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THESPROTIA EXPEDITION I
TOWARDS A REGIONAL HISTORY

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Cover: The Early Hellenistic fortress Agios Donatos of Zervochori seen from the south.
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Contents

Preface		i
Björn Forsén	<i>An Interdisciplinary Odyssey into the Past</i>	1
Evangelos Tourloukis Ourania Palli	<i>The First Mesolithic Site of Thesprotia</i>	25
Antonia Tzortzatou Lila Fatsiou	<i>New Early Iron Age and Archaic Sites in Thesprotia</i>	39
Jeannette Forsén	<i>The ‘Dark Age’ in the Kokytos Valley – Not So Dark After All</i>	55
Mika Lavento Maria Lahtinen	<i>Geo-archaeological Investigations at Mavromandilia of Prodromi</i>	73
Irini Svana	<i>The Rural Sanctuary at Kyra Panagia</i>	89
Peter Funke	<i>Concilio Epirotarum habitato – Überlegungen zum Problem von Polyzentrismus und Zentralorten im antiken Epirus</i>	97
Γιάννης Πίκουλας	<i>Αναζητώντας αμαξιτούς οδούς στη Θεσπρωτία</i>	113
Mikko Suha	<i>The Fortification Walls of Agios Donatos</i>	119
Esko Tikkala	<i>The Frieze-Epistyle Blocks of Agios Donatos</i>	133
Markku Niskanen	<i>A Shift in Animal Species Used for Food from the Early Iron Age to the Roman Period</i>	145
Janne P. Ikäheimo	<i>Stamped Terra Sigillata from Agios Donatos</i>	155
William Bowden	<i>Thesprotia in the Context of Roman and Late Antique Epirus</i>	167
Erkki Sironen	<i>Some Notes on Inscriptions of Roman Date from Thesprotia</i>	185
Νίκη Βασιλικού	<i>Παλαιοχριστιανική βασιλική στην Κρυσταλλοπηγή Παραμυθιάς</i>	197
Asterios Aidonis Anestis Emmanouil	<i>The People of Doliani: An Approach to the Paleodemography of the Late Byzantine Cemetery</i>	207
Mika Hakkarainen	<i>Venetian Presence in Thesprotia</i>	223
Timo Sironen	<i>An Ottoman Sepulchral Stele from Paramythia</i>	239
Evangelia Balta Fehmi Yilmaz Filiz Yaşar	<i>Tsamouria – Nineteenth Century Ottoman Thesprotia</i>	245
List of Contributors		275

The First Mesolithic Site of Thesprotia

Evangelos Tourloukis and Ourania Palli

Introduction

During the intensive surface survey which formed part of the Thesprotia Expedition, a lithic scatter, PS 3, was discovered in the Kokytos valley. The preliminary study of the lithic assemblage shows that the site can be assigned to the Mesolithic period. It is the first site of its kind to be recorded in Thesprotia.¹

The Mesolithic² period in Greece, ranging from ca. 10,500 to 9,000 years BP, remains poorly investigated, with only five excavated sites³: the shell-midden of Sidari in Corfu, providing the first definite Mesolithic evidence⁴; Franchthi Cave in the Argolid, offering the first well-stratified sequence⁵; the caves of Theopetra in Thessaly⁶ and Klisoura in the Argolid⁷; and lately, the Cave of Cyclope on the island of Youra (northern Sporades) with its fish-hooks and the fish bone assemblages.⁸ Except for the inland site of Theopetra and perhaps also Klisoura, all of the aforementioned sites are situated either in coastal areas or on islands. This kind of site distribution originally led to the assumption that the Greek Mesolithic was a sea-oriented period, but, as new finds emerge, the legitimacy of an overall maritime character for the period and its corollary of a depopulated hinterland is being challenged.⁹ For instance, recent surface finds from the area of Grevena, discovered at altitudes of no less than 1,600 masl, are expected to raise interesting questions.¹⁰ All newly discovered Mesolithic sites have been identified during the course of intensive surveys. These include the two sites of the Berbati-Limnes survey area in the Argolid (FS 200, FS 201), fifteen sites at Kandia, Argolid, the sites on Alonnisos, and six sites in the Preveza region (Fig. 1).¹¹

Because of the patchy and unclear geographical/environmental distribution, many aspects of Mesolithic subsistence strategies, life-styles and adaptations remain elusive. Additionally, two main questions with regard to the preceding and succeeding periods

¹ Two further sites with similar finds, PS 1 and PS 43, were detected by the survey, but the lithic assemblages have not been studied in detail so far.

² Instead of “Mesolithic”, the term Epipalaeolithic is preferred by a number of scholars, mostly those working in the Balkans and the Near East, as emphasizing a sort of continuity with the Palaeolithic period. Since such a continuous development from the preceding period cannot so far be demonstrated at any of the known Greek Mesolithic sites, we choose to use the term Mesolithic.

