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Author

Voytek, Barbara

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LITHICS ANALYSIS AT GROTTA DELL 'EDERA, ITALY

Stahl Field Report 2011

Archaeological Research Facility, UC Berkeley
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Barbara Voytek, Ph.D.

ARF Research Associate, UC Berkeley
bvoytek@berkeley.edu

During the summer of 2011, a Stahl Endowment Fund grant assisted my completing the analysis of stone tools from the excavated cave site, Grotta dell 'Edera (Aurisina, Italy). The site is located in the karst region north of Trieste, a region that boasts over 100 caves ([Fig. 1](#)). Early excavations had been carried out at Edera between 1969 and 1975, and subsequent excavations took place between 1992 and 2002 with a two-year hiatus in 1994 and 1995. The more recent excavations had been directed by the Author and Prof. Paolo Biagi, University of Venice, engaging students from both Venice and Berkeley. Funding has come from the American Philosophical Society, Philadelphia PA; the National Science Foundation, Washington DC; the Society for the Prehistory and Protohistory of Friuli-Venezia Giulia, Trieste; the Stahl Endowment Fund, UC Berkeley; and the Wenner Gren Foundation, New York.

At Edera we have uncovered close to four meters of deposits made up of superimposed fireplaces, hearths, cooking floors, and firepits, with occupation layers attributed to the Migration and Roman periods, the Bronze and Copper Ages, the Middle and Early Neolithic, as well as the Sauveterrian and Castelnovian Mesolithic that dates between 8,500 and 5,500 BC ([Fig. 2](#)). Water-sieving was done of all the soil removed from the cave, using a 2 mm mesh screen, providing abundant archaeological evidence, including microfauna, fish bones, charred seeds, and land snails as well as artifacts including microliths and debitage. The variations in texture and nature of the sediment at Edera are easily observed from layer 3 downwards ([Fig. 3](#)). The deposit assigned to layer 2 is essentially fine-grained grey-buff silt, while the deposit of layer 3 is compact reddish clay (Biagi, Starnini and Voytek 2008: 251-260).

A hearth/fireplace about one meter in diameter was uncovered in layer 3a. Associated with the hearth was a small Castelnovian lithic assemblage of 538 artifacts (Biagi, Starnini and Voytek 2008: 252). In addition, 17 potsherds were also found, associated with the feature. A date of 6700 \pm 130 BP (GX-19569) – (ca 5,600 CAL BC) was found for the fireplace, rather late in the Castelnovian Mesolithic range.

In terms of faunal remains, there is evidence for hunting red deer, pig and roe deer, but there were also remains of domesticated species, mainly caprines. At the same time specimens of *Patella* and *Monodonta* marine shells totally dominate the faunal remains from this feature. This situation is known from similar cave features of the same age (Biagi and Voytek 1994; Biagi et al. 1993).

During the 1997 season at Edera, in layer 3c of the cave, we uncovered what could be described as a living floor with fire pit that was dated 8,250 \pm 50 (GrA 11818); and 8,350 \pm 120 (GrN 25139) –

7,000 CAL BC. The lithic assemblage reflects a Sauveterrian industry with tools having been made on local poor quality chert – basically bands of black chert found in the local limestone. As a result, the cores are mainly tabular. The tools include long scalene triangles and smaller isosceles triangles (Biagi, Starnini and Voytek 2008:253). There is evidence that the limestone had been split to extract the chert, perhaps heating the rocks to facilitate the process. Bone and antler tools were also found on the living floor, often highly polished and/or used.

Analysis of the faunal remains shows extensive fragmentation of the bones that cannot be exclusively due to natural causes like humidity, pH of the soil, or thermal changes but reflects also human action (Boschin 2004: 24, 75). The most numerous species in terms of number of remains is red deer (*Cervus elaphus*). In addition, there are found the remains of roe deer, wild boar, mountain goat, ibex, *Bos primigenius*, badger, otter, fox, marten, dog, wild cat, lynx, bear, hare, beaver, marmot, and hedgehog. Evidence for butchering was observed on many bones – cutmarks from disarticulation, removing meat from the bone, and fracturing the bone (Boschin 2004: 75).

With the support of the Stahl Endowment Fund, I was able to complete the analysis of the microwear traces of the lithic assemblages from layers 3c and 3a. The study of the 3c tools supported the faunal analysis since an inordinate percentage of the used tools (over 50%) had been used for butchering or scraping and cutting bone. At the same time, the balance of the assemblage showed significant variation in the use of the tools, including wood-working and activities on hides/skins. In this respect, the feature in 3c differed greatly from that of 3a in which a few specialized activities had been performed, mainly connected with the manufacture of armatures. The more recent feature suggests a hunting camp, while the living floor of layer 3c clearly was not. All parts of the animals were represented and there was sufficient faunal evidence to argue for long-term occupation although perhaps not in the winter (Boschin 2004: 75-80).

