Placing the Aurignacian from Banat (Southwestern Romania) into the European Early Upper Paleolithic context

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Abstract: *During the 1983 UISPP congress in Liège, F. Mogoșanu presented the results of his earlier investigations on the Paleolithic in the Romanian Banat. The Upper Paleolithic of this area was viewed as a chronologically late manifestation of the Central European Krems-Dufour type Aurignacian. After a long break in research, new investigations in the settlements at Coșava, Românești-Dumbrăvița and Tincova have been undertaken, leading to an improved knowledge of the regional Upper Paleolithic.*

The present contribution reports the first results of the comparative techno-typological and attribute analysis of the lithic assemblages at Tincova, Coșava and Românești-Dumbrăvița, involving both old and recently excavated collections. Strengthening the conclusions reached by the lithic studies, the first chronometric assessments (TL and OSL) for the recently excavated open-air site of Românești-Dumbrăvița I place the Aurignacian of this site into an early stage of this technocomplex. However, the attempt for incorporating the regional record into the European Early Upper Paleolithic context remains difficult and raises serious issues regarding the acknowledged divisions of the European Aurignacian and, consequently, the expansion of this cultural phenomenon across Europe.

1 INTRODUCTION

The emergence of the European Upper Paleolithic has been a hot topic for Pleistocene archeology for decades. Although the last years witnessed a rapid increase of better resolution chronological, paleoanthropological and archaeological data related to the 'Big Transition', one pillar of the basic scenario - i.e. the allogeny of Anatomically Modern Humans (AMH) in Europe - survived the intense scrutiny. Despite recent hints regarding a possibly earlier presence of AMH in Europe (Benazzi *et al.* 2011; Higham *et al.* 2011) and the notorious lack of paleoanthropological finds securely connected to the first stages of the Aurignacian, the time-honored connection between the modern anatomy and this technocomplex could not have been dismissed either.

Located at the geographical crossroad connecting the Eastern steppes and the Balkans to the wide Carpathian Basin and Central Europe, Romania holds a strategic position in relation to the exogenous model for the emergence of the European Upper Paleolithic and/or AMH arrival into Europe. Yet, the unusually young chronology proposed for the emergence of the local Upper Paleolithic (e.g. Cârciumaru 1999; Păunescu 2001), coupled with the purportedly late survival of the Middle Paleolithic (Cârciumaru *et al.* 2007) has long kept the local archaeological record out of the debates regarding the initial expansion of the Aurignacian phenomenon. Things swiftly changed after the finds at Oase Cave, which documented an unexpectedly old (ca. 40.7 ka cal BP) presence of AMH in the area (Trinkaus *et al.* 2003). Unsurprisingly, lacking an associated archaeological context, the Oase fossils spurred a systematic and currently ongoing reevaluation of the regional Upper and Middle Paleolithic archaeological record (Tuffreau *et al.* 2009; Anghelinu *et al.* 2012; Doboș & Trinkaus 2012; Anghelinu & Niță, in press). Fortunately, several open air settlements (Tincova, Coșava, and Românești-Dumbrăvița) were already known in the neighboring area of Banat (**figure 1**), providing medium to large collections with undisputable Aurignacian features (Mogoșanu 1978). These sites almost naturally became first 'suspects' for a possible correlation with the paleoanthropological finds at Oase.

The original excavator F. Mogoșanu had already promptly compared the Banat occurrences with the finds at Krems-Hundssteig (Austria), a settlement thought to represent an early phase of the Aurignacian technocomplex (Broglio & Laplace 1966; Laplace 1966; Hahn 1977), currently acknowledged as the Krems-Dufour type of Aurignacian (Demidenko 2000–2001; Demidenko & Otte 2007; Demidenko & Noiret 2012), and further associated to the Protoaurignacian/Aurignacian 0 of Mediterranean and Western Europe (Mellars 2006; Zilhão 2006; Teyssandier 2008; on the doubtful integrity of this industry, see Teyssandier 2008:496; Nigst 2006; Nigst & Haesaerts 2012). Despite clear similarities documented between the Banat lithic collections and the Krems-Dufour Aurignacian, the initial pollen-based geochronological estimations pointed nonetheless to a time span considerably younger than any known Eurasian Aurignacian occurrence: Herculane I/Tursac, for the single layer at Tincova and Herculane II/Laugerie, for the main concentration (layer III) at Românești-Dumbrăvița (Mogoșanu 1978; Cârciumaru 1999). Perhaps not surprising, based on the content of the lithic collections, several authors questioned (Chirica *et al.* 1996; Băltean 2011a, b) or simply ignored (Teyssandier 2003, 2007, 2008; Zilhão 2006) these initial assessments and favored older chronological estimations. The single layer Aurignacian at Tincova in particular was explicitly connected to what is currently admitted to have been the earliest manifestation of the Protoaurignacian in Europe, (Teyssandier 2007, 2008; Tsanova *et al.* 2012; Zilhão 2006). Unfortunately, lacking organic material altogether, the Banat Aurignacian sites remained undated.

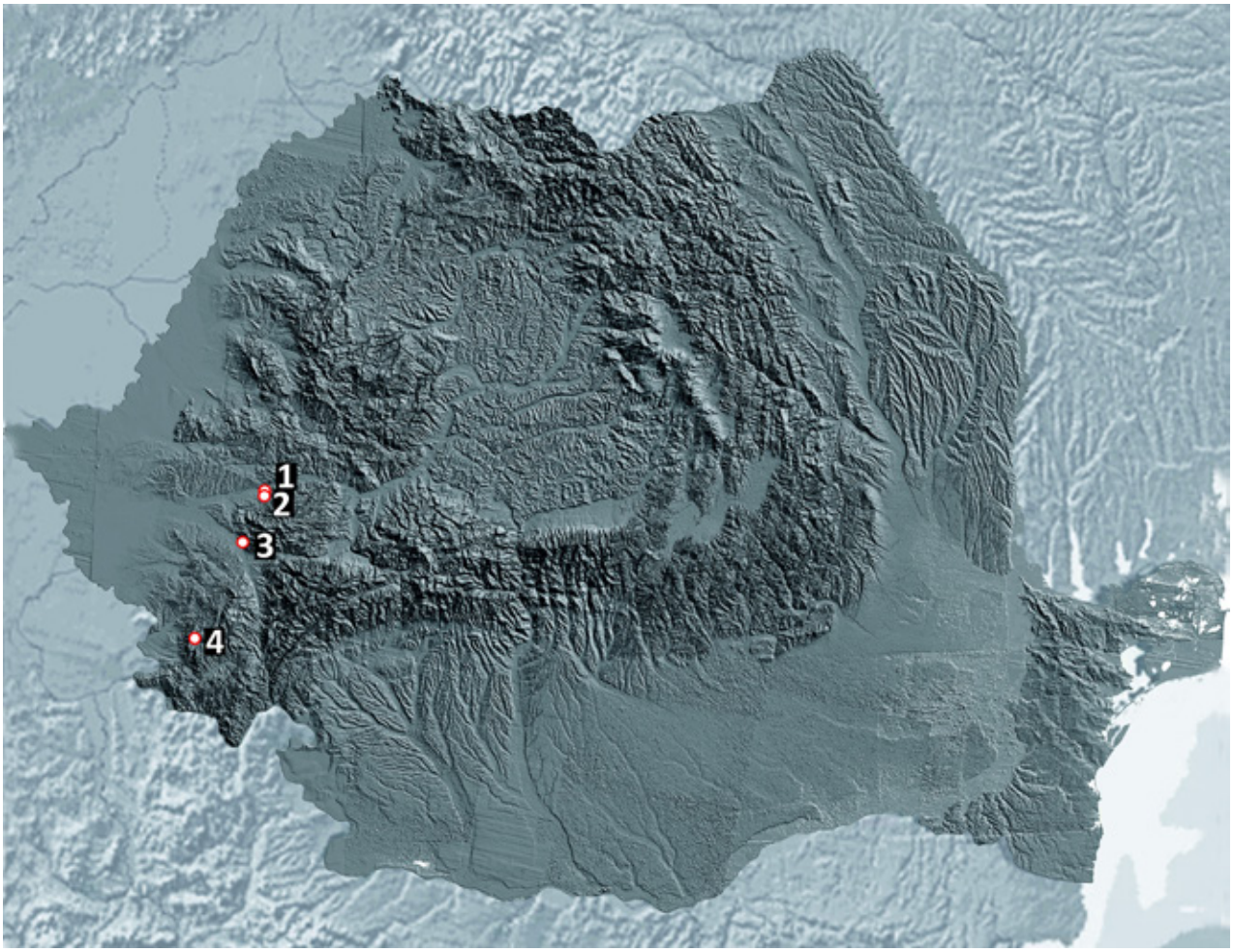


FIGURE 1 Paleolithic sites in Banat, south-western Romania: 1. Coșava; 2. Românești-Dumbrăvița; 3. Tincova; 4. Oase Cave.

The contradiction between the evidence provided by the lithic collections and the young geochronological estimations resulted in new small scale excavations and surveys in the Romanian Banat between 2009 and 2012. A throughout reevaluation, including sedimentological, tephra, OSL and TL sampling/dating, archaeological survey trenches and comprehensive lithic studies including both old and recently excavated collections, was undertaken at Coșava and Românești, as part of an international collaborative research project, CRC 806. These studies were supplemented by a reassessment of the old lithic collection at Tincova. The first results from Coșava (Sitlivy *et al.* in press) and Românești-Dumbrăvița I (Sitlivy *et al.* 2012), alongside with the preliminary chronometrical ages (Schmidt *et al.* subm.), have triggered the present attempt at comparing the Aurignacian assemblages from all Banat settlements and hopefully clarify their place in the wider Aurignacian landscape. While confirming in part some prior interpretations, our results nevertheless consistently change the purportedly late chrono-cultural status of the Banat Aurignacian. However, several peculiar features of the Banat assemblages raise doubts on the acknowledged division between the Proto and the Early Aurignacian, as acknowledged in various European areas.

As extensive analysis of stratigraphical contexts lithic collections from Coșava and Românești-Dumbrăvița are already available (Sitlivy *et al.* 2012, in press), we will keep our settlements' description short and focus more on the key features of the lithic toolkits.

2 THE SETTLEMENTS

Coşava 2.1

The Coşava settlement (45°51'11.92' N, 22°19'32.71' E) is located 4 km north of Româneşti-Dumbrăviţa, the two being separated by the large Bega valley (**figure 2**). The settlement is situated on a plateau spur up to 282 meters a.s.l. and over 90 m above the Bega river layer (**figure 3**: 1), on the slopes of two hills ('Cuca Mare' and 'Cuca Mică', correspondingly Coşava I and II). Coşava was first excavated in two stages, 1961–1964 (Stratan 1965) and from 1967 to 1969 (Mogoşanu and Stratan 1966; Mogoşanu 1978). A large area of 226 m^2 was opened in order to recover the rather scattered archaeological remains. According to the original excavators, Coşava represents a horizontally extensive site, partly destroyed by a sand quarry (**figure 3**: 2), though strongly clustered and yielding a proportionally small lithic assemblage buried in a short sequence composed of fossil soils and loess-like sediments. Three distinct archaeological layers were distinguished, of which at least the two lowermost contained Aurignacian tools without mixture (Mogoşanu 1983). According to Mogoşanu (1978), the formal toolkit (116 items) of the most representative layer (I) was dominated by carinated and nosed endscrapers, as well as *nucleiformes* and *rabots* (25 items), while simple endscrapers were less common. They were associated with abundant retouched blades (30), including Aurignacian types (e.g. strangled, notched and denticulated with continuous retouch on one or both sides – 11 pieces), rare dihedral burins (7), as well as single examples of Dufour bladelets and Font-Yves points. The middle layer II comprised a smaller assemblage (56 tools) with a similar composition: a high frequency of endscrapers (15), particularly carinated (9), a limited number of dihedral burins (4) and a single Dufour bladelet were recorded. The least representative, uppermost layer III (24 tools), also contained Dufours (5), carinated endscrapers (2) and one Font-Yves point, as well as some Epipaleolithic pieces.

The stratigraphic and archaeological sequence uncovered in all test pits during the test excavations in 2009 corresponds well to Mogoşanu's initial description.

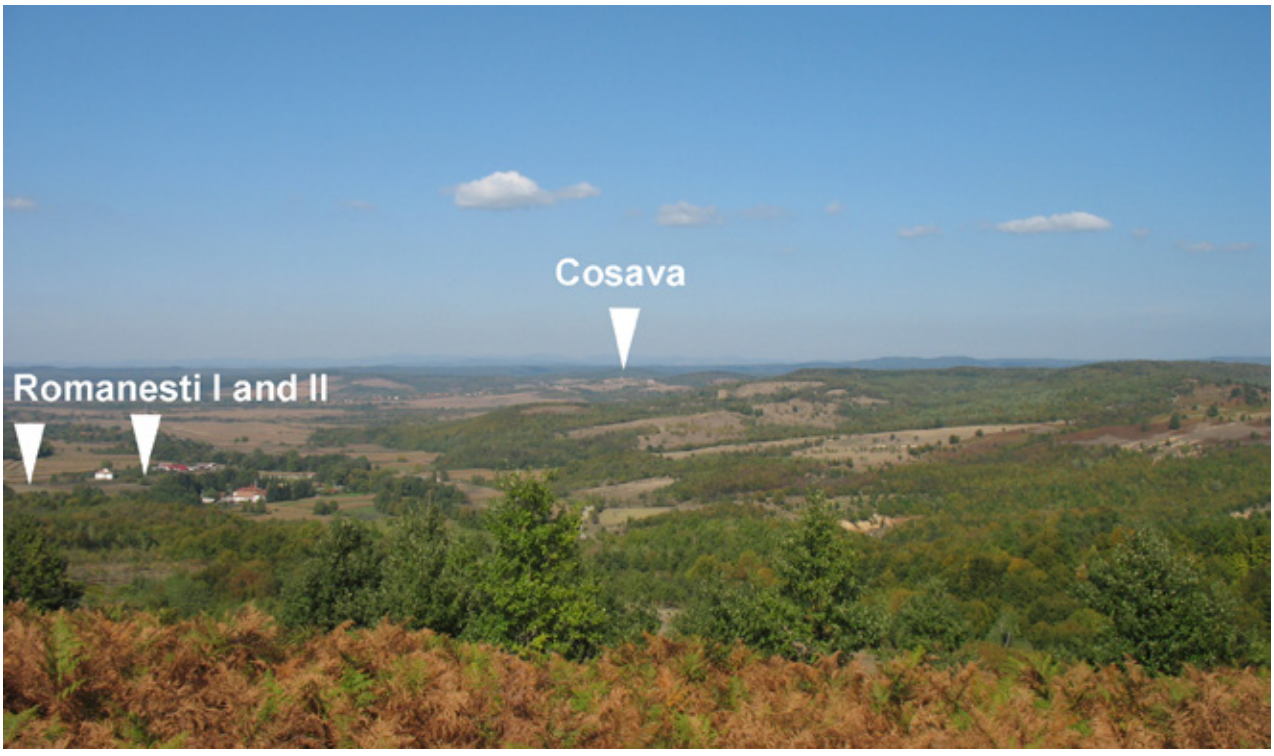


FIGURE 2 View of Coşava and Româneşti-Dumbrăviţa (I, II): sites during field campaign in September 2009.

