

**Ewa Kuciewicz, Paweł Polkowski,  
Michał Kobusiewicz**

---

**Dakhleh Oasis Project, Petroglyph  
Unit : Rock Art Research 2011**

---

Polish Archaeology in the Mediterranean 23/1, 229-244

---

2014

Artykuł został opracowany do udostępnienia w internecie przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego. Artykuł jest umieszczony w kolekcji cyfrowej [bazhum.muzhp.pl](http://bazhum.muzhp.pl), gromadzącej zawartość polskich czasopism humanistycznych i społecznych.

Tekst jest udostępniony do wykorzystania w ramach  
dozwolonego użytku.

# DAKHLEH OASIS PROJECT PETROGLYPH UNIT: ROCK ART RESEARCH, 2011

Ewa Kuciewicz,<sup>1</sup> Paweł Polkowski,<sup>2</sup> Michał Kobusiewicz<sup>3</sup>

<sup>1</sup> Institute of Archaeology, Jagiellonian University, <sup>2</sup> Poznań Archaeological Museum,

<sup>3</sup> Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poznań branch

**Abstract:** Research by the Petroglyph Unit in the 2011 season was concentrated on recording two sites. One was site 6/09 in the Central Oasis, a multicultural site unusually rich in rock panels bearing an abundance of representations of ostriches and of the sandal/foot motif. The other one was Winkler's site 62 in the Eastern Oasis, mainly of prehistoric provenance, with an exceptional panel depicting seven artful images of anthropomorphic figures.

**Keywords:** rock art, petroglyph, oasis, female figures, sandal motif, animals

The Petroglyph Unit is part of the international interdisciplinary Dakhleh Oasis Project (DOP) and its work is coordinated by the Polish Centre of Mediterranean Archaeology of the University of Warsaw (PCMA UW). Fieldwork in the 2011 season had to be delayed due to the outbreak of the January 25 revolution in Egypt and was consequently shorter than originally planned. In the Central Oasis, some

additional tracings and photographs were made on site 5/09, but the major effort went into completing the documentation of site 6/09, which had been started already in 2009 (Kuciewicz, Kobusiewicz 2012), but required much greater involvement due to its complexity. The other major task accomplished in this brief season was the recording of Winkler's site 62 in the Eastern Oasis.

## SITE 6/09

The site is located in the western part of the Central Oasis, on a sandstone cuesta situated 2.75 km south of the modern tarmac road (25°30'55.19"N, 29°8'48.80"E). The hill is 40 m long, no more than 10 m high, oriented north–

south [*Fig. 1*]. The frontslope on the north side is a steep, cliff-like formation, backed on the south with a gentle slope that is easy to climb. The main clusters of petroglyphs are located on the north, northwest and northeast walls, as well as

at the top of the hill. The set of rock drawings is exceptionally rich: more than 30 panels and hundreds of single images, representing practically all the main periods in the history of the Dakhleh Oasis.

The oldest, prehistoric drawings are represented by dozens of ostrich figures [Fig. 2], which may be dated to the

Middle/Late Neolithic or Old Kingdom.<sup>1</sup> They occupy long smooth panels facing northwest, relatively high up on the steep northern cliff, making them impossible to trace. A combined technique was employed in their execution, the bodies of the ostriches being abraded to resemble sunken relief, the legs and necks of figures



*Fig. 1. Site 6/09, view from the north  
(Photo P. Polkowski)*

---

#### Team

*Dates of work:* 8–17 February 2011

*Coordinator:* Prof. Michał Kobusiewicz (Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poznań branch)

*Archaeologists:* Ewa Kuciewicz (Institute of Archaeology, Jagiellonian University), Paweł Polkowski (Poznań Archaeological Museum), Eliza Jaroni (independent)

---

#### Acknowledgments

The project was financed jointly by the Polish Centre of Mediterranean Archaeology of the University of Warsaw and the Patrimonium Foundation in Poznań. Members of the field party wish to express their gratitude to DOP Director Anthony J. Mills and PCMA Director Piotr Bieliński for their ongoing support.

