

KOZJA PEĆ





Nakon nekoliko kratkih probnih kampanja kojima je cilj bio utvrditi arheološki potencijal, tijekom 2022. godine započela su sustavna iskopavanja Kozje peći na Dugom otoku. Pećina se nalazi na sredini otoka na visini od oko 200 m nad morem, otprilike kilometar sjeverozapadno od ulaza u radarsku postaju na Veljoj straži. Iskopavanja su obavljena u sklopu projekta *EpiC* Hrvatske zaklade za znanost (IP-2019-04-6115).

Kozja peć je jednostavan, ali velik speleološki objekt nastao urušavanjem stropa velike podzemne dvorane koje je otkrilo prostoriju ovalnog oblika dugu oko 40 m. Tek se uz rubove, prije svega južni i istočni rub, sačuvao dio originalne kalote, dok njezine ostatke pronalazimo rasute na gotovo cijeloj površini. Ulaz u dvoranu moguć je s jugozapadne strane, dok je s ostalih onemogućen visokim stijevama.

Površina dvorane prekrivena je slojem amorfne kamena, a tek je južni rub nešto čišći. Na tom se mjestu na zidu pećine primjećuju tragovi paljenja vatre što pokazuje da su aktivnosti bile usmjerene na ovaj dio, što je pak moglo utjecati na to da se držao relativno čistim. Jedini prostor u

Systematic excavations of Kozja peć on the island of Dugi otok began in 2022, after several short trial excavation campaigns aimed at determining its archaeological potential. The cave is located in the middle of the island at a height of about 200 meters above sea level, about a kilometer northwest of the entrance to the radar station on Vela straža. The excavations were carried out as part of the *EpiC* project of the Croatian Science Foundation (IP-2019-04-6115).



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Kozja peć is a simple but large speleological feature created by the collapse of the ceiling of a large underground hall, which revealed an oval-shaped room about 40 m long. A part of the original calotte has been preserved only along the edges, primarily the southern and eastern edge, while calotte remains are found scattered over most of the interior. The entrance to the hall is possible from the southwestern side, while it is blocked from the other sides by high rocks.

The surface of the hall is covered with a layer of amorphous stones, and only the southern edge is somewhat cleaner. In that place, traces of fire can be seen on the wall of the cave, suggesting that

pećini lišen nanosa amorfne kamena odredio je i poziciju za probnu sondu, kao i za kasnija sustavna iskopavanja.

Probna iskopavanja rezultirala su skoro 4 m debelim depozitom u kojem se izmjenjuju svega nekoliko centimetara tanki slojevi paljevine, sivog praškastog sedimenta i žute pjeskovite zemlje. Povremeno su se među njima nalazili i slojevi smeđeg kompaktnijeg depozita u kojima je pronađena i većina pokretnog kulturnog materijala. Izmjena sterilnih slojeva s kulturnim depozitima upućuje na izmjenu prirodnih procesa poput erozije i djelovanja vode s antropogenim aktivnostima poput čišćenja i paljenja organskog materijala.

Iako su potrebne dodatne analize sedimenta, na osnovi makroskopskog uvida moguće je napraviti paralelu s depozitima iz Pupićine peći u Istri gdje su facijesi tzv. „slojevitih torta“, sličnog makroskopskog izgleda i sastava interpretirani kao posljedica cikličkog spaljivanja stajskog otpada (Boschian 2006: 157). Ovakva sedimentologija slojeva, uz nalaze kostiju ovikaprda, govori u prilog sezonskom korištenju Kozje peći za držanje stada ovaca i koza.

Različite slojeve prati i kulturni materijal koji upućuje na korištenje pećine od kasnog neolitika/

activities were focused on this part, which could have influenced the fact that it was kept relatively clean. The only space in the cave devoid of deposits of amorphous stones also determined the position of the trench, as well as the subsequent systematic excavations.

Only a few centimeters thin layers of soot, gray powdery sediment and yellow sandy soil alternate in the nearly 4 meters thick deposit uncovered in the trial excavations. From time to time, layers of brown, more compact deposits were also found among them, in which most of the small finds were found. Alteration of sterile layers with cultural deposits indicates the alteration of natural processes such as erosion and water action with anthropogenic activities such as cleaning and burning of organic material.

Although additional analyses of the sediments are needed, on the basis of macroscopic inspection it is possible to draw a parallel with the deposits from Pupićina peć in Istria, where the facies of the so-called “layer-cakes”, with a similar macroscopic appearance and composition, were interpreted as a consequence of the cyclic burning of stable waste (Boschian 2006: 157). This sedimentology of the layers, together with the finds of ovicaprid bones, supports the seasonal use of Kozja peć for



⋮ Sonda B (foto: M. Bodružić)
⋮ Trench B (photo: M. Bodružić)



⋮ Čišćenje podnice (foto: M. Bodružić)
⋮ Cleaning the floor (photo: M. Bodružić)





Antički objekt (foto: M. Bodružić)
Roman-era structure (photo: M. Bodružić)



Arheološki profil (foto: M. Bodružić)
Archaeological profile (photo: M. Bodružić)



Brončana kopča (foto: K. Crnović)
Bronze buckle (photo: K. Crnović)

ranog eneolitika. Nisu isključena niti starija razdoblja jer su probna iskopavanja zaustavljena na dubini od 3,8 m, ne zbog pojave zdravice ili matične stijene nego zbog smanjenog prostora za iskopavanje.

