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Λ' ΕΦΟΡΕΙΑ
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ΑΡΧΑΙΟΛΟΓΙΚΟ ΜΟΥΣΕΙΟ ΑΙΑΝΗΣ

MINISTRY OF CULTURE AND ATHLETICS
30TH EPHORATE OF PREHISTORIC AND CLASSICAL ANTIQUITIES
ARCHAEOLOGICAL MUSEUM OF AIANI

ΤΟ ΑΡΧΑΙΟΛΟΓΙΚΟ ΕΡΓΟ
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ΑΕΑΜ 2, 2011

THE ARCHAEOLOGICAL WORK
IN UPPER MACEDONIA
AIANI - HEIDELBERG
ΑΕΑΜ 2, 2011

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**ΥΠΟΥΡΓΕΙΟ ΠΟΛΙΤΙΣΜΟΥ ΚΑΙ ΑΘΛΗΤΙΣΜΟΥ
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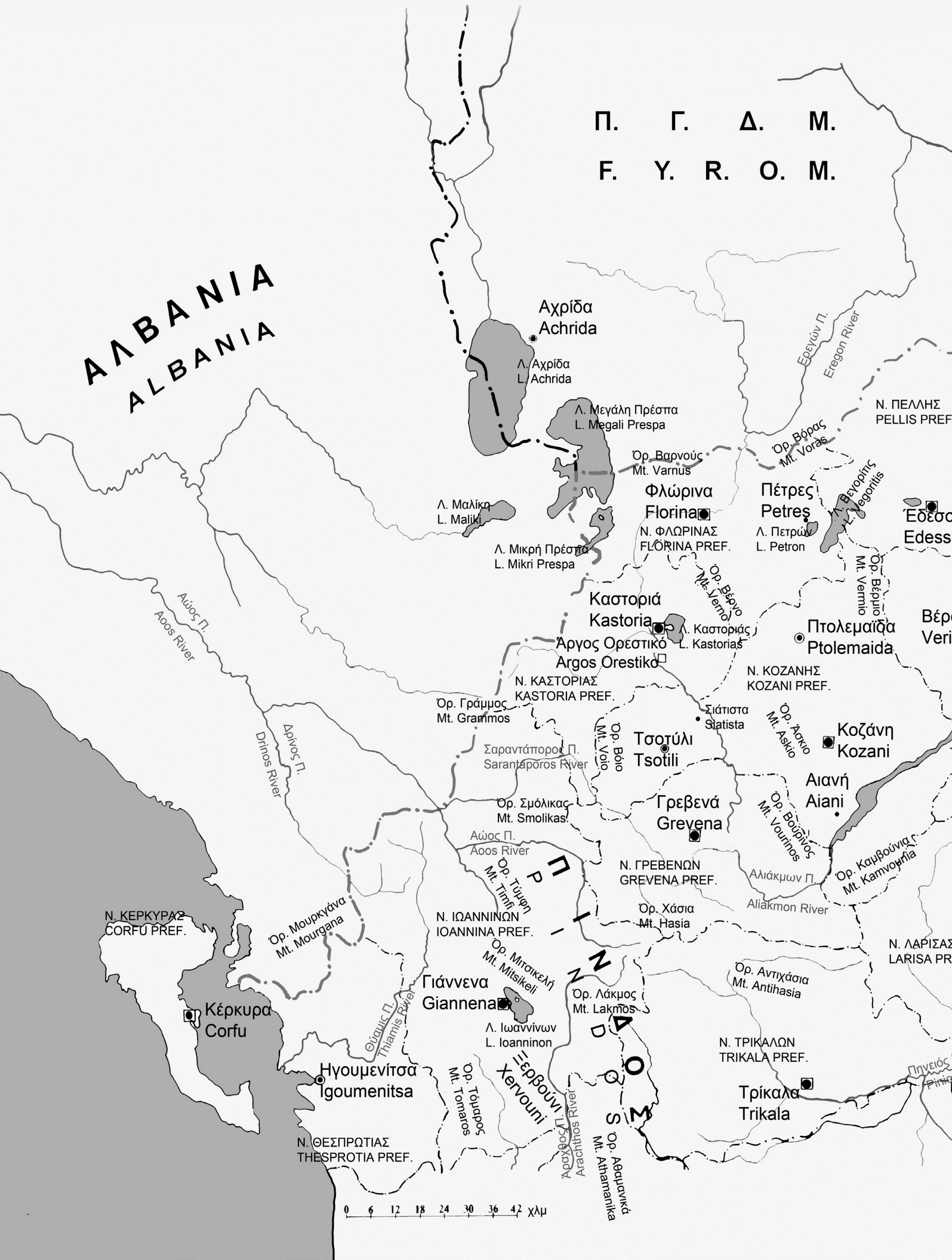
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ΑΛΒΑΝΙΑ
ALBANIA





