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

Farinetti, E.

II.3.7

The Eastern Copais area: Akraiphiai

TOPOGRAPHICAL SETTING

The *chora* of Akraiphia is part of the Copais area, but the bridge of land between the two lakes (Copais and Yliki) as well as the Ptoion upland areas also belong to it (see fig.1).

Lauffer (Kopais I: 251) considers the area bordering Copais, between the NE bay area and the Southern Onchestos area, as the E Copais area. In antiquity the area probably belonged to Akraiphia (see borders below), and for the data recording, therefore, I consider it as a whole together with the surroundings of Akraiphia and the Ptoion mountain, accessible only from the N and NW, i.e. from the Akraiphia area[1].

Below ancient Akraiphia the main Copais basin forms a bay (named Karditsa after the former name of the modern village of Akraiphnio)[2], which, at its deepest end, gets very close to the Yliki lake, from which it is separated by a low pass[3]. Water naturally occupies part of the bay[4], which was protected by a dam crossing the bay in a N-S direction, probably built in the Mycenaean period and certainly working in the Archaic period (Knauss Kopais 2). Remains of a channel were found, which are probably to be identified with the Akraiphia internal channel (Aravantinos 2004 [AE1439]); see fig.11 in chapter II.3.1.

According to the digital model of the fluctuations of the Copais lake (see fig.2; chapter II.3.1 and fig.10; appendix III), the water used to fill the bay to a certain point, but would never have reached the area occupied by the cemeteries (which would lie along the road in a marshy area) and the Late Roman rural activities (exploiting the resource of the peripheral foothill area), where a road [AE1722] also ran (see below: *components AK_7 to AK_18 and AK_53*).

The Ptoion ridge dominates the landscape of the area. Lauffer (Kopais I: 263) quotes Pindar fragment 51b (Hymn to Apollo Ptoios) which describes the Ptoion mountain. The Ptoion was also called *Skroponeri* or *Struzina*, as mentioned in Philippson 1951 (491), and it is described as an abrupt wall of rudist limestone (Megalovouno, 558m; Pelagia, 724m; Tsoukoureli, 698m; Tabouria peak, 838m) which descends towards the S to the Skroponeri gulf. The rudist limestone alternated with a series of flysch formations, a line of which runs along the N side of the Pelagia peak (see below: *component AK_46*) (Philippson 1951: 491-2). The N side of the limestone block is characterised by the flysch depression where the monastery of Ag.Pelagia lies. At the W end of the slope, on the same flysch area, in a valley which opens N-S (370m elevation), lies the sanctuary of Apollo (see below: *components AK_32 to AK_37*). It is a very beautiful landscape with limestone rock above soft schist, with a few olive trees and water sources. Further to the W lies the village Karditsa/Akraiphnio, on schist, which is separated by a line of limestone from the gulf of Copais to its S. W of Karditsa the schist continues to another small Copais gulf (between the Mytikas and Phtelio capes), while to the N and the S of the village the limestone ends in the Mytikas and Phtelio capes themselves.

The landscape of the S edge of the gulf is characterised by light coloured soils of tertiary formation (Philippson 1951: 493), while between Copais and Yliki lake lies a limestone plateau with a karst basin (Asprokampos – 137m elevation) in the middle of the pass (which probably belongs to the Haliartos *chora*).

Boundaries

The natural boundaries of the *chora* of Akraiphia are considered to be to the E the highest parts of Ptoion, probably Anemomilos (543m) and Pelagia (724m), but possibly also including Tsoukoureli (698m), as noted by Fossey (1988: 265). At its SE corner it should reach lake Yliki. The N and S borders are less certain. Towards the N, the boundary between Akraiphia and Copai would probably run from the Phtelio cape (where a boundary inscription –IG VII 2792 [AE1212] - was found in the

[1] Lauffer (Kopais I: 252) implies that the Ptoion area belongs to the Akraiphnio and Copais area, rather than to the Yliki lake and Thebes area, and supports the hypothesis of strong links between the Ptoion area and Akraiphnio and the Copais rather than with Yliki or Paralimni (Kopais I: 281). According to Lauffer, settlement is known only on Ptoion's E side, and *Hyle*, the only settlement known from ancient texts, is connected with Eastern Copais (Lauffer Kopais I referring to Hom *Il* V 708).

[2] Philippson (1951: 466) notes how the E edge of the main Copais basin widens out twice: firstly corresponding to the Akraiphnio (formerly Karditsa) bay (which opens up S of the Mytikas cape and runs towards the E), and further to the S, corresponding to the small gulf of Davlosis (see Haliartos *chora* – chapter II.3.8). The Karditsa bay has been identified with the *Atamanische* plain by some scholars (among others Gomme 1911/12, Frazer 1913, Guillon 1943).

[3] The pass is constituted of limestone, and its E part produces serpentine marble (Philippson 1951: 488). Today the pass constitutes the exit of all the Copais water (towards lake Yliki by means of a tunnel).

[4] A swampy area still exists today before the Karditsa/Mytikas promontory, as noted by Philippson (1951: 488).

