

University of Kentucky Archaeological Investigations at Monte Palazzi (Passo Croceferrata, Grotteria, Calabria) and in the Locrian *chora* in 2010-2012

Paolo Visonà*

The University of Kentucky's last field season at Monte Palazzi in 2010 included both excavation and a geophysical survey aimed at establishing the boundaries and the structural characteristics of the site, identified as a Greek mountain fort of Locri Epizephyrii. Topographical reconnaissances were also conducted between 2010-2012 at locations in the upper Torbido River Valley that could have been used for intersignaling (such as Monte Limina), and at other fortified sites in southern Calabria (e.g. San Salvatore, Serro di Tavola, and Monte Gallo) in order to better understand the functions of a military installation on Monte Palazzi. Excavation was focused upon two adjoining units at the southern end of the summit (E4 and F5), which had been partially investigated in 2008. It uncovered a portion of the fort's central area, probably an open-air courtyard, and of the inner face of the southern perimeter wall, 2.5 m wide. The construction of this rampart was dated to the first half of the 5th century B.C. by the fineware recovered beneath its foundations. However, there is evidence that a Greek outpost existed at Monte Palazzi at least as early as the second half of the 6th century B.C. The site appears to have been occupied continuously throughout the classical period. It may have been abandoned or destroyed in the first half of the 3rd century B.C., although traces of an abandonment or destruction stratum have not yet been found. A magnetic and an electrical resistance survey have determined that a large structure, encompassing an area of c.1,300 m², occupied the entire summit. Its irregular design followed the contour of the mountaintop, and its general features are consistent with those of other Greek archaic forts within the region. The longer life span of our fort attests to its singular importance as a key node on an overland route connecting Locri to the Tyrrhenian and a control point on the northeastern flank of the Locrian chora.

Introduction

The territorial boundaries of the Greek colonies in the toe of Italy have not been conclusively defined by archaeologists, who have traditionally focused their attention upon the urban settlements near the coast. In the last 30 years, however, a growing body of data from surveys and excavations has revealed that the Greeks of Rhegion, Kaulonia, and Locri Epizephyrii, built small masonry forts to guard the mountainous borders of their territories against their Greek neighbors, *i.e.*, “against enemies of a known capability”¹. Strategically placed near communication and potential invasion routes, and sharing similar geomorphic settings and structural characteristics, these military installations served as observation posts and control points over a shifting frontier². Three of the earliest Greek forts known thus far have been identified at Serro di Tavola (Sant’Eufemia), San Salvatore (Bova), and Monte Gallo (Placanica). All of them were constructed in the first half of the 6th century B.C.³. A late archaic Greek fort has also been explored at Monte Palazzi, near the Croceferrata Pass (fig. 1). An integrated approach to the study of these

* School of Art and Visual Studies, 207 Fine Arts Bldg., University of Kentucky, Lexington, KY 40506 U.S.A.

¹ SNODGRASS 1986: 131 (referring to Archaic urban defenses). Even though it is unlikely that Rhegion’s, Locri’s, and Kaulonia’s mountainous hinterland was unpopulated, indigenous communities posed no threat to the Greeks in south-central Calabria in the 6th century B.C.: see MUSTI 1976: 62; LA TORRE 2004: 484; CARDOSA 2004: 523; FOXHALL 2009: 32; VISONÀ 2010b: 9, no. 37. Cf. also LEPORE 1970: 42; VALLET 1970: 128-129; VASSALLO 1997: 220-222.

² The Greek word *φοῦριον* used to describe these fortifications in earlier reports “*ne semble pas apparaître dans la littérature ou l’épigraphie*” before the end of the 5th century B.C., according to TRÉZINY 2010: 557. See also FREDERIKSEN 2011: 13-15.

³ Cf. COSTAMAGNA 2000: 3; CORDIANO and ACCARDO 2004: 72-78; CORDIANO ET AL. 2006: 46-47; BRIZZI and COSTAMAGNA 2010; FOXHALL 2007; FOXHALL 2009; FOXHALL ET AL. 2007: 24-26; FOXHALL ET AL. 2010; IANNELLI 2011: 395-396. For the cultural identity of the settlements of Serro di Tavola and San Salvatore see the reservations of GRECO 2005: 221; FOXHALL 2009: 32; FOXHALL ET AL. 2010: 36-38.

and other forts may, therefore, cast new light upon the territorial defense strategies of the Greek city-states which built and operated them.

The Monte Palazzi archaeological project was begun in 2005 to test Salvatore Settis' suggestion that the architectural remains on the mountaintop which bears this name belonged to a Greek fort of Locri Epizephyrii. After an initial season of excavation by a team from the University of Colorado (with support by the Foundation for Calabrian Archaeology), systematic research was carried out in 2007, 2008, and 2010 under the aegis of the University of Kentucky. These investigations had three principal aims: 1) to discern the nature and functions of the site; 2) to obtain information about its occupational history; 3) to elucidate its ties to Locri. An overarching goal was to understand the importance of Monte Palazzi in the context of Greek interstate relations in southern Calabria.

That a Greek fortification once stood atop Monte Palazzi was shown by the presence of a massive defensive wall uncovered during the 2005 and 2007-2008 excavations, which also yielded a material culture assemblage indicative of close Locrian connections⁴. Those campaigns concentrated on two blocks of 5 x 5 m squares at the northwestern and southwestern ends of the summit, a flat area of c. 40 m north-south by 50 m east-west that may have been partially leveled off in antiquity (fig. 2). Both zones were targeted in order to locate the perimeter wall of the complex and to assess the depth and characteristics of the archaeological deposit. This report highlights the results of the final season of fieldwork at Monte Palazzi in 2010, which included excavation and a geophysical survey of the site. Topographical surveys aimed at identifying other possible control points, and at verifying their inter-visibility with Monte Palazzi, were also conducted at nearby Monte Gremi (2.5 km to the east), and at Poggio Pilazzo and Monte Limina (9.7 km to the southwest) in the upper Torbido River Valley. Visits to the sites of San Salvatore, Serro di Tavola, Monte Gallo, Torre Camillari, and Monte Castello provided additional insight into Monte Palazzi's strategic functions⁵.

The 2010 excavations

Significant new data have emerged from the 2010 excavations in the southern half of the site, c. 15 % of which has been stratigraphically sampled. Previous excavation (fig. 3) had revealed that the layers of soil at the northwestern end of the mountaintop (also the highest point) were very shallow and had been compromised by recent disturbances⁶. Moreover, an



Fig. 1. Satellite map of southern Calabria showing the location of Monte Palazzi (in red) and of the principal Greek archaic forts (in orange). Courtesy of Bing and Microsoft Corp. Computer-aided visualization by J.R. Jansson and L.F. Chapman.

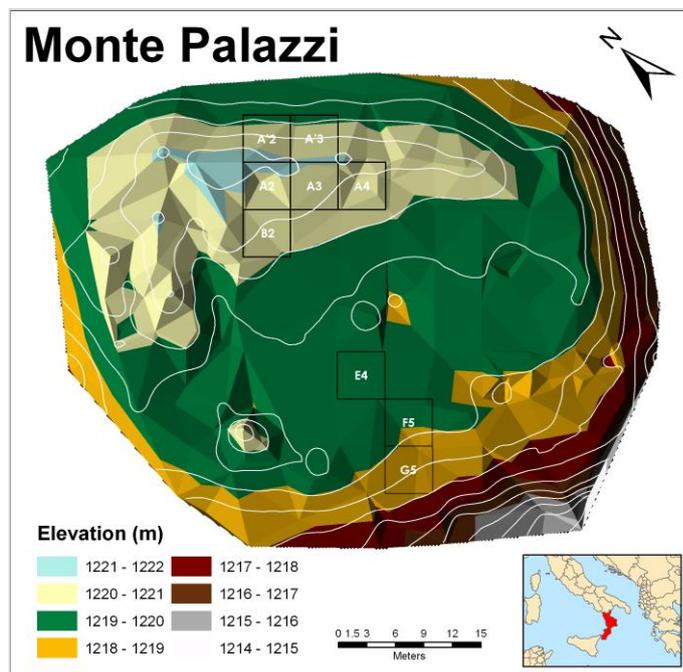


Fig. 2. TIN map of Monte Palazzi by M. Kennedy and J.E. Levy with overlay of the excavation units explored in 2005-2010.

⁴ VISONÀ 2010b: 9, 13-15.

⁵ Cf. VISONÀ 2010b: 2, 7, 9-11; FOXHALL *ET AL.* 2010; BRIZZI and COSTAMAGNA 2010; IANNELLI 2011: 392-398. For '*ricognizioni autoptiche non sistematiche*', see CAMBI and TERRENATO 1994: 124-125.

⁶ Cf. KNAPP *ET AL.* 2007: 491-494; VISONÀ 2010b: 4-5 and 15, n. 68.

Monte Palazzi

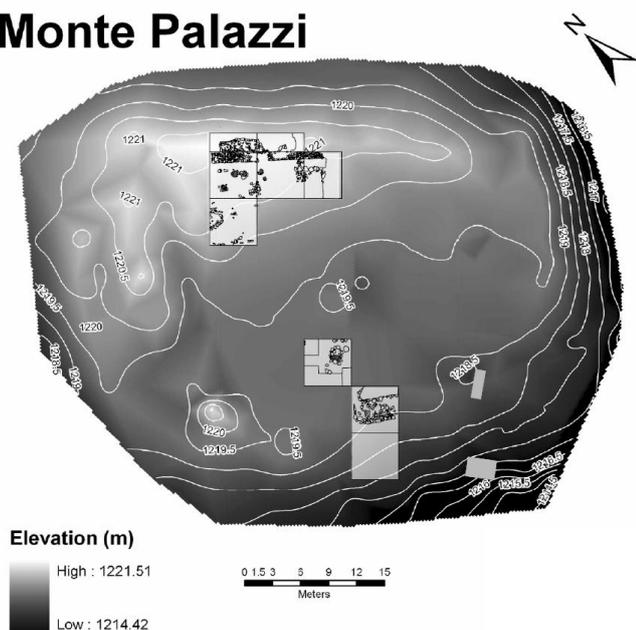


Fig. 3. DEM map of Monte Palazzi by M. Kennedy and J.E. Levy with overlay of the archaeological features uncovered in 2005-2010.

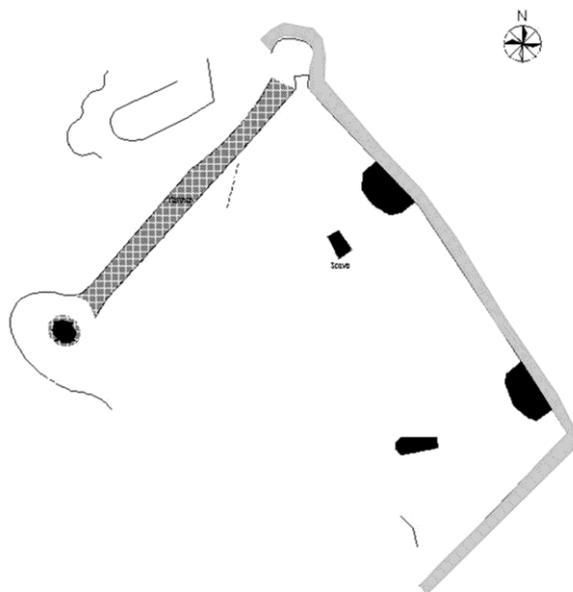


Fig. 4. 2003 sketch of the fortification on Monte Palazzi. Solid black shapes indicate areas of clean-up or sondages (the rectangular area off-center is marked 'scavo'). From IANNELLI 2011: 453, Fig. 17.

unknown portion of the area corresponding to squares A3-A'3 had already been investigated by the Soprintendenza Archeologica della Calabria in 2003 (fig. 4), unbeknownst to the American excavators⁷. The main research objectives in resuming fieldwork in the adjacent squares E4 and F5 were to intercept undisturbed layers and interior structures, and to uncover the inner face of the southern perimeter wall that had been located in square F5 during the 2008 season. Accordingly, about one-half of square E4 was taken down to a sterile yellow soil, (locus **E4007**), whereas only a 1.5-meter wide section of square F5, between the northern baulk and the inner face of the southern perimeter wall (**F5010**), was excavated until a similar sterile soil was reached. No traces of an abandonment or destruction stratum were found in either E4 or F5. The location of square E4 in an area of the fort which is identifiable as an open-air courtyard on the basis of the geophysical data⁸, helps to explain the apparent absence of architectural features. A body sherd of a hand-painted glazed bowl or plate, found c. 30 cm. below the present surface, is the most recent artifact in square E4. It is uncertain whether this sherd may be related to the presence of Calabrian guerrillas, who were fighting the Napoleonic army in the early 1800s⁹, or belong to a different period. A circular arrangement of rocks in the NE quadrant of this square, similar to that uncovered near the western baulk of square

⁷ IANNELLI 2011: 453, fig. 17. According to IANNELLI 2011: 397-398 "In alcuni punti della vasta zona si effettuò una ripulitura più in profondità e in due settori del margine Nord venne messo a nudo un massiccio crollo costituito esclusivamente di ciottoli di varie dimensioni che consentiva di ipotizzare la presenza della murazione anche su questo lato dell'area". For a list of diagnostic sherds collected by Iannelli's team see MINNITI 2011: 418-419. An anonymous referee has pointed out that the site was repeatedly inspected in 1989-1990 under the project "Individuazione e Catalogazione dei Beni Archeologici dalla Preistoria all'Età Medioevale nei territori di Laos, Castiglione di Paludi, Hipponion, Petelia, Krimissa e Locri" – Soc. Finitalia Servizi s.a.s. (concessionario Ministero per i Beni Culturali e Ambientali ai sensi dell'art. 15 della Legge 41/1986), directed by G. Gullini. A research group coordinated by D. Marino retrieved archaeological materials datable between the 5th and 3rd centuries B.C., made a topographic survey, and "sperimentò sistemi di posizionamento satellitare" (sic). This information was not made available to the American Principal Investigator.

⁸ See below, figs. 36-37.

