ONLINE RESOURCE 1: SAMPLED ARCHAEOLOGICAL SITES DESCRIPTION

EL BORN CCM

The archaeological complex of El Born CCM is located in the present-day La Ribera neighbourhood, in the historic centre of Barcelona, and constitutes one of the largest and best-preserved archaeological sites from the Early Modern Age in the Western Mediterranean. The site comprises some 8,000 m^2 of the urban layout sealed between 1716 and 1718 that followed after the demolition that King Felipe V ordered to create an open space around the new military complex established after the War of the Spanish Succession (1701–1714). The excavations revealed both medieval and early modern urban quarters featuring workshops, streets, taverns, shops, and residential houses (Colomer, 2018; N. Miró i Alaix, 2021).

The archaeological site was initially excavated down to the level of its destruction in the 18th century, meaning that most of the visible structures belong to that period. However, the ArqueoBorn archaeological research program was later initiated to explore the phases previous to its destruction (i.e. 13th–17th centuries). Since 2016 (intervention numbers 053/16, 075/17, 076/18), households such as Casa Corrales and Casa Sanmartí, and the Rec Comtal (the city's main water infrastructure at the time) were excavated up to foundation level using an open-area method. Additionally, test pits were conducted in some other households (C. Miró i Alaix, 2021). During the excavation, a bioarchaeological research project was initiated, which led to the implementation of a systematic flotation program applied to all, or most, of the sediment recovered depending on the type of stratigraphic unit. The sediment was processed using flotation with mesh sizes of 4 mm, 2 mm, 1 mm, and 0.5 mm. In total, more than 45,000 fish remains were recovered (c. 80% were fish scales) from different stratigraphic units, which are being studied by one of the authors (Brosa-Planella).

El Born CCM encompasses households from diverse social levels—from fishermen to merchants—within a sector of La Ribera that reflects mainly lower to middle classes (García i Espuche, 2009, pp. 163, 366). The areas excavated to foundation level and sampled correspond to the artisanal and commercial sectors, but not the wealthiest houses (Fernández Espinosa, 2019, p. 14; García i Espuche, 2009).

FISHERMEN'S HUTS

The archaeological intervention at C/ Doctor Aiguader 15–23 (commonly known as the 'fishermen's huts', intervention number 048/11) was carried out in 2011 on a small plot slated

for construction. During the Modern Age, this area lay just outside the city walls, directly facing the sea. The excavation revealed a sequence of three phases of hut occupation, totalling 25 huts inhabited by fishermen during the first half of the 17th century (Soberón Rodríguez, 2014, 2015). Sediment from 92 stratigraphic units was sieved using 6 mm, 3 mm, and 1 mm mesh sizes, resulting in the recovery of approximately 8,000 fish remains. The assemblage from different stratigraphic units has been partially studied by Ricard Marlasca and remains under study (Marlasca Martín, 2014).

Fishermen belonged to one of the city's lowest social classes, often residing in marginal areas and frequently characterised by local authorities as poor and conflictive (Batlle i Gallart & Vinyoles i Vidal, 2002, p. 74; García i Espuche, 2009, p. 409; Soberón Rodríguez, 2018; Vinyoles, 1997, 2009).

PEDRALBES MONASTERY KITCHEN DUMP

The assemblage from the Pedralbes Monastery Kitchen Dump was recovered during an intervention (intervention number 051/10) in 2011 next to the nursery of the Royal Monastery of Santa Maria de Pedralbes. An archaeological layer (stratigraphic unit 35/37) uncovered during the intervention contained refuse from a kitchen that may have served either the nursery exclusively or the monastery as a whole.

Since the sediment was in secondary position, dating it proved difficult. The recovered materials included ceramics, metal, and glass objects, some typical of the 16th century and others from the late 19th century, indicating a broad possible chronological range (16th–19th centuries) (Cruells Castellet, 2012, pp. 22–23). Nevertheless, to narrow down the chronology attribution of the kitchen dump, radiocarbon dating was performed on two hake samples (PMKD6 & PMKD7) found in different depths of the dump. The samples were radiocarbon-dated to 517 ± 30 BP (CIRAM-13012/ S46) and 480 ± 30 BP (CIRAM-13013/S47). The data were calibrated using the OxCal 4.4 software and the 100% Marine20 curve105 (Bronk Ramsey, 2021; Heaton et al., 2020), applying an estimated average local marine radiocarbon reservoir correction value (ΔR) of − 171 ± 145 generated from 3 points (Faivre et al., 2019, Z-5711; Siani et al., 2000, GifA96716 & Ly6900b) according to the Marine Reservoir Correction database (http://calib.org/marine/). We applied a local ΔR because the $\delta^{13}C$ and $\delta^{15}N$ values indicated the local origin of the samples (see calibration of the dates at the appendix of this document).

