Abstract

This study presents the results of topographic research on the Salento territory with a particular focus on the coast. The distribution of the coastal settlements, especially in prehistoric times, developed with a continuous chain of settlements, placed almost regularly along the Salento coast. The study of the aerophotographic documents has allowed the identification of large traces from residual moisture that would suggest the existence of some marsh basins, which would place certain settlements in one location, extremely isolated and protected, between sea and river. These conditions widely occur in both Salento coasts. In a few cases the same conditions can also be found in hinterland settlements where there are humid areas or seasonal wetlands. It seems clear that the archaeological sites of considerable size, milestone studies of traditional Italian prehistoric research (such as Scoglio del Tonno, Sarturo, Torre Castelluccia, etc.), are characterised by the presence of a significant quantity of imported Aegean pottery and fortification works that often require great commitment and consistency. They alternate with minor settlements, sometimes equipped with fortifications as in the case of Bagnara, Torre Castiglione or Porto Badisco. A varied landscape also includes the large port facilities such as Brindisi, Taranto and Otranto, small landings, production sites and settlements of "purpurarii" (settlements dedicated to the extraction of purple pigment from gastropod molluscs). The preliminary results show complex situations, often not detected during the excavation work of the past, which may be better understood with systematic and extensive archaeological investigations, as is clear in the extraordinary evidence of the ongoing research in Rocavecchia.

Keywords: Salento Peninsula, Coastal Archaeology, Air Photo Interpretation, Coastal Settlements, Ports and Harbours

The area under investigation in this study covers the coastline of the Salento Peninsula. The remarkable development of the Salentinian coast, and more generally of the region, has been a very strong attraction for both communities of the interior and the hinterland, and for the occasional or frequent visitor looking for a favourable landing. Therefore, its morphology and geographical position was at the centre of cultural relations along the routes that led from the east in the western Mediterranean, branching toward the Adriatic and Ionian coasts. The distribution of settlements in strategic and dominant locations along the coast is traditionally correlated with control trade routes (Gras, 1993; 1997; Polanyi, 1980). Nevertheless, this does not provide an explanation for the occupation of the many sites with difficult environmental conditions, especially in winter. Here, the aspect of settlement is briefly analysed through a systematic analysis of coastal sites known and recognised in the course of research conducted by the Laboratory of Ancient Topography of the University of Salento, with the caveat that this...
Fig. 1. Top: territory of Rocavecchia (Melendugno, LE) in a photo AM 1968: the arrows indicate the traces of a double moat and wide traces of moisture which attest to the ancient lagoon, currently in the valley of Tamari. Bottom: area of Torre Guaceto (Brindisi) in a photo I.G.M. 1943: the wide traces of visible humidity documents the ancient coastal basin which is at present a swamp.
close examination is very dependent on an edited bibliography, fragmentation of archaeological data and in some cases, from settlements with a long life continuity.

The archaeological data is, in fact, extremely heterogeneous. The data which emerged relates to both classic scientific methodologies whereas some studies use innovative methods, which are linked to the development of the research carried out in various universities in the region. Therefore, most of the discoveries of the past, even recently, do not have adequate documentation that would allow an analysis and a critical interpretation. The complexity of findings and archaeological research in the territory is therefore diverse, alternating areas of intervention and chronological phases for which there is a deep knowledge and others which remain vague. To overcome these limitations, the research was carried out not only by the critical review of the literature, but also through targeted surveys and the integration of satellite and remote sensing image (taken from aerial platforms from different periods) analysis. The analysis of aerial photographs (about 300 frames 13x18, 24x24, 30x30, 24x48) has also made a valuable contribution to the study of environmental changes on a large scale as seen in the variations of the coastline and the limits of wetlands, coastal lakes and ancient marshes.