ΒΟΥΛΓΑΡΙΑ
BULGARIA

N. ΔΡΑΜΑΣ
DRAMA PREF.

Νέστος Π.
Nestos River

Όρ. Φαλακρό
Mt. Falakro

Δράμα
Drama

Φίλιπποι
Filippi

Καβάλα
Kavala

N. ΚΑΒΑΛΑΣ
KAVALA PREF.

Θάσος
Thasos

N. ΘΑΣΟΣ
IS. THASOS

ΑΓΙΟ ΟΡΟΣ
AGHIO OROS

Όρ. Όρβηλος
Mt. Orvilas

Όρ. Κερκίνη
Mt. Kerkini

Λ. Κερκίνη
L. Kerkini

N. ΣΕΡΡΩΝ
SERRES PREF.

Σέρρες
Serres

Όρ. Κρούσια
Mt. Krousia

Στρυμών Π.
Strymon River

Όρ. Βερτίσκος
Mt. Vertiskos

Όρ. Κερδύλιο
Mt. Kerdilio

Αμφίπολη
Amfipoli

Όρ. Πανγαιο
Mt. Pangeo

Όρ. Πάικο
Mt. Paiko

Λ. Δοιράνη
L. Doirani

N. ΚΙΛΚΙΣ
KILKIS PREF.

Κιλκίς
Kilkis

Αϊγιός Π.
Aigios River

Λουδίας Π.
Loudias River

Πέλλα
Pella

N. ΗΜΑΘΙΑΣ
IMATHIAS PREF.

Βέργινα
Vergina

Όρ. Πιέρια
Mt. Pieria

N. ΠΙΕΡΙΑΣ
PIERIAS PREF.

Κατερίνη
Katerini

Όρ. Όλυμπος
Mt. Olympus

Λάρισα
Larisa

Όρ. Όσσα
Mt. Ossa

Μαυροβούνι
Mavrovouni

Θεσσαλονίκη
Thessaloniki

Θερμαϊκός Κόλπος
Thermaikos Gulf

Όρ. Χορτιάτης
Mt. Hortiatiss

Λ. Κορώνεια
L. Koronia

Λ. Βόλβη
L. Volvi

Όρ. Χολομών
Mt. Holomoni

N. ΧΑΛΚΙΔΙΚΗΣ
HALKIDIKI PREF.

Στάγειρα
Stagira

Πολύγυρος
Poligiros

Όλυνθος
Olynthos

Χάρτης
της Μακεδονίας

Map of Macedonia

High Altitude Archaeology in Greece. The case of the Palaeolithic Pindus in the Grevena Region.

Nikos Efstratiou
Paolo Biagi

Introduction

The highland region of the Pindus Mountains in the Grevena region in central Greece has been over the last years (2003-2011) the focus of a pioneer archaeological field-work (Efstratiou et al 2003, 581, 2008, 45) (Fig. 1, 2). It was the first time that high elevation areas in the country - from around 800 m and often exceeding 2300 m - were surveyed and excavation tested for prehistoric habitation signs with the purpose of reconstructing past ways of life (Fig. 3). Given the absence of research in the region, a research project was launched by the Department of Archaeology University of Thessaloniki in order to recover archaeological sites in a region which was thought to have been settled not earlier than in the Iron Age. The first indications that the watersheds of western Macedonia were inhabited and/or visited by groups in the early prehistory were soon to be verified by a high concentration of open-air Middle Palaeolithic 'sites' which were found scattered around chert outcrops the raw material of which was used for making tools. It was the first time that locations used by Neanderthal hunters and gatherers had been found in high altitude areas in Greece, introducing the neglected so far research topic of "alpine" or "high-altitude" archaeology. The anthropological profile of the region was already known to be rich with set-



Fig. 1.
The map of Greece
and the Grevena region.