⁹ VISONÀ 2010b: 3; cf. FERRARI 2004. An almost completely illegible copper coin of Ferdinand IV Bourbon, minted at Naples between 1759 and 1799 (1 grano cavalli: diam. 25.8 x 26 mm; 4.9 gr.), found at Monte Palazzi in the 1960s and in a private collection, may also be linked to this historical episode (vidi). Cf. *CNI XX*: 588, no. 168; 590, nos. 180-181; 591, nos. 186-187; 593, nos. 201-202; 596, nos. 220-222; 597, no. 232; 602, nos. 259-261; 604, no. 279; 605, no. 288. Information by C. Perassi.



Fig. 5. Monte Palazzi 2010. Stone ring in square E4.

B2 in 2008, may also be a recent feature (fig. 5)¹⁰. Although no archaeological structures were found in square E4, a discrete layer of soil extending from north to south, **E4004**, yielded abundant cultural material. It may have been relatively unaffected by post-depositional processes, given the fact that its pottery had surface accretions. Several black gloss bases and other items were found lying flat within the soil matrix (fig. 6).

The chronology of the fineware in **E4004** ranges between c. 550-275 B.C. Fragments of Hellenistic ceramics were exceedingly scarce, however. They include the stepped base of a black gloss cup (Morel 4200) with stamped decoration on the floor, similar to a fragmented example found in 2008 (figs. 7-8), and two rims of black gloss cups (Morel 2900 A1 and Morel 4100 E 1) and the base of a black gloss *skyphos* (Morel 4300 C3) datable to the end of the 4th / first quarter of the 3rd centuries B.C.¹¹. These diagnostic sherds, and an iron javelin point (fig. 9)¹², came from the uppermost levels of **E4004**. Nearly 60 % of the fineware fragments from **E4004** belong to skyphoid cups datable to the first half of the 5th century B.C., including a base bearing a graffito of a trident-shaped letter *chi*, which may be a commercial mark or indicate individual ownership (figs. 10-12). *Skyphoi*, bolsals, and small pateras

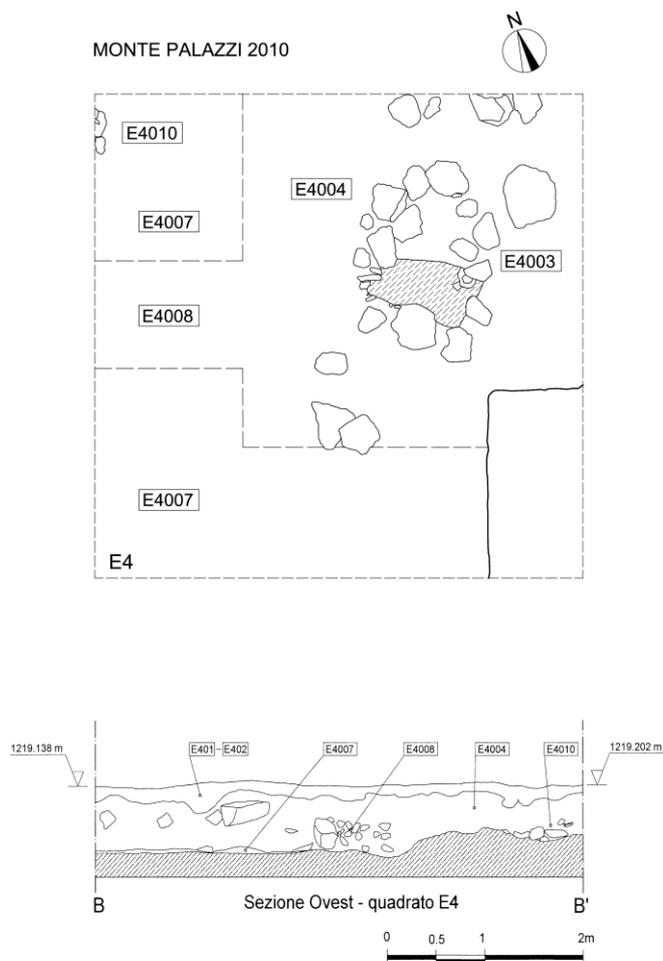


Fig. 6. Monte Palazzi 2010. Top plan and west profile of square E4 after excavation. Drawings by P. Mazzaglia.

¹⁰ There is no evidence that these stone rings were used as hearths, since no relevant amount of charcoal was found inside them. For recent occupation of the mountaintop see KNAPP *ET AL.* 2007: 492-494.

¹¹ All information on the 2010 ceramic finds is by M. Milanesio and M. Cardoso. For inv. 150534 see PREACCO 1989: 231-232, no. 264 (dated to the end of 4th – early 3rd centuries B.C.); however, cf. VISONÀ 2010b: 14-15, n. 66, fig. 29, b-bb and fig. 30 (dated to the 4th century B.C.).

¹² For a similar projectile point found in 2008 see VISONÀ 2010b: 16, fig. 34. The “*frammento d'antica arma metallica (in ferro)*” from Monte Palazzi mentioned by E. Barillaro in a document typewritten on June 15 (1962?) may be the javelin point illustrated by FALCONE 2009: 70. Cf. BOTTINI 1994: 183, no. 4; RUSSO TAGLIENTE and BERLINGÒ 1996: 318-319, no. 287; BAITINGER 2001: 46 and Pl. 21, no. 604. The *sauroter* was generally in bronze for the hoplite spear of the classical period, according to ANDERSON 1999: 120-121 and DEBIDOUR 2002: 38. However, cf. RUSSO TAGLIENTE and BERLINGÒ 1966: 319, fig. 51, no. 185.

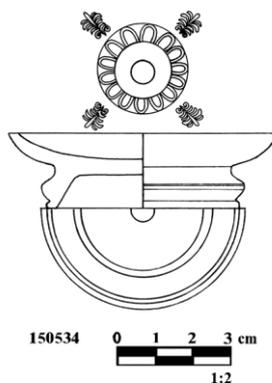


Fig. 7. Monte Palazzi 2010. Floor of stepped base of black gloss cup with stamped decoration, inv. 150534.

Fig. 8. Monte Palazzi 2010. Stepped base of black gloss cup with stamped decoration, inv. 150534. Clay: Munsell 7.5YR 7/4. End of the 4th – beginning of the 3rd centuries B.C. Data and drawings by M. Cardosa and M. Milanesio.

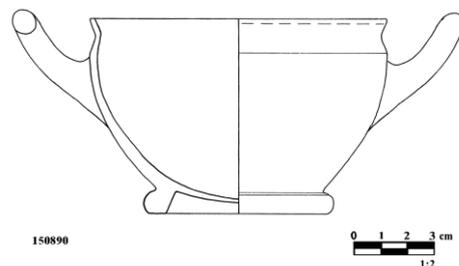
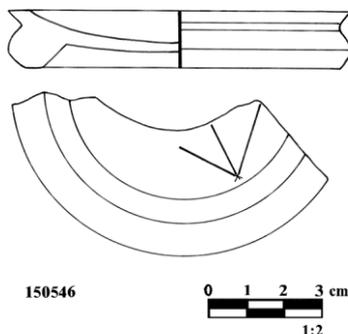


Fig. 9. Monte Palazzi 2010. Iron javelin point broken at base, inv. 150502. Length: 8.11 cm; max. width: 2.14 cm. Tip has quadrangular section. Weight: 23.08 g.

Fig. 10. Monte Palazzi 2010. Black gloss skyphoid cup, inv. 150890. Clay: Munsell 7.5YR 7/6. 500-475 B.C. Data and drawings by M. Cardosa and M. Milanesio.



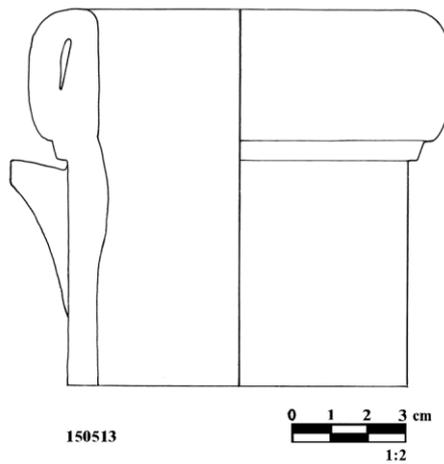
Figs. 11-12. Monte Palazzi 2010. Base of black gloss skyphoid cup with graffito, inv. 150546. Clay: Munsell 10YR 8/4. 500-480 B.C. Data and drawings by M. Cardosa and M. Milanesio.

datable to the 4th century B.C. are also represented¹³. Other ceramic finds comprise several rim fragments of 5th century Locrian transport amphorae (figs. 13-14) and a fragmented *mortarium* with spool-shaped grip, datable to the 5th-3rd centuries B.C. (figs. 15-16)¹⁴.

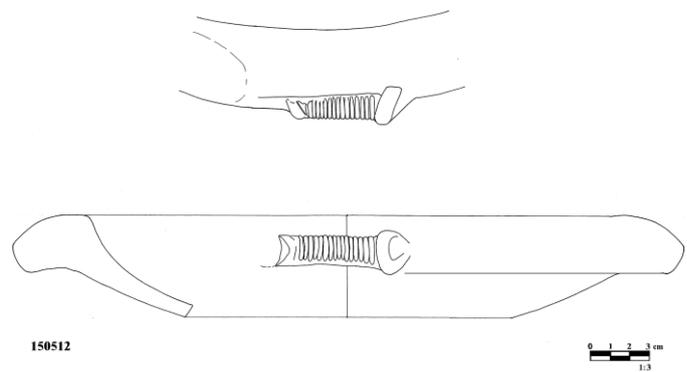
The three Greek coins found in 2010 came from this horizon as well: they consist of two *litrai* of Dionysus I of Syracuse with Head of Athena / Winged hippocamp, struck between 405-367 B.C. (fig. 17, a-b), and a bronze issue of Locri Epizephyrii with Head of Herakles I. / Pegasus I., minted possibly bet-

¹³ For inv. 150890 see OLIVERO FERRERO 1989: 81, no. 19; for inv. 150546 cf. OLIVERO FERRERO 1989: 80, no. 16. For the graffito, see COULTON *ET AL.* 2002: 95.

¹⁴ For inv. 150513 cf. BARRA BAGNASCO 1992: 211 and 231, no. 186 (but with air pocket); for inv. 150512 cf. CONTI 1989: 295-296, no. 345.



Figg. 13-14. Monte Palazzi 2010. Rim 'a cuscinetto rigonfio con camera d'aria' of Locrian transport amphora, inv. 150513. Estimated diam. (ext. rim): 14 cm. Clay: Munsell 5YR 5/6; micaceous inclusions. 5th century B.C. Data and drawing by M. Cardoso and M. Milanese.



Figg. 15-16. Monte Palazzi 2010. Fragmented mortarium with spool-shaped grip, inv. 150512. Clay: Munsell 10YR 8/4. 5th-3rd centuries B.C. Data and drawings by M. Cardoso and M. Milanese.

ween 300-250 B.C. (fig. 17, c)¹⁵. Both *litrai* were found *in situ*, one of them lying directly upon the yellow sterile soil beneath **E4004**. The presence of these bronzes (and of those found in 2007-2008, also struck by Syracuse and Locri) indicates that the settlement was tied to a monetized economy, at least in the 4th and early 3rd centuries B.C.¹⁶. While their purchasing value was modest, they could have been used for small transactions with visiting traders and comprise the largest number of coins from any Greek fort hitherto explored in the region¹⁷.

In addition, seven micaschist hand tools, including an unusual three-notched example (fig. 18)¹⁸, came from locus **E4004**. Even though the presence of similar stone utensils has not been recorded at other Greek sites in Calabria, it is certain that they were made by the Greek occupants of the fort. One of them was found associated with

¹⁵ For inv. nos. 150499 and 150501 see *SNG Copenhagen*, no. 721; for the Locrian coin (inv. 150500) see *SNG ANS Bruttium*, nos. 579-581; *SNG Milano*, nos. 370-373; cf. *HN Italy*: 182-183, nos. 2416-2418.

¹⁶ Although M.T. Iannelli has correctly pointed out that "non c'è un rapporto di causa ed effetto tra la diffusione, in un determinato territorio, di anfore o altro materiale (ad esempio monete) e l'appartenenza o il dominio su quella stessa area da parte del centro produttore" (IANNELLI 2011: 403), the evidentiary value of the Locrian bronze issues found at Monte Palazzi should not be underestimated, either. The Greek rural site of Umbro near Bova Marina, which probably belonged to the *chora* of Rhegion (cf. COSTAMAGNA 2000: 4-9; ACCARDO and ANDRONICO 2006: 83, 95, no. 29), has yielded two bronzes of Rhegion, and a survey of the *chora* of Metapontum has yielded only Metapontine bronzes: see FOXHALL *ET AL.* 2011: 26; PARENTE 2011.

¹⁷ An unidentified bronze coin also comes from Monte Gallo: see MINNITI 2011: 418.

¹⁸ Inv. 150509. Cf. VISONÀ 2010b: 15-16, fig. 31.



Fig. 17a. Monte Palazzi 2010. Litra of Syracuse, inv. 150499. Diam. 19.3 mm; 7.426 g (after cleaning); 2h. 405-367 B.C.

Fig. 17b. Monte Palazzi 2010. Litra of Syracuse, inv. 150501. Diam. 18.5 x 20.4 mm; 6.452 g (after cleaning); 1h. 405-367 B.C.

Fig. 17c. Monte Palazzi 2010. Bronze coin of Locri Epizephyrii, inv. 150500. Diam. 14.7 mm; 2.969 g (after cleaning); 1h. c. 300-250 a.C.



Fig. 18. Monte Palazzi 2010. Micaschist notched utensil, inv. 150509. Length: 4.95 cm; width: 3.2 cm; thickness 5.2 mm. Munsell (R) N5.

one of the Syracusan coins (fig. 17a)¹⁹. At least 20 of these expedient tools have been found in stratified contexts at Monte Palazzi since 2005; their different shapes suggest that they were used for a wide range of activities. Most of those retrieved in locus **E4004** have an oval shape and dull, rounded edges whose surface wear excludes the possibility that they may be whetstones²⁰. **E4004** also yielded fragments of bronze plate with a finished edge, possibly belonging to a helmet, and very scant faunal remains consisting of a rib shaft of a large mammal and a metatarsal anterior shaft of a sheep/goat, all burnt calcined²¹.

