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Reaping the Harvest: An Analysis of the Sickle Blades from South Abydos' Naqada III Settlement

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Abstract

"Reaping the Harvest: An Analysis of the Sickle Blades from South Abydos' Naqada III Settlement" is an article that examines the significance of the large number of sickle blades discovered at the Naqada III settlement in South Abydos. These tools, used for harvesting crops, provided valuable insights into ancient Egypt's agricultural practices and economic systems during the Naqada III period.

The discovery of a high concentration of sickle blades at the South Abydos site suggests that this location was an important center for crop production. The sickle blades discovered at this site are made of flint and have distinctive curved edges designed for cutting plants. The number and preservation of the tools indicate that the agricultural activity in the area was intense and sustained throughout the Naqada III period.

These tools also imply a complex economic system in which surplus food production was an important aspect. The ability to produce food surpluses allowed for the development of trade, which in turn led to greater social complexity and the emergence of an elite class. It also shows a good knowledge of the environment and agricultural techniques.

The South Abydos site is significant evidence of the transition from the predynastic to the dynastic era in ancient Egypt. The Naqada III period, in which these tools were used, was a time of significant change and social upheaval as the unified state of ancient Egypt began to take shape. The presence of such a large number of sickle blades at this site indicates that agriculture remained a vital aspect of ancient Egyptian society during this time despite the social and political changes.

In conclusion, the discovery of many sickle blades at the Naqada III settlement in South Abydos provides a wealth of information about the agricultural practices, economic systems, and societal structure of ancient Egypt during the Naqada III period. This article offers an in-depth analysis of the sickle blades and their significance within the context of the period and the site.

Keywords: Sickle blades, Flint, Naqada III, South Abydos, gloss

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حصاد المحاصيل: دراسة تحليله لشفرات المناجل الصوانية المكتشفة من منطقة التجمع السكني بموقع نقادة الثالثة بجنوب أبيدوس

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عضو البعثة المصرية بموقع بداية الأسرات نقادة الثالثة بجنوب أبيدوس، مفتش أثار بوزارة السياحة والأثار، سوهاج، مصر

الملخص

يبحث هذا المقال في أهمية العدد الكبير من شفرات المناجل الصوانية التي تم اكتشافها في منطقة التجمع السكني بموقع نقادة الثالثة بجنوب أبيدوس، حيث قدمت هذه الأدوات المستخدمة في حصاد المحاصيل الزراعية معلومات قيمة عن الأنشطة الزراعية والأنظمة الاقتصادية في مصر القديمة خلال فترة نقادة الثالثة.

يشير اكتشاف عدد كبير من شفرات المناجل في موقع جنوب أبيدوس، إلى أن هذا الموقع كان مركزا هاما لإنتاج المحاصيل، فقد تميزت هذه الشفرات المنجلية المصنوعة من الصوان أن لها حواف منحنية مميزة لقطع سيقان النباتات. كما يشير عدد الأدوات الكبير إلى أن النشاط الزراعي في المنطقة كان مكثفا ومستمرا طوال فترة نقادة الثالثة.

ويعد موقع نقادة الثالثة بجنوب أبيدوس دليلا هاما على الانتقال من عصر ما قبل الأسرات إلى عصر الأسرات في مصر القديمة. كانت فترة نقادة الثالثة، التي استخدمت فيها هذه الأدوات، فترة تغيير كبير وثورات اجتماعية حيث بدأت الدولة الموحدة لمصر القديمة في التبلور. ويشير وجود هذا العدد الكبير من شفرات المناجل في هذا الموقع إلى أن الزراعة ظلت جانبًا حيويًا في المجتمع المصري القديم خلال هذا الوقت على الرغم من التغيرات الاجتماعية والسياسية.

