

Actas del X Congreso Internacional de Estudios Fenicios y Púnicos

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Consell d'Eivissa

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ARQUEOLÒGIC
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Congresso Internazionale di Studi Fenici e Punici
The International Congress of Phoenician and Punic Studies



Con la colaboración de:



AJUNTAMENT DE
SANTA EULÀRIA DES RIU



eivissa



**Consell Insular
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Ajuntament
Sant Joan de Labritja



Ajuntament de
**Sant Josep
de sa Talaia**



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ÍNDICE

	Pág.
Presentación de la directora general de Patrimonio Cultural y Bellas Artes	3
Ángeles Albert de León	
Introducción por parte de los presidentes científicos (español)	4
Benjamí Costa, Joan Ramon	
Introducción por parte de los presidentes científicos (inglés)	7
Benjamí Costa, Joan Ramon	
Palabras del presidente y la consejera de Cultura del Consell d'Eivissa	10
Vicent Marí Torres, Sara Ramon Rosselló	
Presentación del consejero de Turismo, Cultura y Deporte del Gobierno de las Islas Baleares ..	12
Jaume Bauzá Mayol	
 CONFERENCIA INAUGURAL	
Una pagina di storia scritta dall'archeologia	27
Piero Bartoloni	
 FUENTES E HISTORIOGRAFÍA	
Il Nuovo Testamento come fonte per gli studi fenici	43
Giuseppe Minunno	
El patrón literario de la violación masiva en las fundaciones fenicias, griegas y romanas: una perspectiva de género	48
Elena Duce Pastor	
Fortificaciones y poliorcética en el mundo fenicio-púnico: una revisión historiográfica necesaria	57
David Montanero Vico	
Sui rapporti fra Cartagine e Tebe alla metà del iv sec. a.C.: una riflessione a partire da IG VII 2407	70
Maria Intrieri	
Miriam Astruc y la arqueología púnica en los años cincuenta del siglo xx. La correspondencia como objeto de estudio	78
Jorge del Reguero González	
Akra Leuké: un topónimo errante de la Iberia cartaginesa	90
Eduardo Ferrer Albelda, José Miguel Jiménez Delgado	

NUMISMÁTICA

Divinidades femeninas en la moneda púnica de Sicilia: análisis y estudio de su iconografía ... José Miguel Puebla Morón	100
Sobre la datación del pecio de El Sec: nuevos hallazgos monetarios y la última producción del Pintor del Tirso Negro..... Alejandro Garés Molero, Carlos de Juan Fuertes, Sebastià Munar Llabrés, Deborah N. Carlson, Stella Rendina, Xim Gual de Torrella Roca, Raquel Delgado Llata, Gustau Vivar Lombarte, Miguel San Claudio, Franca Cibecchini, Alejandra Macián Fuster, Iván Fumadó Ortega, Gianni Gallelo, José Antonio Moya Montoya, Agustín A. Díez Castillo	108
Una nueva emisión ebusitana de la Segunda Guerra Púnica con los tipos Tanit/Toro Santiago Padrino Fernández, Benjamí Costa Ribas	116
Aproximación a la circulación monetaria en la isla de Formentera durante la época púnica.... Benjamí Costa Ribas, Santiago Padrino Fernández	124
Consideraciones sobre la circulación monetaria púnica en Carteia (San Roque, Cádiz). Antiguos y nuevos testimonios Alicia Arévalo González, Ana Rita García Cobeña	140
Las monedas del grupo «Caballo y Palma» en el paleoestuario del río Guadalquivir Francisco Jordi Páez	152
Las monedas de los grupos Jinete con clámide, caballo pastando y racimo de uvas en la fértil campiña bañada por el río Guadamar Francisco Jordi Páez	161

RELIGIÓN E ICONOGRAFÍA

The Stele and the Sacred Grottos: Overview on the Coastal Rupestrian Monuments in Adloun and Kharayeb (Lebanon)..... Karim Fadlallah, Wissam Khalil	169
Le nouveau Cippe-Trône d'Astarté du Temple de Milk'ashtart à Oumm el-Amed. Eléments de réflexion iconographique Hassan Ramez Badawi	176
A propósito del sarcófago de Ahiram de Biblos. Las imágenes femeninas con las manos en los pechos..... José Luis Escacena Carrasco, Álvaro Gómez Peña	185
La hibridación de las religiones fenicia, egipcia y griega en Creta Judith Muñoz-Sogas	195
Sugli dèi titolari dei templi a Mozia Paolo Xella	203
Bruciaprofumi a testa femminile dalla Sicilia. Alcune riflessioni a partire da un esemplare inedito..... Nicola Chiarenza	209
El templo del siglo IV a. C. de Utica. Algunos datos sobre las técnicas constructivas..... Eduardo Ferrer Albelda, José Luis López Castro, Imed Ben Jerbania, Whalid Khalfalli, Bartolomé Mora Serrano, Faouzzi Abidi, Victoria Peña Romo, Ahmed Ferjaoui	219

The Encyclopaedic Dictionary of Phoenician Culture: Deities & Mythical Characters (Vol. II.1)	226
Paolo Xella, Herbert Niehr, José Ángel Zamora López	
Posibles representaciones de Nergal en el ámbito fenicio-púnico	231
M. ^a Cruz Marín Ceballos	
Evidències rituals de probable origen fenici a la residència fortificada de la primera edat del ferro de Sant Jaume d'Alcanar (Montsià, Catalunya)	245
Mariona Arnó Otín, David Garcia i Rubert	
Abriendo el apetito: instrumentos para el ritual de la apertura de la boca en el mundo fenicio-púnico	256
Álvaro Gómez Peña, Luis Miguel Carranza Peco	
Lugares de culto, divinidades y vida religiosa en el Marruecos púnico y mauretano	268
Mohamed El Mhassani	
El betilo púnico de Na Galera (Mallorca) y sus paralelos	276
Ramón Francisco Martín Gordon	
Las canalizaciones rituales del santuario púnico-ebusitano del islote de Na Galera (Mallorca) ...	285
Ramón Francisco Martín Gordon	
Per què va esdevenir la cova des Culleram un santuari a època púnica?	292
Ricard Marlasca Martín, Josep M ^a . López Garí	
Can Ribes II (aeropuerto de Ibiza). Un edificio religioso en el medio rural ebusitano	302
Vicente Marcos Sánchez Sánchez-Moreno, Lorenzo Galindo San José, Begoña Serrano Arnáez, Jorge del Reguero González	
Ritos fundacionales púnicos: una aproximación osteoarqueológica a partir de los restos faunísticos de Can Jaume Arabí de Dalt (Ibiza, Islas Baleares)	311
Edgard Camarós, Ana Corraliza, Elise Marlière, Josep Torres Costa	
Un espacio de culto en el asentamiento fenicio de La Fonteta (Guardamar del Segura, Alicante) ...	319
Alberto J. Lorrio Alvarado, Ester López Rosendo, Mariano Torrez Ortiz	
Moinho do Pitas / Moinho da Moeda (Mafra, Portugal). A singular enclosure on the Oestrimnides route?	333
Ana Sofia Antunes, José Pedro Vintém, Tiago Pereira, Vanessa Filipe	
EPIGRAFÍA	
Per un corpus dei marchi di cava punici e neopunici nell'edilizia della Tunisia. Aggiornamenti	342
Francesco Tomasello, Mounir Fantar, Rossana De Simone, Carla Del Vais, Faouzi Ghazzi, Gilberto Montali	
Inscriptions inside a hypogeum located in a suburb of Tyre	353
Hiroschi Maeno	
ARQUITECTURA Y URBANISMO	
Introduction to Syrian archaeological work in Amrith (Syria)	365
Michel Al-Maqdissi, Eva Ishaq	

