the preceding Vinča and Early Eneolithic culture (Bubanj-Hum I) are exceptionally rare (less than 2% of cases), compared to a large number of Vinča sites in Serbia, while in over 50% of the cases, the sites of Bubanj-Hum I culture contained remains of settlements from Late Eneolithic above them, especially of the Coțofeni-Kostolac culture. Such a topographic or stratigraphic situation shows that the Early Eneolithic communities found Late Neolithic settlement positions inadequate, while on the other hand, the Early and Late Eneolithic communities had quite similar criteria for choosing settlement positions. This can point to a similar economic structure of the Eneolithic societies in these regions, standing in contrast to the Neolithic. One of the possible causes initiating changes in the Eneolithic settlement pattern was intense climate change, happening exactly during this period.³¹

The highest density of settlements is detected in Timočka Krajina (Eastern Serbia) and the Južna Morava basin (South-Eastern Serbia and Kosovo), comprising about 80% of the total settlements known in Serbia. The settlements are usually grouped in broader zones near the confluences of substantial rivers (Timok and Danube, Svrljiški Timok and Trgoviški Timok, Nišava and Južna Morava, Južna Morava and Zapadna Morava), and are usually followed by one or more hillfort settlements. It is assumed that there was a pattern of settlement foundation in which one lowland

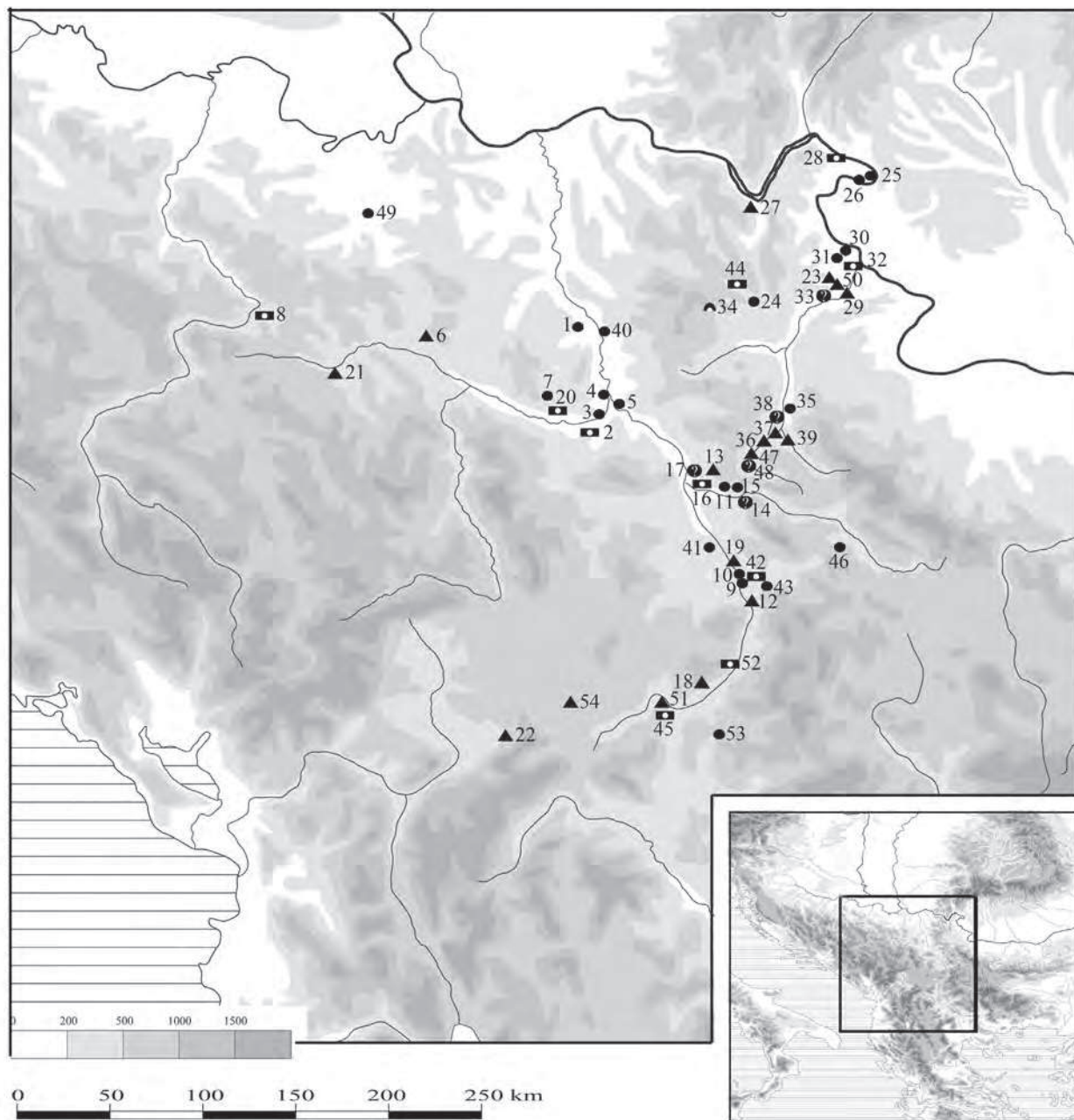
settlement “follows” one or more hillfort settlements. Hillfort settlements were usually placed in strategically important positions, such as gorge entrances or locations that enabled visual control over the landscape.

