

# TOPOGRAPHIC ANALYSIS AND PHOTO INTERPRETATION OF HISTORICAL AND RECENT AERIAL IMAGES. A CASE STUDY: THE ANCIENT CIVO SETTLEMENT (TAVIANO - LE)

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## Abstract

This study presents the results of topographic research on the Salento territory with a particular focus on a settlement of Civo (Taviano - Le) through the use of the integrated aerial photographic study. The methodology used derives from the integration of survey data with analysis foto documentation from different periods (historical and recent aerial photos, vertical and oblique) with the aim of giving an explanation for historical archeological issues and instance of tutelage.

The preliminary results show a complex situation that may be better understood with systematic and extensive technological investigations.

## Keywords

Survey, aerial archaeology, satellite images, landscape archaeology

## 1. Introduction

As part of the research activity of the Ancient Topography and Photogrammetry Lab at the University of Salento, the author has carried out the topographic analysis of a large portion of terrain (about 300 sq km) of the South Western part of the Salento peninsula, based on systematic capillary recognition integrated with the photo interpretation of aerial images (historical and recent) and satellite images. This allowed both an increase of 80% in new data compared to existing knowledge, and an in-depth diachronic reading of the phases and transformations of the settlement.

More specifically, the research project led to the discovery and positioning of approximately 394 archaeological pieces of evidence relating to the territory (excluding a single piece of evidence relating to the ancient inhabited area of Ugento, subject to specific analysis - Scardozi, 2012), which are largely unknown and consequently not protected and not valued by governing bodies (Fig. 1). Furthermore, it was possible to make estimates based on prior knowledge and on new acquisitions derived from the joint investigation in archives, bibliography and direct recognition on the terrain. It has been possible to ascertain that only 1% of the archaeological presence in the

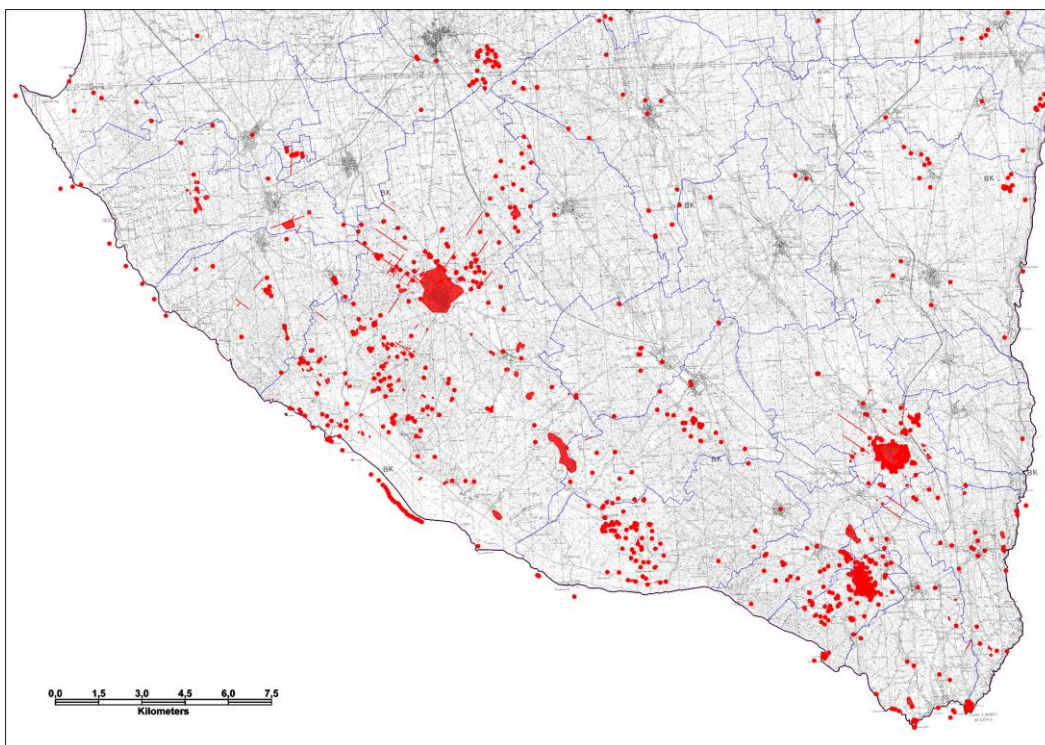
territory is subjected to formalised forms of protection, 5% is noted in the archives of the authority, 16% is published in the bibliography (mostly consisting of the publications by the authority), 7% of bibliographic data is no longer available; about 80% of the pieces of evidence are new acquisitions which derive from systematic recognition integrated with the photo interpretation of aerial images. (Fig. 2)<sup>1</sup>.

The information gathered on the settlement made it possible to observe, for the territory covered by the present study between the end of the Roman world<sup>2</sup> and the High Medieval Ages, characteristics that are substantially different to the central Southern area of the peninsula.