La pervivencia púnica de la arquitectura en Carthago Nova	377
Irene Caracuel Vera	
El área urbana fenicio-púnica de Utica. Nuevos resultados	385
Imed Ben Jerbania, José Luis López Castro, Susana Carpintero Lozano, Kaouther Jendoubi, Jesús Jacinto González, Amparo Sánchez Moreno, Ahmed Ferjaoui	
Una propuesta de interpretación del edificio fenicio de época arcaica de Utica	394
José Luis López Castro, Imed Ben Jerbania, Alfredo Mederos Martín, Laura Moya Cobos, Luis Alberto Ruiz Cabrero, Enrique Gil Orduña, Ahmed Ferjaoui	
Gli scavi dell'Università degli Studi di Milano nel complesso fortificato del Monte Zara-Is Obias, (Monastir-SU)	404
Federica Chiesa, Matteo Bormetti, Elena Marazzi, Mattia Maturo	
Il "Tempio a pianta di tipo semitico": appunti di metrologia a Tharros	410
Giulia Congiu	
Un santuario fenicio e punico sull'Acropoli di Pani Loriga	418
Giovanna Pietra, Vincenzo Nubile, Giulio Alberto Arca, Tiziana Matta, Roberta Pinna, Valentina Puddu, Francesco Cini, Ludovico Giannini, Lorenzo Cecchini, Andrea Violetti	
Una contribución a la definición del espacio extraurbano y de su arquitectura en la ciudad púnica de Ibosum (Eivissa). Una lectura a partir de las excavaciones arqueológicas de Joan Planells 3	427
Glenda Graziani Echávarri, Marco Aurelio Esquembre Bebiá, Bernia Sanz Kite, Jorge Hernández Egea, Adrià Esquembre Sellés	
Resultados de la intervención arqueológica en el barrio de Sa Penya (Eivissa): nuevas aportaciones al conocimiento de la ciudad púnica	438
Rosa Gurrea Barricarte, Angeles Martín Parrilla, Andrea Torres Ferrer	
Sant Jaume d'Alcanar (Catalunya): una mirada als aspectes constructius i de planificació des de l'òptica fenícia	449
Marta Mateu, David Garcia i Rubert, Carme Saorin	
La influència cartaginesa sobre els sistemes defensius urbans del nord-est peninsular a finals del segle III aC	459
David Montanero Vico, David Asensio Vilaró, Jaume Noguera Guillén, Ramon Álvarez Arza, Rafel Jornet Niella, Pau Menéndez Molist, Jordi Morer de Llorens, Judith Muñoz Sogas	
Viejas piedras, nuevas perspectivas: avances sobre un monumento de tradición púnica en Cástulo	472
Jesús Robles Moreno, Francisco Arias de Haro	
Nuevos datos sobre <i>Gadir</i> en época fenicia arcaica. Avance al estudio del sector periurbano de c/ Sagasta e/ Callejón del Tinte	480
Ana María Niveau-de-Villedary y Mariñas, Marcos A. Martelo Fernández, Carolina Pérez-Infantes, Natalia López-Sánchez, Pablo Sicre-González	
Instalaciones portuarias púnico-cartaginesas de <i>Gadir</i>	495
Juan Miguel Pajuelo Sáez, Ana María Niveau-de-Villedary y Mariñas, Francisco Javier Ramírez Muñoz, Pablo Sicre-González	
A Hellenistic Temple at Tel Dor	507
S. Rebecca Martin, Ilan Sharon	

TERRITORIO Y TOPOGRAFÍA

Mobility as a means for Sustainability in the Phoenician Coast during the Iron Age II - using the example of Khirbet es-Suwweida	520
Meir Edrey, Bärbel Morstadt	
Una aproximación desde la arqueología del paisaje a la batalla del río Bagrahas (240 a. C.)...	526
Carlos Díaz-Sánchez	
Arqueologia de les xarxes de vigilància marítima de l'Eivissa tardo-púnica	534
Neus Anton Espí, José Luis Martínez Boix, Pascual Perdigüero Asensi, Patricia Rosell Garrido, Feliciano Sala Sellés	
Una atalaya marítima de la segunda guerra púnica en la Punta de Moraira o Cap d'Or (Teulada, Alacant)	545
Rubén Vidal Bertomeu, David Arazola Soler, Felip Poquet Domenech, Neus Anton Espí, José Luis Martínez Boix, Pascual Perdigüero Asensi, Patricia Rosell Garrido, Feliciano Sala Sellés	
Arquitectura monumental de tradición púnica y su territorio. Nuevas investigaciones en el sur de la Contestania (Bajo Segura, Alicante)	556
Arturo García-López, Fernando Prados Martínez	

HÁBITAT Y VIDA COTIDIANA

El siglo VI a. C. en la ciudad fenicio-púnica de El Cerro del Castillo, Chiclana (Cádiz, España).	566
Paloma Bueno Serrano	
Archeologia della produzione a Tharros: dati dai nuovi scavi dell'Università di Bologna per la ricostruzione della società punica	572
Anna Chiara Fariselli	
Los contextos estratigráficos y materiales de época púnica de Joan Planells 3 (Eivissa)	580
Glenda Grazziani Echávarri, Marco Aurelio Esquembre Bebiá, Jorge Hernández Egea, Bernia Sanz Kite, Adrià Esquembre Sellés	
Creer y aprender jugando. Los juguetes y el juego en la necrópolis del Puig des Molins (Ibiza) ..	592
Aurora Rivera-Hernández	
Les estructures de combustió de l'assentament de la primera edat del ferro de Sant Jaume d'Alcanar (Montsià, Catalunya): indígenes o fenícies?	606
Carme Saorin	

ECONOMÍA Y COMERCIO

What Came First: The Phoenician or the Egg?	614
Alfie Garland, Tamar Hodos	
Commercio di vino fra Campania e Sardegna nell'VIII e nel VII sec. a.C.	623
Massimo Botto	
Comunitats mixtes a la Cessetania. Indicadors de la presència púnico-ebussitana al port comercial de la Cella (Salou, Tarragona)	636
Ivan Cots Serret, Jordi Diloli Fons, Samuel Sardà Seuma, Jordi Vilà Llorach	

Pesca y marisqueo en época fenicia arcaica: recientes evidencias arqueológicas en Gadir	646
José Manuel Vargas Girón, Ana María Niveau-de-Villedary y Mariñas, Ricard Marlasca Martín, Juan Jesús Cantillo Duarte, Marcos Antonio Martelo Fernández	
La explotación ganadera como producto de intercambio en los circuitos comerciales mediterráneos durante la primera Edad del Hierro: el curso inferior del Ebro	656
Marc Prades Painous, Ivan Cots Serret, Jordi Diloli Fons, Ramon Ferré Anguix, Marc Fontanet Fontanet, Diana Álvarez Abrio	
Punic amphorae in the latin area: An overview	664
Danilo De Dominicis	
Punic amphorae in the latin territory: The case of Ciampino, Rome	669
Danilo De Dominicis, Agnese Livia Fischetti	
Les restes de fauna del jaciment de la primera edat del ferro de la Cogula (Uldecona, Catalunya): caracterització del conjunt i tendència de la gestió dels recursos animals al complex Sant Jaume	677
Laia Font Valentín	
Contatti e commerci tra il Mediterraneo e la piana Tiberina. Unguentari e gioielli in vetro.....	687
policromo dalla necropoli di Eretum Cecilia Guastella	
Le anfore commerciali puniche di San Sperate	694
Salvatore Ladinetti	
Ergasteria Project. Archaeological and experimental analysis of the Iron Age amphora production in the southwest of Iberia during the 1st millennium BC	700
Antonio M. Sáez Romero, Ricardo Belizón Aragón, Penélope I. Martínez de los Reyes, Francisco José Blanco Arcos, Eduardo Ferrer Albelda, M. ^a Reyes López Jurado, Carmen Ramírez Cañas, Juan del Caño Cobo, Juan Jesús Padilla Fernández, José Ángel Zamora López, Pedro Albuquerque, Francisco José García Fernández, Max Luaces, Violeta Moreno Megías, Leandro Fantuzzi	
ARQUEOMETRÍA	
Primera aproximació a l'estudi arqueomètric comparatiu entre les produccions ceràmiques fenícies i les primeres produccions ibèriques (ss. VIII a v aC) al curs baix del riu Ebre i terres dels voltants	715
Tania Freixas Roig, Eva Miguel Gascón, David Garcia i Rubert	
Una aproximación a la vegetación de la bahía de Málaga durante el I milenio a. C. a partir de los análisis antracológicos de varios yacimientos fenicios	723
María Oliva Rodríguez-Ariza, Paloma Muriel López	
Uomo e ambiente nell'area della necropoli fenicia e punica occidentale di Nora (Cagliari, Sardegna)	732
Jacopo Bonetto, Alessandro Mazzariol, Simone Dilaria, Eliana Bridi, Filippo Carraro	
Estacionalidad de muerte en los équidos de Casas del Turuñuelo. Una aproximación desde la cementocronología, resultados preliminares	741
M. ^a Pilar Iborra Eres, Julio Company Rodríguez, Rafael Martínez Valle, Silvia Albizuri, Esther Rodríguez González, Mario Gutiérrez Rodríguez, Jaime Lira Garrido, Joaquín Jiménez Frago, María Martín Cuervo, Rafael M. Martínez Sánchez, Ana Isabel Mayoral, Ari Nieto Espinet, Silvia Valenzuela, Sebastián Celestino Pérez	
Combustible y ofrendas en la necrópolis fenicia de Gadir: estudio de los restos vegetales	752
Yolanda Carrión Marco, Guillem Pérez-Jordà, Ana María Niveau-de-Villedary Mariñas	

