**SUPPLEMENTARY MATERIAL**

**S1: Thermoluminiscence dates from dolmens excluded of this study**

Table S1. Thermo luminescence dates from ceramic fragments in dolmens of South Portugal. Adapted from Whittle and Arnaud (1975).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Site | Laboratoty code | Ceramic sample | Individual dates BC | Calibrated date (68% confidence) cal BC |
| Dolmen of Poço da Gateria 1 | OxTL169a | b1  b2  b3 | 4640±430  4305±400  4615±450 | 4510±360  (4870-4150) |
| Dolmen of Gorginos | OxTL169b | c1  c2  c3 | 3860±360  4805±400  4595±420 | 4440±360  (4800-4080) |
| Dolmen Grande da Comenda da Igreja | OxTL169f | f1  f2  f3  f4 | 3380±340  3340±350  3255±330  3015±340 | 3235±310  (3545-2925) |
| Dolmen of Farisoa 1 | OxTL169i | i1  i2 | 2745±380  2185±260 | 2405±260  (2665-2145) |

**S2. Dates excluded: previous occupation levels**

Table S2. Radiocarbon dating (n: 9) excluded for the sum of probablities. Dates from sites with previous occupation levels: Tremedal, Cabeçuda 1, Castelhanas, Figueira Branca, Azután, Joaniña, Alberite and Casas de Don Pedro (Calibrated dating by OxCal v.4.4 Bronk Ramsey (2020); r: 5 IntCal20 Atmospheric data from Reimer et al. 2020).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Site | Laboratory  Code | Architecture | Context | Sample | 14C (BP) | Calibrated date (68% confidence) cal BC | Calibrated date (95% confidence) cal BC | Reference |
| Tremedal | Gra-15938 | Passage grave | Monument base level. Previous occupation | Charcoal | 7960±60 | 7040-6700 | 7050-6650 | Ruiz-Gálvez 2000 |
| Cabeçuda 1 | ICEN-978 | Passage grave | Monument base level. Previous occupation | Charcoal | 7660±60 | 6570-6440 | 6640-6420 | Oliveira 1997a |
| Castelhanas | ICEN-1264 | Passage grave | Monument base level. Previous occupation | Charcoal | 6360±110 | 5480-5210 | 5540-5040 | Rocha 2020 |
| Figueira  Branca | ICEN-823 | Passage grave | Hearth, Monument base level. Previous occupation | Charcoal | 6250±50 | 5310-5080 | 5330-5050 | Oliveira 1997b |
| Azután | Ly-4578 | Passage grave | Chamber base level. Previous occupation | Charcoal | 5840±130 | 4880-4530 | 5030-4360 | Bueno Ramírez et al. 1999 |
| Joaniña | Sac-1380 | Simple chamber dolmen | Chamber base level. Previous occupation | Charcoal | 5400±210 | 4450-3980 | 4720-3770 | Oliveira 1997a |
| Alberite | Beta-80602 | ‘Covered gallery’ | Chamber, hearth on the ochre paving | Charcoal | 5320±90 | 4320-4040 | 4340-3970 | Ramos Muñoz and Giles Pacheco 1996 |
| Azután | Beta-132917 | Passage grave | Hut under the mound | Charcoal | 5250±40 | 4230-3980 | 4240-3970 | Bueno Ramírez et al. 2002, 2005 |
| Casas de Don Pedro | Beta-471735 | Elongated chamber dolmen | Hearth associated with two previous standing-stones | Charcoal | 5040±30 | 3950-3780 | 3960-3710 | Gavilán Ceballos and Mas Cornellá 2021 |