FIGURE 3 View of Coşava during field campaign in April 2011: 1. Plateau spur; 2. Sand quarry.

Three separate layers with lithic artifacts were distinguished. The lowermost layer was documented in the geological horizon 4 (GH4) and might correspond to Mogoşanu's archaeological layer I. An intermediate layer with artifacts occurred in GH3 (= layer II), and the uppermost lithic scatter appeared in GH1–2 (= layer III). The first OSL dates (61 ± 7 ka and 56 ± 6 ka below lowermost layer I, and very recent at the top: 4.49 ± 0.52 ka) provide the *terminus* frames for the archaeological assemblages here.

Despite the low density of artifacts along and across the sequence, and the inaccurate chronology available, the constant presence of small knapping debris and 'micro' tools in all recently excavated collections point to a rather limited post-depositional impact, at least in what vertical sorting of material was concerned.

The examination of old and new assemblages from Coşava confirms the slight contamination of uppermost layer III by some late Upper Paleolithic material (e.g. isolated small round and nail-shaped endscrapers, and two non-patinated blades of black obsidian). Nevertheless, the Aurignacian attribution of all Coşava assemblages (layers I, II and III) is indisputable (for details see Sitlivy *et al.*, in press). Recent technological and typological studies show few differences in artefact composition throughout the entire sequence, marked by the dominance of flakes and blades and a high proportion of formal tools (**figure 4**). The core category, dominated by carinated, prismatic and narrow faced/burin-like types, is also well represented, especially in the two lowermost layers (**figures 5** and **6**). Flake cores are rare and all but one occur in the lowermost layer I. Many flakes were obtained during different stages of blade core reduction, while massive flakes apparently were brought to site for further carinated (**figure 6**: 1–2) and narrow-faced (**figure 6**: 3) core reduction. The main on-site core reduction was oriented towards blade and bladelet/micro-blade production (rare or virtually absent in old collections, but well represented in the small newly recovered lithic sample). Blade technology was based on the reduction of prismatic cores (**figure 6**: 4), while bladelet production, more variable, resulted from the exploitation of carinated pieces, longitudinal slices of flakes or tool-on flakes (tool recycling) and advanced prismatic blade nuclei. Thus, laminar blank production includes three co-existing systems with continuous reduction of (a) prismatic cores (b) narrow-faced (burin-like) cores, and (c) carinated pieces (cores and tools). The continuity of debitage systems is confirmed by blade/let and micro-blade negatives identified on the flaking surfaces of many of these cores. The formal toolkit (**figure 7**) comprises endscrapers, often thick and carinated (**figure 8**: 7, 10), retouched blades, including Aurignacian blades (**figure 8**: 8–9, 11), numerically significant sidescrapers, non-geometric microliths, especially in newly recovered material (**figure 8**: 1–5), and few burins (**figure 8**: 6). Summing up, the technological and typological features described above closely relate the entire Coşava sequence to the 'classical' Aurignacian (Aurignacian 1).

Tincova 2.2

The archeological settlement at Tincova (45°33'55" N, 22°9'24.8" E) is located in the vicinity of Sacu village, on a plateau, 60 m above the right bank of the Timiş River (**figure 9**). The archaeological settlement lies on the dejection cone on the western edge of the Poiana Ruscă Mountain range. The site was discovered in 1958 and excavated during two years by C. S. Nicolăescu-Plopşor and I. Stratan (Nicolăescu-Plopşor & Stratan, 1961; Stratan, 1962) and then in 1965 and 1966 by F. Mogoşanu and I. Stratan (Mogoşanu, 1972, 1978, 1983). The settlement was extensively dug in the past over an area of about 280 m^2. The single Aurignacian layer was found on the basis of a reddish clay at about 0.8–1.2 m in depth. It was attributed to a workshop containing abundant waste (2015 fragments, flakes), laminar debitage (369 blades/bladelets) and 10 cores (Mogoşanu 1978). Less is known about cores: 2 prismatic, 1 pyramidal, 7 globular; 55 core fragments and formless specimens were reported (Păunescu 2001). According to Mogoşanu, the toolkit (110) is dominated by endscrapers (31) with carinated, nosed, core-like forms, *rabots* (all in all 12 pieces) and Dufour bladelets (22). Font-Yves points are also present (3), together with rare (8), mostly dihedral (5), burins.

	COŞAVA, I		COŞAVA, II		COŞAVA, III		COŞAVA, GH4		COŞAVA, GH3	
	N	%ESS	N	%ESS	N	%ESS	N	%ESS	N	%ESS
Pre-cores	5	0,73	3	0,57	–	–	–	–	1	2,56
Cores	43	6,28	23	4,37	7	2,35	1	3,85	1	2,56
Flakes	331	48,32	269	51,14	158	53,02	17	65,38	8	20,51
Blades	130	18,98	120	22,81	77	25,84	2	7,69	6	15,38
Bladelets	26	3,80	20	3,80	16	5,37	4	15,38	10	25,64
Micro-blades	2	0,29	–	–	–	–	1	3,85	8	20,51
Tools	145	21,17	91	17,30	39	13,09	1	3,85	5	12,82
Tools/cores	3	0,44	–	–	–	–	–	–	–	–
Burin spalls	–	–	–	–	1	0,34	–	–	–	–
Chips	2	–	2	–	2	–	53	–	72	–
Blank fragments	–	–	–	–	–	–	–	–	–	–
Debris	22	–	7	–	3	–	12	–	14	–
Chunks	38	–	13	–	7	–	–	–	2	–
TOTAL	747	100,00	548	100,00	310	100,00	91	100,00	127	100,00

	COŞAVA, GH1-2		TINCOVA		ROMÂNEŞTI I, II		ROMÂNEŞTI I, III		ROMÂNEŞTI I, IV	
	N	%ESS	N	%ESS	N	%ESS	N	%ESS	N	%ESS
Pre-cores	3	3,80	7	0,50	1	0,32	6	0,24	–	–
Cores	1	1,27	23	1,64	3	0,95	29	1,14	17	1,65
Flakes	40	50,63	777	55,26	165	52,22	1448	56,87	663	64,37
Blades	12	15,19	308	21,91	109	34,49	719	28,24	234	22,72
Bladelets	12	15,19	108	7,68	19	6,01	168	6,60	43	4,17
Micro-blades	2	2,53	6	0,43	2	0,63	7	0,27	3	0,29
Tools	9	11,39	168	11,95	16	5,06	161	6,32	67	6,50
Tools/cores	–	–	–	–	–	–	1	0,04	–	–
Burin spalls	–	–	9	0,64	1	0,32	7	0,27	3	0,29
Chips	81	–	2	–	3	–	58	–	19	–
Blank fragments	–	–	–	–	–	–	–	–	–	–
Debris	32	–	–	–	–	–	23	–	8	–
Chunks	3	–	13	–	4	–	27	–	22	–
TOTAL	195	100,00	1421	100,00	323	100,00	2654	100,00	1079	100,00

	ROMÂNEŞTI I, V		ROMÂNEŞTI I, GH3		ROMÂNEŞTI I, GH4	
	N	%ESS	N	%ESS	N	%ESS
Pre-cores	1	0,14	2	0,08	–	–
Cores	22	3,06	19	0,71	–	–
Flakes	452	62,95	1136	42,74	24	52,17
Blades	162	22,56	260	9,78	5	10,87
Bladelets	38	5,29	471	17,72	5	10,87
Micro-blades	1	0,14	472	17,76	7	15,22
Tools	41	5,71	169	6,36	3	6,52
Tools/cores	–	–	1	0,04	–	–
Burin spalls	1	0,14	88	3,31	2	4,35
Chips	24	–	4440	–	89	–
Blank fragments	–	–	40	1,50	–	–
Debris	–	–	389	–	4	–
Chunks	25	–	18	–	2	–
TOTAL	767	100,00	7505	100,00	141	100,00

FIGURE 4 (Banat Aurignacian) – Artifact totals.

FIGURE 5 (Banat Aurignacian) – Cores.

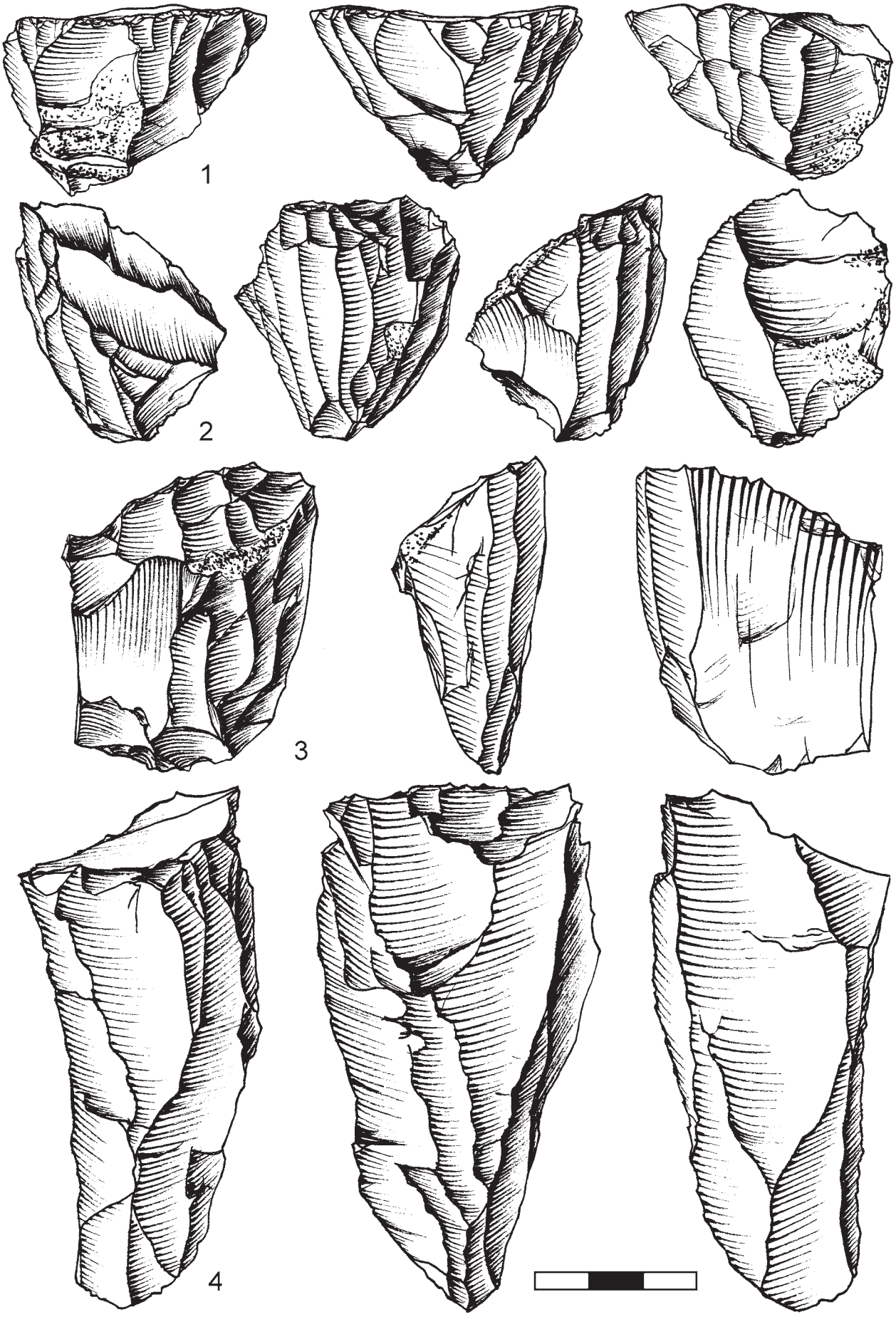
	TINCOVA	ROMÂNEŞTI-DUMBRĂVIŢA I, II	ROMÂNEŞTI-DUMBRĂVIŢA I, III	ROMÂNEŞTI-DUMBRĂVIŢA I, IV	ROMÂNEŞTI-DUMBRĂVIŢA I, V	ROMÂNEŞTI-DUMBRĂVIŢA I, GH3	COŞAVA, I	COŞAVA, II	COŞAVA, III
CARINATED									
unidirectional	5	1	5	2	2	2	10	7	3
bidirectional-adjacent	1	1	1	–	–	–	3	–	–
bidirectional	1	–	2	–	–	–	3	1	–
bidirectional-alternate	–	–	–	–	–	–	1	–	–
orthogonal-alternate	1	–	1	–	–	–	–	–	1
orthogonal-adjacent	1	–	1	–	–	–	2	1	–
perpendicular	–	–	–	–	–	–	–	1	–
BLADELET									
unidirectional	–	–	2	–	–	–	–	2	–
unidirectional, narrow-faced	–	–	1	2	3	–	2	4	1
orthogonal	1	–	–	–	–	–	–	–	–
orthogonal-adjacent, narrow flaking surface	–	–	–	–	1	1	–	–	1
bidirectional	–	–	–	–	–	–	1	–	–
bidirectional, narrow-faced	1	–	–	–	1	–	–	–	1
unidentifiable	–	–	–	–	–	–	4	1	–
BLADE									
unidirectional	–	–	–	–	2	1	2	–	–
unidirectional, narrow-faced	–	–	–	–	–	2	–	–	–
bidirectional	–	–	1	–	2	–	–	–	–
bidirectional-adjacent	–	–	–	1	–	–	–	1	–
BLADE / BLADELET									
unidirectional	1	–	2	–	–	1	3	–	–
unidirectional, narrow-faced	–	–	2	–	–	–	1	2	–
multiridectional, narrow-faced	–	–	1	–	1	–	–	–	–
bidirectional, narrow-faced	–	–	1	–	–	1	1	–	–
bidirectional	–	–	2	–	1	–	1	1	–
orthogonal-adjacent	1	–	–	–	–	–	–	–	–
unidentifiable	1	–	–	–	–	–	–	–	–
BLADE / BLADELET ON TOOL									
change orientation, narrow-faced, on scraper	–	–	–	–	–	1	–	–	–
unidirectional, narrow-faced, on scraper	–	–	–	–	–	1	–	–	–
unidirectional, narrow-faced, on thick endscraper	–	–	–	–	–	–	3	–	–
bidirectional, narrow-faced, on scraper	–	–	1	–	2	–	–	–	–
FLAKE / BLADELET									
unidirectional, rectangular	1	–	–	–	–	–	–	–	–
sub-polyhedral	–	–	–	2	1	1	–	–	–
semi-polyhedral	–	–	–	–	–	–	1	–	–

FIGURE 5 (Banat Aurignacian) – Cores.

