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Boeotian landscapes. A GIS-based study for the reconstruction and interpretation of the archaeological datasets of ancient Boeotia.

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II.3.2

Northern Helicon: Levadeia

TOPOGRAPHICAL SETTING

The valley of Levadeia is separated to its N from the Chaironeia valley by the ridge terminating in the Kourpeiko, while to its S it is separated from the Koroneia valley by the Laphystion ridge. It constitutes a bay which enters into the Copais basin on its Western side, as well as the Koroneia valley to its S.

The fertile basin of Levadeia is 1-2km wide and 5-6km long. The modern town of Levadeia lies at its SW corner. The valley is wider to the town and narrows rapidly thereafter; in its wider part it is divided along its axis by a low schist ridge (Tryphiolithari) which elevates the level of the plain. The plain begins at 100m (Kephisos) and rises to 160m (Levadeia town). The town of Levadeia controls three small plains of which it marks the central point (fig.1). The city controls the routes that lead from Thebes both up to Delphi and down to the Antikyra bay through the Tsoukalades pass, as well as the old inner route from Thebes to Chaironeia through the Kerata pass (fig.1), and the entrance to the route towards the inner Helicon, through the pass behind Surpi[1].
From the ridge behind the town of Levadeia springs the Herkina river (called Kria at present[2]) through a system of karstic springs[3]. The springs are still visible today in the upper part of the modern town, where they have been transformed into a small park acting as a fresh refuge on hot summer days.

The Herkina river has been well channelled, in connection with the drainage work in the Copais[4]. In the past it was characterised by a delta outlet, and therefore a marshy area marked the landscape (see chapter III.1)[5].

Boundaries
The limits of the *chora* are marked geographically[6]. They are comprised of a valley running radially NE to SE from the Copais basin towards Helikon mountain. Along the N side the Kourpeiko ridge separates it from the area of Chaironeia, while along the S side the Laphystion ridge separates it from the area of Koroneia.
A boundary inscription has been found below the Eastern peak of Mt.Granitsa/Laphystion [AE1671], to the E of the church of Agios Ioannis, built beside an abundant water source, E of the modern Laphystion village. The inscription[7] mentions the border between Koroneia and Levadeia, which ran over Mt. Laphystion, apparently from some spring, up a ravine, to an altar of Zeus Laphystion (Pausanias IX 34.5). The latter may have been a simple ash altar of the type often used for the worship of Zeus on Greek mountains (Camp II 1991 quotes Langdon 1976). The springs might have been those by the church of Ag.Ioannis (Camp II 1991: 195). Significantly, Granitsa (the former name of Laphystion village[8] and mountain) is the Slavic word for 'border' (Kretschmer 1914: 265).
The W boundary runs through the uplands of Helicon and separates Boeotia and Phokis. According to Dasios (1995), two natural boundaries are clearly recognisable: one to the E of the Vathyrema river which belonged to Boeotia, and another to the W which, from the Karakolithos heights, follows the line Karakolithos - Lophos Viglas – Panopeus acropolis, to get to the N route out of the valley, where it meets the valley of the lower Kephisos.

[1] The description of the landscape of the Levadeia *chora* is based on Philippson 1951: 445ff, quoted also by Fossey 1988: 343, and on personal observation.
[2] The Herkyna river has been identified with the ancient Probasia river, which according to Theofrastus (*HP* IV 11.8) ran from Levadeia towards the Copais. Probasia river is mentioned in an inscription also (IG VII 3170).
[3] Philippson 1951: 446/7 gives a detailed geological description.
[4] See also Knauss et al. Kopais 3 1990: 17.
[5] The Herkyna, S of the Hyppia plain turned and ended (together with the water of the Kalamaki spring) in a marshy zone that extended to the W of the Copais lake water, by the modern villages of Ag.Dimitrios for ca. 5 km. up to the foot of Laphystion near Rachi (Philippson 1951: 473). This marshy area, probably semi-independent from the lake's fluctuations, formed a dangerous zone between the plain of Kephisos and the plain to the S edge of the basin, through which the main road ran. In IG VII 3170 some words (l.5 and l.16) refer to dams which were probably linked to attempts at drainage of the marshy area corresponding to the outlet of the Herkyna river into the lake (the inscription refers to public land to be divided and rent, in the area between Orchomenos, Chaironeia and Levadeia). Today, only a small marshy area is preserved by Rachi (Philippson 1951: 474; the area is marked in the GYS 1:50,000 topographical map -*Lebadeia* sheet- and in the 1:200,000 Boeotia *nomos* map).
[6] Philippson: 445ff; Fossey 1988: 349.
[7] SEG XXIII 297; SEG XXXV 406; Vollgraff 1902: 570; Roesch 1965: 61-3. See also Dasios 1995.
[8] Village history in Camp II 1991: 196, footnote n. 10.