According to the great number of copper tools, slag, and metallurgical air nozzles (*tuyères*) and pottery used for smelting ore found at these sites, it is apparent that copper processing was very well known, especially at sites in Eastern Serbia situated in ore-rich regions (Zlotska Pećina, Kmpije).

Analysis of faunal osteological remains from pits from the Bubanj site and from the late Neolithic site of Vitkovo, and especially the analysis of mortality profiles, has shown that domesticated animals at Bubanj (from Eneolithic layers and structures) were not only used for meat but for other purposes as well (*e.g.* traction, milk), unlike those at Vitkovo,³² which shows changes in the economy of these Eneolithic societies that favours the *Secondary Products Revolution* theory.³³ Also, a rise in the percentage of cattle and the diminished presence of domesticated pig remains was observed as well. This kind of economy was not equally represented in all of the settlements, because settlements with a predominantly agricultural economic strategy existed at the same time as those focused on animal husbandry.³⁴

The data show that the economic orientation of Early Eneolithic populations was versatile, which surely had an impact on the choice of settlement location. Location choice was also affected by other factors, such as potential for settlement defense. Hence, during the Bubanj-Hum I period settlement positioning followed an organised system, especially in some regions, based on a well-planned micro- and macro regional defensive strategy, which also took into account local resources as well as communications with other regions.

Apart from Serbia, settlements of this group exist in Eastern Albania (Maliq),³⁵ Northern Greece³⁶ and FYROM, where this culture (especially in Pelagonia) is defined as Šuplevec-Bakarno Gumno.³⁷ Distribution of settlements (Fig. 7.4b) shows a more intensive expansion of this culture



- Lowland settlements
- ▲ Hillfort settlements
- ▣ Settlements on the slopes or plateaus
- ▲ Cave habitats
- Undetermined

Figure 7.3. Distribution map of the Bujanj-Hum I settlements: 1. Panjevački rit, Jagodina; 2. Lazarica, Kruševac; 3. Jazbine, Makrešani; 4. Bedem, Maskare; 5. Ciglarska peć, Stalać; 6. Sokolica, Ostra; 7. Blagotin, Poljna; 8. Jovin breg, Višesava; 9. Sastanci, Bobište; 10. Donje polje, Bratmilovac; 11. Čardak, Donja Vrežina; 12. Kale, Grdelica; 13. Velika humska čuka, Hum; 14. Prosek, Jelašnica; 15. Donje Branište, Kovanluk or Novosel; 16. Bujanj, Novo Selo; 17. Čiganski ključ or Selište, Trupale; 18. Antin čukar, Vranje; 19. Gradac, Zlokućani;

20. Reka, Stragari; 21. Šengoljska gradina, Rasna; 22. Hisar, Suva Reka; 23. Mokranjske stene - Potkapina and Kamenolom, Mokranje; 24. Kmpije, Bor; 25. Zbradila-Fund, Korbovo; 26. Školska gradina, Korbovo; 27. Veliki gradac, Donji Milanovac; 28. Brodoimpeks, Kladovo; 29. Vrkalj-Četaće, Kovilovo; 30. Ideće, Prahovo; 31. Fabrika superfosfata, Prahovo; 32. Greda iznad reke, Srbovo; 33. Tamnič; 34. Zlotska pećina, Zlot; 35. Škodrinno polje, Ravna; 36. Bolvan, Rgošte; 37. Čuka, Rgošte; 38. Kaličina; 39. Baranica, Trgovište; 40. Stublina, Supska; 41. Čekmin; 42. Donja Slatina; 43. Iza hotela Grozd, Vlasotince; 44. Krivelj; 45. Bare, Lučane; 46. Babušnica; 47. Varoš, Svrljig; 48. Grbavče; 49. Livade, Kalenić; 50. Smedovac; 51. Gradište, Končulj; 52. Kameni plato, Priboj; 53. Porta manastira Sv. Prohor Pčinjski, Jablanica; 54. Gornje Gadimlje