³ For the now lost or destroyed Ulbrich and Zaimis Caves, see Galanidou 2003.

⁴ Sordinas 1970.

⁵ Perlès 1990.

⁶ Adam 1999; Adam 2000. Kyparissi-Apostolika 2003

⁷ Koumouzelis *et al.* 1996.

⁸ Sampson 1998; Sampson *et al.* 2003.

⁹ Galanidou and Perlès 2003; Galanidou 2003, 111; Bailey 1999, 166.

¹⁰ Efstratiou *et al.* 2004.

¹¹ For Berbati-Limnes see Runnels 1996; for Kandia see Runnels *et al.* 2005; for Alonnisos see Panagopoulou *et al.* 2001; for Preveza see Runnels and van Andel 2003.

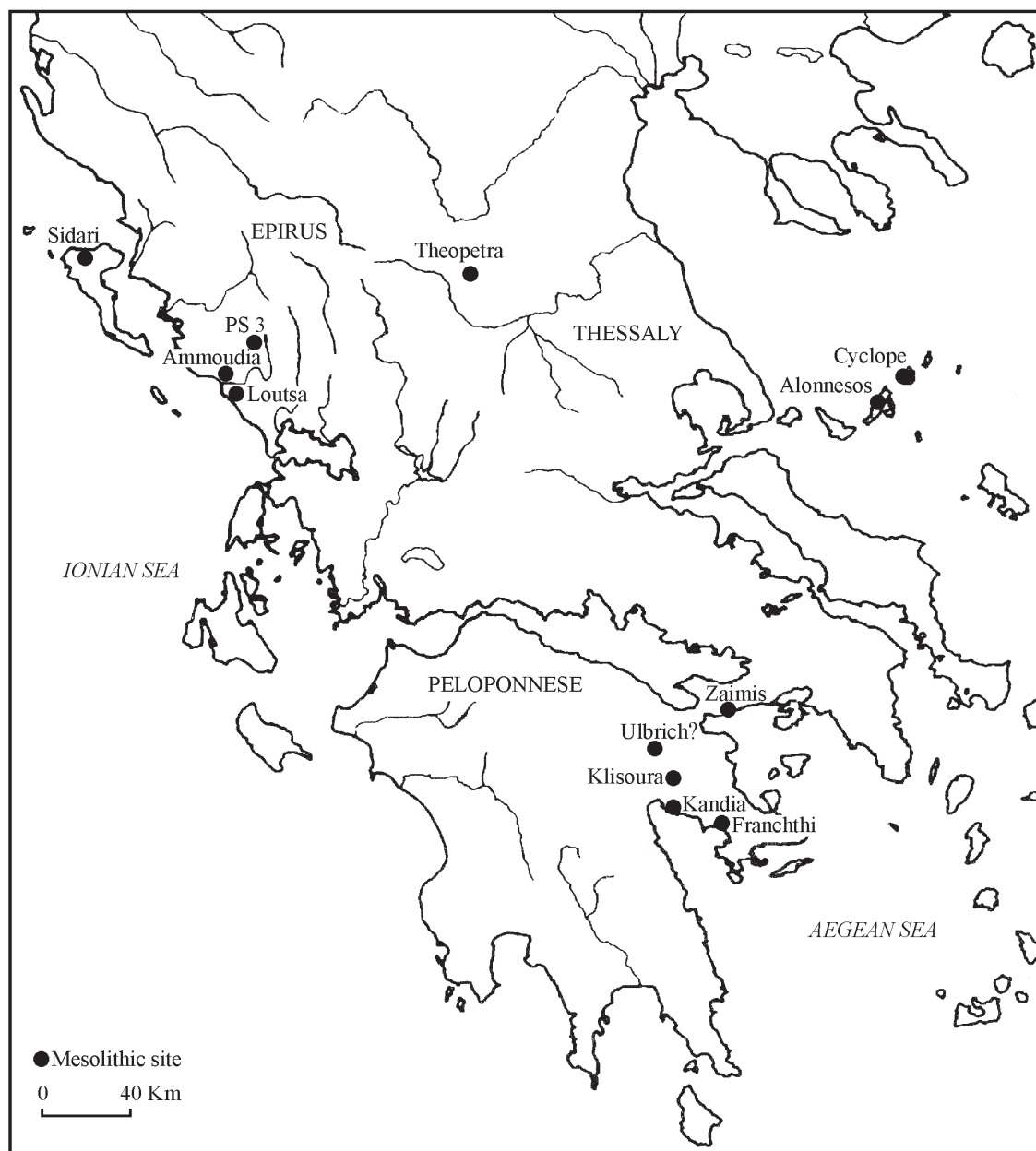


Fig. 1. The location of PS 3 in relation to other Mesolithic sites.