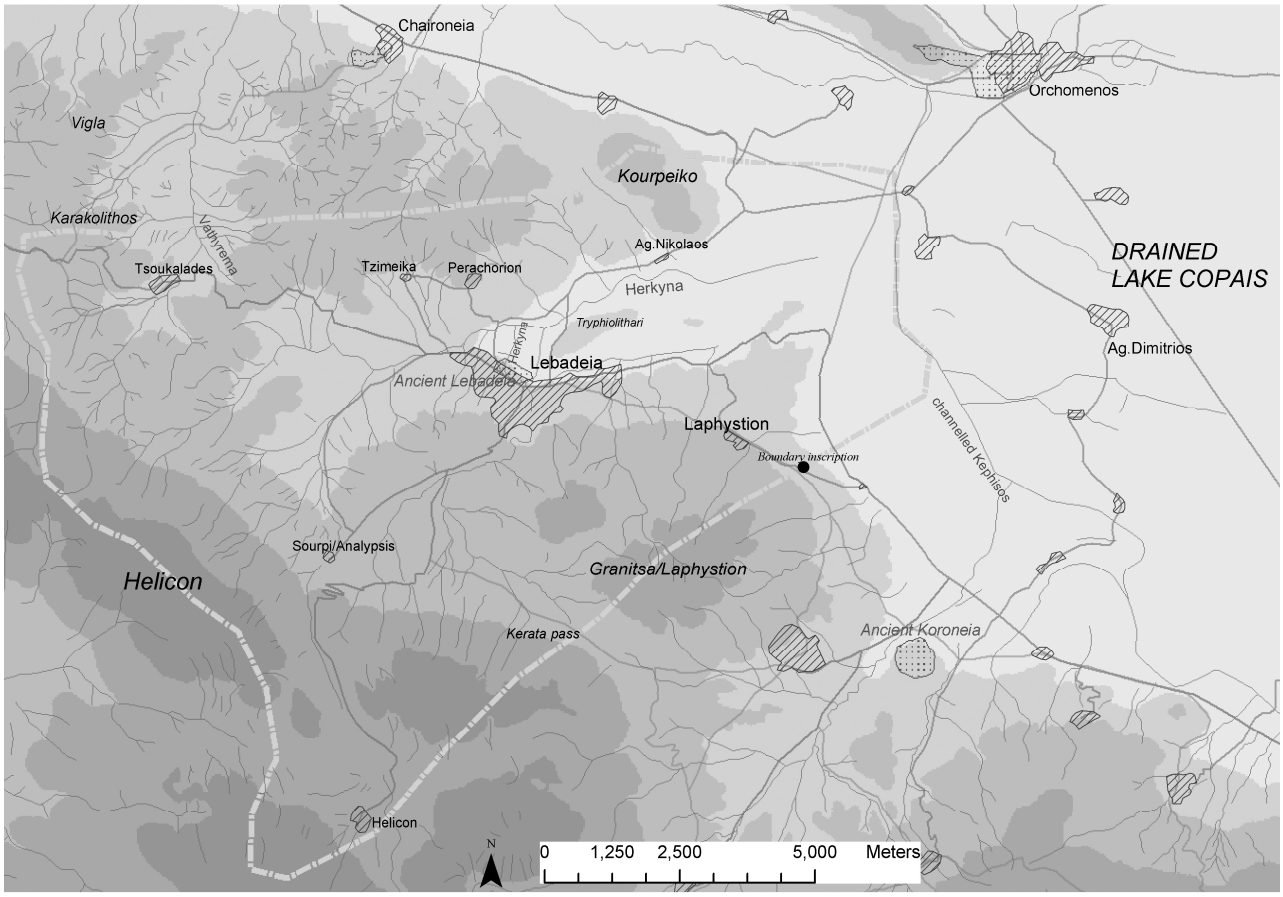


Fig.1. *Topographical setting of the chora of Levadeia.*

Fossey (1988: 501 and 497-500) notes, on the basis of ancient texts[9], that the *chorai* of Levadeia and Chaironeia did not border the lake and therefore locates the limit of the *chorai* very much lying back in relation to the Copais basin. He proves his argument with a boundary stone, found among the remains of the Herkyna dike[10], in the middle of an area which constitutes the Western part of the basin. It carries simply the word *ὅρος*. Fossey (1988: 497-500) believes it marked, in Early Roman times at least[11], the boundary between Koroneia and Orchomenos since, as he believes, the territories of Levadeia and Chaironeia did not reach the lake and therefore Koroneian and Orchomenian *chorai* were neighbouring. Kirsten (1951: 670) also assumes that the territories of Chaironeia and Levadeia did not reach the lake[12]. I think that this should be reconsidered, since the lake in this Western part of the basin was really lying back (i.e. the water of the lake did not fill in the 'bays', unlike Karditsa bay, or the NE bay), forming a real plain (see fig.3 and fig.5). Perhaps the *chorai* of the two *poleis* (Levadeia and Chaironeia) extended as far as the beginning of the plain, with the plain itself belonging mainly to Orchomenos (this, probably, is the location of the city plain, mentioned as Hyppia in ancient texts[13]). A division of the land based on a cost-distance analysis[14] from the *poleis* surrounding the lake would support this hypothesis (fig.2). This might also help to explain the inner location of Chaironeia and Levadeia within their valleys.

[9] Pausanias IX 39.1; Theophrastus *HP* IV 11.8; Strabo IX 407; IG VII 3170.

[10] The inscription [AE1108] was found in Dodekakleidi locality, about 0.5km N of Xinos (Fossey 1988: 501). The Roman dam in which the inscription was found is mapped in chapter II.3.1 fig.11 after Knauss et al. Kopais 2.

[11] The boundary stone is dated to the 2nd-1st C BC (Fossey 1988: 501).

[12] Kirsten states (1951: 670): "*Because the territory of Orchomenos extended until the highland (until Probatia and Kephisos), which was also the border with Levadeia and Chaironeia, Orchomenos was the richest polis of the Copais basin and that's why it was predestined to be the leader, the leading centre of the Copais area*".

[13] The Hyppia plain is known, in association with Orchomenos, from ancient sources (Theophrastus *HP* IV 11.8) as the largest and nicest plain of Boeotia (Plutarchus *Sull.* 20.4-5), where the infamous Minyan cavalry was trained. See Knauss et al. Kopais 3 fig.6.8 and in this article fig.4.

[14] A similar attempt at exploring territorial divisions in the area was carried out by Fossey (1988, fig.64), using Thiessen polygons (based on Euclidean straight-line distance not weighted by topography). Here the cost-distance analysis (performed within the GIS system) takes into account, in calculating the distance between locations, the effort (cost) of moving (walking) through the land. The algorithm used is mainly based on distance and slope (see for instance Stančič et al. 1997, Gillings and Wheatley 2002: 151ff, Howard 2007), therefore taking into account the terrain morphology (see chapter II.3.1 – LONG TERM SETTLEMENT TRENDS).