Among the oldest chronological and characteristic phases of the coastal population of the peninsula is the Bronze Age, which is well documented with extensive evidence. This phase, from an environmental perspective, is characterised by extremely favourable conditions: the coastal landscape of second millennium BC, considering the climatological survey and geomorphologic data (Auriemma, Mastronuzzi & Sansò, 2004; Dai Pra & Hearty, 1989; Mastronuzzi & Sansò 2002; Mastronuzzi, Palmentola & Ricchetti 1989), was probably more complex than the current one. We tried, as far as possible, to reconstruct lagoons and ponds alternated with swampy areas which were separate from the immediate hinterland. The abundance of water generated by the heavy rainfall produced rich soil ground water and a superficial river network more developed than the current one. The analysis of historical aerial photos is useful because the photographs reflect the situation which existed before the modern morphological urbanisation. This has allowed the identification of large residual moisture suggesting the existence of some river marsh, which would place certain settlements in extremely isolated and protected positions between the sea and ponds (fig. 1). These conditions occur widely along both the Ionian and the Adriatic coast of Salento. In any case, they are also found in the same territory settlement interiors which feature wetlands or seasonal wetlands. In this phase, a series of inhabited settlements develop as a continuous chain, almost all regularly arranged along the Salento peninsula: the settlements are of a considerable size, to name but a few, Scoglio del Tonno (fig. 4, n. 1), Saturo (fig. 4, n. 9), Torre Castelluccia (fig. 4, n. 12, fig. 2), Torre dell’Alto (fig. 4, n. 23), Punta Ristola (fig. 4, n. 69), Punta Meliso (fig. 4, n. 72), Otranto (fig. 4, n. 94), Roca (fig. 4, n. 99), Punta le Terrare (fig. 4, n. 110), Scogli di Apani (fig. 4, n. 115) and Torre Guaceto (fig. 4, n. 117). These are characterised by the presence of a significant amount of imported pottery from the Aegean period and fortifications at times of great dimensions. They alternate with smaller settlements which are also well equipped with fortifications such as Bagnara (fig. 4, n. 15), Torre Castiglione (fig. 4, n. 20) and Porto Badisco (fig. 4, n. 89).

In Salento the fortified sites of the “protoapenninico” period, recently subjected to systematic investigations, are only represented by Roca and the Scogli di Apani (Scarano, 2012a; 2012b). With regards to Roca (fig. 4), the realisation of the first fortification walls can probably be placed in an advanced stage of the Middle Bronze Age 1 (about half way through the seventeenth century BC) while the oldest levels of habitation associated with the fortification walls in the home of Scogli di Apani are dated between the end of the Early Bronze Age and the beginning of the Middle Bronze Age. For most of the settlements, we cannot establish an absolute chronology and the original dimension due to the erosive action of the
sea. In addition to this phenomenon, there is also urban expansion, which has, for too many years, been uncontrolled, and is presumably the origin of the obliteration of many ancient contexts. The ground research has also allowed the identification of settlements without any fortification such as Punta Aspide (fig. 4, n. 34), Punta Pizzo (fig. 4, n. 44), S. Emiliano (fig. 4, n. 93) and Sant’Andrea (fig. 4, n. 96) generally dated to the Bronze Age and commonly found in relation to the landing points and sources. A recurring aspect is, in fact, the topographical positions which generally occupy a small promontory delimited by one or two creeks, flowing into streams and springs.

Despite the limitations found in the research, mostly consisting, as already mentioned, by the diversity of the documentation, it is possible to make some conclusions. The choice of settlement is dictated by the need to use and control specific resources; for example, consider the relationship between the settlements and the abundant sources, now extinct or channelled. These were favourable inlets not only for landing but also for productive activities and various types of tuna fishing, shellfishing and salt harvesting. The distribution of salt, specifically, certainly played an important role, especially in relation to farming economies of the inland areas; some primary collection systems that have probably always been in use along the calcareous coast, sometimes seem to appear to relate to some phases of the Bronze Age settlement (Guaitoli, 2003). The control of the salt collection may also be related to some of the transhumance route terminals, attested to in the historical age of the southeast Taranto coast and confirmed in later stages by some residual place names (Ghinatti, 1975).