require further study: what is the relation of the Mesolithic with the Upper Palaeolithic, in view of the environmental transition with the onset of the Holocene, and the chronological gap between the latest Upper Palaeolithic sites and the earliest Mesolithic ones; and how is the Mesolithic connected to the advent of the Neolithic period? The latter issue, the “Neolithization of Greece”, is still hotly debated, as it touches upon questions pertaining to the Mesolithic demography, the distribution of sites and the intensity of occupation, the economic activities, and the continuation (or not) of settlements throughout the Mesolithic and into the Neolithic.¹² Thus, the discovery of PS 3 in Thesprotia, one of the few inland sites, can be considered as a valuable addition to the scarce evidence of the Greek Mesolithic record and a significant contribution towards the answering of the aforementioned questions.

¹² Perlès 2001; Kotsakis 2003; Runnels 1995.



Fig. 2. The location of PS 3 seen from the east.

Site Location

The site is situated in the Kokytos valley, to the north of the village Karvounari, on the east slope of a small ridge thrusting out into what used to be a seasonally wet area called Nerotopos (Fig. 2). Another lake to the northeast and an ephemeral one to the north are located not far from the site, whereas, at a short distance to the east, the Kokytos river runs. Evidently, the site's location is directly related to either seasonal or perennial water resources, an association which has also recently been demonstrated by a site-location model for Mesolithic sites in the Kandia region, in the Argolid.¹³ We can reasonably assume that human groups took advantage of this locality, in between three resource zones. The lacustrine environments of the above-mentioned lakes would have offered fresh water and, as animal watering-places, could have served as ideal hunting spots, whereas plant-gathering would be promoted by a rich wetland vegetation community. Similarly beneficial resources can be legitimately envisaged for the riverside setting around the Kokytos, whereas the forested upland areas of the Paramythia mountain chain would have provided further alternatives for hunting and gathering, and possibly raw material acquisition as well. The Kokytos riverbanks are rich in good-quality flint resources. Thus, combined with a more detailed study of the lithic assemblage, further investigations of the geomorphological setting, the topographic relief and the overall environmental conditions within the site catchment are expected to reveal valuable information on the relationship between human activities and the palaeoecological background.

¹³ Runnels *et al.* 2005.

The lithic assemblage

The assemblage makes up a total of 534 artefacts. From these, thirty-nine were treated separately and they were excluded from the metrical analysis, as they are patinated. Although patination is still not well understood, Palaeolithic research in Epirus has shown so far that it can be used as a thumb-rule in dating: less heavily patinated assemblages are usually associated with the Upper Palaeolithic, whereas non-patinated artefacts are expected to be of a post-Pleistocene age.¹⁴ Indeed, the PS 3 patinated artefacts seem to be typologically older than the Mesolithic (Middle Palaeolithic?), and therefore are not discussed here. Such an admixture of older (or later) material is not unexpected in the case of surface collections.

Excluding the aforementioned patinated pieces, which display an overall greater degree of weathering (with blunted ridges as well), the artefacts were found in mint to sharp condition, with no evidence of rolling or surface alterations. Except for a few pieces made on chert and quartzite blanks, flint is the prevailing raw material (Fig. 3). Beige and light grey flint have the highest frequencies, almost equally comprising 70% of the assemblage; light brown flint follows with some 16%. Whereas the preliminary study revealed no significant associations between raw material types and techno- or typological groups, it is noteworthy that one of the two largest groups of raw material, namely what we call “light grey” flint, is reminiscent of what Sordinas describes as “grey translucent flint”, which, in the case of Sidari, is by far the most commonly used raw material. Sordinas reports that it was not possible to determine the provenance for this type of flint in the site’s nearby area, and he postulates that it might have been of non-local origin, imported from elsewhere.¹⁵ Whatever the case may be, the PS 3 flint was most probably available in secondary sources, perhaps in the form of pebbles deriving from streambeds, as the cortex seems to suggest.

Raw Material	Number of Artefacts	%
Flint: Light grey	154	32.0
Flint: Dark grey	25	5.0
Flint: Beige	183	38.0
Flint: Light brown	77	16.0
Flint: Dark brown	17	3.5
Flint: Honey brown	2	0.4
Flint: Mauve	13	2.0
Flint: Other	6	2.6
Quartzite	9	1.8
Chert	7	1.4

Fig. 3. Raw material frequencies.

¹⁴ Runnels *et al.* 2004, 13, 17; Runnels and van Andel 2003; see also Papagianni 2000. However, there may exist exceptions to this rule as shown by the lithic assemblage of PS 4, which is Middle to Upper Palaeolithic in date, but which shows no signs of patina.