Hacia una caracterización arqueométrica de las producciones cerámicas gaditanas en el periodo tardopúnico: análisis petrográficos y químicos de cerámicas comunes y vajilla de mesa	763
Violeta Moreno Megías, Leandro Fantuzzi, Antonio Sáez Romero	
Phoenician Metallurgy in Archaic Gadir. New Data from C/Sagasta and C/Callejón del Tinte ..	775
Charles Bashore Acero, Ana María Niveau-de-Villedary y Mariñas, Marcos A. Martelo Fernández, Carolina Pérez-Infantes, Natalia López-Sánchez, Pablo Sicre-González	
Explotación de los recursos vegetales en un contexto arqueológico rural insular: el pozo púnico del <i>torrent</i> de s'Olivera (Ibiza, España)	785
Jérôme Ros, Josep Torres Costa, Élise Marlière, Noé Moroy, Amandine Cartier, Clémence Pagnoux	
PROYECTOS DE INVESTIGACIÓN	
El Primer Hierro en la península ibérica y sus relaciones con la elaboración de las estelas del suroeste	798
Ralph Araque González, Pablo Paniego Díaz, Pedro Baptista	
El estudio de los restos de madera encontrados en el pecio fenicio de Xlendi. Observaciones y conclusiones preliminares	810
Alberto Bravo-Morata Rodríguez, Timmy Gambin, Alba Ferreira Domínguez	
Proyecto CrudUS: estudio, intervención y recuperación de la construcción con tierra en la Baja Andalucía	820
Francisco José García Fernández, Oliva Rodríguez Gutiérrez	
Nuovi scavi al <i>tofet</i> di Sulci (S. Antioco, Sardegna, Italia): notizie preliminari dalle Campagne 2018-2019-2021	833
Valentina Melchiorri, Thomas Schäfer, Paolo Xella, Matthias Lang, Ilaria Montis, M. Antonietta Demurtas	
Indagini al <i>tofet</i> di Sulci (S. Antioco, Sardegna), Anni 2018-2022. Primi dati dai manufatti lapidei	844
Valentina Melchiorri, Paolo Xella, Giuseppe Minunno	
Phoenicians in the Tagus Estuary - new excavations on the settlement of Quinta do Almaraz (Almada, Portugal)	853
Ana Olaio, Telmo António, João Santos, Jorge Almeida	
Spatial analysis of the Necropolis of Puig des Molins (Eivissa) using GIS (Geographic Information System)	864
Ana Mezquida Orti, Maria Bofill Martínez, David Barreda Cardona, Jordi H. Fernández Gómez, Benjamí Costa Ribas	
Phoenician-Punic people and items in the Ancient Aegean. First results of the GREPURE Project	876
Antonio M. Sáez Romero, Max Luaces, Horacio González, Ioulia Tzonou, Ricardo Belizón Aragón, Leandro Fantuzzi, Penélope I. Martínez, María de los Reyes López Jurado, Francisco José Blanco Arcos, Carmen Ramírez Cañas, Juan del Caño Cobo, Ramón Díaz de Mayorga, George Koutsouflakis, Konstantinos Filis, Giorgos Bourogiannis, Beatrice Arra, Aroa Heredia, Bárbara Polo	
Activities by Phoenician and Punic Study Group in Japan	892
Ikuko Sato	

MUNDO FUNERARIO

Indicatori di genere e segni di rango nella tomba 119/2004 della necropoli di Panormos.....	899
Francesca Spatafora	
L'incinerazione secondaria nella necropoli fenicia di Nora (CA, Sardegna): note preliminari...	908
Alessandro Mazzariol, Melania Gigante	
The Tophet of Bithia (Sardinia). New data from the 2021-2022 excavations of the Ca' Foscari University of Venice	921
Stefano Floris, Alessandra Gilibert	
Tra Cartagine e Roma: fenomeni di interazione culturale in Sardegna dalla necropoli di Mitza de Siddi di Ortacesus (Sud Sardegna).....	931
Gianna De Luca	
Piccole storie dimenticate: i bambini della necropoli di Villamar (Sardegna)	943
Elisa Pompianu	
La necrópolis fenicia del Cortijo de Acebedo en Mijas (Málaga, España). Primeras investigaciones.....	954
Juan J. de la Rubia de Gracia, Desirée Piñero Moreno, Victoria Peña Romo	
Tombe fenicie e puniche di Sardegna: manca qualcuno all'appello?.....	966
Paola Cavaliere, Rubens D'Oriano, Giuseppe Pisanu	
Bioarchaeological analysis of the human skeletal and dental remains from the Phoenician and Punic necropolis of Nora (Sardinia, Italy): Preliminary notes.....	974
Melania Gigante, Noemi Ruberti, Alessandro Mazzariol	
La Tomba 11 PGM della necropoli punica di Sulky.....	985
Giovanna Pietra, Enrico Dirminti	
Cagliari, nuove evidenze sulla necropoli punica di Tuvixeddu.....	996
Giovanna Pietra, Pietro Francesco Serreli, Cristina Antigoni	
Un santuario fenicio e punico sull'Acropoli di Pani Loriga	1006
Giovanna Pietra, Vincenzo Nubile, Giulio Alberto Arca, Tiziana Matta, Roberta Pinna, Valentina Puddu, Francesco Cini, Ludovico Giannini, Lorenzo Cecchini, Andrea Violetti	
Las tumbas 21 a 28 de La Joya (Huelva, Andalucía). Resultados de la excavación de 2019.....	1014
Alejandra Echevarría Sánchez, Dirce Marzoli, José Manuel Beltrán Pinzón, Diego González Batanero, Juan Carlos Vera Rodríguez	
El paisaje funerario de la necrópolis púnica de Puig des Molins (Eivissa) a partir de la información aportada por las intervenciones de 2006 y 2007	1024
Marco Aurelio Esquembre Bebiá, José Ramón Ortega Pérez, Bernia Sanz Kite, David González Ferrer, Adrià Esquembre Sellés	
El hipogeo púnico de Can Pep des Ferrer	1032
Glenda Graziani Echávarri, Juan José Marí Casanova, Almudena García-Rubio Ruiz, Nicholas Márquez-Grant	
La necrópolis tardopúnica d'Es Poc Foc (Santa Eulària des Riu, Eivissa). Noves aportacions al ritual funerari del S. II. a.n.e.	1045
Josep M. ^a López Garí, Ricard Marlasca Martín, Maria J. Escandell Torres, Eulària Subirà de Galdàcan	

CULTURA MATERIAL

Modellazione 3D e beni culturali: su alcuni Altari “a corna” da Tharros (Cabras, Or)	1055
Raimondo Secci, Daniele Frisoni	
Le anfore “Tipo Nurague Sirai”. Un caso di studio emblematico della cultura materiale del Ferro II della Sardegna sud-occidentale	1066
Carla Perra	
Tradizioni di produzione ceramica fra mondo nuragico e fenicio - il caso di S'Urachi (San Vero Milis, Sardegna)	1077
Anna Soifer, Emanuele Madrigali, Peter van Dommelen	
Su alcuni manufatti noti come “plettri o pettini votivi” rinvenuti nel Mediterraneo centro-occidentale	1089
Melania Marano	
Primeres produccions a torn autòctones a partir de la influència fenícia (s. VII aC): una mostra de l'Alt de Benimaquia (Dénia, Alacant)	1098
Antoni Josep Vergel Dos Santos	
La producción textil en el asentamiento fenicio de La Fonteta (Guardamar del Segura, Alicante)	1111
Ricardo E. Basso Rial, Alberto J. Lorrio Alvarado, Ester López Rosendo, Mariano Torrez Ortiz	
Producción, intercambio y consumo de cerámica a mano en la colonia fenicia de La Fonteta (Guardamar del Segura, Alicante)	1120
Irene Vinader Antón	
Surface Pressure: nuevos datos sobre la secuencia protohistórica del yacimiento del Cerro del Berrueco (Medina Sidonia, Cádiz) a través de la cerámica	1131
M. ^a Reyes López Jurado, Antonio M. Sáez Romero, Leandro Fantuzzi, Ricardo Belizón Aragón, Violeta Moreno Megías	
Engalanados para oficiar el banquete. Indumentaria, cosméticos, tatuajes y adornos personales en los festines del horizonte orientalizante peninsular (s. IX-VI a. C.)	1143
Samuel Sardà Seuma	
Las ánforas púnicas T-11210 y T-12110 provenientes de hallazgos submarinos de Ceuta. Estudio de la circulación regional y distribución mediterránea de las conservas occidentales....	1152
Beatrice Arra	
Cerámicas grises púnico-ebusitanas en la Illeta dels Banyets (El Campello, Alicante)	1162
Enric Verdú Parra	
Un cucharón de tipo chipriota en Murcia	1175
Raimon Graells i Fabregat, Javier Jiménez Ávila	
Estuches portaamuletos hallados en Ibiza	1182
Jordi H. Fernández, Ana Mezquida, Helena Jiménez	
Can Ribes II. Un nuevo centro productor de cerámica púnico-ebusitana localizado en el aeropuerto de Ibiza (Ibiza, España)	1195
Lorenzo Galindo San José, Vicente Marcos Sánchez Sánchez-Moreno, Begoña Serrano Arnáez, Jorge del Reguero González	
Los materiales de la necrópolis de Puig des Molins y de la Cova des Culleram depositados en la colección Flaquer	1207
Octavio Pons Machado, Montserrat Anglada Fontestad	