One common aspect of these settlements is the considerable time that seems to extend right from the Middle Bronze Age up until the full Iron Age. Some of these fortified sites seem to have suffered violent destruction, attested by levels of excavation which revealed layers of ash and other evidence, that does not imply, however, the end of the habitation (such as, Punta Le Terrare, Scogli Apani and Roca).

Regarding the density of the coastal population, it should be emphasised that the archaeological literature, traditionally, does not acknowledge the same level of intensity of the inland settlement of Salento (it refers to only a few sites such as, Monte Salete, Monte S. Elia, Oria, Li Castelli, San Vito dei
Normanni, Muro Maurizio, Surbo, Vaste, Cavallino, Li Schiavoni, Spigolizzi, Soleto, and Masseria Fano). However, the direct systematic survey, conducted as part of research activities coordinated by the Antique Topography laboratory at Salento University (the data of which are included in the Geographic Information System for Cultural Heritage of the Italian territory), have, on the contrary, led to the discovery and timely placement of about 986 archaeological pieces of evidence (for the most part unknown) which relate to the various phases of the Bronze Age. Many small settlements appear localised mainly in the Serre areas: these arise, naturally protected by their physical geography, in some cases with an extremely rugged, dominant position with high visibility of the surrounding area; therefore constituted as privileged places to settle. Community development, also from a demographic point of view, appears to be a major factor which, during the Late Bronze Age, led to the organic exploitation of all available resources: agriculture, fisheries, salt, etc. The sites seem to be placed in a dense network of maritime traffic, taking advantage of a number of stopovers, by land.

A drastic reduction of settlements has been highlighted by research starting from the Iron Age: on an initial interpretation, this phenomenon underlines an apparent depopulation of the area and the coast which can be likened to the situation present in most of southern Italy (Bietti Sestieri, 2010; Cremonesi, 1993) in which can be observed a gap in the continuity of life of the villages. However, the reduction in the number of settlements and the absence of the necropolis attributed to the First Iron Age fall into a knowledge gap (Orlando, 1997), due to the bias of the research carried out for this phase in Salento, uncertain survey data provides an overall picture that remains unclear.

Regarding the later phases, the impression is that the lagoons, previously exploited as reservoirs of food supply through fishing, shellfishing, and hunting of birds, now take the form of lagoons which provide a favourable landing. As for the reconstruction of the subsistence economy, we observe the transformation from villages that rely on hunting, gathering and fishing for their food source to villages that are characterised by the exploitation of fertile soils which presumably obtain greater sustenance. We can therefore hypothesise that the agricultural economy was a secondary component in prehistoric society, while in the subsequent phase, it became a fundamental factor.

In general, the coastal landscape of Salento, in the period from the eighth to the late fourth century BC, is profoundly different from the previous phases: from the chain of villages (many of which are fortified), to the observation of a drastic reduction in the causes which cannot be attributed to climate and landscape changes, but to the great transformations implemented from a political point of view. The most important aspects are recognised in the establishment of the Taranto laconic colony and the development of the mesapic cities which are almost exclusively inland territories. It confirms an abundant habitation of the Taranto “chora” and simultaneously, the abandonment of populations from the coast and the development of cities which are linked to docks. This model (messapic city-port) can be likened to the following pairs: eg. Ugento - Torre San Giovanni (fig. 3), Vereto - Leuca, Vaste - Otranto, etc. (Auriemma, 2004; D’Andria, 1978; Yntema, 1982).

Between the second half of the third and second centuries BC as far as the Salento peninsula is concerned, due to the major war events – first the Roman conquest of Taranto in 272 BC and then the two military campaigns attested by triumphs over the Messapians of 267 BC consuls Atilio M. Regulus and Julius Libone and 266 BC consuls N. Fabio Pittore and Junio Pera (Degrassi, 1947; 1954) – a deep process of transformation and cultural conversion of the indigenous community was increasingly influenced by the Roman intervention. The subsequent annexation of the Apulian territories to Rome unquestionably shifted the balance, even in the Salento peninsula, which archaeological sources prove it to be extremely vital and dynamic. Among one of the most important aspects was the foundation of Brindisi (fig. 4, n. 111) which arose as a Latin colony that, after the final decline of Taranto (due to the termination of the Second
Punic War), assumed a dominant role in Salento’s economy.