The dating results combined suggested a chronology of 1679-1905 cal CE (1σ). These radiocarbon dates agree with a radiocarbon date (1687-1926 cal CE) on one turkey bone of the same deposit (Lloveras et al., 2023). Although the radiocarbon dates are imprecise due to the

calibration curve, considering that most recovered materials date from the late 17th to early 19th century, we suggest a possible 18th-century chronology (Cruells Castellet, 2012, pp. 22–23).

The monastery was founded by Queen Elisenda de Montcada (the fourth and final wife of King James II of Aragon) in 1327 and lived there as a member of the Clares community until her death in 1364. This close connection to royalty led some of the nuns to come from the most prominent families of the Catalan nobility and bourgeoisie. Consequently, although the monastery was occupied by the Poor Clare Order since its foundation—a contemplative order with strict rules of austerity—it enjoyed numerous privileges (Lloveras et al., 2023; Sanjust i Latorre, 2008).

PEDRALBES MONASTERY SERVICE QUARTERS

This intervention took place in 2022 an area adjacent to the monastery, outside the cloistered zone. The sampled assemblage comes from a domestic refuse deposit in an inner courtyard (stratigraphic unit 2007), dated to the late 16th to early 17th century. The sediment was floated using mesh sizes of 2 mm, 1 mm, and 0.5 mm.

Despite being an area not directly inhabited by the nuns, it was part of the monastery. Therefore, the assemblage also reflects a high social status.

MONTSORIU CASTLE

The Montsoriu Castle is one of the most important castles in the region north of Barcelona. Originally built in the 10th–11th centuries, it flourished between the 13th and 15th centuries, and gradually lost its importance thereafter (Font et al., 2008). The sampled assemblages recovered at the castle come from different occupation phases. The earlier materials, dating to the 14th century, were recovered from two different sectors of the castle, probably related to backfilling with waste refuse. The other part of the assemblage was recovered from a sealed deposit (stratigraphic unit 10955) found within a cistern, resulting from a single depositional event dated between 1475 and 1560 (Tura et al., 2021). While the sediment was completely sieved with a mesh size of 4 mm for the cistern, the other layers were only partially sieved.

From the 14th century onwards, the castle was the residence of the Viscounts of Cabrera, one of the most noble families of the time. Although the sealed deposit dates to shortly before the castle was sold by the Viscounts of Cabrera to the Counts of Aitona-Cardona—and after the Viscounts had become absentee landlords—the fish assemblage and associated materials indicate a distinctly high social status (Font et al., 2008; Novella Dalmau, 2014, pp. 97–99; Tura et al., 2021).

MONTCADA'S PALACE

The Moncada Palace was the castle of the Montcada family, one of Vic's most important noble lineages. In the 15th century, it became the governor's residence (Residència del Veguer). Part of the building also served as a prison (active until the 19th century) and included a granary. During an archaeological intervention in 2013, several test pits were excavated inside and outside the castle. One backfilling layer associated with the castle walls likely contained refuse from the castle, dated to the 18th century. The sediment was neither sieved nor floated. The assemblage represents high social status, as the building was the city's political centre and governor's (*veguer*) residence. However, contextual information is limited (Gómez Bach, 2015, 2017).

Table S1.1: Summary of the two species collected at each site. For each species, the table shows the total number of identified specimens (NISP), the number of specimens sampled per site from this total, and the number of failed samples.

SITE	CODE	LOCATION	TYPE	PERIOD	% sediment sieved (Barrett et al 1999)[1]	HAKE SAMPLES			COD SAMPLES			TOTAL SAMPLES		Collagen extraction success rate
						TOTAL NISP	N SAMPLES	N FAILED	TOTAL NISP	N SAMPLES	N FAILED	N SAMPLED	N FAILED	
Montsoriu castle	MC	Arbúcies	Castle	14th-16th	S	39	11	0	0	3[(2)]	-	11	0	100.0
El Born CCM	EB	Barcelona	Urban	15th-18th	S/T	63	6	3	9	5	4	11	7	36.4
Fishermen's huts*	FH	Barcelona	Urban	17th	S	273	5	0	234	8	1	13	1	92.3
Pedralbes monastery kitchen dump	PMKD	Barcelona	Monastery	18th	S	154	6	0	105	5	2	11	2	81.8
Pedralbes monastery service quarters *	PMSQ	Barcelona	Monastery	Late 16th-early 17th	S	-	-	-	12	3	0	3	0	100.0
Montcada's palace	MP	Vic	Castle	18th	N	-	-	-	2	1	0	1	0	100.0
				TOTAL		-	**28**	**3**	**-**	**25**	**7**	**50**	**10**	**80.0**