Análisis experimental de la técnica decorativa de ataque al ácido con reserva de cera en cascarones de huevo de avestruz procedentes de la necrópolis púnica del Puig des Molins (Ibiza, España) de los siglos IV-V a. C.”	1217
María Luisa Ramos Sáinz	
Consideraciones acerca del antropónimo inscrito en el escarabeo MAEF 2891	1226
Francisca Velázquez Brieve, María J. López-Grande	
Phoenician necklace with beads and three head shaped pendants in sand-core glass: 1. Results of the chemical analysis	1238
Benjamí Costa, Jordi H. Fernández, José Iglesias	
Phoenician necklace with beads and three head shaped pendants in sand-core glass: 2. Description, study and interpretation	1247
José Iglesias, Benjamí Costa, Jordi H. Fernández	
Los <i>pondera</i> cerámicos del Museo Arqueológico de Ibiza y Formentera. Propuesta de ordenación tipológica	1256
Benjamí Costa, Carmen Alfaro	
Phoenician and Punic trade and the diffusion of glass to the Far West: A view from Southern Portugal	1268
Francisco B. Gomes	
Le ultime fasi di Monte Sirai nel Sulcis (Sardegna) nel II-I sec. a.C.	1279
Ernesto A. Insinna	
Importaciones e imitaciones de la cerámica griega en la Bahía de Cádiz a través de los hallazgos en el Cerro del Castillo, Chiclana (Cádiz, España)	1287
Paloma Bueno Serrano, Juan Antonio Martín Ruiz	
Iron Age Mortars in Southern Portugal	1296
Miguel Bernardo	
The Castle of Castro Marim (Algarve, Portugal) in the mid 1st millennium BC: The case study of S.U. [766]	1304
Elisa de Sousa, Miguel Bernardo, Ana Margarida Arruda	
CONTACTOS REGIONALES	
Glocalism vs. Ethnicity. A Case Study of “Phoenician” Seals from Jerusalem	1317
Fabio Porzia	
Anotaciones y correcciones a la cronología del Hierro Tardío en el Levante central	1326
Francisco J. Núñez	
Greek Influence in the Ancient Levant during the Pre-Hellenistic Period	1335
Marianna Castiglione	
Motya in the Aegean trades between 7th-4th century BC. The contribution of Greek transport amphorae	1350
Ilenia Melis	
Elementi di origine orientale in Ogliastro. Il contesto di S’Arcu ‘e is Forros	1361
Maria Giulia Amadasi, Enrico Dirminti, Tatiana Pedrazzi	
Evidències de contactes entre indígenes i fenicis a Formentera	1373
Ricard Marlasca Martín, Josep M. ^a López Garí, Maria J. Escandell Torres	

Les ceràmiques fenícies de petit format de l'assentament de la primera edat del ferro de Sant Jaume d'Alcanar (Montsià, Catalunya).....	1383
Margarita Rodés Sánchez, David Garcia i Rubert	

Tradición púnica en el mundo ibérico de la Alta Andalucía: nuevos elementos en el Cerro de la Cruz (Almedinilla, Córdoba).....	1395
Fernando Quesada Sanz, Jesús Robles Moreno, Pablo Harding Vera	

Vasos de alabastro de las necrópolis fenicias de Vélez-Málaga en la Colección Bonsor	1409
Javier Jiménez Ávila, Alfredo Mederos Martín, Ana Gómez Díaz	

Roma y las comunidades fenicio-púnicas durante la conquista del Mediterráneo Occidental. Apuntes para un estudio	1422
Cristina de la Escosura Balbás	

Los más invencibles y belicosos de todos los hombres. Un estado de la cuestión sobre la participación de mercenarios griegos del lado de Cartago	1431
Víctor Vicente Esteve	

ANTROPOLOGÍA, ESTUDIOS DE ADN E ISÓTOPOS ESTABLES

Archeogenetica, bioarcheologia e antropologia fisica nelle necropoli di Tharros (Cabras-OR) come indicatori storici	1437
Anna Chiara Fariselli, Raimondo Secci, Donata Luiselli, Elisabetta Cilli, Francesco Fontani, Francesca Meli, Cecilia Tramati, Salvatrice Vizzini, Carla Del Vais,	

Estudio antropológico de las incineraciones fenicias de la calle Mirador/Santo Domingo (Cádiz).....	1448
Milagros Macías López, Ana M. ^a Niveau-de-Villedary y Mariñas, Pablo Sicre-González, Natalia López-Sánchez, Carolina Pérez-Infantes	

La necrópolis púnica de Villamar (Cerdeña): análisis bioarqueológico de una muestra heterogénea de tumbas.....	1460
Clizia Murgia, Elisa Pompianu, Maria Eulalia Subirà	

I Cartaginesi a Villamar. Per la ricostruzione di una popolazione rurale nella Sardegna punica	1470
Elisa Pompianu, Clizia Murgia, Stefano Ricci	

Enterramientos de cremación del siglo III a. C. en Sa Galera (Mallorca)	1481
Francisca Cardona López, Nicholas Márquez Grant	

Some remarks about the human remains found in the Iron Age settlement of Quinta do Almaraz (Almada, Portugal)	1485
Francisco Curate, Ana Olaio	

ARQUEOLOGÍA SUBMARINA Y NAVEGACIÓN

Revisión de los materiales subacuáticos púnicos recuperados en el litoral de Menorca	1491
Octavio Pons Machado, Xavier Aguelo Mas	

Evidencias arqueológicas de una navegación en época fenicia-púnica en aguas de las Islas Pitiusas	1505
Marcus Heinrich Hermanns, Sebastià Munar Llabrés	

Representaciones de la navegación: grabado de un barco púnico en un aljibe en el aeropuerto de Ibiza	1517
Ángel José Villa González	

Al borde del cambio: el pecio púnico-ebusitano de Punta Prima (Formentera, España).....	1525
Enrique Aragón Núñez, Małgorzata Mileszczyk, Javier Rodríguez Pandozi, «Andrea Sanz Catalá, Joanna Staniszewska	

Arqueologia subaquàtica a la costa de Dénia. Emprems de comerç dels àmbits fenici i púnic.....	1534
Josep A. Gisbert Santonja	

A Fenestrated Axe in the Edges of the Mediterranean. A Preliminary Study of Bronzes from L'Aiguadolç (Dénia, Spain).....	1549
Josep A. Gisbert Santonja, Carlos Gómez-Bellard, Javier Jiménez Ávila	

Mazarrón 2. La gestión de un proyecto integral de investigación, extracción y conservación...	1565
Milagros Buendía Ortuño, Rocío Castillo Belinchón, Soledad Pérez Mateo, Rafael Sabio González	

Tráfico marítimo y arqueología portuaria en época púnica en la bahía de Algeciras (Cádiz, España)	1575
Felipe Cerezo Andreo, Alicia Arévalo González, Soledad Solana Rubio, Raúl González Gallero	

Finds from Sancti Petri and its surroundings. A contribution to the study of the sanctuary of Melqart/Hercules at Gadir/Gades.....	1583
Carmen Ramírez Cañas, Antonio M. Sáez Romero, Milagros Alzaga García, Aurora Higuera-Milena Castellano, Eduardo Ferrer Albelda, Lourdes Márquez Carmona, Josefa Martí Solano	

Boat depictions in the pottery of Santa Olaia within the lower Mondego basin (Portugal).....	1596
Sara Almeida, Raquel Vilaça, Isabel Pereira	

PROYECTOS DE MUSEALIZACIÓN Y DIVULGACIÓN

Il Parco Storico Archeologico di Sant'Antioco. Verso un sistema integrato per la valorizzazione del patrimonio urbano.....	1606
Sara Muscuso, Rosana Pla Orquín	

La exposición virtual del proyecto euroregional «InterMedit, puente entre culturas»: una ventana a las redes de intercambio entre fenicios, griegos e indígenas en el Mediterráneo antiguo.....	1617
María Bofill, Marta Santos, Lionel Izac, Igor Bogdanovic, Benjamí Costa, Jordi H. Fernández, Elisa Hernández, Sophie Izac, Helena Jiménez, Ana Mezquida, Joaquim Tremoleda, Oriol Vicente	

La Ruta de los Fenicios: Guardamar del Segura-Crevillent. Fenicios e indígenas en el Bajo Segura y la Sierra de Crevillent.....	1626
Alberto J. Llorio Alvarado, Fernando Prados Martínez, Mariano Torrez Ortiz, Ester López Rosendo, José Gambín Lorenzo, Francisco Javier Parres Moreno, Antonio García Menárguez, Julio Trelis Martí	

Nuevas tecnologías para el estudio y difusión de estructuras fenicias. El caso de la muralla fenicia del Cerro del Castillo (Chiclana de la Frontera, Cádiz).....	1640
Pablo Sicre-González, Paloma Bueno Serrano	

Puesta en valor y divulgación de la ciudad tartésica de Tejada la Vieja (Escacena del Campo, Huelva)	1649
Clara Toscano-Pérez, Juan M. Campos Carrasco	

Tras la huella de los fenicios. Actividades de divulgación y difusión científica del grupo de investigación «Phoenix Mediterranea».....	1657
Ana María Niveau-de-Villedary y Mariñas, Carolina Pérez-Infantes, Natalia López-Sánchez, Pablo Sicre-González, Juan Ignacio Gómez González, Juan Ignacio Vallejo Sánchez, Paloma Bueno Serrano y M. ^a Pilar Molina Torres	

Una nueva mirada, con perspectiva de género, a las salas de arqueología fenicia y púnica del MAN	1670
Alba Comino, María Elena Sánchez Moral, Lourdes Prados Torreira	

The Ancient Mediterranean Digital Project: An open-access database on ancient ships	1679
Tzveta Manolova	