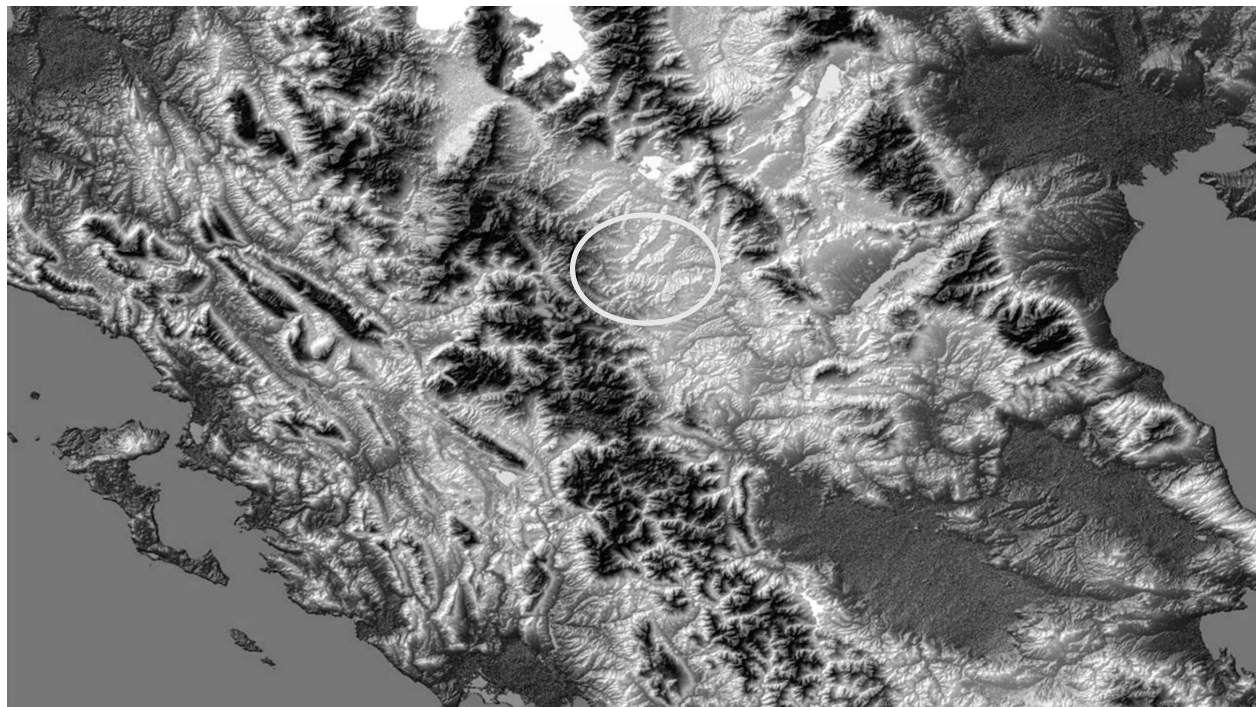


Fig. 2.
The area of study
at the heart of the
Pindus mountain
range, Grevena
Province, Greece.

Fig. 3.
The surveyed
highland (1800-
2000m) areas of
western Pindus.



Fig. 4.
The watershed
of Samarina
where a number
of trial trenches
were opened.



tled and transhumant pastoral groups - Koupatsari and Vlachs respectively - to heavily exploit till recent times the extensive pasturelands of the north Pindus highland zone (Chang and Tourtellote 1993, 249).

