PEĆINA VLAKNO NA DUGOM OTOKU

Vlakno cave on Dugi otok

foto / photo: D. Vujević

Pećina Vlakno smjestila se na središnjem dijelu Dugog otoka nasuprot otoka Rave. 40 m² iskoristivog prostora, u kombinaciji s velikim ulazom okrenutim prema jugoistoku i izvorom vode u blizini pokazalo se kao izvrsno mjesto za boravak manjih zajednica tijekom kasnog paleolitika i ranog mezolitika.

Pećina Vlakno na Dugom otoku već je dugi niz godina u fokusu znanstvene, a nerijetko i šire javnosti, zbog rezultata arheoloških istraživanja koja se u njoj provode još od 2004. godine. Do danas je u pećini arheološkim istraživanjima dosegnuta dubina od 5 m, s kulturnim slojevima koji se u kontinuitetu mogu pratiti sve do 19,500 god. prije sadašnjosti, iako dosegnuta dubina nije konačna u smislu kulturnih slojeva. U već standardnom terminu u rujnu 2022. godine započela je 18. arheološka kampanja, financirana kroz projekt *Epigravetijenske zajednice sjeverne Dalmacije* Hrvatske zaklade za znanost. Uz autore, u istraživanjima su sudjelovali suradnici na projektu iz različitih europskih znanstvenih institucija, kao i studenti arheologije Sveučilišta u Zadru.

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Vlakno cave is located in the central part of Dugi otok opposite the island of Rava. With 40 m² of usable space, combined with a large entrance facing southeast and a water source nearby, the cave proved to be an excellent dwelling place for smaller communities during the late Palaeolithic and early Mesolithic.

Vlakno cave on Dugi otok has been in the focus of the scholarly community for many years, and often also of the general public, due to the results of archaeological research conducted there since 2004. To date, archeological research has reached a depth of 5 m in the cave, with cultural layers that can be traced back to 19,500 years ago before present, although the depth reached is not final in terms of cultural layers. The 18th archaeological campaign, financed by the *EpiC* project of the Croatian Science Foundation, began, traditionally by now, in September 2022. In the excavations, the authors were joined by collaborators on the project from various European scientific institutions, as well as archeology students from the University of Zadar.

Stratigrafskom sekvencom pećine Vlakno još od najdublje dosegnutih razina dominiraju slojevi s nalazima epigravetijenske kulture. Ovogodišnja kampanja usmjerena je na istraživanje onih koji se datiraju u razdoblja prije 17000 godina. Vrijeme je to u kojem je jadranski okoliš izgledao potpuno drugačije. Ledeno doba upravo je izašlo iz svog vrhunca, ali izrazito hladna klimatska slika i dalje je prisutna. Zbog zadržavanja vode u ledenjacima na sjevernom dijelu hemisfere svjetska razina mora je pala za preko 120 m (Surić 2006) Jadransko more je bilo svedeno na poluzatvoreni bazen dok je sjeverni dio današnjeg mora bila prostrana dolina rijeke

The stratigraphic sequence of Vlakno cave is dominated by layers with finds of the Epigravettian culture, from the deepest levels reached. This year's campaign was focused on investigating those dating back to 17,000 years ago. It was a time when the Adriatic environment looked completely different. The peak of the Ice Age had just finished, but the extremely cold climate was still present. Due to the retention of water in the glaciers in the northern part of the hemisphere, the world sea level fell by more than 120 m (Surić 2006). The Adriatic Sea was reduced to a semi-closed basin, while the northern part of today's sea was the vast valley of the river Po. Back then, the cave was located high above the surrounding area, and the entire Dugi otok had the shape of a ridge 100 to 400 m high above the valleys (Vujević 2016). Unlike most sites of that time on the eastern coast of the Adriatic, cultural layers and finds from Vlakno, explored during 2022, show that even at a time when most of the European continent was under permanent ice, communities visited the cave and stayed in it.

The defined phases do not differ from those already discovered in the previous Stratum 8 regarding deposition. Hardly recognizable and short-lived hearths still appear in the central part, although located more towards the cave wall, while the rest of the space is covered by different floors. It is a compact, greasy soil with pieces of coal that is lost along the edges of the research area, primarily along the northern part where there is a loose layer full of calcite that crumbles from the cave walls. The uniform deposits of the Stratum 9 phases, currently the focus of research, are also uniform in the cultural material, although it is less abundant. Despite the reduced number, all categories of finds are represented. The material is dominated by the remains of fauna, and that of large ruminants. Among them, the discovery of the skull of a wild donkey (*Equus hydruntinus*) stands out as it was an animal that was a favorite of Paleolithic hunters on the Adriatic. Finds of this type are present at the Upper Paleo-

Iskopavanje slojeva Stratuma 9 (*snimio: L. Bogdanić*)
Excavation of Stratum 9 layers (*photo: L. Bogdanić*)

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Po. Pećina se tada nalazila visoko iznad okolnog prostora, a cijeli Dugi otok je imao oblik grebena visokog od 100 do 400 m iznad tadašnjih dolina (Vujević 2016). Za razliku od većine nalazišta tog vremena na istočnoj obali Jadrana, kulturni slojevi i nalazi iz Vlakna, istraženi tijekom 2022. godine pokazuju da čak i u vrijeme kada je većina europskog kontinenta pod stalnim ledom, zajednice posjećuju pećinu i borave u njoj.