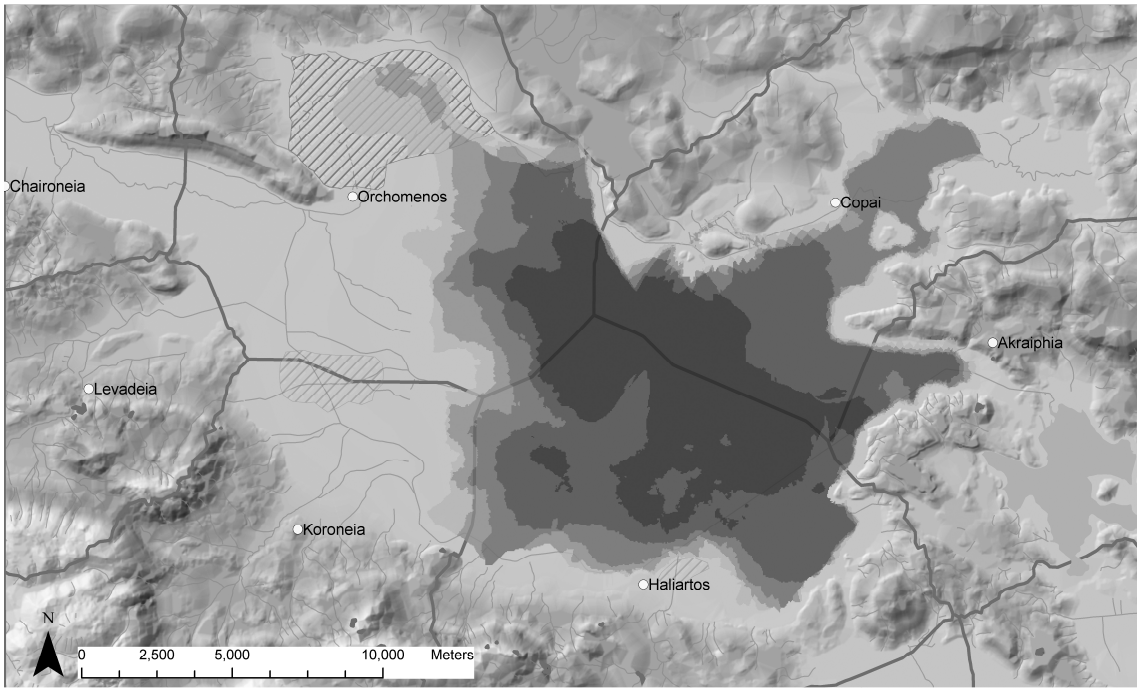


Fig.2. *A division of the land based on the results of a cost-distance analysis from the poleis surrounding the lake. For the reconstruction of the lake fluctuations shown in the map see chapter II.3.1 – THE PERILACUSTRINE LANDSCAPE.*

PHYSICAL LAND UNITS

The physical landscape of the *chora* can be described as mainly between 200 and 600m elevation. A quite large part of the *chora* is mountainous (see fig.2 in chapter II.1). This is due mainly to the presence of the Helicon massif in the Eastern part of the *chora*, as well as of the two ridges radial to Copais closing the Levadeia basin to the N and S. The mountainous part of the landscape can be set at 21.5% of the total area, while the hilly segment is at 51.4%. Areas below 200m constitute 27.2% of the *chora*. Since the limit of the *chora* belonging to the ancient *polis* of Levadeia cannot be precisely outlined towards the Copais basin, the amount of available lowland could change considerably.

Hilly landscape	51.4%
Mountainous landscape	21.4%
Plain	27.2%

1	P1_P2	lacustrine basin, valley	18.1%
2	P3	gentle slope	2.2%
3	P4	foothill	6.9%
4	H1	plateau	13.6%
5	H2	gentle slope	1.4%
6	H3	moderate slope	10.2%
7	H4	severe slope	13.6%
8	H5	very severe slope	12.6%
9	M1	plateau	3.9%
10	M2	plateau, gentle slope	1.8%
11	M3	moderate slope	7.3%
12	M4	very severe slope	8.5%

Table 1. *Percentage of the different physiographical classes present in the Levadeia area (P=plain; H=hill; M=mountain)*

Lacustrine basin and valley (P1_P2) are predominant in the plain landscape, constituted by the Copais basin and the Herkina river valley. Foothill landscape (P4) marks the area immediately below and following the heights surrounding the plains. Within the foothill landscape the ancient *polis* (as well as the modern town) of Levadeia also lies. Plateaus seem to be the main features of the hilly segment of the landscape. As mentioned by Fossey (1988: 343), a larger, gently sloping area lies to the South West of Levadeia, enclosed by the Helicon range to the South and SW. The open upland area, crossed by two streams, is quite well recognisable in the physiographical map (fig.2 in chapter II.1), as well as in the topographical background of fig.3.

RESOURCES

The *chora* landscape is characterised by fertile and arable land suitable for agriculture, at the edge of the Copais basin (though some areas are, as seen above, marshy, and therefore suitable for other kinds of activity) and in the Herkina river valley.
A map showing land capability (for agriculture – see chapter I.2.1) for the Levadeia area can be seen in fig.7. While the most fertile areas are constituted mainly by the Copais plain and the Herkina river valley (together with some upland river valleys), class MF (Mid Fertile) is predominant, constituted principally by the flysch zone of the slightly elevated areas[15]. The combination of upland plateau or gentle slope (within the hilly landscape especially H1 and H2, but also M1 and M2, though less

[15] For attribution of the flysch to class 2 in this landscape, see chapter I.2.1.

represented) with MF land constitute upland areas suitable for cultivation and the existence of a human rural landscape.

Land for pasturage is also available in the Helicon upland landscape, as well as behind the city site, where the valley narrows and elevation increases (yellow in the physiographical class map), and on the slope of the ridges (Kourpeiko and Laphystion) separating the Levadeia basin from the Chaironeia and Koroneia *chorai*.

As Fossey (1988: 349) points out, a κοινόν των λατόμων is recorded at Levadeia[16], referring to local stone and building material that could be mined in the area (on Helicon as well as on the Laphystion ridge). Epigraphical evidence also indicates the presence of one or more quarries in the area. The temple of Zeus Basileus (*components LE_7* to *LE_9*) was made in local stone, local limestone and black granite from Helicon[17].