<sup>1</sup> It has been suggested that ostriches were extinct in the Dakhleh Oasis area probably before the Sixth Dynasty (Pantalacci, Lesur-Gebremariam 2009).

engraved. All of the animals were executed in an identical style and were oriented to the right. Indeterminate quadrupeds and human-like figures with exaggerated fingers and toes appeared between them. The ostrich composition appears to have been produced by one person and should be regarded in all probability as a narrative scene. A similar scene was recorded in the Kharga Oasis, although the birds depicted there were interpreted as storks (Ikram 2009: 71, Figs 3, 4). A much closer analogy is afforded by a panel found by Hans Winkler on his site 64 and published by Pavel Červíček (1986: 56, Fig. 401). There, a row of nine ostriches was executed in a style identical to that of the images on site 6/09. They were all oriented to the right and were

perfectly fitted to the shape of the rock, forming a natural register. The formal similarity of these characteristic but separate groups of petroglyphs is an issue to be investigated in the future.

A Neolithic origin should probably be ascribed to a giraffe and anthropomorphic figure composition registered on the northeastern wall, approximately 6–7 m above the bottom of the wadi [Fig. 3]. The giraffe theme and execution technique suggest a prehistoric dating for this group. The giraffe figure was produced in combined technique, using pecking for the trunk and neck of the animal, and engraving for the legs, tail and horns.

Some figures potentially belonging to the Neolithic horizon can be seen also higher up on the cliff. The morphology



*Fig. 2. Panel with ostrich depictions on site 6/09 (contrast enhanced)  
(Photo P. Polkowski)*



of the rock at that time must have been different, affording an easier climb. At present these images cannot be examined in detail and have to be considered perhaps as indeterminate for the time being.

Most of the recorded petroglyphs from the site are, however, of Dynastic, probably Graeco-Roman date on the

whole. Foot and sandal images, of which there is more than 30 examples, are the commonest type. All were engraved on horizontal surfaces, sometimes in clusters, but more often as single images, never however as a pair (left and right shoe/foot executed in the same style). The foot/sandal motif is well known from the Eastern Sahara and the Mediterranean



*Fig. 3. Giraffe and anthropomorphic figure on the northeast wall of bill 6/09  
(Photo P. Polkowski)*



in general. It has been recorded in many places in Egypt (Castiglione 1970; Červíček 1986) and Sudan (Hellström, Langballe 1970, corpus Aa; Váhala, Červíček 1999), but its meaning in rock

art remains a matter of debate (Verner 1973: 13–56). Červíček dated some of the sandal petroglyphs to Horizon C (2100–1400 BC), but most of them to Horizon E (1050 BC–AD 250, Červíček 1986).



*Fig. 4. Foot and sandal depictions from site 6/09: top, panel with foot and sandals in outline executed in different styles; bottom left, foot representation; bottom center, sandal with heel and straps depicted; bottom right, sandal with straps inside (Photo P. Polkowski)*

Verner (1973) considered most of the Lower Nubian examples as a product of the Graeco-Roman period.

The nearest parallel to rock art comes from temples in the Nile Valley. Feet and sandals occurred in large numbers, especially on the roofs of many of the Egyptian and Nubian temples. One such place is the Khons temple in Karnak, where hundreds of the motifs were registered and many of them with accompanying inscriptions (Jacquet-Gordon 2003). The short texts related to the foot and sandal images help to date these motifs as well as shed light on the meaning conferred on them. Research on the graffiti from the Khons temple has shown that they were executed from the late New Kingdom through the Ptolemaic period by minor priests of local origin, who wished to manifest their piety and eternalize their existence in the house of their god.