The varied situation (archaeological map figs. 4-5) includes not only large port facilities (Taranto, Brindisi and Otranto and in imperial St. Cataldo) with predominantly commercial and military functions in a wide ranging network connection but also smaller harbours of a local scale, frequented by ships of lesser tonnage and inserted in a network of maritime connections at a regional level.

The port of Taranto has always played a key role in the development of the city whose territory is marked by two creeks, Mar Grande and Mar Piccolo. The basin of the latter is in turn divided into two parts by the peninsula of Punta della Penna. The two creeks which originated by flooding of the coastal plain, were connected by a natural navigable channel which was accompanied by a second channel built in 1480 by the Aragonese to dig the moat of the castle and in 1886 it was made navigable. From Thucydides (Thuc. 7.33.4) we received the information that he could land on San Pietro island (3a), still valid today. The port, however, was located in the recess in the north of the island, in fact, the oldest example of “portolano” for the Mediterranean Sea (Il Compasso da navigare), in which a good anchorage was situated (Motzo, 1947). We have received further information on the location of the port from the following sources: according to Strabo (Strab. 6.3.1) the port was enclosed by a large bridge, therefore placed at the entrance of Mar Piccolo (3b); Polybius (Polyb. 8.32) reports that M. Livius reached the harbour by passing through a small door next to a big door. The description derives from the work of the Arabian geographer Al-Idrisi which reports of a port, in the Norman period, located on the Great Sea. The picture provided by literary sources, however, is not supported by archaeological data: what can be related to the old port are the remains of two walls in “opus quadratum”, likely pertinent to a basin equipped with docks, revealed during the construction of a military arsenal. Not far from these walls is an excavated neighbourhood (no documentation at present to support this) which returned numerous transport amphorae. The ancient port can be placed in this part of the Mar Piccolo basin (Agrimi & Alfonso, 2014).

Brindisi port, characterised by its deep ramifications (the loop port, in fact, presents a half-submerged river system, whose bottom gave rise to the outer harbour port and two breasts or horns of the inner harbour) took a strategic role in the Roman period, not only because it ensured contacts with the East, but also because (through the
Via Appia) it enjoyed a direct link to Rome (Uggeri, 1988). Its primary role is also evident from the architectural and urban commitment specific to the port area: warehouses, terracing in “opus quadratum” and interior walkways. The archaeological record provides sufficient information to define the main characteristics of the urban planning of Brundisium. The discovery of large sections of the city wall in “opus quadratum”, dating to the end of the third century BC, has enabled us to reconstruct the evolution of the boundary. A door was opened in the west, where the present “Porta Mesagne”, coincides with the probable Via Appia route. Just outside was the large burial area of Via Cappuccini (Andreassi & Cocchiaro, 1984; 1988), which was discovered to be in use at the time of the founding of the colony until at least the fourth century AD. In the southern area where at present “Porta Lecce” is situated, another door had to be opened, from which ran the so-called Via Traiana Calabria, in the direction of Lupiae and Otranto, which was developed along the southern necropolis. A third necropolis (with cremation burials, grave markers, epigraphs and funeral monuments) was developed alongside the “extramurana” Appia Traiana way, at Great Gate. At the end of the Norman Kingdom, Brindisi port was to be of particular importance, in fact, during the Guiscard period it was considered one of the safest (well protected from the wind) and therefore the subject of consolidation and renewal works. The emperor, in fact, in Brindisi port (and other ports, such as: Bari, Brindisi, Otranto, Taranto, Messina, Catania, Palermo and Milazzo) made sure that the moors were repaired ensuring that the castles by the sea received supplies (Huillard-Bréholles, 1857).