THE ARCHAEOLOGICAL RECORD

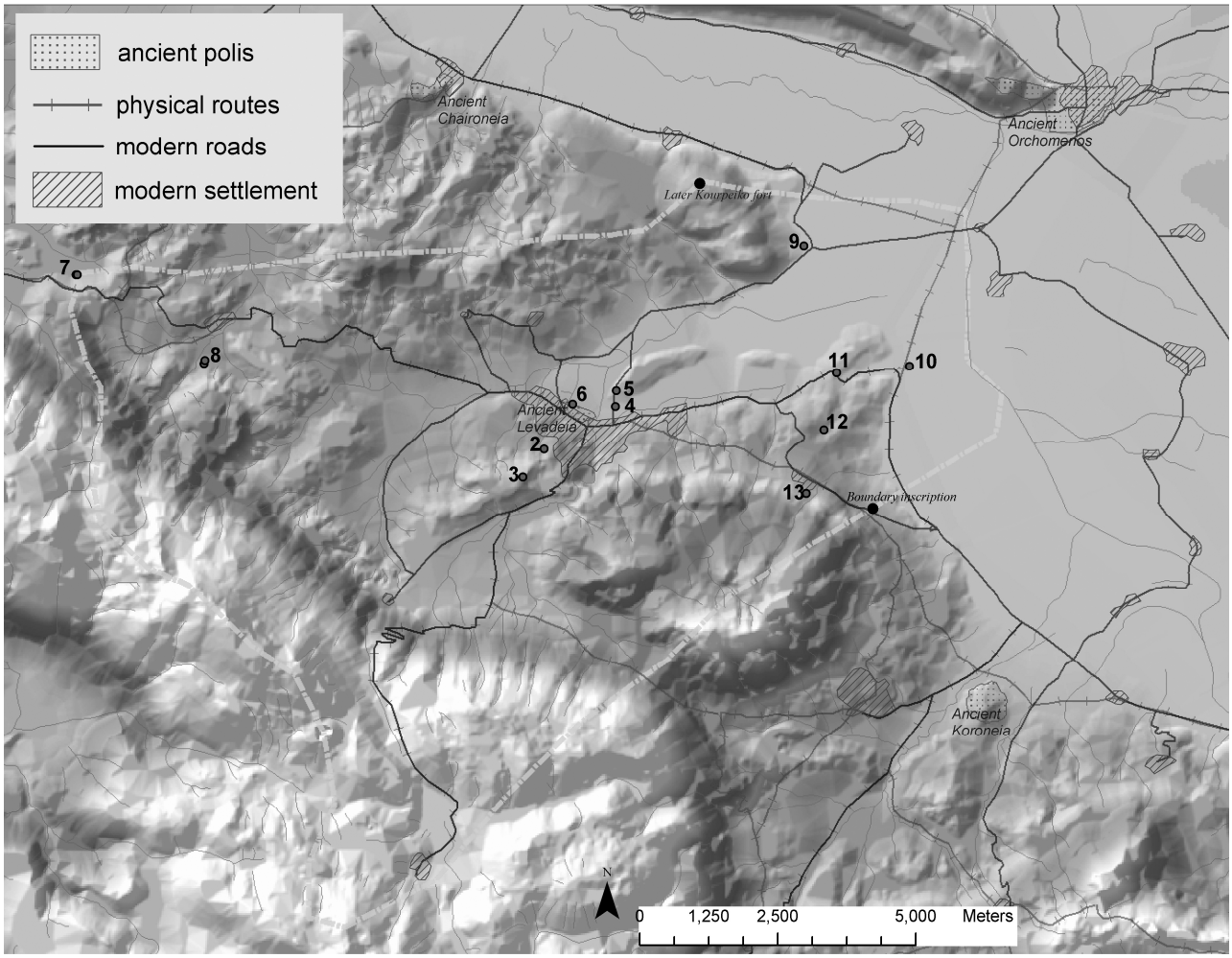


Fig.3. *Archaeological map of the Levadeia area.*

[16] AD 1917: 421-3, n.2 no.5; Roesch 1982: 182-3.

[17] Fossey (1988: 349) reports as another resource available to the ancient *polis* of Levadeia income from the prophetic shrine of Trophonios, undoubtedly relevant in the period of prosperity of the healing hero sanctuary.

1	**LEVADEIA**	*Components LE_1 to LE_6*
2	**Levadeia – Herkyna springs**	*Component LE_10*
3	**Levadeia - Proph.Ilias**	*Components LE_7 to LE_9*
4	**Levadeia NE**	*Components LE_14 and LE_15*
5	**Levadeia – Ag.Vlassios**	*Components LE_11, LE_12 and LE_13*
6	**Levadeia N**	*Component LE_24*
7	**Karakolithos**	*Components LE_16 to LE_18*
8	**Levadeia-Delphi National Road – Tsoukalades**	*Components LE_19 and LE_25*
9	**Thourion-Ag.Ioannis**	*Component LE_23*
10	**Mavrogeia**	*Components LE_20*
11	**Neraidogorna-Ag.Taxiarchoi**	*Component LE_21*
12	**Laphystion-Kazakines**	*Component LE_22*
13	**Laphystion**	*Component LE_26*

Table 2. *List of archaeological components and activity loci mapped in fig.3.*

The ancient *polis* of Levadeia is, as seen above, known only by means of rescue excavation, carried out for infrastructure or building within the modern town which lies above the ancient town. For this reason, the archaeological record is poor, though probably less biased by personal research interests, and the evidence is known in quite some detail as results of excavation, while other Boeotian *poleis*, such as ancient Tanagra and Thespiae, lying today in open fields, are known only from surface remains. Since the ancient *polis* lies beneath the modern one, the layout of the ancient town of Levadeia, as well as the position of close extra-urban features (such as cult places or necropolis), are not so clear or easily definable.

Personal interest in the city site[18] and its sanctuaries mentioned by Pausanias (the famous Trophonios *in primis*) add information at the city level. Comparatively, available archaeological datasets for the rest of the *chora* are not very rich in information about ancient occupation, being mainly results of rescue excavations for road construction, extensive topographical survey, and local information, while the non systematic intensive survey carried out personally by Lauffer[19] enriches the picture of lower level activities in the landscape.

The graph (fig.4) illustrates the proportion of components discovered within different research frameworks. In the case of the Levadeia *chora*, the large presence of rescue excavation on the city site considerably increases this type of discoveries.

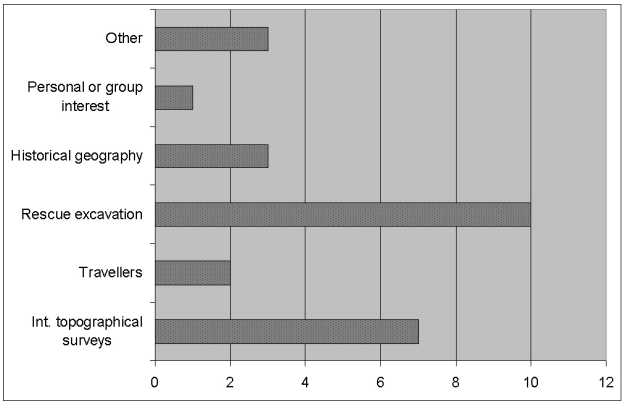


Fig.4. *Graph illustrating the proportion of components discovered within different research frameworks.*

No Prehistoric evidence seems to have been recovered, apart from two indications of uncertain attribution. The ratio of known Prehistoric to Greco-Roman components is 2 to 26 (1:13), while among the historical periods, 54% is dated Archaic to Hellenistic, 25% Roman-Late Roman, and 21% is attributed to the general Greco-Roman period.