*Ichthyoarchaeological study in progress so data could vary.

[1] T – Total, S – Substantial (>50%), P – Partial (10–50%), M – Minimal (<10%), N – None (0%) (Barrett et al., 1999, p. 354)

[2]ZooMS determined that the samples were not Atlantic cod.

REFERENCES

Barrett, J. H., Nicholson, R. A., & Cerón-Carrasco, R. (1999). Archaeo-ichthyological evidence for long-term socioeconomic trends in northern Scotland: 3500 BC to AD 1500. *Journal of Archaeological Science*, *26*(4), 353–388. https://doi.org/10.1006/jasc.1998.0336

Batlle i Gallart, C., & Vinyoles i Vidal, T. (2002). *Mirada a la Barcelona medieval des de les finestres gòtiques*. Rafael Dalmau.

Bronk Ramsey, C. (2021). *OxCal v.4.4.4 [softwere]* [Computer software]. https://c14.arch.ox.ac.uk/oxcal.html

Colomer, L. (2018). El Born, Barcelona: You are about to visit 8,000 square meters of public archaeology on action. *The European Archaeologist*, *56*, 9–13.

Cruells Castellet, J. (2012). *Intervenció arqueològica Baixa del Monestir, 5-9 (Monestir de Pedralbes). Barcelona, Barcelonés. Desembre 2010- Octubre 2011* (Memòria d'excavacions No. 051/10). Actium.

Fernández Espinosa, A. (2019). *Memòria de la intervenció arqueològica a l'antic mercat del Born de Barcelona. Excavació dels àmbits núm.16, núm.19 i núm.21 de la casa Corrales i actuació al carrer Gensana del conjunt arqueològic (Juny – Setembre de 2016), Codi 053/16* [Excavation report]. Servei d'Arqueologia de l'Ajuntament de Barcelona.

Font, G., Mateu, J., Pujadas, S., & Tura, J. (2008). *Síntesi històrica del castell de Montsoriu* (Vol. 23). Amics del Montseny.

García i Espuche, A. (2009). *La ciutat del Born: Economia i vida quotidiana a Barcelona (segles XIV a XVIII)*. Ajuntament de Barcelona.

Gómez Bach, A. (2015). *Informe-memòria de la intervenció arqueològica al Palau dels Montcada i entorn del temple romà de Vic (Osona). 11 de març de 2013-31 de maig 2013)* (Archaeological Excavation Report). Servei d'Arqueologia de la Generalitat de Catalunya.

Gómez Bach, A. (2017). El castell i palau dels Montcada a Vic: Noves aportacions de la intervenció arqueològica del 2013. *Ausa*, *28*(179), 91–106.

Heaton, T. J., Köhler, P., Butzin, M., Bard, E., Reimer, R. W., Austin, W. E. N., Bronk Ramsey, C., Grootes, P. M., Hughen, K. A., Kromer, B., Reimer, P. J., Adkins, J., Burke, A., Cook, M. S., Olsen, J., & Skinner, L. C. (2020). Marine20—The Marine Radiocarbon Age Calibration Curve (0–55,000 cal BP). *Radiocarbon*, *62*(4), 779–820. https://doi.org/10.1017/RDC.2020.68

Lloveras, L., Cruells, J., Castellano-Tresserra, A., Riera, S., & Nadal, J. (2023). Monastic meals: The role of birds in the diet of the Poor Clares at the Monastery of Santa Maria de Pedralbes (Barcelona, Spain) from medieval to modern periods (14th to 19th centuries AD). *International Journal of Osteoarchaeology*, *33*(4), 701–716. https://doi.org/10.1002/oa.3173

Marlasca Martín, R. (2014). Les restes d'ictiofauna. In M. Soberón Rodríguez, *Memòria de la intervenció arqueològica al carrer del Doctor Aiguader 15-23. Districte de Ciutat Vella. Barcelona (Barcelonés). Codi: 048/11*. Codex: Arqueologia i Patrimoni.

