

Cranial injuries in the Bronze Age sample from Bezdanjača cave, Croatia



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Introduction

Bezdanjača cave is located on the Vatinovac hill, near Vrhovine in the Lika region of Croatia (Malez & Nikolić, 1975). It was first recognized as a prehistoric site in 1964, and excavated in 1965 (Malez 1979-80). The site is a graveyard, consisting of skeletal inhumations. Skeletons were positioned on the ground, usually in natural crevices or depression within the cave, and not buried. Traces of hearths, stone and wooden structures, burnt animal bones and pottery were found at many places in the cave. According to Drechsler-Bižić (1979-80) this points to elaborate funeral ceremonies. In addition, alongside many human remains, animal skeletons (deer, wild pigs and other animals) were placed. Excavators note that around 200 skeletons were uncovered in the cave in a total of 57 graves, 10 of which contained multiple skeletons (5-20).

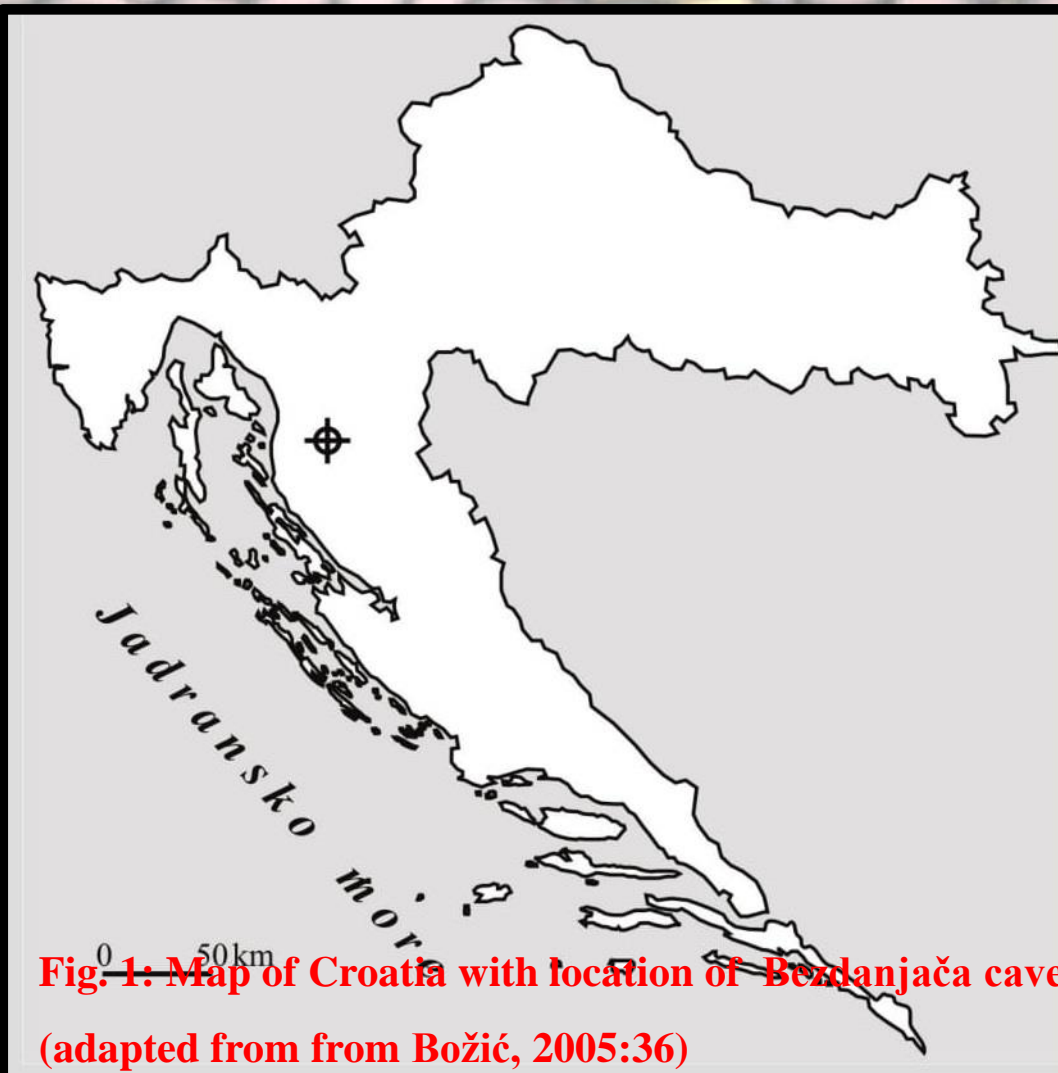


Fig. 1: Map of Croatia with location of Bezdanjača cave (adapted from from Božić, 2005:36)