On the whole, the heterogeneous contents of this locus tentatively suggest that it may be a paving fill datable to the second half of the 4th century B.C. and including a few materials deposited in the first half of the 3rd century. The possibility that its lower levels may belong to an earlier and poorly separable fill, datable to the first half of the 5th century B.C., should also be taken into consideration²². Whether the underlying sterile soil **E4007** resulted from weathering of Monte Palazzi's granitic bedrock, from the crushing and leveling of the mountaintop by the Greek occupants, or

from a combination of these processes, cannot be conclusively determined at present. Rods driven 40 to 50 cm into this soil in order to test its depth failed to reach bedrock.

Between 2005 and 2008, two segments of the stone socle of the northern and southern perimeter walls had been uncovered. Dry-built, double-faced with roughly hewn stones of medium and large size, and with an inner core of hard-packed dirt and stones²³, these ramparts followed the contour of the mountaintop. Their construction tech-

¹⁹ As C.N. Runnels pointed out in a different context, "If these stone tools are intrusive, one would expect that other prehistoric artifacts would also be found": see RUNNELS 1982: 371. E. Fentress has suggested that the notched stone implement may have been used as a bowstring.

²⁰ Whetstones tend to be rectangular and have a square or rectangular section: for Roman examples, cf. SHANSON 2007: 105 and 108, fig. 51. For the categories of surface wear see CRISTIANI ET AL. 2012: 43.

²¹ Information by B.L. Manzano. Bone preservation at Monte Palazzi appears to be very limited: cf. VISONÀ 2010b: 17, n. 81.

²² For the palimpsest characteristics of the archaeological deposit at Monte Palazzi, see VISONÀ 2010b: 11-12.

²³ Despite the definition used in the first field report by KNAPP ET AL. 2007: 496 and 501, this should not be described as an *emplecton*. For *emplecton* walls see BRACONI 2001.



Fig. 19. Monte Palazzi 2010. The southern perimeter wall, seen from the northern baulk of square F5.

nique is characteristic of archaic and late archaic defensive walls in southern Calabria, and recalls that of the coeval Greek *'fortificazioni ad aggere'* built in Sicily²⁴. Their width of 2.5 m is also comparable to that of Greek archaic fortification walls across the Mediterranean²⁵. The southern perimeter wall would have protected the least steep slope of Monte Palazzi (figs. 19-20). A row of stones running north-south near the western baulk of square F5, at right angles to the wall's faces, may be an interlinking course (locus **F5004**). However, unlike the northern wall, whose stone footing was built directly on bedrock and could not be dated stratigraphically, the inner facing of the southern rampart rests upon a layer of soil (locus **F5011**) containing Greek fineware datable mostly to the first half of the 5th century B.C. (fig. 20). This would indicate that this section of the wall was constructed between 500 and 450 B.C. at the earliest²⁶, even though there is substantial evidence that the Greeks were at Monte Palazzi by the second half of the 6th century B.C. In locus **F5011** (a black, friable soil, containing granular charcoal: Munsell 10YR 2/1) the earliest ceramics included the rim of an Ionic B2 cup datable to 580-540 B.C. (figs. 21-22), and 9 fragments of Ionic cups datable to the mid-6th century B.C.²⁷ The base of a 5th century cup with a reddish gloss, bearing an incised Greek alphabetical letter (an *epsilon* or *ēta*), also came from locus **F5011** (figs. 23-24)²⁸. In addition, this layer yielded a flake of brownish gray chert (fig. 25). Its presence, along with that of a (burnt?) chert flake found in top-

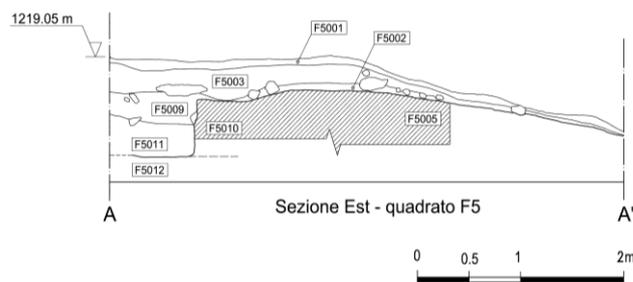
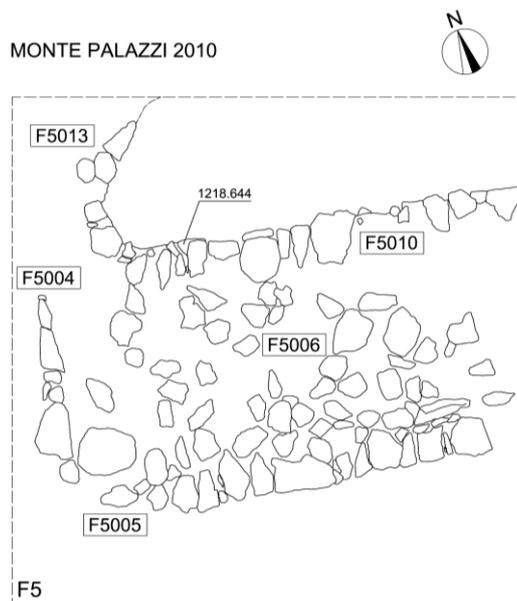


Fig. 20. Monte Palazzi 2010. Top plan and east profile of square F5 after excavation. Drawings by P. Mazzaglia.

²⁴ VISONÀ 2010b: 5, n. 18; SCHENAL PILEGGI 2010: 381-382; FOXHALL 2007: 63; FOXHALL *ET AL.* 2010: 29. Cf. the description by CAMPOREALE 2008: 66-71. For the *'fortificazioni ad aggere'* see BONACASA CARRA 1974 and BELFIORE 2001: 266-268. Monte Palazzi's defensive walls do not appear to be battered: cf. LAWRENCE 1979: 211; KARLSSON 1989: 77; EVERTS: 1-2.

²⁵ Cf. SCONFENZA 2005: 59 and 62 (Locri); AUMÜLLER 1994: 250-252 (Hipponion); KARLSSON 1989: 77 (Megara Hyblaea); ADAM 1982: 20; HELLMANN 2002: 108; LIPPOLIS *ET AL.* 2007: 586 (Eleusis); COULTON 2002: 25 (Euboea).

²⁶ Three rim fragments of small fineware pateras of the beginning of the 4th century B.C. found among the ceramics from locus **F5011** may be intrusive.

²⁷ For inv. 150524 cf. OLIVERO FERRERO 1989: 74, no. 4, and BOLDRINI 1994: 163-164, no. 318 (type IV/1). For earlier finds of fineware datable to 550-500 B.C. see KNAPP *ET AL.* 2007: 503-504; VISONÀ 2010b: 6-7. Cf. IANNELLI 2011: 398 and MINNITI 2011: 418.

²⁸ For the form of inv. 150525 cf. OLIVERO FERRERO 1989: 76-77, no. 8.



Fig. 21. Monte Palazzi 2010. Rim of Ionic B2 cup, inv. 150524.



Fig. 23. Monte Palazzi 2010. Base of cup with incised alpha-betrical letter, inv. 150525.

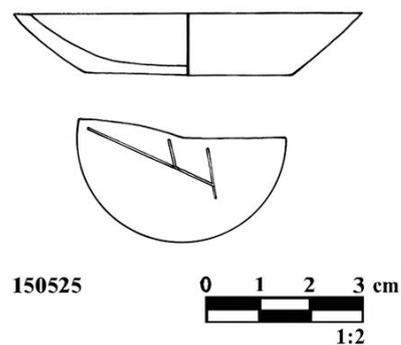


Fig. 24. Monte Palazzi 2010. Base of cup with incised alpha-betrical letter, inv. 150525. Diam. 4.25 cm. Clay: Munsell 10YR 7/3. 5th century B.C. Data and drawings by M. Cardosa and M. Milanesio.

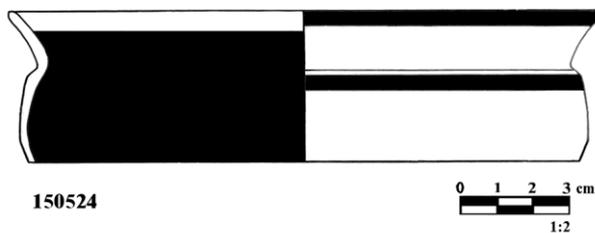


Fig. 22. Monte Palazzi 2010. Rim of Ionic B2 cup, inv. 150524. Clay: Munsell 10YR 8/3. 580-540 B.C. Data and drawing by M. Cardosa and M. Milanesio.



Fig. 25. Monte Palazzi 2010. Chert flake, inv. 150510. Dimensions: 3.32 x 2.22 cm.; thickness: 1.97 cm. Munsell (R) 5YR 4/1.

soil in 2008²⁹, attests to a prehistoric frequentation of the mountaintop before the Iron age. Since locus **F5011** overlies a yellow sterile soil above bedrock, **F5012**³⁰, and extends underneath the southern rampart, it may have provided a bedding for the perimeter wall at a point where the rim of the mountaintop began to slope off, as well as serving as the earliest '*piano di calpestio*' or '*piano d'uso*' inside the rampart. It seems less likely that **F5011** is a paleosol, although this possibility was recorded during the excavation.

Preserved to the height of only two courses, the inner facing of the wall consists of irregular medium- and large size stones (max. 40 x 50 cm), and appears to have been refurbished with a cluster of smaller stones at its eastern end³¹. A cut block of stone similar to a garnet chlorite schist, a metamorphic rock which probably originated from an outcropping at a distance of 500 m from Monte Palazzi (fig. 26)³², and a slab of bedrock (the largest stone in locus **F5010** in fig. 20), are the most significant inclusions. This new evidence may explain why chlorite schist is found in quantity at the site. The Greeks presumably utilized it as building material for their fort, together with the native granite available on the mountaintop and other types of stone (such as a fine-grained sandstone) procured elsewhere. The find of a burnt mass of soil (33 x 20 x 8 cm; Munsell 7.5YR 5/4) immediately inside the wall also suggests that this rampart had a superstructure constructed with '*pisé*', which could have supported a wall-walk and

²⁹ VISONÀ 2010b: 2-3. Cf. CARDOSA 2004: 519-520 and ROBB 2004: 180. The type of stone axe from the environs of Cassari published by VISONÀ 2010b: 3, fig. 4, is characteristic of south-central Calabria. These utensils are datable between the Neolithic and the Bronze age according to ROBB 2004: 176 and 178, fig. 1; cf. SALERNO and PESSINA 2004: 776-779, fig. 3 (*asce-scalpello* type C). For various examples in Catanzaro's Museo Provinciale, see SPADEA 2004: 69-72.

³⁰ Small patches of bedrock were poking through locus **F5012** at the end of the 2010 field season.

³¹ For a similar example of refurbishing in the northern perimeter wall, see KNAPP ET AL. 2007: 499, fig. 10.

³² VISONÀ 2010b: 18.



Fig. 26. Monte Palazzi 2011. The inner facing of the southern perimeter wall seen from the northern baulk of square F5. The arrow marks the position of a cut block of stone similar to a garnet chlorite schist.



Fig. 29. Monte Palazzi 2010. Pebble of fine-grained granite probably used as sling-shot, inv. 150511. Length: 4.82 cm; width: 3.84 cm; thickness 2.42 cm; weight: 60.4 g. Munsell (R) 10YR 6/2.

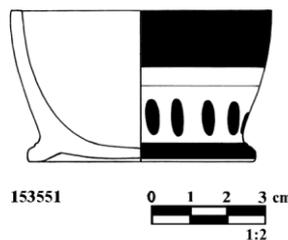


Fig. 27. Monte Palazzi 2010. Base of black gloss skyphos similar to an example from Himera, inv. 153551. Clay: Munsell 7.5YR 8/4. 550-500 B.C. Data and drawing by M. Cardoso and M. Milanese.

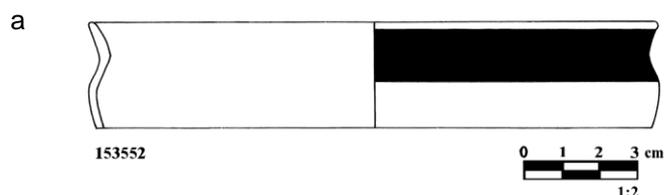


Fig. 28. Monte Palazzi 2010. Rim of black gloss skyphoid cup, inv. 153552. Clay: Munsell 10YR 8/6. 490-480 B.C. Data and drawing by M. Cardoso and M. Milanese.

has been unearthed at Monte Palazzi³⁴. The wall's stone socle need not have been higher than 1 m, while its total height may have reached at least 4 m, as can be inferred from comparisons with other late archaic walls. A height of 4 to 5 m would have prevented attackers from easily scaling the wall³⁵.

Locus **F5009**, a soil overlying **F5011** and representing an occupation layer, yielded the base of a black gloss *skyphos* decorated with small tongues, similar to an example from Himera datable to the second half of the 6th century B.C. (fig. 27), and the rim of an early 5th century black gloss skyphoid cup whose very light clay is without micaceous inclusions and does not appear to be Locrian (fig. 28)³⁶.

Finds from these horizons also included two rounded fine-grained granitic pebbles, weighing between 60 and 85 g, which were probably used as slingshots (fig. 29). A large group of similar pebbles from San Salvatore (which was destroyed in a violent conflagration in the second half of the 5th century B.C.) has been interpreted as a

timbered parapet³³. Nothing resembling the vitrified mud-brick (Munsell 7.5R 4/4) found at San Salvatore

³³ Fragments of earthen mortar coated with 'a plaster-like substance', found inside the northern perimeter wall in 2005, could be evidence that the interior of the wall was whitewashed: see VISONÀ 2010b: 12, fig. 20; cf. PANVINI 2003: 511; LAWRENCE 1979: 209; ARNOLD 2010: 182.