وفي الختام، فإن اكتشاف العديد من شفرات المناجل في منطقة التجمع السكني بموقع نقادة الثالثة في جنوب أبيدوس يوفر ثروة من المعلومات حول الممارسات الزراعية والنظم الاقتصادية والبنية المجتمعية لمصر القديمة خلال فترة نقادة الثالثة. تقدم هذه المقالة تحليلًا متعمقًا لشفرات المنجل وأهميتها في سياق الفترة والموقع

الكلمات الدالة:

شفرات المناجل، الصوان، نقادة الثالثة، جنوب أبيدوس، اللمعان

Introduction

Over four seasons of excavation in the Early Dynastic Settlement at South Abydos, a survey and the excavations have disclosed a new Predynastic and Early Dynastic activities to the north-east of the cemetery site. Through the excavations work, many artifacts were found, such as lithic tools, which represent a large number of the finds collected from the survey and excavations. These kinds of tools namely sickle blades and differences lithic tools, which date to Naqada III (Hossein, 2011:1).

Site description

The Early Dynastic Settlement is located about 75m to the local north of the Early Dynastic cemetery at South Abydos. it covers an area around 150m x 200m.Located on the western edge of the El-Arab Village ,about 300 m to the main temple of the king Seti I and 1250 m to the south-east of the royal tombs at "Umm-el-Qaab"(Hossein, 2019:2).

Figure 1 Areal view of the site in relation to el Araba village.

From ("(Hossein, 2019:10, Fig.1)

Sickle blades

One of the most widespread and common flint implements in the tool kit of Pharaonic Egypt were Sickle blades. In Upper Egypt, appear the segmented sickle inserts during the fourth millennium BC. They were meant to be inserted into wooden hafts (Fig 2-3). The plant resources are use as food is evident from the earliest days of human (Zohary and Hopf, 2012: 1-6). Probable, these plants were gathered by bare hands or by using simple ad-hoc tools (Lucarini, 2011:444).

On the scenes of the old kingdom's tombs show the used of sickle elements on the harvesting and cutting the plants. This cutting leaves a gloss or sheen on the blade's edge, also the quality of flint has an effect on this sheen (Teeter, 2011:204). .Also at Deir el Medina in the tomb of Sennedjem the scenes documented the use of sickle elements where Sennedjem was held a sickle in the scenes harvesting wheat and flax, may be this sickle is serrated because there are a several short parallel lines on the edge of the sickle (Lucarini, 2008:458).

The Flint sickle blades considered significant hallmarks of the late prehistoric and early historic periods. It defined from the beginning as sickle elements, and their function is a reaping tools used for harvesting cereals (Manclossi& Rosen, 2019:6).

The sickle found in the Near East at Natufian sites such as el-Wad in Mount Carmel northern Palestine, The Natufians used a composite harvesting tool, the sickle. These sickles were composed of a handle made of bone or wood, and flint blade inserted in it (Groman-Yaroslavski et al., 2016:1), While in Egypt, sickle blade found in several sites example in the Fayum, Merimde Beni Salama, and El Omari (Noriyuki Shirai, 2010:315) .

Lucarini in 2008 done an empirical study improves that serrated sickle blade were used for harvesting (likely wheat and barley) (Lucarini, 2008:444-455). Also an another empirical study done in the Southern Levant in Southwest Asia (2010) improves that serrated sickle blade were used for harvesting cereals as wheat , the note the results found the dry wheat used in the study may cause relatively faster blade edge attrition rates than wet wheat. (Goodale et al., 2010, 1192-1200)

Figure 2

Tomb of Sennedjem (Deir el-Medina). Harvesting of wheat.
From (Lucarini, 2018: Fig.7, 453)

There are two types of Predynastic sickle-blades. The first type is completely bifacial retouched, rather coarsely Serrated along the working-edge, and may be triangular or pointed at both ends (Payne, 1993:150). Sickle blades of this type are close to the Badarian form, and have been found in early Predynastic contexts in the Armant settlement (Mond, & Myers, 1937:58-61).