	TINCOVA	ROMÂNEŞTI-DUMBRĂVIŢA I, II	ROMÂNEŞTI-DUMBRĂVIŢA I, III	ROMÂNEŞTI-DUMBRĂVIŢA I, IV	ROMÂNEŞTI-DUMBRĂVIŢA I, V	ROMÂNEŞTI-DUMBRĂVIŢA I, GH3	COŞAVA, I	COŞAVA, II	COŞAVA, III
FLAKE									
semi-polyhedral	–	–	–	–	1	–	1	–	–
polyhedral	1	–	–	–	–	–	1	–	–
discoidal	–	–	1	1	–	–	1	–	–
semi-discoidal	–	–	–	–	–	1	–	–	–
crossed, on scraper, Kombewa	–	–	–	–	–	1	–	–	–
bidirectional-transverse	–	–	–	–	–	–	1	–	–
orthogonal, trifacial	–	–	–	1	–	–	–	1	–
unidentifiable	–	–	–	–	–	–	1	–	–
UNIDENTIFIABLE									
core fragments	7	1	6	4	2	4	3	1	–
TOTAL	23	3	30	13	19	17	46	23	7
PRE-CORES	7	–	–	–	–	2	5	3	–

The main excavator, F. Mogoşanu (1983) had promptly noted the similarities (especially in terms of Dufour bladelets and Font-Yves points, as well as carinated endscrapers) between Tincova, Coşava, level I, Românești-Dumbrăviţa I, level III, and the UP collection at Krems-Hundssteig (Austria).

Our analysis has shown that the assemblage structure (**figure 4**) is characteristic for a settlement (site-workshop) with on-site blank production accompanied by off-site made debitage, e.g. massive blades. Both on-site and off-site reductions were oriented towards laminar production. On-site reduction of carinated cores/tools, prismatic, narrow-faced/burin-like nuclei with single and multiple striking platforms (**figures 5** and **10**: 16–17) resulted in the production of relatively narrow blanks: bladelets/micro-blades and small-sized blades, which are often twisted. Taking into account the sizes of unmodified flakes, pebbles, chunks, pre-cores, cores, as well as the pre-core and core typology, it is pretty difficult to suggest any kind of continuous reduction strategy (i.e., starting from relatively large pre-core/core for long, wide and thick blades and end up with carinated 'micro' nuclei for bladelets / micro-blades). Thus, blank production was more likely based on three independent reduction schemes of carinated pieces, narrow-faced/burin-like and prismatic cores. The formal toolkit displays a combination of endscrapers (dominance of simple over carinated; presence of thick/nosed), burins (domination of angled items, including on truncations), an abundance of blades with Aurignacian retouch (including those modified into endscraper and truncated pieces), as well as non-geometric microliths (with a dominance of Pseudo-Dufours over Dufours, and an abundance of Font-Yves points contrasting with a complete absence of Krems points) (**figures 7** and **10**: 1–15, 18, 19). The technological and typological characteristics of Tincova assemblage thus partly fit, but also differ from, both definitions of Proto-Aurignacian (Teyssandier 2008) and Krems-Dufour type of Early Aurignacian (Demidenko & Noiret 2012).


1
2
3
4

Românești-Dumbrăvița I 2.3

The open-air site of Românești-Dumbrăvița I is located at the confluence of the rivers Bega Mare and Bega Mica (**figure 2**), and occupies about 4 hectares (**figure 11**). Situated on a flat, slightly inclined top of a 10 m river terrace (45°49'02.41" N, 22°19'15.12" E; elevation ca. 212 m a.s.l.), this huge settlement lies at the periphery of the Poiana Ruscă mountain rim.

F. Mogoşanu excavated the Românești-Dumbrăvița I settlement in two stages (1960–1964 and 1967–1972), opening a large area of about 450 m². He identified 6 archeological layers in a vertical subdivision (Mogoşanu 1972, 1978, 1983). According to him, the Aurignacian layers II, III, IV and V were sandwiched between a 'Quartzitic Mousterian' and a thin Gravettian layer. His layer III provided the richest Aurignacian industry of more than 5 000 artifacts, of which 114 were formal tools (51 endscrapers, including 13 carinated forms, fewer burins (26), eight Dufour bladelets and several retouched blades, including some typical Aurignacian forms). Layer IV (61 tools) was only documented on an excavated area of 20 m² and differed from the previous one by the presence of truncated blades/flakes (8) and a decrease in the frequency of endscrapers (11), with a corresponding increase in burins (25). Layer V consisted in clustered workshops, with an industry rich in knapping waste and only 38 formal tools (especially burins, a few common Aurignacian pieces).

The re-examination of Mogoşanu´s collections shows that the general composition of the four Aurignacian assemblages remains nearly unchanged throughout the entire sequence and is dominated by large debitage products: flakes and blades. The frequency of bladelets, tools, and especially cores, is quite low (**figure 4**). Despite quantitative differences between archaeological levels, cores and tools exhibit similar morphological, technological and typological patterns. Core exploitation usually aimed at on-site laminar production. Long reduction sequences for prismatic, carinated and even narrow-faced cores-on-flakes (burin-like with change orientation/multidirectional) were a common practice at this site (**figure 5**). The main tool categories comprise endscrapers, burins, retouched blades and non-geometric microliths. In the richest layer III, these tool types occur at similar frequencies, while in the overlying layers endscrapers and especially burins are more numerous than non-geometric microliths (**figure 7**).

The new excavations, while small-scaled (7 m²), provided 7505 artifacts (**figure 4**), including 19 pre-cores/cores (**figures 5** and **12**: 26–27) and 169 tools (**figures 7** and **12**: 1–25, 28), the majority of which stem from different altitudes of GH3 (Sitlivy *et al.* 2012). The high crop of finds is to be attributed to the use of wet sieving, a technique not applied during previous excavations. Horizontally, the lithic material was dispersed equally across the entire excavated area. Vertically, the Aurignacian-looking inventory occurs continuously throughout the upper part of GH4 and whole GH3, without sterile sections in between, suggesting repeated occupations/palimpsest. The clear cut vertical distinction between the archaeological layers reported by previous researches could not have been confirmed. However, there is little doubt that the main concentration in GH3 corresponds reasonably well to Mogoșanu's layers II-V (for a detailed discussion see Sitlivy *et al.* 2012). Lithic attributes do not show any significant technological changes across the excavated succession either. In addition, the presence of many chips along with large items, as well as the vertical and horizontal distribution of finds, coupled with few cases of technological refitting and conjoining of broken artifacts, confirm that there was little geological or hydrological sorting of material. Burnt artifacts are common and 12 such samples were used for TL dating (Schmidt *et al.*, 2013; Sitlivy *et al.*, 2012). Preliminary TL and OSL results point to an estimated age between 45 and 40 ka for the main accumulation in GH3.

FIGURE 6 (Coșava) – Level I (1, 2, 4) and level II (3), cores: 1. Bladelet carinated, unidirectional, pyramidal, on flake; 2. Bladelet carinated core, unidirectional, sub-pyramidal, on flake; 3. Bladelet, unidirectional, narrow-faced, on flake; 4. Blade, unidirectional, prismatic.

FIGURE 7 (Banat Aurignacian) – Tools.

	TINCOVA	ROMÂNEŞTI-DUMBRĂVIŢA I, II	ROMÂNEŞTI-DUMBRĂVIŢA I, III	ROMÂNEŞTI-DUMBRĂVIŢA I, IV	ROMÂNEŞTI-DUMBRĂVIŢA I, V	ROMÂNEŞTI-DUMBRĂVIŢA I, GH3	COŞAVA, I	COŞAVA, II	COŞAVA, III
SIDESCRAPERS									
Lateral	1	–	2	1	1	2	4	6	2
Transverse	–	–	3	1	–	1	1	2	–
Double	–	–	–	–	–	–	3	1	–
Convergent	–	–	–	–	–	–	–	2	–
Canted	–	–	–	–	–	–	1	1	–
Alternate	–	–	2	–	–	–	1	–	–
Unidentifiable	–	–	–	–	2	–	–	–	–
ENDSCRAPERS									
Simple	9	1	7	3	2	2	13	5	4
Flat	1	–	–	–	–	–	1	–	–
On Aurignacian blade	2	–	–	–	–	–	2	–	–
Fan-shaped	–	–	–	–	1	–	–	1	1
Ovoid	–	–	–	–	1	–	–	–	–
Nosed	1	–	–	–	–	–	–	–	–
Thick	4	–	6	3	3	–	14	12	–
Carinated	2	–	4	–	–	–	6	2	–
Ogival	–	–	–	–	–	–	–	1	1
Unidentifiable	–	–	1	1	–	–	–	1	–
BURINS									
Angle on snap	5	1	7	6	8	7	3	2	–
Angle on butt	–	–	1	–	–	–	–	–	–
Angle on truncation	4	–	1	1	–	3	1	–	–
Flat	–	–	–	–	–	1	–	–	–
Double-angle on snap	1	–	–	1	–	–	–	–	–
Double-angle on truncation	–	–	1	–	–	–	–	–	–
Double mixed	–	–	1	–	2	–	–	–	–
Double-opposite on ridge / snap / truncation	3	–	–	–	–	–	–	–	–
Transverse	–	–	2	–	–	2	1	–	–
Dihedral	1	–	2	1	–	2	–	–	–
Multiple	–	1	–	–	–	–	–	–	–
Busqué	–	–	1	–	1	–	–	–	–
Carinated	1	–	1	1	1	–	2	1	1
BORERS			1					1	
COMPOSITE TOOLS	–	–	–	–	–	–	–	–	–
Endscraper carinated/thick shouldered & burin double on truncation	1	–	–	–	–	–	–	–	–
Endscraper simple & burin angle on snap	–	1	–	–	–	–	–	–	–
Endscraper thick shouldered & burin transverse	–	–	1	–	–	–	–	–	–
Endscraper simple & truncation	–	–	–	–	1	–	–	–	–

FIGURE 7 (Banat Aurignacian) – Tools.

	TINCOVA	ROMÂNEŞTI-DUMBRĂVIŢA I, II	ROMÂNEŞTI-DUMBRĂVIŢA I, III	ROMÂNEŞTI-DUMBRĂVIŢA I, IV	ROMÂNEŞTI-DUMBRĂVIŢA I, V	ROMÂNEŞTI-DUMBRĂVIŢA I, GH3	COŞAVA, I	COŞAVA, II	COŞAVA, III
BLADES WITH RETOUCH									
Pointed blades	5	–	1	1	1	1	1	1	1
Aurignacian blades	11	–	1	2	1	2	10	10	2
Strangled blades	1	–	–	–	–	–	1	–	–
Retouched blades	30	1	14	8	2	2	20	7	6
NOTCHES									
Proximal	–	1	–	–	–	–	–	–	–
Distal	1	–	–	1	–	–	–	–	–
Lateral	8		6	1	1	4	6	1	1
Lateral/Distal	–	–	2	–	–	–	–	–	–
Double-lateral	1	–		–	–	–	–	–	–
Bilateral	1	–	1	1	–	–	1	–	1
DENTICULATES									
Distal	–	–	2	–	–	–	–	–	–
Lateral	–	–	1	–	–	–	1	2	1
TRUNCATED PIECES									
Truncated flakes	2	–	1	–	–	–	1	–	–
Truncated blades	4	2	4	3		2	2	–	–
Truncated Aurignacian blade	1	1	–	–	–	–	1	–	–
BACKED PIECES									
Backed blades	–	–	–	–	–	–	1	–	–
Backed flakes	–	–	–	–	–	–	1	–	–
SCALED PIECES	1		1	3	1	3			
THINNED PIECES									
Distal	1	–	1	–	–	–	–	–	–
Proximal	1	–	1	–	–	–	–	–	–
Lateral	–	–	3	–	–	–	2	–	1
NON-GEOMETRICAL MICROLITHS									
Font-Yves points	5	–	–	–	1	4	–	–	1
Krems points	–	–	–	–	–	2	–	–	–
Dufour bladelets / micro-blades	6	1	11	1	–	64	–	1	2
Pseudo-Dufour bladelets / micro-blades	18	–	6	3	–	10	3	–	5
Others	–	–	2	3	1	–	–	–	–
RETOUCHED PIECES									
Retouched piece on blades	22	2	24	7	4	16	16	13	6
Retouched piece on flakes	10	–	22	4	–	12	18	15	1
VARIA	–	–	–	–	–	–	1	–	–
UNIDENTIFIABLE									
Unidentifiable	3	4	13	10	6	27	6	3	2
TOTAL	168	16	161	67	41	169	145	91	39

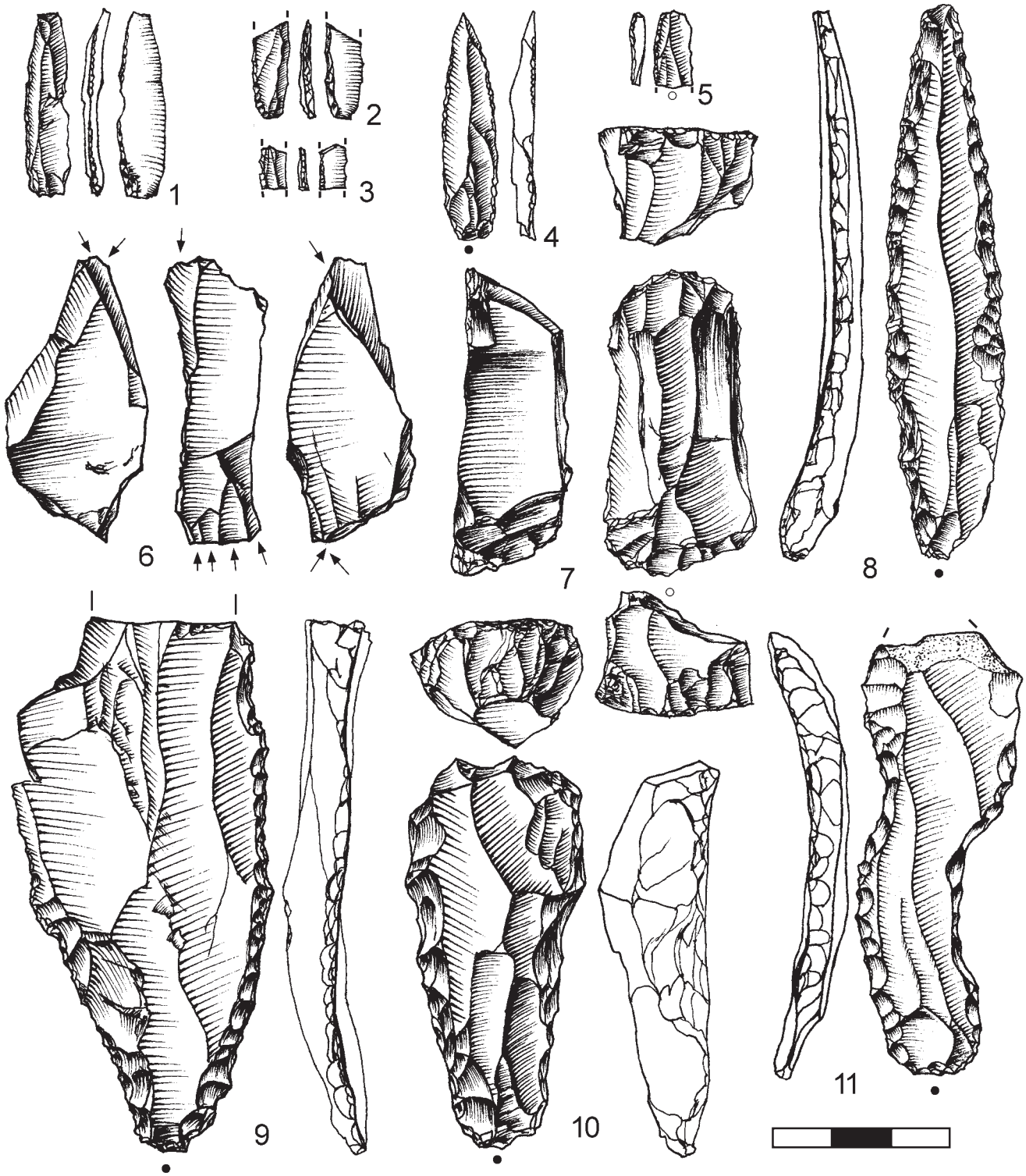


FIGURE 8 (Coşava) - Levels GH1-2 (1, 2, 3), GH3 (5), I (7, 9, 10, 11), III (8, 6), tools: 1. Dufour, on alternatively retouched bladelet; 2-3. Dufour, on alternatively retouched micro-blade; 4. Font-Yves point, on bilaterally retouched bladelet; 5. Pseudo-Dufour, on obversely retouched micro-blade; 6. Burin, carinated dihedral double; 7. Endscraper, carinated double; 8. Pointed blade; 9. Aurignacian blade, bilaterally obversely retouched; 10. Endscraper, carinated, on bilaterally obversely retouched Aurignacian blade; 11. Strangled blade.