³⁴ FOXHALL 2007: 64, fig. 51, and 65-67.

³⁵ WINTER 1971: 69-74; PANVINI 2003: 511; PANVINI 2009: 179-180; NOSSOV 2009: 14; cf. RENDINI and FIRMATI 2008: 379. The stone socle of the late archaic fortification at Eleusis and Heuneburg is c. 1 m high: cf. ADAM 1982: 20; LIPPOLIS ET AL. 2007: 586; GERSBACH 1976: 23 and 27, fig. 3, and ARNOLD 2010: 105-106. See also GIARDINO 1995: 48. The stone walls of Roman forts in Britain in the 2nd century A.D. reached a height of 4.5 m: cf. BIDWELL 2007: 19, 47.

³⁶ For inv. 153551 cf. AMICO 2008: 122, no. 1257; for the vessel form of inv. 153552 cf. OLIVERO FERRERO: 82-83, no. 22. According to M. Cardoso and M. Milanese, among the fineware found in 2010 "ad un semplice esame macroscopico, sembrerebbero essere presenti pezzi con le caratteristiche tipiche dell'argilla locrese, per colore e tipi di inclusi, ma sono anche presenti, forse addirittura in quantità maggioritaria, pezzi con un'argilla molto farinosa e apparentemente priva di inclusi che non ci è "familiare" in ambito locrese e che SEMBRA invece ricordare materiali da noi visti in ambito Hipponiate" (personal communication, October 5, 2011).



Fig. 30. San Salvatore 2011, surface find. Burnt (?) granitic pebble probably used as slingshot. Length: 4.7 cm; width: 3.97 cm; thickness: 2.4 cm; weight: 59.798 g. Munsell (R) between 5YR 6/4 and 10YR 6/2.



Fig. 31. Monte Palazzi 2010. Granitic stone, apparently chiseled into spherical shape, with convex and flat sides and oval section. Dimensions: 19 x 19 cm; thickness: 12 cm; weight: 4.3 kg. Munsell (R) between 10YR 8/2 and 5Y 8/1.



Fig. 32. Monte Palazzi 2007. Faceted tip of arrow shaft made from silver fir. Actual size: 6.7 x 4 mm.

stockpile of ammunition for slingers (fig. 30)³⁷. Whether these projectiles belonged to the defenders or to unknown attackers, they document the presence of slingers at Monte Palazzi in the late archaic and classical periods. A granitic stone seemingly chiselled in a spherical shape, found in locus **F5011** (fig. 31), may have been used as a defensive weapon³⁸. Even though the *peripoloi* manning the fort were light-armed soldiers³⁹, and despite the limitations on the effective use of projectiles fired from the wall-walk, arrows, light spears, stone slingshots, and hand-tossed stones would have inflicted serious damage on any enemy attempting to approach the ramparts⁴⁰.

Moreover, in addition to exploiting local sources of stone for defensive purposes, the occupants of Monte Palazzi's fort could have made shafts for their arrows from Apennine silver fir (*Abies alba subsp. apennina*), the dominant tree species in the forest surrounding the site in classical antiquity⁴¹: the faceted tip of the wooden shaft preserved inside one of the Greek bronze arrowheads found in 2007 has been identified as silver fir (fig. 32)⁴². AMS radiocarbon analysis of this wood has yielded a calibrated date of 544-410 B.C. with 0.799 probability distribution within two sigma, indicating that this type of arrowhead is a century earlier than previously thought⁴³. Another two-edged socketed bronze arrowhead, datable to the second half of the 6th / early 5th centuries B.C., was found in 2011 in the spoil heap from squares E4-F5 (fig. 33)⁴⁴, bringing to four the number of arrowheads recovered to date and underscoring the military significance of the site.

Given the poor separability between locus **F5009** and the overlying locus **F5003**, which was disturbed by the roots of an adjacent beech tree, these soil layers cannot be narrowly dated. While the fineware of **F5009** was mostly datable to 500-450 B.C., the most recent fineware found in **F5003** was the base of a black gloss cup (similar to Morel 6200 A2 /A3) datable to 350-300 B.C. or 350-325 B.C. The ceramic

³⁷ FOXHALL 2007: 67 and 9, fig. 59; FOXHALL 2009: 31; FOXHALL *ET AL.* 2010: 33-34. Cf. COULTON 2002b: 8587, SF 8,9, 12-13. The unidentified stone implements from the Italic fortification at contrada Palazzo may also include slingshots: see PIZZI 2009: 85-87, nos. 108, 110, 111, 113.

³⁸ Inv. 150548. See VAN WEES 2004: 139 and 174; cf. the stone illustrated by FALCONE 2009: 70. According to BIDWELL 2007: 54, it would have been possible to throw stones from a height of 4 m above ground with reasonable accuracy.

³⁹ The garrison may have included ephebes: cf. LOMBARDO 1985: 304; LAWRENCE 1979: 188-189; DAVERIO ROCCHI 1988: 233-234; GRECO 1999: 233-234; MA 2000: 342:349; RAWLINGS 2000: 238-239; VAN WEES 2004: 128-129.

⁴⁰ See ADCOCK 1957: 94-95; VAN WEES 2004: 94; CHIERICI 2008: 48. According to VAN WEES 2004: 174, "the greatest threat to a soldier were not the hoplite spears and swords, but the arrows, stones, and javelins of the light-armed". The maximum range for javelins was probably less than 20 m: see BIDWELL 2007: 54.

⁴¹ The botanical remains found in 2010 have confirmed the results of the analysis of the archaeobotanical data from previous seasons suggesting that *Abies alba*, *Fagus sylvatica*, and *Quercus robur* (in this order) were the main species in the area. Information by L. Castelletti and E. Castiglioni. Cf. VISONÀ 2010b: 17.

⁴² Information by L. Castelletti. For this arrowhead see VISONÀ 2010b: 16, fig. 33.

⁴³ Information by H. Wang.

⁴⁴ BAITINGER 2001: 16 and 29, no. 160.

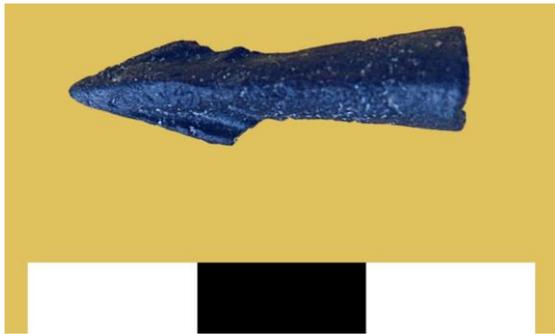


Fig. 33. Monte Palazzi 2011, surface find (18.06.2011). Socketed bronze arrow head with two rhomboid edges. One edge is fragmented. Length (after cleaning): 2.42 cm; width of edges: 0.7 cm; max. width at base of circular socket: 0.65 cm; thickness at base: 1 mm. Second half of the 6th – early 5th centuries B.C.

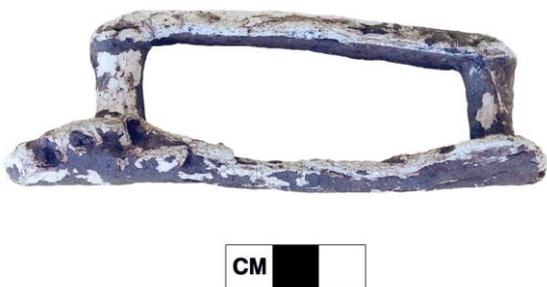


Fig. 34. Monte Palazzi 1960s, surface find. Lead clamp. Length: 12 cm; width of cross-section: 4.25 cm; thickness of parallel rods: 9.7 and 9.9 mm. Private collection.

data from square F5 are thus broadly consonant with those from square E4 and suggest that the fort was occupied throughout the 4th century B.C. After 350 B.C. the Locrian *chora* was under the threat of Brettian attack⁴⁵. The Locrians may still have had a hold on the Tyrrhenian coast in the early 3rd century B.C.⁴⁶, and Monte Palazzi would have been a strategic point on the overland route leading to Hipponion. However, there is no compelling evidence that the fort continued to function as a military installation after the second quarter of the 3rd century B.C. The 57,815.9 g of stratified pottery (including 9,210.9 g of fineware) found in 2010, together with the 80,483.5 g of pottery from the 2005-2008 excavations, seem consistent with an occupation of *longue durée*⁴⁷. A total of 138, 299.4 g of ceramics has therefore been recovered from c. 15% of the estimated area of the site. This includes 17,156.9 g of fineware (12.4% of the entire assemblage), comprising predominantly drinking vessels⁴⁸. The sporadic find in the 1960s of a lead clamp used to repair a *pithos* (fig. 34)⁴⁹, and the find of a *pithos* rim in the central area of the fort during the reconnaissance by M.T. Iannelli's team⁵⁰, also indicate that this outpost was equipped for long-term habitation. Seasonal produce from the surrounding forest, particularly acorns, may have been an additional food source supplementing the provisions sent from the *chora*, as organic residue analysis has revealed⁵¹.

Yet, it is puzzling that the excavations did not find traces of an abandonment or destruction stratum, since a distinctive burnt layer is mentioned in the earliest descriptions of the architectural remains on the mountaintop⁵². That only few and very small fragments of Greek roof tiles (including 4 fragments from square E4) have been found in excavations since 2005, supports the impression that the site has been extensively quarried out⁵³.

⁴⁵ See MUSTI 1994: 366-370 and 379-380.

⁴⁶ MUSTI 1976: 101, 115-119; MUSTI 1994: 387.

⁴⁷ For the concept of 'temporal continuity', cf. WANDSNIDER 1992: 259-260.

⁴⁸ For the predominance of drinking vessels among the fineware and the use of wine in a military context see COULTON *ET AL.* 2002: 92-95. According to CARAHER *ET AL.* 2010: 399-400, "the ceramic assemblages at sites identified as garrisons, guard posts, and forts [in the Corinthia] do tend to be simpler and more uniform than those found in specifically domestic contexts (with their diverse array of fine ware)".

⁴⁹ This item, which the finder believed to be a "*maniglia*", is in a private collection. Information by G. Frammartino.

⁵⁰ MINNITI 2011: 419.

⁵¹ Organic residue removed from the base of a fineware vessel found in locus **F5009** or **F5003** yielded matches with the inner lining of acorns in the protein and glucomannan ranges, according to SCOTT CUMMINGS *ET AL.* 2011: 15-16. A variety of mountain oak popularly called '*dílicio*', whose fruit is edible, is known in southern Calabria (information by R. Frammartino). Cf. BRAUDEL 1953: 11; TAMBURELLO 1990: 226; NISBET 2002. For the foodstuffs brought to Monte Palazzi see VISONÀ 2010b: 17.

⁵² An unpublished note (?) typewritten on June 15 (1962?) by Emilio Barillaro, 'Ispettore Onorario alle Antichità', reports that "*Una cortina di cenere si stende su tutti i ruderi del complesso: segno che un incendio divampò nella zona, in epoca imprecisata, travolgendo nelle sue spire ogni costruito murario.*" Cf. VISONÀ 2010b: 3, no. 12 (the same document is described as a '1961 letter'). See also the essay in CALOGERO 1964: 461 (signed by '*La Redazione*', but possibly written by Barillaro, who is quoted as having assisted in the preparation of the volume): "Necropoli greca, *sul Monte Palazzi, in contrada "Croceferrata". Complesso di costruzioni murarie (a pietrame, con legamento in "tajo"), di cui residuano scarsi avanzi delle fondamenta, disseminati di cocciame e coperti da uno spesso strato di elementi di combustione (il che farebbe pensare che l'originario costruito acropolita, su basi lignee, possa essere stato divorato da un incendio).*" A thin burnt layer at a depth of c. 40 cm below surface was seen by S. Settis at Monte Palazzi in early November, 1973: see SETTIS 1987: 161.

⁵³ VISONÀ 2010b: 3. Erosion may also have contributed to the loss of the archaeological deposit: see SHIEL 1999: 68-72 and 76.



Fig. 35. Monte Palazzi 2010. Electrical resistance survey in progress.

The 2010 geophysical survey

A geophysical survey of the whole mountaintop was also conducted in June, 2010, under the direction of George M. Crothers, in order to produce a reliable assessment of the size, boundaries, and functions of the site, and to detect any in-terior architecture. The instruments used were a Geoscan FM256 fluxgate gradiometer and a Geoscan RM-15D electrical resistance meter with multiplexer (fig. 35)⁵⁴. After the survey area was divided into sixteen 10 x 10 m grids, data were collected using a zigzag method on 50 cm transects for both the magnetic and the resistance surveys. However, the gradiometric survey was conducted only within the presumed wall circuit of the fort, and yielded few anomalies. In contrast, the resistance survey encompassed the defensive perimeter and produced several meaningful anomalies. The results of these surveys clearly demonstrate that a large structure occupied the entire summit (fig. 36). This building appears to have covered a surface (measured from outside the perimeter walls) of at least 1,300 m², enclosing a total area of 758 m² within the main walls (fig. 37). A 5.46 m-wide opening in the southern wall is probably the main entrance. This also seems to have been strengthened by protruding spurs, whose ends extend beyond the survey area. A large gap (4.8 m) in the western wall may be due to stone robbing. This wall is very problematic, because most of it appears to be missing⁵⁵. But its general orientation can be inferred from the small segment recorded in the north-west corner, the orientation of the robber trench with which it is aligned, and the segments of stone masonry in the southwestern corner. A second robber trench, investigated in 2007⁵⁶, also follows the interior of the southern wall. Since the northwest corner of the building (on the highest point of the mountaintop) is considerably thicker than the rest of the perimeter, and extends beyond the intersection with the western wall, it could have supported the weight of a large superstructure, such as a tower set within the rampart. A tower or lookout perch in this corner would have

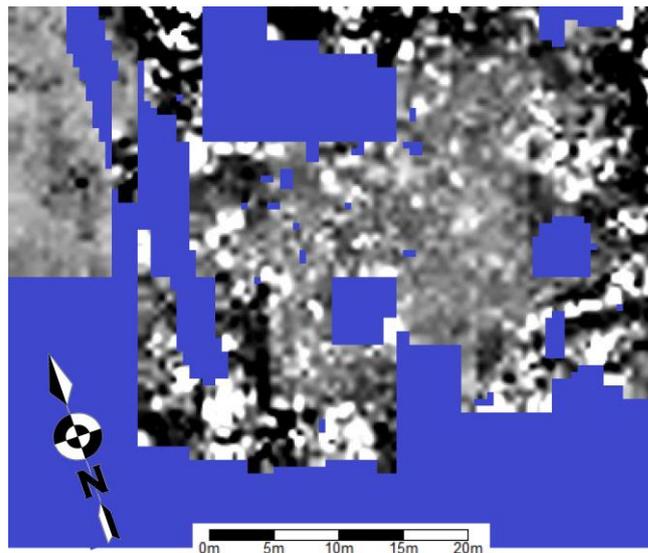


Fig. 36. Monte Palazzi 2010. Plot of the resistance survey. All blue zones correspond to excavated or unsurveyed areas, robber trenches, and clusters of trees and low-lying vegetation. Geophysical data mapped by D.L. Handshoe using Surfer 10.0 software.

