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# Gathering and consumption of wild fruits in the east of the Iberian Peninsula from the 3rd to the 1st millennium BC

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ABSTRACT

The multiple archaeobotanical studies from the east Iberian Peninsula from 2800 cal.BC to 200 BC have provided around twenty wild fruit taxa of varying importance. The aim of this work is to present these taxa and analyse the most important wild fruits, some of them being cultivated since the First Iron Age. Considering sites with comparable sampling methods, a quantitative difference is not observed between wild species exploited in the several life zones represented in this synthesis: Thermo-, Meso-, Supra- and Montane-Mediterranean zones. Three taxa are common in the three life zones considered: *Quercus* sp., *Sambucus* sp. and *Rubus* sp. More thermophilic taxa, *Ficus carica* and *Olea europaea*, are present in the two lower zones, although their values decrease to the north we go and with height, in contrast to what happens with *Vitis vinifera*. The exploitation of wild resources as a food supplement, in addition to other uses, developed during the 2600 years with several differences. These differences are explained in part by the plants that grow in each of the territories and in part by the organization of the human groups and the forms of land exploitation. Protohistoric human groups would have exploited nearby resources as in the previous periods, and all data confirm the continuity of this fundamental activity. However, gathering seems to have had a fairly small economic importance when considering the low rates of ubiquity of these plants in contrast to those of staple crops.



## 1. Introduction

Gathering wild fruits is a well-documented practice among forager groups (Metcalfe, 1958; Lee and Devore, 1968; Weiss et al., 2004), which endures among farmer societies (Zapata, 2000; Antolín and Jacomet, 2015). Archaeological evidence of gathering is less frequent than that of other materials such as bones, better preserved or more easily recovered from archaeological sites. The importance of these fruits in the Mediterranean farmers' diet has been established through ethnographic (Forbes, 1976) and archaeobotanical (Antolín and Jacomet, 2015) works, even if these plants have usually quite low recovery rates among archaeological seed and fruit remains.

We report in this work the archaeobotanical data that allows us to observe the gathering of wild fruits from 2800 cal. BC to 200 BC along the entire eastern strip of the Iberian Peninsula, from the north to the south. Concerning the north, we have chosen to take into account all the sites located in the eastern part of the Pyrenees, in the plain of Lleida and up to the central part of the Ebro Valley. The limits of the central region are the eastern foothills of the Iberian System, the Meseta plateau and the Penibaetic System. Concerning the south, the geographical boundary is the southern slopes of the Guadalquivir Valley (Fig. 1).

All these regions, from the high mountains to the coastal plains, are influenced by a Mediterranean climate, although the degree of impact is obviously not the same. The majority of the archaeological sites concerned by this work are concentrated in the most temperate areas: the coastal and inland plains, and the mid-mountain regions.

Rainfall rates are also diverse. The driest areas are situated in the Southeast (Eastern Andalusia) and in the inner part of the Ebro Valley, with less than 300 mm per year. The rest of the territory

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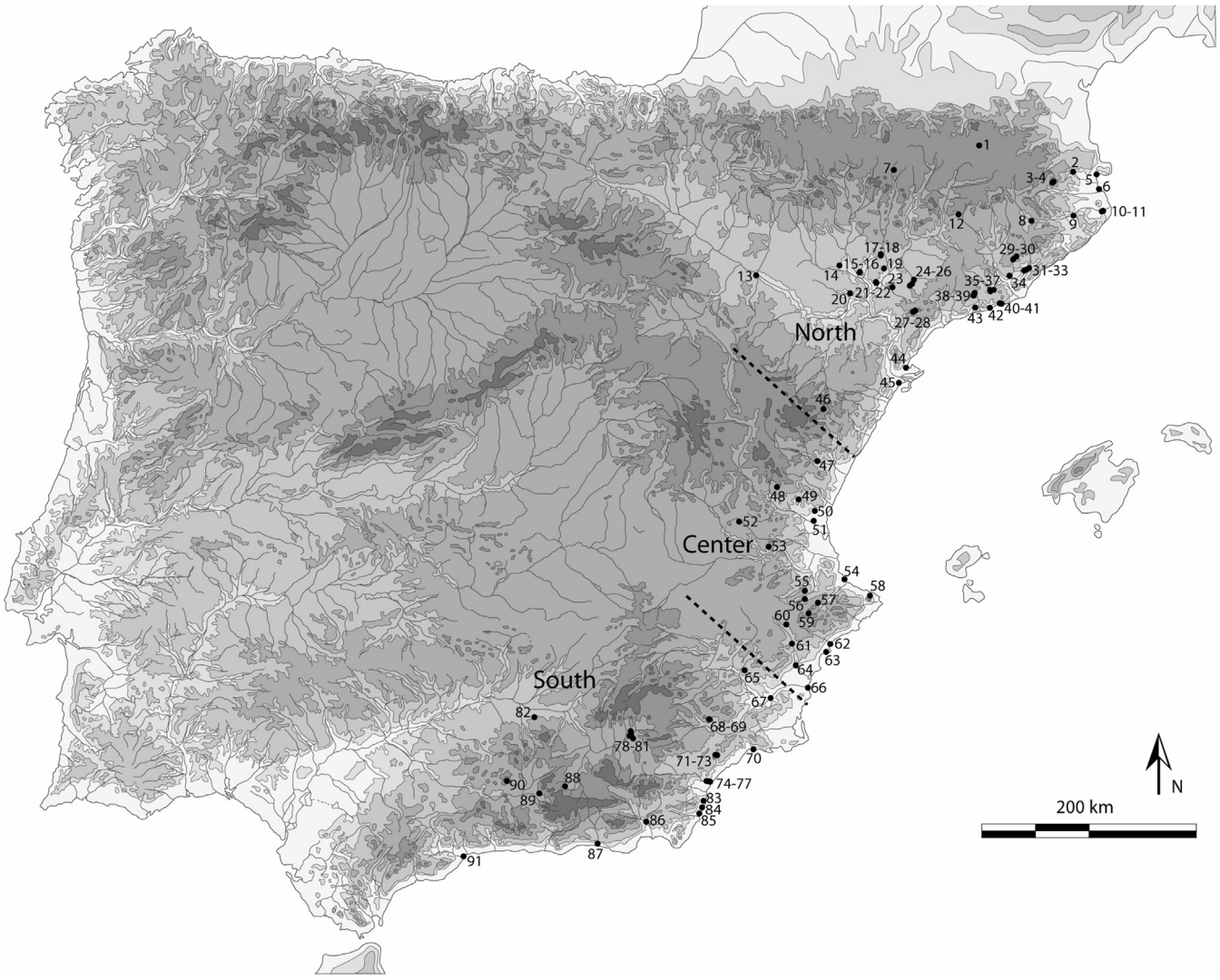