FIGURE 9 View of Tincova site and Timiş River Valley, Mai 2011.

Quite expectably, the assemblage from GH3 differs dramatically from Mogoşanu's record due to the dominance of bladelets/microblades (with often straight lateral profile obtained from prismatic, narrow-faced and few carinated cores) and tools produced on these small blanks (ca. 50 % of the tool-kit), especially alternatively retouched Dufours (**figure 12**: 4–18). However, the technological data gathered from both old and new assemblages reflect a common trend, i.e. prevalent laminar/lamellar and occasional flake production. Blade, bladelet and micro-blade production exhibits three dissociated systems based on reduction of (a) prismatic, (b) narrow-faced cores and (c) carinated pieces (cores and tools). The desired laminar blanks include mid-sized blades, quite long and narrow bladelets and tiny micro-blades with straight/curved/twisted profiles. The debitage symmetry (on-axis) of laminar blanks is dominant. These blanks, as well as flakes, were modified into tools with different frequencies. The toolkit comprises 'Aurignacian fossiles directeurs' (carinated and thick ogival, shouldered endscrapers, rare carinated burins, Aurignacian blades/retouch and 'micro instruments', i.e. Dufour sub-type bladelets and some Font-Yves/Krems points), common Upper Paleolithic types (simple endscrapers, abundant angle burins on snap or on truncations, dihedral burins, semi-steep retouched blades and retouched/notched pieces on blades, and truncated pieces on different blanks), as well as a small flake tool component (sidescrapers on flakes/tablets).

In comparison to the old collections, the assemblage composition in "micro/macro" artifacts/tools also contrasts considerably, for various reasons (e.g. different excavated surfaces and recovering methods, diverse artifact clustering). In sum, the general observations are in line with a rather 'archaic/early' Aurignacian character of the corresponding archeological layers (detailed information on the excavations, stratigraphy, dating and lithic analysis of old and newly recovered lithic assemblages is given in Sitlivy *et al.* 2012).

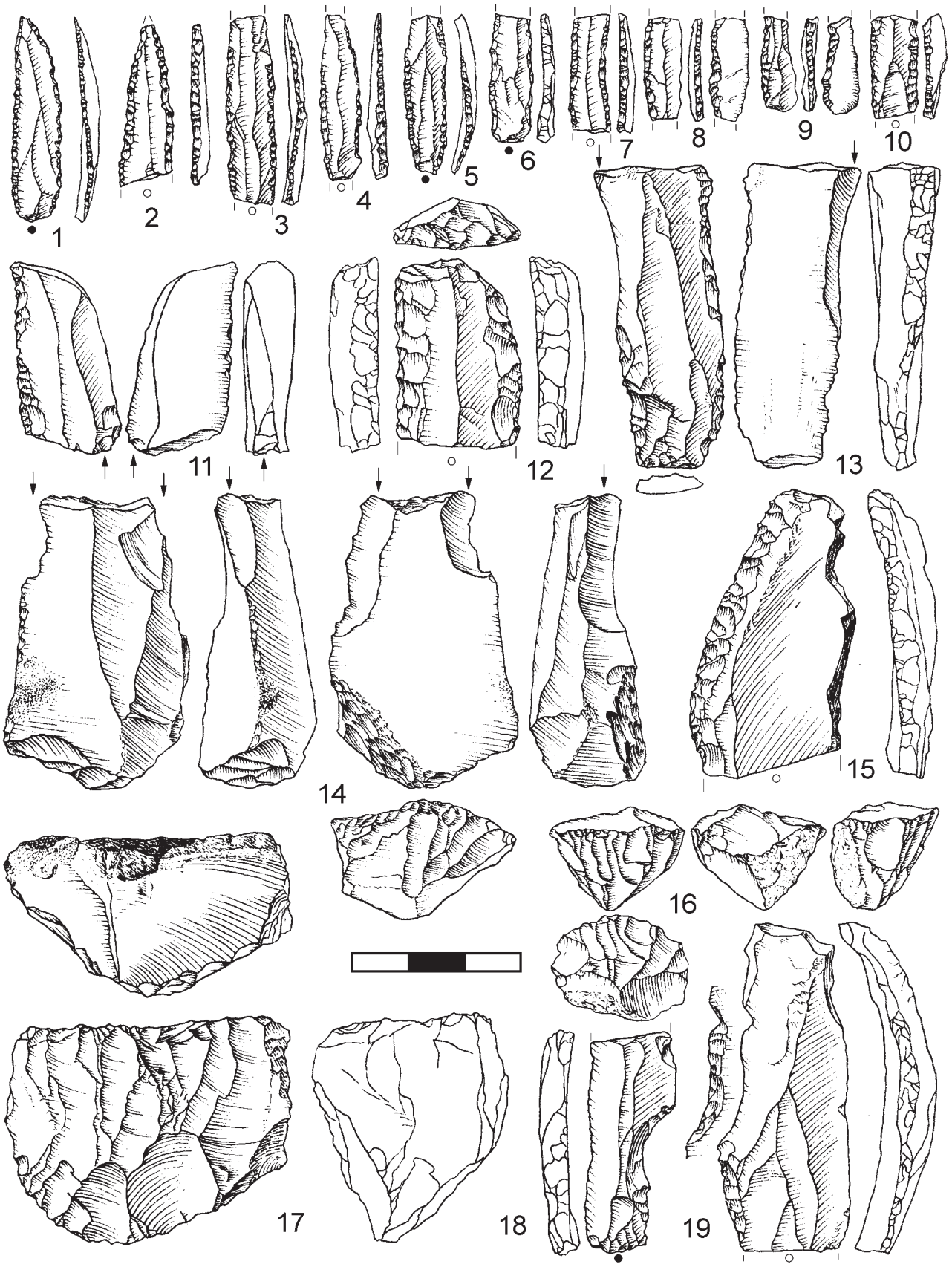

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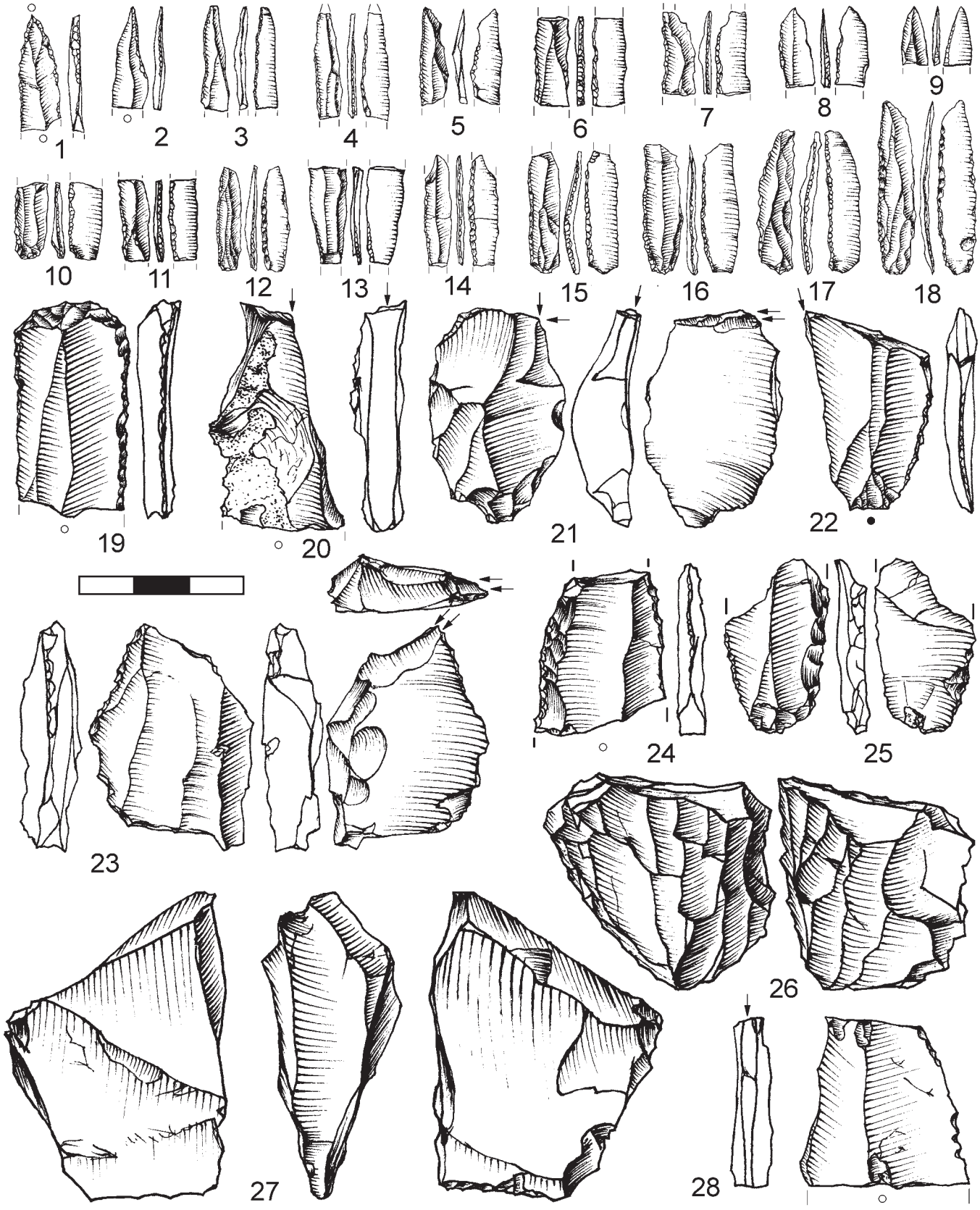
FIGURE 10 (Tincova) – Artifacts: 1-2. Font-Yves, on bilaterally retouched bladelets; 3, 6, 10. Pseudo-Dufour, on bilaterally retouched bladelets; 4-5, 7. Pseudo-Dufour on bilaterally retouched micro-blades; 8-9. Dufour, on alternatively retouched micro-blades; 11. Angle burin on snap, on obversely retouched blade; 12. Endscraper, on bilaterally retouched Aurignacian blade; 13. Angle burin on snap, on bilaterally obversely retouched blade; 14. Composite tool, double burin on concave truncation / carinated endscraper on laterally obversely retouched blade; 15. Aurignacian blade, laterally obversely retouched; 16. Bladelet carinated core, unidirectional, sub-pyramidal, on flake; 17. Bladelet carinated core, bidirectional; 18. Notch on blade, lateral, obverse; 19. Notch on blade, lateral, alternating.

FIGURE 11 View of Românești-Dumbrăvița I during field campaign in October 2009: localization of Mogoșanu's trenches.

3 BANAT INTER-SITE COMPARISON: GENERAL OUTLINE

As noted in the beginning, the lithic assemblages from the three settlements had already been subject for comparisons in the past, a number of typological similarities being repeatedly stressed (e.g. Mogoşanu 1972, 1978; Kozlowski & Kozlowski 1975; Hahn 1977; Chirica *et al.* 1996; Bălțean 2011a, b). Our aim here is to provide a more detailed comparison using our extensive attribute analysis and to provide a more refined description of the differences and similarities between Tincova, Românești-Dumbrăvița I and Coșava I.