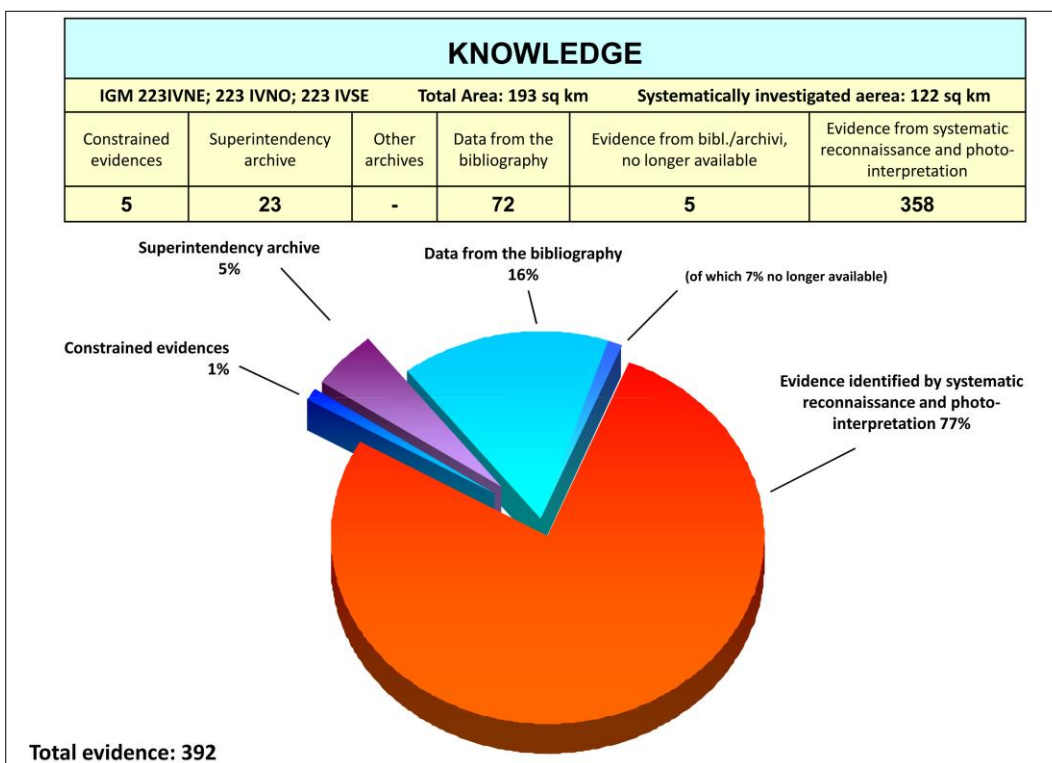
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<sup>1</sup> The specific theme of the actions aimed at the knowledge and protection of archaeological, architectural and landscape evidence has been widely illustrated, through the numerical elaboration of the data collected in large sectors of the national territory, in the Conference "Raising the level of knowledge to protect and enhance the landscape, archeology, monuments and historical centers", 12-13 June 2012, National Research Council, Rome.

<sup>2</sup> The administrative and territorial changes initiated with the Diocletian reform (290-293) give rise to profound changes in the productive-commercial organization as well as to settlement dynamics, interfering with those already underway and determining new ones (Grelle,2000).



**Fig. 1:** Cartography of Salento based on IGM 1: 25,000 with vectorization of archaeological evidence collected in the territory (Territorial Information System for Cultural Heritage of Italian territory, Laboratory of Ancient Topography and Photogrammetry of Salento University).



**Fig. 2:** Knowledge Graph

Research on Late Antiquity in Puglia<sup>3</sup> and more specifically in the Salento area, has in recent years experienced a significant development, not only in the theoretical elaboration of the problem but also in the acquisition of new elements from topographic integrated search from innovative methodological approaches.

At present, many factors indicate an occupation of the territory, despite sub regional differences, characterised by a substantial continuity of life of urban settlements of the Imperial Age, the development of *vici* and the presence of rural settlements (*villae* or simple farms).

On the whole, these types of rural occupation originate from previous settlements from the Imperial Age that have changed with regards to the organisation of the plant, which are generally amplified, also often in productive conversion. The Late Antiquity villa, traditionally set in relation to the *latifundium* (large landed Ancient Roman estate or ranch) seems to replicate the already evident role in the Late Imperial Age, focusing on the organisational management of the land that constituted the entire property, the storage of agricultural commodities and the distribution process.

In Puglia, archaeological evidence which is presently available, provides few examples of large *villae*, those of which are mainly distributed in the Dauna area<sup>4</sup> and are almost entirely absent

in the lower Salento area, where, on the other hand, less complex rural *villae* appear<sup>5</sup>.