The physical landscape

The highland area where the fieldwork was conducted - at the shadow of the peak of mountain Smolikias (2640 m) - is marked by a series of ridges which exceed in altitude 2000 m and a number of impressive watersheds and river courses, the most important of which is the Samariniotikos (Fig. 4). The climate of the area is characterized by cold winters and cool summers with snow covering the high zone for most of the year. The vegetation above the tree-line consists today of deciduous oak forest, black pines, beech and fir. Past vegetation records in the area is the subject of the palaeoenvironmental research which is in progress and includes anthracological studies of charcoal remains from fire places found buried in many spots in the highland area or they derive from the archaeology of the test trenches like Samarina 8 (see below) which were opened in the watersheds. Among the plant taxa represented are: *Abies* sp. (fir), *Fagus* sp. (beech), *Pinus nigra* (black pine), *Juniperus* sp. (juniper), *Fraxinus* sp. (ash), *Quercus* type deciduous, *Salix* sp. (willow) and cf. *Corylus avellana* (hazel) (Efstratiou et al 2006, 415, Ntinou 2002).

The survey

Prehistoric archaeological evidence in the area although at the heart of Palaeolithic Greece (Epirus and Thessaly), was until recently scanty and comprised mainly of surface finds except of material found in the few excavated sites which, however, do not exceed the altitude of 800m (Wilkie and Savina, 1997, 201, Toufexis, 1994, 17; Tourloukis 2010). The aim of the survey undertaken by our team was therefore to go beyond this elevation barrier and concentrate on the 'archaeology' of high-altitude and alpine areas which in many places reached the elevation

of 2300 m. The main research question put in test was whether high-altitude areas of Greece were systematically exploited during the early prehistory by human groups but their archaeology remained outside the mainstream of modern archaeological research because of its extreme landscape and environmental features. The predictive site-location model employed in the case of Pindus was the one that has been successfully used in similar situations in countries like Italy (Biagi, 1998, 117, 2001, 71) and based on the hypothesis that human groups moving through high-altitude watersheds for hunting-gathering purposes stopped at spots near water sources, seasonal lakes and flint sources for short or longer periods of time. Therefore, the archaeological survey in Grevena region was aimed at producing evidence of hunter-gatherer survival strategies in high-altitude environments and reconstructing local logistical systems.

The result of many years (2003-2011) of field walking (collection of surface finds), small scale digs and gathering of palaeoenvironmental data in Pindus was rewarding from many aspects. A total of more than 200 sites - the majority of them belonging to the Middle Palaeolithic - were recorded in the vicinity of the village of Samarina (1600 m) as well as along its watershed to the north (Gorgul'u piedmont, 2200m) but mostly along the Pleistocene terraces of the Samariniotikos river. The richest sites consist of tens of lithics, whereas an average concentration would not exceed a dozen of artefacts in density (Fig. 5).

The numerous artefacts collected are made mostly of local white chert but also from radiolarite and quartz. Rich sources of the typical white chert outcrops (quarries) have been located in the area and they are the focus of detailed geological study (Efstratiou et al 2011, 328). The lithic assemblages from the area although without the support of any stratigraphic evidence they seem to support the presence of at least three different complexes. The Middle Palaeolithic tools, mainly cores side scrapers and flakes, belong to Mousterian and Levalloisian assemblages similar with industries from the rest of Greece (Epirus, Thessaly), dated sometime between 50.000 and 40.000 before present (Dakaris 1964 et al, 199, Tourloukis 2010) (Fig. 6).

Fig. 5.
Stone
artefacts
from
surface
collection
in the
highlands
of Pindus.



