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

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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 internalsignaling (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 fine ware 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 Tyrrenian 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

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2 The Greek word ἐφορεῖον is 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 TRELZY 2010: 557. See also FREDERIKSEN 2011: 13-15.

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 connections. 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 functions.

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 disturbances. Moreover, an

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6 Cf. KNAPP ET AL. 2007: 491-494; VISONÀ 2010b: 4-5 and 15, n. 68.
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 excavators. 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 data, 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 1800s, 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, may be linked to this historical episode (vidi). Cf. CNI XX: 586, 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.

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 muratura 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, Petella, Krimissa e Locri” – Soc. Fintalia Servizi s.a.s. (conces- sionario 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 topo-graphic 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: 586, 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.
B2 in 2008, may also be a recent feature (fig. 5). 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 E1) 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. These diagnostic sherds, and an iron javelin point (fig. 9), 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

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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. Cardosa. 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 BERLINGO 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 BERLINGO 1966: 319, fig. 51, no. 185.
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).

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-

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\(^{13}\) 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.
between 300-250 B.C. (fig. 17, c). 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. 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 region.

In addition, seven micaschist hand tools, including an unusual three-notched example (fig. 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 MINTI 2011: 418.
one of the Syracusan coins (fig. 17a)\textsuperscript{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 whetstones\textsuperscript{20}. 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 calcined\textsuperscript{21}. 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 4\textsuperscript{th} century B.C. and including a few materials deposited in the first half of the 3\textsuperscript{rd} century. The possibility that its lower levels may belong to an earlier and poorly separable fill, datable to the first half of the 5\textsuperscript{th} century B.C., should also be taken into consideration\textsuperscript{22}. 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 stones\textsuperscript{23}, these ramparts followed the contour of the mountaintop. Their construction tech-

\textsuperscript{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.

\textsuperscript{20} Whetstones tend to be rectangular and have a square or rectangular section: for Roman examples, cf. Hanson 2007: 105 and 108, fig. 51. For the categories of surface wear see Cristiani et al. 2012: 43.

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

\textsuperscript{22} For the palimpsest characteristics of the archaeological deposit at Monte Palazzi, see Visonà 2010b: 11-12.

\textsuperscript{23} Despite the definition used in the first field report by Knapp et al. 2007: 496 and 501, this should not be described an as emplecton. For emplecton walls see Bracconi 2001.
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 Sicily\(^{24}\). Their width of 2.5 m is also comparable to that of Greek archaic fortification walls across the Mediterranean\(^{25}\). 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 fineeware 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 earliest\(^{26}\), 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 eta), 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-
soil in 2008\textsuperscript{29}, attests to a prehistoric frequentation of the mountaintop before the Iron age. Since locus F5011 overlies a yellow sterile soil above bedrock, F5012\textsuperscript{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 end\textsuperscript{31}. 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)\textsuperscript{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

\textsuperscript{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 Catanzano’s Museo Provinciale, see SPADEA 2004: 69-72.

\textsuperscript{30} Small patches of bedrock were poking through locus F5012 at the end of the 2010 field season.

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

\textsuperscript{32} VISONÀ 2010b: 18.
timbered parapet\(^{33}\). Nothing resembling the vitrified mud-brick (Munsell 7.5R 4/4) found at San Salvatore has been unearthed at Monte Palazzi\(^{34}\). 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 wall\(^{35}\).

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

\(^{33}\) 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 VISIONÀ 2010b: 12, fig. 20; cf. PANVINI 2003: 511; LAWRENCE 1979: 209; ARNOLD 2010: 182.

\(^{34}\) FOXXHALL 2007: 64, fig. 51, and 65-67.


\(^{36}\) 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. Cardosa and M. Milanesio, among the fine ware 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 Hipponiote" (personal communication, October 5, 2011).
stockpile of ammunition for slingers (fig. 30). 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 weapon. Even though the periploi manning the fort were light-armed soldiers, 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 ramparts.

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 antiquity: 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). 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 thought. 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), 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
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 Locran chora was under the threat of Brettian attack. The Locrans may still have had a hold on the Tyrrenian coast in the early 3rd century B.C., 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 fine ware) found in 2010, together with the 80,483.5 g of pottery of from the 2005-2008 excavations, seem consistent with an occurrence of longue durée. 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 fine ware (12.4% of the entire assemblage), comprising predominantly drinking vessels. The sporadic find in the 1960s of a lead clamp used to repair a pithos (fig. 34), and the find of a pithos rim in the central area of the fort during the reconnaissance by M.T. Iannelli’s team, 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 revealed.