Românești-Dumbrăvița I is a huge open-air settlement on a low terrace, which, unlike Coșava, contained a set of high-density clusters, documented both by F. Mogoşanu and during the recent survey excavations. The resulting collection is an abundant lithic assemblage (> 15000 artifacts per > 450 m² throughout the whole sequence). This clustering strongly differs from the entire Coșava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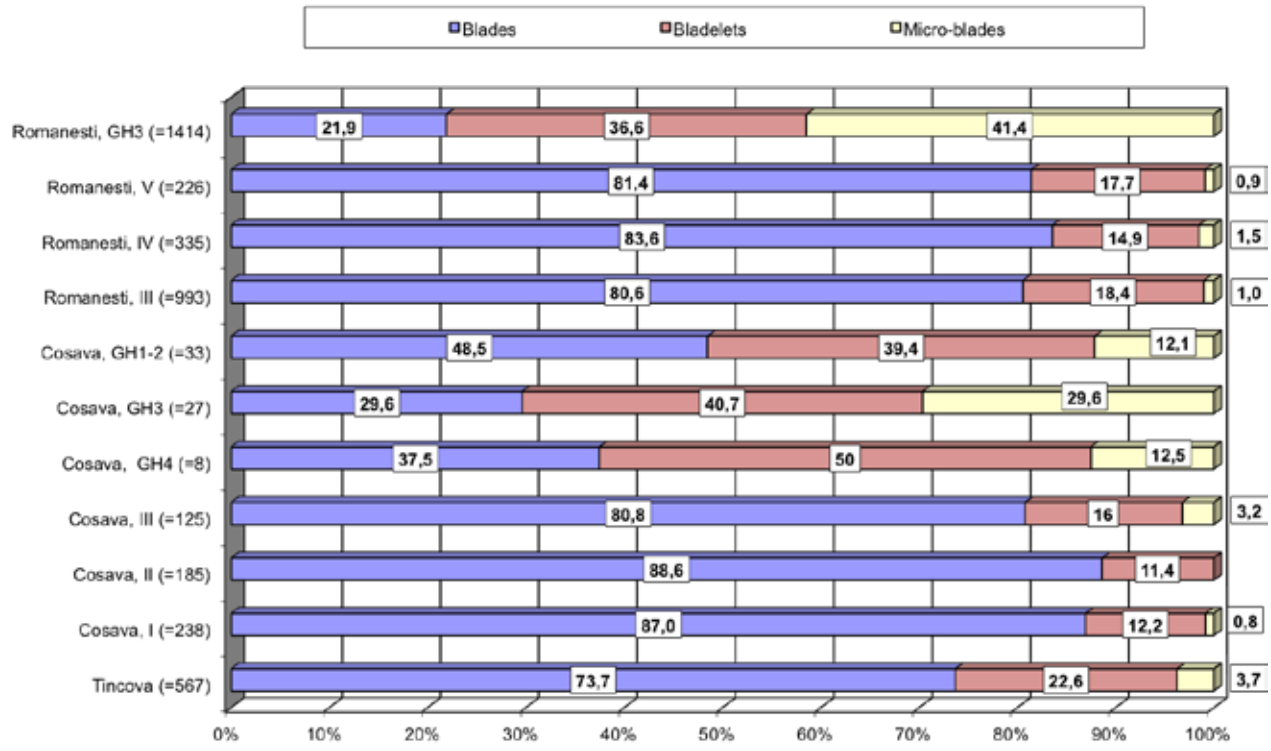
record, including both the old collections from layers I, II and III (1605 items total, according to our study – Sitlivy *et al.*, in press) and the new samples (413 items in 2009 from 7 m² and 271 pieces in 2010 from Coșava II, 5 m²). Tincova represents a rather restricted open-air single-layered Aurignacian occupation, located on a vast river terrace and yielding 2 494 artifacts. Coșava is situated in a dominant position, on the summit (up to 282 m a.s.l. and over 90 m above the river layer) and slopes of two hills. Geomorphologically, unlike Tincova and Românești-Dumbrăvița, both located at the periphery of Poiana Ruscă Mountains, this settlement is situated on the hill marking a meridian limit of the vast Lipova Plateau. These differences in topographical settings and accumulation rate of artifacts overtly suggest some functional differences in settlement use, likely interfering with some diachronic trends, at least in the case of the multilayered archives at Românești and Coșava. Unfortunately, lacking crucial additional information, like an accurate stratigraphic/topographic recording of old collections or datable organic remains, our observations need to rely entirely on the general structure of lithic collections.

FIGURE 12 Românești-Dumbrăvița I, GH3: 1. Font-Yves point, on bilaterally retouched micro-blade; 2. Font-Yves point, on laterally retouched micro-blade; 3. Krems point, on alternatively retouched micro-blade; 4-8, 10-15, 17. Dufour, on alternatively retouched micro-blades; 9. Dufour, on inversely retouched micro-blade; 16, 18. Dufour, on alternatively retouched bladelets; 19. End-scraper, on bilaterally obversely retouched blade; 20, 28. Angle burin on snap, on blade; 21. Dihedral angle burin, on flake; 22; Angle burin, on snap, on laterally obversely retouched blade; 23. Transverse burin, on retouched blade; 24-25. Aurignacian blades; 26. Bladelet carinated core, unidirectional, sub-pyramidal; 27. Bladelet core, change orientation, narrow-faced, on flake.

Concerning raw material exploitation, the assemblages at Coșava show a broader diversity in knapped stones and a higher frequency of rare/exotic rocks (usually of better quality than the dominant opal) when compared to Românești-Dumbrăvița and Tincova.

The laminar debitage structure of the newly recovered assemblages evidences the dominance of micro-blades and bladelets over blades, while old collections show the opposite trend, with a stable high (~70–90 %) proportion of blades (**figure 13**). However, the lack of small laminar products due to different sieving strategies should be taken seriously; we may thus envisage a similar high rate of bladelets/micro-blades for the old collections as well. While the tool/core ratio is generally moderate for all analyzed samples, the blank to core ratio is higher in Românești original layer III and especially in GH3, showing a high laminar productivity.

FIGURE 13 Banat Aurignacian assemblages. Laminar structure.



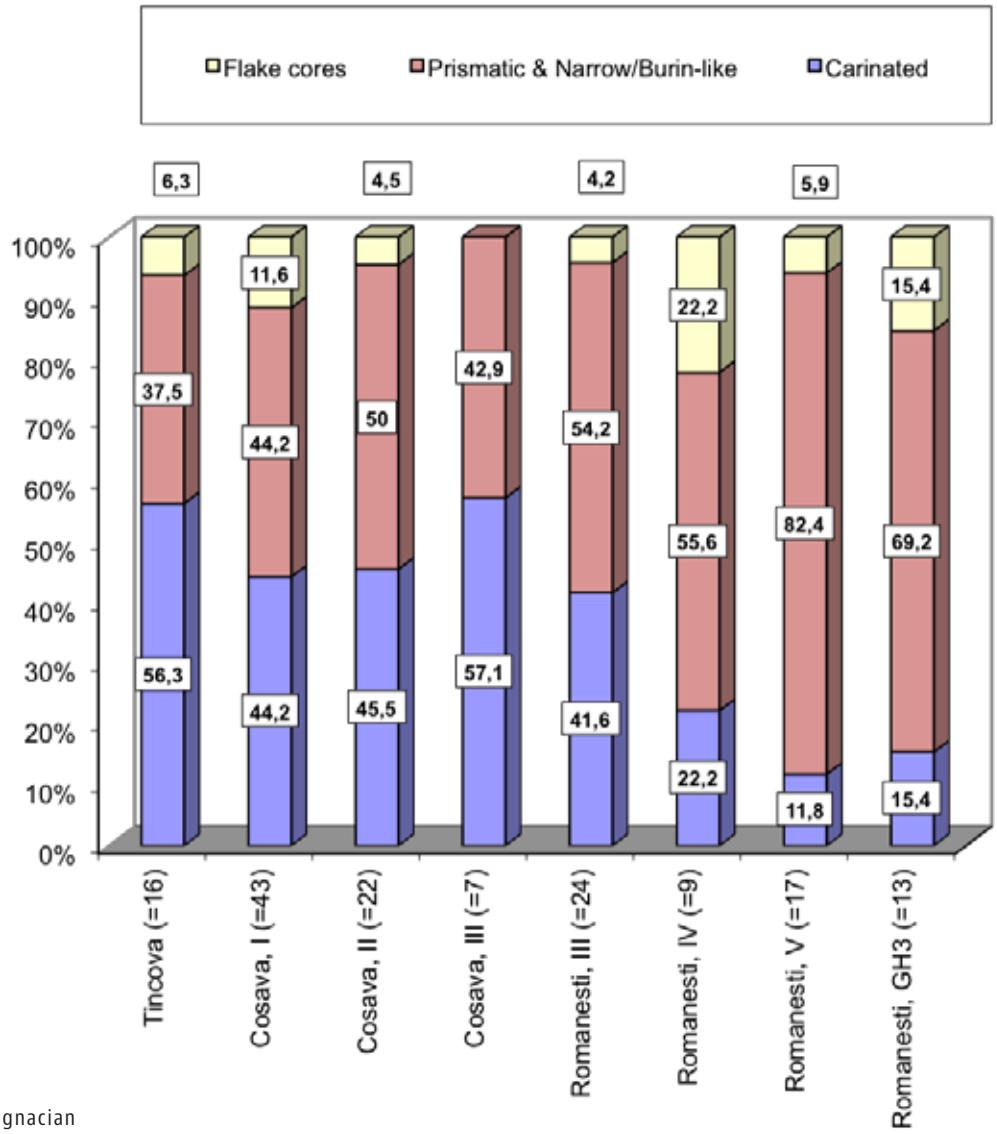


FIGURE 14 Banat Aurignacian assemblages. Main core groups.

The general artifact structure shows that cores/pre-cores in Românești layer III/GH3 (1.1%/0.3% *contra* up to 7%) and especially tools (>6% *contra* 20%) are less abundant than in Coșava, layer I. The remaining industries reflect rather low values. The core composition and frequency is quite similar across all assemblages: carinated and prismatic/narrow-faced cores are more common than flake cores. In Românești, however, the amount of carinated cores seems to decrease toward the top of the sequence. In the new GH3 assemblage they occur sporadically, being replaced by blade prismatic and especially by blade/let narrow-faced cores-on-flakes. In Coșava, their frequency does not change as much (**figure 14**).

In order to analyze debitage products, a number of attributes were taken into consideration: dorsal scar pattern, cortex presence and position, blank shape and symmetry, lateral and distal profiles, cross-section, butt type, bulb and lipping patterns, internal flaking angles (between ventral face and butt), butt zone trimming (overhang elimination), butt and blank sizes. In most cases, these attributes show similar values when comparing the Banat assemblages and will not be discussed here. However, certain differences have been documented, especially among small laminar blanks. For instance, the lateral profiles of bladelets show some variability: rectilinear (flat) pieces are more common in layer III in

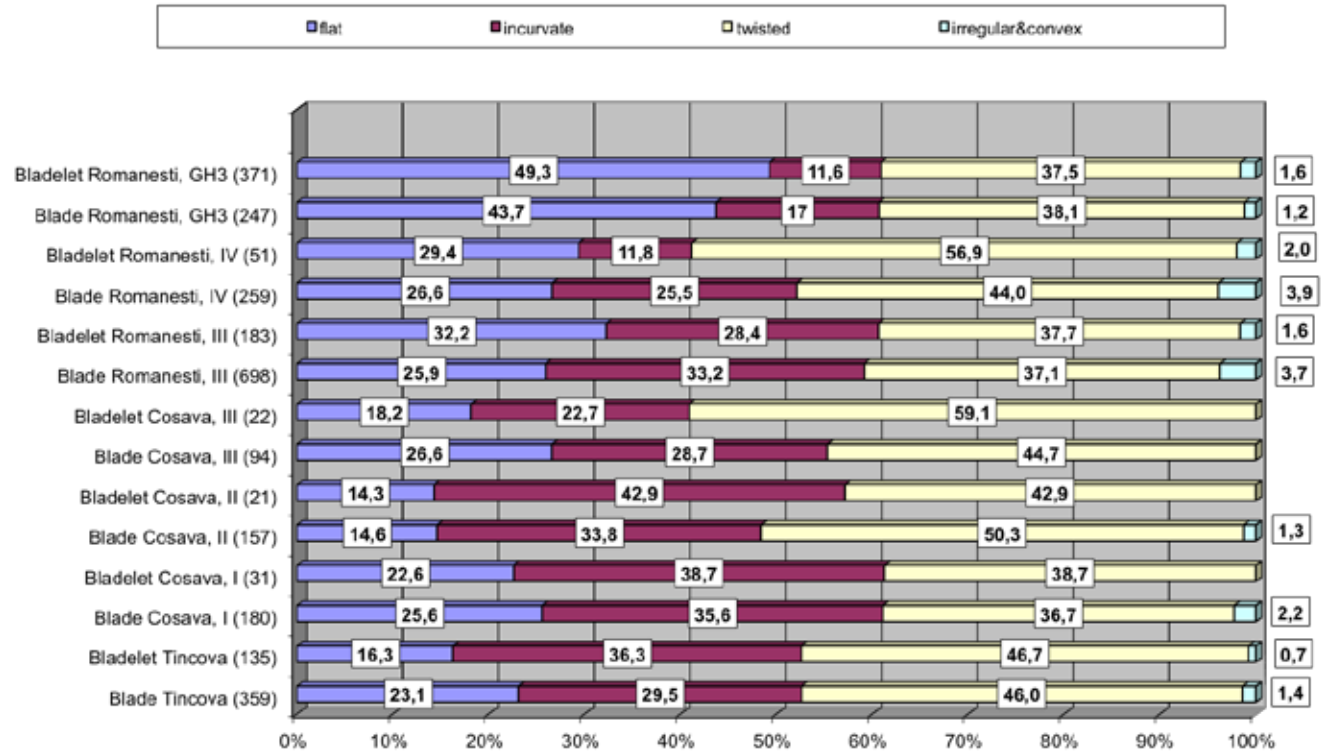


FIGURE 15 Banat Aurignacian assemblages. Laminar lateral profiles.

Românești (32.2 %) than in Coșava lowermost layer I (22.6 %), despite the high percentage of twisted blade/lets in both assemblages (37.1/37.7–36.7/38.7 % for blade/lets). The new sample in GH3 at Românești also exhibits the dominance of flat (49.3 %) and twisted bladelets (37.5 %), which is not the case in Tincova, where twisted (46.7 %) and curved (36.3 %) profiles are more abundant than flat ones (16.3 %). In sum, the newly recovered bladelets in Românești are 'straighter' in comparison to all other assemblages, especially Tincova, while the twisted pattern is common for all analyzed industries (**figure 15**). This trend is coherent with the core structure of all assemblages, in which carinated and 'non-carinated' nuclei were exploited simultaneously, but with different frequency and intensity. Last but not least, the quasi identical profile pattern (when confronting blades and bladelets) points to a continuity of the triple reduction system based on exploitation of carinated, prismatic and narrow-faced cores. Obtuse bladelet flaking angles in Românești and Coșava are less frequent than in Tincova (60 %–70 % respectively *contra* 88 %); however, this attribute is dominant for all assemblages. Interestingly, while comparing flaking angles with ~90° among big and small products, it turns out that in all cases right angles are more common to be found on blades than on bladelets (**figure 16**). Bladelet butt lipping (including semi-lipped) is more common for GH3 in Românești and Tincova than for other inventories, where unlipped bulbs are quite representative (28.6 %–53.8 %) (**figure 17**). A domination of weak (diffused) bulbs was recorded for all laminar products (**figure 18**).

Bladelet butt edge abrasion is well represented in GH3 at Românești (60.9 %) and much less frequent in Mogoșanu's layer III here (32.4 %) and in Coșava layer I (37.5 % is the max. value for this site) (**figure 19**). However, this technique was accompanied by trimming of butt edges with small elongated removals (faceting) in Românești layer III (51.5 %) and, to a lesser extent, in Coșava layer I (43.8 %), but much more often (60- > 90 %) in the two uppermost layers of this site (small sample bias?).

