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The interface of hominins and Pleistocene fauna: The status of the issue

ABSTRACT

Asphendou Cave is in the White Mountains of Sphakia (720 masl), close to its eponymous village. First published in the early 1960s, it has long been known for its enigmatic rock etchings. This paper presents new research and documentation of the petroglyphs, which comprise a variety of iconographically non-uniform motifs, including prominent cupules (often in circular patterns) and quadrupeds, and a variety of other enigmatic engravings. Determining the chronology of these has proven problematic. While the original publication posited a pre-Neolithic date, most scholars prefer to push the engravings into the Minoan period or later. The purpose of new research in the cave was twofold: to document these important petroglyphs using up-to-date scientific methods of photography and illustration, and to re-evaluate their likely date.

Using photogrammetry, the project produced a detailed 3-D model of the flowstone on which the engravings are carved. Although many of the glyphs are less than a millimeter deep, the model was able to capture the surface with .01 mm accuracy, including even very subtle details. A metrically accurate orthophoto generated from the 3-D model was used to trace a new drawing of the petroglyphs. This approach was advantageous because it yielded a more accurate and more detailed drawing than using more traditional methods. Four engraving events were recognized. This contribution discusses the implications of the Asphendou petroglyphs, with a new rendition of the carvings and their implications for Ice Age Crete.

KEYWORDS: petroglyphs, endemic fauna, artistic reconstruction

Situated southeast of the eponymous village, the Asphendou Cave is high in the White Mountains of west Crete. Though the petroglyphs found there have been thoroughly drawn and published, their dates remain enigmatic (Fig. 1). Scientific analyses cannot yet solve this problem, but this essay takes an art historical approach to suggest an early Holocene or late Pleistocene date for *some* of the engravings. If all of them are viewed as a palimpsest, with some later than others, one can identify patterns not considered in earlier interpretations, whereby iconography on the lowest level is similar to Terminal Pleistocene/Mesolithic depictions elsewhere in the Mediterranean.



Fig. 1. The Asphendou petroglyphs
(by C. Kolb. Courtesy of *The Journal of Archaeological Science Reports*).

Archaeology and paleontology on Crete developed in isolation from each other. Crete has been an island for the past ca 5.5 Ma, which comprises the whole evolution of hominins. The Pleistocene fauna on Crete is the typical suite found on Mediterranean islands: good overseas colonizers such as deer, elephants, hippopotami and rats. There was an attempt to combine the above two fields, but it was unsuccessful (Kuss 1964). One interest they do share is island biogeography, which was an obvious paradigm for paleontology, but somewhat delayed in Cretan archaeology until the work of John D. Evans (Evans 1973). He was the first scholar on the island to think of it as a laboratory for human behavior.

The Asphendou carvings are positioned in a small area (1.16 x 0.63 m) on flowstone in the front area of the small, south-facing cave. Since the cave is located near the top of a gorge that connects a high mountain plateau to the Libyan Sea, Papoutsakis (Παπουτσάκης 1972) thought it an ideal location for hunting fauna, and interpreted the petroglyphs accordingly. He classified the engravings using iconographical criteria:

(I) CONCRETE AND THEMATIC REPRESENTATIONS

Representations depicting horned animals, which he thought were chamois and antelopes, associated with bows, arrows, trees, javelins or oars, harpoons and a possible boat.

(II) ABSTRACT SYMBOLS

Tectiform, linear and circular symbols, along with small disc-shaped cavities arranged in groups of lines, ellipses or circles in no fixed order.

Papoutsakis (1972) contended that the concrete representations reflected a hunting community specializing in one type of quarry during the Upper Pleistocene and Early Holocene. Consequently, the carvings should date to the Palaeolithic or Mesolithic period. He recognized that in combination with other factors such as the altitude and topography of the cave (i.e., overlooking a hunting pass), the successive engravings, and the abstract symbols which could represent fertility, all associated with a rock shelter, strongly suggested an Upper Palaeolithic date.

Zois (1972) followed Papoutsakis and suggested two solutions for dating the carvings. The first possibility was that since the concrete representations show hunting scenes, they must represent a period older than the earliest farming community at Knossos (Aceramic Neolithic in Knossian terminology). Therefore, they can date no later than ca. 6500 BC and may be as early as 8000 BC. The second possibility was that the Asphendou carvings were contemporary with the earliest Neolithic cultures on Crete. Zois posited that as farming was developed in the lowlands, the people of the mountains remained hunter-gatherers.