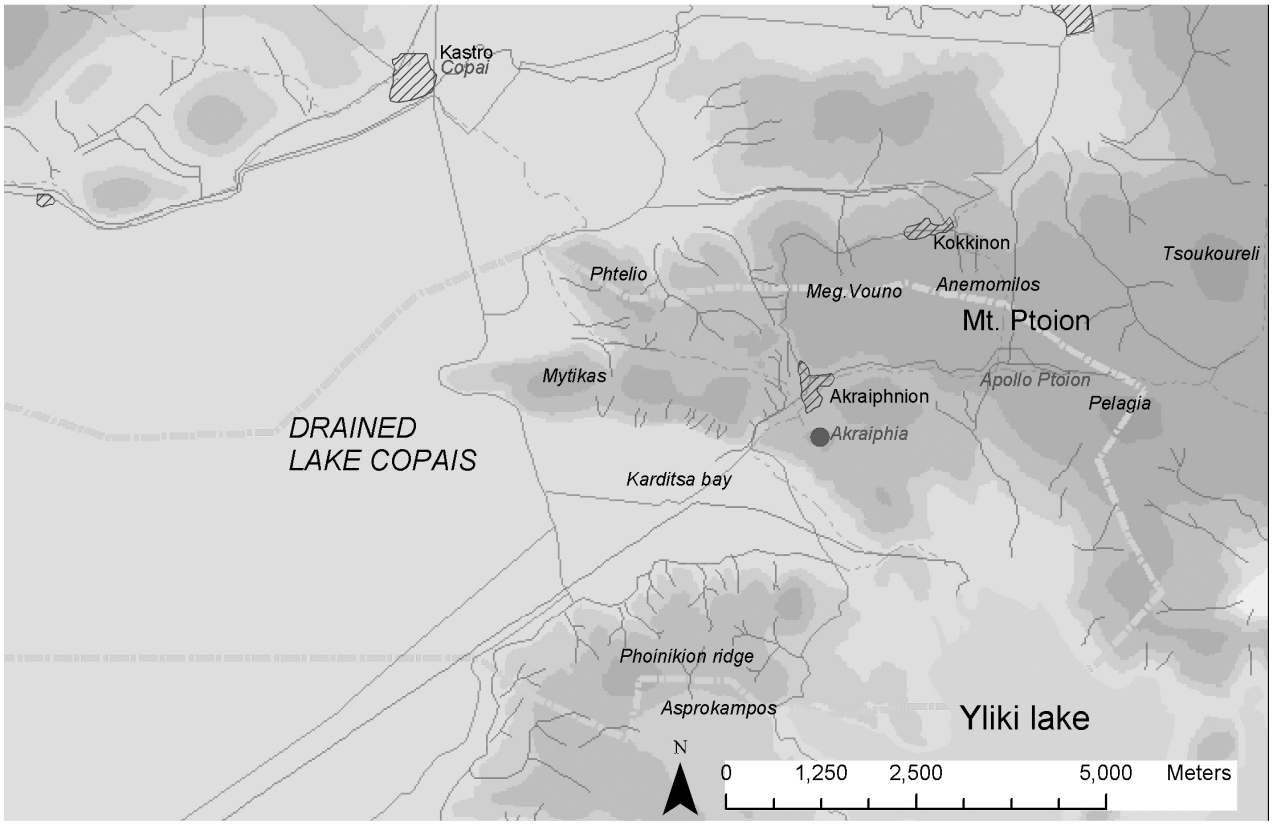

Fig.1. *Topographical setting of the chora of Akraiphia.*

19th century; dated to the Hellenistic period – end of the 4th C BC[5]), along the Megalovouno watershed, leaving the N side of Ptoion to the area of ancient Copai (see also chapter II.3.6). Another inscription was found and interpreted as boundary stone between Copai and Akraiphia, datable to the 6th – 5th C BC. The text suggested by Lauffer reads: [hóρος Α]κραι[φιέον] [κ]αί Κοπ[αίον[6]. To the S, the border was probably marked by the first watershed within the fringe of heights defining the S edge of the Karditsa bay (Phoinikion ridge), on which two small fortifications are known (*components AK_23 and AK_24*). As stated by Müller (1995: 660), failing detailed written information, three types of 'monuments' would permit the identification of the possible frontiers of the region: the boundary marker at the Phtelio cape, the sanctuary of Apollo at Perdikovrisi marking the E frontier, and the small defensive forts located at different points in the territory, even if they cannot be dated with precision[7]. The absence of any access to the sea for ancient Akraiphia is confirmed (Müller 1995: 660).

PHYSICAL LAND UNITS

The edges of the Copais basin rise quite abruptly, as is usual, all around the Karditsa bay. While the upland area is mainly characterised by smaller or larger plateau areas, mainly cultivated, the modern village of Akraiphnio is located on a protected slope, facing the Copais lake, and the ancient acropolis is to the S of it, on a rocky spur overlooking the surrounding plateaus.

Mountainous elevations are present only in the Easternmost corner of the *chora*, on the Ptoion ridge (M2 class is not represented), while in general the landscape is marked mainly by the usual mid range elevation which characterises the fringe N and E of Copais, with steep slope features (H5) alternating with gentle slopes and upland plateaus. The high percentage of plain landscape is due to the artificial subdivision of the Copais area among the bordering *chorai*, and could be even considerably less, according to the actual portion of lake included (see fig.2 in chapter II.1).

Hilly landscape	23.5%
Mountainous landscape	0.5%
Plain	76%

[5] See AD 1970: 229. See also Daverio Rocchi 1988: 120-122.

[6] SEG XXX 440; Teiresias, 10 [1980] AE/2; Lauffer *Chiron* 10 (1980: 161-2). The inscription (dated to the 6th C BC) was found in the plain, 500m NW of Phtelio cape and 500m SW of Gla.