In the area under examination, however, a series of small agricultural settlements, often in continuity with the Imperial Age<sup>6</sup>, demonstrate a human presence in the territory that is in some way superior to what is generally seen in research in other sectors of Late Italian Antiquity<sup>7</sup>, even those closer to the North of Brindisi, where the devastation of the Greek Gothic War indicated a more marked demographic collapse and constituted the caesura between the Ancient and the Medieval world.

## 2. *The settlement of Civo (Taviano - Le)*

A case not without interest, for the area in question, is a considerably big settlement, distinguished by the presence of a *villa*, located in Contrada Civo, near the Eastern municipal boundary of the town of Taviano, in the province of Lecce. It featured in the late Republican Age as a small rural settlement; the materials document a seamless occupation until Late Antiquity, until the point in which it is possible to identify the presence of a rustic *villa* and the subsequent construction of an abbey<sup>8</sup>.

The site is located within the municipal territory of Taviano, located near the confines of the inhabited areas of Taviano, Racale and Alliste, on a topographically depressed belt, bound by the ridges of the Serre di Castelforte to the West and Casarano to the East (Fig. 3).

<sup>3</sup> In general, for the late-ancient Apulia landscape, see Volpe, 2000 and Volpe & Turchiano, 2005. In particular for the Salento landscape, see De Mitri, 2010, Arthur, 1999, etc. For the paganico-*vican* organization, and for a rereading of the continuity between rural structures of the Roman and medieval ages see Capogrossi Colognesi, 2002. On the late antique villa in general Carandini, 1994, 1995 and Vera, 1994, 1995. For an analysis of greater detail of the late-historic villas mentioned and for a timely chronological overview, see Volpe, 1996.

<sup>4</sup> The research conducted in Daunia revealed villae, ascribable to a chronological horizon between the imperial age and late antiquity, characterized by considerable size and model "atrium and peristyle", in other cases, however, the villae do not have a precise model planimetry but they seem adapted to the morphology of the ground (Goffredo & Volpe, 2007).

To quote some examples, the Roman villa of Casalene, in Bovino (Volpe, 1990, and previous bibliography), the villa of Posta Carrera, in Ascoli Satriano (Goffredo, 2009), that of Muro Rotto identified in the territory of Aecae (Ceraudo & Ferrari, 2010), the late antique villa of Faragola (Volpe & Turchiano 2012), etc.

<sup>5</sup> To mention a few examples, remember the villa in San Lorenzo, in Francavilla Fontana (Marinazzo, 1979), that in the locality of Fanfula in Melendugno (Valchera & Zampolini 1997).

<sup>6</sup> A settlement continuity has been found in the municipal territory of Ugento (in the locality of Risciano, Madonna del Casale and Terenzano) where some rural settlements of the imperial age give way to the subsequent development of *casali*. A characteristic aspect of the period between the tenth and eleventh century d.C., is represented by the birth of the settlement for farmhouses, functional to a recovery of the exploitation of the land (for an in-depth analysis of the theme see Arthur, 2011 and previous bibliography).

<sup>7</sup> In general there is a concentration in villages more or less large, mainly due to the spread of the *latifundium*, and the consequent contraction of rural inhabitants (De Mitri, 2010).

<sup>8</sup> A similar situation can be found in Petrone in the territory of Cutrofiano where on a late Villa (Martino, 2015) a Byzantine *kastellion* develops first (Arthur, 1996) and then the *casale* Petrone.



**Fig. 3:** Digital Elevation Model DTM of the area of study, based on CTR to scale 1:5.000

The subsoil, consisting of calcareous sandbanks, is characterised by the presence of superficial groundwater that emerges from small water basins, such as the Cellini Lake located a little further north, making the land particularly fertile. At present, the area (Fig. 4) is largely transformed by human activities and compromised by intense agricultural exploitation and urban development (Guaitoli, 1997, 2003).

It is therefore possible to assume that the real extension of the site for the Middle Imperial Age

and for the Late Antique one (that is for periods which are more highly documented) cannot be determined with absolute certainty. As is often the case in Salento, the modest level of vegetal land and continuous processing can even lead to the denudation of the geological layer. In fact the characteristics of agricultural exploitation sometimes affect the type and chronological definition of the archaeological remains identified (in particular the olive groves, and to a lesser extent the vineyards, generate extensive areas, also heavily banked, which leads to the progressive shredding of materials), making it difficult to pinpoint precise dates, in many cases inevitably attributed to a chronological phase, rather than to a century, as well as to the progressive elimination of the archaeological layers.

The analysis of the historical aerial photographs and of the available satellite images<sup>9</sup>, in particular those taken in conditions of excellent visibility, made it possible to identify quite clearly some anomalies, traces from alteration of the soil composition, relating to a complex nucleus of singular complexity, consisting of several, only partially reconstructed buildings, arranged a few meters apart from one another and on a surface of approximately 50 x 60 meters (Figures 5a - 5b).