Studies of the attendant charcoals, to date, have shown that the fuel for the more recent hearth was comprised of a greater variety of tree species characteristic of a mixed oak forest (Nisbet 2000: 169). The mineralogical and pollen studies done to date on the cave deposits have related changes in vegetation to climatic changes through time (Boschian 1997). My goal is to examine the cave as well in terms of human choices and behavior over a period of about 3,000 years of prehistory.

I would like to use this opportunity to thank the Archaeological Research Facility and the Stahl Endowment Fund for the assistance generously provided during the excavations of Grotta dell' Edera and for the most recent grant in 2011.

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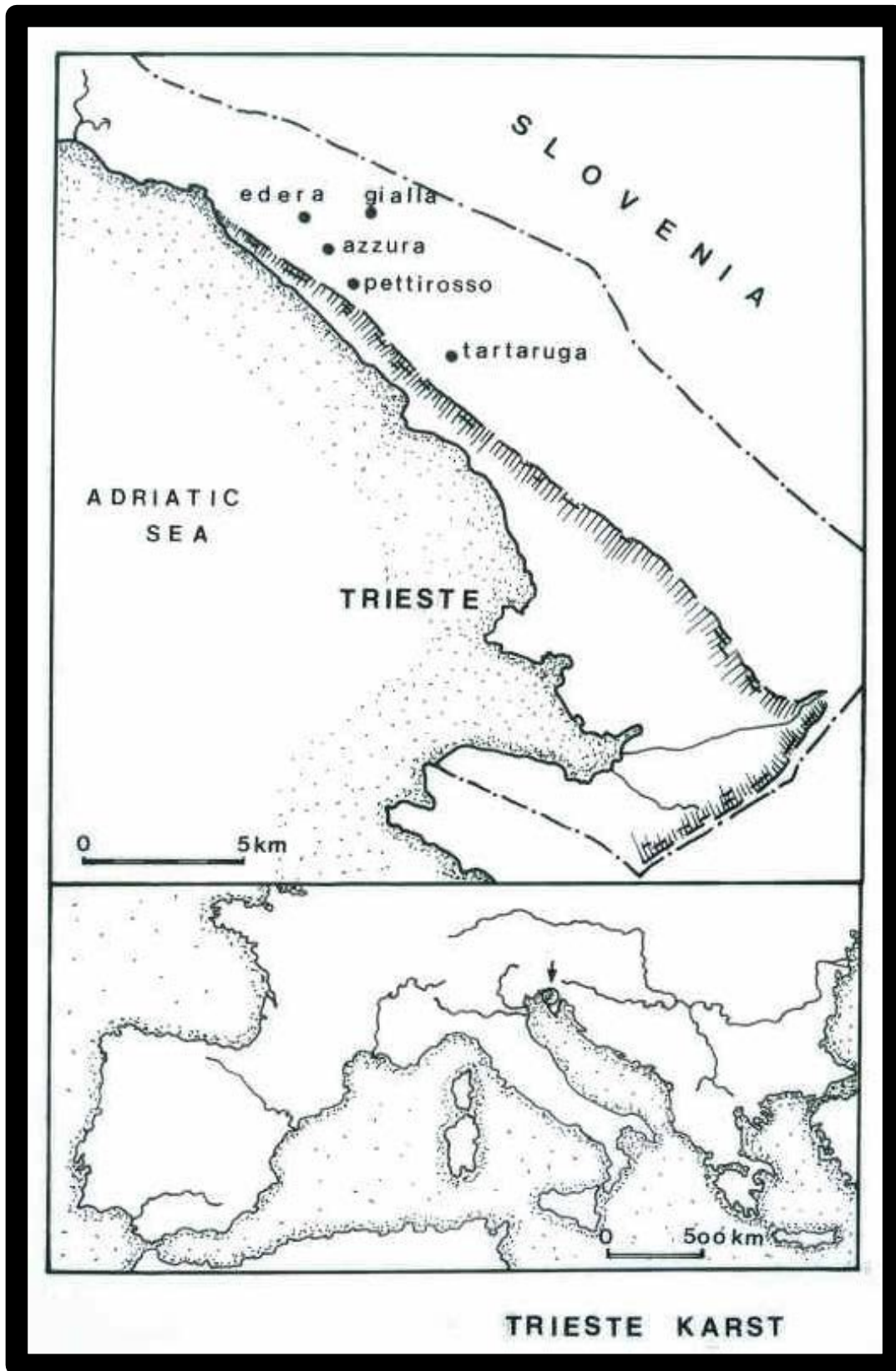