Depozicijski gledano definirane faze ne razlikuju se od onih već otkrivenih u proteklom Stratumu 8. Slabo izražena i kratkotrajna vatrišta i dalje se pojavljuju na središnjem dijelu, iako više pomaknuta prema zidu pećine, dok ostatak prostora prekrivaju različite podnice. Riječ je o kompaktnoj, masnoj zemlji s komadićima ugljena koja se gubi uz same rubove istraživačkog prostora, prije svega uz sjeverni dio gdje je prisutan rahli sloj prepun kalcita koji se trusi sa zidova pećine. Ujednačeni depoziti faza Stratuma 9, trenutno u fokusu istraživanja, ujednačeni su i u kulturnom materijalu, iako se on pronalazi u sve manjem broju. Pa ipak, unatoč smanjenoj brojnosti zastupljene su sve kategorije nalaza. Materijalom dominiraju ostaci faune i to velikih preživača. Među njima posebno se ističe pronalazak lubanje divljeg magarca (*Eguus hydruntinus*), živo-

lithic sites, but well-preserved, complete remains, especially a skull, are exceptionally rare.

The differences compared to the previous strata are primarily noticed in the lithic material. The lithic assemblage shows three characteristics: on the one hand, we have a greater number of points made on blades, although most of the typological categories consist of backed bladelets and points made on bladelets. The average larger dimensions of the lithic tools in the investigated phases probably suggest a tradition inherited from the early phases of the Epigravettian, which we are approaching through excavation. The last characteristic of the lithic assemblage is the decreasing number of endscrapers, although the thumbnail endscrapers are still the most numerous. Stone raw material for making tools originates in smaller quantities from local sources still visible today on Dugi otok, while most of the raw material comes from deposits at greater distances, especially from the Italian regions of Marche and Umbria.

Bone finds are scarce and limited to pointed types, and personal ornaments are rare. Among the items that can be characterized as jewelry, we can mention two pierced deer teeth and several specimens of pierced *Tritia neritea* snails.

Mokro prosijavanje depozita (*foto: A. Jagić*)
Wet sieving of the deposit (*photo: A. Jagić*)

Čišćenje lubanje E. Hydruntinusa (*foto: M. Mandarić*)
Cleaning the skull of *E. hydruntinus* (*photo: M. Mandarić*)

tinje koja je bila omiljena paleolitičkim lovcima na Jadranu. Nalazi ove vrste prisutni su na nalazištima iz vremena gornjeg paleolitika, no izrazito je rijetko pronaći dobro sačuvane, cjelovite ostatke, pogotovo lubanju.

Razlike u odnosu na prethodne stratume prvenstveno se vide u litičkom materijalu. Litički skup pokazuje tri karakteristike: s jedne strane imamo veći broj šiljaka izrađenih na sječivima, iako većinu tipoloških kategorija čine pločice s hrptom i šiljci izrađeni na pločicama. Prosječno veće dimenzija litičkog oruđa u istraženim fazama vjerojatno ukazuju na tradiciju naslijeđenu iz ranih faza epigravetijena kojima se iskopavanjem približavamo. Posljednja karakteristika litičkog skupa je sve manji broj grebala, iako su i dalje najbrojnija noktolika grebala. Kamena sirovina za izradu alata potječe u manjoj količini iz lokalnih izvora i danas vidljivih na Dugom otoku, dok većina sirovine dolazi s ležišta na većim udaljenostima, pogotovo s područja talijanskih regija Marche i Umbria.

Koštani inventar je malobrojan i svodi se na zašiljene tipove, a osobni ukrasi su rijetki. Od predmeta koji se mogu okarakterizirati kao nakit pronađena su dva probušena zuba jelena te nekoliko primjeraka probušenih puževa Tritia neritea.

Litički nalazi (*foto: K. Crnović*)
Lithic finds (*photo: K. Crnović*)

Definiranje hodne površine (*foto: K. Crnović*)
Defining walking surface (*photo: K. Crnović*)

Općenito gledajući kako idemo prema starijim fazama može se primijetiti opadanje broja nalaza iako se kategorije ne mijenjaju. Također primjetno je da su ostatci faune puno manjih dimenzija, tj. kosti su izrazito fragmentirane. Ono što začuđuje je što se na ovim razinama u probnoj sondi nalazio debeli, gotovo sterilni sloj kršja dok je u sustavnim iskopavanjima on sveden tek na kontaktnu zonu prema probnoj sondi. Na dijelu pećine obuhvaćenim sustavnim iskopavanjima i dalje se, bez vidljivog u prekida u stratigrafiji, nižu kulturni slojevi i hodne površine. Čini se da je kroz ovo vrijeme pećina bila korištena na manjoj površini u odnosu na kasnije, mlađe faze, ali njeno korištenje nije prestalo u tolikoj mjeri da bi ostavilo tragove u stratigrafiji.

Generally speaking, as we move towards the older phases, we can notice a decrease in the number of finds, although the categories do not change. Also, it is noticeable that the remains of the fauna are much smaller, i.e. the bones are extremely fragmented. What is surprising is that at these levels in the test trench there was a thick, almost sterile layer of debris, while in systematic excavations it was reduced only to the contact zone towards the test trench. In the part of the cave encompassed by systematic excavations, the cultural layers and walking surfaces still continue, without a visible break in the stratigraphy. It seems that during this time the cave was used on a smaller surface compared to later, younger phases, but its use did not stop to such an extent as to leave traces in the stratigraphy.

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