No graffiti texts accompany the finds from site 6/09, hence the dating remains vaguely Late and Roman period, but it may be possible that some examples, especially the feet, were produced earlier. Feet engravings from the Nephthys Hill in the eastern part of the oasis, investigated by Olaf Kaper, have been proposed to belong to Old Kingdom times, when the Oasis was colonized by Egyptians, particularly in the times of the Fifth and Sixth Dynasties (Kaper, Willems 2002). Thus, the examples from site 6/09 could have been produced over a number of centuries.

Feet petroglyphs were less frequent than sandals and were executed in different styles and not always with equal care. One example with slightly bent little toe and marked toenails [Fig. 4, bottom left] is strongly naturalistic in expression, while at least two other feet are outlined

in somewhat haphazard and uneven fashion, the general shape distorted and exhibiting a supernumerary digit (six toes shown). Images of sandals are even more differentiated, in terms of execution quality as well as shoe type. Examples from the corpus can depict nothing more than an outline [Fig. 4, top] or have a bipartite construction with clearly depicted heel and straps projecting from it [Fig. 4, center bottom], or they can be schematically hatched, presumably in depiction of a network of straps, which in some cases are depicted extremely naturalistically as braids [Fig. 4, bottom right]. The lattermost type is rare and its engraving would have been a relatively longer process as well as demanding greater skill. All of the sandals and feet were located on horizontal surfaces.

Another recorded motif, although not as numerous, is the so-called pubic



Fig. 5. Two sandals and a pubic triangle in juxtosition from site 6/09 (Photo P. Polkowski)



triangle. The chronological context in this case could have been as differentiated as in the case of the feet/sandal motif. Investigations of Nephthys Hill brought to light a boulder with pubic triangle and *mr* hieroglyph (Kaper, Willems 2002: 88), which suggests that it probably has Old Kingdom roots. It cannot be excluded however that this particular motif was produced in much later times, even in the Arab period. At the site, pubic triangles occurred as single images or in small clusters, and in two cases they were associated with sandals [Fig. 5], which may be an indication of their being carved in the same period.

As for other representations, a few images of quadrupeds and two depictions of birds may be ascribed to the Dynastic period, although further examination is in order before any final determinations are made.

The younger time horizons are represented by relatively large numbers of geometric motifs (squares, rectangles, different configurations of lines). Their



Fig. 6. Tribal mark(?) located high on the north-east side of the cliff on site 6/09 (Photo P. Polkowski)

exact chronology is difficult to establish, but they look fresh and their v-shaped section profile suggests the use of a sharp tool (a knife perhaps). Some of them resemble Arabic *wusum*, Bedouin tribal marks known from virtually all parts of the Sahara and the Arabian Peninsula (Winkler 1938; 1939; 1952; Field 1952; Huyge 1998: 1383–1385). These marks are fairly simple and usually take on geometrical shapes, consisting of lines and dots. Some of the motifs found at site 6/09 resemble *wusum* marks from other regions of Egypt and Sudan, for example, some found in the Selima Oasis (Fig. 6; compare Newbold 1928: 283, Fig. 7).

A few depictions of the pentagram were also found at the site. These images were all engraved on horizontal panels and were surrounded by other petroglyphs, mainly feet/sandals. Chronology is difficult to ascertain as the five-pointed star is a symbol of antique origin and was used in prehistoric and Dynastic iconography, as well as in early Christian times. Its use as a sign in Arabic magical texts has also been noted (Verner 1973: 66–68).

Arabic inscriptions of modern origin were recorded at the site as well.

The hill is an excellent example of a multi-period site, posing the question as to its importance, considering the accumulation of petroglyphs, which are only sporadically found on other hills in the vicinity. Another issue at hand is the impact that the older rock art could have had on the making of newer petroglyphs. The location of the hill in the landscape and its potential role as a marker on the itinerary of people traveling through the area in the past is another issue for consideration.