[7] As Müller reports in Müller 1995: 660. Some forts (Pelagia, Mytikas – see components below in the text) have been identified, while others (Vathy Spitari, Kori) have not.

1	P1_P2	lacustrine basin, valley	63.5%
2	P3	gentle slope	1.2%
3	P4	foothill	11.3%
4	H1	plateau	6.9%
5	H2	gentle slope	0.2%
6	H3	moderate slope	2%
7	H4	severe slope	6.3%
8	H5	very severe slope	8.1%
9	M1	plateau	0.3%
10	M2	plateau/gentle slope	0%
11	M3	moderate slope	0.1%
12	M4	very severe slope	0.1%

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

RESOURCES

Three types of land characterise the landscape of the small Akraiphia *chora* (Müller 1995: 659): the limestone mountain chain, reaching a height of 700m, formed of extensive karst surfaces; a dry but cultivable region at the foot or on the slopes of this; a lacustrine or semilacustrine region (the lakes of Copais, Yliki and Paralimni) drained in antiquity by the employment of a series of artificial outflows using the *katavothrai*.

Apart from the areas of carbonate rock, the Akraiphia *chora* also presents areas potentially suitable for agriculture. To the E of ancient Akraiphia, as well as in between the ridges, are upland fertile areas, while to the SE of the Ptoion ridge towards Yliki, an area of lake deposits creates a considerable amount of cultivable land (fig.6). Though, due to its scale (1:50,000), not visible on the map (fig.6), a few small areas of cultivable soil can also be found on the limestone areas, with soil deposits due to slope erosion. The presence of the boundary marker, establishing the frontier between Akraiphia and Copai at the end of the 4th C BC, is probably proof of the existence of disputed agricultural land in the small cultivable pockets between the Mytikas and Phtelio capes (Müller 1995: 659).

It would seem that the Mycenaean dike across the mouth of the bay may have remained in use until the early imperial period when, despite attempts to repair it, it gave way to the lake's waters (from Fossey 1988: 275: Fossey 1973; Kenny 1935: 193-4; Kahrstedt 1954: 84-5; Lauffer, AD 1971: 243-5; Fossey 1979: 554-560; see also Knauss et al. Kopais 2).

Ptoion, as well as ridges of Megalovouno, offers land for pasturage. Olives and vines are also cultivated in the flysch formation (valued here as MF –class 2) to the N of the *polis* site. Fishing was also a valuable occupation in the area, a fact that is proved by a Hellenistic inscription (list of fish prices - Vatin 1971) found in the *agora* of the ancient *polis*. Iron deposits are also known on Mt. Ptoion and its SW outskirts (though it is uncertain whether they were exploited in antiquity – Bakhuizen 1976: 56-7[8]).

[8] The geology and iron sources are treated by Petraschek 1954, *passim*.

THE ARCHAEOLOGICAL RECORD

1	**Akraiphnio Skopià**	*Components AK_1 to AK_6*
2	**Skopià**	*Components AK_28 and AK_60*
3 to 10	**Akraiphnio burial areas**	*Components AK_54 to AK_59* (3); *AK_7 and AK_8* (4); *AK_11* (5); *AK_12 to AK_17* (6); *AK_13 and AK_14* (7); *AK_48 to AK_52* (8); *AK_18* (9); *AK_9 and AK_10* (10)
11	**Akraiphnio Grava**	*Component AK_53*
12	**Akraiphnio-Nat.Road junction**	*Components AK_55, AK_57 and AK_58*
13	**Akraiphnio-Nat.Road S**	*Component AK_56*
14	**Phtelio-Vristika**	*Component AK_21*
15	**Mytikas**	*Component AK_22*
16	**Yliki NE - Vathy Spithari**	*Component AK_23*
17	**Yliki NE**	*Component AK_24*
18	**Spilia tou Sarakinou**	*Components AK_25 to AK_27*
19	**Megalovouno S slope**	*Component AK_19*
20	**Megalovouno E slope**	*Component AK_20*
21	**Ptoion Kastraki**	*Components AK_29 to AK_31*
22	**Ptoion Perdikovrysi**	*Components AK_32 to AK_37*
23	**Ptoion Perdikovrysi - W slope**	*Components AK_38 to AK_40*
24	**Perdykovrisi valley – plateau**	*Components AK_41 to AK_43*
25	**Perdykovrisi valley**	*Component AK_44*
26	**Ptoion Pelagia**	*Component AK_45*
27	**Ptoion Pelagia Monastery**	*Component AK_46*
28	**Tsekoureli**	*Component AK_47*

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

*Sites on the N edge of Yliki lake, though probably belonging to Akraiphia, are presented and discussed under the *chora* of Thebes, where the Yliki lake and the surrounding settlement will be discussed as a topographical unit.

As for the Akraiphia *chora*, knowledge of the archaeological record concerning the area is due in large part to rescue excavation; mainly work in the modern village and especially along the Athens-Lamia highway, where extensive excavations have also been carried out recently for the construction of a new junction and enlargement of the highway, leading to further discoveries in the necropolis area (see above).

The graph (fig.3) illustrates the proportion of components discovered within different research frameworks. For the Akraiphia area, accidental discoveries are apparently also quite common. This is due to the discovery of tombs (which constitute one of the main features of the known archaeological landscape of the area) mainly through ploughing or illegal excavations.

