Dietary shift of Late Pleistocene bears from the Romanian Carpathians as a response to climate variability (PN-III-P1-1.1-PD-2021-0262)

https://www.paleotrace.com/

● Phase 2 - Interdisciplinary analysis of cave deposits

►The second phase of the project, spanning from January 1st to December 31st (2023), marked the successful completion of four tasks aligned with the primary objectives of the project. The process involves collecting fossil remains (from caves and paleontological collections; Fig.1), conducting analyses in laboratories (Fig. 2), participation in training courses/paleontological, archaeological excavations and at international conferences (Fig. 3) and publishing research articles.

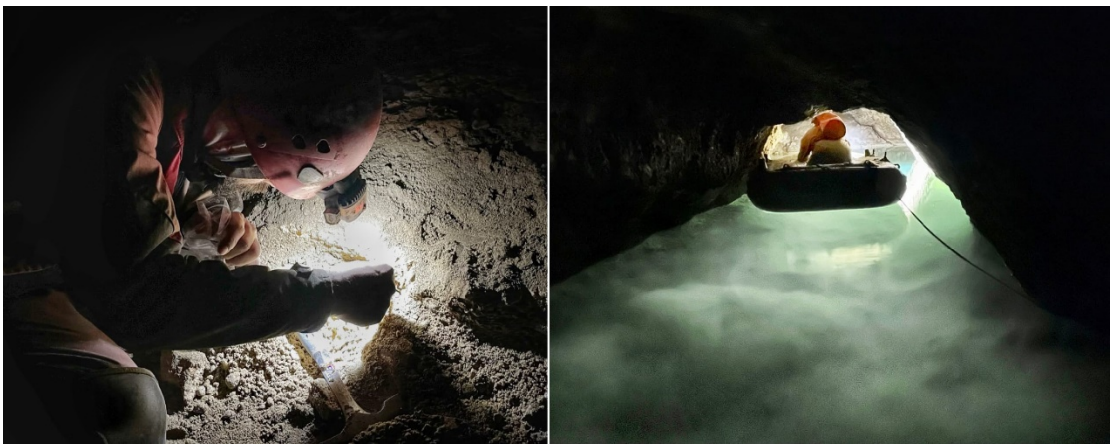

Figure 1. Sampling fossil remains from caves

► During this period we aimed to achieve the following deliverables: (i) *results on isotope analyses and radiocarbon dating;* (ii) *integrating the result in the database;* (iii) *publishing the preliminary results of the project;* (iv) *participating at international conferences and paleontological/archaeological excavation*s.

► To achieve our goals more than ~ 300 fossil remains (*Ursus spelaeus*- sensu lato, *Ursus arctos* and associated fauna) from several sites and paleontological collection were sent or analyzed ($\delta^{13}C$, $\delta^{15}N$) and ~ 20 samples were radiocarbon dated (*Vilnius Radiocarbon Laboratory and Poznan Radiocarbon Laboratory*). Moreover, interdisciplinary analyses on microbial communities from cave sediments and their impact on the conservation and diagenesis of the fossil remains and speleothems were conducted (*Haidău et al., 2023; Theodorescu et al., 2023*).

