

Prehistoric sites in the Mount Carmel Area, Israel

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In 1964 the Association for the Archaeological Survey of Israel started the first systematic survey of the country since the Survey of Western Palestine, done by the Palestine Exploration Fund in the end of the last century. The modern survey started by a team working in the area of Mount Carmel, then widened by other teams and today the survey of considerable parts of the country is completed. The survey of the entire Mount Carmel area has been completed in 1972¹, and this area has become the best known archaeological province in Israel, undoubtedly also worldwide distinguished.

The area under discussion covers some 400 sq. km., including the mountain range from Haifa in the north to Nahal Taninim in the south and the Carmel coastal plain. The area is a triangle bordered by the Mediterranean in the west, the Valley of Yizrael in the north-east and the low hills of Ramot Menashe in the south-east. The limestones and dolomites of Mt. Carmel are Cenomanian and Turonian; Ramot Menashe are of Eocene limestone. The Valley of Yizrael and the coastal plain have Quaternary and Holocene deposits.

Remains of all the archaeological periods were of course recorded during the survey. In this note, however, some aspects of the prehistoric periods alone will be discussed.

Spatial distribution of Sites

Twenty-one caves were recorded in Mt. Carmel, all inhabited in one or another period. Of these, 12 were described and published to date. Most of the caves are located in the western slope of the mountain, in altitudes ranging between 40 and 150 m a.s.l. One cave is found on each of the north-east and south-east slopes.

Numerous open-air sites were discovered on Mt. Carmel. The great majority of them seem to be workshops: they are located near natural exposures of flint, and the finds include mainly cores, flakes and debitage with only a few tools. Although it is unknown to what extent these sites may have fulfilled other functions beside workshops, a further fact is in favour of the workshop interpretation: a wide strip along the south-east end of Mt. Carmel is almost empty of sites, Palaeolithic (Fig. 1) as well as Neolithic (Fig. 2). The empty zone coincides precisely with the Turonian rocks, which are devoid of flint. Further south, on the Eocene hills of Ramat Menashe, abundant flint outcrops exist together with numerous sites (not shown in the maps). Hence, the presence of flint seems to be the major, if not the sole attraction for most of the open-air sites on Mount Carmel. In the same time, a few open-air sites on the mountain have assemblages that relate them to habitations, as opposed to workshops. In these sites finished tools are abundant and cores are few.

The open sites on the Carmel coastal plain are concentrated along a narrow strip parallel to the present shore. This strip is the major sandstone ridge of the Carmel coast, while the plain empty of sites between it and the mountain is covered by a thick alluvial fill apparently of Holocene times. The Neo-

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¹ From 1964 to 1966, the survey of Mt. Carmel was directed by A. Ronen; from 1966 on, by Y. Olami.