Samarina 8

Atmospheric data from Stuiver et al. (1998); OxCal v3.9 Bronk Ramsey (2003); cub r:4 sd:12 prob usp[chron]

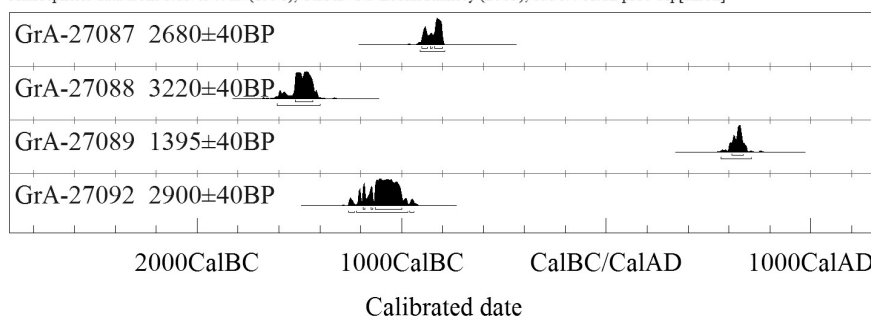


Fig. 6.
A levallois
point of
Middle
Palaeolithic
date.

Fig. 7.
Radiocarbon dates
(AMS) from one of
the excavated trenches
(Samarina 8).

Typical Upper Palaeolithic tools such as prismatic bladelet cores and end scrapers while not absent are rather rare and are always made from exogenous chert pebbles. It is also noticeable that Upper Palaeolithic tools were collected from the same Middle Palaeolithic spots indicating that the same watershed was also used by groups of hunters during the last stages of the last Glacial. To a date well inside the Holocene is attributed a small number of cores obtained from exogenous flint and used for making hypermicrobladelets of different types (Late Mesolithic?). Similarly low profile are the archaeological finds which could be attributed to the Late Neolithic

and they most certainly indicate occasional visits to the Pindus watersheds by individuals or groups for hunting.

The finding of a high-altitude Bronze Age site in the area (1750 m) and its subsequent trial excavation, dated by AMS radiocarbon in the middle of the 2nd millennium BC (GrA-27088), has confirmed that pastoralists in the Bronze Age periods were using selective locations for seasonally exploiting highland ecological niches in Greece (upland pastureslands and/or hunting grounds) (Fig. 7). Such rare occurrences of upland Bronze Age specialized sites like this which cannot consider as permanent,

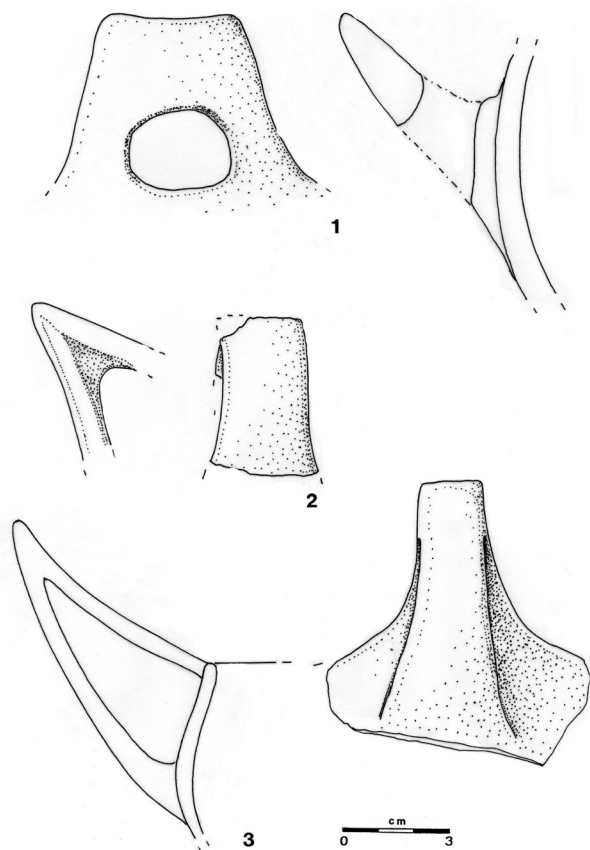


Fig. 8.
Ceramics from the
excavations in the
Middle Bronze Age
upland site (1750 m).

strongly indicate that transhumance specialised pastoralism was already practiced in Greece from the Middle/Late Bronze Age onwards (Fig. 8). This suggestion finds support from other rare finds from the same area like the two pieces of Melian obsidian which were collected from what looks as a smelting furnace at an elevation of 2.200m. It is also tempting to compare these seasonal moves of people and animals in the area with similar more recent practices by Vlach shepherds and their families which till today they continue to move from the Thessalian Plain in the winter to the Pindus highland pasturelands in the summer (Cherry, 1988: 6).