SESIÓN DOCTORAL

Using the script and the language of Other: The case study of Cyprus. Preliminary remarks ..	1686
Miglena Dimova	

Il filo che lega le isole: l'attività tessile a Mozia e nella Sicilia Occidentale	1693
Nina Ferrante	

Proceso de ocupación y formación del puerto protohistórico de Onoba	1707
Alejandro Cano Pérez	

L'Alt de Benimaquia (Dénia, Alacant) i la influència fenícia en la comarca de la Marina Alta (s. VII-VI aC)	1715
Antoni Josep Vergel Dos Santos	

Aproximación metodológica al estudio del paisaje arqueológico, cultural y marítimo: la bahía de Cádiz en época fenicio-púnica	1724
Natalia López-Sánchez	

Arquitectura protohistórica del suroeste de la península ibérica: una propuesta metodológica a partir del análisis del yacimiento de Casas del Turuñuelo (Guareña, Badajoz)	1734
Luis Miguel Carranza Peco	

Desde el Mediterráneo al Guadiana Medio. Estudio preliminar de las rutas comerciales interiores de la península ibérica en época protohistórica (VII-IV a. n. e.)	1745
Guiomar Pulido-González	

Artillería púnica y poliorcética defensiva	1755
Víctor José Serrano López	

πρότερον μὲν οὖν Φοίνικες μόνοι τὴν ἐμπορίαν (Str., III 5, 11): la representación de los fenicios en la historiografía europea del siglo XIX y el viaje de Bonsor a las Sorlingas	1764
José Ramón Herrera Delgado	

Funerary Landscape among Phoenicians: A proposal for 3D reconstruction	1770
Sara Lancia	

<i>In memoriam</i>	1775
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Comité del Congreso	1777
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Participantes	1779
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The Tophet of Bithia (Sardinia). New data from the 2021-2022 excavations of the Ca' Foscari University of Venice

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Resumen: La primera investigación arqueológica sobre el islote de Su Cardolinu (Chia, Domus de Maria - Cerdeña), realizada en 1964, demostró que el sitio fue elegido, a finales del siglo VII a.C., como emplazamiento de un santuario interpretado como el “Tophet” del asentamiento fenicio de Bithia. Desde 1964, la zona sagrada de Su Cardolinu no ha sido objeto de proyectos de investigación específicos hasta 2021, cuando la Universidad Ca' Foscari de Venecia puso en marcha un nuevo proyecto de investigación arqueológica. Como parte de las dos primeras campañas de investigación, se llevó a cabo una prospección sistemática del yacimiento, un ensayo de excavación estratigráfica en la zona del “campo de urnas”, que condujo al descubrimiento de varios depósitos de urnas, y también se inició el estudio de la zona de la “capilla”.

Palabras clave: Tofet, Bithia, Cerdeña, Arqueología fenicia y púnica, Survey, Excavación estratigráfica.

Abstract: The first archaeological research in Su Cardolinu's islet (Chia, Domus de Maria – Sardinia), conducted in 1964, has shown that the islet was chosen, at the end of the 7th century BC, as the site for the installation of a sanctuary interpreted as the “Tophet” of the Phoenician settlement of Bithia. Since 1964, the sacred area of Su Cardolinu has not been the subject of specific research projects until 2021, when the Ca' Foscari University of Venice launched a new archaeological research project. In the framework of the first two research campaigns, a systematic survey of the site and a stratigraphic excavation essay in the area of the “urnfield”, leading to the discovery of several depositions in urns, were carried out. The study of the area of the “shrine” was also started.

Keywords: Tophet, Bithia, Sardinia, Phoenician and Punic Archaeology, Survey, Stratigraphic excavation.

Introduction¹

In 2021, the Ca' Foscari University of Venice, Italy begun the full archaeological exploration of Su Cardolinu, a small islet near the ancient Phoenician city of Bithia, South Sardinia, where previous

¹ This report is the result of the joint efforts of both authors, who contributed to the research conceptualization, methodology and preliminary conclusions equally. Stefano Floris is submitting and corresponding author, and material author of the article's core draft (specifically, §§2 and 3.2). Alessandra Gilibert is research supervisor and material author of the research framework (specifically, §§1 and 3.1).

sondages had uncovered rests of a sacred area with cinerary urns, presumed to be a “Tophet” sanctuary. This paper presents the preliminary results of the campaigns carried out in October 2021 and September-October 2022 by a team of archaeologists under the scientific direction of Prof. Alessandra Gilibert and the field direction of Dr. Stefano Floris.

The sacred area of Su Cardolinu: a brief history of research

The most ancient traces of the settlement of Bithia date to the Archaic period and, so far, have been found in two areas only (Ciccone, 2001: 35-38), both located at the periphery of the settlement and both connected to the cult of the dead. The first area is the necropolis, located on the beach of Sa Colonia at the western fringe of the main settlement. The necropolis' oldest burials date no earlier than the last quarter of the 7th century BC (Bartoloni, 1996: 59).² The second area is the sacred area of Su Cardolinu, located on the eastern periphery of the residential area of Bithia, on a rocky islet connected to the mainland by a sandy spit. The islet closes the bay of Su Portu to the east, and faces the promontory of Torre Chia, on which a main sanctuary and the acropolis of Bithia once stood³ (Fig. 1).

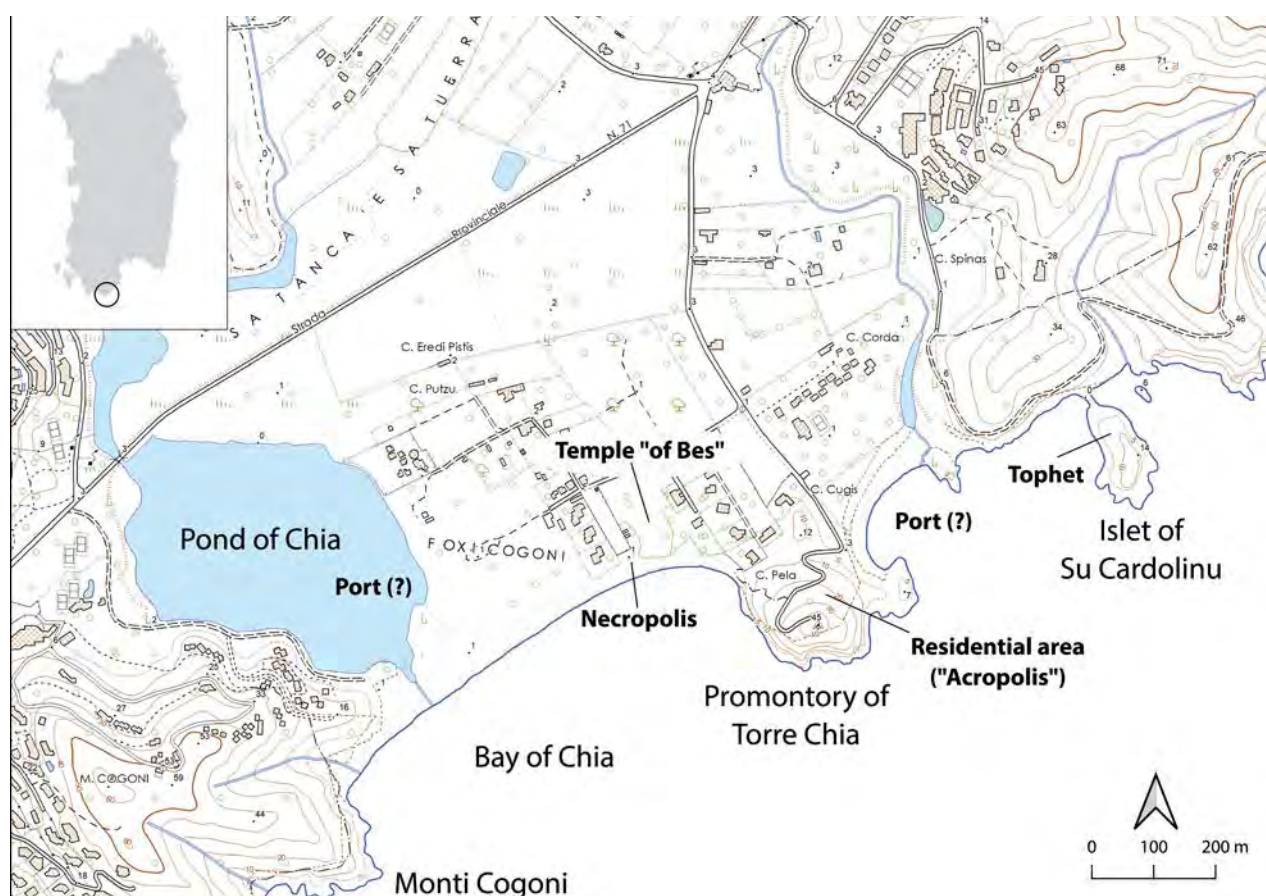


Figure 1. Bithia and its territory. Indication of the main toponymy and, in bold, of the sectors of the city of Bithia (elab. by S. Floris based on DBG, © «Tophet of Bithia» Archaeological Project).