Faure's publication (1972) of the Asphendou Cave petroglyphs was somewhat different from that by Papoutsakis. He classified the carvings into categories similar to Papoutsakis, but dated them to the Early Bronze Age, or possibly Middle Bronze Age. He interpreted some of them as spears with metal tips and, following Branigan's typology of spears (Branigan 1974), dated them to Early Minoan II. In addition, Faure claimed that the use of a composite bow and the representation of string, holes bored in rock, the spiral, and the double axe all pointed to the

second millennium comparanda in the Aegean and Palestine. Moreover, Faure collected sherds from the cave dating to the Early to Middle Bronze Age.

In support of Faure's late dating, if the scimitar-horned animals could represent *agrimia* (i.e., the feral Cretan goat), the carvings must be Neolithic or later (but see below). The *agrimia* are descendants of feral domesticates that were introduced to Crete during the Aceramic period at Knossos (Groves 1989). Investigations by Nixon and colleagues (1990) found no evidence for pre-Neolithic at Asphendou.

The Asphendou carvings need a more secure archaeological context. Even stratified deposits cannot date these carvings absolutely, because a given stratum and the carving are not necessarily associated. The carvings could have been incised prior to or after the deposition of the stratified pottery. The only dating method available here to archaeologists is iconography. Though the cupules and their configurations do parallel the lunar calendars identified in the Upper Palaeolithic in France, there is no method of providing absolute dates for the engravings themselves. Their date thus remains uncertain until independent chronometric methods can be used. One aspect of the petroglyphs that is not apparent in the illustration, however, is the differing depths of the engravings. With some exceptions, the categories outlined by Papoutsakis (1972) are also reinforced by their differing depths (Strasser et al. 2018, 2019). The concrete and thematic forms are shallower and below the deeper engravings of the cupules, possibly representing a boat and starburst. This may reflect the use of different tools (stone versus metal), but certainly shows that the deeper engravings were made after the shallower ones. If it is viewed as a palimpsest in stone, it is apparent that the cupules and images that resemble a boat and starburst are carved over (i.e., later) the quadrupeds, with a different tool that made for deeper incisions.

Since geochronologic dating is untenable, all that can be done is to recognize that the shallower engravings, composed of quadrupeds, pre-date the deeper engravings, and that the two groups are stylistically different from each other. In addition, the depictions are germane to early Holocene art found elsewhere in the Mediterranean. In light of recent pre-Neolithic discoveries on Crete around Plakias and Mochlos (Strasser et al. 2009, 2010, 2011, 2016; Runnels et al. 2014), it is now known that Crete had a human presence as early as the Mesolithic period, and the same is now accepted for the Cyclades (Sampson 2019). Even far earlier phases for a hominin presence on the Mediterranean islands are gaining greater acceptance. Consequently, it is not unreasonable to conjecture that the Asphendou Cave petroglyphs may date to the Terminal Pleistocene and/or Early Holocene.

The authors analyzed the carvings, recognized that there were superimposed engraving events like a palimpsest, and separated them into levels. It was then apparent that the oldest engravings showed a herd of quadrupeds with antlers (Strasser et al. 2018, 2019). We have argued that they represent a deer that went extinct at the end of the Pleistocene. The antlers are unique to the species *Candiacervus ropalophorus*. This identification was possible because paleontological research has revealed more fossil evidence for this species, which was the dominant large herbivore in the final twenty centuries of the Pleistocene. This identification is the result of the only project on the island that has combined paleontology and iconographical analyses.

The predominance of the deer with antlers suggests that the herd consists primarily of males. The large scimitar-shaped horns, slight build, short legs, and miniscule tail are very similar to this extinct species. Unlike *agrimia*, these quadrupeds have very large appendages that extend back to the base of their tails. *Agrimia*, on the other hand, have horns that curve down and scimitar towards the shoulders. There were eight morphotypes of the deer genus *Candiacervus* during the Pleistocene, with varying amount of nanism (dwarfing) common among island endemic fauna. The smallest form could be as diminutive as 40 cm in its adult height. It has been speculated that these deer went extinct due to the arrival of humans (Lax and Strasser 1998).