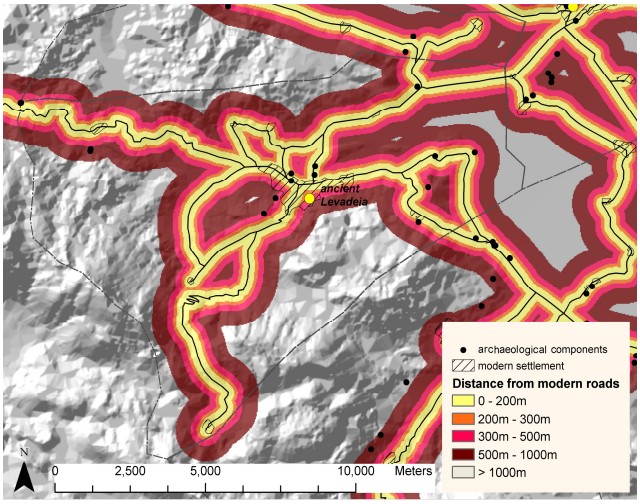


Fig.5. *Relationship between components and modern road network.*

In fig.5 we can see the relationship between known archaeological sites and the distance from the modern road network. 12 components out of 26 are within a distance of 300m from modern roads, and 22 are within a distance of 500m from the road. In this case, the proximity to the road certainly biased the discovery of archaeological data, and this could correlate with modern construction levels by roads (see the high percentage of discoveries by means of rescue excavations, which increase accidental discoveries and therefore to some degree the reliability of the archaeological picture[20]).

[18] Especially by L.A. Turner for her dissertation (Turner 1995).
[19] See mainly Lauffer Kopais I.

[20] In the case of burials by Tsoukalades, for instance (*components LE_19 and LE_25*), we would never have known of a possible ancient settlement there without the accidental discovery of burials through rescue excavation for the construction of a road (far from any personal research interest or presence of activity focus of other periods or types).

ANALYSIS OF THE *CHORA* LANDSCAPE

PREHISTORIC PERIOD

For the Prehistoric period, almost nothing seems to have been recovered in the landscape for the time being, apart from two pieces of evidence (of uncertain attribution) to which the character of 'human presence' has been assigned: AE787 (LH) which corresponds to *component LE_6*, comprised a potsherd dated to the LH period reported as from the area of historical Levadeia, and AE1246 (generally Prehistoric), a concentration of obsidian flints noticed by Lauffer on the NE slope of Laphystion (*component LE_22*). Lauffer says the presence of a Prehistoric site here is notable in such an inner location compared to the better known and studied Prehistoric sites around Copais. As suggested above, I would rather say that the evidence cannot immediately be identified as a 'site' but requires further examination. On the other hand, one could also point out that the presence on the surface of highly visible lithic material is notable. The experience that intensive surface survey has gained in the Boeotian landscape leads it to be characterised mainly as a pottery landscape rather than a stone tool/flint landscape. While the dense carpet of pottery marking Boeotian terrain is well known, only in some specific areas of quite large or important prehistoric sites can one find lithic material on the surface. As far as this evidence is concerned, the soil and the possible taphonomic processes this could have brought the material to the surface at that particular spot should be investigated.

A much more detailed survey of the upland areas would probably detect a situation similar to that in the mountainous segment of the Koroneia area (see chapter II.3.1). The physiographical characteristics, especially of the wider area which opens up in the mid-elevation landscape SW of Levadeia, together with the presence of fresh water provided by the two streams crossing the area, suggests probable Prehistoric occupation there (EBA and MBA).

Even if in a different physical landscape, the same could hold for the area of the modern village of Tsoukalades, a smaller area marked by the presence of fertile and easy workable alluvia formed by a stream, workable also in earlier periods, surrounded by the much steeper slopes of Helicon, suitable for pasturage.

The picture of the life in the Levadeia area in the Prehistoric period can be clarified only by looking at the wider area of the Copais basin (figs. 6 to 9 in chapter II.3.1), within which some areas are better known than others and can provide more detailed information to fill in the picture and attempt an interpretation of the dynamics of the Prehistoric occupation in the area[21].

[21] see chapter III.1 and the chorai gravitating towards the Copais basin, such as Chaironeia and Koroneia, bordering Levadeia territory.

GRECO-ROMAN ANTIQUITY[22]

Town level

The ancient *polis* of Levadeia was located, as seen above, at a crossroad between different routes. The earliest possible archaeological evidence for the occupation of the town itself dates to the 8th C BC[23]. The *polis* lived until the Late Roman period. Although not very substantial in Hellenistic times, (its muster-lists show a population smaller than Akraiphia, Thespiae and certainly Orchomenos), it is presented by Pausanias (IX 39.1 to 40.2) as among the most prosperous cities of Greece by his time.

The location of the city, at the NE end of its *chora*, and at the SE edge of Boeotia on the border with Phokis, marked the border and was along main routes (see above). The presence of a prosperous Pan-Boeotian sanctuary there[24], which brought pilgrims and hence some extra income, might be linked to this location, while otherwise Levadeia was a small town with its own fertile land[25] and a rural based economy. Today, the modern centre of Levadeia still plays a crucial role, though its character has changed, being the administrative centre of the *nomos* of Boeotia (due to its centrality during the Ottoman period when it was the seat of the Turkish governor of the province) and having preserved its ancient position along the route towards Delphi (even though the modern route does not run through the city but bypasses it, running along its edges)[26].

Village level

Neither hamlet nor village seem to have been represented by the known archaeological evidence in the area of Levadeia until Lauffer surveyed the area (during his own intensive, though not systematic fieldwork/survey). *Component LE_21* (see description above) represents a very probable site of a small settlement in the Greco-Roman period[27]. The location also would fit the hypothesis, since satellite settlements in these lateral basins of Copais seem to often lie towards the exit of the valleys into the larger central Copais basin, such as the satellite settlement of Alalkomenai in the Koroneia *chora* (see chapter). On the other hand, if the material

[22] Period maps are included in chapter II.4, figs.17-19-21-23-25-27.

[23] Slight is the evidence for the occupation of the town in the Geometric period (Turner 1995). Scarce are also the archaeological finds from the Archaic period: a sculpted grave stele dated to the Archaic period and some epichoric stelae which may also date to this period - see *component LE_1*.

[24] see Trophonion, below and in appendix I.2 (*components LE_7 to LE_10*).

[25] In a location between mixed land types, as often happens for the Boeotian city sites (see also Koroneia, for instance – chapter II.3.1).

[26] For centuries it was also the centre of a flourishing cotton industry (Philippson 1951: 449), but today few people work the land, and the majority of inhabitants are involved with administration of the province and, marginally, tourism, due to the route to Delphi (Fossey 1988: 343).

[27] I have not visited the place personally, but the given indications lead to this interpretation.

constituting the evidence (sherds and tile) is dated to the Roman period, the component could be interpreted as a villa site, and would add information on the rural segment of the landscape.
A place suitable for a potential village (or large rural settlement) site would be the gently sloping upland area exploited today by the village of Surpi (see below – LONG TERM SETTLEMENT TRENDS), as well as the area of the modern village of Tsoukalades (see burials - *components LE_19 and LE_25* and see also *components LE_16 to LE_18* at Karakolithos)[28].