With regards to Otranto port, its importance is well documented not only by archaeological data but also by literary sources: Lucano (Luc., B Civ. 5.374-380) mentions the presence of a small squadron, perhaps composed by liburnae, in Otranto, Leuca and Taranto, when they were called by Caesar; Appiano (App., Civ. 2.40) cites the port of Otranto as the basis of one of the military contingents engaged by Caesar to oversee the Italian coasts. Subsequently, in imperial times it was the starting point for the Parthian expedition of Marcus Aurelius and Lucius Verus. Otranto port, has been characterised for its economic activity, especially during the pre-Roman period (one of its functions being to provide a link to the Eastern world and to distribute imported products to the southern peninsula). Since the late Republican period, the role of port was tarnished due to Brindisi, maintaining only the function of alternative docks in the eastern Mediterranean circuits. Only in Late Antiquity did it resume its superiority as an important base during the Greek-Gothic War and gained a decisive role until the eighth century, becoming the basis for all Byzantine relations with the East.

With regards to the smaller harbours, these acquire a function, in some cases principal and in others assuming the function of providing manufacturing/production services in the coastal strip. These small ports include: San Giovanni (fig. 4, n. 53), Uxentum’s harbour, Torre San Gregorio (fig. 4, n. 59) and Veretum’s harbour which were all extremely vital; the harbour of Leuca (fig. 4, n. 71), also allegedly connected to Veretum, is characterised by the size of the sanctuary emporium and Castro (fig. 4, n. 83), and the port of Vaste.

One of the types of docks linked to production facilities is the site of Torre Guaceto (fig. 4, n. 117), which coincides with a small bay protected from the north and east by a headland and three reefs and, a little more to the South, is the mouth of the Canale Reale which guarantees a supply of freshwater. The site of Apani is also connected to the port production plant which is located near the mouth of the Channel Apani and responds to production-related needs: the presence of fresh water required for the phases of the production process proximity to the sea and, additionally the possibility to transport materials towards the major artery Minucia. Another manufacturing facility is near the harbour of San Foca (fig. 4, n. 100), located on a small promontory between two bays known as Le Tare. The settlement became a production plant in the Republican period with probable seasonal characteristics and was dedicated to activities related to fish processing. A similar production plant is documented in S. Giovanni di Vernole (fig. 4, n.
102) in the immediate vicinity of Edificio Idravoro. The underwater surveys have led to the recognition of certain structures probably related to fish processing. A similar function is present in Torre Ovo (fig. 4, n. 16): here the excavations conducted by the Superintendent have documented the existence of offshore structures and environments related to farming and fish processing. Scala di Furno (fig. 4, n. 24), the landing place, already used in prehistoric times, is equipped with the increased functional infrastructure activities of loading and unloading goods, probably, from the productive activities of a nearby villa.

Sites specialised in a specific production, observed in a wide chronological scope, are the settlements of purpurarii (Besnier, 1875) i.e. sites dedicated to the extraction of purple dye secreted by gastropod molluscs such as Murex, Purpura, Buccinum and Mitra. During the investigation, in Punta Pizzo (fig. 4, n. 44), a substantial accumulation of murex was identified and clearly linked to Bronze Age materials. The production of the purple dye for this chronological stage is well documented in the eastern Mediterranean basin in several sites where accumulations of crushed snails are associated with pottery dated from the Middle Minoan II (circa 1900-1800 BC). In several cases it is also evident that the shells have been beaten and reused to reinforce masonry structures. From the ancient Ugarit, the city of the Bronze Age located on the Syrian coast, equivalent to the current "Ras Shamra", from which derives a slab (dating back to the sixteenth century BC) which contains a list of the different quantities of red-purple wool. (Thureau-Dangin, 1934).