Figure 1. Map of Location in Italy

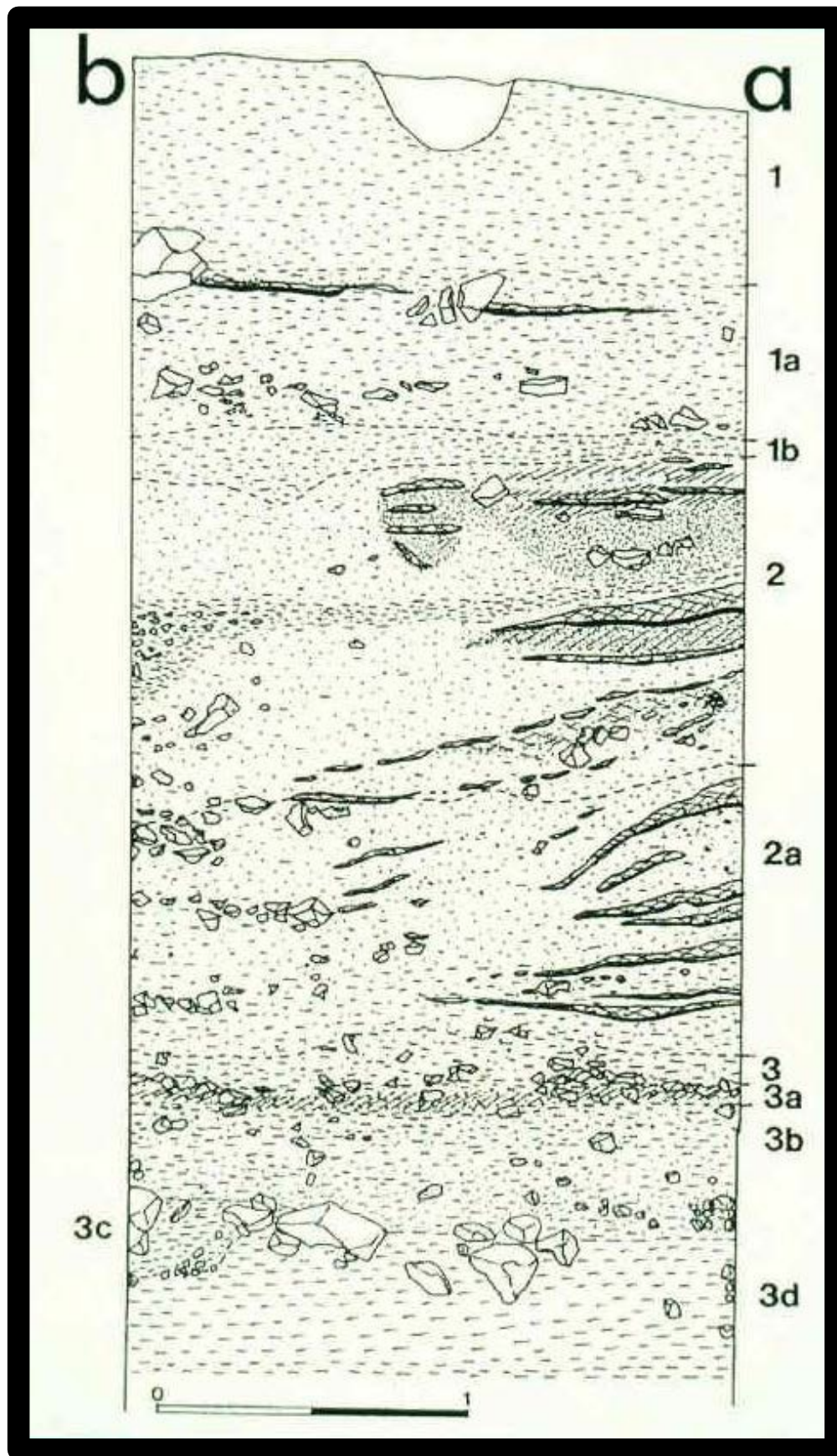


Figure 2. Stratigraphy drawing at Grotta dell' Edera



Figure 3.. Stratigraphy photo at Grotta dell' Edera