Rural segment
We do not have any specific information on rural sites in the *chora*, due to a lack of research on this segment of the landscape. A few components to which discoverers assigned other characters or did not assign any character, could be interpreted in terms of landscape as rural sites (see for instance *components LE_20*; *LE_23*; *LE_21 etc.*). Furthermore, both according to information gained through intensive surveys carried out elsewhere in the Boeotia region, and considering the landscape character of the *chora*, one can observe here the availability of enough land for agriculture and pasturage (see above) to expect a rural occupation of the landscape similar to other nearby areas (e.g. Koroneia *chora*).

Burial areas
Burial areas have been detected to the N and NE of Levadeia town, and were most probably strictly related to the city (*components LE_11 and LE_12*; *LE_14 and LE_15; LE_24*). They might, however, be estate markers for community farmers (especially in locations further from the city), as happens in the surroundings of other Boeotian *poleis* (see Tanagra for instance[29]). Other burials have been found by means of rescue excavation on the mountain along the route to Phokis, dated to the Roman period by Tsoukalades (*components LE_19 and LE_25*) and to Classical/Hellenistic times in the Karakolithos area (*components LE_16 and LE_17*). Those burials are not related directly to the city, and for a possible interpretation see the components' descriptions (in appendix I.2).

Cult places/Religious areas
Apart from sanctuaries and cult places known from the city site (in particular the sanctuary of Trophonios – see Levadeia town section) and its outskirts, some extra-urban sanctuaries are known, some of which are identifiable with places mentioned by Pausanias (*components LE_7* to *LE_9* (Temple of Zeus Basileus); *component LE_21* (Temple of Zeus Laphystion at Neraidogorna-Ag. Taxiarchis), as well as a cult place site in a cave (*component LE_10*).

Forts and fortifications
The presence of forts marking passes or borders can be observed in the landscape. The 4thC BC fort on Laphystion (*component LE_26*) probably overlooked the pass of the main road along the border of the Copais basin. The site of a fort (most probably Hellenistic) has been noticed at Karakolithos, on a mountain pass over Helicon (*component LE_18*), probably overlooking the border between Boeotia and Phokis, and marking a junction at the end of a probable boundary also between the areas of Levadeia and Chaironeia (see fig.3 and in chapter II.4 fig.21 and figs.29-31). Also the later (probably medieval) fort on Kourpeiko marks the border between the Levadeia and Chaironeia *chorai* (fig.3) and Lauffer (Kopais I: 145-6) would suggest it could mark the location of an earlier fort.

Other activities / unspecified activity areas
At the edge of the Copais basin, and at the entrance of the Levadeia valley, two undetermined activity foci were noted. One is *component LE_20* , which I have tried to interpret in terms of landscape (see appendix I.2), the other is *component LE_23*, for which only a few sherds are known together with later (medieval) material. Both could probably be interpreted as rural sites, considering archaeological remains and landscape location, and would therefore help our poor knowledge of the rural segment of the *chora* (see above).

Routes
Levadeia is still today in a strategic position. The city controls the main road from Thebes up to Delphi and down to the Antikyra bay through a number of small plains and then the Tsoukalades pass, where it crosses the watershed and enters ancient Phokis (see fig.1 – Philippson 1951 : 445; Fossey 1988: 343). A road would have followed the same route in ancient times also, as attested by archaeological evidence recovered along it (see appendix I.2 – Karakolithos: *components LE_16 to LE_18*) or a slightly shifted path at some points, as seems proven by the archaeological remains found 700m ca to the S of the modern road in the uplands (see above – Tsoukalades: *components LE_19 to LE_25*). Levadeia also controls the old inner route from Thebes to Chaironeia through the Kerata pass (fig.1 in chapter II.1), as well as the entrance to the route towards inner Helicon, SW of the city, through the pass behind the village of Surpi (Philippson 1951: 445; Burn 1949: plate XLIV).

LONG TERM SETTLEMENT TRENDS IN THE CHORA *LANDSCAPE*

The available data, coming mainly from extensive survey as far as the extra-urban landscape is concerned (see above), are not enough to allow for a meaningful analysis of the long-term life of the *chora* landscape. Thus, only a few reflections can be made, in the light of experience gained through the results of intensive surveys in other areas of Boeotia, and through considerations of the traditional settlement pattern.

[28] For further considerations see below – LONG TERM SETTLEMENT TRENDS.
[29] Chapter II.3.14 and appendix I.14 –the Tanagra survey project.

Our impressions of the landscape by period (Geometric to Hellenistic) are quite poor (figs. 17-19-21-23 in chapter II.4), while if components dated generally to the Greco-Roman period are added, one can visualise a more 'archaeologically populated' landscape (fig.17 in chapter II.4). The denser occupation of the landscape, known for the Classical period elsewhere in Boeotia and in Greece, could be attested here by the presence of a probable satellite settlement site growing up to the NE of the main city site, by the entrance of the valley[30], and the presence of some known or probable rural sites (*components LE_20, LE_21, LE_23*). Known burial sites are mainly related to the city, except for an isolated one on the mountain pass by the Karakolithos fort (*component LE_18*).
Conversely, for the Roman period we only have evidence of burial sites certainly datable to the period (once again, by the city and on the mountain along the modern road). Once again, adding the Greco-Roman sites of no better specified chronology, we can see other possible features populating the landscape, such as the settlement site (settlement or villa site?) at the entrance to the valley (see above).

The whole landscape section comprising the *chora* is even spatially centred on the city site of Levadeia. Accordingly, the modern town of Levadeia takes a central position in the landscape, administratively controlling almost all the territory of the ancient *chora*. It is notable that apart from modern Laphystion there are today no other first rank villages with the status of *koinotis* in the territory of the ancient *chora*. This is due to the large size of the city of Levadia and its status as administrative centre, which the town has carried through the Ottoman, Frankish and medieval period, as the administrative centre of the *Kaza of Livadia* in the Ottoman period and as the base for a castle in the Frankish period.
On the other hand, the dimensions of the *chora* seem to allow for the presence of other settlements, as noted already by Bintliff (1994b: fig.20) as the result of a Thiessen polygons analysis, where two empty potential village areas are located to the E and the W of the town of Levadeia. Considering the traditional settlement pattern, one notices that in the higher elevations on the NW, W, SW and E of the city a series of settlement chambers (working as such in the medieval and modern periods) open up, which control passes and alluvial valleys in the inland.
At a high elevation to the E of the city is situated modern Laphystion (formerly Granitsa), which is also recorded in the Ottoman defters in 1466-1570 (fig.6). The village of Granitsa/Laphystion controls, from an elevated position on the slopes (H3) of the Laphystion ridge, the area at the entrance to the valley. As seen above, for the Greco-Roman period we have evidence for a large rural site or a village (*component LE_21*) immediately below the slopes of Laphystion, not far from the Granitsa village but in a much lower position at the edge of a small rise (fig.6 - Neraidogorna). It may well be associated with *component LE_20*, gravitating towards the same bit of landscape.