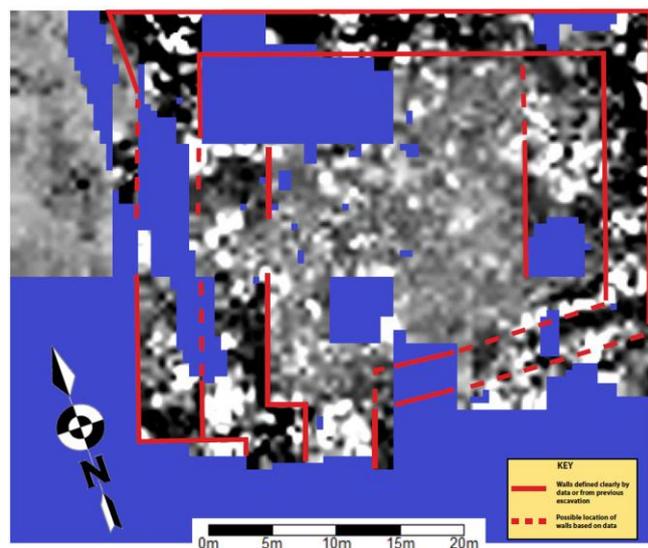


Fig. 37. Monte Palazzi 2010. Interpretation of the resistance plot with overlaid red lines representing the directions of walls.

⁵⁴ OSWIN 2009: 32-43, 46-47, 157-164, 171-179. All information about the 2010 geophysical survey is by D.L. Handshoe.

⁵⁵ See KNAPP ET AL. 2007: 491-493, fig. 6. This robber trench was tentatively interpreted as a defensive ditch by IANNELLI 2011: 398.

⁵⁶ VISONÀ 2010b: 15, n. 68 and fig. 3 above.

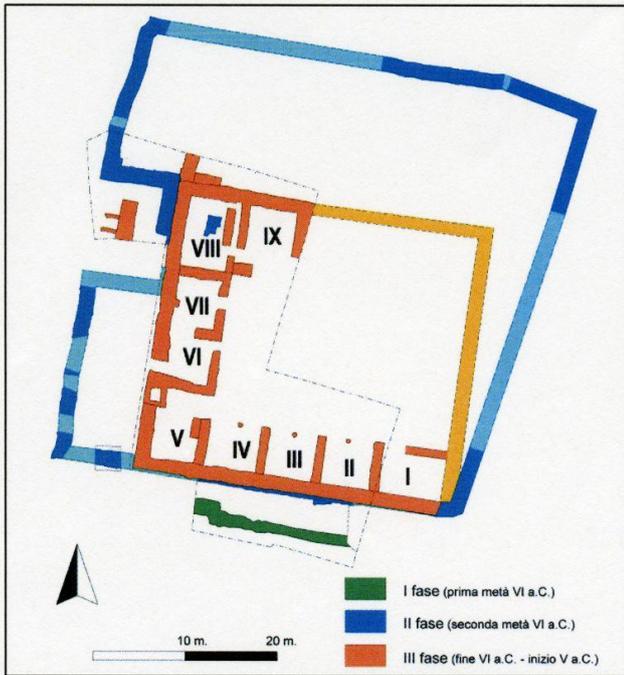


Fig. 38. Building phases of the fortification at Serro di Tavola. From BRIZZI and COSTAMAGNA 2010: 584, Fig. 416.

given the garrison a reasonably clear view of the most likely approach to the Croceferrata Pass less than 1 km away⁵⁷.

The resistance survey also recorded linear anomalies along the eastern and western walls that suggest the presence of walled structures, possibly barracks or storerooms, which would have enclosed an open-air courtyard. Therefore, in addition to having revealed the extant portions of the main defensive walls⁵⁸, the georesistivity data support the identification of the building on the summit of Monte Palazzi as a military installation. Its irregular plan appears to have been designed to follow the contour of the mountaintop and recalls that of the Greek fort at Serro di Tavola in its second construction phase (fig. 38), which has been dated to the last decades of the 6th century B.C.⁵⁹ A computer model based upon the findings from remote sensing and excavation shows it in its landscape setting (fig. 39)⁶⁰. Fortlets of comparable size from Assyria to Britain would have been garrisoned by a troop of 20 to 40 men⁶¹.

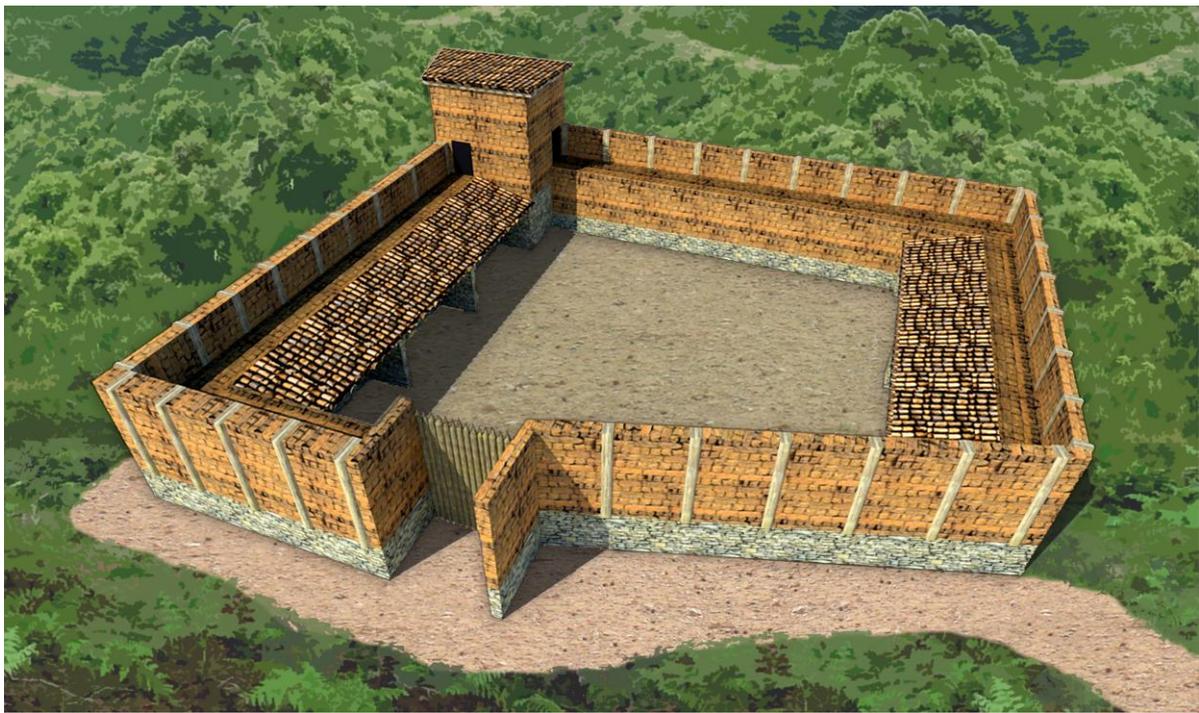


Fig. 39. Provisional reconstruction of the forte on Monte Palazzi seen from the south, earliest phase. Visualization by D.R. Shepperson.

⁵⁷ VISONÀ 2010b: 7. The tower at San Salvatore had a quadrangular plan measuring at least 7 m on each side: see FOXHALL 2009: 30; FOXHALL *ET AL.* 2010: 29-30. For the characteristics and functions of Greek and Roman military towers, cf. LAWRENCE 1979: 221-223, 230; CARAHER *ET AL.* 2010: 409-412; WOOLLISCROFT 1993: 294-300; SHANSON 2007: 52; VISY 2009: 989-994.

⁵⁸ Provisional lengths based upon data from the electrical resistance survey: northern wall, 40.53 m; eastern wall, 18.25 m; southeastern wall (up to the southern entrance), 23.88 m; western wall, 32.27 m.

⁵⁹ BRIZZI and COSTAMAGNA 2010: 583-584 and 590.

⁶⁰ Imaging by D.L. Shepperson. The structure of the southern gate, the upper portion of the perimeter walls, and the height and roofing of the tower and of the internal quarters are conjectural.

⁶¹ Cf. CUYLER YOUNG, Jr. 1983: 9; REDHEAD 1989: 63; WALKER 1989: 87; SYMONDS 2009: 955-960.



Fig. 40. The Limina Pass with Monte Limina and Poggio Pilazzo. Courtesy of Bing and Microsoft Corp. Computer-aided visualization by J.R. Jansson.

The surveys in 2010-2012

Situated on the northern outskirts of the Locrian *chora*, and nearly equidistant from Locri and Kaulonia, Monte Palazzi could have been reached from the Ionian coast of Italy via the Torbido River Valley, which was probably under Locrian control by c. 550 B.C.⁶². Both the Grotteria and the S. Giovanni di Gerace ridges provide natural pathways to Monte Palazzi. The fortification on its summit dominated the Croceferrata Pass, a gateway to the Locrian sub-colonies of Medma and Hipponion on the Tyrrhenian coast, and stood along a trail that led ultimately to Locri⁶³. Built for permanent occupation, albeit too small to oppose an invading force, its primary function would have been of surveillance⁶⁴. Early warning, in case of raids or a full-scale invasion, would have given the Locrians time to mobilize and confront an enemy before it reached their farmland. A defeat on a terrain more suitable for hoplite warfare would have exposed the city to a siege and cut it off from the *chora*⁶⁵.

Even though several scholars have suggested that the Locrians also controlled the Limina Pass, at the northwestern end of the Torbido River Valley (fig. 40)⁶⁶, surveys in this area could not locate remains of fortifications akin to those on Monte Palazzi. Field checking of the Poggio Pilazzo ridge to the north of Monte Limina, presumably where E. Barillaro had recorded “*Reliquie archeologiche d’incerta età e civiltà al Petto del Lupo (sugli altipiani della Limina, alle spalle del Villaggio UNRA)*”⁶⁷, also failed to detect traces of ancient habitation. A quadrangular structure measuring 10.5 m x on each side, whose exterior walls are preserved to a height of over 3 m and have gun ports at

⁶² VISONÀ 2010b: 9-10. The linear distance between Monte Palazzi and ancient Locri and Kaulonia is c. 25 km and c. 26.5 km, respectively.

⁶³ The linear distance between Monte Palazzi and ancient Hipponion is c. 31.26 km. G. Cordiano’s conclusion that only the Greeks of Rhegion could have built Serro di Tavola is relevant to the argument that only the Locrians could have fortified Monte Palazzi: “*Solo a costoro infatti poteva premere il controllo di uno degli accessi viarii settentrionali alla loro χώρα, lungo un tracciato che in ultima istanza conduceva alla loro città*”: see CORDIANO 1997: 85.

⁶⁴ VISONÀ 2010b: 2, fig. 2. Cf. C. Sabbione’s remarks about the site of Timpone del Gigante in SABBIONE 1982: 185; see also BRIZZI and COSTAMAGNA 2010: 593.

⁶⁵ Cf. ADCOCK 1957: 92-94; FOXHALL 1993: 134 and 136-142; HANSON 1998: 88; VAN WEES 2004: 128-130.

⁶⁶ Earlier bibliography in KNAPP ET AL. 2007: 484-485; cf. ROSSINI 2010: 87. There is no new information in BURGIO 2005: 189.

⁶⁷ BARILLARO 1972: 302; cf. COSTAMAGNA 2000: 2-3, n. 5. GPS data for Poggio Pilazzo: 38° 23.77 N / 016° 11.40 E, elevation 851 m (30.05.2010 at 3:05 PM).



Fig. 41a-b. Monte Limina 2010, surface find. Fragment of pan tile. Dimensions: 13 x 14 cm; thickness of pan bottom: 2.4 cm. Height of flange: 4.5 cm; width of flange at base: 3 cm. Munsell between 2.5YR 5/4 and 10R 5/6.

Fig. 42. Monte Limina 2010, surface find. Fragments of cover tiles. Dimensions: 8 x 11.5 cm; median thickness: 1.26 – 1.3 cm; thickness of rounded edge: 1.9 cm; 7.5 x 9.9 cm; median thickness: 1.47 – 1.5 cm; thickness of rounded edge: 2.1 cm.

the corners, to be identified with the “*Basamento di torre di vedetta, alla Limina (nei pressi dell’imbocco della strada per il Passo del Mercante)*” described by Barillaro⁶⁸, is probably only a few centuries old. However, it was possible to get a distant view of Monte Palazzi and neighboring Monte Gremi from c. 1 km to the southwest of Monte Limina, and from the summit of Monte Limina itself (elevation: 888 m). A tile scatter on the east-facing slope of this mountain attests to the presence of a site of yet uncertain date (figs. 41-42). Intersignaling between Monte Palazzi and Monte Limina thus seems to have been feasible, even if the Limina Pass was not fortified in antiquity.