**Fig. 1.** Archaeological sites with archaeobotanical remains of wild fruits: 1. Llo-Lo Lladre, 2. Mas Castellar, 3. Cova 120, 4. Bauma Serrat del Pont, 5. Sant Martí d'Empuries, 6. Empuries, 7. Cova del Sardo. 8. Institut de Manlleu, 9. Camp Massot, 10. Illa d'en Reixac, 11. Ullastret, 12. Sant Esteve, 13. Cabezo de la Cruz, 14. La Codera, 15. Vincamet, 16. Cova de Punta Farisa, 17. Roques del Sarró, 18. Espina C, 19. Pla de Tabac, 20. Tozal de los Regallos, 21. Sebes, 22. Vilot, 23. Minferri, 24. Missatges, 25. Estinclells, 26. Vilars, 27. Barranc de Gàfols, 28. Castellet de Banyoles, 29. Can Gambús, 30. Sitges UAB, 31. Can Xercavins, 32. Can Olivé, 33. Malesses, 34. Bòbila Madurell, 35. Font de la Canya, 36. Sta Maria dels Horts, 37. Cinc Ponts, 38. Olerdola, 39. Mas d'en Boixos, 40. Biblioteca Sitges, 41. Sant Llorenç, 42. Xalet Nin Darró, 43. Mas d'en Gual, 44. Bordissal, 45. Sant Jaume, 46. Ereta del Castellar, 47. Torrelló d'Almassora, 48. Castillarejo de los Moros, 49. Castellet de Bernabé, 50. Tos Pelat, 51. LLoma de Betxí, 52. Kelin, 53. Ereta del Pedregal, 54. La Vital, 55. Bastida de les Alcusses, 56. Arenal de la Costa, 57. Mola d'Agres, 58. Alt de Benimaquia, 59. Abric de Falguera, 60. Cabezo Redondo, 61. Elda, 62. Illeta dels Banyets, 63. Tossal de les Basses, 64. Les Moreres, 65. Cueva de los Tiestos, 66. Fonteta, 67. El Cigarralejo, 68. Cerro de las Viñas, 69. Rincón de Almendricos, 70. Cabezo del Plomo, 71. Cueva de la Salud, 72. Madres Mercedarias, 73. Cueva Sagrada, 74. Fuente Álamo, 75. El Argar, 76. Lugarico Viejo, 77. Almizaraque, 78. Fuente Amarga, 79. Cerro de la Virgen, 80. Castellón Alto, 81. El Malagón, 82. Puente Tablas, 83. Gatas, 84. Campos, 85. Las Pilas, 86. Los Millares, 87. Cerro de Montecristo, 88. Cuesta del Negro, 89. Callejón del Gallo, 90. Los Castillejos, 91. La Rebanadilla.

presents higher values, mostly around 600 mm, while some areas reach up to 1000 mm.

Climatic oscillations during this long chronological sequence do not seem to have been very pronounced. Throughout the 3rd millennium cal. BC the seasonality of rains is accentuated, with a more humid period around the end. In the 2nd millennium, a drier event is detected during the first half but it is not yet possible to know its length. However, a wetter climate returned in the second half. These conditions were maintained until the beginning of the 1st millennium, when a new drier period began, followed by a more humid phase during the second half (Jalut et al., 2000; Ferrio et al., 2006; Aguilera et al., 2012).

Social evolution and archaeological periods are not uniform in these three regions during these almost three thousand years. We have thus decided to organise the data into five periods: period 1 – Chalcolithic (2800–2000 BC), period 2 – Early and Middle Bronze Age (2000–1300 BC), period 3 – End Bronze Age (1300–800 BC), period 4 – First Iron Age (800–600 BC) and period 5 – Second Iron Age/Iberian period (600–200 BC).

During the 3rd millennium, we can observe some continuity on the settlement patterns generated in the previous period: presence of open-air habitats in addition to caves occupied for many purposes (shelter, habitat, farmyard…). Silos, excavated huts and ditches are usual elements found in both coastal and inland settlements. This relative homogeneity disappears at the end of this millennium coinciding with the expansion of the Bell Beaker culture. We now see for the first time in the southeast the emergence of elevated and fortified settlements coexisting with small sites in the plains. It is also the moment when social complexity becomes more evident, especially in the south with the Los Millares culture (Chapman, 2008). This stratification can be observed not only in the territorial and structural organisation of the settlements, but also