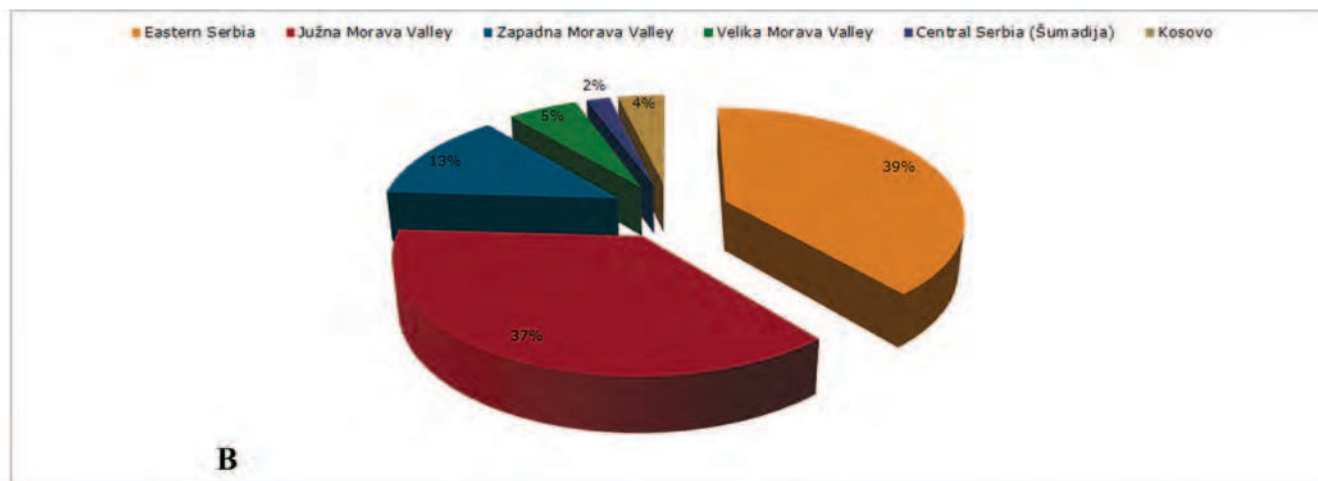
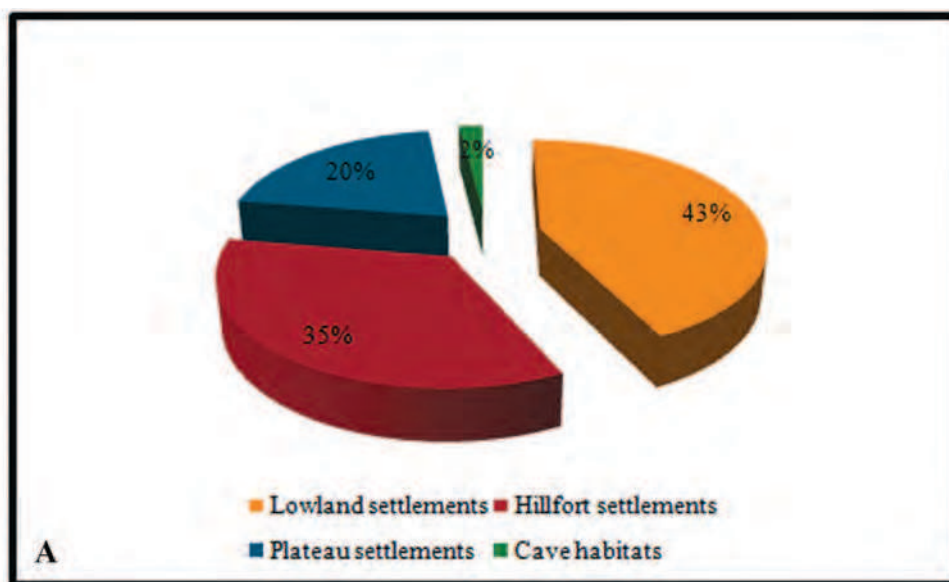


Figure 7.4. a. Topography of the Bubanj-Hum I settlements; b. Regional distribution of the Bubanj-Hum I settlements.

along the north–south rather than east–west direction, where the main communication routes were the Timok, Beli Timok, Svrljiški Timok, Južna Morava, Pčinja and Vardar valleys. The vast territory covered by this cultural complex, from Oltenia and North-Western Bulgaria in the north to Albania and Northern Greece in the south, and a simpler organisation and smaller settlement size compared to the previous Vinča culture, as well as the large number of hillfort sites, points to possible population movements in the Central Balkans

during the Early Eneolithic, which continued, although less intensely, in later periods.

Eastern Serbia in the Late Eneolithic period

Territories of Eastern Serbia and the Iron Gates hinterland possess geological zones that are amongst the richest in ores found in Serbia. Mining activities in the area have been detected dating to the Bubanj-Salčuța-Krivodol cultural

complex, especially around the Bor mining basin.³⁸ It is assumed that the disintegration of the Early Eneolithic cultures in the first half of the 4th millennium BC was caused by a climate catastrophe, which was manifested through a long-lasting temperature rise leading to series of droughts and depopulation in some regions of the Eastern Balkans.³⁹ The only exception is observed in the Iron Gates and the Nišava valley, where the short-term occupations of the Cernavoda III and Baden-Kostolac populations, dated to the middle of the 4th millennium BC, can be detected.