**Fig. 4:** Satellite image from Flash Earth 2017: in the red fence the area where the ancient settlement was detected.

<sup>9</sup> A systematic photointerpretation work was carried out on historical aerial stretches of the I.G.M. (in particular the base flight 1955, strip number 175, frames number 7847-7848), on more recent photograms AeroTop S.r.l. (1988 flight, strip number 42, frames number 68-69), on orthophotos and finally on some satellite images from Bing Maps 2017 and Google Earth (years 2009, 2012, 2015 and 2017).



**Fig 5a:** Satellite image QuickBird-2, July 2017 (image processed in grayscale): the arrows relating to masonry structures and traffic elements are observed in the alfalfa crop.



**Fig. 5b:** Detail of the restitution of traces attributable to the settlement of the Roman age: The image shows a structure articulated in several environments with environments with NO-SE orientation.

The surface surveys conducted to check the traces have confirmed a site occupation already in pre and Protohistoric Times with phases documented for the late Republican Age until the late Ancient Age and, later in the Middle Ages, reaffirming a continuity of occupation for a district that, due to its morphological characteristics, lent itself to a stable occupation.

Specifically, the oldest Anthropoc habitation in *contra Civo* dates back to the Neolithic Period<sup>10</sup>, but the first agricultural settlement is from Roman Times. The main concentration of materials has been detected within two milled soils where a large density of clay fragments and building materials can be observed on an area extending over a surface of at least 200 x 150 metres with East-West orientation (Figg 6-7)<sup>11</sup>.

The materials identified are mainly represented by some lightly coloured bowl fragments with a streaked pattern, rare fragments of Italian sigillata bowls, many fragments of African sigillata bowls (the opening of which forms a slightly protruding edge and features a circular base).

Also well attested are the sealed ceramic of oriental production, Late Roman C, the African sealed type D, African kitchenware and some of African transport amphorae, dolium with spheroid body, and illyrian cooking ware.

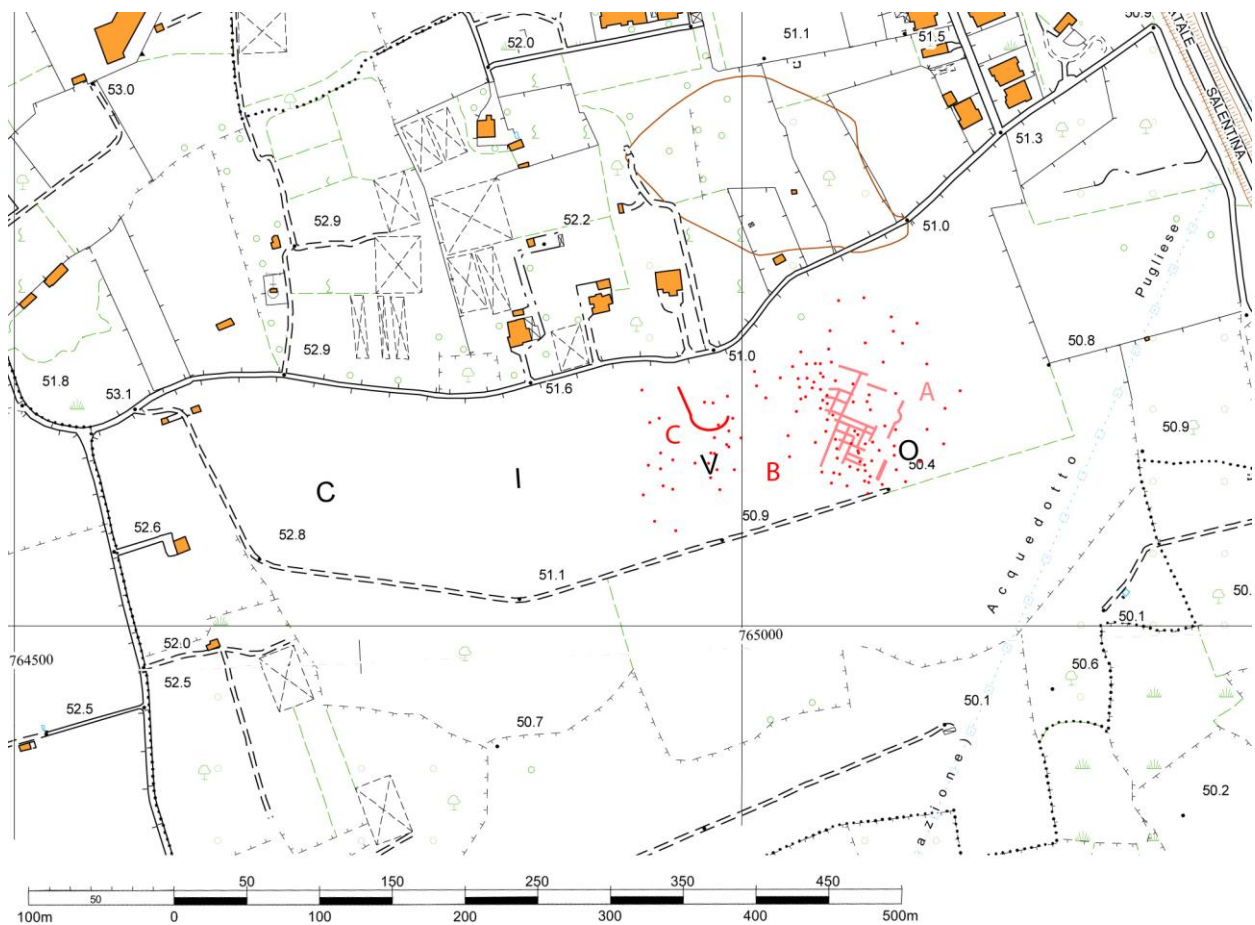
In general, the materials document an agricultural settlement, living since at least the late Republican age and a rustic *villa* of late antiquity.