² However, some materials found out of context may indicate that the centre of Bithia and its necropolis were first frequented at an earlier time, perhaps as early as the end of the 8th century BC (Bartoloni, 1996: 29, 38, 50-51; Bassoli et alii, 2013: 292; Minoja y Bassoli, 2014: 14, n. 12; Minoja, Bassoli y Nieddu, 2016: 132-133; Minoja y Bassoli, 2019: 72).

³ For the site of Bithia see, among others, Taramelli, 1933: 288-289; Pesce, 1965; Pesce, 1968; Bartoloni, 1996; Ciccone, 2001; Minoja y Bassoli, 2019. For the results of the excavations in the Hill of Torre Chia, still in progress, see also Bassoli et alii, 2013; Minoja y Bassoli, 2014; Minoja et alii, 2015; Bassoli y Chergia, 2016; Minoja, Bassoli y Nieddu, 2016; Bassoli et alii, 2017.

The islet of Su Cardolinu was first explored archaeologically in 1964, as part of a territorial survey of the Sulcis coast promoted by the archaeological mission of the University of Rome and the Soprintendenza alle Antichità di Cagliari, led by Ferruccio Barreca and Giovanni Garbini (Barreca, 1965; Pesce, 1968: 337-338). At the time, preliminary excavations identified four structures belonging to different periods (Fig. 2). Their dating allowed a first sketchy reconstruction of the history of Su Cardolinu (Barreca, 1965: 145-152). In the Archaic period, the islet was chosen as a seat for a sacred area, accessible by an opening in a wall that divided the islet from the mainland (Barreca, 1965: 146-147, 152, tav. XLV). The oldest identified structure, labeled “Building C” and interpreted as an altar, was a rectangular platform of c. 7 x 6 m, built with rough stones and englobing a natural step in the rock (Fig. 2, C). Building C was preserved at a height of about 30 cm, although Barreca assumed that its original height must have reached at least 80 cm (Barreca, 1965: 148-152, tavv. LXIX-LXXII; Perra, 1998: 157, n. 3). Around it, about 10 urns dated between the 7th and the 6th century BC were found in direct contact with rock or within stone cists.⁴

Barreca also identified a small square construction – Building A –,⁵ interpreted as an *aedicula*⁶ (Fig. 2, A), and another building with two inner spaces – Building B –, interpreted as a shrine (Fig. 2, B) (Barreca, 1965: 147-148, 151).⁷ Based on building techniques, Barreca dated Buildings A and B not earlier than the 4th century BC (Barreca, 1965: 152). The area was still frequented in the Roman Era, as indicated by the traces of restoration of the temenos wall (Barreca, 1965: 152).

Barreca preliminarily proposed to interpret the sacred compound at Su Cardolinu as the “Tophet” of Bithia (Barreca, 1965: 152), but the lack of further fieldwork left this hypothesis unconfirmed.⁸

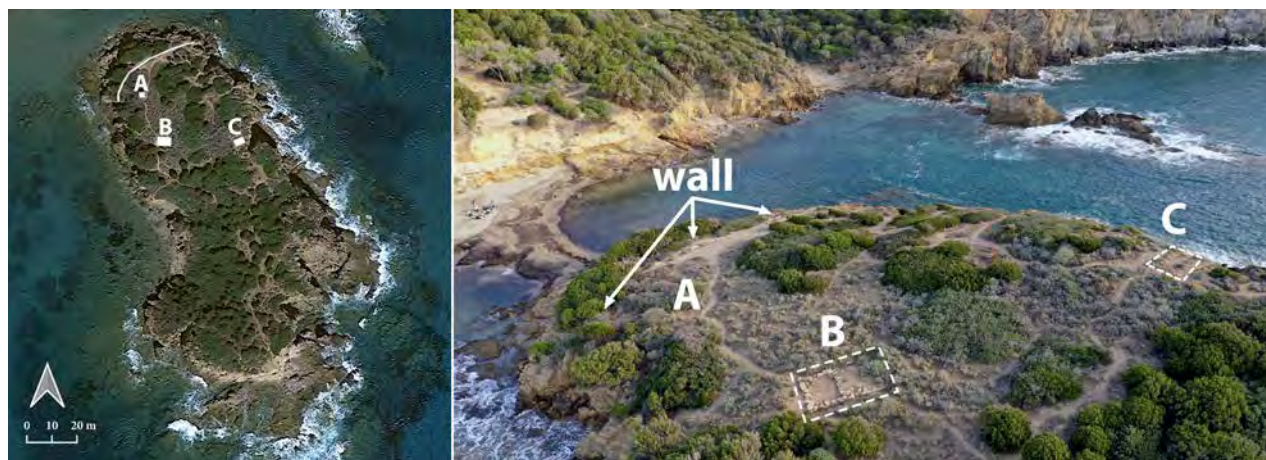


Figure 2. Bithia, Su Cardolinu. The positioning of the structures exposed in 1964 (elab. and photo by S. Floris, © «Tophet of Bithia» Archaeological Project).

⁴ The urns were wheel-made cooking-pots and hand-made vessels (Bartoloni, 1996: 39) and have been dated between the end of the 7th and 6th centuries BC also thanks to the discovery, not far from Building C and one of the urns, of small “oil bottles” (Barreca, 1965: 150-151; Bartoloni, 1996: 39).

⁵ Built on a 3.10 m square foundation of flat stones, Building A is a small square construction (1.70 m square), whose floor and wall base were preserved (0.45 m thick and preserved in height up to 0.25 m) in small polygonal sandstone blocks (Barreca, 1965: 147, 151-152, tav. LXVI; Perra, 1998: 159, n. 4).

⁶ As observed (Bartoloni, 1996: 39-40; Perra, 1998: 159), Building A is similar in size to the aedicula - generally known with the Arabic designation “ma’abed” – brought to light by Gennaro Pesce at Nora, in the sanctuary of Sa Punta ‘e Su Coloru (Pesce, 1952; see also Oggiano, 2005: 1034-1038).

⁷ For Building B, see infra.

⁸ Further discussions of Barreca’s results appeared in works dedicated to Bithia and its territory (Bartoloni, 1996: 38-40; Ciccone, 2001: 36-37; Bassoli et alii, 2013: 289; Cilla, 2015: 274-275) and in a study dedicated to the Phoenician and Punic sacred architecture in Sardinia (Perra, 1998: 157-162).

Ca' Foscari University, Venice at Su Cardolinu

The objectives of the new research project

In 2021, the Ca' Foscari University of Venice started an archeological research project at Su Cardolinu under the scientific direction of Alessandra Gilibert and the field direction of Stefano Floris.

In these early phases, our project pursues four main interconnected aims:

- I. to confirm or falsify the hypothesis of the existence of a “Tophet”-type sanctuary at Su Cardolinu;⁹
- II. to establish upper and lower chronological limits of the occupation of the area;
- III. to assess the maximum spatial extent and inner organisation of the site in relation to the total surface of the islet;
- IV. to explore the chronological and historical development of the site. In particular, to verify the hypothesis of an interruption in the life of the Tophet at the end of the Archaic period – in conjunction with a contraction of the centre of Bithia¹⁰ –, and to clarify the nature of the frequentation of Su Cardolinu in the Punic Period – when Buildings A and B were presumably built and the activity of the Tophet uncertain¹¹ – and Roman Era.

During the first two campaigns, we established a detailed topographic grid, we started collecting archival data and, in the field, we initiated an intensive, three-phases surface survey in parallel with stratigraphic test excavations in two different areas.

The research campaigns of 2021 and 2022

As a first step, we measured ground control points, produced a detailed topographical map, and pinpointed the locations of the four structures exposed in 1964.

Despite decades of vegetation growth and atmospheric processes, the wall and Building B were still easily recognisable, while the remaining structures were and still are less immediately visible.¹² Building A, of which only the basement is preserved (Perra, 1998: 159; Cilla, 2015: 274), is currently hidden by thick vegetation. Finally, Building C is visible, but heavily eroded and easily confused with the emerging rock¹³ (Fig. 2).

So far, our field research foresaw three main actions, aimed at acquiring new data on the sanctuary's chronology and functional organisation.

The first action, still partially ongoing, is the systematic intensive survey of the entire archaeological area, organised on a grid of 5 x 5 m squares and articulated around three phases of

⁹ Ferruccio Barreca's hypothesis has been accepted in the following studies, but the need for further confirmation has often been emphasised: see for example Pesce, 1968: 339-340; Bondi, 1979: 142; Moscati, 1986: 226-228; Ciasca, 2002: 122; Melchiorri, 2016: 272.

¹⁰ Concerning the hypothesis, advanced mainly on the basis of research data from the necropolis and islet of Su Cardolinu, that the centre of Bithia underwent a contraction and maybe even a hiatus between the end of the 5th and the first half of the 4th century BC, see the discussion by Ciccone, 2001: 36-38.

¹¹ See e.g. Bondi, 1979: 142; Moscati, 1986: 226-228; Bartoloni, 1996: 39-40; Guirguis, 2011: 94; Bartoloni, 2017: 125.

¹² In addition to the wall, the only building confidently placed in the survey conducted by the Soprintendenza in 2010 is Building B (Bassoli et alii, 2013: 289).