As a reaction to the population movements from the Pontic Steppes, Coțofeni culture spread through the entire territory of Eastern Serbia, part of the southern Morava valley and Kosovo during the second half of the 4th millennium BC (Fig. 7.5).⁴⁰ A symbiosis of Kostolac and Coțofeni cultures appeared in the mountainous parts of the Iron Gorge hinterland, which can be observed through a specific ornamentation of pottery. Settlements of Kostolac culture in Serbia and the Danube region were usually concentrated in plains and on large river terraces. These settlements had long-term occupation and solid dwelling structures because of the agricultural and herding character of the Kostolac economy. On the other hand, the Coțofeni settlements show characteristics of a predominately herding- and transhumance-oriented economy.⁴¹ Development of a very unusual type of hillfort settlement⁴² was the result of geomorphological characteristics of the terrain and contact between the populations with different economic bases.

Revisory research, which took place during the last decade in Eastern Serbia, identified 78 settlements of the Coțofeni-Kostolac culture, but only a few of them were excavated.⁴³ These settlements were formed in a karstic landscape characterised by rocky hilltops at mid-altitudes and large concentrations of small watercourses, caves and rock-shelters. No evidence has yet been found for exploitation of copper by these populations, although they lived in the vicinity of ore outcrops. Settlements of Coțofeni-Kostolac culture are represented by hillforts, plateau settlements, lowland settlements and caves (Fig. 7.6a).

All hillfort settlements (11 sites) show the same pattern in their organisation and the topographic characteristics of the surrounding landscape in which they are located: limestone bedrock positioned on the edges of plains, sometimes where streams meet major rivers, having visual domination of the landscape and in proximity to cave habitats. The most important characteristic of these settlements is the extreme appearance of the landscape surrounding them, *e.g.* hard to access plateaus, mostly on steep cliffs. Dwellings are small, and stand on cliffs with a slope of up to 45 degrees. That was the reason for the artificial leveling of rocks on which they were built, thus making terraces, or embedding the rear part of the dwellings into the bedrock. This kind of settlement organisation could create the effect of houses floating in the air. Since they were built on locations

that could be seen from long distances, they could have represented landmarks for newcomers, showing their domination over the territory. These seasonal settlements with dwellings constructed entirely above ground are connected to transhumance herding and represent some kind of identity mark, making the mountain passes and communication routes in the narrow gorges and river valleys their property. The results of archaeozoological analysis from some of these settlements have shown that they were probably seasonal, that is, they were used only during warmer periods of the year.⁴⁴

Cave habitats (10 sites) are chiefly found in close proximity to the hillforts. It is not yet clear if the caves were primarily used for keeping the herds or as habitations for people. The Zlotska Pećina represents one of the best investigated cave sites of the Coțofeni-Kostolac culture in Serbia; stratigraphy there shows the continuity of occupation over a couple of millennia. In the Kapetanova Pećina near Majdanpek, a homogenous layer of this culture is about 3.5 m deep.⁴⁵ This kind of habitation was often used during the Late Eneolithic in Romania's Carpathian region.⁴⁶

Plateau settlements (21 sites) were positioned on slightly elevated locations, and are represented by large flat plateaus which could easily be transformed into fortresses. These settlements are often found in the contact zones between mountainous and lowland ecosystems. From that, it can be assumed that these types of settlements could represent congregation places for large herds or stations along the path of seasonal migrations of cattle-herding populations.

Lowland settlements (36 sites) in Eastern Serbia are usually found on the banks of the Danube. Consulting older topographic maps, made before the construction of Đerdap I and II dams, it can be seen that most of these settlements were in close proximity to river islands or sand ridges, where rivers are shallow and fords to the other side are often formed during droughts or strong winters.

During earlier archaeological excavations at the most important Late Eneolithic settlements, such as the Zlotska Pećina, Čoka lu Balaš, Kulmja Škjojopuluji and Četaće in Kovilovo, most attention was given to an analysis of pottery finds, without any analysis of faunal remains or absolute dating.⁴⁷ More recently, the results of archaeozoological analysis from test excavations at a hillfort settlement of the Mokranjske stene rock shelter suggest that the economy was based on transhumance herding and a pastoral way of life. Taphonomic analysis of faunal remains has shown that cattle were not used for traction (or field plowing), and goats were used mainly for milk and dairy products (so far cut marks have not been observed on goat bones), while the age at death of sheep suggests that they were kept until the age when fleece starts to lose quality (around six years old).

The chronological framework for the Coțofeni-Kostolac culture in Podunavlje and Eastern Serbia can be established only relatively, because no absolute dating was conducted.