## WINKLER'S SITE 62

The site is situated in the sandstone *cuesta* in the Eastern Oasis (about 18 km from the village of Taneida following the modern asphalt road in the direction of Kharga Oasis and at this point about 600 m to the south of it), south of the western protrusion of Gebel Abu Tartur, called also el Battikh promontory. It consists of seven hills, *yardangs*,<sup>2</sup> that are comparatively isolated in an otherwise rather flat terrain. The hills are long, oriented NE–SW and arranged parallel to one another. As a geomorphological form, they are fairly typical of the oasis. Rock art panels were noted on three of these hills with the most interesting ones appearing on the northernmost one (25°21'52.23"N, 29°25'52.90"E).

The hill is about 70 m long and 15 m high in its highest, northern extreme. It descends gently toward the southern verge, almost leveling out with the surrounding ground. The distribution of rock art panels is typical of sites of this kind in the oasis: they are found on the top and on vertical surfaces on the northwestern side.

The most unique and striking rock art panel of this site is placed on the flattened top of the hill, more or less at one third of its length [Fig. 7]. The block it was executed on, which measures 1.30 m by 0.70 m, is loose and it is not clear whether the present position is the original one. Two sections of the surface of this rock were sufficiently smooth and undamaged to be used for carving. The first composition is a scene of six

anthropomorphic figures, most probably female (although James [2012] suggests that not all the images are evidently female) [Fig. 7, top left]. Two figures face the viewer, the other four are in profile. Execution was in a combined technique: deep precise cuts and partly sunken relief. Artful stippling additionally emphasized the outlines. The lower, expanded parts of the body or of the garment were generously ornamented with parallel, sometimes intersecting, curved and diagonal lines. All of the figures in profile feature a bulging form in the abdominal area suggestive of pregnancy. Two of these were depicted in mirror position and connected with a transverse line. A pecked shape of unidentified meaning appears between them. A form executed in the same technique adjoins the group on the left side; it may be yet another, stylistically altered "female" figure.

In another part of the block, a single anthropomorphic figure was carved. It shares the major identification features with the six figures from the first composition, but differs in orientation and overall style [Fig. 7, top right]. The lines decorating the body are extremely refined and distinctly labor-intensive. There are also additional pieces of jewellery visible in the upper part of the silhouette: either a necklace or a pendant of some kind, around the base of the neck or hanging down on the chest.

Anthropomorphic, presumably female representations of this kind are typical of the rock art of the oasis and have

<sup>2</sup> A *yardang* is a streamlined hill carved from bedrock or any consolidated or semi-consolidated material by the dual action of wind abrasion, dust and sand, and deflation.



*Fig. 7. Block at the top of Winkler's site 62; top left, close-up view of a group of six anthropomorphic figures; top right, individual 'female' figure (Photo E. Kuciewicz)*



been recorded most frequently in this area. Parallels are known, however, from beyond the region, even though the range is still territorially quite restricted. Recent additions to the distribution include the site of Meri 99/36, so-called “Ladies Hill” (Riemer 2006: 499), the Chufu region (Kuhlmann 2002: 136; Berger 2006; Riemer 2009: 40) and the environs of Kharga Oasis (Ikram 2009: 75), that is, respectively, about 50 km and 80 km southwest of Dakhleh and about 180 km to the east of it. Although dating prehistoric art is an extremely difficult task, indirect assumptions — iconographic, stylistic, degree of weathering, relation to other archaeological remains, etc. — lead to the suggestion that the carvings were produced by the Neolithic culture Bashendi B, which existed in the Oasis in the 6th and 5th millennium BC,

possibly continuing in the wake of the Sheikh Muftah cultural unit (McDonald 2002: 113). There is an ongoing discussion of the meaning of these representations for the prehistoric societies inhabiting Dakhleh Oasis in the Neolithic period (Polkowski, Kuciewicz *et alii* 2013). It seems legitimate, however, to consider broadly understood fertility associated with reproduction, fecundity and abundance as determining the interpretation of ‘female’ representations from Dakhleh Oasis.