¹⁵ Sordinas 1969, 402. Notably, the Palaeolithic, Neolithic and Bronze Age Sidarian artefacts were made of other kinds of flint, which were available in the area (Sordinas 1970, 8). For practical reasons we were not able to examine the Sidarian assemblage, and therefore we cannot confirm at the moment whether the PS 3 light grey flint is identical to or a (coarser?) variant of the grey translucent flint which was in use at Sidari.

	Cores	Flakes	Blades/Bladelets	Retouched Tools	Debris	Total
N	19	99	4	304	69	495
%	3.8	20.0	0.8	61.4	13.9	99.9

Fig. 4. Assemblage composition. Patinated artefacts (N= 39) are excluded. Retouched Tools include microliths, retouched blades, and “utilized flakes” (flakes with “use-retouch”). Debris includes specimens with less clear flake-scars (e.g. platform, bulb of percussion), debitage products, as well as possible “technical pieces” (e.g. for the rejuvenation of a core).

The most striking feature of the PS 3 assemblage composition is the high number of retouched tools (Fig. 4). Consistently with the remaining categories of chipped stone, most of the tools are made on light grey and beige flint. Except for the microliths which are discussed below, the tool inventory includes mainly “transformation tools” and is dominated by various forms of retouched flakes, most of which have a partial, lateral retouch, often alternate or alternating. Other classes include scrapers (end- and side-scrapers, transverse, etc.), notched and denticulated pieces, and perçoirs, whereas combination tools are also relatively abundant (Fig. 5). Conspicuous by their small number are blades and bladelets: out of only fifteen in total, most of them are bladelets and eleven are retouched. Hence, the vast majority of the tools have been shaped on *flake blanks*, while flakes predominate in the debitage class as well. Laminar products are nearly lacking. Furthermore, in accordance with the overall lack of abrupt retouch among the formal tools, backed pieces are absent from the assemblage.

The Mesolithic character of the assemblage is supported by the generally small scale of the artefacts, particularly those with a maximum dimension of less than 2 cm, which, when retouched, are classified here as *microliths*. About half (41%) of the unmodified flakes are microlithic in size and 1/3 of the retouched tools consist of microliths (Fig. 6). These pieces have *non-geometric* forms and they have *not* been manufactured by the

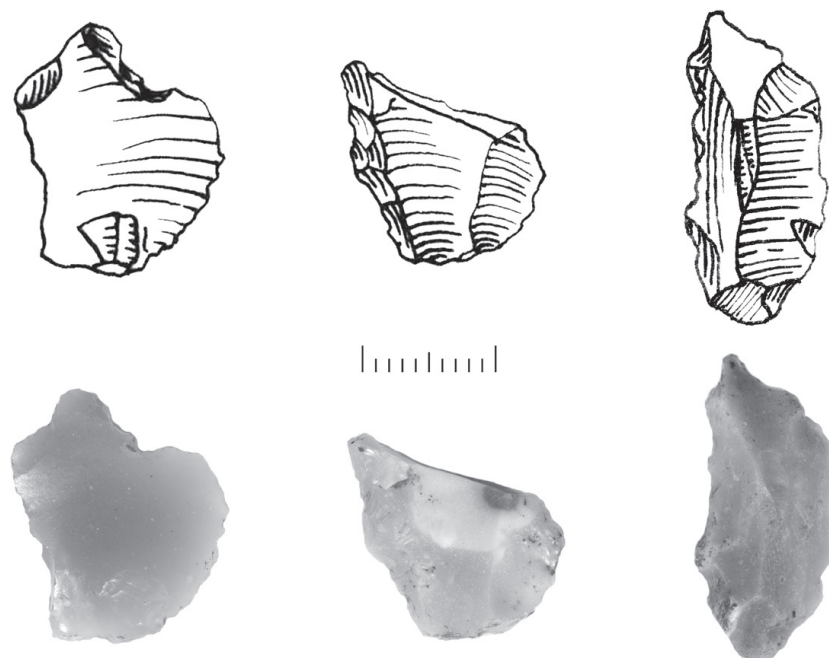


Fig. 5. Retouched Tools.

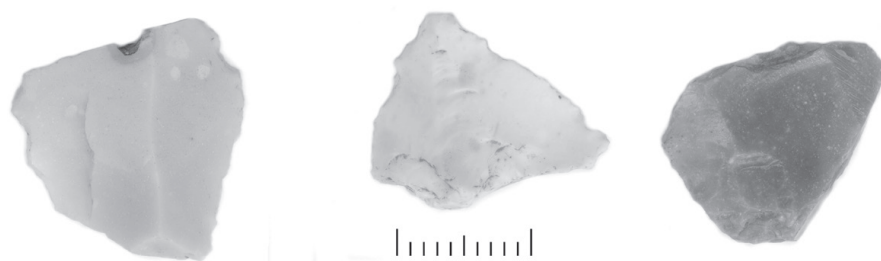


Fig. 6. Microliths.