**S3. El Pozuelo 1. Contemporaneity test (x2-Test) of phase 5 radiocarbon dating**.

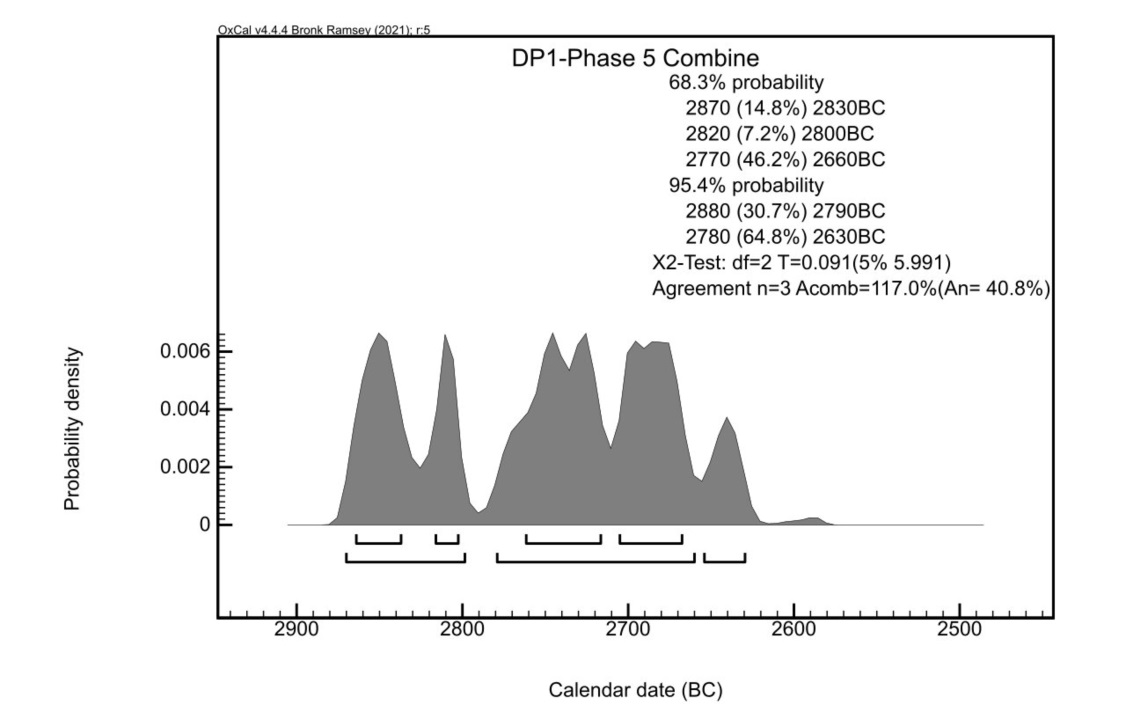
**S3.1**

Table S3.1. Phase 5 dating of the dolmen of El Pozuelo 1. Probabilistic estimates of the contemporaneity test (x2-Test) (OxCal v.4.4 Bronk Ramsey (2020); r: 5 IntCal20 Atmospheric data from Reimer *et al*. 2020).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CALIBRATED DATES | | | MODELLED DATES | | | |  |
| Laboratory code | **Calibrated**  **date (68% confidence**  **cal BC)** | **Calibrated**  **date (95% confidence**  **cal BC)** | **Posterior density estimated (68%**  **probability**  **cal BC)** | **Posterior density estimated (95%**  **probability**  **cal BC)** | **Acomb**  **Index** | **A**  **Index** | **x2 -Test**  **Index** |
| Combine Phase 5 | 2870-2660 | 2880-2630 |  |  | 117 |  | df=2 T=0.091(5% 5.991) |
| CNA-3268.1.1 | 2880-2660 | 2880-2620 | 2870-2660 | 2880-2630 |  | 108.2 |  |
| CNA-3261.1.1 | 2870-2630 | 2880-2580 | 2870-2660 | 2880-2630 |  | 110.3 |  |
| CNA-3269.1.1 | 2870-2630 | 2880-2580 | 2870-2660 | 2880-2630 |  | 110 |  |

**S3.2**

Figure S3.2. Phase 5 of El Pozuelo 1, Los Llanetes cluster. Probabilistic estimates of the contemporaneity test (x2-Test) (OxCal v.4.4 Bronk Ramsey (2020); r: 5 IntCal20 Atmospheric data from Reimer et al. 2020).



**S4. Calibrated radiocarbon dating of the Chinflón mines**

**S4.1.**

Table S4.1. Calibrated radiocarbon dating of the Chinflón mines (from Rothenberg and Blanco, 1980; Burleigh et al. 1982) (OxCal v.4.4 Bronk Ramsey (2021); r:5 IntCal20 Atmospheric data from Reimer et al., 2020).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Laboratory code | Context | Sample | 14C (BP) | Calibrated date 68% confidence) cal BC | Calibrated date (95% confidence) cal BC |
| Chinflón (BM-1529) | Mining camp. Settlement: level 3 | Charcoal | 3320 ± 130 | 1750-1440 | 1950-1290 |
| Chinflón (BM-1600) | Mining camp. Settlement: level 4 | Charcoal | 2890 ± 50 | 1200-1000 | 1220-920 |
| Chinflón (BM-1599) | Mining camp.  Mine 3: level 9, shaft base 3B3 | Charcoal. Branch of Quercus sp. | 2830 ± 50 | 1060-910 | 1190-830 |
| Chinflón (BM-1528) | Mining camp. Settlement: level 2.  Habitation level | Charcoal | 2650 ± 60 | 900-770 | 980-570 |

**S4.2.**

Figure S4.2. Calibrated radiocarbon dating of the Chinflón mines (OxCal v.4.4 Bronk Ramsey (2021); r:5 IntCal20 Atmospheric data from Reimer et al., 2020).