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 mountaintop. 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 out.

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.
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 interior architecture. The instruments used were a Geoscan FM256 fluxgate gradiometer and a Geoscan RM-15D electrical resistance meter with multiplexer (fig. 35). 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 missing. But its general orientation can be inferred from the small segment recorded in the northwest 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 2007, 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

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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.
given the garrison a reasonably clear view of the most likely approach to the Croceferrata Pass less than 1 km away.\footnote{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; Wooliscroft 1993: 294-300; Shannon 2007: 52; Visy 2009: 989-994.}

The resistance survey also recorded linear anomalies along the 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 walls\footnote{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.}, 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.\footnote{Brizzi and Costamagna 2010: 583-584 and 590.} A computer model based upon the findings from remote sensing and excavation shows it in its landscape setting (fig. 39).\footnote{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.} Fortlets of comparable size from Assyria to Britain would have been garrisoned by a troop of 20 to 40 men.\footnote{Cuyler Young, Jr. 1983: 9; Redhead 1989: 63; Walker 1989: 87; Symonds 2009: 955-960.}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig38.png}
\caption{Building phases of the fortification at Serro di Tavola. From Brizzi and Costamagna 2010: 584, Fig. 416.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig39.png}
\caption{Provisional reconstruction of the fort on Monte Palazzi seen from the south, earliest phase. Visualization by D.R. Shepperson.}
\end{figure}

\footnote{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; Wooliscroft 1993: 294-300; Shannon 2007: 52; Visy 2009: 989-994.}

\footnote{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.}

\footnote{Brizzi and Costamagna 2010: 583-584 and 590.}

\footnote{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.}

\footnote{Cuyler Young, Jr. 1983: 9; Redhead 1989: 63; Walker 1989: 87; Symonds 2009: 955-960.}
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.²². 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 Tyrrenian coast, and stood along a trail that led ultimately to Locri²³. Built for permanent occupation, albeit too small to oppose an invading force, its primary function would have been of surveillance²⁴. 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*²⁵.

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)²⁶, 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)”²⁷, 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

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²² Visònà 2010b: 9-10. The linear distance between Monte Palazzi and ancient Locri and Kaulonia is c. 25 km and c. 26.5 km, respectively.

²³ 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 viarri settenzionali alla loro χώρα, lungo un tracciato che in ultima istanza conduceva alla loro città”: see Cordiano 1997: 85.

²⁴ Visònà 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.


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 chorâ, 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

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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.
whether it could have been a boundary marker even before the colonial period\textsuperscript{73}. However, the militarization of the Allaro may date from the beginning of the 6\textsuperscript{th} 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)\textsuperscript{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 posture\textsuperscript{75}. A high observation point overlooking both the Allaro and the Fiumara Precariti, Monte Gallo guarded access to the hinterland of Kaulonia, which Achaeans had begun to settle in the archaic period\textsuperscript{76}. By the second half of the 6\textsuperscript{th} century Kaulonia’s

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 Tyrrenian 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-6\textsuperscript{th} century B.C.\textsuperscript{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 6\textsuperscript{th} 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 it\textsuperscript{78}. Therefore, Iannelli’s attribution to Kaulonia of a settlement at Torre Camillari, which was built c.

\textsuperscript{73} FACELLA ET AL. 2007: 273: “è possibile che in età coloniale il confine tra l’area acha e quella locre 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.

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

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

\textsuperscript{76} FACELLA 2011: 309-311; GAGLIARDI 2011: 337-338.

\textsuperscript{77} LOMBARDO 2010: 10-11.

\textsuperscript{78} “This is a torrent with half a mile of stony bed, which could give trouble even if dry”, according to DUNBAIN 1968: 359. For the Allaro, which was navigable until the 1500s, see GEMELLI 1992: 42-43 and 50-51.
550 B.C. on the right bank and near the estuary of the Allaro (fig. 45), 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.

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 period. 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 Tyrrenian 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 milli-

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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 phrourion “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: 38º 20.68 N / 016º 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: 38º 22.06 N / 016º 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 chor a 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.

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