The second type of Sickle blades are made on blade-sections, and are either triangular, made on a distal section retouched across the broken end, or rectangular, retouched across both ends. The form and length of cutting-edge of the complete sickle are not known. Sickle hafts from the Fayum Neolithic are almost straight, made of wood. Later sickles in Egypt, rarely found but frequently represented on wall paintings, are shown as more or less curved (Payne, 1993:151).

Figure 3

Reconstruction of an Early Dynastic/Old Kingdom sickle with five rectangular blades in the middle and probably triangular ones at either end (drawing by T. Hikade)

From :(Teeter, 2011:204, Fig.C8).

Figure 4 sickle with blades in a wooden haft

https://www.google.com/url?sa=i&url=http%3A%2F%2Fhumanorigins.si.edu%2Fevidence%2Fbehavior%2Fgetting-food%2Fstone-sickle-blades&psig=AOvVaw3MNStc52fe0EaFMjPuIiOP&ust=1680219543903000&source=images&cd=vfe&ved=0CBEQjhxqFwoTCNDj49yngv4CFQAAAAAdAAAAABAE (Accessed April 1, 2023)

Naqada III Settlement Sickle Blade Production:

Sickle blades have been identified in the South Abydos' Naqada III Settlement chipped stone assemblage from the existence or lack of the characteristic gloss along the edges of the blank. All the blades with gloss have been classified as "sickle blades". They were probably used to harvest grains, although we do not refuse the suggestion that they could have been used to cut other plants.

South Abydos' Naqada III Settlement Collection contains the high number of unifacial retouched sickle blades**,** which makes it one of the important tools in Abydos inventories.

Raw Material

Flint or chart was used for knapped stone tools in ancient Egypt from the Lower Paleolithic until the Dynastic period. The raw material was available in plenty on the desert surface, and it could be mined from the limestone configuration along the Nile Valley (Teeter, 2011:202).

The sickle blades of South Abydos' Naqada III Settlement were produced from local flint or the Nile round or oval pebbles, which is characterized by smooth texture with the brown color in different degrees and the gray color. The size of the complete blades from South Abydos' Naqada III Settlement is between 3 and 6 cm long (fig.1-5).

Analysis of some Sickle blades samples from Naqada III Settlement Analysis:

Dorsal surface

Ventral surface

Sample 1

Catalogue No: 60250

The site: the Early Dynastic Settlement at South Abydos

The color: 10YR 3/1 Dark gray

Material: Flint

The dimensions: Length: 6.7 Cm-Width: 1.1Cm-Thickness: 3mm

Period of artifact: Naqada IIIB-C

The description:

Denticulated sickle segment with a coarse serration , Elongate Triangular and ends squared by inverse retouch along back edge, The edge opposite the glossy edge retouched the purpose of this retouch is to reshape the blade in order to make the hafting easier. The denticulation made by bifacial retouch with direct retouch.

[1] I would like to thank our team director Dr. Yasser Mahmoud for his help to me get the data and his agreement that I publish it, and to thank my college Mr. Mohamed Samah for his help in photo the artifacts.

Ventral surface

Dorsal surface

Sample 2

Catalogue No: 60212

The site: the Early Dynastic Settlement at South Abydos

The color: 10YR 7/4 Pale brown

Material: Flint

The dimensions: Length: 5 Cm-Width: 1.1Cm-Thickness: 3mm

Period of artifact: Naqada IIIB-C

The description:

Truncated sickle segment with a coarse serration along one edge, and clear gloss .straight, rectangle and seem it percussion with a hard hammer, on its surface a reddish brown patina.

Dorsal surface **Ventral surface**

Sample 3

Catalogue No: 60251

The site: the Early Dynastic Settlement at South Abydos

The color: 10YR 6/4 light yellowish gray

Material: Flint

The dimensions: Length: 6.7 Cm-Width: 1.1Cm-Thickness: 3mm

Period of artifact: Naqada IIIB-C

The description:

A double denticulation sickle segment with a coarse serration along one edge. Straight, rectangle and ends squared by direct retouch. No gloss evident on the dorsal Surface or ventral surface.