Soft tissue has been added to the simple outlines of the engravings to render an idea of what the artist(s) saw and were trying to replicate (Figs. 2, 3, 4); some artistic license is taken here. The choice of shape is based on fossil evidence of *Candiacervus ropalophorus* (de Vos 1984, van der Geer 2018). The coat colors are more speculative, but not unreasonable or unwarranted. They are based on modern, phylogenetically related deer, and, if not exact, probably give a close approximation of what the artist(s) saw. Considering the ever-increasing evidence for the presence of pre-agriculturalists on the Mediterranean islands, it does not seem entirely unlikely that they left behind traces of symbolic activity (Simmons 2014). The Asphendou petroglyphs have been misunderstood because scholars have considered they were created in broadly contemporaneous times (see Strasser et al. 2018, 2019). The flowstone provides an excellent surface for engravings and was reused over time, like so much of the art of this period. The subject and style are not incongruous for Terminal Pleistocene or Early Holocene art. Terrestrial faunae are very common motifs. The depiction of now extinct animals in Palaeolithic art is a common phenomenon. The many woolly mammoths (*Mammuthus primigenius*) at Rouffignac Cave, or the giant Irish Elk (*Megaloceros giganteus*) at Lascaux (France) are well known. In addition, Palaeolithic art frequently lacks a groundline, as is seen here.

The Asphendou petroglyphs are an eyewitness account of Crete at the end of the Pleistocene, when deer were very prevalent on Crete, perhaps reaching an apex population. This was a time of potential overlap between hominins and extinct fauna, an idea already expressed by Tzedakis in reference to Gerani cave (Τζεδάκις 1973). It was dismissed at the time, but now needs to be reconsidered, especially in light of the cave's location within the large Pleistocene fossil bed on Crete. The Gerani cave is in the most likely place for evidence of a human/fauna overlap. There are fossil finds from the coasts, both east and west, and broadly contemporary petroglyphs at 720 masl at Asphendou. These humans explored the island well; and Crete's mountains are not easy to cross. It is safe to assume that Palaeolithic humans explored much of the island, and more discoveries from this period are yet to be made. Now that it is more widely accepted that there was a pre-Neolithic human presence on the Mediterranean islands, it is time to re-evaluate the evidence for symbolic behavior.



Fig. 2. The basal level of the petroglyphs, showing a herd of quadrupeds argued to be *Candiacervus ropalophorus* (by C. Kolb and S. Murray. Courtesy of *The Journal of Archaeological Science Reports*).