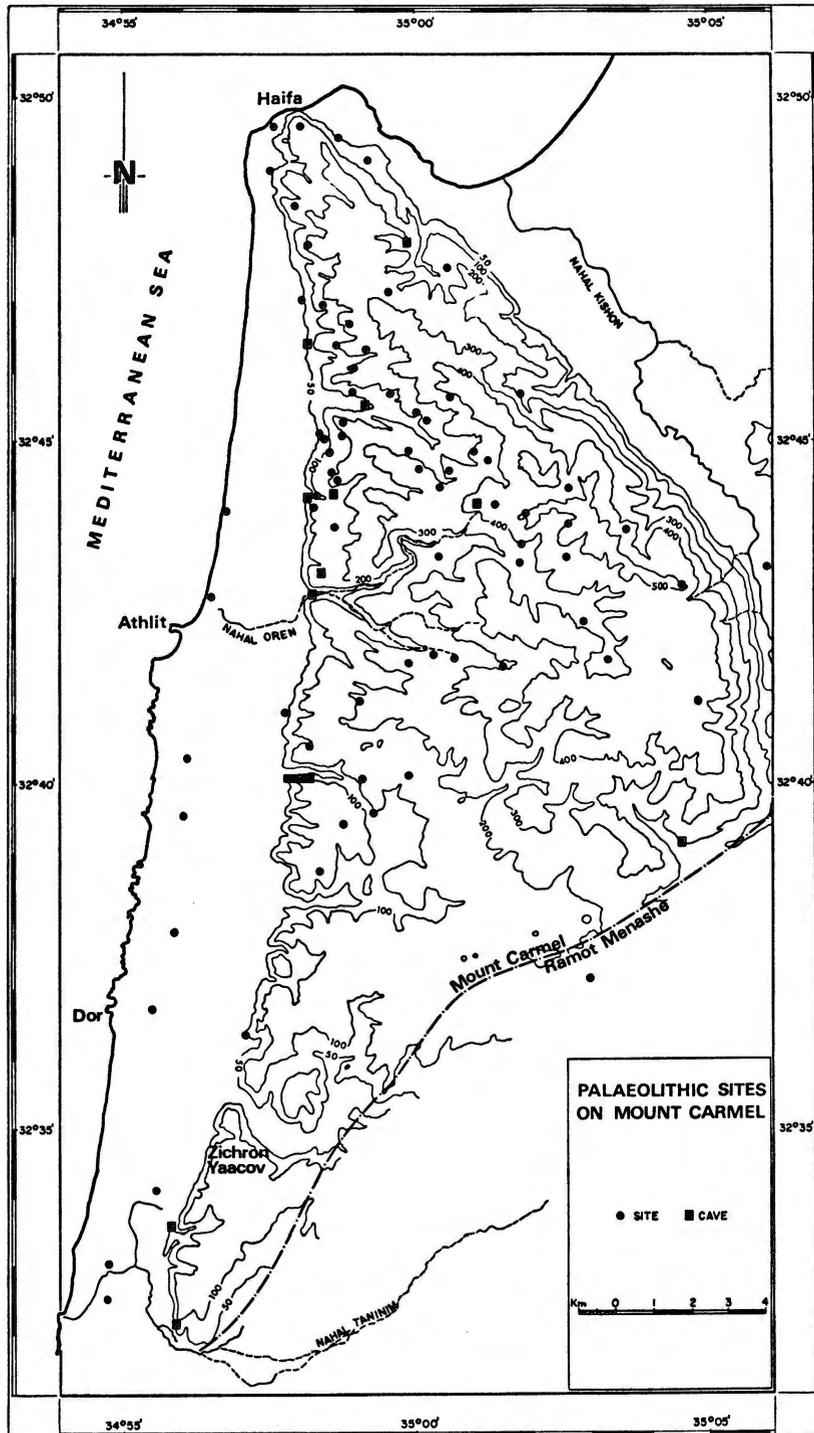


Fig. 1. Palaeolithic sites in the Mount Carmel area.

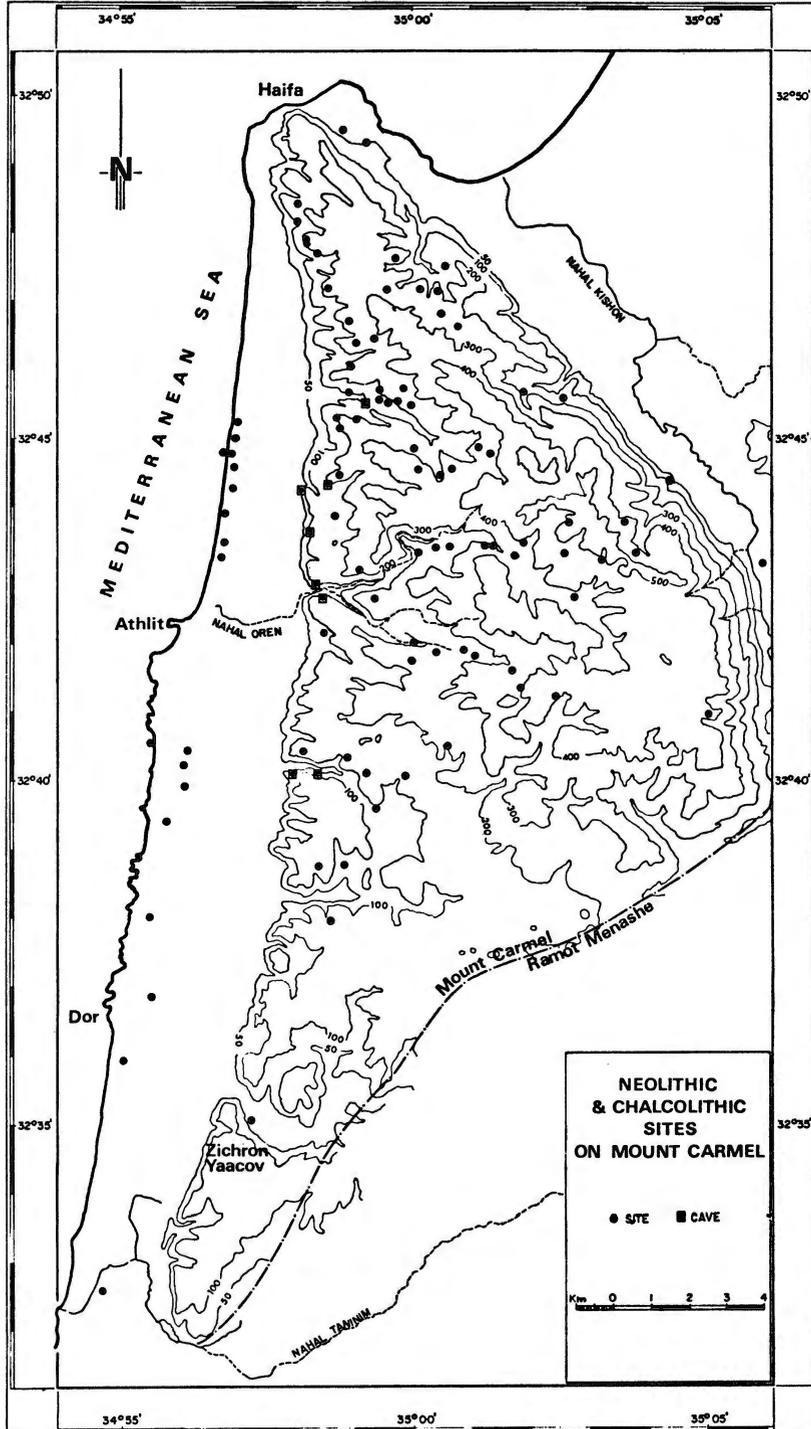


Fig. 2. Neolithic and Chalcolithic sites in the Mount Carmel area.