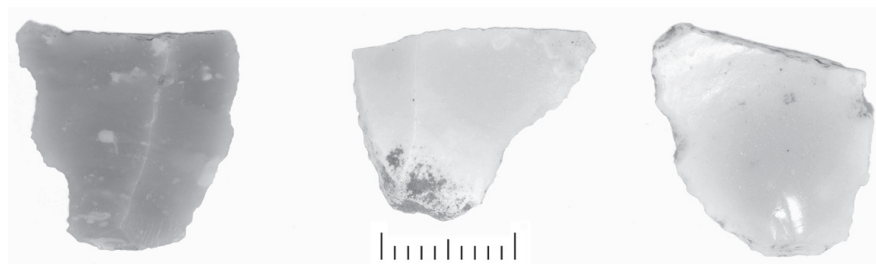


Fig. 7. Microliths on snapped pieces or on flake fragments.

microburin technique¹⁶; rather, they have been shaped on flake blanks and flake fragments that were first snapped and/or retouched (Fig. 7). Even when this type of artefacts appears in a somewhat geometric shape (e.g. “trapezoids”), it is still clear that they have not been manufactured on blade/bladelet blanks. Hence, from a technological point of view (including the lack of the microburin technique), the PS 3 microlithic component is definitely at variance with the formal geometric microliths (e.g. the classical forms of segments or crescents, trapezes, triangles, etc.).

Raw material	Median Values			
	Length	Width	Thickness	Scar nr.
Flint: Light grey (n=7)	34.0	31.0	19.0	5.0
Flint: Light brown (n=3)	30.0	26.0	22.0	13.0
Flint: Beige (n=3)	33.0	26.0	20.0	10.0
Flint: Dark grey (n=2)	33.0	30.0	18.5	10.0
Flint: Dark brown (n=1)	35.0	28.0	19.0	14.0
Flint: Other (n=2)	34.5	23.5	19.0	6.5
Chert (n=1)	39.0	39.0	34.0	6.0

Fig. 8. Cores (n=19): Median values for dimensions (all in mm) and scar number in relation to raw material. Two patinated cores have been excluded.

Metrical data of the cores (Fig. 8) further demonstrate the overall microlithic nature of the assemblage: with average dimensions of 34, 28 and 19 mm in length, width and thickness respectively, the PS 3 cores can be described as diminutive; in that respect they are reminiscent of the Sidarian cores. Cortical parts are retained in more than half of the cores (63%), covering from 5% to 25% of the total surface. Cortex, although only in

¹⁶ Whereas microburins are so small that sieving is the only secure collection method for their recovery, the sampling strategies used by the survey team fairly ensure that we have not missed much, since specimens of less than one centimeter have been collected and recorded as well.