¹³ Although Building C is incorrectly placed in some archaeological maps of the islet of Su Cardolinu (see e.g. Bartoloni, 1996: fig. 4), its remains had been recognised on the ground by Carla Perra (Perra, 1998: 157, fig. 31, tav. 19-22) and, doubtfully, by Cristiana Cilla (Cilla, 2015: 274-275, tav. V, 1).

observation of the terrain and collection of material. The first survey phase records archaeological data visible before any intervention, the second phase after weeding, and the third phase after scraping the surface with trowels (Fig. 3).

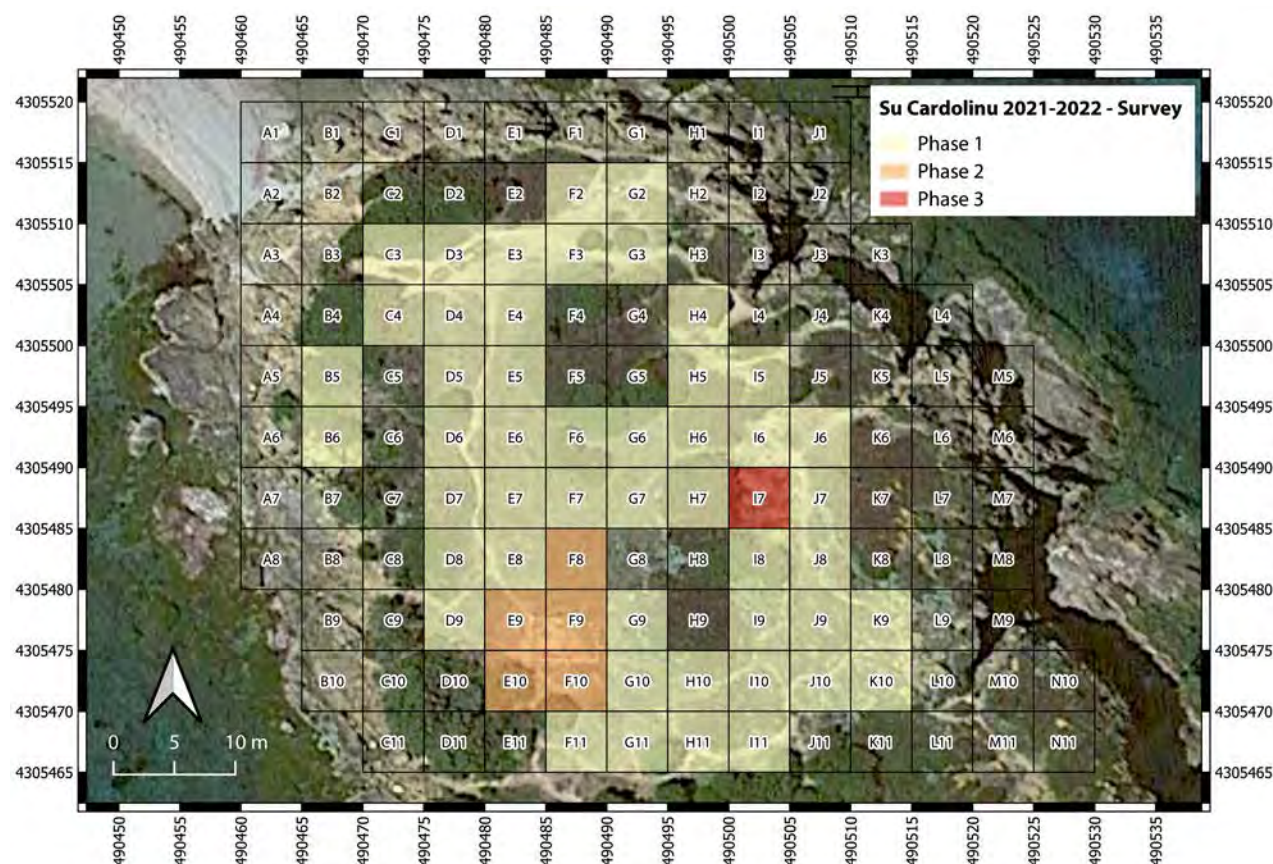


Figure 3. Bithia, Su Cardolinu. The Survey grid and the surveyed squares (elab. S. Floris, © «Tophet of Bithia» Archaeological Project).

Currently, post-processing of the data in a GIS database is ongoing and the collected material is under study. Preliminary results from the survey seem to reveal a distinction between the northeast and northwest sectors of the islet. The northwest sector is rich in ceramic fragments of minimal dimensions, mostly kitchenware dating mainly to the Punic age. In the northeast sector, surface materials are scarce and limited to fragments of archaic cooking pots, a shape well documented among the urns discovered in 1964 (Bartoloni, 1996: 39).

This evidence suggests a functional distinction between the two sectors, with the northwest sector connected with ceremonies carried out in and around the “shrine” and the northeast area used as an “urnfield”.

Our second action took place approximately 15 m north-west of Building C, where we started the stratigraphic excavation of a 5 x 5 meters area (Square I 7)¹⁴ (Fig. 3). This area was chosen in order to recover a partially exposed urn identified during the survey.

The excavation revealed 22 further urns, with a clear concentration in the northeast and southeast quadrants, for a total of 23 urns in 25 square meters. This high concentration appears to build a continuum of urn depositions connecting to the about 10 urns identified in 1964 around the “altar” Building C, so that we can speak of a veritable “urnfield”.

¹⁴ For a preliminary presentation of the excavation results of the 2021 campaign, see (Floris y Gilibert, in press).



Figure 4. Bithia, Su Cardolinu. Stratigraphical excavation in Square I7: left, Urn n. 11; right, Urn n. 6 (photos by S. Floris, © «Tophet of Bithia» Archaeological Project).

The urns were often deposited within shallow depressions, either specially cut in the bedrock or utilizing its natural crevices. The urns were sometimes protected on the sides by unworked stones or slabs, probably coming from the original excavation of the cavity (Fig. 4).

The action of plant roots caused significant fragmentation of the urns. To preserve their contents intact, we decided to lift them wrapped in gauze and geotextile. The urns and their contents are now ready for laboratory analysis and, eventually, micro-excavation in a controlled environment, and the subsequent restoration.

In one case, the poor conditions prevented the urn from being lifted *en bloc* and a micro-excavation was carried out in situ. We found the urn filled with intrusive soil. Inside the urn, a bowl – likely initially used as a lid – was discovered alongside a blue glass necklace element. Bones and coals were not recovered, probably due to high soil acidity, as confirmed by a rapid pH test.

Although detailed ceramic and content analyses must await laboratory excavation, preliminary observations indicate that the urns predominantly consist of closed shapes intended for kitchen or everyday domestic use, sometimes covered with open ceramic shapes or lids (Fig. 4).

One of the most significant achievements of our excavation has been individuating more than one depositional level. Some of the urns were placed in shallow cavities dug into a highly compact artificial layer composed of a conglomerate of schist sherds, similar to the rock. The excavation of a part of this layer has shown that it covers an older level of urns and can therefore be interpreted as an artificial intervention aimed at leveling the rock and forming a new depositional surface.

Our third operation focused on the “shrine” or “Building B”. This is a rectangular structure (5.85 x 3.70 m) with a bipartite plan, of which the base of the walls (0.50 m thick), built with polygonal blocks and small irregular sandstone stones bound with mud mortar, was preserved (Barreca, 1965: 147-148, 152, tav. LXVI; Perra, 1998: 161-162, n. 5).¹⁵ Triangular and T-shaped blocks of Nuragic tradition were also used for the construction of the building (Bassoli *et alii*, 2013: 289).

¹⁵ Similar characteristics to those of Building B of Su Cardolinu are presented by a submerged structure in the lagoon of Sant’Antioco, interpreted as a small cult building in use between the Punic and Late Republican ages (Guirguis, 2011).

In the centre of the rear room, along the major axis of the building, a rectangular base (80 x 50 cm) of square sandstone blocks was identified (Barreca, 1965: 148). This base was placed 5 cm from the back wall of the building, which was still plastered in this area at the time of excavation (Barreca, 1965: 148).

First, we produced a new photogrammetric and graphic documentation of the building. The comparison with the documentation of 1964 clearly indicates deterioration in the state of conservation of the structure, which gives us food for thought on matters of conservation and public access to the site. Occasional visitors removed several blocks over time and repositioned them, apparently in attempts to “reconstruct” the original plan.

The accurate comparison of the old photographs and drawings with the new data allowed us to remove the secondary and tertiary interventions and bring the structure back to its 1964 appearance (Fig. 5). In doing so, the structure was cleaned and scraped. In turn, this operation led to the discovery of a head of a wheel-made clay figurine of the campaniform type. This fragment adds to an arm-and-chest fragment of a similar figurine found during the survey in the surroundings of the shrine (Floris, *in press*). This type of statuette is common in sacred and, especially, funerary contexts in the Phoenician Western world, also in the same Bithia.¹⁶ From an initial examination, the fragments found at Su Cardolinu seem to find their best comparison in a known document from the Tophet of Carthage.¹⁷

Preliminary conclusions

In conclusion, the preliminary results of our fieldwork seem to confirm the identification of Su Cardolinu as a “Tophet”-type sanctuary.