**Fig. 6:** Archaeological mapping on an aerofotogrammetric basis: in the background the georeferenced satellite image, A) the restitution of Roman settlement traces, B) the area of fictile fragments, C) the ruins of the medieval abbey.

<sup>10</sup> De Giorgi reports the finding of a "worked stone" to the erratic state (De Giorgi 1888, pp. 252).

<sup>11</sup> The material area is approx. 370 meters to SE of the artificial lake Cellino and 200 meters to the O of the national road n. 274 Gallipoli-Santa Maria di Leuca.



**Fig. 7:** Archaeological map regional technical map basis with the restitution of Roman settlement traces (in pink) and the findings the findings visible on the surface of the soil disturbed by the agricultural processing (in red).

The presence of the abbey of Santa Maria del Civo, attested at least since the 14th century, indicates the continuity of life at the site generally attributed to the early Middle Ages, however in its present state is completely obliterated<sup>12</sup>.

The precise date of foundation is unknown (De Marco, 1991), however, it can be placed by some authors between the eleventh and twelfth centuries and could be traced back, as the surface archaeological investigation seems to suggest, to the late Ancient Age. The choice of location does not appear random: it seems, in fact, that a monastic complex was established on the settlement starting from the First Century B.C,

similarly to many other cases in the Italian territory and in Puglia<sup>13</sup>.

The growing spread of Christianity in Late Antiquity has, in fact, influenced not only the urban landscape of Salento, but also the territorial organisation: starting from the fifth century. There is a progressive spread of rural churches, with annexed necropolises, which arise near *vici* or *villae* near roads.

These churches had to represent not only a centralised place within the settlement sites, but also presumably play a function of territorial, economic and population control (Bertelli 1999).

<sup>12</sup> According to what was reported by De Giorgi, the monument was already in deep decline from the mid-1500s and would collapse in 1848; at the time of his visit, in fact, appeared in complete ruin (De Giorgi, 1888).

<sup>13</sup> Similar cases, the subject of detailed investigations, are those found in S. Apollinare di Rutigliano, (Lavermicocca et Alii, 1987); in S. Pietro di Crepacore near Torre Santa Susanna, Oria, (Maruggi, 1994); in Santa Maria dell'Alto near Campi Salentina (Jurlaro, 1970); at S. Miserino near San Donaci (Marangio 1973, pp. 311-312); in S. Pietro a Giuliano del Capo, Otranto, (Lippolis & Violante, 1990), in S. Maria della Croce in Casaranello (Volpe, 1996), in the church called Le Cento Porte di Giurdignano (Arthur, 1996); etc.

Taking this into consideration, it seems opportune to draw attention to the existence of *masse*: vast, landed properties belonging to the patrimony of Saint Peter which includes farmhouses, churches and monasteries employed by a rector, on which settlers were dependent (*conductores*) and farmers (*rustici*). In fact, the *massa Callipolitana* is attested in Calabria<sup>14</sup>.

The abbey of Civo is attested by documentary sources from the 14th century onwards<sup>15</sup>.

Explicit mention can be found in the *Inventarium bonorum mobilium et stabilium abbacie Sancte Mariae de Cibo* (inventory of transferable and stable assets of the Church of Nardò carried out by the Bishop of Nardò, Ludovico de Pennis) reported in the Neretine Code containing the pastoral visits of the Bishops Ludovico de Pennis (1451-1484), Ludovico de Justinis (1484-1491), and Gabriele Setario (1491-1507) (Centonze 1988). A probable terminus ante quem can be recognized in 1120 provided by Gianbernardino Tafuri, whose epitaph is deduced from the visit made by Bishop Antonio Sanfelice in 1719. A probable terminus ante quem can be recognized in 1120 provided by Gianbernardino Tafuri (Tafuri 1848), whose epitaph is deduced from the visit made by Bishop Antonio Sanfelice in 1719.