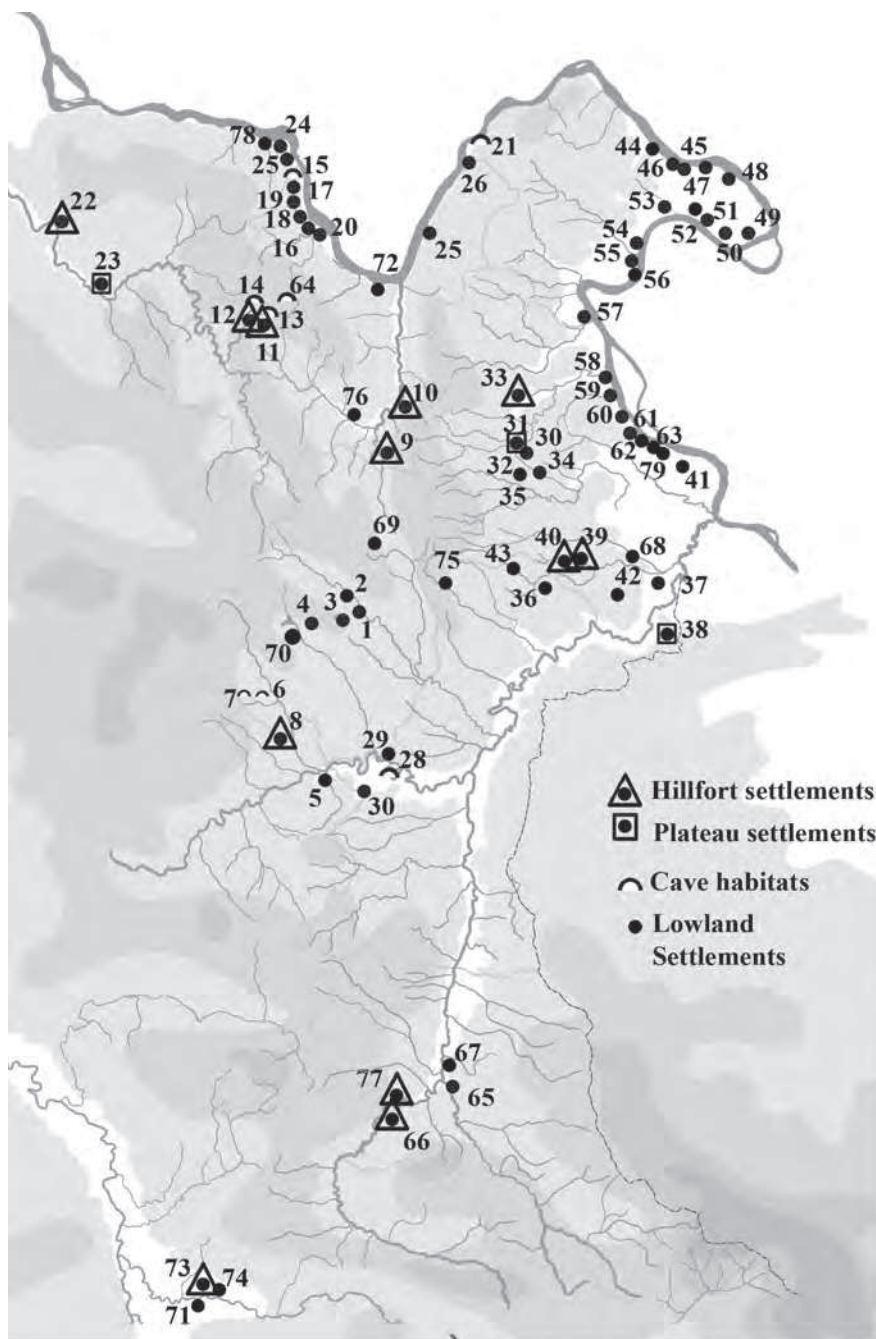


Figure 7.5. Distribution map of the Coțofeni-Kostolac settlements: 1. Čoka Morminc; 2. Kod vodenice, Mali Krivelj; 3. Čoka Lu Balaš; 4. Čoka Kormaroš; 5. Selište, Šarbanovac; 6. Zlotska pećina; 7. Vernjickica; 8. Bogovinska pećina; 9. Pjatra kosti, Crnajka; 10. Kulmja Škjopuluji; 11. Kljanc; 12. Jezero; 13. Kapetanova pećina; 14. Rajkova pećina; 15. Pšćera Mare; 16. Košobrdo, Arija Babi; 17. Velike livadice 2; 18. Lepenska potkapina; 19. Katarinine livade; 20. Vlasac; 21. Trajanova tablakećina; 22. Stenje, Turija; 23. Velika čuka, Neresnica; 24. Manastir, Dobra; 25. Padina; 26. Rečica, Malo Golubnje-; 27. Hajdučka vodenica; 28. Banjska stena and Potkapina; 29. Njiva Z. Brzanović; 30. Varzari; 31. Smiljkova glavica; 32. Smiljkova glavica-Selište; 33. Vratna-Veliki most; 34. Duge livade, Šarkamen; 35. Veliko brdo, Popovica; 36. Glavica, Brusnik; 37. Kapu Đaluluj; 38. Četaće, Kovilovo; 39. Kamenolom, Mokranjske stene; 40. Potkapina, Mokranjske stene; 41. Ideće; 42. Grabar-svracar; 43. Gradište, Sikole; 44. Diana; 45. Donje Butorke; 47. Livadice, Mala Vrbica; 48. Istočno od sela, Mala Vrbica; 49. Zbradila-Fund; 50. Obala, Korbovo; 51. Glamija, Korbovo; 52. Pesak, Vajuga; 53. Ušće Jakomirskog potoka; 54. Biljevina, Velesnica; 55. Obala, Ljubičevac; 56. Ostrvo, Ljubičevac; 57. Brzi Prun; 58. Ušće Slatinske reke; 59. Knjepište; 60. Ruženjka; 61. Bordej, Kusjak; 62. Motel, Kusjak; 63. Vrkalj, Kusjak; 64. Kameni rog; 65. Dubrava I; 66. Bolvan; 67. Adžijsko-Vinsko; 68. Lalunj, Mokranje; 69. Tanda-La Tufek; 70. Brestovačka banja; 71. Buban; 72. Veliki Gardac; 73. Velika humska čuka; 74. Donja Vrežina; 75. Donja Bela reka; 76. Šetaće, Rudna glava; 77. Višnjari, Rgošte; 78. Gospođin vir, Dobra; 79. Grle, Kusjak.