The excavations

Over the years and with the purpose of finding intact archaeological deposits, a number of test trenches were opened along the main Samarina watershed (1800 m), close to pastures, natural springs and the white flint rich sources. In all cases the shallow deposits - not exceeding 50 cm in thickness - have yielded hearths and redeposited archaeological finds (stone artefacts, chipped material) of more

than one period. Middle Palaeolithic stone tools were found together with pieces attributable to the end of the Pleistocene and the beginning of the Holocene, and Bronze and Iron Age ceramic potsherds. Typical is the case of the dig at Samarina 8 site, lying on a flysch substratum, the mixed deposit of which is confirmed by a number of radiocarbon dates (charcoal samples) ranging from the 2nd millennium BC to the 1st mill AD, suggesting that earlier material is redeposited (Efstratiou 2008, 45, Fig. 7). The range of radiocarbon dates from the same single spot (Samarina 8) strongly indicate that the history of the anthropization of the highland areas of Greece or at least this part of Pindus in the last millennia, is still to be discovered and understood archaeologically. Moreover, the need to locate archaeological deposits in the area lying on more stable sediments is also emphasized since flysch formation is known to facilitate rapid and mass movement of sediments. A number of interesting structures - polygonal features caused by ground ice formation and formed in a periglacial environment - found in many of the opened trenches, may also help to understand the harsh climatic conditions in the area during the last glacial cold periods (Efstratiou et al 2006, 415).

Discussion

Our work in the Pindus highlands in the district of Grevena over the last few years had offered new insights into a number of topics which were under-represented so far in current archaeological practices in Greece. Indeed, we are now in a position to initiate a discussion on theoretical and methodological issues concerning highland or alpine archaeological research, and to proceed with certain suggestions. We shall try to summarize briefly some of them here.

First, although we anticipated the possibility for the presence of early Holocene sites as in the case of alpine Italy (Biagi, 1998, 117), the richness and date of the “archaeology” of the Pindus highland areas which exceed the elevation of 2000 m, took us by surprise. It looks more than probable that specific watersheds were used as convenient passageways for people and animals from one region to another. In the case of the Palaeolithic hunter-gatherers this was facilitated by the presence of water sources and good quality chert sources while during the Neolithic and Bronze Age periods hunting and seasonal herding (transhumance) seem to be the main attraction. Movements of people and animals, in all the above periods, were greatly enhanced by the absence of thick forests above the ‘tree-line’. This logistical pattern which relied heavily on vegetation records and richness of the biomass seems to have remained unchanged for a long period of time (Palaeolithic, Mesolithic) although more anthracological, archaeobotanical and chronological (radiocarbon) data is needed before safe conclusions are reached (Bottema 1982, 287, Willis 1994, 103).

Second, reconstructing the local logistical system of land use of the Palaeolithic hunting groups in the area is of vital importance for understanding their movements and the possible different type-sites in the area (workshops, hunting spots). The use of different flint types for making tools in different periods - local white chert for the Mousterian-Levalloisian tools and exogenous raw material flint for the Upper Palaeolithic - is very characteristic indeed and it could potentially reveal networks of group movements in the area of western Pindus and beyond (Epirus, Thessaly, Bailey 1997).

Third, the systematic archaeological investigation (excavation) of an open-air Middle Palaeolithic site in the area could in principal provide the much needed stratigraphic and chronological evidence for the sequence of lithic assemblages of the period in Northern Greece, all of which so far come from surveys, surface collections or excavated rock shelters (Papagianni, 2000). It should also be remembered that cave sites never represent the typical type-site of any period let alone the notorious taphonomic problems their excavation always imposes. The Pindus highland zone industries based on comparisons with other Mousterian-Levalloisian assemblages in Epirus and Thessaly (Dakaris et al., 1964, 199, Runnels, 1988, 15, Runnels and van Andel, 2003, 47) is attributed to the beginning of the OS3.