In the interior W of the city there is a series of second rank villages, situated next to alluvial valleys with high fertility soils, which also go back to the Ottoman period: modern Tsoukalades (recorded in 1466-1570 and 1646-1688), Mikari/Makresi (ruined today but recorded in 1466-1570) and modern Analypsi (formerly Surpi, recorded 1506-1688). We cannot be sure that these areas were not exploited by the inhabitants of the city of Levadeia itself in Greco-Roman periods, but they would easily support rural sites if not hamlet/villages as in later periods.
As is clear from fig.6, showing the results of a cost-distance analysis based on ancient 1st and 2nd rank settlement[31], a potential settlement chamber in antiquity could be recognised in the area of the modern village of Tsoukalades, along the road towards Helicon to Delphi. The area also supported a village in the Ottoman period (Ottoman defters –1466, 1506 and 1570- as Tsoukalades Yorgi). In this area the only archaeological evidence available is remains of Roman burials known by means of rescue excavations (*components LE_19 and LE_25*), which could be connected to the presence of a settlement or a large rural site (linked with pasturage) nearby, in that period at least (fig.7 and fig.3 no.8). There the landscape is marked by the presence of H2 class (becoming H1 in some areas), and we therefore still have a similar situation of an opening up of the landscape in this case associated with a river valley with fertile and easy workable alluvia. The route to Phokis would probably have run more to the E than the modern national road, crossing the village of Tsoukalades and following the natural passage (see above *TOPOGRAPHICAL SETTING*, fig.1 and fig.3) [32].
The traditional village of Mikari, to the SE, is located where a stream valley constitutes a gently sloping area (H1), at the contact point between fertile alluvia and MF flysch and shist-sand soils. We have no archaeological information available for the area in antiquity, but we might suppose the existence of a settlement (hamlet or even village) at least in some periods of history, either there or in the stream valley immediately to the S. A cost-distance analysis seems to allow for such a hypothesis (fig.6), though in the Greco-Roman period the use of the uplands is not always as intensive as in later periods.
Further S, the wide upland area / hilly landscape plateau to the SW of Levadeia, on the slopes of Helicon which enclose the valley to the S, is characterised by the presence of H1 (plateau) and H2 (gentle slope) physiographical classes (see table 1 and fig.2 in chapter II.1, and fig.3) and crossed by two streams. The area can

[30] The settlement site's continuity into the Roman period is not sure, and even the site itself could have known a Roman phase of occupation only, probably as a villa site (see above and appendix I.2, *component LE_21*).

[31] See chapter II.3.1 – LONG TERM SETTLEMENT TRENDS

[32] Evidence of burials to be linked to settlement activities are also attested in the Karakolithos area (*components LE_16 and LE_17*), along the same route to the NW. Also, according to Dasios (1995: 245-255), working on the border between Boeotia and Phokis, these remains would testify to the presence of upland settlement in the area.