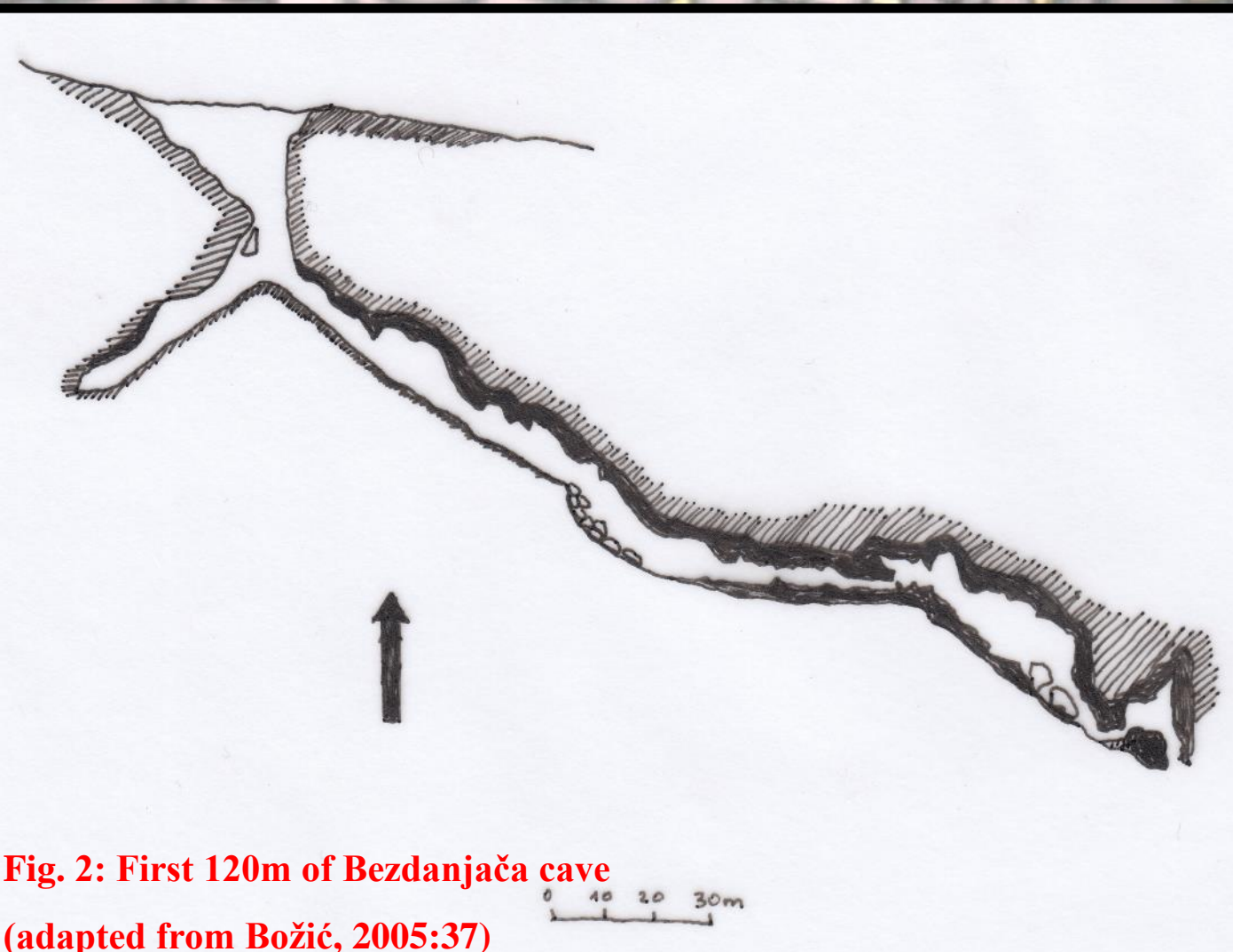