Signals could also have been sent to Locri from the lower crests of Monte Gremi, c. 2.5 km to the east of Monte Palazzi. Although a simulation experiment made with fireworks failed to establish visual contact between the highest point of this ridge, at an elevation of 1,243 m, and Locri’s contrada Saitta di Portigliola, at 78 m above sea level⁶⁹, Monte Gremi could be sighted from the base of Locri’s Castellace tower (c. 145 m above sea level) on a compass bearing of 3° north. Monte Gremi is also a perfect vector to Kaulonia on a reverse azimuth of 183° north⁷⁰.

In contrast, the sites of San Salvatore and Serro di Tavola afforded sweeping vistas, including a view of the sea. The Locrian gulf as far as Roccella Jonica can be seen from the northeastern slope of San Salvatore (fig. 43), while the plain and coastline of Gioia Tauro (ancient Métauros) are clearly visible from Serro di Tavola. San Salvatore’s topographical location and viewshed suggest that possible attacks were expected from the northeast, *i.e.* from the Locrian *chora*, rather than from the south and the west, where the view is obstructed by intervening ridges. San Salvatore would have dominated a potential Locrian invasion route following the valley of the Fiumara Laverde, which reaches far inland⁷¹. Serro di Tavola, on the other hand, guarded the Piani d’Aspromonte, Rhegion’s breadbasket, and a presumed overland route to Rhegion, against raids by the Locrians, who controlled the Gioia Tauro plain to the north of the Petrace River by the second half of the 6th century B.C.⁷²

Equally fortified were the borderlands between Locri and Kaulonia. The data from M.T. Iannelli’s surveys and the singular concentration of forts on both sides of the Allaro River show that this river was a political as well as a physical boundary between the territories of the two cities in the archaic period. Some scholars have wondered

⁶⁸ BARILLARO 1972: 302. GPS data: 38° 23.08 N / 016° 10.72 E, elevation 785 m (04.06.2012 at 1:52 PM). Fieldwalking on the closest ridge overlooking the Passo del Mercante was unproductive. GPS data: 038° 20.51 N / 016° 06.74 E, elevation 878 m (05.06.2012 at 2:42 PM).

⁶⁹ GPS data at 100 m from contrada Cusemi: 38° 13.11 N / 016° 13.25 E (09.06.2010 at 8: 14 PM).

⁷⁰ Information by J.R. Jansson and N. Philibert. GPS data: 38° 13.09 N / 016° 12.96 E (08.06.2012 at 11.35 AM). See COSTAMAGNA and SABBIONE 1990: 269-272 and fig. 260, no. 7. The Castellace tower could also have served as a receiving or signaling tower.

⁷¹ VISONÀ 2010a: 599. The Fiumara Laverde is 33.2 km long, according to BARILLARO 1973: 45-47; cf. GANGEMI 1992: 56.

F. Costabile has pointed out that “*Gli eserciti greci nel territorio di Reggio dovevano utilizzare, spostandosi per via di terra, i guadi più agevoli, situati nell’alto corso dei fiumi*”. See COSTABILE 1983: 328 and 340, n. 21.

⁷² BRIZZI and COSTAMAGNA 2010: 581-582, 593; CORDIANO 1997: 83-92. Cf. VISONÀ 2010b: 10, fig. 18.



Fig. 43. The summit of San Salvatore seen from the north in July, 2011.

whether it could have been a boundary marker even before the colonial period⁷³. However, the militarization of the Allaro may date from the beginning of the 6th century B.C, since the site of Monte Gallo (on the left bank of the river) is believed to have been fortified by Kaulonia at this time (fig. 44)⁷⁴. Interstate rivalry after the foundation of Medma and Hipponion c. 600 B.C., and fear of Locrian expansion on the Ionian coast, may have been proximate causes of Kaulonia's defensive posture⁷⁵. A high observation point overlooking both the Allaro and the Fiumara Precariti, Monte Gallo guarded access to the hinterland of Kaulonia, which Achaean Greeks had begun to settle in the archaic period⁷⁶. By the second half of the 6th century Kaulonia's



Fig. 44. View of Monte Gallo from the south in June, 2010. Photomontage by L.F. Chapman.

outpost on Monte Gallo would have also been countered by a Locrian one on Monte Palazzi, on the right bank of the Allaro. But the establishment of Locrian sub-colonies on the Tyrrhenian coast presupposes knowledge of an overland route, and of the importance of Monte Palazzi as a critical node along this route, long before 550 B.C. Furthermore, Locri's victory over Kroton at the Battle of the Sagra River in the mid-6th century B.C.⁷⁷ may have prompted the Locrians to fortify the area to the south of the Allaro in order to forestall future attacks. It seems unlikely that Kaulonia would have controlled both sides of this river if the Allaro was the border with Locrian territory in or before the second half of the 6th century B.C. The river would surely have served as a barrier for penetration into Kaulonia's territory, since any forces effecting a river crossing would have been at a greater disadvantage than those defending it⁷⁸. Therefore, Iannelli's attribution to Kaulonia of a settlement at Torre Camillari, which was built c.

⁷³ FACELLA ET AL. 2007: 273: "è possibile che in età coloniale il confine tra l'area achea e quella locrese ricalcasse più antiche e consolidate linee di demarcazione etno-culturali (ad esempio il limite più settentrionale dell'area occupata dall'ethnos siculo)?" See also FACELLA 2011: 304.

⁷⁴ IANNELLI 2011: 403; MINNITI 2011: 414-418. GPS data: 38° 25.70 N / 016° 24.68 E, elevation 775 m (06.06.2010, at 4:37 PM).

⁷⁵ Cf. CORDIANO and ISOLA 2006: 18, n. 11; GIANGIULIO 1989: 254-255; WONDER 2012: 139.

⁷⁶ FACELLA 2011: 309-311; GAGLIARDI 2011: 337-338.

⁷⁷ LOMBARDO 2010: 10-11.

⁷⁸ "This is a torrent with half a mile of stony bed, which could give trouble even if dry", according to DUNBABIN 1968: 359. For the Allaro, which was navigable until the 1500s, see GEMELLI 1992: 42-43 and 50-51.

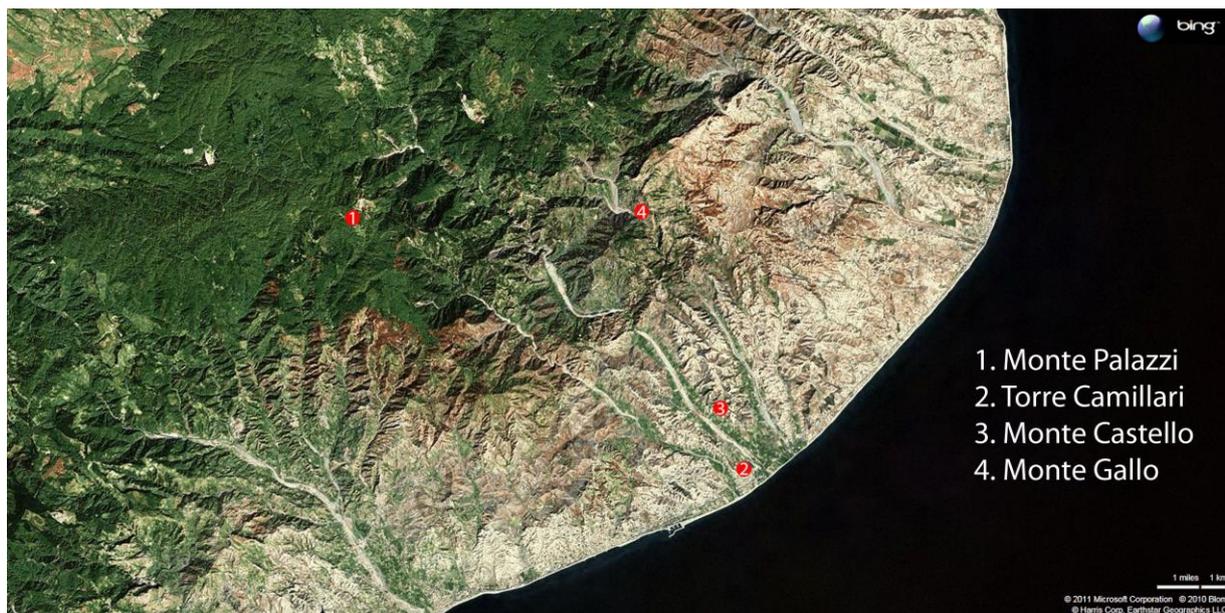


Fig. 45. Satellite map of the Allaro river basin showing the location of Monte Palazzi, Torre Camillari, Monte Castello, and Monte Gallo. Courtesy of Microsoft Corp. Computer-aided visualization by J.R. Jansson and L.F. Chapman.

550 B.C. on the right bank and near the estuary of the Allaro (fig. 45)⁷⁹, is open to question and implies that the Locrians had no foothold on their side of the river except for Monte Palazzi, an outlier located far upstream. Iannelli maintains that the site fell into Locrian hands only in the 4th century B.C., through the intervention of Dionysius I of Syracuse, but the evidence from the excavated assemblage of Torre Camillari suggests that this outpost may have been Locrian throughout its history. Unlike the fort on Monte Gallo, which was abandoned at the end of the 5th century B.C., Torre Camillari had specialized functions and continued to be occupied until the first half of the 4th century B.C.⁸⁰.

Finds from Monte Castello, a hill on the left bank of the Allaro, have also been tentatively interpreted as the remains of an outpost of the classical period⁸¹. Monte Castello could have served as one of Kaulonia's control points in a far-flung "*cordone difensivo*" (fig. 45). If so, it would have overlooked the mouth of both the Allaro River and the Fiumara Precariti from its southeastern flank, while Monte Gallo dominated the middle course of these rivers. This supports Iannelli's conclusion that Kaulonia had developed a complex network of territorial defense. However, neither Monte Castello nor Torre Camillari appear to have had massive defensive walls comparable to those of Monte Gallo and Monte Palazzi, and neither was a high perch commanding distant views.

Conclusions

A multimethodological approach combining excavation and different strategies of remote sensing (including satellite photography), integrated by topographical surveys, has shown that a Greek fort that seems to have been continuously occupied from the second half of the 6th to the first half of the 3rd centuries B.C. existed on the summit of Monte Palazzi. The long span of occupation of the site (longer than that of other similar forts in south-central Calabria) attests to its key role as a node on an overland route linking the Ionian and the Tyrrhenian coasts of Italy. Built with an irregular plan over an area of c. 1,300 m², and manned by relatively few lightly armed soldiers, this mili-

⁷⁹ J.R. Jansson has pointed out that the Allaro would also have been a liability if the occupants of a fort on the right bank had to flee and cross the river.

⁸⁰ M.T. Iannelli has described Torre Camillari as a *phourion* "*non tanto con funzioni 'canoniche' e prettamente agricole, quanto piuttosto, come avamposto in posizione strategica e ben difendibile, dove confluivano, e forse venivano quindi ridistribuiti, prodotti alimentari, soprattutto il vino.*": see IANNELLI 2011: 393-394 and 402-404; cf. MINNITI 2011: 405-412. GPS data: 38° 20.68 N / 016° 28.01 E, elevation 35 m (03.06.2012 at 7:01 AM).

⁸¹ IANNELLI 2011: 394, 402-403; cf. MINNITI 2011: 412-414. GPS data: 38° 22.06 N / 016° 27.95 E, elevation 148 m (05.06.2012 at 8:15 AM).

tary installation kept the Croceferrata Pass and the trails leading to it under surveillance. It would have guarded traffic and communications between Locri and its sub-colonies of Medma and Hipponion, and - until the early 4th century B.C. - it would have protected the northeastern flank of the Locrian *chora* against Kaulonia. Although the ceramic evidence is limited, it suggests that Monte Palazzi was also connected to patterns of distribution involving these Greek cities⁸².

The attribution of this mountain fort to Locri rests upon topographical, archaeological, and historical grounds. As long as the Locrians had political and economic interests in the southern Tyrrhenian littoral, maintaining access to an inter-coastal route and keeping a garrison near the Croceferrata Pass appear to have been important security concerns. Major changes in the configuration of the Locrian 'sphere of influence' that followed the rise of the Brettians (such as the establishment of Italic enclaves in the Petrace River Basin and at Hipponion) may explain why Monte Palazzi eventually ceased to function as a control point.

Four seasons of excavation have demonstrated that this site, albeit severely disturbed, has unique potential for the history of Calabria in the archaic and classical periods, and for environmental reconstruction. The finds from Monte Palazzi contribute significant information on the life of a small outpost in a relatively unexplored locale and cast new light on the territorial defense of Locri Epizephyrii and its relations with the main Greek cities in the area.

Acknowledgments

For contributing data, feedback, and assistance in the preparation of this report, the author wishes to convey his gratitude to Prof. Steven R. Ahler (Department of Anthropology, University of Kentucky), Dr. Patricia Caprino (Laboratorio di Archeologia Classica, Dipartimento di BB. CC., Università del Salento), Dr. Massimo Cardosa (Museo Archeologico Nazionale di Locri), Dr. Lanfredo Castelletti (Director, Musei Civici di Como), Dr. Elisabetta Castiglioni (Cooperativa di ricerche archeologiche ARCO, Como), Marinella Cataldi (Arte e Restauri Snc, Vittoria, RG), Lesley F. Chapman (Visual Resources Curator, School of Art and Visual Studies, University of Kentucky), Prof. George M. Crothers (Department of Anthropology, University of Kentucky), Dr. Domenico Falcone (Roccella Jonica, RC), Dr. Giuseppe Frammartino and Raffaele Frammartino (Marina di Ardore, RC), Henry E. Francis (Kentucky Geological Survey, University of Kentucky), Donald L. Handshoe (Kentucky Archaeological Survey / Kentucky Office of State Archaeology), Dr. Robert C. Henrickson (Lexington, Kentucky), James R. Jansson (The Foundation for Calabrian Archaeology, Parker, Colorado), Prof. Michael Kennedy (Department of Geography, University of Kentucky), Jeffrey E. Levy (Department of Geography, University of Kentucky), Dr. Paolo Mazzaglia (Nicolosi, CT), Dr. Margherita Milanese (Museo Archeologico Nazionale di Locri), Prof. David P. Moecher (Department of Earth and Sciences, University of Kentucky), Randall T. Nishiyama (Boulder, Colorado), Prof. Claudia Perassi (Dipartimento di Archeologia, Università Cattolica del S. Cuore, Milano), Dr. Giovanni Pittari (S. Giovanni di Gerace, RC), Prof. Nanette Philibert (University of Southern Missouri), Dr. Linda Scott Cummings (PaleoResearch Institute, Golden, Colorado), Donnie R. Shepperson (College of Design, University of Kentucky), Prof. Shirley J. Schwarz (Washington, D.C.), Prof. Monica Blackmun Visonà (School of Art and Visual Studies, University of Kentucky), Dr. Hong Wang (Illinois State Geological Survey); Rick Witschonke (The American Numismatic Society, New York). Generous funding for the 2010 field season and geophysical survey at Monte Palazzi was provided by the Falkenberg Foundation (Denver, Colorado), with additional support by The Foundation for Calabrian Archaeology (www.digcalabria.org/), Dean Mark L. Kornbluh (College of Arts and Sciences, University of Kentucky), Deans Robert Shay and Michael Tick (College of Fine Arts, University of Kentucky), and private donors. Special thanks are owed to Dr. Romano Loiello and Romolo Tassone, former Mayor and Vice Mayor of the Comune di Nardodipace (Vibo Valentia), and to the Comando Provinciale A.F.O.R. at Mongiana (Vibo Valentia), for their logistical and technical assistance.