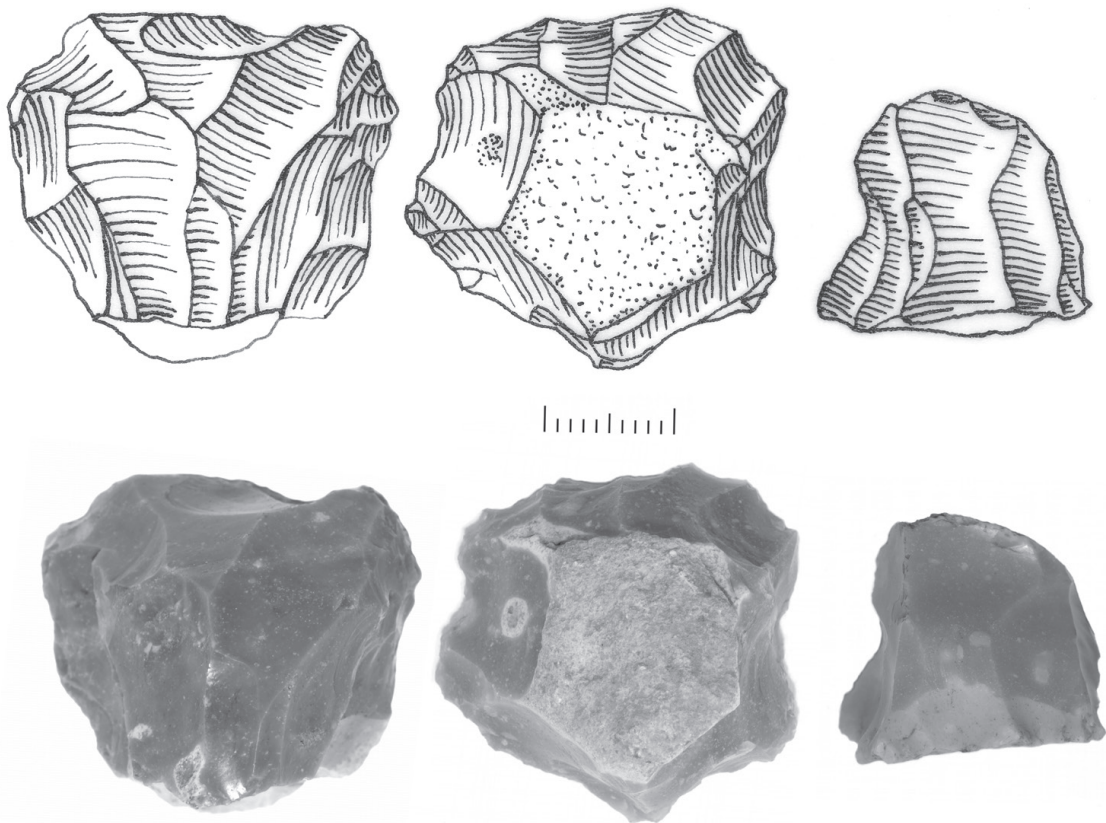


Fig. 9. Cores.

one case present in more than one spot, is a further indication of the microlithic size of the original pebbles from which the cores were knapped. Coupled with the low percentage of cortex coverage (10% on average), scar counts (mean no.: 8) clearly demonstrate that the cores were exhaustively flaked, considering also their small size (Fig. 9). All of the cores bear flake- and bladelet-scars, in multiple directions and usually averaging between 10 to 15 mm in length. Most of the pieces are of amorphous types, followed by globular and semi-globular types.

Interpretation and affinities with other Mesolithic industries

The preliminary study of the PS 3 lithic industry, along with informative conclusions derived by comparison with other known Mesolithic assemblages, allowed us to ascribe the site to the Mesolithic period. In addition to the technological and typological observations which follow below, we consider that, apart from the lack of any pottery, the following criteria constitute a strong basis for attributing the site to the Mesolithic:

1. Middle and Upper Palaeolithic diagnostic lithic tool-types, as well as Bronze Age artefacts, are lacking.¹⁷

¹⁷ It has already been mentioned that an admixture with artefacts from other periods cannot be ruled out: the patinated pieces, in particular, should probably be ascribed to the Palaeolithic, whereas it is possible that an expert on the Neolithic would be able to recognize artefacts of this period among the debitage products (but certainly not among the retouched tools and/or the cores).

2. Because of the overall absence of any specimen that could be securely attributed to either the Upper Palaeolithic or the Neolithic, the microlithic character of the assemblage can only be associated with the Mesolithic period.

3. The study of the material revealed strong affinities with other Greek Mesolithic assemblages, most importantly with that of the open-air site of Sidari in Corfu.

The technique of shaping microliths on flakes, flake fragments or (often snapped) small-sized pieces of debitage (e.g. chips) is also present in the sites of Sidari, Ammoudia, Loutsa and Tsouknida in the Preveza district, and Kryegjata B in Albania.¹⁸ By snapping¹⁹ and/or retouching one or more of the edges of the blank, the result is a rather irregular microlithic piece, without a proper (and thus classifiable) geometric form, sometimes without even a pointed or sharp edge. Notably at Franchthi, the microburin technique for the production of “formal” microliths, although present in the *Upper Palaeolithic* levels, disappears in the following Lower Mesolithic layers (phase VII), where the microlithic component is radically reduced. When they reappear in the Upper Mesolithic (phase VII), microliths are abundant (though still far less than those of the Upper Palaeolithic), but most of them “are not of any typical Mesolithic variety”, they do not have points or sharp edges, and even “the more classical microliths, such as trapezes, are also unusual, since they are manufactured on flakes rather than blades or bladelets, without the use of the microburin technique”, as Perlès notes.²⁰ A similar pattern, where the microburin technique is present in the late Upper Palaeolithic layers and absent in the next, Mesolithic strata, is seen also in Klisoura²¹, while there is no evidence of use of this technique in Sidari and Theopetra as well.²²

Nevertheless, it seems that the microlithic component of PS 3 has even greater affinities with the site of Sidari: microburins, backed bladelets and geometric microliths are absent, and the blanks that are snapped and/or retouched into microliths are flakes/fragments, rather than blades.²³ Moreover, the type of retouch present in PS 3 tools is the same as that described by Sordinas for Sidari²⁴, and reported also for Franchthi²⁵, the Preveza sites²⁶ and Kryegjata B²⁷: it is a fine, nibbling (pressure?) retouch, usually

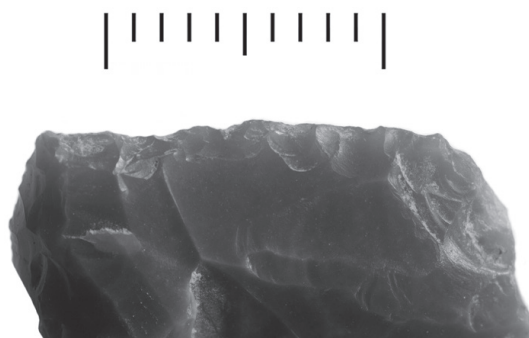


Fig. 10. Detail of retouched microlith.