Another cluster of rock art appears on a vertical wall facing east, located on the northeastern side of the hill under discussion [Fig. 8]. It is a solid surface measuring about 5 m by 4 m and covered with dozens of petroglyphs, mostly of animals, appearing singly as well as in micro-scenes, consisting primarily of rows of specimens proceeding in one



Fig. 8. Vertical panel covered with petroglyphs at Winkler's site 62  
(Photo E. Kuciewicz)

direction. The prevailing species among the depicted animals are antelope of various kinds, most probably oryx, possibly addax and hartebeest as well. Giraffes and ostriches are less abundant. The representations were executed in various techniques: gentle incisions, rubbing, sunken relief and pecking. These could often be combined, as in the case of the body of an animal, which is pecked, whereas limbs and horns are

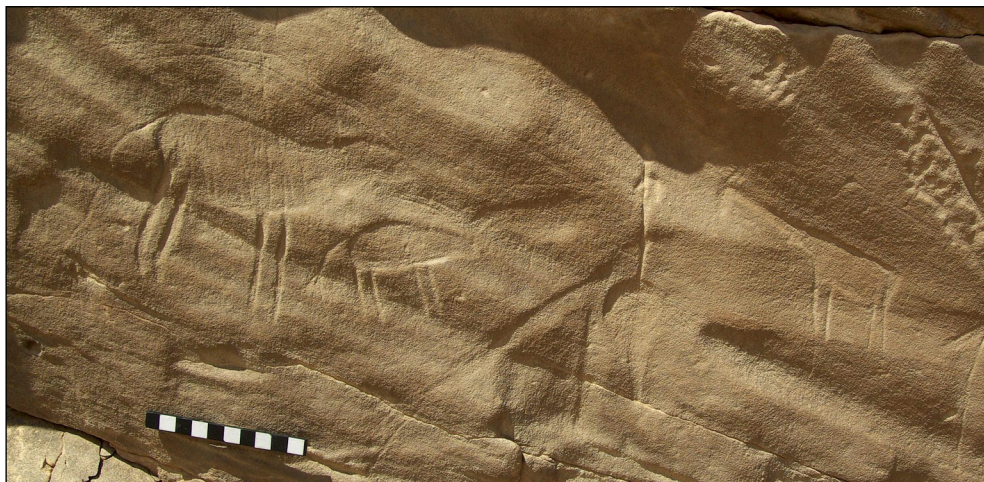
incised. Frequently, the petroglyphs were superimposed, but since no differences in degree of patination could be observed, any possible differences in the time of their creation could not be determined.

Two of the scenes merit special note. A giraffe is depicted in one case, executed in sunken relief with unusual, geometrically stylized legs. An arched line cuts across the back of its body, carved most probably earlier than the giraffe.



*Fig. 9. Giraffe and anthropomorphic figure connected by a line  
(Photo E. Kuciewicz)*





*Fig. 10. Anthropomorphic, possibly female, figure associated with animals  
(Photo E. Kuciewicz)*



*Fig. 11. Bovid chased by dogs  
(Photo E. Kuciewicz)*

At the other end of the line, as if standing on it, is an anthropomorphic figure, presumably a male [Fig. 9]. The meaning of the described scene is not clear. In the rock art of Dakhleh Oasis, depictions of giraffes and anthropomorphic figures connected by a line have been noted before (e.g., Krzyżaniak 2004: 184, Fig. 4), but in these instances, differently than in the present one, the line goes from the animal's head to the men, suggesting leading on a rope.

In the other scene deserving of note, the center is occupied by another anthropomorphic figure, in this case probably a female. It is flanked by animals, a giraffe on the left and a pair of antelopes on the right [Fig. 10]. The slightly spiraling horns of the bigger antelope could suggest an addax. In the rock art of Dakhleh Oasis it is yet another example of female anthropomorphic figures shown in association with animals, mostly giraffes. The meaning of that relation continues to be discussed (Polkowski, Kuciewicz *et alii* 2013: Fig. 4,11).