Miró i Alaix, C. (2021). Arqueoborn, el projecte de recerca arqueològica d'El Born-CCM. *Quarhis: Quaderns d'arqueologia i Història de La Ciutat de Barcelona*, *15*, 202–205.

Miró i Alaix, N. (2021). El Born CCM, un conjunt de conjunts en el marc de la Barcelona moderna. *RODIS: Journal of Medieval and Post-Medieval Archaeology*, *4*. https://doi.org/10.33115/a/26046679/4_7

Novella Dalmau, V. (2014). *Estudi de les pautes d'accés i consum dels recursos animals a partir de l'arqueozoologia. L'exemple del castell de Montsoriu* [Doctoral thesis]. Universit Autònoma de Barcelona.

Sanjust i Latorre, C. (2008). *L'obra del Reial Monestir de Santa Maria de Pedralbes des de la seva fundació fins al segle XVI. Un monestir reial per a l'orde de les clarisses a Catalunya* [PhD thesis]. Universitat Autònoma de Barcelona.

Soberón Rodríguez, M. (2014). *Memòria de la intervenció arqueològica al carrer del Doctor Aiguader 15-23. Districte de Ciutat Vella. Barcelona (Barcelonés)* (Memòria d'excavacions No. 048/11). Codex: Arqueologia i Patrimoni.

Soberón Rodríguez, M. (2015). Les barraques de pescadors a la Barcelona moderna (f. XVI - m. XVIII). *Tribuna d'Arqueologia, 2012-2013*, 219–235.

Soberón Rodríguez, M. (2018). Arqueologia i pesca d'època moderna a la ciutat de Barcelona. In J. L. Alegret & A. Garrido (Eds), *Per a una història de la pesca dels Països Catalans: Recerca i reflexions historiogràfiques* (pp. 88–99). Càtedra d'Estudis Marítims (Universitat de Girona- Fundació Promediterrània) i Museu de la Pesca.

Tura, J., Font, G., Pujadas, S., Mateu, J., & Llorens, J. M. (2021). El conjunt arqueològic del segle XVI localitzat a la cisterna est del Castell de Montsoriu. *RODIS: Journal of Medieval and Post-Medieval Archaeology*, *4*, 27–45. https://doi.org/10.33115/a/26046679/4

Vinyoles, T. (1997). Joncars, barraques, pastors i pescadors. La marina de Barcelona al segle XV. In A. Roca (Ed.), *Expansió Urbana i planejament a Barcelona* (pp. 29–36). Proa, Institut Municipal d'Història de Barcelona.

Vinyoles, T. (2009). La vida quotidiana de la gent de mar a la baixa Edat Mitjana. In *Arqueologia Náutica Mediterránea* (pp. 585–592). CASC, Museu d'Arqueologia de Catalunya; Generalitat de Catalunya, Departament de Cultura.

APPENDIX

RADIOCARBON DATES CALIBRATION FOR PEDRALBES MONASTERY KITCHEN DUMP.

Laboratory	Lab code	Sample ID	Material	Conventional Age BP	%Modern Carbon (pMC)	$\delta^{13}C$ (‰)	$\delta^{15}N$ (‰)	C:N Ratio
CIRAM	CIRAM-13012	PMKD6	Fish vertebrae	517 ± 30	93.77 ± 0.35	-12.75	11.84	3.1
CIRAM	CIRAM-13013	PMKD7	Fish vertebrae	480 ± 30	94.19 ± 0.35	-13.46	10.90	3.2

