Aviel: A New Neolithic Site at the Foothills of Mt. Carmel

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Introduction

In this paper we report the discovery of a new Neolithic site at the Plain of Manasseh and the foothills of Mt. Carmel, Israel (Fig. 1) The site is located at the western hills of the Plain of Manasseh, characterized by chalky limestone formations with calcrete (Nari) coating. The typical soils for this site are grey rendzina for the upper parts, and alluvial gromosol for the areas along the stream. The current arboreal vegetation is mainly composed of oak and pistacio trees. The site was found by one of us (N.B.) in the course of agricultural work at the fields of the village of Aviel (Fig. 2) some 15 years ago, and a large collection of artifacts was assembled throughout the years. In recent years N. Biran realized the importance of the site and following his wish to bring it to the awareness of the archaeological scientific community the main characteristics of the lithic collection are presented here. We believe that the lithic collection from the site reflects its potential in terms of Pre-Pottery and Pottery Neolithic research in the Levant, and we hope that this publication will lead to a long-term field project at the site.

The site is located on both banks of Nahal Alona, which is a tributary of Nahal Taninim (Crocodile Stream), the major river in this part of northern Israel. The area of the basin of Nahal Taninim and its tributaries is about 200 square kilometers, including the Taninim, Ada, Barkan, Alona and Mishmarot streams. It is suggested that the name of this river derives from sightings of crocodiles and hippopotamuses by priests and pilgrims who trekked through the swamps some three centuries ago.

Most of the artifacts were collected from the surface of fruit plantations located on both banks of Nahal Alona, in an area encompassing ca. 500 dunams. However, the presence of lithic finds on the surface of the earth is highly dependent on the agricultural processing.

Fig. 1 Location map of the Aviel site in the framework of the known Neolithic sites in northern Israel (courtesy of Omry Barzilai).
of the land, and thus it is most probable that the collection is limited by modern activities while the extent of the prehistoric site might be of a different scale.

The large collection of artifacts from the site is heavily dominated by Late PPNB and/or PPNC lithic characteristics. In addition, a Pottery Neolithic component is clearly indicated. The collection described in this paper does not include pottery items, and this could be explained both by collection bias and terms of preservation. During a recent visit to the site by both authors, large quantities of flint items were clearly observed but no pottery was noticed; future surveys should check the validation of these preliminary observations. Large numbers of stone items, including both basalt and limestone artifacts, are present at the site but were not collected. For the reasons stated above it should be made clear that our preliminary statements presented below are based only on the lithic collection and are intended to encourage further work at the site.

A brief summary of the main characters of the lithic collection from the Aviel site is provided below:

### Bifacial tools

The most conspicuous component both in the collection and on the surface of the site is the abundance of bifacial tools. Flint axes are especially prominent, with hundreds of specimens collected and many more still observed on the surface of the site. The large quantity of bifacial tools as well as the characteristics of the flint axes resemble axe-rich sites from the Hula valley in northern Israel, especially the site of Beisamoun (Barkai 2005: 155-161). The presence of large and thick flint axes carefully shaped by bifacial flaking and polish (Figs. 3-4) clearly places the major bulk of the bifacial tool category within the later Pre-Pottery Neolithic (Barkai 2011). The identification of a specific breakage pattern (e.g. Fig 3) observed on many of the flint axes from the Aviel site, previously termed „The Hula break“ (Barkai 2005: 31-33), is of note. This typical breakage pattern is strikingly common at the late Pre-Pottery Neolithic sites at the Hula Valley but was observed at Neolithic sites elsewhere as well. The Hula...
break is a large central removal originating from the working edge of the axe and spreading on significant parts of one of its faces (see Figs. 7-9 in Barkai 2005). It is argued that this type of a break is a testimony to an intensive use of polished thick flint axes that occurred most probably in the course of tree felling or some other massive woodworking tasks. The distinctive presence of such axes at Aviel bearing this breakage pattern (Fig. 3) reflect some of the tasks performed by the site inhabitants and put the site within the general framework of late Pre-Pottery Neolithic activities.

In addition to the large, thick flint axes, thin and broad axes appear as well. These axes have a polished working edge and bear similarities with the terminal PPNB/PPNC axes from the site of Atlit Yam (Barkai and Galili 2003). Another distinctive component within the bifacial tool category is the presence of polished flint adzes (Fig. 5). Flint adzes made their appearance during the late Pottery Neolithic in the Levant and became dominant within the lithic assemblages in Chalcolithic times (Barkai 2011). The adzes from Aviel could be assigned to a Pottery Neolithic occupation of the site, although they might originate from a Chalcolithic settlement as well.

**Bidirectional blade technology**

The presence of naviform cores for the production of long and straight blades is a clear Pre-Pottery Neolithic characteristic (Fig. 6). Abundant crested blades indicate large scale blade production at the site, as evidenced at other Pre-Pottery Neolithic sites such as Yiftahel (e.g. Khalaity et al. 2008).

**Sickle blades**

The most prominent sickle blades in the Aviel collection are made on blades, in some cases long straight blades most probably detached from naviform cores.
The sickle blades have a denticulated working edge shaped by pressure flaking, and their proximal and/or distal ends are truncated (Fig. 7). The back of these sickle blades is not worked. Similar sickle blades were found at the later Pre-Pottery sites of Beisamoun and Atlit Yam, for example (e.g. Gopher et al. 2001; Bocquentin et al. 2007), and serve as another line of evidence for attributing the Aviel site to the late Pre-Pottery Neolithic settlement pattern. It should be mentioned that at the current state of research at the site no typical PPNB or Pottery Neolithic sickle blades were found at the site.

Arrowheads

The lithic collection from Aviel includes mainly Byblos and Amuq points, both in large and small sizes (Fig. 8). The large arrowheads are clearly made on blades produced from typical naviform cores (e.g. Fig. 8: 5). All arrowheads are shaped by pressure flaking. The presence of typical late PPNB arrowheads types such as Byblos and Amuq, accompanied by smaller forms of these types, could indicate a Late PPNB and/or PPNC period. However, it could not be ruled out that the larger arrowheads originated from a PPNB site while the smaller ones originated from a later Pottery Neolithic occupation of the Aviel site.

Bifacial knives

A very interesting component of the collection is a very distinctive group of flint bifacial knives carefully shaped by pressure flaking (Fig. 9). Most of these knives were found broken. These tool types are generally attributed to the Pottery Neolithic, and recently a workshop for the production of such items was uncovered at the Pottery Neolithic level (Area G) of the site of Yiftahel (Khalaily et al. 2008).

Concluding Remarks

The discovery of a new Neolithic site on the Plain of Manasseh at the foothills of Mt. Carmel is an important addition to our scientific knowledge regarding Pre-Pottery and Pottery Neolithic settlement patterns and regional site settings. It is not very far from the recently excavated site of Mishmar Hae’mek (Barzilai and Getzov 2011) nor far away from the site of Atlit Yam. Further studies are in order in an aim to investigate whether we are dealing with a local concentration of later Pre-Pottery and Pottery Neolithic sites that acted as a regional inter-connected system. The site of Aviel presents a wonderful opportunity to investigate a large scale Neolithic complex in a Mediterranean environment and in vicinity to other important Neolithic sites.

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