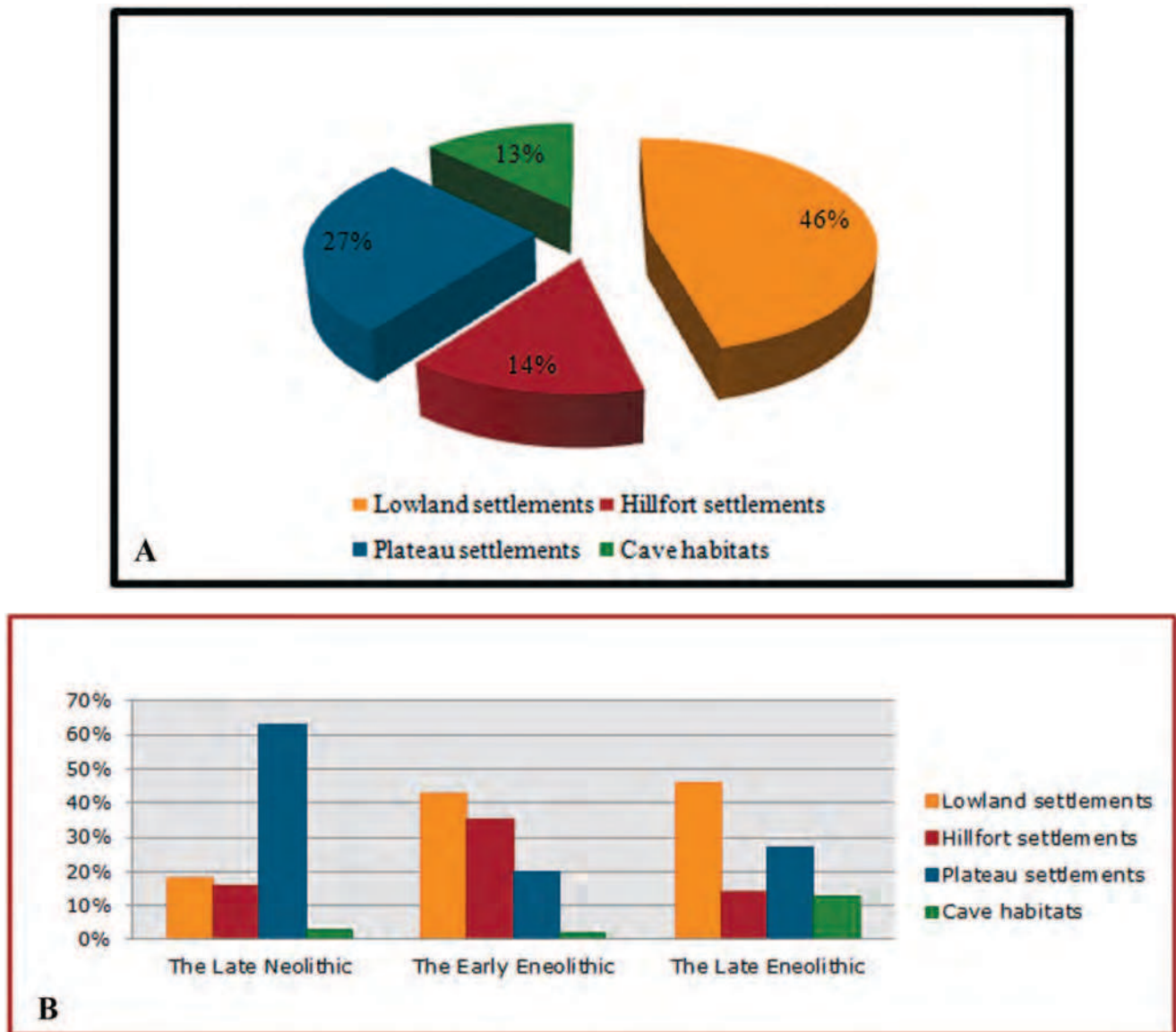


Figure 7.6. a. Topography of the Coțofeni-Kostolac settlements; b. Relation of topographic data in Serbia during the Late Neolithic and the Eneolithic.

Dating of sites from nearby countries has shown that this cultural manifestation should be placed in the late 4th and the beginning of the 3rd millennia BC, and the immediately succeeding period.⁴⁸ However, the stratigraphy of the Kapetanova Pećina shows that the settlements of the Coțofeni-Kostolac culture lasted longer than previously thought, and that they continued to exist in isolated mountainous areas of the Iron Gorge hinterland during the whole of the 3rd millennium BC.

Conclusions

These case studies from Serbia, covering the period from the end of the 6th to the first half of the 3rd millennium BC,

have just begun to unravel some issues connected to our understanding of settlement patterns during the Copper Age. They point to an advanced level of settlement organisation during all three periods. During the Vinča period, a developed dynamic in the organisation and use of space and various landscapes was manifested through the relationship between slope and lowland settlements on the one hand, and hillfort settlements and cave habitations on the other. In the post-Vinča period (Bubanj-Hum I) population density in some regions in Serbia and the percentage of representation of different settlement types is changing (Fig. 7.6b),⁴⁹ which points to serious changes in the socio-economic organisation of these societies. A very small number of sites (less than 2%) settled both during