Fourth, the absence of any firm evidence for Mesolithic sites in the highland Pindus area - up to the elevation of 1800 m - is difficult to explain unless methodological priorities are responsible for

that. Although we would expect that early Holocene hunters and foragers choose to go around in the same with the Palaeolithic groups zone - above the 'tree-line' where movement of people and animals was facilitated by the lack of forests - Mesolithic finds are still missing from the archaeological record. Two hypotheses are put forward as possible explanations: either Mesolithic groups were never actively present in the area or for some reasons (expansion of woodland on upland areas, climatic) they choose to exploit even higher grounds - more than 2000 m - as in the case of the Apennine chains in Italy (Biagi 1998, 117, 2001, 71). The former suggestion is supported by the numerically and typologically very poor characteristics the Final Pleistocene-Early Holocene assemblages - using flint from several exogenous sources - already known from the area while the latter is something which should be checked through more systematic coverage of the Pindus highlands.

Fifth, the early vegetation history and the dynamics of high-altitude landscapes (pedological data) of the region are still missing. The occurrence or not in the past of species which dominate present-day woodland cover is important for understanding the logistical patterns of Middle Palaeolithic groups in the area. This can only be achieved by systematic sampling and dating of charcoal from all possible sources, natural (layers of charcoal) or anthropogenic (hearths, fire-places) found in upland locations. This has been already implemented and the results (AMS c14 chronologies) are eagerly awaited.

Conclusions

Our fieldwork in western Pindus has put high-altitude or alpine archaeology back on the archaeological map of Greece. The discovery of a series of open-air Middle Palaeolithic sites in the highlands of central Greece, used by Neanderthal hunter gatherers and associated with Levallois-Mousterian assemblages, explores the idea that these groups exploited environmentally extreme landscape niches, indicating most probably a more complex logistical system than that already suggested for the period (Papagianni 2000). Unless the Samarina high-altitude watersheds where our work has been concentrated, is of unique geographic importance for trans-regional mobility and contacts in this part of Greece, a new model of Middle Palaeolithic (at least) settlement patterns which for the first time opens up new geographical locations for archaeological consideration, should be seriously considered.

Moreover, our work in the Pindus has come to emphasize the complexity of the settlement patterns during the Middle Palaeolithic period in Greece as well as the "large scale" and broad reconstructions suggested so far. We came quickly to realize that for understanding the complex logistical systems of exploitation of hunter-gatherer groups, a "small scale" of study which shall incorporate geomorphological information, climatic characteristics, vegetational histories, raw material sources and possible different types of sites (depending on their lithic assemblages), is required. The case of Palaeolithic Pindus is a step forward to that direction.

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Zusammenfassung

Berg-Archäologie in Griechenland: Das paläolithische Pindosgebirge im Bezirk Grevena

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Im Nordwesten des Verwaltungsbezirkes Grevena brachte die "Gebirgsarchäologie" in den vergangenen Jahren lebendige, besonders interessante vorgeschichtliche Überreste zutage, welche im griechischen Raum erstmalig einen solchen Umfang erreichen. Es handelt sich um archäologische Hinweise - hierbei vor allem Steinwerkzeuge -, welche eine nahezu fortwährende Präsenz von Menschengruppen seit paläolithischer Zeit, mindestens seit 60.000 Jahren, über die Jungsteinzeit bis mindestens in die Bronzezeit (2000 v. Chr.) nahelegen. Bemerkens-

wert ist die große Höhe der Lagerplätze, welche oftmals eine Höhe von 2.000 Metern über dem Meeresspiegel übersteigen und somit die ersten nachgewiesenen alpinen Fundorte in Griechenland darstellen. Es handelt sich um freie Plätze, welche entweder nahe natürlicher Quellen oder in der Nachbarschaft kleiner Hochgebirgsseen sowie an Fundstellen für Feuerstein gelegen sind, und an denen sich jagende und sammelnde Gruppen bei ihren fortwährenden Wanderungen durch die Gebirgszüge den Pindos aufgehalten haben müssen.