¹⁸ For Sidari see Sordinas 1970; Sordinas 2003; for the Preveza sites see Runnels and van Andel 2003; for Kryegjata B see Runnels *et al.* 2004.

¹⁹ Sordinas 1970, 10, stresses that this “snapping process” is observed as either a preparatory stage or “an end in itself” in the manufacture of microliths.

²⁰ Perlès 2003, 82.

²¹ Kozłowski cited in Galanidou 2003; Koumouzelis *et al.* 2003.

²² In other words, this pattern concerns all excavated Mesolithic strata. The case of the Cave of Cyclope is not discussed here, due to certain unanswered issues with regard to the discovered obsidian microburin and microliths (see discussion in Sampson *et al.* 2003).

²³ Sordinas 1970; Sordinas 2003.

²⁴ Sordinas 1970, 11-12.

²⁵ Perlès 1990, 46-79; Perlès 2001.

²⁶ Runnels *et al.* 1999, 126; Runnels and van Andel 2003, 119.

²⁷ Runnels *et al.* 2004, 18.

marginal and often alternate/alternating and discontinuous (Fig. 10). The main classes of the PS 3 tool inventory also match those reported for Sidari, the Preveza assemblages (with the exception of backed blades, which are present at Ammoudia), the Kryegjata B industry, Theopetra and, albeit to a somewhat lesser extent, Klisoura as well (chiefly the upper Mesolithic layers).²⁸

To sum up, the Mesolithic assemblage of PS 3 displays remarkable similarities first of all with the Sidarian industry, with which it shares practically the same type of toolkit and retouch, whereas the technique for the production of microliths fits exactly that portrayed vividly by A. Sordinas.²⁹ As has already been mentioned, parallels with Sidari are found also with regard to the “absence of evidence” (i.e. of microburins, backed pieces, geometrics). The sites from the Preveza district, together with the Albanian site at Kryegjata and the cave of Theopetra, offer the next examples with which PS 3 can be compared. As regards Franchthi, the resemblances with PS 3 concern aspects of both the Lower and the Upper levels: in the case of the former (i.e. Franchthi phase VII), the relationships are found in the presence of a flake-dominated assemblage “with a retouched toolkit consisting mainly of marginally retouched flakes, notches, denticulates and end-scrapers”³⁰; in the case of phase VIII, where the Franchthi basic toolkit remained unchanged, the “atypical” microliths – manufactured without the use of the microburin technique – resemble those found in PS 3.

Discussion

Greek Mesolithic industries

As reflected in the technical traditions, the overall economic dimensions of the Greek Mesolithic have been characterized as “idiosyncratic”³¹: at Franchthi, for instance, “typical Mesolithic” lithic elements, such as Sauveterre points and geometrics, appear at the final Pleistocene levels, and a similar situation may be true for Klisoura³² and Zaimis Cave, as well as for other sites.³³ Whether we are looking at a “Mesolithization process” occurring in Greece earlier than in the rest of Europe³⁴ is still an issue for further investigation. Whatever the case may be, certain features of the Greek Mesolithic industries do move away from the general picture attested in the rest of Europe,³⁵ with the following being the most prominent examples: the absence of microliths in a number of sites and the presence of non-geometric specimens in others, together with the relevant issue regarding

²⁸ Sordinas 1970, 13; Runnels and van Andel 2003, 119; Runnels *et al.* 2004, 18; Adam 1999, 267; Adam 2000, 165; Koumouzelis *et al.* 2003, 114-115.

²⁹ Sordinas 2003, 91-92.

³⁰ Perlès 2003, 82.

³¹ Perlès 1999, 315; Perlès 2003, 83; Galanidou and Perlès 2003, 31.

³² Note however that the Mesolithic layers at Klisoura Cave 1 show a continuous development from the Epigravettian tradition as it appears in Cave 7 (Koumouzelis *et al.* 2003, 118), whereas there is a temporal hiatus between phases VI and VII at Franchthi.

³³ Koumouzelis *et al.* 2003; Galanidou 2003.

³⁴ Perlès 2003.