Dorsal surface **Ventral surface**

Sample 4

Catalogue No: 60181

The site: the Early Dynastic Settlement at South Abydos

The color: 7.5YR 4/3 brown, 7.5 YR 2.5/3 very dark brown

Material: Flint

The dimensions: Length: 4.6 Cm-Width: 1.1Cm-Thickness: 5mm

Period of artifact: Naqada IIIB-C

The description:

Blade segment with a coarse serration along one-edge ends squared by direct retouch. Gloss and denticulation made by bifacial retouch with preliminary nibbling along edge. On the dorsal face appear a small part of cortex. Its ventral face show black patina.

Dorsal surface **Ventral surface**

Sample 5

Catalogue No: 60258

The site: the Early Dynastic Settlement at South Abydos

The color: 7.5YR 4/3 brown, 7.5 YR 2.5/3 very dark brown

Material: Flint

The dimensions: Length: 3.2 Cm-Width: 8mm-Thickness: 3mm

Period of artifact: Naqada IIIB-C

The description:

Segment backed double truncated, with clear sickle gloss and a coarse serrated retouch along one edge. The denticulate helps with a sawing motion. On the dorsal face appear a part of cortex.

Conclusion

All of the sickle elements were made on blades. Some of the blades retouched by using pressure flaking. All the sickle blades have the edge opposite the lustrous or gloss edge retouch. The aim of this retouch is to reshape the blade to make the hafting facilitating. Bifacial retouch blade, unilaterally serrated sickle blade is a hallmark of the South Abydos's Naqada III Settlement, also the double denticulation sickle was represented (Chart 1) but with a smaller number (Sample 3). In addition, the blades are rectangular and straight. The sickle blades were used for harvesting cereals (may be wheat and barley).

Nearly all of the blades have gloss or luster parallel to their edge, which was visible to naked eye along of the denticulate lateral side, and indicates that these sickle blades, was used in cutting the plants with rich silica (Fig. 5). A few blades element that didn’t have any luster on

its edge, which means they weren't used (Sample .2). Some of the sickle blades have luster on both edges (Sample1،4،5), construed as evidence that the blades intensive use (Chart 1).

The presence of this huge number of sickles indicates the existence of an agricultural community in the south of Abydos that produces its own food and makes its tools by itself from the raw materials surrounding it.

Figure 5 Bifacial Sickle Showing Sickle-gloss on the Lateral Side; under microscope (Taken by researcher in 29 April 2019)

Chart 2 showing the percentage of sickle blades gloss

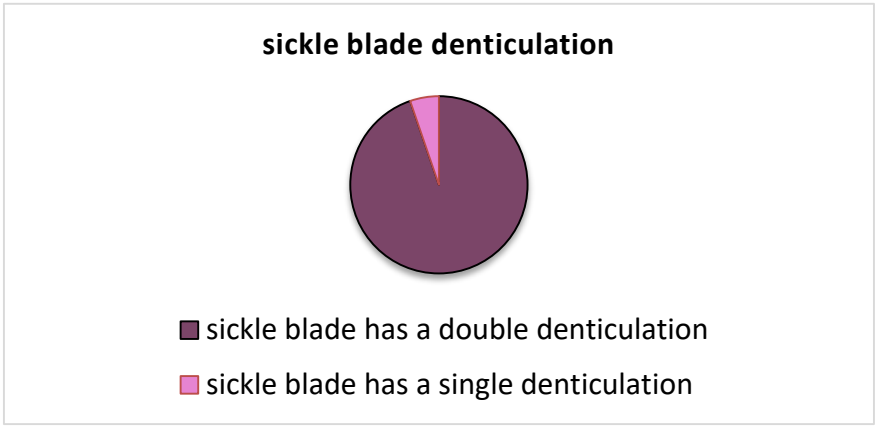

Chart 3 showing the percentage of sickle blades's denticulation

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