Bogat kulturni depozit, uz mnoštvo slojeva s prepoznatljivim nalazima, te činjenica da kulturni slojevi idu i ispod razine istražene tijekom probnih iskopavanja, zahtijevao je nastavak istraživanja i prelazak na sustavna iskopavanja. Ona se trenutno izvode na prostoru od 20 m² što bi trebalo biti dovoljno za neometan rad na dubljim slojevima.

Iskopavanjem je definirano 12 razina hodnih površina koje pokazuju kulturnu sliku kakvu smo vidjeli u probnoj sondi. Jedino nalaza kasnog srednjeg ili novog vijeka gotovo da i nema, nego se gotovo od početka počinju pojavljivati nalazi s karakteristikama antičkog razdoblja.

Na dubini od 40 cm pronađeni su ostatci suhozidnog objekta, identičnog dvama čiji se obrisi i

keeping herds of sheep and goats.

The different layers are accompanied by cultural material suggesting that the cave was used from the late Neolithic/early Eneolithic. Older periods are not excluded either, because the trial excavations were stopped at a depth of 3.8 m, not because of the appearance of the matrix soil or bedrock but because of the reduced space for excavation.

A rich cultural deposit, along with many layers with recognizable finds, and the fact that the cultural layers go below the level explored during the trial excavations, required the continuation of research and the transition to systematic excavations. They are currently carried out in an area of 20 m², which should be enough for undisturbed work on deeper layers.

The excavation defined 12 levels of walking surfaces that show the cultural image recorded in the trench. Only medieval and post-medieval finds are almost completely lacking, but finds with the characteristics of Roman period start to appear almost from the beginning.





danas vide prislonjeni uz južni zid pećine na dijelu bliže ulazu. Riječ je o kutu objekta koji je građen u suhozidnoj tehnici s dva lica od krupnijeg kamenja i ispunom od sitnog kamenja. Prekid uz južnu stijenu pećine otkriva ulaz, dodatno naglašen velikim kamenim blokom. Stratigrafija i kulturni materijal u slojevima uokolo upućuju na antičku provenijenciju objekta, a ona je dodatno potvrđena datiranjem uzorka ugljena iz njegove podnice. Datum kronološki smješta ovaj objekt u razdoblje 2. i početka 3. st. po Kr. (1870 \pm 30 BP, 2S 116 - 239 cal AD/84-96 cal AD; Beta-634031).

Antička faza zaokružena je slojevima na kojima objekt leži, među kojima se posebno ističe debeli sloj pepela nastao pod utjecajem velikog vatrišta čiji je dio istražen već u probnoj sondi. Datumi dobiveni za ovo vatrište odlično se uklapaju u one dobivene datiranjem objekta ili keramičkog materijala i pokazuju da je vatrište nastalo na prelasku era (Beta-634032, 2060 \pm 30 BP, 2S 162 cal BC - 17 cal AD). U ovim slojevima primjetno je i povećanje broja nalaza grube keramike s prapovijesnim karakteristikama koji nagoviještaju slijed prapovijesnih slojeva ispod, no oni će pričekati sljedeću kampanju istraživanja.

At a depth of 40 cm, the remains of a dry-stone wall building were found, identical to the two whose outlines can still be seen leaning against the southern wall of the cave in the part closer to the entrance. It is the corner of the building, which was built in the dry-stone wall technique with two faces of larger stones and an infill of small stones. A break along the southern rock of the cave reveals the entrance, additionally emphasized by a large stone block. The stratigraphy and cultural material in the surrounding layers suggest Roman-era provenance of the building, which was additionally confirmed by the dating of a charcoal sample from its floor. The date chronologically places this building in the period of the 2nd and the beginning of the 3rd century AD (1870 \pm 30 BP, 2S 116 - 239 cal AD/84-96 cal AD; Beta-634031).

The Roman-era phase also encompasses the layers on which the structure lies, with especially prominent thick layer of ash formed by a large hearth, part of which has already been explored in the trench. The dates obtained for this hearth correspond well to those obtained by dating the building or ceramic finds and show that the hearth was formed at the transition of eras (Beta-634032, 2060 \pm 30 BP, 2S 162 cal BC - 17 cal AD). In these layers, there is also an increase in the number of finds of coarse pottery with prehistoric characteristics that suggest the sequence of prehistoric layers below, but they will have to wait for the next research campaign.

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