the Vinča and Early Eneolithic period strongly suggests an important change in settlement patterns with the onset of the Eneolithic. The majority of the preceding Vinča territory is almost without any data of the Bubanj-Hum I period (except the Južna Morava valley), while the slope settlements, so characteristic during Vinča, are much less numerous. It is worth noting that the same sites were not settled again (except Gradac and Zlokućane). In general, during the Early Eneolithic settlements are smaller and the percentage of lowland and hillfort settlements rises as a result of agricultural, herding and metallurgical intensification. The rising number of hillfort settlements in strategically dominant positions, often with lowland settlements in close proximity, indicates a need for maintaining control over the landscape, resources, transhumance, and in the Stara Planina Region, over ore sources. Similar settlement affinities have been shown by the Late Eneolithic populations, which are attested by a variety of settlement types (Fig. 7.6b). Since the chronological framework of this cultural complex lasts around 500 years, there are indications that some cave and hillfort settlements were successively (seasonally) rather than continually settled in the course of the entire span of the Late Eneolithic. The relationship between the locations of the Kostolac-Coţofeni settlements in Eastern Serbia shows similar pattern, but is based on different economic and social pursuits than in the Early Eneolithic, although both societies had similar criteria in choice of settlement location, judging from a large number of sites (over 50%) with settlement remains from both periods.

The general framework for future research regarding settlement patterns in the Central Balkans is initiated by this paper, and we hope that from this perspective we will be able to better understand the socio-economic strategies of prehistoric populations during a dramatic period of climate and technological changes.