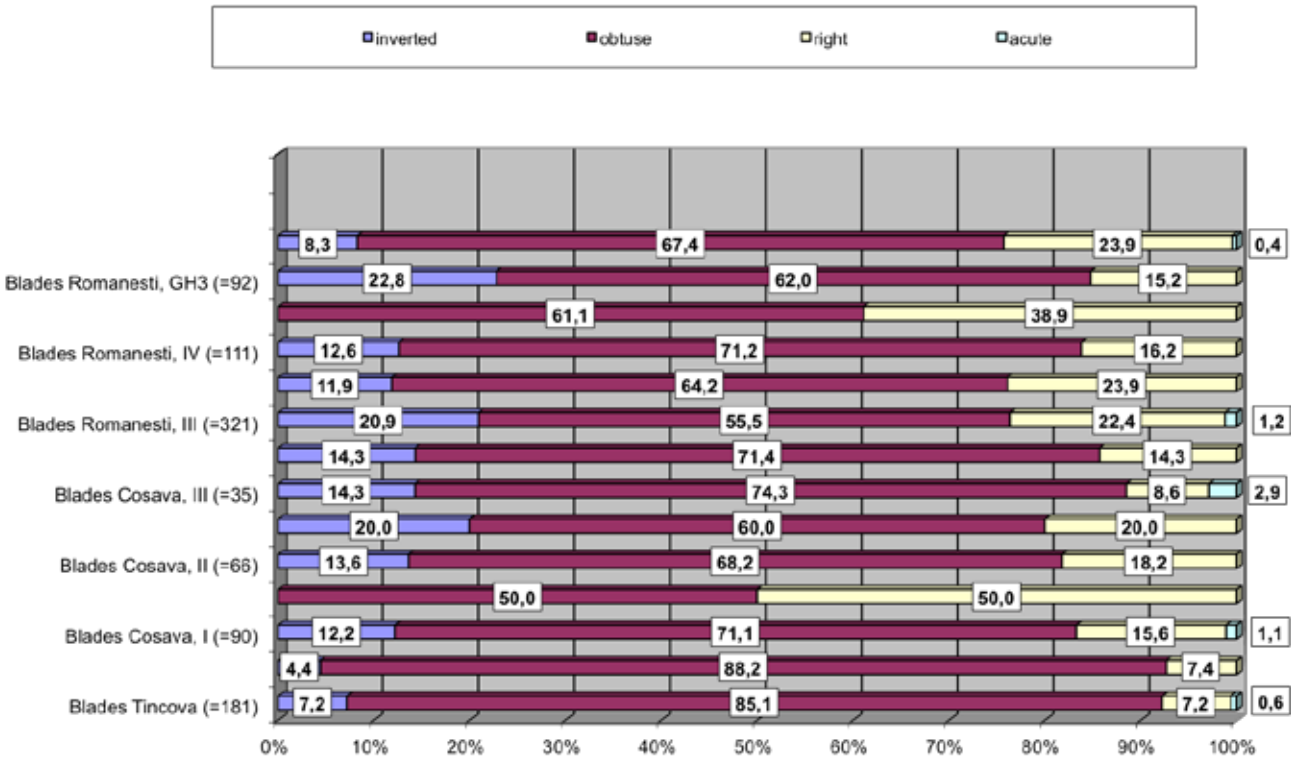


FIGURE 16 Banat Aurignacian assemblages. Laminar butt angles.

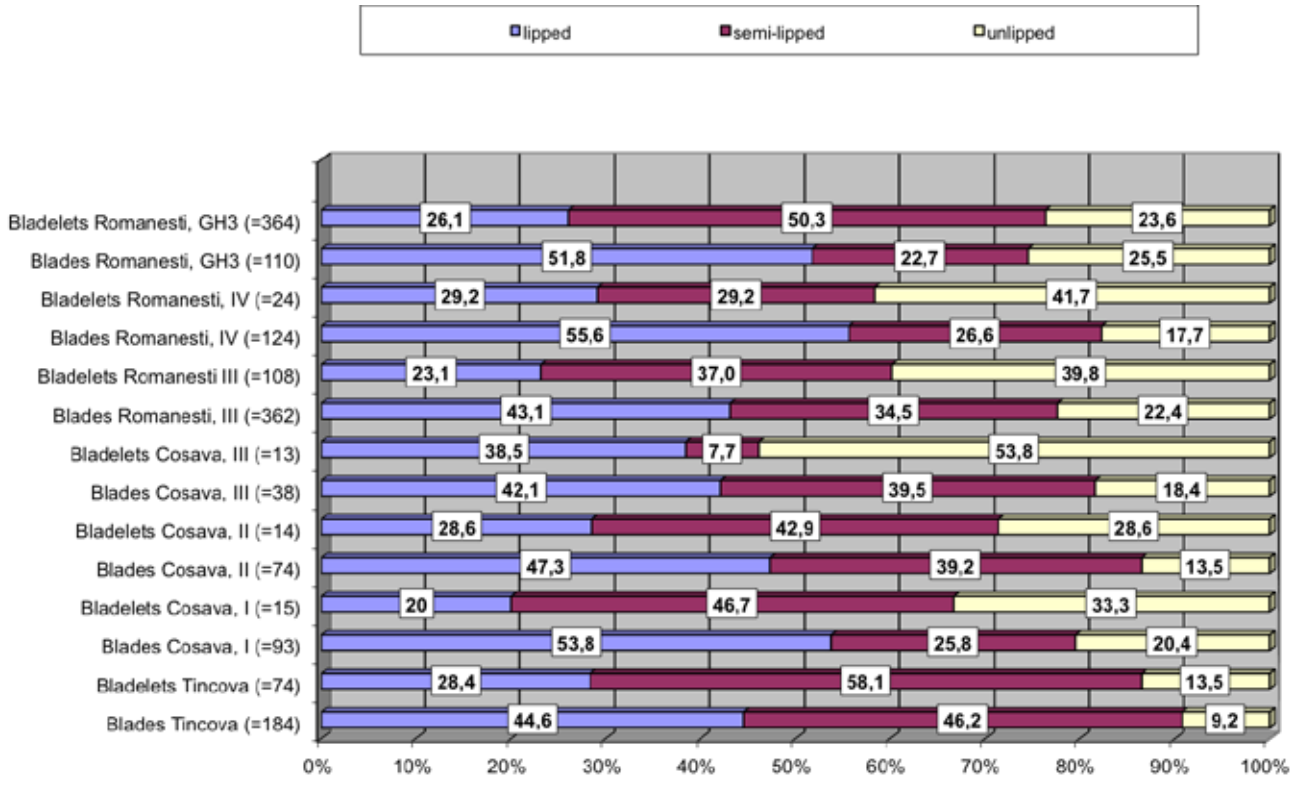


FIGURE 17 Banat Aurignacian assemblages. Laminar butt lipping.

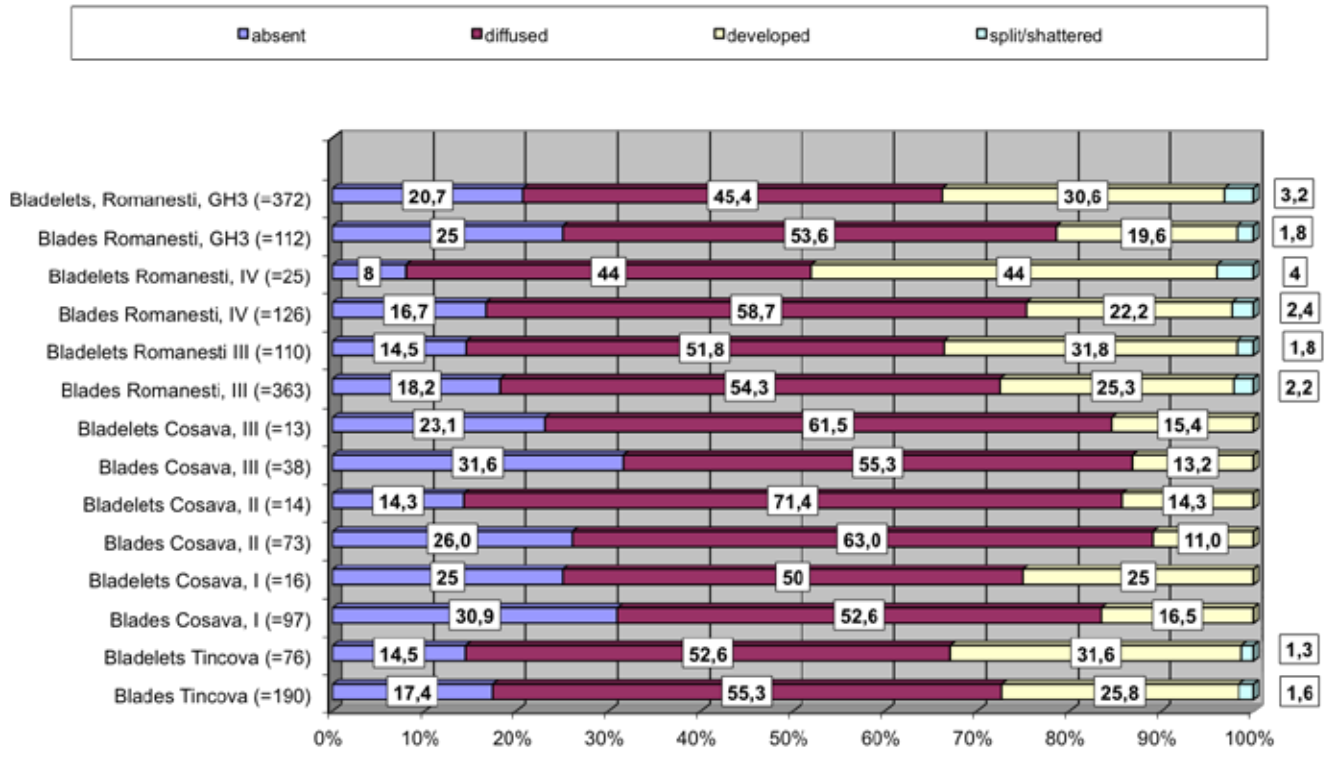


FIGURE 18 Banat Aurignacian assemblages. Laminar bulbs.

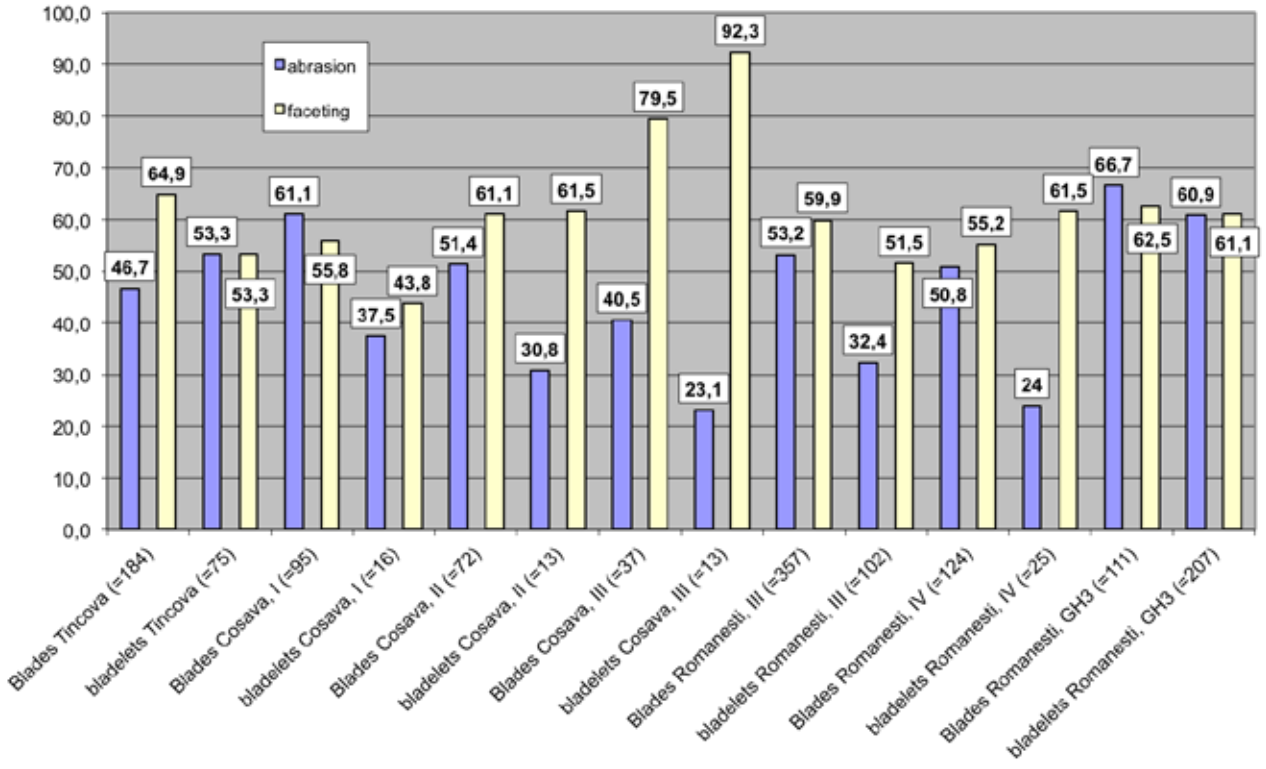


FIGURE 19 Banat Aurignacian assemblages. Laminar overhang trimming.

Also, a comparison of abrasion values between big and small laminar blanks shows that in all cases, except Tincova, the overhang was more often abraded on blades than on bladelets. This negligence *vis-à-vis* some bladelets was partially compensated by faceting of the overhang.

Technology **3.1** Although many tools were produced on flakes, flake production (mainly discoidal or/and polyhedral methods) was unsystematic or limited, occurring only in larger assemblages or practiced out of the excavated area (e.g. importation of large flakes to Coşava). The main flake mass, including tools on flakes, originated from laminar core shaping, re-preparation and failed knapping. Blank production in all of the Banat assemblages was oriented towards the production of blades, bladelets and micro-blades. Laminar technologies were based on co-existing independent reduction of: **1)** carinated pieces (cores and tools); **2)** prismatic (unprepared and with crest installation; uni-/bi-/multidirectional; sub-cylindrical, triangular/keeled and sub-pyramidal) and **3)** narrow-faced cores (uni-/bi-/multi-directional; rectangular/triangular/keeled), including burin-like cores and recycling of some tools in the same manner. However, these reduction chains were used with different intensity, especially in what concerns the participation rate of carinated and "non-carinated" cores (prismatic and narrow-faced).

Technology **3.2** Direct percussion using soft stone and organic tools was mostly applied for the laminar production (indicated by lipping, bulb patterns and invisibility of impact points). In the same time, all Banat assemblages display a peculiar trend when comparing two attributes, i.e. bulbs and lipping characteristics: developed bulbs and unlipped proximal parts appeared more often on bladelets/micro-blades. Although proxies of soft hammer technique prevail for all laminar blanks, a certain part of small blanks (bladelets/micro-blades) were thus detached using hard hammer percussion.