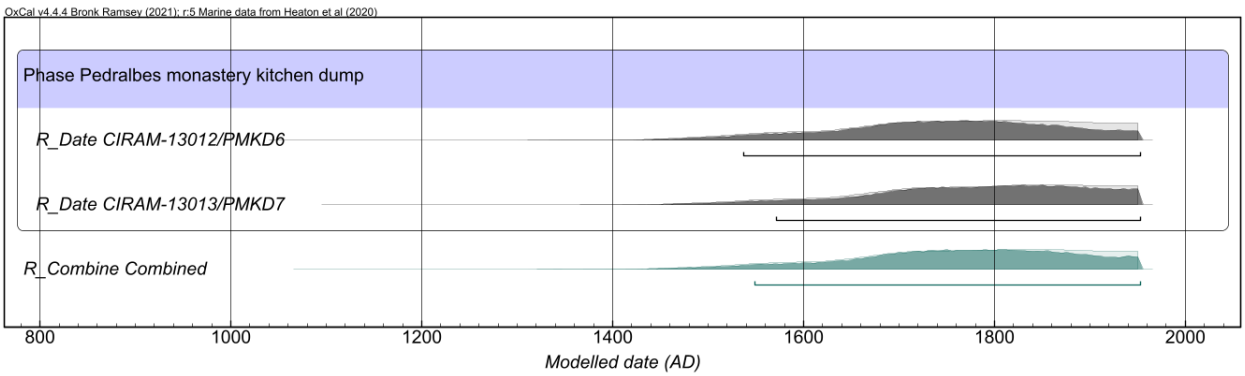
ΔR value (assigned provenance of the samples by the LDA: Mediterranean). Obtained from: http://calib.org/marine/ :

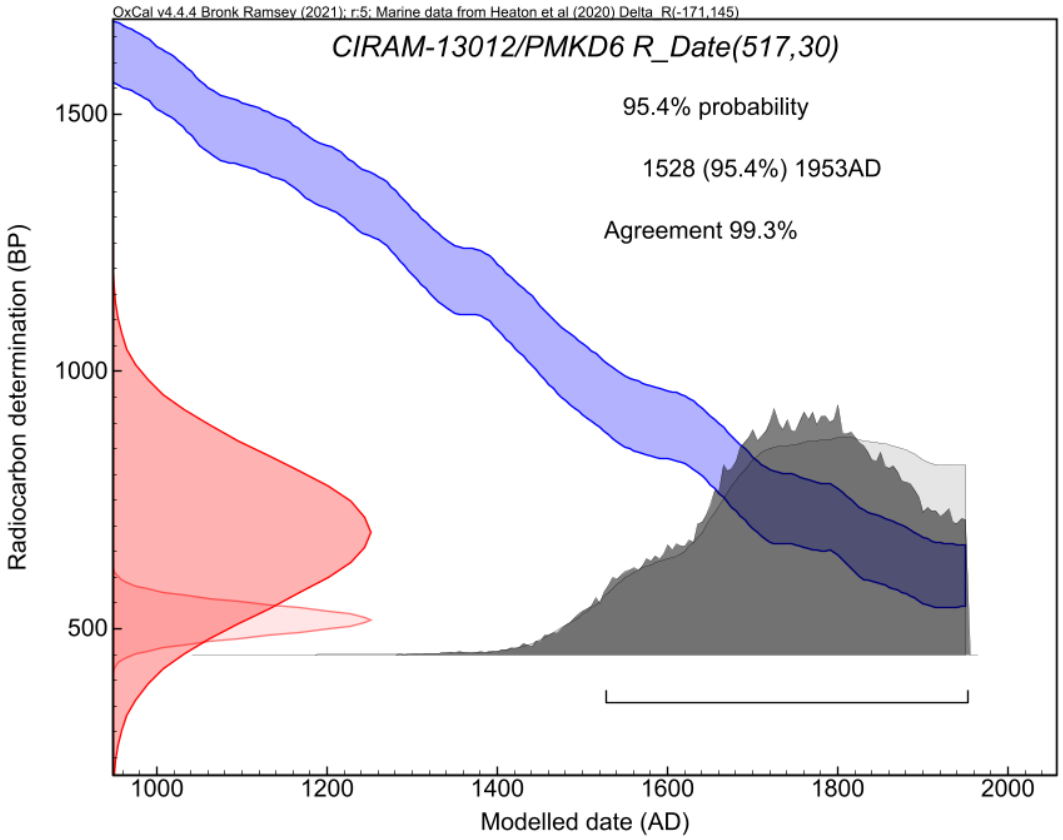
- Weighted Mean ΔR= -171
- Uncertainty= 145