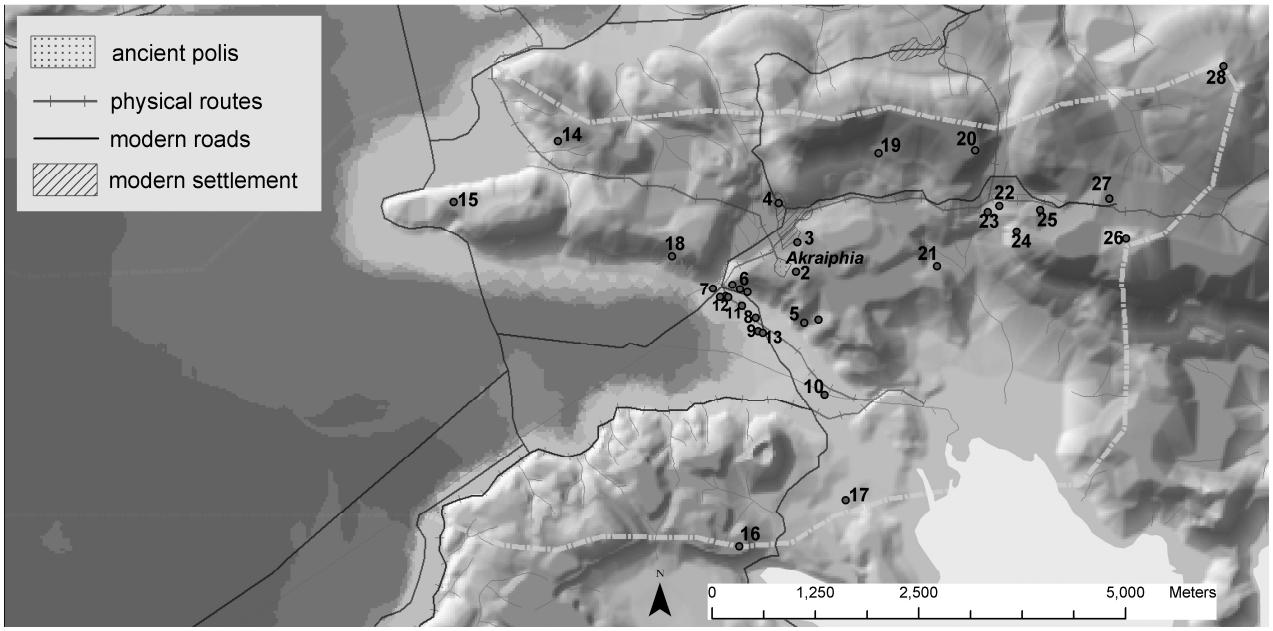

Fig.2. *Archaeological map of Akraiphia chora.*

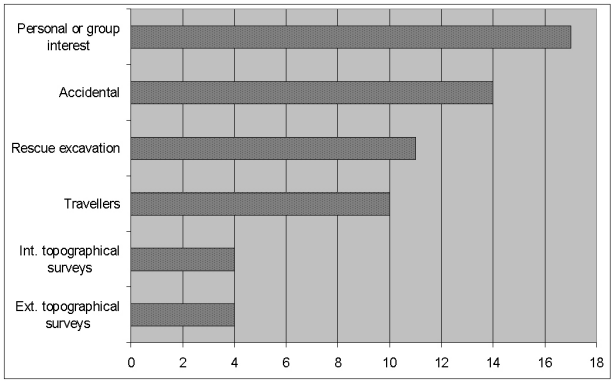

Fig.3. *Graph illustrating the proportion of components discovered within different research frameworks.*

Personal or group interest, which characterises the majority of discoveries, includes the systematic excavations at the Ptoion sanctuary (French School) and at *Spilia tou Sarakinou* (Speleological Service). Furthermore, personal interest in forts led to personal visits to the highest and most prominent peaks in the area, and in general the whole area of Ptoion[9].

The 'Other' value is not represented within the discovery panorama of the *chora*, perhaps mainly because the archaeological record seldom offers us the case of multiperiod sites.

Interestingly, all the available archaeological record comes from the N and NE side of the Karditsa bay. No