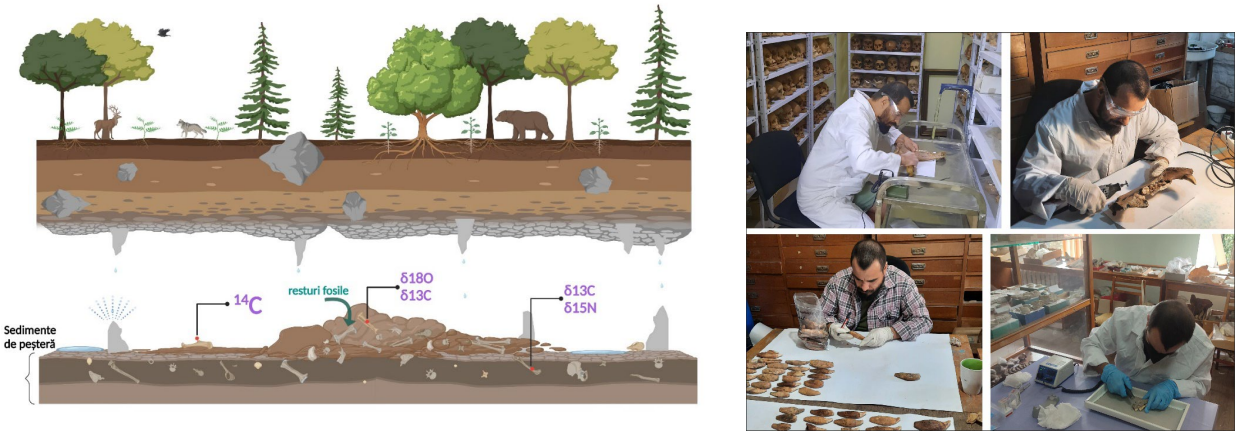

Figure 2. A. The main analyses carried out in the project; **B**. Sampling fossil remains from collections, measuring and analyzing them

► The preliminary results were shared through tree presentations at international scientific conferences, and two scientific papers were published:

♦ Cătălina Haidău, Paul Adrian Bulzu, **Ionuț Cornel Mirea,** Ruxandra Bucur & **Oana Teodora Moldovan** (2023). *Potential Environmental Drivers of Fossil Bones Degradation—A Metabarcoding Approach in Two Carpathian Caves.* Geomicrobiology Journal, 40:7, 654-666. https://doi.org/10.1080/01490451.2023.2227625 (F.I. 2.3).✓

♦ Theodorescu, M., Bucur, R., Bulzu, PA., Faur, L., Levei EA., **Mirea I.-C.,** Cadar O., Lopes Ferreira R., Souza-Silva M., and **Moldovan OT** (2023). *Environmental Drivers of the Moonmilk Microbiome Diversity in Some Temperate and Tropical Caves.* Microbial Ecology (2023). https://doi.org/10.1007/s00248-023-02286-8 (F.I. 3.6).✓

► Participation at the archaeological excavation from Atapuerca site (*Burgos; Spain- Fig. 3*) and participation at the XXI INQUA Congress 2023, July 14th-20th 2023 (Rome, Italy).

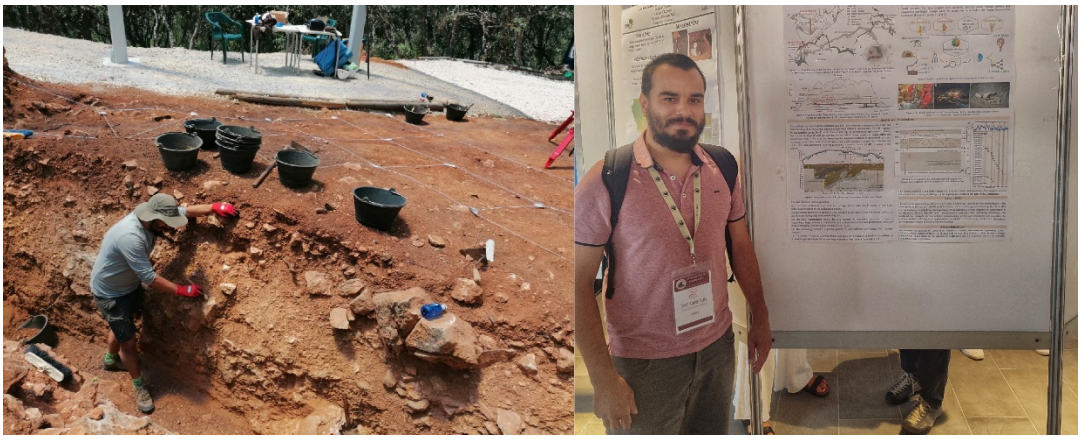

Figure 3. A. Participation at the Atapuerca excavation (Burgos, Spain); **B**. Participation at the XXI INQUA Congress 2023, July 14th-20th 2023 (Sapienza University of Rome, Italy)