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Excavations at the Peștera cu Oase: The Chronometric, Stratigraphic and Taphonomic Context of Europe's Earliest Modern Humans

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The Peștera cu Oase yielded cranial remains of two early modern human individuals. The associated stratigraphic and chronometric evidence (direct radiocarbon dating of the human fossils and of many other faunal samples, as well as U-series dating of speleothems growing on the surface of the deposits) constrains the deposition of the Oase 1 mandible to the ca. 42–41 ka cal BP interval, whereas the age of the Oase 2 cranium is likely to fall in the same range and is securely in excess of 34 ka cal BP. Their morphology includes several archaic, cf. Neandertal traits, suggestive of admixture at the time of contact, which is consistent with the fact that, given dates for the latest Neanderthals in central and eastern Europe, the Oase fossils must represent the continent's earliest modern human populations; correlation with the Greenland climate proxy places their immigration no earlier than the beginning of GIS-11. No evidence of human activity was recorded in the Oase system, which, throughout the period of accumulation of the bone assemblages contained therein, functioned as a cave bear hibernation site, first, and then as a wolf den. The taphonomic context indicates that the human remains relate to a natural accumulation process, not to mortuary behaviour. No post-cranial material was found, and all human bone fragments recovered belong to either the Oase 1 mandible or the Oase 2 cranium; the teeth missing in both were not found either, in spite of the water-sieving of the sediments. These absences are likely to be a reflection of the limited size of the excavated area (ca. 10 m², for a total volume of some 2.5 m³), which was constrained by the nature of the (speleodiving) access route and an overall conservationist approach to what is one of the best preserved cave bear sites known.