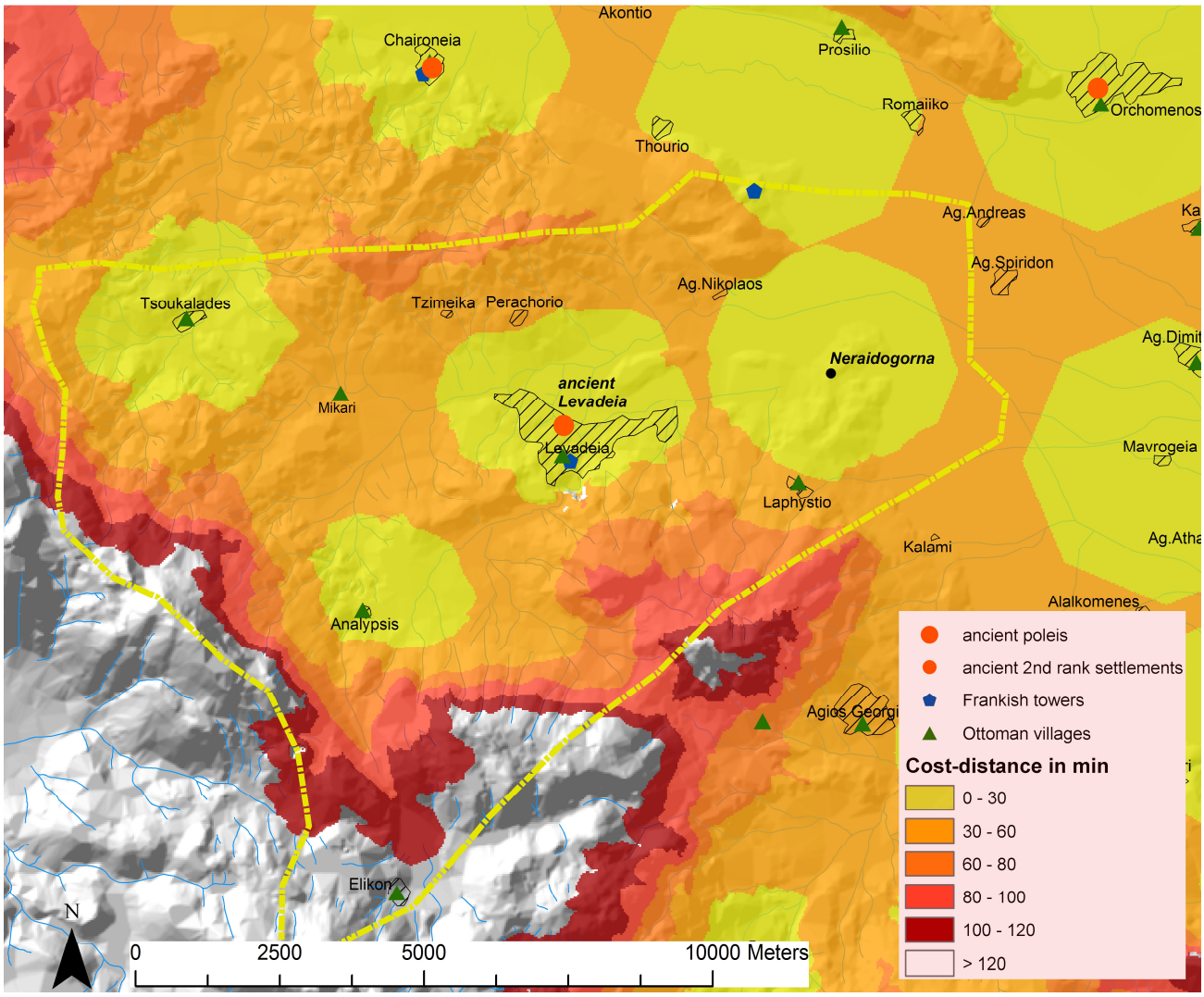


Fig.6. *Classified surface representing the cost-weighted distance (1/2 h walking and further ranges) from recognised 1st and 2nd rank ancient settlements (represented by larger and smaller dots). Areas without dots indicate potential settlement chambers. Ottoman villages as well as Frankish towers and the Frankish main centre of Levadeia have also been added to the map to show their spatial relationship with the Greco-Roman settlement network and to appreciate potential settlement chambers.*

be considered of MF (mid fertile) land (MF flysch in this case) crossed by small alluvial areas along the streams. It is located just below the steeper slopes of Helicon, suitable for pasturage. Today it is overlooked by the modern villages of Surpi/Analypsi and Ano Surpi (present in the Ottoman archives -1506 to 1688- as Surpi), and it would constitute a potential settlement chamber also for occupation (at the village or rural level) in antiquity.

Finally, Elikon (formerly Zerikia) is a high upland village on Mt. Helicon, also recorded in the 1466-1570 Ottoman archives. It certainly goes back to the infill and strong economic use of the upland landscape in later medieval periods, and one should not look for parallels in Greco-Roman antiquity.

On the slopes N of the city there are modern second rank hamlets which do not go back to the Ottoman period: Tzimeika, Perachorion and Ag. Nikolaos (probably exploiting the hills and part of the central plain). As for antiquity, although the available record does not include any considerable trace of activity in that section of the landscape, it could have been mainly exploited by rural sites gravitating towards the city. The existence of one hour walking distance radius around this N/NW part of the territory of the ancient city of Levadeia suggests also the possible exploitation of the area by city dwellers or by farms related to it. Even today all the hamlets belong to the *koinotis* of Levadeia.

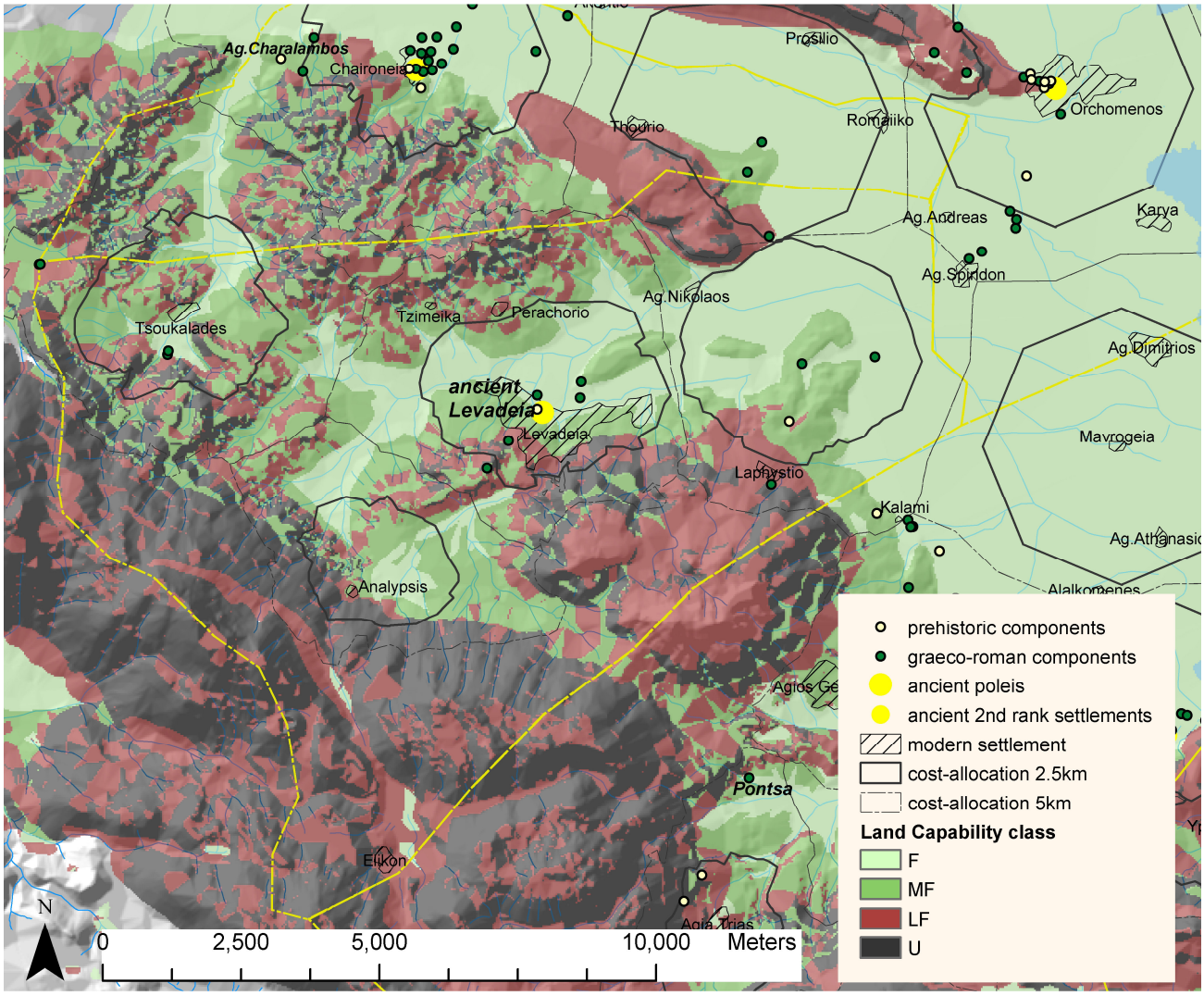


Fig.7. *Map showing the Greco-Roman settlement network, the polygons resulting from the cost-distance analysis (marking half an hour and one hour walking time distance) and dots representing the known archaeological components (same as in fig.3), with land capability information underlain.*