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MUGE SHELL MIDDENS

The existence of Mesolithic shell middens in the lower valley of the Tagus River, located some 50 kilometers northeast of Lisbon, was first reported in 1863 by Carlos Ribeiro, who immediately recognized them as counterparts of the recently discovered Danish “kitchen middens.” The sites are located near the confluence with the Tagus of the Muge and Magos streams, a few meters above the extant water level; they occupy what, in the local palaeogeography of the Atlantic climatic period, was an ecotonal position: at the bottom of a very large estuary, close to extensive brackish-water mollusk banks and, at the same time, in a strategic location to secure access to other aquatic or wetland resources, such as fowl and fish, as well as to river-plain and forest game, such as aurochs, red deer, and wild boar.

Three sites in particular—Cabeço da Arruda, Cabeço da Amoreira, and Moita do Sebastião, located along the two banks of the Muge stream within a couple of kilometers of each other—have been the object of much research, focusing for the most part on the study of the numerous human remains recovered therein. In 1880, coinciding with the Lisbon meeting of the Ninth International Congress of Anthropology and Prehistoric Archeology, Ribeiro undertook systematic excavations at Cabeço da Arruda and Moita do Sebastião and invited congress participants to visit the sites. In his paper to the meeting, he informs that 120 skeletons were found; further work at the two sites carried out in 1884 and 1885 by Francisco Paula e Oliveira produced another 52 skeletons.

Paula e Oliveira's research was conducted under the auspices of the Geological Survey in Lisbon; research on the middens was continued in 1930–1931, 1933, and 1937 under the auspices of the Institute of Anthropology of the University of Oporto with further excavation of Cabeço da Arruda and new work at Cabeço da Amoreira. The principal investigator in the 1930s was António Augusto Mendes Correia, who earlier in the century had been the promoter of the *Homo afer*, var. *taganus*, designation for the dolichocephalic type—that is, the elongated head shape—predominating among the people buried in the Muge middens (see “Origins of the Portuguese,” 1919). The concept of “Homo after taganus,” which established a physical anthropological link with Africa, meant that the Muge people were an African race, or descended from African races. It was instrumental in substantiating the postulated corresponding cultural link with the idea that the flintworking Mesolithic culture known as the Tardenoisian (to which the French archaeologist Henri Breuil had ascribed the geometric industries found in the Tagus sites) derived from the Capsian. It also strengthened the then popular notion that, at the end of the Upper Palaeolithic, the Iberian Peninsula had been colonized by populations of North African origin. Mendes Correia assumed that “the miserable fisherman of the Muge were far from the standards of the Magdalenian [the last culture of the Ice Age, with its impressive cave art] civilization” and that “the *Homo taganus* should rather be included in a group of inferior races, Australoid or protoethiopian and probably of meridional origin.” According to Mendes Correia, these people would have contributed little, if at all, to the ethnogenesis of the Portuguese nation, whose roots should be sought in the dolmen builders of the later Neolithic period.

In the period 1952–1954, Octávio da Veiga Ferreira and Jean Roche carried out a salvage operation at Moita do Sebastião, the upper part of which, composed of mobile sediments, had been removed the year before for the construction of an agricultural facility. Of the original 2.5-meter-high mound, occupying an area of about 300 square meters, only the basal part remained, forming an east-west 32.5-by-12.5-meter elliptical area of hardened sediments with a maximum thickness of about 20 centimeters. The excavations revealed a series of features pene-