Paolo Visonà
University of Kentucky
E-mail: Paolo.Visona@uky.edu

BIBLIOGRAPHY

- ACCARDO S., ANDRONICO E., 2006, "Il territorio di Palizzi (Reggio Calabria): schede preliminari di sito", in *Polis. Studi interdisciplinari sul mondo antico* 2: 83-110.
- ADAM J.-P., 1982, *L'architecture militaire grecque*, Paris.
- ADCOCK F.E., 1957, *The Greek and Macedonian Art of War*, Berkeley and Los Angeles.
- AMICO A., 2008, "Il blocco 2", in N. ALLEGRO (ed.), *Himera V*, Palermo: 75-130.
- ANDERSON J.K., 1999, "Équipement hoplitique et armes offensives", in P. BRULE, J. OULHEN (eds.), *La guerre en Grèce à l'époque classique*, Laval: 111-131.

⁸² Cf. MALKIN 2011: 25-41 and 45-48.

- ARNOLD B., 2010, "Eventful Archaeology, the Heuneburg Mudbrick Wall, and the Early Iron Age of Southwest Germany", in D.J. BOLENDER (ed.), *Eventful Archaeology. New Approaches to Social Transformation in the Archaeological Record*, Albany: 100-114.
- AUMÜLLER T., 1994, "Die Stadtmauern von Hipponium. Ergebnisse der Bauforschung am Nordostflügel der griechischen Stadtmauern von Vibo Valentia" in *Römische Mitteilungen* 101: 241-278.
- BAITINGER H., 2001, *Die Angriffswaffen aus Olympia*, Olympische Forschungen 29, Berlin – New York.
- BARILLARO E., 1972, *Calabria. Guida artistica e archeologica (dizionario corografico)*, Cosenza.
- BARILLARO E., 1973, *Fiumi "navigabili" nella Locride antica*, S. Giovanni di Gerace.
- BARRA BAGNASCO M. (ed.), 1989, *Locri Epizefiri II. Gli isolati I2 e I3 dell'area di Centocamere*, Florence.
- BARRA BAGNASCO M., 1992, "Le anfore", in M. BARRA BAGNASCO (ed.), *Locri Epizefiri IV. Lo scavo di Marasà Sud. Il sacello tardo arcaico e la "casa dei leoni"*, Florence: 205-240.
- BELFIORE R., 2001, "Il centro abitato indigeno ellenizzato di Piano dei Casazzi (Mineo)", in *Sicilia Archeologica* 33, 98 (2000): 259-276.
- BIDWELL P., 2007, *Roman Forts in Britain*, Stroud.
- BOLDRINI S., 1994, *Gravisca. Scavi nel santuario greco 4. Le ceramiche ioniche*, Bari.
- BONACASA CARRA R.M., 1974, "Le fortificazioni ad aggere della Sicilia", in *Kokalos* 20: 92-118.
- BOTTINI A. (ed.), 1994, *Armi. Gli strumenti della guerra in Lucania*, Bari.
- BRACONI P., 2001, "Emplecton", in *Annali di archeologia e storia antica*, n.s. 8: 105-118.
- BRAUDEL F., 1953, *Civiltà e imperi del Mediterraneo nell'età di Filippo II*, Torino [Italian transl. of *La Méditerranée et le monde méditerranéen à l'époque de Philippe II*, Paris 1949].
- BRIZZI M., COSTAMAGNA L., 2010, "Il sito fortificato di Serro di Tavola (Aspromonte)", in H. TRÉZINY (ed.), *Greco et indigènes de la Catalogne à la mer Noire. Actes des rencontres du programme européen Ramses² (2006-2008)*, Bibliothèque d'Archéologie Méditerranéenne et Africaine 3, Paris: 581-594.
- BURGIO A., 2005, "La viabilità in età greca in Calabria", in F. GHEDINI, J. BONETTO, A.R. GHIOTTO, F. RINALDI (eds.), *Lo Stretto di Messina nell'Antichità*, Rome: 183-189.
- CALOGERO G. (ed.), 1964, *Storia e cultura della Locride*, Messina.
- CAMBI F., TERRENATO N., 1994, *Introduzione all'archeologia dei paesaggi*, Rome.
- CAMPOREALE S., 2008, "Materiali e tecniche delle costruzioni", in A. AKERAZ, E. PAPI (eds.), *Sidi Ali Ben Ahmed – Thamusida I. I contesti*, Rome: 62-178.
- CARAHER W.R., PETTEGREW D.K., JAMES S., 2010, "Towers and Fortifications at Vayia in the Southeast Corinthia", in *Hesperia* 79: 385-415.
- CARDOSA M., 2004, "Contesti abitativi della prima età del Ferro nella Calabria meridionale jonica: Janchina, Gerace, Monte Scifa", in *Preistoria e Protostoria della Calabria*, II: 513-524.
- CHIERICI A., 2008, "Mura di bronzo, di legno, di terra, di pietra. Aspetti politici, economici e militari del rapporto tra comunità urbane e territorio nella Grecia e nell'Italia antica", in *La città murata in Etruria*: 37-66.
- CNI XX: *Corpus Nummorum Italicorum. Primo tentativo di un catalogo generale delle Monete medievali e moderne coniate in Italia o da italiani in altri Paesi. Volume XX. Italia meridionale continentale. Napoli Parte II. Da Filippo II alla chiusura della zecca*, Rome 1943.
- CONTI M.C., 1989, "La ceramica comune", in M. BARRA BAGNASCO (ed.), *Locri Epizefiri II*, Florence: 257-326.
- CORDIANO G., 1997, "Espansione territoriale e politica colonizzatrice a Reggio (ed a Locri Epizefiri) fra VI e V secolo a.C.", in *Kokalos* 41 (1995): 79-109.
- CORDIANO G., ACCARDO S., 2004, *Ricerche storico-topografiche sulle aree confinarie dell'antica chora di Rhegion*, Pisa.
- CORDIANO G., ACCARDO S., ISOLA C., BROGGI A., 2006, *Nuove ricerche storico-topografiche sulle aree confinarie dell'antica chora di Rhegion*, Pisa.
- CORDIANO G., ISOLA C., 2006, "Il VI secolo a.C. lungo le due sponde del *Metauros*: tra sfortunate neofondazioni coloniali e luoghi di culto liminari", in G. CORDIANO, S. ACCARDO, C. ISOLA, A. BROGGI, *Nuove ricerche storico-topografiche sulle aree confinarie dell'antica chora di Rhegion*, Pisa: 15-51.
- COSTABILE F., 1983, "Ricerche topografiche nel Bruzio (1969-1973)", in F. COSTABILE, F. MOSINO (eds.), *Brettii Greci e Romani*, V congresso storico calabrese, Cosenza - Vibo Valentia - Reggio Calabria, 28-31 ottobre 1973, Rome: 319-341.
- COSTAMAGNA L., 2000, "Tra Rhegion e Lokroi Epizephyrioi: nuovi dati archeologici sul confine ionico", in *Università di Siena. Annali della Facoltà di Lettere e Filosofia* 21: 1-17.
- COSTAMAGNA L., SABBIONE C., 1990, *Una città in Magna Grecia: Locri Epizefiri. Guida archeologica*, Reggio Calabria.
- COULER YOUNG T.Jr., 1983, "An Outpost of Empire. Excavations along the Euphrates River, Iraq", in *Rotunda* (Spring 1983): 4-9.
- COULTON J.J. (ed.), 2002a, *The Fort at Phylla, Vrachos. Excavations and Researches at a Late Archaic Fort in Central Euboea*, London.

- COULTON J.J., 2002b, "Catalogue of other finds", in J.J. COULTON (ed.), *The Fort at Phylla, Vrachos. Excavations and Researches at a Late Archaic Fort in Central Euboea*, London: 85-88.
- COULTON J.J., METZGER I.R., SARPAKI A., WALL-CROWTHER S., 2002, "Diet and Environment", in J.J. COULTON (ed.), *The Fort at Phylla, Vrachos. Excavations and Researches at a Late Archaic Fort in Central Euboea*, London: 89-98.
- CRISTIANI E., LEMORINI C., G. DALMERI, 2012, "Ground Stone Tool Production and Use in the Late Upper Palaeolithic. The Evidence from Riparo Dalmeri (Venetian Prealps, Italy)", in *Journal of Field Archaeology* 37, 1: 34-50.
- DAVERIO ROCCHI G., 1988, *Frontiera e confini nella Grecia antica*, Rome.
- DEBIDOUR M., 2002, *Les Grecs et la guerre Ve-IVe siècles. De la guerre rituelle à la guerre totale*, Monaco.
- DUNBABIN T.J., 1968, *The Western Greeks*, Oxford (1st ed. 1948).
- EVERTS: EVERTS L., "Bound Together – Dry Stone Walls in the Placentia Area": http://placentiahistory.ca/attachments/048_Bound%20Together%20/%E2%80%93%20Dry%20Stone%20Wall%20in%20the%20Placentia%20Area.pdf.
- FACELLA N., 2011, "Dinamiche generali del popolamento dalla preistoria alla tarda antichità", in M.C. PARRA, A. FACELLA (eds.), *Kaulonia III*, Pisa: 295-336.
- FACELLA A. ET AL., 2007, "Riconoscizioni archeologiche di superficie nel territorio kauloniate dal 2001 al 2003: relazione preliminare", in M.C. PARRA (ed.), *Kaulonia, Caulonia, Stilida (e oltre). Contributi storici, archeologici e topografici II*, Annali della Scuola Normale Superiore di Pisa ser. IV, Quaderni 17 (2004), Ospedaletto: 181-289.
- FALCONE D., 2009, *Emilio Barillaro: Archeologia nella valle del Torbido. I luoghi, la collezione, l'archivio storico*, Soveria Mannelli.
- FERRARI V., 2006, "L'opposizione al regime napoleonico nelle Calabrie tra insurrezione popolare e dissenso politico (1806-1813)", in *Archivio Storico per la Calabria e la Lucania* 71 (2004): 107-125.
- FOXHALL L., 1993, "Farming and Fighting in Ancient Greece", in J. RICH, G. SHIPLEY (eds.), *War and Society in the Greek World*, London and New York: 134-145.
- FOXHALL L., 2007, "Classical Greek Excavations at San Salvatore", in J. ROBB (ed.), *Bova Marina Archaeological Project. Preliminary Report, 2007 Season*, <http://www.archcam.ac.uk/~jer39/BMAP/reports/BMAP%202007%20report.pdf>: 51-85.
- FOXHALL L., 2009, "L'età arcaica e classica: i siti di Umbro e di San Salvatore", in R. AGOSTINO (ed.), *Il Parco Archeologico Deri – San Pasquale Bova Marina*, Reggio Calabria: 29-33.
- FOXHALL L., LAZRUS P., MICHELAKI K., ROBB J., VAN HOVE D., YOON D., 2007, "The Changing Landscapes of Bova Marina, Calabria", in M. FITZJOHN (ed.), *The Archaeology of Landscape Revisited*, London: 19-34.
- FOXHALL L., YOON D., ROBB J., GILLINGS M., TAYLOR J., 2010, "La frequentazione greca nell'area di Bova Marina e nel Comune di Bova", in G. CARIDI, F. COZZETTO, C.G. NUCERA (eds.), *Bova. Storia di una Comunità Greca di Calabria*, Bova: 19-40.
- FREDERIKSEN R., 2011, *Greek City Walls of the Archaic Period 900-480 BC*, Oxford.
- GAGLIARDI V., 2011, "Considerazioni sui rinvenimenti di cultura materiale dall'età greca alla tarda antichità", in *Kaulonia III*, Pisa: 337-348.
- GEMELLI S., 1992, *La Locride. Caratteri fisici e poleografici*, Rome.
- GERSBACH E., 1976, "Das Osttor (Donautor) der Heuneburg bei Undersingen (Donau)", in *Germania* 54: 17-42.
- GIANGIULIO M., 1989, *Ricerche su Crotona arcaica*, Pisa.
- GIARDINO L., 1995, "La prassi urbanistica", in G. AMIOTTI, M. ANTICO GALLINA, L. GIARDINO (eds.), *I Greci nel sud dell'Italia*, Cinisello Balsamo: 20-71.
- GRECO E., 2005, "Città e territorio fra tradizioni storiografiche e fonti archeologiche", in F. GHEDINI, J. BONETTO, A.R. GHIOTTO, F. RINALDI (eds.), *Lo Stretto di Messina nell'Antichità*, Rome: 217-223.
- GRECO G., 1999, "Santuari extraurbani tra periferia cittadina e periferia indigena", in *La colonisation grecque en Méditerranée occidentale*, Actes de la rencontre scientifique en hommage à Georges Vallet organisée par le Centre Jean-Bérard, l'École française de Rome, l'Istituto universitario orientale et l'Università degli studi di Napoli "Federico II" (Rome-Naples 15-18 novembre 1995), Rome: 231- 247.
- HANSON V.D., 1998, *Warfare and Agriculture in Classical Greece* (revised edition), Berkeley and Los Angeles.
- HELLMAN M.-C., 2002, *L'architecture grecque 1. Les principes de la construction*, Paris.
- HN Italy*: N.K. RUTTER (ed.), 2001, *Historia Numorum Italy*, London.
- IANNELLI M.T., 2011, "Introduzione", in M.T. IANNELLI, F.A. CUTERI, C. MANTELLO, B. MINNITI, G. HYERACI, P. SALAMIDA, "Appendice II. Indagini topografiche e archeologiche lungo la valle dell'Allaro", in M.C. PARRA, A. FACELLA (eds.), 2011, *Kaulonia, Caulonia, Stilida (e oltre), Indagini topografiche nel territorio III*, Scuola Normale Superiore di Pisa Studi 20, Pisa: 387-405.
- KARLSSON L., 1989, "Some Notes on the Fortifications of Greek Sicily", in *Opuscula Romana* 17: 77-89.

