1. ABOUT THE DATASET

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Title: Pollen data and charcoal data of the Iberian Peninsula

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Description: Sedimentary charcoal, preserved in lakes, peatbogs and other anoxic environments, has been widely used as an indicator of past changes in fire regimes. Pollen records can be used to reconstruct past climate changes by deriving a statistical relationship between modern pollen abundance and modern climate and applying this relationship to fossil pollen assemblages. Here, we present pollen data and charcoal data from the Iberian Peninsula.

The pollen data file includes basic information (e.g., latitude, longitude, elevation, source of the data, citation for original publication), age information (IPE age and IntCal20 mean and median ages and age uncertainties) and pollen counts for 205 taxa by depth (cm) for 114 records.

The charcoal data file includes basic information (e.g., latitude, longitude, elevation, charcoal. count type and unit), age information (IntCal20 mean and median age and age uncertainties) and charcoal quantity by depth (cm) for 74 records.

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2. TERMS OF USE

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3. PROJECT AND FUNDING INFORMATION

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Title: Pollen data and charcoal data of the Iberian Peninsula

Dates: 1/01/2020-25/03/2021

Funding organisation: ERC

Grant no.: ERC-funded project GC 2.0 (Global Change 2.0: Unlocking the past for a clearer future; grant number 694481)

4. CONTENTS

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File listing:

iberia\_pollen\_records.csv;

iberia\_charcoal\_records.csv

iberia\_pollen\_records.csv:

latitude: degrees decimal where +ve is N and -ve is S

longitude: degrees decimal where +ve is E and -ve is W

elevation: in meters above sea level

Source: EPD = European Pollen Database (www.europeanpollendatabase.net); PANGAEA = www.pangaea.de/

113 entities have IntCal20 ages. Villarquemado does not have IntCal20 age but has an age model provided by the original authors (IPE age).

iberia\_charcoal\_records.csv:

latitude: degrees decimal where +ve is N and -ve is S

longitude: degrees decimal where +ve is E and -ve is W

elevation: in meters above sea level

‘TYPE’ is used to do charcoal accumulation transformation

‘unit’ is used to distinguish micro and macro entities

5. METHODS

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Pollen data were obtained from the European Pollen Database (EPD, www.europeanpollendatabase.net) or provided by the authors (as indicated). Non-pollen palynomorphs (e.g. fungi, algae), introduced species, and fire-insensitive plants (e.g. obligate aquatics) were removed from the assemblages before analysis. Some pollen taxa are not identified consistently by palynologists or occur at very few sites, so some pollen types were amalgamated to higher taxonomic groups (mostly genera for trees, families for herbaceous taxa) for consistency across the records. Charcoal data were obtained from the Global Charcoal Database (Power et al., 2010; Marlon et al., 2016) or provided by the original authors (as indicated). New age models were created for both the pollen and the charcoal records using the IntCal20 calibration curve (Reimer et al., 2020) and the BACON Bayesian age-modelling tool in the rbacon package (2.5.0) in CRAN (Blaauw and Christeny, 2011) with the help of ageR package (Villegas-Diaz et al., 2021).

We provide one csv file for pollen data and another csv file for charcoal data formatted in UTF-8. Both pollen and charcoal data files include basic information for each entity (Site name, Entity name, Latitude, Longitude, Elevation, Reference), depth in cm, IntCal20 ages including median, mean, 5% uncertainty, 25% uncertainty, 75% uncertainty, 95% uncertainty values. In addition, pollen data include 205 taxa information and IPE ages for Villarquemado entity, charcoal data include charcoal type, charcoal unit and charcoal quantity.

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