Toolkits **3.3** The main difference between the Banat inventories is the endscraper to burin ratio (**figure 20**). The absence of burin spalls in Coşava (except a single one from the uppermost layer) is correlated to the low frequency of burins (G > B at minimum 5 times). The opposite trend was documented in the two uppermost layers and GH3 in Românești. In Românești layer III, these tools appear at similar frequency, after several carinated endscrapers were re-attributed to the core category in our study. Burins are also more diverse in Românești assemblages. According to Mogoşanu (1978), Tincova yielded only 8 burins (?) and 19 endscrapers (12 carinated and 2 *rabot*), which is similar to the Coşava G/B ratio. However, an equilibrium between endscrapers and burins was recently documented: a double number of burins (15) and 19 endscrapers (9 carinates were included in the core group). Retouched blades, including Aurignacian, are more frequent in the Tincova (28.5 %) and Coşava (*ca.* 20–25 %) sequences, while in Românești, especially in GH3, these are less represented (3.5 %). Microliths in the two lowermost layers in Coşava are rather rare when compared to Tincova (17.6 %) and Românești (e.g. 12.8 % in layer III). The most abundant microlithic sample, especially Dufours, comes from the new excavations in Românești GH3, which differs from all old and new Banat records. Finally, combined tools (endscraper/burin) occur only in small quantity throughout the Aurignacian sequence of Românești and Tincova.

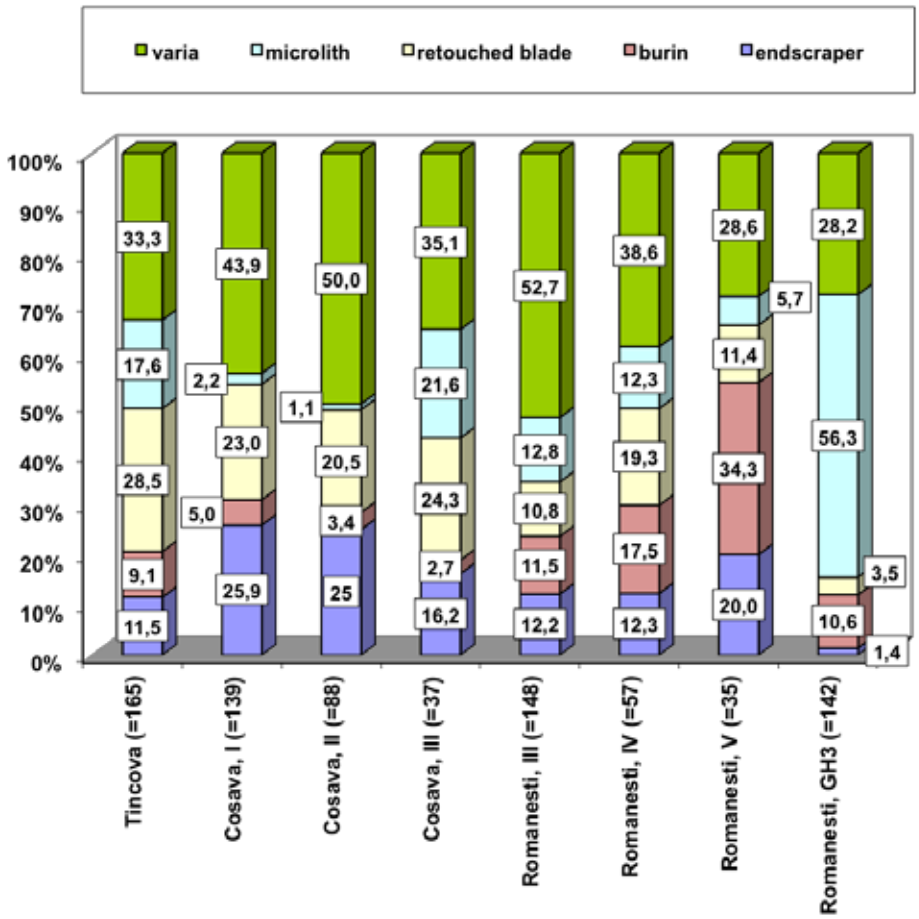


FIGURE 20 Banat Aurignacian assemblages. Main tool groups.

4 DISCUSSION

The information recently gathered allows for a substantial change of the picture regarding the alleged late Krems-type Aurignacian in Banat. While having a general Aurignacian background and a majority of common characteristics, the more or less statistically valid assemblages of Banat sites demonstrate a certain degree of dissimilarity, best expressed by two sets of ratios: **1)** core to tool ratio, and **2)** ratio of pure 'domestic tools' (endscrapers, retouched blades), burins and projectile implements (non-geometric microliths). These ratios document certain tendencies: (a) the decrease in tool percentages parallels the decrease in core percentages (**figure 21**); (b) the increase of 'domestic tools' parallels the decrease of both burins and non-geometric microliths. In other words, (a) the assemblages with large percentages of cores also show the highest percentage of tools (**figure 21**), and (b) the larger the sum of endscrapers and retouched blades, the smaller is the number of both burins and microliths (**figure 22**). According to this perspective, the Banat assemblages compose three groups: (a) Românești-Dumbrăvița I, GH 3; (b) Românești-Dumbrăvița I, levels III, IV, and Tincova; (c) Coșava, levels I and II (**figure 23**).

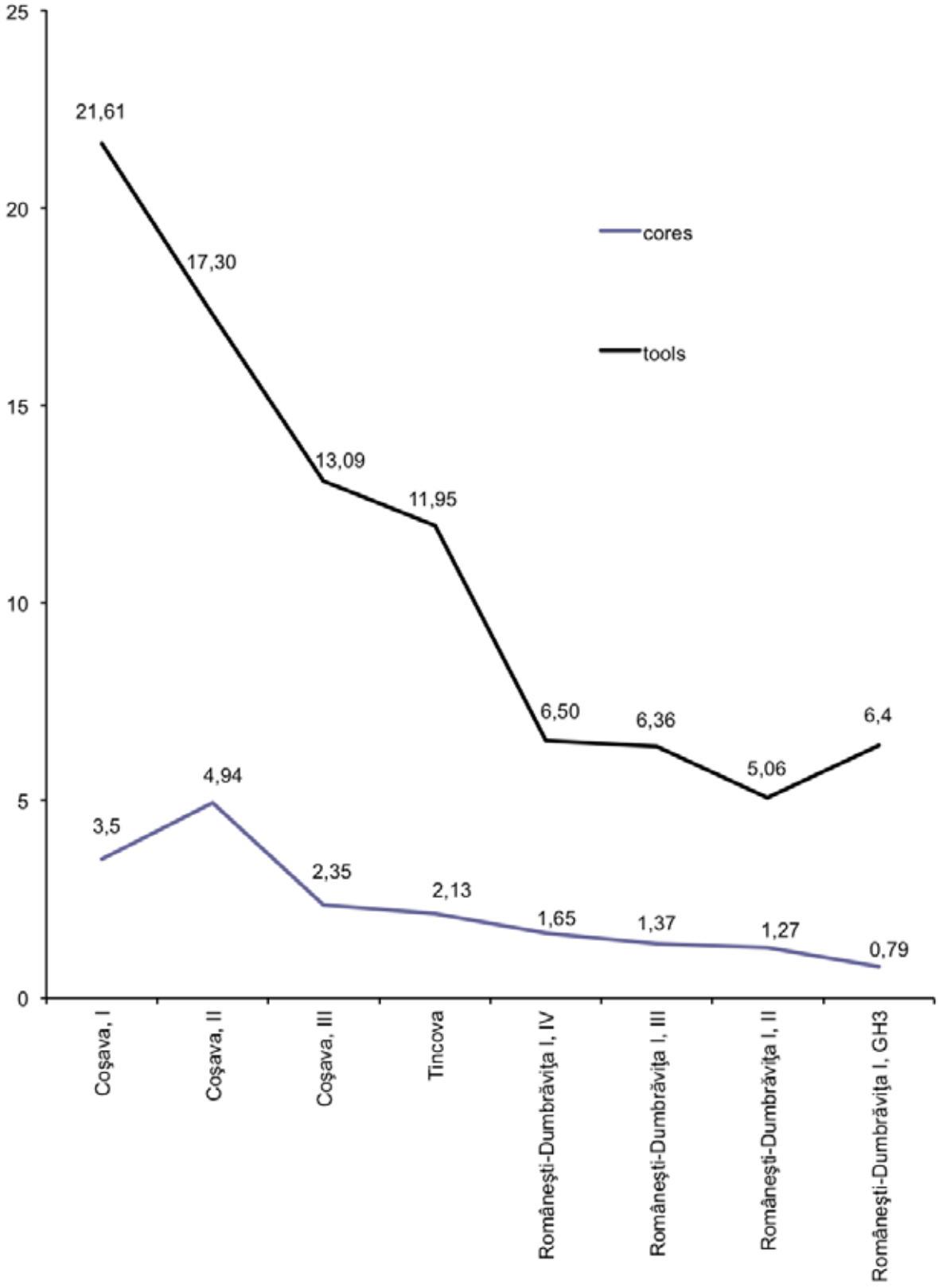


FIGURE 21 Banat Aurignacian assemblages. Relations between cores & tools.

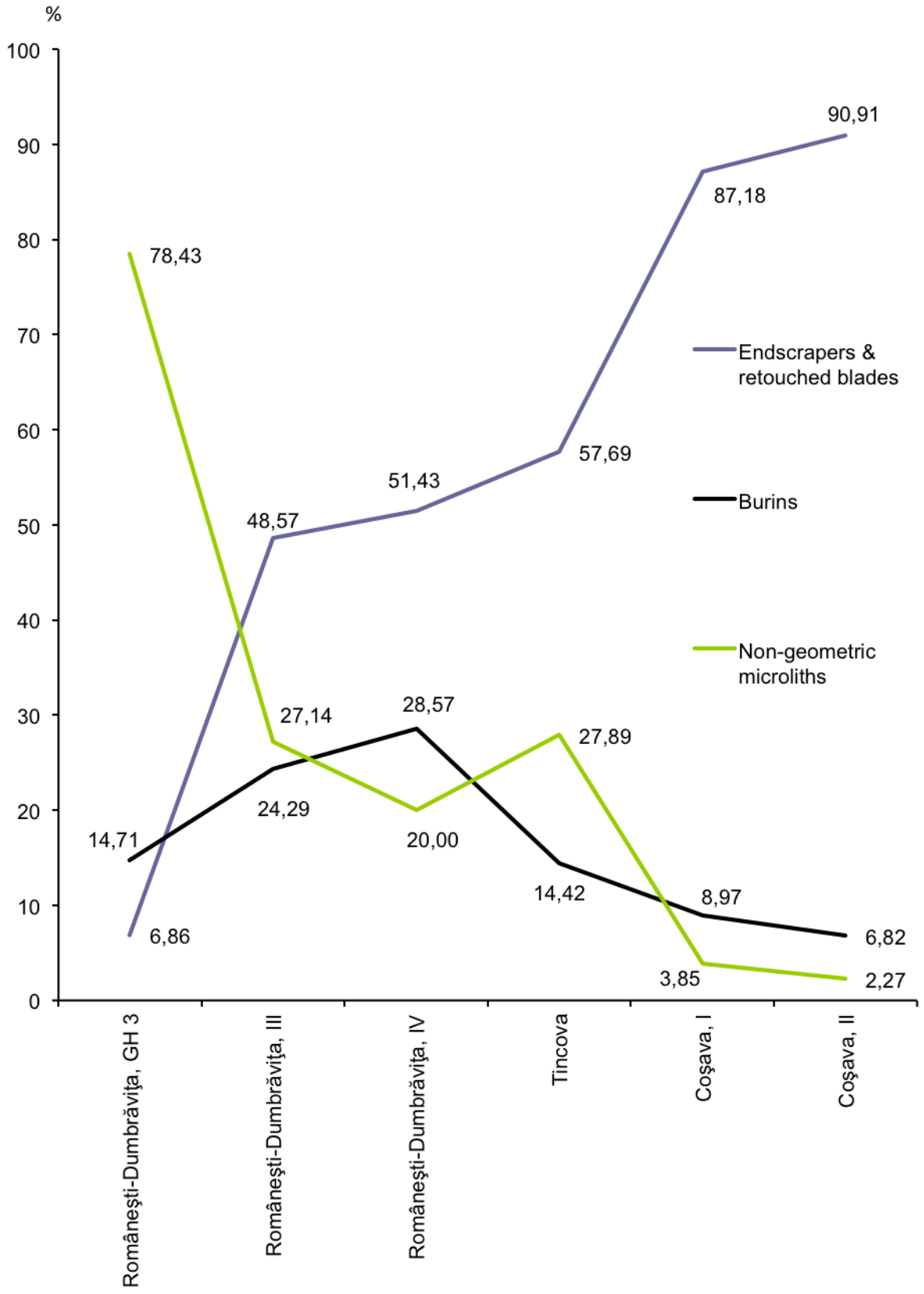


FIGURE 22 Banat Aurignacian assemblages: the relations between endscrapers & retouched blades, burins and non-geometric microliths.

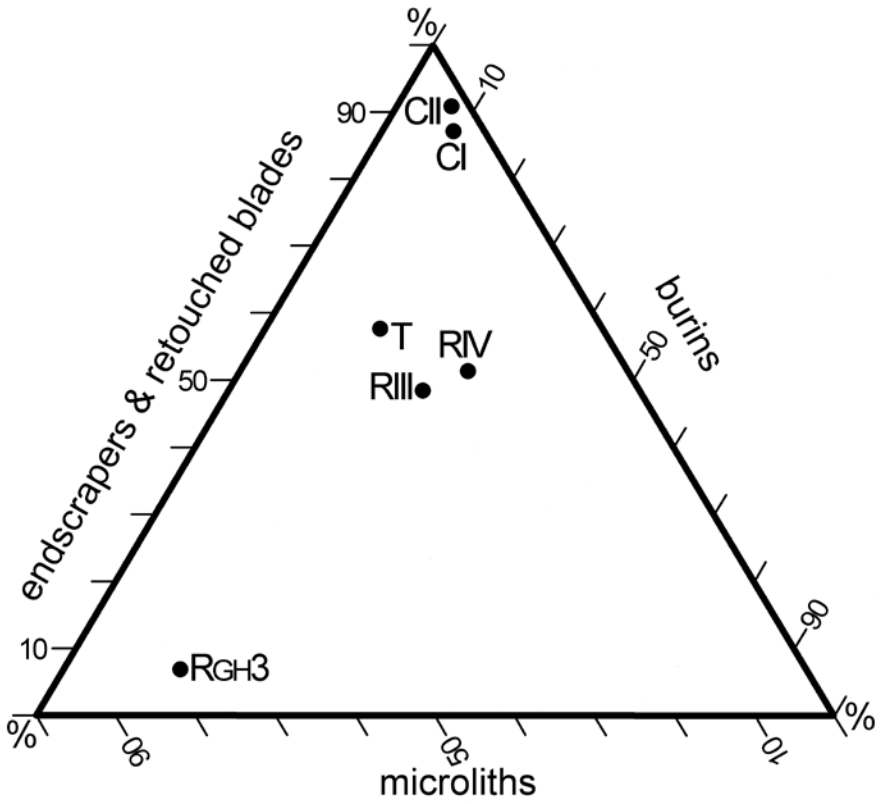


FIGURE 23 Banat Aurignacian assemblages grouped by the relations between endscrapers & retouched blades, burins and non-geometric microliths: CI – Coşava, I; CII – Coşava, II; T – Tincova; RIII – Românești-Dumbrăvița I, III; RIV – Românești-Dumbrăvița I, I; RGH3 – Românești-Dumbrăvița I, GH 3.