Apart from the sites of Coppa Nevigata (the only one documented for the Bronze Age) (Cazzella et al, 2005), and Punta Pizzo, identified during the survey, in Italy the purple dye production data, known today, is only available for much more recent periods. In Taranto on the coast of Mar Piccolo, at the end of 800 AD, an accumulation of shells, locally known as: "Monte dei Cocioli" (Lo Porto, 1971) was still visible which demonstrates the presence of purple dye production plants, seen in historical maps. These remains most likely refer to the purple dye factories of the historical epoch, that several ancient writers and sources (Sid. Apoll., Epist. 2.13.6; Sid. Apoll., Carm. 5.427-430; Tert., Pall. 3.6; Emmod. 452.17) place in this area of the city. The presence of a Taranto purple dye atelier in the fifth century BC is mentioned in Βιβλιοθήκη (review of Byzantine Greek and Byzantine literature) prepared by Patriarch Photios I of Constantinople in 855 (Phot., Bibl. sv Ταραντινϊα βαφαί; Besnier 1875) and the murex figure on some coins of the city minted in the fourth century BC (Eckel, 1794: 395). Augustan Horace mentions how the Romans used dyed purple fabrics in Taranto (Hor., Epist. 2.1.207; Plin., NH 9.136); in the Eastern Part of the Notitia dignitatum et omnium administrationum tam quam civilium Militarium (an anonymous document written and attributed to a period between the end of the fourth century and the beginning of the reign of the Roman Emperor West Valentinian III) cites Calabria as a place of purple dye production. Subsequently, according to Cassiodorus (Cassiod., Var. 8.33.1,2), laboratories moved from Taranto to Otranto, and probably Otranto took over Taranto’s imperial manufacturers, due to the destruction of the Byzantine city in 508.

Other interesting examples, identified in surveys (numbers 22-23), where large quantities of broken murices accumulations were found, represent the evidence of the first phase of purple dye production, i.e. the extraction of purple pigments obtained from the hypobranchial glands of murices.
Fig. 4. Archeological Map. The Salento peninsula within a framework of union IGM with archaeological site position, the hydrography and the reconstruction of ancient swamps and coastal lagoons.
Fig. 5. Key of highlighted sites in the archaeological map.

LIST OF THE ARCHAEOLOGICAL SITES

1. Ancient settlement of Scoglìo del Tonno
2. Taranto
3. Harbour of Taranto
4. Roman farm
5. Area of pottery fragments, wall structure
6. Area of pottery fragments
7. Area of pottery fragments
8. Roman farm of Gandoli
9. Ancient settlement of Satrio
10. Roman farm
11. Structures, vivaria
12. Ancient settlement of Torre Castelluccia, necropolis
13. a-e. Neolithic settlements
14. Structures
15. Ancient settlement of Bagnura
16. Structures, deposit murexes
17. Roman farm
18. Area of pottery fragments
19. Ancient settlement of Punta Prosciutto
20. Ancient settlement di Torre Castiglione
21. Walls
22. Area of pottery fragments, murexes
23. Ancient settlement of Scala di Fumo
24. Walls in the sea
25. Walls, pottery fragments
26. Walls
27. Walls
28. Pottery fragments
29. Pottery fragments
30. Neolithic settlement of Serra Cicora
31. Caves
32. Ancient settlement of Torre dell’Alto
33. Ditch
34. Ancient settlement of Punta Aspide
35. Vasche
36. Tombs
37. Walls
38. Pottery fragments, lithic industry
39. Ancient settlement of Gallipoli
40. Settlement of island of S. Andrea
41. Walls, pottery fragments
42. Cave, pottery fragments
43. Fireplace, lithic industry
44. Ancient settlement of Punta Pizzo, deposit murexes
45. Fireplace, lithic industry
46. Area of pottery fragments of “I Pazzi”
47. Ancient settlement of “I Pazzi”
48. Specchia of “I Pazzi”
49. Pit
50. Wall structure
51. Area of pottery fragments
52. Structure submerged
53. Harbor of Tower San Giovanni, wall structure, tombs, area of pottery fragments
54. Basin
55. Basin
56. Coins, pottery fragments
57. Bisette
58. Lithic industry
59. Landing of San Gregorio
60. Cave of Drago
61. Cave of “Tre Porte - Antro del Bambino”
62. Cave of Giganti
63. Cave Tiri
64. Caves of “Cala dell’Elefante”
65. Ancient settlement of Marri
66. Cave of Diavolo
67. Cave of “Osa”
68. Ancient settlement of Punta Ristola
69. Sanctuary of Punta Ristola
70. Cave Porcinara
71. Landing of Leuca
72. Ancient settlement of Punta Meliso
73. Cave of Mannute
74. Great cave Ciolo or Bocca del Pozzo
75. Cave of Moscerini
76. Cave of Serratura
77. Small cave Ciolo
78. Cave of Prazziche
79. Caves Cipollane
80. Cave Mizra
81. Pottery fragments, lithic industry
82. Area of pottery fragments
83. Ancient settlement of Castro
84. Area of pottery fragments
85. Cave of Zinunus
86. Cave “Romancelli”
87. Pottery fragments
88. Pottery fragments, pole hole
89. Ancient settlement of Porto Badisco
90. Cave of Diavoli
91. Area of pottery fragments
92. Cave of Cervi
93. Ancient settlement of Torre S. Emiliano
94. Ancient settlement of Otranto, harbor
95. Rock settlement
96. Area of pottery fragments
97. Cave of “S. Cristoforo”
98. Ancient settlement of Torre del’Orso
99. Ancient settlement of Rocavecchia
100. Production site
101. Structure, wrought
102. Production site of S. Giovanni
103. Roman jetty of San Cataldo
104. Pottery fragments
105. Area of pottery fragments
106. Area of pottery fragments
107. “Prehistoric material”
108. Pottery fragment
109. Crypt
110. Ancient settlement of Punta Le Terrare
111. Ancient settlement of Brindisi, harbor
112. Production site
113. Area of pottery fragments
114. Production site
115. Islets of Aparri
116. Mouth of the Canale Reale
117. Ancient settlement of Torre Guaceto
118. Structure