- KNAPP J.E., MAZZAGLIA P., SABBIONE C., VISONÀ P., 2007, "Monte Palazzi (Passo Croce Ferrata, Comune di Grotteria), 2005: primi saggi stratigrafici", in *Atti della Accademia Nazionale dei Lincei*, anno CDIV – 2007, Classe di scienze morali, storiche e filologiche, Rendiconti, ser. IX, vol. XVIII: 481-509.
- La città murata in Etruria: La città murata in Etruria*, Atti del XXV convegno di studi etruschi ed italici, Chianciano Terme - Sarteano - Chiusi 30 marzo – 3 aprile 2005, Pisa-Rome.
- LA TORRE G.F., 2004, "Le popolazioni indigene della Calabria all'epoca della colonizzazione", in *Preistoria e Protostoria della Calabria*, II: 477-495.
- LAWRENCE A.W., 1979, *Greek Aims in Fortification*, Oxford.
- LEPORE E., 1970, "Per una fenomenologia storica del rapporto città-territorio in Magna Grecia", in *Atti Taranto 7*: 29-66.
- Limes XX: Á MORILLO, N. HANEL, E. MARTÍN* (eds.), 2009, *Limes XX*, XX Congreso Internacional de Estudios sobre la Frontera Romana, León (España), Septiembre 2006, Anejos de Gladius 13, Madrid.
- LIPPOLIS E., LIVADIOTTI M., ROCCO G., 2007, *Architettura greca. Storia e monumenti del mondo della polis dalle origini al V secolo*, Casarile (MI).
- LOMBARDO M., 1985, "Il graffito", in M. TAGLIENTE, M. LOMBARDO, "Nuovi documenti su Pisticii in età arcaica", in *Parola del Passato* 40 fasc. 223: 294-307.
- LOMBARDO M., 2010, "Caulonia: tradizioni letterarie e problemi storici", in L. LEPORE, P. TURI (eds.), *Caulonia tra Crotona e Locri*, Atti del Convegno Internazionale, Firenze, 30 maggio – 1 giugno 2007, I, Florence: 7-16.
- MA J., 2000, "Fighting *Poleis* of the Hellenistic world", in H. VAN WEES (ed.), *War and Violence in Ancient Greece*, Guildford (Surrey): 337-376.
- MALKIN I., 2011, *A Small Greek World. Networks in the Ancient Mediterranean*, Oxford.
- MINNITI B. 2011, 'Catalogo dei materiali', in IANNELLI M.T, CUTERI F.A., MANTELLO C., MINNITI B., HYERACI G., SALAMIDA P., 'Appendice II. Indagini topografiche e archeologiche lungo la valle dell'Allaro', in M.C. PARRA, A. FACELLA (eds.), 2011, *Kaulonía, Caulonia, Stilida (e oltre), Indagini topografiche nel territorio III* [Scuola Normale Superiore di Pisa Studi 20] Pisa: 405-423.
- Morel: MOREL J.-P. 1981, *Céramique campanienne. Les formes*, Rome.
- Munsell: *Munsell Soil Color Charts*. Revised edition, Baltimore, 1990.
- Munsell (R): THE GEOLOGICAL SOCIETY OF AMERICA, 1995, *Rock-Color Chart*, Boulder, Colorado.
- MUSTI D., 1976, "Problemi della storia di Locri Epizefiri", in *Atti Taranto 16*: 23-146.
- MUSTI D., 1994, "Dall'età di Dionisio II fino all'occupazione romana (350-200 a.C.)", in S. SETTIS (ed.), *Storia della Calabria Antica. Età italica e romana*, Tarquinia: 363-399.
- NISBET R., 2002, "Il contributo dell'analisi antracologica allo studio dei boschi e dell'uso del legno", in N. CAMPANA, R. MAGGI (eds.), *Archeologia in Valle Lagorara. Diecimila anni di storia intorno a una cava di diaspro*, Pisa: 328-338.
- NOSOV K., 2009, *Greek Fortifications of Asia Minor 500-130 B.C.*, New York.
- OLIVERO FERRERO G., 1989, "Vasellame di IV e III strato", in M. BARRA BAGNASCO (ed.), *Locri Epizefiri II*, Florence: 71-106.
- OSWIN J., 2009, *A Field Guide to Geophysics in Archaeology*, Chichester.
- PANVINI R., 2003, "Ricerche e interventi di restauro conservativi su complessi in mattoni crudi di Gela. Gli esempi dell'emporio arcaico e delle mura di cinta di età timoleontea", in *Kokalos* 45 (1999): 509-520.
- PANVINI R., 2009, "L'emporio greco in località Bosco Littorio", in R. PANVINI, L. SOLE (eds.), *La Sicilia in età arcaica. Dalle apoikiai al 480 a.C.*, Palermo: 179-181.
- PARENTE A.R., 2011, "Coins", in J.C. CARTER, A. PRIETO (eds.), *The Chora of Metaponto Archaeological Field Survey Bradano to Basento*, vol. I, Austin: 555-558.
- PARRA M.C., FACELLA A. (eds.), 2011, *Kaulonía, Caulonia, Stilida (e oltre), III. Indagini topografiche nel territorio*, Pisa.
- PIZZI F., 2009, "I materiali", in R. AGOSTINO, M.M. SICA (eds.), *Sila Silva. ho drumós... hón Silan kaloûsin. Conoscenza e recupero nel Parco Nazionale d'Aspromonte, III, Palazzo: una struttura fortificata in Aspromonte*, Soveria Mannelli: 25-87.
- PREACCO M.C., 1989, "Il vasellame del I strato", in M. BARRA BAGNASCO (ed.), *Locri Epizefiri II*, Florence: 195-255.
- Preistoria e Protostoria della Calabria*: ISTITUTO ITALIANO DI PREISTORIA E PROTOSTORIA, *Preistoria e Protostoria della Calabria*, Atti della XXXVII Riunione Scientifica, Scalea, Papisidero, Praia a Mare, Tortora 29 settembre – 4 ottobre 2002, I-II, Florence 2004.
- RAWLINGS L., 2000, "Alternative agonies: hoplite martial and combat experience beyond the phalanx", in H. VAN WEES (ed.), *War and Violence in Ancient Greece*, Guildford (Surrey): 233-260.
- REDHEAD N., 1989, "The courtyard building", in J. WALKER (ed.), *Castleshaw. The Archaeology of a Roman Fortlet*, Chester: 60-65.
- RENDINI P., FIRMATI M., 2008, "Ghiaccio Forte: un *oppidum* nella valle dell'Albegna", in *La città murata in Etruria*: 373-387.

- ROBB J., 2004, "Il Neolitico dell'Aspromonte", in *Preistoria e Protostoria della Calabria*, I: 175-188.
- ROSSINI O., 2010, "Magna Grecia Little Italy", in *Archeo* 26, 5: 72-99.
- RUNNELS C.N., 1982, "Flaked Stone Artifacts in Greece during the Historical Period", in *Journal of Field Archaeology* 9: 363-373.
- RUSSO TAGLIANTE A., BERLINGÒ I., 1996, "Chiaromonte (Potenza). – La necropoli arcaica in località Sotto la Croce, scavi 1973", in *Notizie degli Scavi di Antichità* ser. IX vol. III-IV (1992-1993): 233-407.
- SABBIONE C., 1982, *intervento* in G. MADDOLI (ed.), *Temesa e il suo territorio*, Atti del Colloquio di Perugia e Trevi (30-31 maggio 1981), Assisi: 184-185.
- SALERNO A., PESSINA A., 2004, "Le asce in pietra levigata della Calabria nelle collezioni del Museo Pigorini", in *Preistoria e Protostoria della Calabria*, II: 765-771.
- SCHENAL PILEGGI R., 2010, "Nuovi dati sulle fortificazioni di Locri Epizefiri", in L. LEPORE, P. TURI (eds.), *Caulonia tra Crotona e Locri*, Atti del Convegno Internazionale, Firenze, 30 maggio – 1 giugno 2007, I, Florence: 381-388.
- SCONFIENZA R., 2005, *Fortificazioni tardo classiche e ellenistiche in Magna Grecia. I casi esemplari nell'Italia del Sud*, BAR International Series 1341, Oxford.
- SCOTT CUMMINGS L., LOGAN M.K., 2011, *FTIR Analysis of Organic Residues from Three Ceramic Sherds from Monte Palazzi, Calabria*, PaleoResearch Institute Technical Report 10-96, Golden, Colorado.
- SETTIS S., 1987, "Da Locri a Medma e a Ipponio", in A. MAGGIANI, S. SETTIS, "Nuove note medmee", in *Klearchos* 14, nos. 53-56 (1972): 41-53, reprinted in S. SETTIS, *Archeologia in Calabria. Figure e temi*, Rome: 155-170.
- SHANSON W., 2007, *A Roman Frontier Fort in Scotland. Elginhaugh*, Stroud.
- SHIEL R.S., 1999, "Reconstructing Past Soil Environments in the Mediterranean Region", in PH. LEVEAU, F. TRÉMENT, K. WALSH, G. BARKER (eds.), *Environmental Reconstruction in Mediterranean Landscape Archaeology*, Oxford: 67-79.
- SNG ANS *Bruttium*: H.A. TROXELL (ed.), 1975, *Sylloge Nummorum Graecorum. The Collection of the American Numismatic Society, Part 3, Bruttium – Sicily: Abacaenum-Eryx*, New York.
- SNG *Milano*: N. VISMARA (ed.), 1998, *Sylloge Nummorum Graecorum Milano Vol. IV. Lucania – Bruttium 2. Bruttium*, Milan.
- SNODGRASS A.M., 1986, "The Historical Significance of Fortification in Archaic Greece", in P. LERICHE, H. TRÉZINY (eds.), *La fortification dans l'histoire du monde grec*, Actes du Colloque International. La Fortification et sa place dans l'histoire politique, culturelle et sociale du monde grec. Valbonne, Décembre 1982, Paris: 125-131.
- SPADEA R. (ed.), 2004, *Museo Provinciale di Catanzaro*, Truccazzano (MI).
- SYMONDS M., 2009, "Fortlets and their adaptation for artificial frontiers", in *Limes XX*: 955-963.
- TAMBURELLO I., 1990, "Il paesaggio rurale nell'area elima", in G. NENCI, S. TUSA, V. TUSA (eds.), *Gli Elimi e l'area elima fino all'inizio della prima guerra punica*, Atti del seminario di studi Palermo – Contessa Entellina, 25-28 maggio 1989, Palermo: 223-246.
- TRÉZINY H., 2010, "Fortifications grecques et fortifications indigènes dans l'Occident grec", in H. TRÉZINY (ed.), *Grecs et indigènes de la Catalogne à la mer Noire*, Actes des rencontres du programme européen Ramses² (2006-2008), Bibliothèque d'Archéologie Méditerranéenne et Africaine 3, Paris: 557-566.
- VALLET G., 1970, "La cité et son territoire dans les colonies grecques d'Occident", in *Atti Taranto* 7: 67-142.
- VAN WEES H., 2004, *Greek Warfare. Myths and Realities*, London.
- VASSALLO S., 1997, "Il territorio di Himera in età arcaica", in *Kokalos* 42 (1996): 199-223.
- VISONÀ P., 2010a, "Controlling the *chora*. Archaeological investigations at Monte Palazzi, a mountain fort of Locri Epizephyrii", in H. TRÉZINY (ed.), *Grecs et indigènes de la Catalogne à la mer Noire*, Actes des rencontres du programme européen Ramses² (2006-2008), Bibliothèque d'Archéologie Méditerranéenne et Africaine 3, Paris: 595-601.
- VISONÀ P., 2010b, "University of Colorado / University of Kentucky Excavations at Monte Palazzi, Passo Croceferrata (Grotteria, Calabria): The 2005, 2007, and 2008 Field Seasons", <http://www.fastionline.org/docs/FOLDER-it-2010-188.pdf>: 1-25.
- VISY Z., 2009, "Praesidia et Burgi in the Early Roman Empire", in *Limes XX*: 989-996.
- WALKER J., 1989, "The function of the Castleshaw fortlet", in J. WALKER (ed.), *Castleshaw. The Archaeology of a Roman Fortlet*, Manchester: 79-107.
- WANDSNIDER L., 1992, "The Spatial Dimension of Time", in E. ROSSIGNOL, L. WANDSNIDER (eds.), *Space, Time, and Archaeological Landscapes*, New York 1992: 257-282.
- WINTER F.E., 1971, *Greek Fortifications*, Toronto.
- WONDER J.W., 2012, "The Italiote League: South Italian Alliances of the Fifth and Fourth Centuries B.C.", in *Classical Antiquity* 31, 1: 128-151.
- WOOLLISCROFT D.J., 1993, "Signalling and the Design of the Gask Ridge System", in *Proceedings of the Society of Antiquaries of Scotland* 123: 291-314.