Românești-Dumbrăvița I GH 3 assemblage features a tremendous rate of microliths and extremely low percentages of endscrapers (including carinated) and retouched blades (including Aurignacian ones). The same assemblage shows the lowest rates of both tools and cores (**figure 21**). The opposite trend exhibits the assemblages at Coşava, levels I, II and III, with an extremely low percentage of microliths and a high frequency of endscrapers (including carinated) and retouched blades (including Aurignacian ones). These typological features in Coşava assemblages correspond with a high frequency of cores and tools. The intermediate position of Tincova and Românești-Dumbrăvița I levels III and IV, corresponds with medium values of 'domestic' tools (including carinated endscrapers and Aurignacian blades), burins and microliths, but relatively low percentages of cores and tools. It is worth reminding that the latter cluster, which should largely correspond to the newly defined GH3 horizon at Românești, is the result of old research. However, while a certain microlithic component was possibly lost, the percentage of cores and larger tools was likely less affected – an aspect which all the more sharpens the distinction above.

Despite their many common characteristics and undisputable Aurignacian affiliation, the assemblages of the Banat sites demonstrate a certain degree of technological and typological variability, which can be interpreted in chronological or functional terms – or both. The unfortunate lack of more accurate chronological landmarks for Tincova and Coșava, and the absence faunal and hence seasonal data, it is currently impossible to elaborate on any of these points. However, the rough chrono-cultural identity of these settlements in terms of stratigraphic position, raw material use, and technological and typological features seems indisputable. Moreover, as the three layers separated by sterile deposits in the obviously low-energy depositional context at Cosava suggest, this cultural phenomenon had a relatively long duration in the Romanian Banat.

Both the content of lithic collections and the TL chronological estimations available for Românești point to a rather old stage of the Aurignacian techno-complex, with clear affinities into the Protoaurignacian/Aurignacian 0 stage, as documented by the constant occurrence of Krems/Font Yves points and Dufour bladelets/micro-blades points. However, contrary to some recent proposals (Zilhão 2006; Teyssandier 2008), our reassessment does not allow signaling out Tincova as the sole representative of this Aurignacian trend/stage in the area. In fact, if one would maintain the criteria used by previous authors, the newly recovered industry from GH3 at Românești I displays more 'archaic' features than Tincova or other Banat assemblages. Taking into consideration the TL ages (40.0 ± 1.4 ka and 45.0 ± 1.5 ka, using different measurement protocols) and the technological and typological features recorded, this assemblage would fit the Protoaurignacian even better.

In the same time, the constant presence of carinated forms, twisted bladelets and classical Aurignacian blades in all analyzed toolkits recalls more the Aurignacian I. These features seem to threaten the clear-cut separation between the two Aurignacian aspects, at least as documented in other European areas and defended by many scholars (e.g. Mellars 2006). In fact, all Banat assemblages and especially Românești-Dumbrăvița I feature a combination of Proto- and Early Aurignacian traits, quite similar for instance, to the admittedly very distant layer C4c4 at Isturitz (Normand and Turq 2005; Szmidt *et al.* 2010a). Sticking a bit more to existing definitions, based on the commonly adopted approach for the definition of Aurignacian typological variability, Românești-Dumbrăvița I – GH 3 might be evaluated as Proto-Aurignacian/Aurignacian 0, while Coșava, levels I and II, might be attributed to the Early Aurignacian/Aurignacian I. The assemblages from Tincova and the old layers III and IV at Românești-Dumbrăvița I would therefore need to be assigned to an Aurignacian 0.5! In spite of the ironic touch of the last concept, it certainly reflects the actual variability of the Banat assemblages – if rigid definitions are indeed to be followed.

While always a theoretical possibility in the case of Paleolithic palimpsests, a mechanical mixture of two technological traditions – Protoaurignacian/Early Aurignacian – can be barely kept responsible for the 'mixed' features of Banat assemblages. The interstratification of the two alleged cultural phyla has simply not been yet documented – and certainly not in South-Eastern Europe. While scarcely possible at Tincova, where the timespan for the accumulation of the single layer there is unknown, or more likely at Românești, where the distinction between living floors remains difficult, such mixture is dismissed by the homogeneity of the three layers at Coșava. Coupled with the many features Coșava holds in common with the other settlements, this diachronic stability argues strongly for a single, internally consistent cultural phenomenon, which apparently defies the acknowledged Aurignacian taxonomy and recalls the technological 'syncretism' once invoked for Krems-Hundssteig (Teyssandier 2007:111). While a reframing of the Banat (at least in part) functional/taphonomic inter-site variability into strict chrono-cultural/evolutionary terms is currently impossible, it is worth asking if it would be indeed useful.

There are obviously no theoretical reasons to expect the Banat Aurignacian sequence to replicate, even imperfectly, any evolutionary succession postulated for Western, Central or Mediterranean Europe. However, if one accepts the reasonable hypothesis that the Banat assemblages do not present a systematic mix of artifacts belonging to two different technological phyla/stages, it is perhaps useful to have a closer look on the definitions of the Protoaurignacian and Early Aurignacian currently in use, all the more as they were recently reinstated (Banks *et al.* 2013). There are enough reasons to do so.

The recent reassessments of the chronology from Geissenklösterle (Higham *et al.* 2012) or Franchthi Cave (Douka *et al.* 2011), much like the older estimation of the 'dissociated' bladelet production at Fumane (Broglio *et al.* 2005), blur the distinction between the Protoaurignacian and the Aurignacian I in precisely those areas where it should have been the clearest (Swabian Jura vs. Mediterranean Europe). Closer to the Banat region, layer 3 at Willendorf II (Danube valley), already dated to around 39 ka - 38 ka uncalBP, has been recently confirmed as belonging to an Early Aurignacian, after the reassessment of a larger lithic sample (Nigst & Haesaerts 2012). These results overtly contradict the postulate of the first Aurignacian industries emerging around 35 ka uncalBP (Banks *et al.* 2013). However, the collection here does include unipolar blade/let cores and carinated/nosed endscrapers bearing traces of regular bladelet production, both thought to represent best the classic Aurignacian. The nearby settlement at Seftenberg, displaying a rather classic Aurignacian component, has also been dated to 36.3 ka uncalBP.

Various occurrences of 'mixed' features (e.g. split base points and Dufour bladelets) are reported from Western Europe as well (Szmidt *et al.* 2010b). Carinated endscrapers and twisted bladelets occur alongside Dufour bladelets at Grotta La Fabbrica (Dini *et al.* 2012). At Riparo Mochi, the distinction between the Protoaurignacian and Aurignacian layers (H-G), although separated by distant radiocarbon ages, is unclear and both contain Dufour bladelets (Douka *et al.* 2012). The occurrence of Dufour subtype bladelets is actually defying the Aurignacian chronological boundary in many Italian contexts (Dini *et al.* 2012). Even the advocates of a geographical segregation (Fumanian vs. classic Aurignacian) comment ambiguously on the presence of Aurignacian types (like typical nosed and carinated scrapers or heavily edge-retouched blades) in Protoaurignacian/Fumanian assemblages: 'these are both less frequent and generally much less typical than in the classic Aurignacian industries' (Mellars 2006:170). As some authors rightly stress, the presence/absence of certain tool-types and characteristic 'cultural or chronological markers' could depend on site function, biases in sampling/excavation areas *etc.*, as well as on digging methods applied in the past (Nigst & Haesaerts 2012:598). In fact, key defenders of the chronological succession between Protoaurignacian and the Aurignacian I concede the presence of carinated forms in some Protoaurignacian contexts, further suggesting a likely mosaic development of regional features (Teyssandier *et al.* 2010). Whatever caused the emergence of the 'classical' Aurignacian technological constellation, imagining an organic and almost synchronous stadial development, climatically-driven or not (Banks *et al.* 2013) is after all unlikely, to say the least.

Moreover, emphasizing solely the (undisputable) polymorphism of Protoaurignacian (e.g. Dini *et al.* 2012:572) by contrasting it with the (disputable) homogeneity of the Aurignacian leaves the impression of some sort of cultural 'maturation' in time. Such a chronologically-based teleology parallels dangerously the older model defending the gradual crystallization of an Eastern-originating Aurignacian, ironically criticized a decade ago (Zilhão & d'Errico 2003:343–344). Taking the risk of a superfluous observation, the Protoaurignacian, if real, is definitely not an immature version of a later or, for that matter, more continental cultural phenomenon.

In the light of all these, it is perhaps worth asking if both the diachronic and the geographic seclusion of the Protoaurignacian from the Early Aurignacian/Aurignacian I, on a continental scale at least, is anything more than a research artifact, due to selective preservation/recovery/description of assemblages and wishful technological 'schemes', aggravated by partially overlapping chronologies. While elaborating on such a far-reaching topic is beyond the scope of this paper, the Banat industries provide some useful food for thought in this respect.

5 NORTHWARD, SOUTHWARD? TRACING THE SOURCE OF THE BANAT AURIGNACIAN

Keeping in mind the uncertainties above, one cannot ignore, however, the many common features which recommend the Banat assemblages as belonging to the huge Aurignacian family in Europe. Their chronological compatibility to the AMH fossils at Oase Cave is a noteworthy bonus for this stage of research, but more data are needed in order to establish a correlation in terms of artisanship. Looking for their origin and possible analogies is the next logical step, a point which brings us closer to the topic of the current meeting, population movements.

The homogeneity of the Aurignacian technocomplex *sensu lato* (Protoaurignacian included) remains puzzling for current Paleolithic research, which still lacks the chronological means for translating material equifinalities at multi-millennial scale (e.g. technocomplexes) into behaviorally meaningful terms. Unfortunately, the latter (innovation, diffusion, acculturation or population movements) often happen at smaller scale and shorter timespans – a reality which explains why the origin and expansion of the Aurignacian across Europe is still fiercely disputed after many decades of intensive researches.

Drawing excessively long arrows binding similar, but essentially random occurrences and presumably tracing past population movements/diffusion waves proved repeatedly wrong in archaeology. In the particular case of Banat occurrences, the situation is even worse, as arrows are pointing in opposite directions. Our results currently support the idea of an early and likely intrusive presence of the Aurignacian technocomplex in the Lower Danube. No ancestry in the local Middle Paleolithic, generally dominated by expedient quartz flake industries, could be proven for these fully articulated laminar industries. Where are they coming from? As the recently documented chronology, which statistically overlaps the age of Oase finds, connects the Banat settlements to some of the oldest Aurignacian *sensu lato* occurrences in Europe, the issue at stake is obvious.

The closest Aurignacian settlement cluster known in Romania (Oaș-Maramureș, to the North) displays only a few 'classical' Aurignacian features, but chronically lacks microlithic implements or a secure chronology (Anghelinu and Niță, in press). In the lack of closer alternatives, the Banat Aurignacian can be thus seen as holding an intermediate geographical position between the Balkans (e.g. Kozarnika, ≈39 ka uncal BP; Sirakov *et al.* 2007; Tsanova *et al.* 2012) and some Central/Eastern European (e.g. Krems-Hundssteig, Willendorf II, layer 3, Beregovo I) comparable occurrences (Protoaurignacian/Early Aurignacian). Krems provides a poor analogical pillar, as the integrity of the collection there is dubious and the related chronology unclear (Teyssandier 2007; Nigst & Haesaerts 2012). Willendorf II delivered only a small lithic sample, lacking non-geometric microliths. The new investigations at Beregovo I (Ukrainian Transcarpathia) brought up an industry with numerous classically retouched Dufour microblades/bladelets, some narrow-faced cores, carinated and thick endscrapers, as well as few burins, including carinated and on truncation (Usik 2008). Such artifact composition recalls data which were obtained from the newly excavated Românești-Dumbrăviţa I – GH 3. According to V. Usik, the Beregovo I assemblage, attributed to an Early Aurignacian of Krems-Dufour type, should be older than ca. 30 ka BP, as the finds occurred below the complex of soils covered by the Denekamp paleosoil. Looking to the East, similar assemblages at Siuren I rock shelter, Units H and G can also be assigned to this group (e.g. Demidenko & Otte 2007; Demidenko & Noiret 2012). While the young chronology here clearly separates these industries from the Banat settlements, they prove once more the chronological ubiquity of the Dufour phenomenon.

Apart from the chronological compatibility, Kozarnika (layer 7) is not only closer (ca. 200 km from Tincova as the crow flies), but also stratigraphically secure, and statistically more relevant. The massive use of local raw material in all these industries is a first common feature. Multiple laminar reduction strategies (from unipolar/carinated, narrow-faced or, more rarely, bipolar cores) were also reported at Kozarnika. While the continuous production of blade/bladelets from the same nuclei is usually stressed for Kozarnika, it is perhaps worth mentioning the small size (3–6 cm) of the natural nodules used (Tsanova *et al.* 2012:474) rendering somehow superfluous such a continuity. The general structure of the assemblages display many similarities: dominance of knapping waste, soft hammer percussion, laminar oriented production, a small amount of retouched tools (of which 40 % are made on flakes), several truncated pieces *etc.* The bladelets morphometric features, including Dufour and pseudo-Dufour types are also comparable, although at Kozarnika there are more points with bilateral direct retouch (also present in the Banat collections, e.g. Tincova) than Dufours. Some endscrapers on retouched blades were also reported. Contrary to the Banat assemblages, however, the Kozarnika assemblage includes several bifacial points, very few burins and several marginally retouched large blades (Tsanova *et al.* 2012:479, fig. 5).

Unfortunately, apart from Kozarnika, a settlement itself isolated among other well-known Early Upper Paleolithic manifestations (e.g. Temnata, Bacho Kiro), no other occurrences can presently help tracing the origin of the Banat Aurignacian phenomenon to the South. A Central European source for the Banat phenomenon cannot thus be excluded with the data at hand. After all, the Danubian corridor, if indeed real, may have worked both ways. While the Near East/Anatolian connection systematically failed in getting empirically substantiated, the recent reassessments of Central European Aurignacian, especially if confirmed and multiplied by further researches, could lead to a major shift in mapping (one of) the homeland(s) of this technocomplex – if such as objective is ever achievable by current archaeological means (Zilhão & d'Errico 2003:344–345). In fact, a purely European origin for the Aurignacian has already been proposed (Teyssandier 2007). It is perhaps worth noticing that the few exotic raw materials identified in layer 3 at Willendorf II point to Northern, Moravian or Polish, sources (Nigst & Haesaerts 2012). Hopefully, several obsidian samples, a definitely distant exotic raw material, recovered from both Românești-Dumbrăvița I (GH 3, GH 4) and Coșava will help us point more firmly in one direction or the other.

Whatever the source of this technological 'idea' (Tsanova *et al.* 2012), once certificated its old age in the Banat area, Romania's key geographical position for a better understanding of the early stages of the European Upper Paleolithic is reinforced. We can only hope that further researches in the area will substantiate it with new settlements.

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