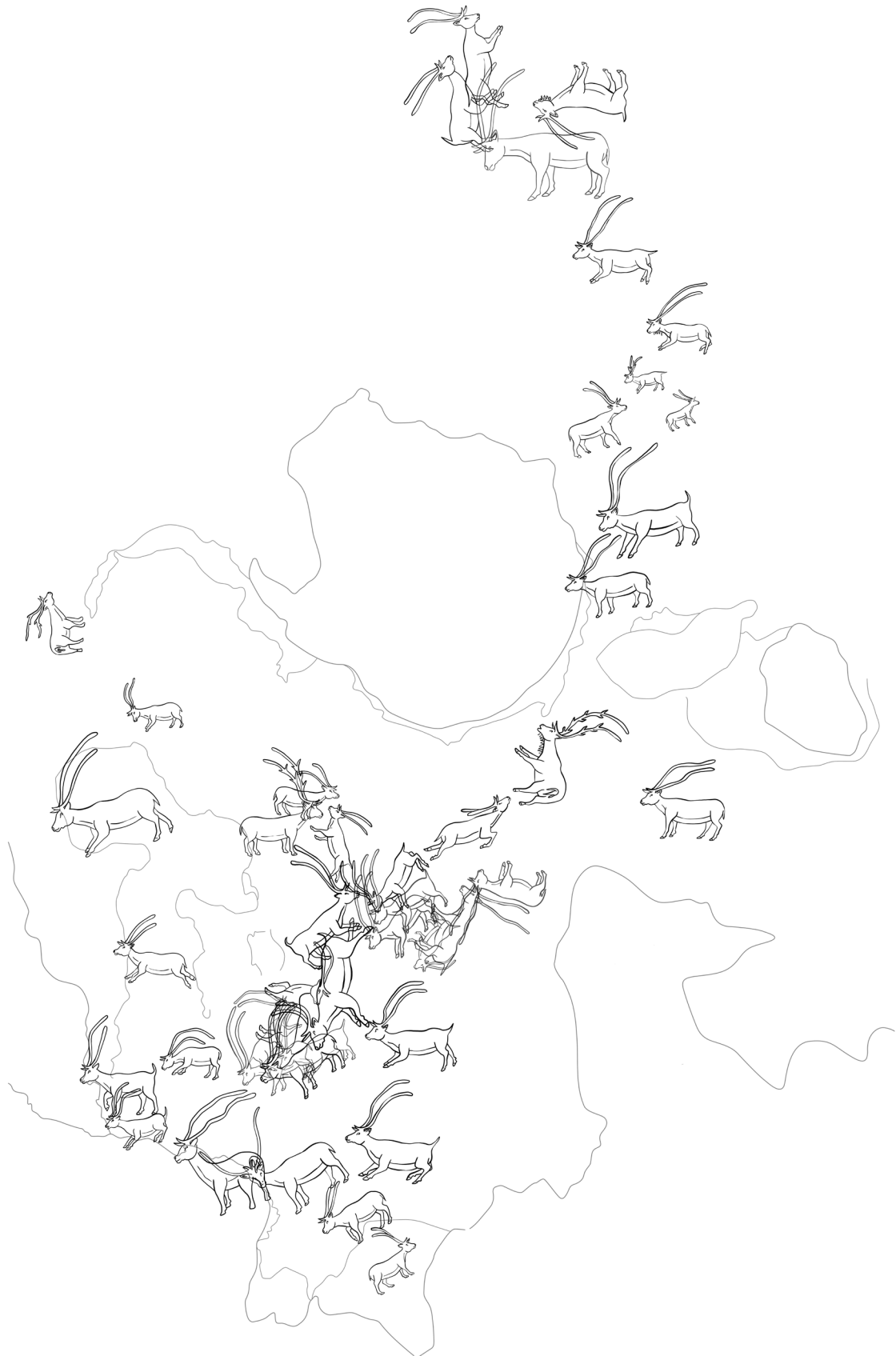


Fig. 3. An artistic rendering of the petroglyphs. A couple of deer were added after Fig. 2 and are extensions based on partially preserved engravings of deer (by L. Bonga).

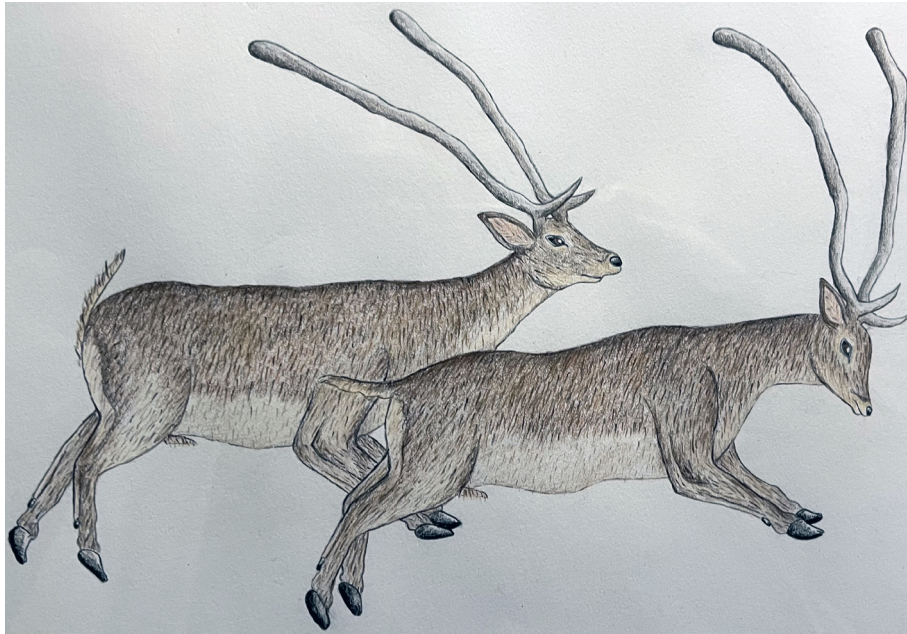


Fig. 4. A color elaboration of the two deer at the very top (north) of the petroglyphs (by L. Bonga).

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