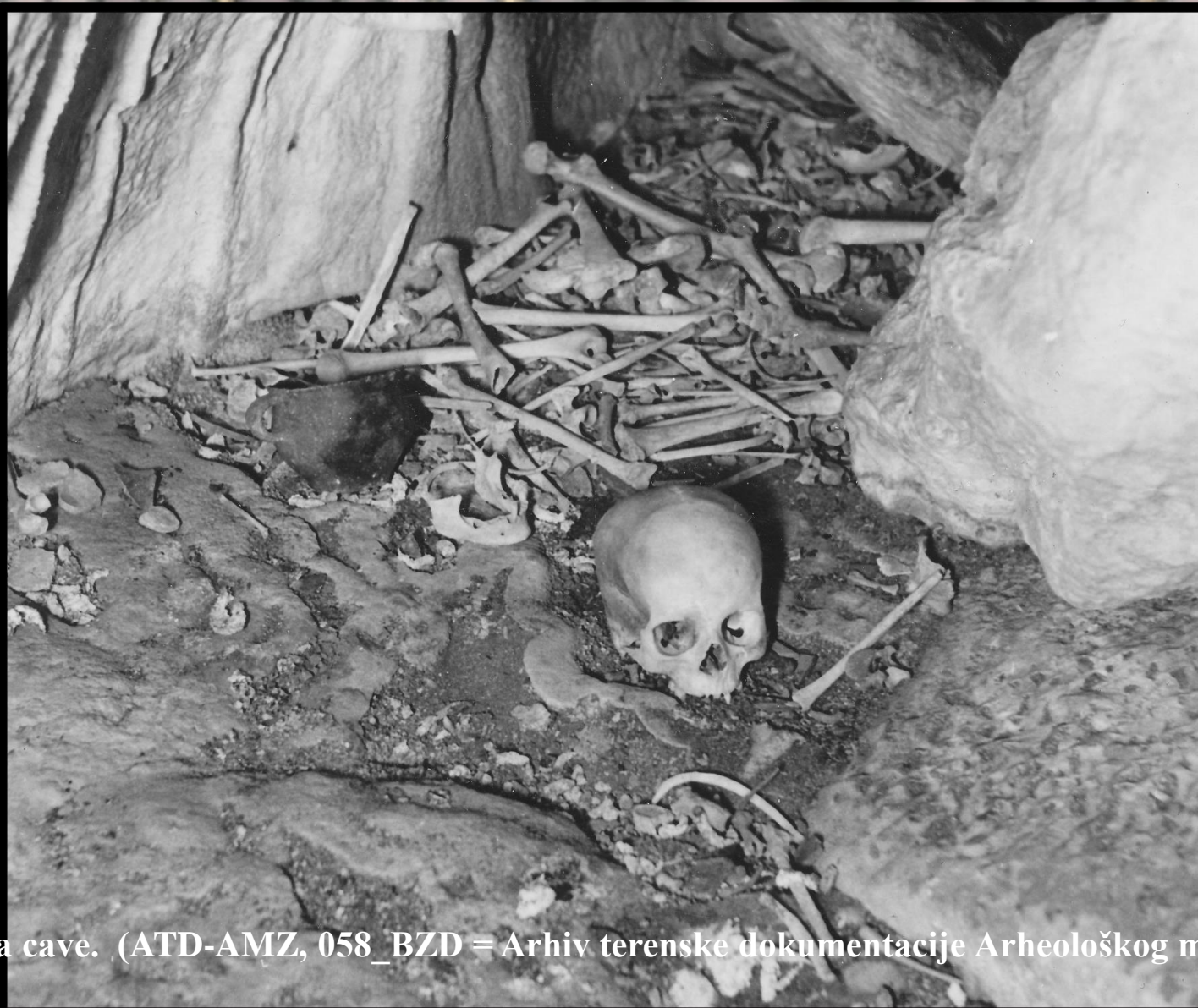