Περίληψη

Ορεινή Αρχαιολογία στην Ελλάδα. Η περίπτωση της Παλαιολιθικής Πίνδου στην περιοχή των Γρεβενών.

Νίκος Ευστρατίου, Paolo Biagi

Η προϊστορική έρευνα του ΒΔ ορεινού τμήματος του Ν. Γρεβενών αποκάλυψε τα τελευταία χρόνια τα ίχνη μια ζωντανής και εξαιρετικά ενδιαφέρουσας «ορεινής αρχαιολογίας», που για πρώτη φορά αποκτά στον ελλαδικό χώρο μια τέτοια δυναμική και περιεχόμενο. Πρόκειται για αρχαιολογικές ενδείξεις -κυρίως λίθινα εργαλεία- που περιγράφουν τη συνεχή σχεδόν παρουσία ομάδων ανθρώπων από τα Παλαιολιθικά χρόνια, τουλάχιστον 60.000 χρόνια πριν από σήμερα, τη Νεολιθική Εποχή και μέχρι, τουλάχιστον, την

Εποχή του Χαλκού (2000 π.Χ.). Αυτό που είναι εντυπωσιακό είναι το μεγάλο υψόμετρό τους -πολλές φορές ξεπερνά και τα 2.000 μ.- συνιστώντας ουσιαστικά τις πρώτες αλπικές θέσεις της Ελλάδας. Πρόκειται για υπαίθριες θέσεις που βρέθηκαν κοντά είτε σε φυσικές πηγές νερού είτε σε μικρές αλπικές λίμνες και σε πηγές πυριτόλιθου, όπου θα πρέπει να σταματούσαν οι ομάδες κυνηγών και τροφοσυλλεκτών στη διάρκεια της συνεχούς μετακίνησής τους ανάμεσα στους ορεινούς όγκους της Πίνδου.

ΤΟ ΑΡΧΑΙΟΛΟΓΙΚΟ ΕΡΓΟ ΣΤΗΝ ΑΝΩ ΜΑΚΕΔΟΝΙΑ
THE ARCHAEOLOGICAL WORK IN UPPER MACEDONIA

2, 2011

Ἐγχρωμες Εικόνες Coloured Pictures



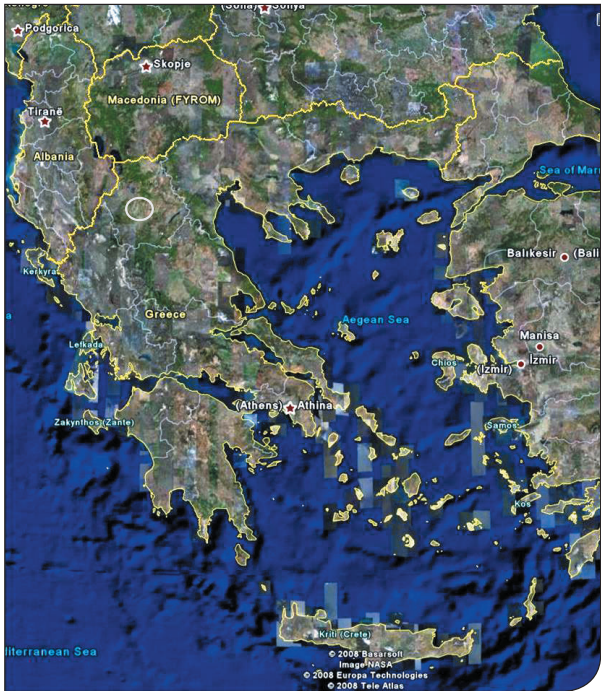


Fig. 1.
The map of Greece
and the Grevena region.



Fig. 3.
The surveyed highland
(1800-2000m) areas
of western Pindus.

Fig. 6.
A levallois
point of
Middle
Palaeolithic
date.



Fig. 4.
The watershed
of Samarina
where a number
of trial trenches
were opened.



Fig. 5.
Stone artefacts from
surface collection in
the highlands of Pindus.