Adjoining the vertical wall described above there is an almost horizontal platform, slightly descending in a northerly direction. Unlike the nearby vertical surface, it is nearly completely devoid of rock art with the exception of a single scene showing a bovid being chased by three running dogs. It is the only scene that can be ascribed with certainty to the Dynastic period [Fig. 11].

The rock art at Winkler's site 62 included also single petroglyphs

on the second hill from the north (anthropomorphic figure of unidentified gender) and the fourth one (schematic quadruped). On both of the hills, on their upper parts and on the slopes gently descending toward the south, stone structures were recorded, presumably huts of unidentified provenance. Ostrich eggshells and fragments of grinders and grinding stones were observed in great abundance around all of the hills. Moreover, a tethering stone with a visible groove was noted in the direct vicinity of the site [Fig. 12].

A detailed documentation of Winkler's site 62 is only the beginning of a bigger project for the full recording of sites that the German scholar reported in a preliminary publication (Winkler 1939). Sites 66 and 67 have already been relocated, but their actual ranges will be determined in a forthcoming season. Site 66 is a single hill, but site 67 appears to be a conglomerate of many hills, which are yet to be identified.



Fig. 12. Tethering stone in the vicinity of the site (Photo E. Kuciewicz)

Ewa Kuciewicz  
Institute of Archaeology, Jagiellonian University  
31-007 Kraków, Poland, ul. Gołębia 11,  
ewa.kuciewicz@gmail.com

Paweł Polkowski

Poznań Archaeological Museum, Rock Art Unit

61-781, Poznań, Poland, ul. Wodna 27

ppolkowski@o2.pl

Prof. Michał Kobusiewicz

Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poznań branch

61-612 Poznań, Poland, ul. Rubież 46

mkobus@man.poznan.pl

## REFERENCES

Berger, F.

- 2006 Relative chronology of rock art at Djedefre's Water Mountain, SW-Egypt [in:] K. Kroeper, M. Chłodnicki, M. Kobusiewicz (eds), *Archaeology of Early Northeastern Africa. In Memory of Lech Krzyżaniak* [= *Studies in African Archaeology* 9], Poznań: Poznań Archaeological Museum, 195–212

Castiglione, L.

- 1970 Vestigia, *Acta Archaeologica Academiae Scientiarum Hungaricae* 22, 95–132

Červiček, P.

- 1986 *Rock Pictures of Upper Egypt and Nubia* [= *Annali dell'Istituto universitario orientale di Napoli. Supplemento* 46], Naples: Istituto universitario orientale

Field, H.

- 1952 *Camel Brands and Graffiti from Iraq, Syria, Jordan, Iran, and Arabia* [= *Supplement to the Journal of the American Oriental Society* 15], Baltimore: American Oriental Society

Hellström, P., Langballe, H.

- 1970 *The Rock Drawings* [= *The Scandinavian Joint Expedition to Sudanese Nubia Publications* 1], Copenhagen: Scandinavian University Books

Huyge, D.

- 1998 Art on the decline? Egyptian rock drawings from the Late and Graeco-Roman Periods [in:] W. Clarysse, A. Schoors, H. Willems (eds), *Egyptian Religion. The Last Thousand Years II. Studies Dedicated to the Memory of Jan Quaegebeur* [= *OLA* 85], Leuven: Peeters, 1377–1392

Ikram, S.

- 2009 Drawing the world: petroglyphs from Kharga Oasis, *Archéo-Nil* 19, 67–82

Jacquet-Gordon, H.

- 2003 *The Graffiti on the Khonsu Temple Roof at Karnak. A Manifestation of Personal Piety* [= *Temple of Khonsu* 3; *Oriental Institute Publications* 123], Chicago: Oriental Institute of the University of Chicago

James, D.

- 2012 Ambiguous images: The problems and possibilities of analysing rock-art images in the Egyptian Western Desert [in:] C.M. Knoblauch, J.C. Gill (eds), *Egyptology in Australia and New Zealand 2009. Proceedings of the Conference held in Melbourne, September 4th–6th* [= *BAR IS* 2355], Oxford: Archaeopress, 71–84

Kaper, O., Willems, H.