Fig. 2: First 120m of Bezdanjača cave (adapted from Božić, 2005:37)

According to Benac (1993-94), two distinct cultural horizons are present at the site, an older one, dating to the Bronze Age (BrC/D), and a younger one, dating to the Late Bronze Age (BrD/HaA). Drechsler-Bižić (1979-80) assigns both horizons to the proto-Ilyric period, roughly to the turn of the second to first millennia BC. Radiocarbon analysis of several wooden samples from the site resulted in dates between 1350 and 1100 BC (Sliepčević & Srdoč 1979-80). Thus far only preliminary analyses or case studies have been undertaken on the human skeletal material from the site (Malez 1973; 1979-80; Malez & Nikolić 1975; Percač 1992-93; Boljunčić 1991; 1997).



Figs. 3 - 5: Photos taken during excavations at Bezdanjača cave. (ATD-AMZ, 058 BZD - Arhiv terenske dokumentacije Arheološkog muzeja u Zagrebu)

Methodology and results

Skulls of 35 individuals, of which 23 were complete, were given to the Institute for Anthropological Research for analysis. Based on morphological characteristics and details, sex, age, and data on pathologies have been obtained using methodology of Buikstra and Ubelaker (1994), Maples (1986) and Ortner (2008). Based on the results, the analyzed sample consists of 10 females and 10 males, one probable female and four probable males, seven older children and two adolescents. In addition, one adult skull could not be sexed.

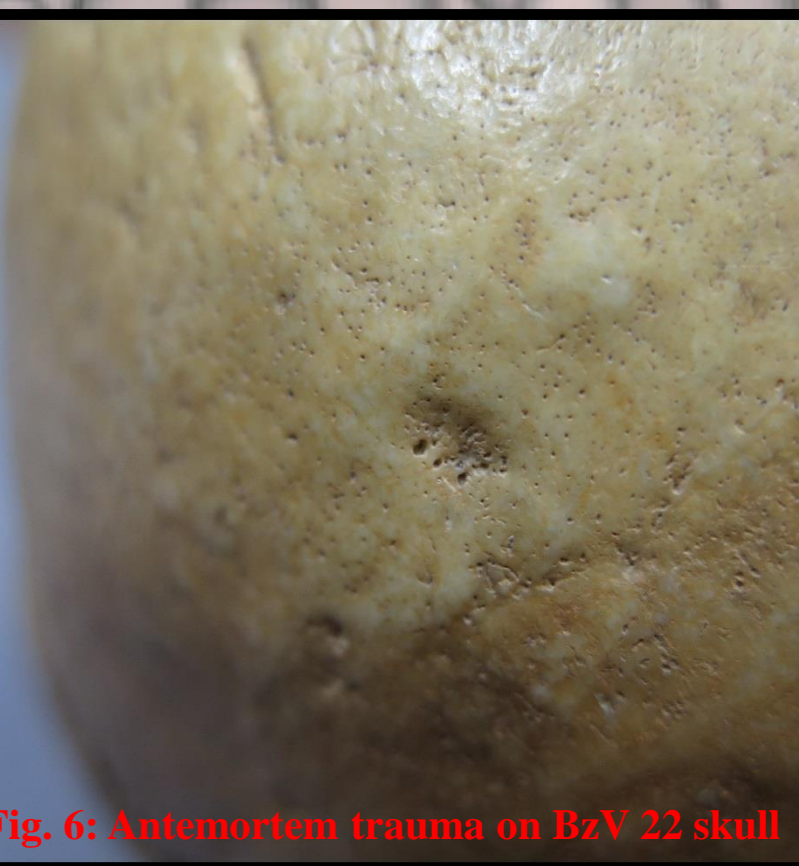


Fig. 6: Antemortem trauma on BzV 22 skull



Fig. 7: Antemortem trauma on BzV X skull

Six adult skulls show blunt force trauma (five antemortem and one perimortem). Further, one female adult skull shows signs of healed trepanation on the frontal bone. Antemortem injuries are present on the cranium of a male between 40 and 60 years at death (BzV-22a), cranium of an older female (over 50 years of age at death) (BzV-27a), cranium of a female aged between 40 and 50 years at death (BzV-28a), cranium of a male aged between 40 and 50 years at death (BzV-34a), and on the cranium of a younger male (18-25 years) (BzV-X). The only perimortem trauma is present on the cranium of an adult male (BzV-11a). This is a massive blunt force trauma of irregular circular shape located on the right parietal bone. An interesting case of a healed trepanation was recorded on the frontal bone of a young female aged between 20 and 30 years at death (BzV-39a).

Bezdanjača cave is the largest single Bronze Age burial site thus far discovered in Croatia. Anthropological material yet has to be studied in extensis, and as the site has been excavated in the 1965, new field work is also warranted.

Currently, the detailed anthropological study of the sample is in progress, and 37 samples from skulls and dentition have been taken for Ancient DNA (aDNA) analysis of the complete genome that is in progress.

Among the challenges for future research are the morphology of the site (vertical entrance opening that requires descend using speleological techniques), and location in the region where there are still land mines left from the 1990's war.



Fig. 8: Perimortem trauma on BzV 11a skull



Fig. 9: Healed trepanation on BzV 39a skull

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