LIST OF UNDERWATER DATA

R.S. 1. Area of pottery fragments in the sea
R.S. 2. Area of pottery fragments in the sea
R.S. 3. Wrecks
R.S. 4. Wrecks
R.S. 5. Wrecks
R.S. 6. Sarcoplagi, pottery fragments in the sea
R.S. 7. Area of pottery fragments in the sea
R.S. 8. Area of pottery fragments in the sea
R.S. 9. Wreck
R.S. 10. Nova Sapidaria, underwater finds
R.S. 11. Submerged structures, pottery fragments, buildings
R.S. 12. Amphorae and anchors in the sea
R.S. 13. Pottery fragments in the sea
R.S. 14. Wreck
R.S. 15. Cannone
R.S. 16. Anchor
R.S. 17. Amphorae
R.S. 18. Anchor
R.S. 19. Amphorae
R.S. 20. Amphorae
R.S. 21. Wreck
R.S. 22. Wreck
R.S. 23. Wrecks
R.S. 24. Lamp
R.S. 25. Mooring
R.S. 26. Mooring
R.S. 27. Macina
R.S. 28. Mortarium
R.S. 29. Amphora
R.S. 30. Amphora
R.S. 31. Amphora
R.S. 32. Amphora
R.S. 33. Amphora
R.S. 34. Amphora
R.S. 35. Amphora
R.S. 36. Amphora
R.S. 37. Lamp
R.S. 38. Amphora
R.S. 39. Mortarium
R.S. 40. Pottery fragments, lithic materials and metal
R.S. 41. Amphora
R.S. 42. Amphora
R.S. 43. Amphora
R.S. 44. Amphorae, Pottery fragments
R.S. 45. Mooring
R.S. 46. Wreck
R.S. 47. Amphorae e Pottery fragments
R.S. 48. Amphora
R.S. 49. Anchor, pottery fragments in the sea
R.S. 50. Anchor, amphorae
R.S. 51. Pottery fragments in the sea
R.S. 52. Pottery fragments in the sea
R.S. 53. Anchors, amphorae
R.S. 54. Pottery fragments in the sea, ancora
R.S. 55. Amphorae
R.S. 56. Wreck
R.S. 57. Pottery fragments in the sea
R.S. 58. Wreck, millstone
R.S. 59. Pottery fragments in the sea.
R.S. 60. Area of pottery fragments in the sea
R.S. 61. Anchors pottery fragments in the sea
R.S. 62. Planking ship
R.S. 63. Wreck
R.S. 64. Wreck
R.S. 65. Wreck
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