lithic-Chalcolithic sites are on the surface of the sandstone ridge, whereas all the Palaeolithic sites are beneath the surface and were discovered due to the large scale quarrying of the sandstone². Two Late Neolithic or Early Chalcolithic sites on the Mediterranean shoreline are partly submerged (Fig. 2). Dated to the 5th or 4th millenium BCE, they indicate a somewhat lower sea level at that time.

The only source of flint on the coastal plain are relatively small river pebbles; hence workshops do not exist among these sites. They were either habitations or fulfilled various food-gathering activities. Due to the small assemblage collected at each of these sites, a more definite functional analysis must await further research.

Temporal Distribution of Sites

Most of the assemblages could be safely related to a definite prehistoric period. Six open sites and two caves remain unclassifiable due to their small and non-characteristic assemblages. The authors feel that the difference between Neolithic and Chalcolithic assemblages in the region under consideration is far from clear; hence these two periods are grouped together in the map (Fig. 2) and in Table 1.

Table 1. Temporal Distribution of the Prehistoric Sites in the Mount Carmel Area

Period	Caves	Open Sites	Total
Early Palaeolithic	3	3	6
Middle Palaeolithic	19	62	81
Upper Palaeolithic	6	1 (?)	7
Epi-Palaeolithic	7	4	11
Neolithic-Chalcolithic	6	91	97
Unclassified	2	6	8

Table 1 shows a strongly variable density of sites per period. The rare Early Palaeolithic occurrences in caves might, perhaps, be explained by subsequent karstic activity and erosion; the same explanation may not account, however, for the few open-air sites on Mount Carmel since in the neighboring Ramot Menashe rich Early Palaeolithic assemblages exist.

The Middle Palaeolithic is represented by a great number of sites. 19 caves have layers of this period, and possibly the unclassified series from two additional caves are also of this time, in which case all the known caves in Mt. Carmel would have been occupied during the Mousterian. In no other period were so many caves inhabited.

A clear appoverishment of habitation is seen in the Upper Palaeolithic (Levantine Aurignacian), with a number of sites less than one tenth of that of the Middle Palaeolithic. A noticeable feature is the presence of the Upper Palaeolithic solely in caves, with but one questionable exception. No workshop could be assigned to the Upper Palaeolithic, and it seems that river pebbles near the caves were the source for flint. No Upper Palaeolithic site was discovered on the coastal plain; the single doubted open-air settlement of this period is on the west slope of the mountain.

² The Palaeolithic sites on the coastal plain were discovered, and are now being studied, as part of a project on the Quaternary and Prehistory of the Coastal Plain of Israel, directed by A. Ronen and sponsored by Stiftung Volkswagen.

A postulated post-Palaeolithic erosion may partly account for the scarcity of both Upper and Epi-Palaeolithic sites in the Mount Carmel area. However, it is our impression that such an erosion could have contributed to, but not caused the huge difference between the number of Middle and Upper Palaeolithic sites. Even with its shorter time span taken into account, we believe that during the Upper Palaeolithic habitation in the Mount Carmel area was scarcer than before. The reasons for this are not clear.

The Epi-Palaeolithic (Kebaran and Natufian) is as poorly represented in the Mount Carmel area as the preceding Upper Palaeolithic. In addition to the 7 occupied caves there are 4 open-air sites, none of a purely workshop type. While the small number of Upper Palaeolithic sites in our region matches the known situation elsewhere in Israel, the scarcity of the Epi-Palaeolithic is in contrast to its abundance south of Mount Carmel, from Nahal Taninim down to Sinai, and especially along the coastal plain.

A new abundance of sites occur in the Mount Carmel area during the Neolithic and Chalcolithic, between ca. 8000 to 3000 BCE. In this short period, the number of sites exceeded that of the Middle Palaeolithic. We find again many workshops, the majority of which have the same location as the Middle Palaeolithic ones. In one huge workshop hundreds of axes were found in various stages of manufacture.

Fewer caves are inhabited now than in the Mousterian. Their actual number may have been slightly higher than the 6 recorded by us, because the ancient excavations were unprecisely documented as to the contents of their recent layers; however, the maximum number of caves inhabited during the Neolithic-Chalcolithic could not exceed 10, far less than the Middle Palaeolithic caves.

The Neolithic-Chalcolithic habitation sites on Mount Carmel, as opposed to workshops, are located near presently active springs. Hence, the topography and water table have not changed to any considerable degree at least since early Holocene. The slight rise of sea level seen by the two submerged sites of this period (Fig. 2) probably marks the end of the Flandrian ingression.