³⁵ This observation refers chiefly to northwest, west and perhaps also Central Europe (see for instance Fisher 2006). For the Balkans and the circum-Mediterranean area see discussion below, as well as Whallon 1999, 338-341 and Merkyte 2003.

the microburin technique; and the presence of backed pieces in certain cases while they are absent in others. Such a picture makes the identification of Mesolithic sites even more complicated,³⁶ and justifies Sordinas' observations when he draws attention to the fact that "microliths per se cannot be used as "fossiles directeurs" for a Mesolithic culture..."³⁷

Mesolithic industries in comparison

Furthermore, when it comes to surface collections, in view of the lack of faunal remains and without the documentation techniques of an excavation, typo-technological comparisons are inevitably rather disconnected from their wider contexts (such as subsistence strategies and functional parameters, territorial traditions, raw material availability), and hence with a constricted value. In that sense and given that the study of the PS 3 assemblage is still in a preliminary stage, it would be somewhat simplistic to compare here the Thesprotian evidence with that found in some sites of the Balkans, by analogy to those Greek sites with which PS 3 shares many affinities. For instance, Sidari finds parallels in Crvena Stijena (Herzegovina) and in some Italian sites³⁸; in turn, industries with microliths but without the use of the microburin technique at Crvena Stijena and Odmut cave (Montenegro) find their equivalents in the Upper Mesolithic of Franchthi³⁹; the caves of Odmut and Konispol (Albania) compare well with Kryegjata B in terms of their toolkits and the technique for the production of microliths.⁴⁰

However, whatever degree of typo-technological variation we detect, there are significant similarities which seem to tie together many of the Mesolithic industries of southeastern Europe. In this view, it would be equally fruitful for the Greek Mesolithic to apprehend the emerging wider patterns, instead of emphasizing its "idiosyncratic" nature and the disjunctions from the earlier traditions (late Upper Palaeolithic). For instance, the flake character seen in a number of Greek sites fits well within the Early Holocene framework of the Eastern Balkans, where there is a tendency to replace blade industries with a flake technology.⁴¹ Moreover, the pattern of development emerging in Albania (e.g. the Mallakastra region) and Montenegro⁴² is comparable to that found in Greece.⁴³ Thus, as a working hypothesis, it can be suggested that new evidence may confirm the presence of a discernible Mesolithic tradition along the Ionian/Adriatic coast, reflected in the affinities of the Greek sites (Sidari, Preveza sites, PS 3) with the Albanian sites (Kryegjata B, Konispol and perhaps also Vlushë), as well as some of the sites from Montenegro (Crvena Stijena and Odmut).

Environmental strategies

Evidently, such inter-site technological variations and/or affiliations are associated with spatially and temporally specific environmental adaptations. In Greece, while there was

³⁶ Cherry and Parkinson 2003, 45.

³⁷ Sordinas 2003, 90. Not only is there a general lack of diagnostic tool-types, but also diagnostic relative proportions of artefact types within assemblages are still to be determined (Galanidou 2003, 111).

³⁸ Sordinas 1969, 405.

³⁹ Mihailović 1999, 350-355.

⁴⁰ Runnels 2004, 22; Harrold *et al.* 1999, 369.

⁴¹ Kozłowski 1996.

⁴² For instance, compare Crvena Stijena VI and V with Franchthi phase VII.

⁴³ Merkyte 2003, 309.

a marked preference for the mountainous hinterland during the Late Palaeolithic, the Mesolithic groups seem to favor lowland and/or coastal areas.⁴⁴ Indeed, in most of the Balkan Mesolithic sites there is an obvious focus on bodies of water, where marine, lacustrine and riverine resources are available.⁴⁵ The location of the PS 3 site is near the Kokytos river and other aquatic resources, but this is not a reinforcing element for an aquatic-oriented Mesolithic Period in Thesprotia. In the Kokytos valley the same model is already known from Middle to Upper Palaeolithic and even Neolithic sites. Furthermore, this would be in accordance with a recognition of the increasing importance of local resources (for the procurement of both food and raw materials) among Mesolithic societies.⁴⁶ Nevertheless, further study is needed in order to understand technological choices with regard to subsistence strategies and topographic conditions in the Epirote Mesolithic setting and its adjacent areas.

Conclusions

This study demonstrates that the PS 3 lithic inventory has a strong possibility to belong typologically and technologically to the Mesolithic Period. Our conclusion is grounded in the absence of distinctive Upper Palaeolithic features, the lack of any Neolithic tool-type or pottery, and, most of all, the presence of certain characteristics that are common in other Mesolithic sites, especially those of neighboring areas, such as the site of Sidari in Corfu, Ammoudia and Loutsa in the Preveza prefecture, the Albanian site of Kryegjata B, and even Franchthi and Kleisoura in the Argolid, and Theopetra in Thessaly. An excavation of the site in the future could provide more valuable information, comparing stratigraphical data with the survey's results.

⁴⁴ Bailey 1999.

⁴⁵ Merkyte 2003, 312; see also Runnels 1995, Runnels 2005.

⁴⁶ Merkyte 2003, 311.

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