Figure 5. Bithia, Su Cardolinu. “Building B” before (above) and after (below) the replacement of the blocks. In the picture above, the blocks in secondary position are highlighted in yellow (photos and elaboration by S. Floris, © «Tophet of Bithia» Archaeological Project).

¹⁶ The reference is to the famous statuettes of “suffering devotees” found in the so-called temple “of Bes”, located near (and partly overlapping) the necropolis of Bithia (lastly Garbati, 2022: 67-84, with bibliography). For the figurines from Bithia see Pesce, 1965; Aubet, 1969; Uberti, 1973; Ferron y Aubet, 1974: 86-115; Garbati, 2008: 26-30.

¹⁷ See Ferron y Aubet, 1974: 62-64, cat. no. 1, pls. I-III, Type IA; Bénichou-Safar, 2004: 95, pl. XXXV.

Our results also indicate a significantly greater level of complexity than previously assumed. The new excavations revealed an area of the urn deposition field characterised by intense exploitation. New deposition methods, new ceramic types used as urns, and a high density of depositions are attested.

We excavated a part of the urnfield that appears to be later than the archaic sector uncovered in 1964, being apparently in use not earlier than the end of the 6th or the beginning of the 5th century BC. These data, if confirmed, may open a new perspective on the settlement history of the sanctuary of Su Cardolinu and on the centre of Bithia.

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References

- Aubet, M. E. (1969). *Los depósitos votivos púnicos de Isla Plana (Ibiza) y Bithia (Cerdeña)*. Universidad Santiago de Compostela.
- Barreca, F. (1965). "L'esplorazione della costa sulcitana". In *Monte Sirai – II. Rapporto preliminare della missione archeologica dell'Università di Roma e della Soprintendenza alle antichità di Cagliari*. Centro di studi semitici, Istituto di studi del Vicino Oriente, Università di Roma, 142-160.
- Bartoloni, P.o (1996). *La necropoli di Bitia – I*. Consiglio Nazionale delle Ricerche.
- Bartoloni, P. (2017). "Bitia". In Michele Guirguis (comp.). *Sardegna fenicia e punica. Storia e materiali*. 123-127.
- Bassoli, C. y Chergia, V. (2016). "Tra ricerca e valorizzazione. Dati dalle recenti campagne di scavo a Bithia (Domus de Maria, CA)". *Quaderni. Soprintendenza archeologica per le Province di Cagliari e Oristano*, XXVII. Soprintendenza Archeologica per le Province di Cagliari e Oristano, 331-346.
- Bassoli, C.; Chergia, V.; Minoja, M. E. y Nieddu, F. (2017). "Bithia, Domus de Maria: materiali ceramici dalle campagne di scavo 2011-2012". In Michele Guirguis (comp.), *From the Mediterranean to the Atlantic: people, goods and ideas between East and West. Proceedings of the 8th International Congress of Phoenician and Punic Studies, (Carbonia-Sant'Antioco, 21-26 October 2013)*. Fabrizio Serra Editore, 154-165.
- Bassoli, C.; Nieddu, F.; Santamaria, S. y Sirigu, R. (2013). "Nuove ricerche a Bithia (Domus de Maria). La ricognizione archeologica". *Quaderni. Soprintendenza archeologica per le Province di Cagliari e Oristano*, XXIV. Soprintendenza Archeologica per le Province di Cagliari e Oristano, 283-302.
- Bénichou-Safar, H. (2004). *Le tophet de Salammbô à Carthage. Essai de reconstitution*. Rome: École française de Rome.
- Bondì, S. F. (1979). "Per una riconsiderazione del tofet". *Egitto e Vicino Oriente*, II. Pisa University Press, 139-150.

- Ciasca, A. (2002). "Archeologia del *tofet*". In Carlos González Wagner y Luis Alberto Ruiz Cabrero (comp.), *Molk como concepto del sacrificio púnico y hebreo y el final del dios Moloch*. Centro de estudios fenicios y punicos, 121-140.
- Ciccione, M. C. (2001). "Alcune considerazioni su Bitia-Domus de Maria (Cagliari)". *Quaderni. Soprintendenza archeologica per le Province di Cagliari e Oristano*, XVIII. Soprintendenza Archeologica per le Province di Cagliari e Oristano, 33-64.
- Cilla, C. (2015). "Analisi topografica nel territorio dell'antica Bithia (Chia, Domusdemaria)". *Quaderni. Soprintendenza archeologica per le Province di Cagliari e Oristano*, XXVI. Soprintendenza Archeologica per le Province di Cagliari e Oristano, 271-297.
- Ferron, J. y Aubet, M. E. (1974). *Orants de Carthage*. P. Geuthner.
- Floris, S. (in press). "Two Fragments of Punic Wheel-Made Clay Figurines from the Tophet of Bithia – Su Cardolinu (Domus de Maria – South Sardinia)". Geriòn. *Revista de Historia Antigua*, XLII. Madrid, Universidad Complutense Madrid.
- Floris, S. y Gilibert, A. (in press). "Sanctuaires dits 'Tophet' en Sardaigne entre anciennes et nouvelles fouilles. Le cas de Tharros et de Bithia". In *Un siècle de recherche sur le sanctuaires dits «Tophets» de la Méditerranée centrale des époques punique et romain. Actes du Congrès International (Gammarrth, 7 et 8 Décembre 2021)*.
- Garbati, G. (2008). *Religione votiva. Per un'interpretazione storico-religiosa delle terrecotte votive nella Sardegna punica e tardo-punica*, Fabrizio Serra Editore.
- Garbati, G. (2022). *Al di là. Gli uomini, gli dèi, la morte in contesto fenicio*. Quasar.
- Guirguis, M. (2011). "Una struttura sommersa nella laguna di Sulky (Sant'Antioco – Sardegna)". *Sardinia, Corsica et Baleares antiquae*, IX. Fabrizio Serra Editore, 87-102.
- Melchiorri, V. (2016). "I santuari infantili a incinerazione della Sardegna. Una rassegna preliminare". In Alfonsina Russo Tagliente y Francesca Guarnieri (comp.). *Santuari mediterranei tra Oriente e Occidente. Interazioni e contatti culturali. Atti del Convegno Internazionale (Civitavecchia - Roma 2014)*. Scienze e Lettere, 271-282.
- Minoja, M. E. y Bassoli, C. (2014). "La ripresa delle indagini della Soprintendenza per i Beni Archeologici per le province di Cagliari e Oristano a Bithia". In Anna Chiara Fariselli (comp.). *Da Tharros a Bitia: nuove prospettive della ricerca archeologica nella Sardegna fenicia e punica. Atti della giornata di Studio (Bologna 25 marzo 2013)*. Bologna University Press, 5-18.
- Minoja, M. E. y Bassoli, C. (2019). "Bithia". In Carla Del Vais, Michele Guirguis y Alfonso Stiglitz (comp.). *Il tempo dei Fenici. Incontri in Sardegna dall'VIII al III sec. a.C.* Ilisso, 292-295.
- Minoja, M. E. y Bassoli, C.; Chergia, V. y Nieddu, F. (2015). "Una città sul mare. Ricerche archeologiche a Bithia". In Paola Ruggeri (comp.). *L' Africa romana: momenti di continuità e rottura: bilancio di trent'anni di convegni «L'Africa romana»*. Atti del XX Convegno Internazionale di studi (Alghero - Porto Conte Ricerche, 26-29 settembre 2013). Carocci Editore, 1903-1912.
- Minoja, M. E.; Bassoli, C. y Nieddu, F. (2016). "Forme di contatto sulle coste della Sardegna: indigeni e fenici a Bithia, nuove acquisizioni". In Lieve Donnelan, Valentino Nizzo, e Gert-Jan Burgers (comp.). *Contexts of Early Colonization. Acts of the conference «Contextualizing Early Colonization. Archaeology, Sources, Chronology and Interpretative Models between Italy and the Mediterranean*. Palombi Editori, 123-37.
- Moscatti, S. (1986). *Italia punica*. Rusconi.
- Oggiano, I. (2005). "Lo spazio sacro a Nora". In Antonella Spanò Giammellaro (comp.). *Atti del V Congresso Internazionale di Studi Fenici e Punici*. Punto Grafica, 1029-1044.
- Perra, C. (1998). *L'architettura templare fenicia e punica di Sardegna: il problema delle origini orientali*. S'Alvure.

- Pesce, G. (1952). "Un "Maabed" a Nora". *Studi Sardi*, XXII-XXIII. Università degli studi di Cagliari, Istituto per gli studi sardi, 475-82.
- Pesce, G. (1965). *Le statuette puniche di Bithia*, Centro di Studi semitici, Istituto di Studi del Vicino Oriente.
- Pesce, G. (1968). "Chia (Cagliari), scavi nel territorio". *Notizie degli scavi di antichità*, XXII. Accademia Nazionale dei Lincei, 309-345.
- Taramelli, A. (1933). "Scavi nell'antica Bitia a Chia (Domus de Maria)". *Bollettino d'Arte*, VI. La Libreria dello Stato, 288-291.
- Uberti, M. L. (1973). *Le figurine fittili di Bithia*. Consiglio Nazionale delle Ricerche.