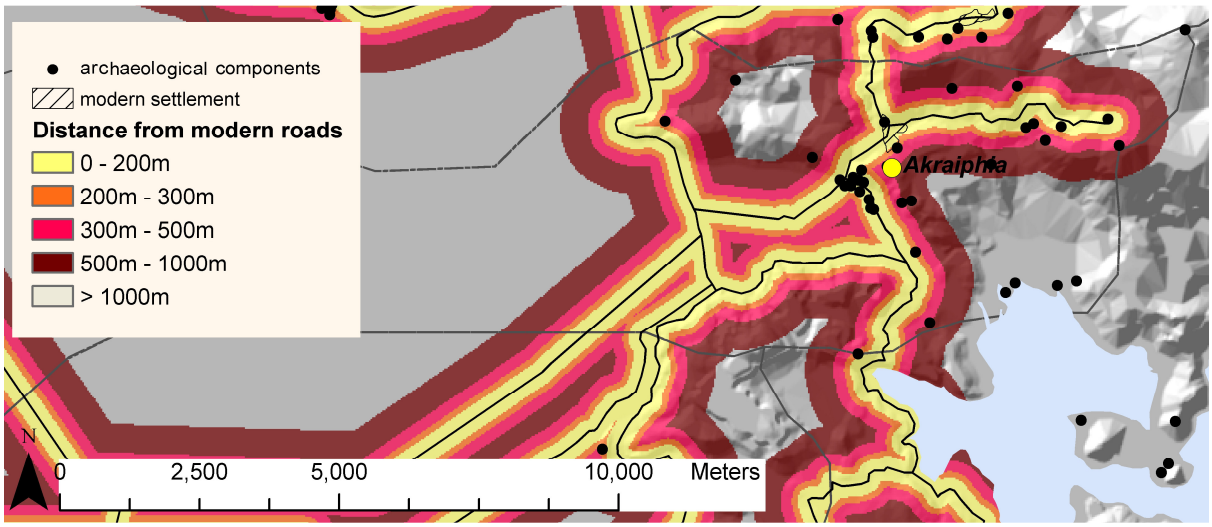

Fig.4. *Relationship between components and modern road network*

[9] Good maps of the archaeological area are given by Guillon 1943 vol. II, pl. V and Lauffer 1959, while more recent discoveries have been published in various archaeological reports.

archaeological remains (with the exception of two hilltop forts) are apparently known along the Southern edge of the bay, comprised of rocky limestone formations, which separates the Copais basin from the Yliki lake.

In fig.4 we can see the relationship between known archaeological sites and the distance from the modern road network. Known sites are in a quite strict correlation with the proximity of roads, with the exception especially of the known hilltop fort sites, whose knowledge is mainly due to a special interest in fortification (see below – Noacks's research, for instance, as well as that of the French School). Also distant from the modern road network are the known sites at the N edge of Yliki, discovered due to the interest in perilacustris areas and oriented research. In the lower area by the bay, occupied by burials, the strict correlation with the modern road network is due to the road construction work, which in the majority of cases allowed for the archaeological discoveries. In the upland area, discoveries along the upland path on the Ptoion can be related to the existence of an old route.

The ratio of known Prehistoric to Greco-Roman components is 11 to 48 (1:4.4), while among the historical periods, 50% are dated Archaic to Hellenistic, 31% Roman-Late Roman, and 19% are attributed to the general Greco-Roman period.

ANALYSIS OF THE *CHORA* LANDSCAPE

PREHISTORIC PERIOD

The area of Akraiphia being part of the E region of the Copais basin, settlement is much influenced by the presence of the marshy lake, and marked by characteristics which typify other areas around Copais, such as the NE bay in particular (see chapter II.3.6).

As elsewhere in the Copais area, for the earliest period we have evidence of occupation in caves, as at *Spilia tou Sarakinou* (*components AK_25 to AK_27*), where major Neolithic occupation was excavated. The Sarakinou cave lies at a higher elevation than other cave sites in the region, compared to the basin base level, a fact that gives it a special character. Neolithic occupation is also known in the plain within the Karditsa/Akraiphnio bay, below the ancient city site (fig.6 in chapter II.3.1), where, in deep strata below the Archaic and Classical cemetery, Andreiomenou found two complete vases similar to those of the Final Neolithic periods found fragmented in the aforementioned cave. Their probable burial use, as well as their discovery in thick lake deposits, could mean that in the Final Neolithic period the lake was some distance from the cave location (at least 1000m), as pointed out by Sampson 2000 – see the digital reconstruction of the lake fluctuations in the present work (appendix III).

There are few sites known for the EH and MH periods (figs.7-8 in chapter II.3.1). *Components AK_38 and AK_39* (Perdikovrisi site) could be linked to the occupation of upland segments of the landscape during the transition between the Neolithic and Early Bronze Age, due to the so-called Secondary Product Revolution.

The *Spilia tou Sarakinou* cave site also displays traces of occupation in the Early and Middle Helladic (*components AK_26 and AK_27*).

As Lauffer (1940: 187) noted, the city site was probably not occupied during the Neolithic nor during the Bronze Age, when the main settlement of the area has probably to be found elsewhere (on the Ptoion, or down the Copais). On the other hand, Knauss reports traces of a LH fortification within the Archaic circuit of the city.

A network of lookout towers (and roads?) must have existed in Mycenaean times – cf. Hope Simpson 1965: no. 415 (see *components AK_43 and AK_44*), as well as Lauffer's (Kopais I: 285) reasoning that the area of Ptoion (on the upland pass between E and W Boeotia) must have been strategic in the Late Prehistoric period. Despite this, few outposts have been noted which can actually be dated to the LH period (fig.9 in chapter II.3.1); the majority are datable to the Greco-Roman period (and probably to the 4th C BC) – see below FORTS AND FORTIFICATIONS.

GRECO-ROMAN ANTIQUITY[10]

Town level

The town of Akraiphia was located in a prominent position almost in the centre of what was presumably its *chora* (on Skopia hill, to the S of modern Akraiphnio village). The fortification of the town as well as the city landscape has been investigated in particular by the work of Guillon and Feyel (BCH 1936: 461 and Guillon 1943).

The *polis* of Akraiphia had a certain importance from the earliest historical periods (Geometric-Archaic), considering the richness and abundance of tombs found dated to these periods. In the Geometric period the settlement probably had a *protopolis* character, although Akraiphia seems to be much more developed in earlier historical periods than other Boeotian *poleis* (since the area was soon controlled by Thebes – Hansen 1996: 79). The city seems to flourish at the beginning of the Hellenistic period also, after the decline of Thebes (many burials related to the city site are known from the lower area of the bay; the main core of the circuit wall would date to that period). The presence of a Late Roman burial (*component AK_6*) in the city area would indicate the decline of the city in the mature Roman and Late Roman period, known also for other Boeotian cities.