Regarding the representation of the building in cartography, near the Eastern municipal boundary of Taviano, approximately 360m South East of the artificial lake Cellino and 450m West of S.S. 274 Gallipoli-Santa Maria di Leuca, the historical land registry of Taviano (F. XXV, Fig. 00), attributable to the early years of the 20th century, still bears the footprint of the building, the IGM cartography (late 1950s), rather, shows the symbol of ruins and the toponym "Civo" (figure 00). Until a few decades ago a considerable pile of stones was visible to give testimony to the existence of the building; currently there are substantial remains of scattered stones and lumps of mortar.

During the Reconnaissance, the remains of the early Medieval abbey, sporadic fragments of late Medieval pottery and some fragments of limestone slabs belonging to a tomb, perhaps tracing back to a necropolis annexed to a building of worship.

<sup>14</sup> For the existence of the Massa Callipolitana, see Gregorii, *Epistolae* lib.IX, epistolaeXCIX, C (P. L., 77), coll. 1024.

<sup>15</sup> On 21st April 1325 the abbot Bartolomeo, sub collector, is visited to collect offertory of 6 Tareni (Coco, 1926).

These are the main factors that were considered as relevant to present within the case study. With regards to the method, it seems fitting to highlight a well-known, yet essential aspect: the main findings are the result of the integration of different methods of extensive investigation both of a traditional and innovative non-destructive methodologies.



## REFERENCES

- Arthur, P. (1996). Fibbie e fibule di età alto medievale nel Salento. In *Studi di Antichità* 9, (pp. 431-438). Galatina, IT: Congedo Editore.
- Arthur, P. (1999). La città in Italia meridionale in età tardo antica. Riflessioni intorno alle evidenze materiali. In *L'Italia meridionale in età tardo antica, Atti del XXXVIII Convegno di Studi sulla Magna Grecia, 2-6 Ottobre, 1998* (pp. 167-200). Taranto.
- Arthur, P. (2004). Il territorio di Supersano in età bizantina. In P. Arthur, V. Melissano (Eds.), *Supersano. Un paesaggio antico del basso Salento* (pp. 55-65). Galatina, IT: Congedo Editore.
- Arthur, P. (2010). Edilizia residenziale di età medievale nell'Italia meridionale: alcune evidenze archeologiche. In Galetti, P., *Edilizia residenziale tra IX-X secolo. Storia e archeologia*. Atti del Convegno di studi (Bologna, 20-21 giugno 2005), (pp. 17-44). Firenze. IT: All'insegna del Giglio.
- Arthur, P. (2010b). Verso un modellamento del paesaggio rurale dopo il mille nella Puglia meridionale. In *Archeologia Medievale XXXVII*, ( pp. 215-228). Firenze. IT: All'insegna del Giglio.
- Arthur, P. (2011). Per una carta archeologica della Puglia altomedievale: questioni di formulazione ed interpretazione. In *Bizantini, Longobardi e Arabi in Puglia nell'Alto Medioevo, Atti del XX Congresso internazionale di studio sull'alto medioevo*(pp. 59-86). Savellettri di Fasano (BR), 3-6 novembre 2011, Spoleto.
- Arthur, P., & Gravilli, G. (2006). Approcci all'analisi degli insediamenti e loro confini territoriali nel Medioevo. In R. Francovich, M. Valenti (Eds.), *IV Congresso Nazionale di Archeologia Medievale* (pp. 31-36). Firenze.
- Bertelli, G. (1999). La Calabria, in Alle origini della parrocchia rurale (IV VIII sec.). In *Atti della giornata tematica dei seminari di Archeologia Cristiana, Roma 1998*. (pp. 225-249). Città del Vaticano,.
- Campana, S. (2010). Geomatics techniques for the 3D documentation and visualization of archaeological building. In *Space, Time, Place. Third International Conference on Remote Sensing in Archaeology (17th-21st August 2009)* Tiruchirappalli, Tamil Nadu, India.
- Campana, S. & Forte, M. (2003). Remote Sensing in Archaeology. In *Quaderni del Dipartimento di Archeologia e Storia delle Arti, Sezione Archeologia - Università di Siena*. Siena, IT: Edizioni all'Insegna del Giglio
- Campana, S. & Forte, M. (2016). *Digital Methods and Remote Sensing in Archaeology Archaeology in the Age of Sensing*. UK: Springer.
- Campana, S., Musson, C. & Palmer R. (2013). Flights into the past. Aerial photography, photo interpretation and mapping for archaeology. In *Aerial Archaeology Research Group (Occasional Publication No. 4) in partnership with the ArchaeoLandscapes Europe (ArcLand) Project of the Culture 2007-2013 Programme of the European Union*.
- Campana, S. & Remondino, F. (2014). *3D Modeling in Archaeology and Cultural Heritage: Theory and Best Practices*. In *BAR International Series 2598* 2014.