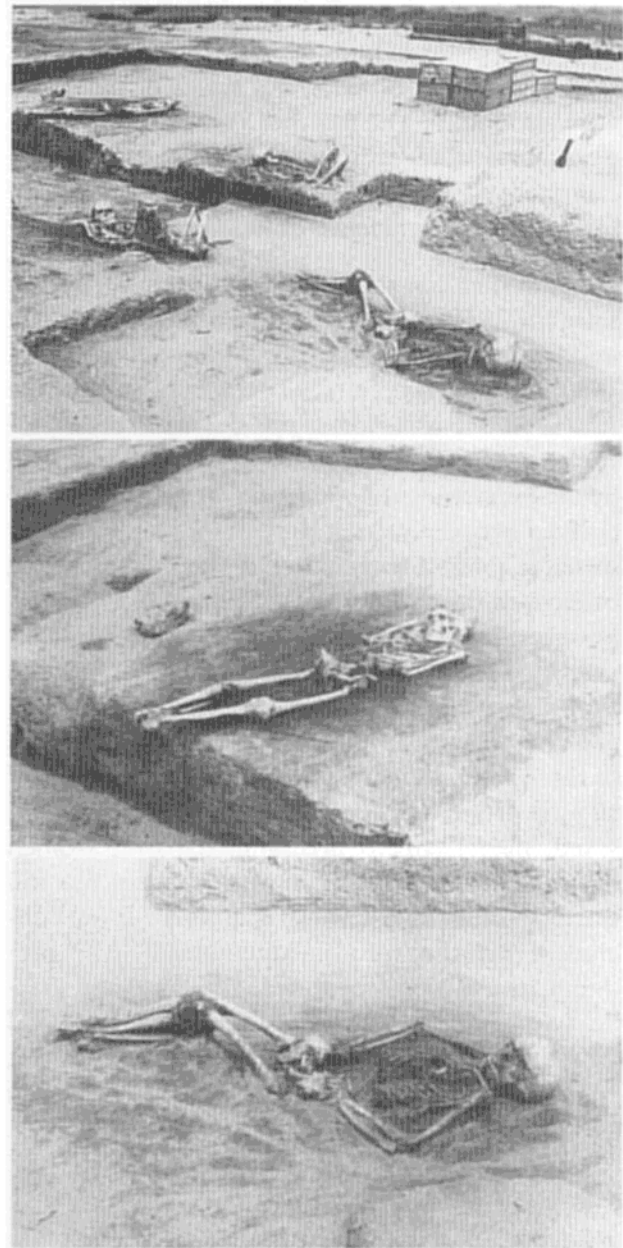


Fig. 1. In situ human skeletons from the 1953 excavations at Moita do Sebastião. COURTESY OF JOÃO CARDOSO. REPRODUCED BY PERMISSION.

trating the bedrock of Pliocene sands, including an arrangement of postholes suggestive of a hut-like habitation with an area of about 37 square meters, as well as several burial pits containing thirty-four human skeletons, providing for the first time reliable information on funerary rituals. The bodies, always lying on their backs and with their heads raised, were emplaced in clusters of shallow pits, young children separate from adults. Perforated

shells of the small fluvial gastropod *Theodoxus fluviatilis* are the main body ornaments, sometimes arranged in collars or belts, but traces of red ochre were also found. The fact that a few skeletons were clearly associated with accumulations of unopened clamshells of *Scrobicularia plana* and *Tapes decussata* suggests the practice of food offerings.

No other excavation work has been carried out since the 1950s. Substantial portions of the original midden mounds still remain at Cabeço da Arruda and Cabeço da Amoreira, whereas only some of the Moita do Sebastião basal features have been preserved in situ. From the different accounts provided by the excavators, the total number of skeletons recovered over the years at the three sites can be estimated at about three hundred. In her analysis of the collections preserved in both Lisbon and Oporto, however, Denise Ferembach (1974) could only inventory 136 "more or less complete" individuals from Cabeço da Arruda and Moita do Sebastião: 25 percent were under fifteen years of age (two-thirds of those were under five), and among the adults of all ages, from eighteen to over fifty, that could be sexed, men (sixteen) predominated over women (nine). Ferembach's study's main concern was still the establishment of a "racial diagnosis." It was concluded that the "protomediterranean" type predominated and that there were also small and gracile "cromagnoids," as well as a few "alpine" and "mixed protomediterranean-cromagnoid" people. Since this mix still exists in modern-day Portugal, a

large degree of population continuity until the present was inferred.

Late-twentieth-century research on the collections has been able to establish the chronology of the sites and their sequence of occupation, based on radiocarbon dating and the composition of lithic assemblages. Moita do Sebastião, first occupied between 6100 and 5900 B.C., is the earliest, and features asymmetrical trapezes of different types. The latest is Cabeço da Arruda, first occupied c. 5600 B.C. and containing more segments and triangles than trapezes. The occupation of Cabeço da Amoreira, featuring the characteristic "Muge triangle" type of geometric microlith, must have fallen in the intermediate period.

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JOÃO ZILHÃO