It was a middle-sized *polis*, which would probably have concentrated all the population of the small area, and probably most of the rural segment as well (see below – LONG TERM SETTLEMENT TRENDS).

Village level

If we do not consider the N side of the Megalovouno ridge (occupied by the modern village of Kokkino – see chapter II.3.6) as part of the Akraiphia *chora*, the sole area of possible suitability for a settlement site is the Perdikovrysi area, at a crossroad between upland plateaus and mountain pathways, and characterised by wide fertile

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

terraces and fresh water springs. The establishment of the Apollo sanctuary and related habitation and activities from early historical times, however, would fill in this 'available' space and exploit its resources. Otherwise, the settlement shows a strong nucleation into the town of Akraiphia (see below – LONG TERM SETTLEMENT TRENDS).

Rural segment

The rural occupation of the landscape of the area in Greco-Roman antiquity is almost completely unknown, with the exception of a Late Roman *villa rustica* site (*component AK_53*) excavated in the foothills below ancient Akraiphia and an evidence from burials (*component AK_19*, see BURIAL AREAS), probably reflecting the decline of the city in the R-LR periods. As suggested earlier, in earlier periods the land available for agriculture was probably farmed by the inhabitants of the city site (and in the upland areas the landscape probably would have seen the presence of some sheep-folds at the most). On the other hand, probably in the Roman, and certainly in the Late Roman period, other areas of the landscape would have been occupied and exploited intensively according to the large property system recognisable elsewhere in Boeotia and mainland Greece during the Roman period[11]. The location of *component AK_53*, low in the bay not far from the water is similar to one of the villa sites recorded in the Kephissos valley by Chaironeia (see chapter II.3.3), and presents a lower position, not unusual in Boeotia for rural sites of the Late Roman period (information which can also be inferred from the results of the intensive artefact surface surveys carried out in the region – mainly Thespiae and Tanagra – see chapter II.3.14 and appendix I.14 – THE TANAGRA SURVEY PROJECT).

Burial areas

The burial landscape of the area is archaeologically very well known, especially as far as the cemeteries linked to the *polis* centre are concerned. The main cemetery of Akraiphia lay at the S foothill of the acropolis hill (Geometric to Hellenistic period), in the Karditsa bay, while other burial foci have been noted (see above for detailed locations, but the main one, especially in Hellenistic and Roman times, is at the N foot of the hill, where the modern village lies). The necropoleis probably lay along the road towards Thebes (those in the area of Grava as well as that found further E in the Gouni area – *component AK_9*). The Roman burial area represented by *component AK_19* is not connected with the city site but probably with the exploitation of the rural landscape in the Roman period.

Cult places/Religious areas

The sacred landscape of the area is dominated by the presence of the upland sanctuary of Apollo Ptoios (known as *Ptoion* - sanctuary and *heroon* at Kastraki and Perdikovrisi on the Ptoion – *components AK_29 to AK_37*), which, located in a strategic position at a crossroad of upland routes, gives life and prosperity in the Greco-Roman period to an otherwise remote upland area[12].

In addition to these major cult places, a small religious building (*component AK_55*), interpreted as a cult place dating back to the Geometric period, has recently been excavated in the area of the Karditsa bay immediately below the acropolis hill, in an area known as Grava because of the presence of cemeteries (see above). It would probably have been connected with the burial area, occupied as such since the Geometric period.

Forts and fortifications

Fortifications in the E Copais area (mainly on W Ptoion) are well known due to Noack's research in the environs of Gla. Although some of the forts in the area could also be dated to the LH/Mycenaean period, all the spots which he interpreted as LH fortifications or fortified settlements, after more careful research (mainly by Lauffer) turned out to be Greco-Roman sites and, most of the time, fort sites. Evidence from layout, technique, orientation and pottery make them later (probably 4th C BC, the period of Theban hegemony), and having no connection with Gla. Nevertheless, Noack's journey and notes led later research and helped scholars to go directly to these places and examine them more closely (see discussion under the sites above).

Several forts of historical date are therefore known from the area of ancient Akraiphia, and mark its landscape, especially in the upland area of Ptoion, controlling crucial upland and lowland passages. Apart from the circuit wall of the city site (enclosing quadrangularly the acropolis on Skopia hill), several isolated forts are known at strategic points in the area, overlooking passes or passages both towards the Copais and the Yliki lake. These probably belonged to the strong fortification system controlled by Thebes and set up in the 4th C BC (see *components AK_21 to AK_24; AK_41-AK_42 (probably); AK_45 and AK_47*), to control the passes towards W Boeotia[13]. They are clearly located along the boundary between the strictly Theban territory and the area of Akraiphia, which Thebes wished to control strictly for its central location within the region and its consequent clear strategic importance (fig.2 – nos. 16, 17, 26, 28).

Several forts were noted on the heights above the Ptoion-Perdikovrisi sanctuary: a fort on the highest peak of Ptoion (*component AK_47* – no.28 in fig.2), and two other forts noted in the area, one on each side of the plateau above the temple of Apollo Ptoios (*components AK_42 and AK_45*– nos. 24 and 26 in fig.2 - Kenny 1935).

The forts in the area would guard the approaches from Anthedon (via the Paralimni lake), from Thebes, and from Larymna. As Lauffer (Kopais I: 281) suggests, it

[11] For a summary see Alcock 1993 and reviews. For southern Argolid see Jameson– Runnels– van Andel 1994, for Laconia Cavanagh et al. 1996 and Cavanagh-Mee-James 2005.

