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First archaeobotanical evidence of multiporate Poaceae pollen from early–middle Holocene deposits of the Takarkori rock shelter in the central Sahara

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Résumé en

The Takarkori rock shelter, located in the Tadrart Acacus mountains in southwestern Libya (central Sahara), has been the subject of interdisciplinary research that has repeatedly shed light on the complex relationships between humans and plants in prehistory. The preservation of organic matter is so exceptional that well identifiable plant macro- and micro-remains, zoological remains, as well as molecular residues, lipids, and ancient DNA are recovered. Well preserved pollen grains were extracted by sediments and coprolites accumulated into the site. Among them, some multiporate pollen of Poaceae were extracted for the first time, an interesting anomaly that has never been reported in the Holocene Sahara (Mercuri et al. 2022). Poaceae multiporate pollen is known to be an effect of reproductive cycle abnormalities; it is often related to high levels of hybridization, polyploidy and apomixis. The occurrence of this anomaly in Poaceae pollen has been connected to plasticity of the grass species, and to their ability to reply to environmental stresses. Takarkori's multiporate pollen was found in the pollen sequence from the site, mainly concentrated in the Late Acacus foragers (~10,170 - ~8180 cal BP) and Middle Pastoral herders (~7160 - ~5610 cal BP), and in coprolites of ovicaprines dated to ~9500-5700 cal BP (di Lernia et al. 2019). Its presence reveals that Poaceae that lived in central Sahara have tackled several environmental stresses, under climate or anthropogenic change pressures, during the early and middle Holocene. The highest amount of multiporate Poaceae pollen in coprolites was found in samples taken from the area of an enclosure of young Barbary sheep, dated to the Late Acacus (early Holocene) period. This strongly suggests that the fodder collected to feed the animals was repeatedly selected from high stands of weed and wild cereals in the area, like those known by hunter-gatherers and repeatedly visited to gather wild cereals for food, and that this was a form of management strategy originating from a deep knowledge of environmental dynamics. References Mercuri A.M., Clò E., Florenzano A., 2022. Multiporate pollen of Poaceae as bioindicator of environmental stress: first archaeobotanical evidence from the early–middle Holocene site of Takarkori in the central Sahara. *Quaternary* 5(4), 41; <https://doi.org/10.3390/quat5040041> Rotunno R., Mercuri A.M., Florenzano A., Zerboni A., di Lernia S., 2019. Coprolites from rock shelters: hunter-gatherers "herding" Barbary sheep in the Early Holocene Sahara. *Journal of African Archaeology* 17, 76-94; <https://doi.org/10.1163/21915784-20190005>.

Mots clés en

anomalous pollen ; wild cereals ; desert ; climate change ; hunter_gatherer_fishers ; pastoralists ; coprolites

Domaines

Archéologie et Préhistoire Environnement et Société

Liste complète des métadonnées

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