- Capogrossi Colognesi, L. (2002). *Persistenza e innovazione nelle strutture territoriali dell'Italia romana*, Napoli, IT: Jovene.
- Carandini, A. (1993). Paesaggi agrari meridionali e etruschi a confronto. In *Atti del Convegno per il Bimillenario della morte di Q. Orazio Flacco, Venosa 199* (pp. 239-245). Venosa, IT: Osanna Edizioni.
- Carandini, A. (1994). I paesaggi agrari dell'Italia romana visti a partire dall'Etruria. In *L'Italie d'Auguste à Dioclétien, Actes du Colloque International, Roma, 25-28 marzo 1992* (pp. 167-174). Roma, IT: École Française de Rome.
- Carandini, A. (1995). Il latifondo in epoca romana, fra Italia e province. In *Du Latifundium au Latifondo. Un héritage de Rome, une création médiévale ou moderné?*, Actes de la table ronde, Bordeaux 1992 (pp. 31-36). Paris, FR: Publ. du centre Pierre Paris.
- Cazzato, V. (2005). Taviano. In *Insedimenti del Salento dall'antichità all'età moderna* (pp. 138-139). Galatina (Le), IT: Mario Congedo Editore
- Centonze, C. G., De Lorenzis, A., & Caputo, N. (1988). *Visite pastorali in Diocesi di Nardò, 1452-1501*, Galatina, IT: Congedo Editore.
- Ceraudo, G. (2003). Fotografia aerea: tecniche, applicazioni e fotointerpretazione. In M. Guaitoli (Ed.), *Lo sguardo di Icaro. Le collezioni dell'Aerofototeca Nazionale per la conoscenza del territorio* (pp. 75 - 86). Roma, IT: Campisano Editore.
- Ceraudo, G., & Ferrari V. (2010). *La villa romana di Muro Rotto. Paesaggi archeologici nel territorio di Aecae*, Foggia, IT: Grenzi Editore.
- Compatangelo, R. (1989). *Un cadastre de pierre: le Salento romain. Paysage et structures agrarie*, Besançon, pp. 119, 141, figg. 7b, 34, 62, Paris, FR : Les Belles Lettres.
- Coco, P. (1926). *Collectoria Terrae Idronti 1325*, Taranto, IT: Stab. tip. Pappacena.
- De Giorgi, C. (1888). *La provincia di Lecce. Bozzetti di viaggio*, II, Galatina 1975 (prima edizione Lecce), IT: Congedo Editore.
- De Luca, F. (in press). Il patrimonio archeologico delle province di Taranto e Lecce nello specifico Sistema Informativo Territoriale. In Guaitoli, M. (Ed.), *Conoscenza e Tecnologie*, 2.1.
- De Luca, F., & Valchera, A. (2014). La penisola salentina: elementi di discontinuità nelle dinamiche di sfruttamento del territorio in età messapica e in età romana. In G. Bonini, C. Visentin (Eds.), *Paesaggi in trasformazione. Teorie e pratiche della ricerca a cinquant'anni dalla "Storia del paesaggio agrario italiano" di Emilio Sereni*, Gattatico (RE), IT: Editrice Compositori.
- De Marco, M. (1991). *Taviano dalle origini ai giorni nostri*, Lecce, IT: Edizioni del Grifo.
- De Mitri, C. (2010). *Inanissima pars Italiae. Dinamiche insediative nella penisola salentina in età romana*, BAR. International series 2161, Oxford, UK.
- Goffredo, R. (2009). Archeologia delle tracce nella valle del Carapelle (Puglia Settentrionale). Metodologie di ricerca integrate per lo studio dei paesaggi di età romana e tardoantica. In Aa.Vv., *Archeologia Aerea IV-V, 2009-2011*, (pp. 191-198), Roma, IT: Grenzi Editore.
- Goffredo, R., & Volpe, G. (2007). Fotografia aerea, archeologia globale e paesaggi antichi della Daunia. Esempi della Valle dell'Ofanto e del Carapelle. In Aa.Vv., *Archeologia Aerea II, 2007*, (pp. 219-246), Roma, IT: Grenzi Editore.