[12] The area of the Ptoion mountain is also crucial for control of upland as well as lowland passages, and the landscape is marked by the presence of forts (see below in the text).

[13] One of the first *poleis* that Thebes secured under its control was Akraiphia (Lauffer Kopais I: 285; Hansen 1996: 79).

seems, though, that they would also guard the side of the Copais area[14].

LONG TERM SETTLEMENT TRENDS IN THE CHORA *LANDSCAPE*

As seen above, the *polis* of Akraiphia had a certain importance from the earliest historical periods (Geometric-Archaic), considering the richness and abundance of tombs found dated to these periods. The city flourished again during the final phases of the Classical period and at the beginning of the Hellenistic period, after the decline of Thebes, with signs of decline in the Late Roman period.

In the wider territory evidence for settlement is lacking (see above – *Town level* and *Rural segment*). This nucleated pattern is also supported by the Medieval/Post Medieval and traditional settlement pattern. In the *chora* of ancient Akraiphia, controlling a middle to low fertility area, with small high fertility zones by the lake, is situated only one modern village, Akraiphnio, former Karditsa, which is recorded in the Ottoman archives from 1466-1688. The medieval church in the village, with the inscription of a Frankish lord dating back to the 14th century, might indicate continuity from antiquity into Byzantine and Frankish times and recolonisation by Albanians in the 15th century (Bintliff-Kiel in preparation).

By considering the three types of land which define the landscape of the small Akraiphia *chora* (see Müller 1995: 659 – limestone mountain, dry foothills region, Copais lake and marshes) one can obtain a picture of the settlement pattern accordingly. In the foothills and plain area of the bay we have burial areas connected to the *polis* of Akraiphia above, and the passage of the road, as well as the rural sites known at least for the Roman period, exploiting the bay (probably free from water due to the dam at the entrance to the bay). In the upland areas we do not have traces of habitation in the historical period (at most, the area would have been populated by sheep-folds and other buildings suitable for pastoral activities), but life in the area was probably active due to the presence of the sanctuary and its related activities. The upland zone was also populated with several small forts (most of which are still partially standing) marking the mountainous landscape of this area as central with regards to position and strategic control of passes in Boeotia.

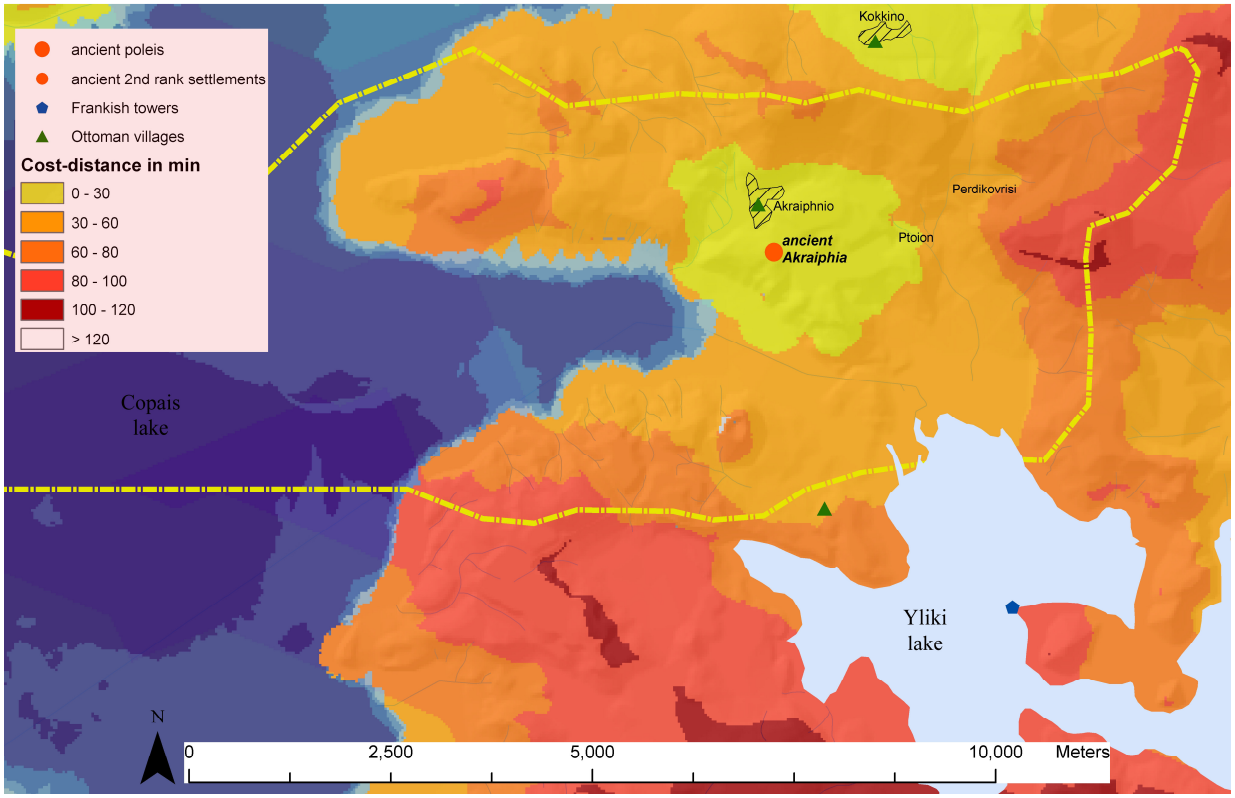

Fig.5. *Classified surface representing the cost-weighted distance (1/2 h walking and further ranges) from recognised 1st and 2nd rank ancient settlements (represented by larger and smaller dots). Areas without dots indicate potential settlement chambers. Ottoman villages and Frankish towers have also been added to the map to show their spatial relationship with the Greco-Roman settlement network and to appreciate potential settlement chambers.*

[14] The watchtower on Tsikoureli (*component AK_47*) seems to overlook only the W area and Copais, and the forts *AK_20* and *AK_45* would probably also have controlled that area (see chapter II.4).