- 2002 Policing the desert: Old Kingdom activity around the Dakhleh Oasis [in:] R.F. Friedman (ed.), *Egypt and Nubia. Gifts of the Desert*, London: British Museum Press, 79–94

- Krzyżaniak, L.  
2004 Dakhleh Oasis. Research on petroglyphs, 2003, *PAM* 15 (*Reports 2003*), 181–189
- Kuciewicz, E., Kobusiewicz, M.  
2012 Dakhleh Oasis Project, Petroglyph Unit. Rock art research 2009, *PAM* 21 (*Research 2009*), 279–287
- Kuhlmann, K.P.  
2002 The “Oasis Bypass” or the issue of desert trade in pharaonic times [in:] T. Lenssen-Erz *et alii* (eds), *Tides of the Desert. Contributions to the Archaeology and Environmental History of Africa in Honour of Rudolph Kuper* [=Africa praehistorica 14], Cologne: Heinrich-Barth-Institute, 125–170
- McDonald, M.M.A.  
2002 Dakhleh Oasis in Predynastic and Early Dynastic times: Bashendi B and the Sheikh Muftah cultural units, *Archéo-Nil* 12, 109–120
- Newbold, D.  
1928 Rock-pictures and archaeology in the Libyan Desert, *Antiquity* 2/7, 261–291
- Pantalacci, L., Lesur-Gebremariam, J.  
2009 Wild animals downtown: Evidence from Balat, Dakhla Oasis (end of the 3rd millennium BC) [in:] H. Riemer, F. Förster, M. Herb, N. Pöllath (eds), *Desert Animals in the Eastern Sahara. Status, Economic Significance, and Cultural Reflection in Antiquity. Proceedings of an Interdisciplinary ACACIA Workshop held at the University of Cologne, December 14–15, 2007* [=Colloquium Africanum 4], Cologne: Heinrich-Barth-Institut, 245–259
- Polkowski, P., Kuciewicz, E., Jaroni, E., Kobusiewicz, M.  
2013 Rock art research in the Dakhleh Oasis, Western Desert (Egypt). Petroglyph Unit, Dakhleh Oasis Project, *Sahara* 24, 101–118
- Riemer, H.  
2006 Out of Dakhla: Cultural diversity and mobility between the Egyptian Oases and the Great Sand Sea during the Holocene humid phase [in:] K. Kroeper, M. Chłodnicki, M. Kobusiewicz (eds), *Archaeology of Early Northeastern Africa. In Memory of Lech Krzyżaniak* [=Studies in African Archaeology 9], Poznań: Poznań Archaeological Museum, 493–526  
2009 Prehistoric rock art research in the Western Desert of Egypt, *Archéo-Nil* 19, 31–46
- Váhala, F., Červíček, P.  
1999 *Katalog der Felsbilder aus der tschechoslowakischen Konzession in Nubien*, Prague: Verlag Karolinum
- Verner, M.  
1973 *Some Nubian Petroglyphs on Czechoslovak Concessions. Rock Drawings of (I) Foot and Sandal Prints, (II) Symbols and Signs, and (III) Erotica from Czechoslovak Concessions in Nubia*, Prague: Universita Karlova
- Winkler, H.A.  
1938 *Rock-Drawings of Southern Upper Egypt I. Sir Robert Mond Desert Expedition. Season 1936–1937. Preliminary Report*, London: The Egypt Exploration Society  
1939 *Rock Drawings of Southern Upper Egypt II. (Including Uwenat). Sir Robert Mond Desert Expedition. Season 1937–1938. Preliminary Report*, London: The Egypt Exploration Society  
1952 The origin and distribution of Arab camel brands [in:] H. Field, *Camel Brands and Graffiti from Iraq, Syria, Jordan, Iran, and Arabia* [=Supplement to the Journal of the American Oriental Society 15], Baltimore: American Oriental Society, 26–35