- Grelle, F. (2000). Ordinamento provinciale e organizzazione locale nell'Italia meridionale. In *L'Italia meridionale in età tardo antica: Atti del trentottesimo Convegno di Studi sulla Magna Grecia : Taranto 2-6 ottobre 1998*, Taranto, 115-139.
- Guaitoli, M. (1997). Attività dell'Unità Operativa Topografia Antica. In Guaitoli, M., *Metodologie di catalogazione dei beni archeologici*, BACT 1,2, (pp. 9-44), Lecce-Bari, IT: Martano Edipuglia.
- Guaitoli, M. (2003). Introduzione. In M. Guaitoli (Ed.), *Lo sguardo di Icaro. Le collezioni dell'Aerofototeca Nazionale per la conoscenza del territorio* (pp. 13-15). Roma, IT: Campisano Editore.
- Lavermicocca, N. et Alii (1987). *Sant'Apollinare di Rutigliano. Storia, scavo e restauro*, Rutigliano, Bari, IT: Rutigliano (Bari): Didonna Ed.
- Lippolis, E., & Violante, P. (1990). Saggi di scavo nelle chiese di S. Pietro a Giuliano del Capo e S. Giovanni di Patù. In *Taras*, X, 1, (pp. 157-202). Taranto, IT: Editrice Scorpione.
- Marangio, C. (1973). S. Miserino. Villa romana e chiesa paleocristina. In G. Uggeri (Ed.), *Notiziario Topografico Salentino, Archivio Storico Pugliese*, 26, pp. 311-312.
- Marinazzo, A. (1979). Scavo di una villa romana a Francavilla Fontana (Brindisi). In *RicStBrindisi*, 12, 1979, (pp. 131-139). Fasano, IT: Gratischena S.p.A.
- Martin, J.-M. (1995). La Pouille du VIe au XIIe siècle, Collection de l'École Française de Rome 179. In *Revue des études byzantines*, tome 53, 376-377.
- Martino, C. (2015). L'insediamento di località Petrone nel territorio di Cutrofiano (Lecce). In Aa.Vv., *Archeologia Aerea 2015 IX-2015*, (pp. 82-85), Roma, IT: Grenzi Editore.
- Maruggi, G. A. (1994). *Torre S. Susanna (Brindisi), Chiesa di Masseria Li turri*. In *Taras*, XIV (pp. 171-173). Taranto, IT: Editrice Scorpione.
- Picarreta, F. (2003). Aerofotogrammetria finalizzata all'archeologia. In M. Guaitoli (Ed.), *Lo sguardo di Icaro. Le collezioni dell'Aerofototeca Nazionale per la conoscenza del territorio* (pp. 96-98). Roma, IT: Campisano Editore.
- Tafuri, G.B. (1848). Dell'origine, sito ed antichità della città di Nardò. In M. Tafuri (Ed), *Opere di Angelo, Stefano, Bartolomeo, Bonaventura, Gio. Bernardino e Tommaso Tafuri di Nardò*, Napoli.
- Jurlaro, R. (1970). Nota sull'architettura paleocristiana del Salento: La Madonna dell'Alto presso Campi Salentina. In *Vetera Christianorum*, 7, 1970, 275-377.
- Vera, D. (1994). Il sistema agrario tardoantico: un modello. In R. Francovich, G. Noyé (Eds.), *La storia dell'Alto Medioevo italiano (VI-X secolo) alla luce dell'archeologia*, Atti del Convegno (Siena, 2-6 dicembre 1992), Firenze, 136-138.
- Valchera, A., & Zampolini, S. (1997). Documenti per una carta archeologica della Puglia meridionale. In *Metodologie di catalogazione dei beni archeologici*, BACT 1.2 (pp. 103-158), Lecce-Bari, IT: Martano Edipuglia.
- Vera, D. (1995). Dalla 'villa perfecta' alla villa di Palladio. Sulle trasformazioni del sistema agrario in Italia fra Principato e Dominato. In *Athenaeum* 83, 189-211.
- Volpe, G. (1990). *La Daunia nell'età della romanizzazione. Paesaggio agrario, produzione, scambi*, Bari.
- Volpe, G. (1999). Paesaggi della Puglia tardoantica. In *L'Italia meridionale in età Tardo Antica*, Atti del XXXVIII Convegno di Studi sulla Magna Grecia (Taranto, 2-6 ottobre 1998), Taranto, 267-329.

Romano, A.V., & Volpe, G. (2005). Paesaggi e insediamenti rurali nel comprensorio del Celone fra Tardoantico e Alto Medioevo. In G. Volpe, M. Turchiano (Eds.), *Paesaggi e insediamenti rurali in Italia meridionale fra Tardoantico e Altomedioevo* (Foggia 12-14 febbraio 2004), Atti del I Seminario sul Tardoantico Altomedioevo in Italia meridionale, Bari, 241-259.

Scardozi, G. (2012). L'abitato antico di Ugento. In Aa. Vv. (2012), *Contributo alla conoscenza dei Beni Culturali del territorio di Ugento* (pp. 43-58). Ugento, IT: Scirocco Editore.

Volpe, G., & Turchiano, M. (2005). *Paesaggi e insediamenti rurali in Italia meridionale fra Tardoantico e Altomedioevo* In Atti del I Seminario sul Tardoantico Altomedioevo in Italia meridionale, (Foggia 12-14 febbraio 2004), Bari.

Volpe, G., & Turchiano, M. (2012). *La villa tardoantica e l'abitato altomedievale di Faragola (Ascoli satriano)*. In *Mitteilungen des Deutschen Archäologischen Instituts Römische Abteilung*, band 118.