In the landscape nothing is known of classical rural occupation, and this is probably due to the few bits of cultivable land in the small (with regards to extension) *chora* having been farmed directly by people from the city. In the Late Hellenistic and Roman periods, the burial area moved to the slope of the Skopia acropolis, and a villa estate can be found in the lower area within the bay (*component AK_53*, a villa rustica site of Late Roman date) testifying a different use of the landscape (intensive export-oriented land use by large estates).

If we consider the area of Kokkino as belonging to the NE Copais area, than in the proper Akraiphia *chora*, even if we consider the upland Ptoion area to be a part of it, there is inadequate space for a second settlement chamber, especially in the Greco-Roman period[15], as the cost-distance analysis[16] seems to confirm (fig.5). As already mentioned, the traditional settlement pattern confirms a diachronically nucleated settlement pattern in the region[17]. Only for the Roman period have we some evidence of further exploitation and settling in other areas (*components AK_19 and AK_53*).

The existence of a large and known sanctuary, such as that of Apollo at Ptoion-Perdikovrisi, however, would have created an area of influence of the sanctuary, rich in activities in the upland areas, which would otherwise be 'occupied' only by watchtowers in elevated positions. In fact, examining the available archaeological record, in the Perdikovrisi valley we find, as Lauffer also notes (Kopais I: 275), Prehistoric activities (with no certain focus – *components AK_38 to AK_40 and AK_43*, fig.2 nos.23 and 24), a Greco-Roman cult place (with habitation and connected activities – *components AK_32 to AK_37,* fig.2 nos.22), and a medieval/Byzantine? monastery (Ag.Pelagia) – fig.5 and fig.6.

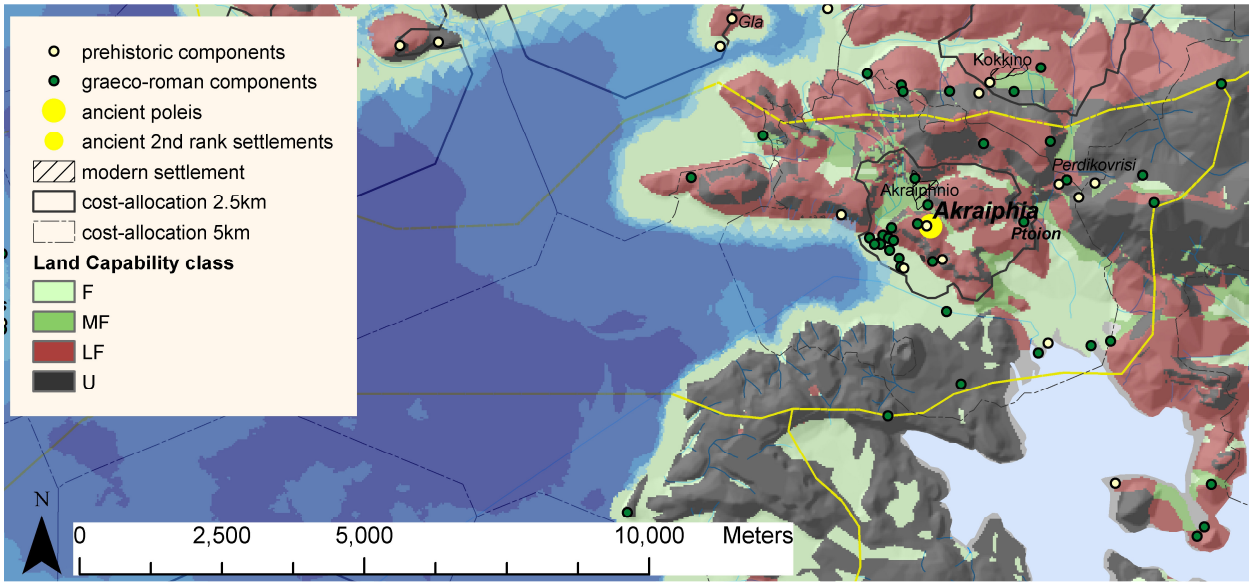

Fig.6. *Map showing the Greco-Roman settlement network, the polygons resulting from the cost-distance analysis (marking half an hour and one hour walking time distance) and dots representing the known archaeological components (same as in fig.2), with land capability information underlain.*

[15] See also Thiessen polygons analysis on Boeotian ancient settlement network in Bintliff 1994b: fig.20.
[16] See chapter II.3.1 – LONG TERM SETTLEMENT TRENDS.
[17] The village of Sengaina-Sence, reported in the Ottoman archives and located at the very S end of the *chora*, has to be considered as geographically belonging to the landscape of the Yliki lake, whose settlement history is discussed in chapter II.3.12.