Notes

- 1 The article presents the result of the project Archaeology of Serbia: Cultural identity, integration factors, technological processes and the role of the Central Balkans in the development of European prehistory (OI 177020) of the Ministry for Education, Science and Technological Development of the Republic of Serbia.
- 2 The term Copper Age includes Late Neolithic and Eneolithic. For absolute chronology see: Borić 2009; Boyadzhiev 1995; Boyadzhiev 1998; Gläser 1996; Lazarovici 2006; Nikolova 1999; Schier 1996.
- 3 The concept of “archaeological culture” is used in this paper as an analytical term which signifies smaller or larger communities in the past, settling over a defined territory, with identical or closely similar characteristics within material and spiritual aspects of life.
- 4 Map courtesy of M. Milinković, Faculty of Philosophy, Belgrade.
- 5 Chapman 1981; Chapman 1990; Glišić 1968.
- 6 For certain aspects of the Vinča settlement pattern see: Arsić 2011; Derikonjić 1996; Jerinić 1988; Obradović and Perić forthcoming; Perić 2010; Ristić-Opačić 2005.
- 7 Perić 2012; Šljivar and Kuzmanović-Cvetković 1997; Šljivar *et al.* 2006; Tasić 2008; Tringham and Krstić (eds) 1990.
- 8 Chapman 1981; Garašanin 1979; Ružić and Pavlović 1988.
- 9 Determination of topographic location was possible for 103 of the sites.
- 10 Milanović and Milojević 2012; Milanović 2013.
- 11 For example, sites of various sizes (based on surface finds) in the Aleksinac Basin are located on the right bank of the Južna Morava River, at distance of 5–10 km (as the crow flies).
- 12 It is necessary to emphasise that category plateau settlements on Figure 7.6b for Late Neolithic includes Slope, Plateau, and Slope and Lowland Vinča settlements making a total of 64.
- 13 Bulatović and Jović 2010; Milanović 2011.
- 14 On flooding during the Neolithic see Perić 2009. On recent flooding see Jovanović *et al.* 1969; Rakićević 1969.
- 15 Beside hillforts, some of the slope settlements have very good visual communication with their surroundings as well (*e.g.* Drugo Aleksinačko Okno near the town of Aleksinac in the lower part of the Južna Morava basin).
- 16 Hillfort settlements have been found in the hinterlands of Zapadna (Plosna Stijena in Radoinja, Šengoljska Gradina in Rasna, Velika Gradina in Stapari, Kuline in Roge), and Južna Morava (Gradac near Zlokućane, Progon Čuka at the entrance to the Grdelica Gorge, Dva Brata in Ranutovac, Redžov Vis in Tulare *etc.*), in Kosovo (Valač near Kosovska Mitrovica), on the banks of the Sava and Danube (Sremački Rt in Železnik, Gornji Grad in Belgrade) and elsewhere. At some of them fortification structures have been identified in the form of ditches, stone ramparts and palisades (Gradac, Valač, Vinča, Pljosna Stijena, Divlje Polje in Ratina *etc.*). See Chapman 1981; Garašanin 1979, 154–5; Tripković 2013, 199–212.
- 17 Bogosavljević-Petrović 2005; Chapman 1981, 109–10; Jovanović 1982; Zotović 1988.
- 18 See: Chapman 1981, 40–51; Garašanin 1979, 181–94; Ristić-Opačić 2005, 77–8, 98–100; Trbuhović and Vasiljević 1983.
- 19 Garašanin 1973, 70–2; Garašanin 1979, 153–5.
- 20 Tringham and Krstić (eds) 1990.
- 21 Jovanović and Glišić 1961.
- 22 During the 2011–2012 excavations, the settling of three different locations in the area of Donji Pavlovac village near Vranje (Gumnište, Čukar and Kovačke njive) was first recognised, with complex stratigraphies, showing the existence of multiple Starčevo and Vinča living horizons in vertical stratigraphy as well as developed horizontal stratigraphy. See Garašanin and Garašanin 1958; Perić and Perić 2012. All authors conducted excavations at the site of Kovačke Njive.
- 23 Lazarovici *et al.* 2001.
- 24 Garašanin and Garašanin 1979; Stevanović and Jovanović 1996.
- 25 See: Chapman 1981; Ristić-Opačić 2005, 100–4.
- 26 Garašanin and Simoska 1976, 24; Tasić 1979, 87–114.
- 27 Jurišić 1970, 22; Stojić 2000, 15; Zotović 1988, 57–78.
- 28 Bulatović 1997, 71–7; Garašanin and Garašanin 1979, T. III/4, 6; T. IV/4.

- 29 Blagojević 2005, 31–78.
30 Garašanin 1973, 168–73; Tasić 1979, 98–100.
31 The chronological transition between the Late Neolithic and the Early Eneolithic corresponds closely to a significant climate change that caused the disintegration of the Linearband cultural complex in Central Europe, as well as the collapse of Mediterranean and sub-Mediterranean cultures (Todorova 2007, 1–6).
32 Bulatović 2012, 281–302.
33 Sherratt 1981, 261–306.
34 Tasić 1979, 109–10.
35 Prendi 1966, 255–80.
36 Garašanin 1973, 165; Tasić 1979, 93–4.
37 Garašanin *et al.* 1971, 15.
38 Kapuran 2011.
39 Todorova 2007.
40 Tasić 1978; Tasić 1983.
41 Tasić 1978.
42 These hillfort settlements are situated on extremely steep and inaccessible rocky outcrops surrounded by cliffs.
43 Kapuran and Bulatović 2012.
44 Kapuran and Milošević 2013.
45 Kapuran 2011; Tasić 1971.
46 Panayotov and Aleksandrov 1988; Roman 1976.
47 Tasić 1982.
48 Boyadzhiev 1995, 175, 178; Boyadzhiev 1998, 350, 357–8; Petrović and Jovanović 2002, 298.
49 Compare Figs 7.1, 7.2 and Figs 7.3, 7.5.