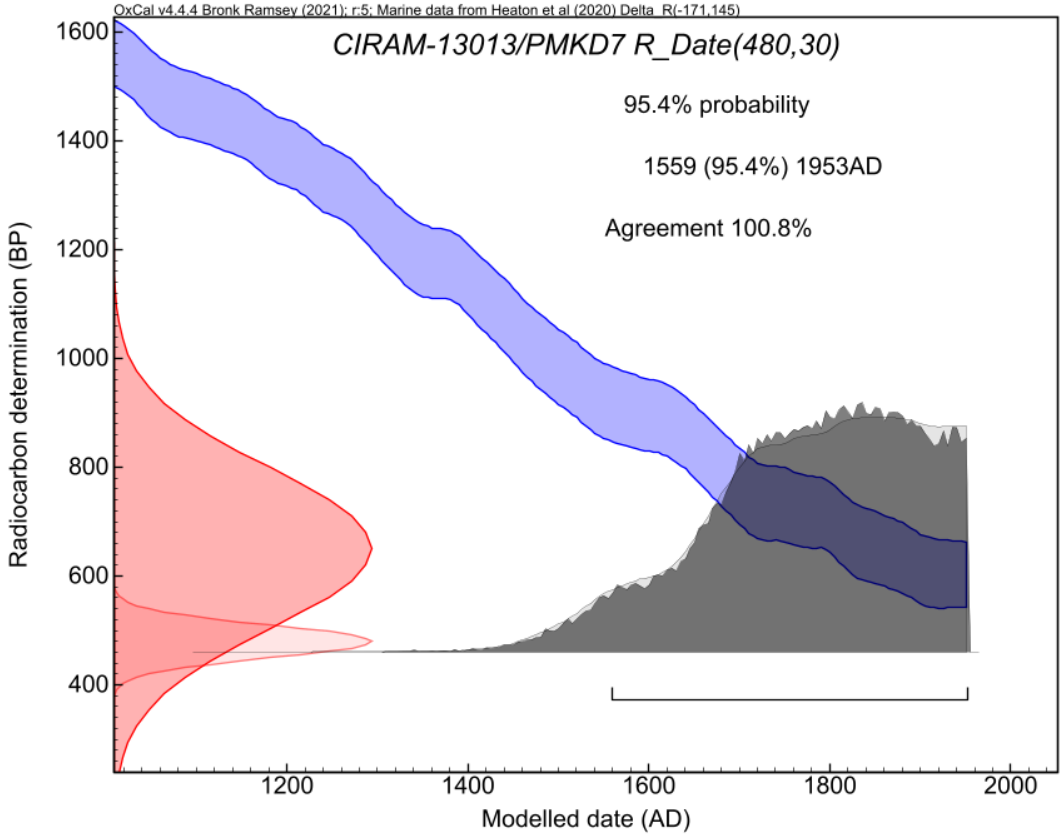
Reference ΔR value values used for calibration.						
ΔR	ΔR_Error	Longitude	Latitude	Locality	Code	Reference
-279	27	3.1000	42.5000	Banyuls, France	Z-5711	Faivre et al. (2019)
-39	35	3.0000	42.5000	Banyuls, France	GifA-96716	Siani et al. (2000)
-48	55	3.0000	42.5000	Banyuls, France	Ly-6900	Siani et al. (2000)

Dates calibrated at 2σ (95.6% confidence interval) and combined: 1549-1953 AD

Dates calibrated at 1σ (68.3% confidence interval) and combined: 1679-1905 AD




OxCal v4.4.4 Bronk Ramsey (2021); r:5; Marine data from Heaton et al (2020) Delta_R(-171,145)
CIRAM-13012/PMKD6 R_Date(517,30)
95.4% probability
1528 (95.4%) 1953AD
Agreement 99.3%
Radiocarbon determination (BP)
1500
1000
500
1000
1200
1400
1600
1800
2000
Modelled date (AD)


OxCal v4.4.4 Bronk Ramsey (2021); r:5; Marine data from Heaton et al (2020) Delta_R(-171,145)
CIRAM-13013/PMKD7 R_Date(480,30)
95.4% probability
1559 (95.4%) 1953AD
Agreement 100.8%
Radiocarbon determination (BP)
1600
1400
1200
1000
800
600
400
1200
1400
1600
1800
2000
Modelled date (AD)

REFERENCES

- Faivre, S., Bakran-Petricioli, T., Barešić, J., Morhange, C., & Borković, D. (2019). Marine radiocarbon reservoir age of the coralline intertidal alga Lithophyllum byssoides in the Mediterranean. *Quaternary Geochronology*, *51*, 15–23. https://doi.org/10.1016/j.quageo.2018.12.002
- Siani, G., Paterne, M., Arnold, M., Bard, E., Métivier, B., Tisnerat, N., & Bassinot, F. (2000). Radiocarbon Reservoir Ages in the Mediterranean Sea and Black Sea. *Radiocarbon*, *42*(2), 271–280. https://doi.org/10.1017/S0033822200059075