

ARISE, WALK THROUGH THE LAND



Yizhar Hirschfeld (1950–2006)

# ARISE, WALK THROUGH THE LAND

Studies in the Archaeology and History of  
the Land of Israel  
in Memory of Yizhar Hirschfeld  
on the Tenth Anniversary of his Demise

Editors

JOSEPH PATRICH, ORIT PELEG-BARKAT, EREZ BEN-YOSEF



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**Aerial view of ancient Tiberias urban center.** Photo: Skyview, courtesy Yizhar Hirschfeld's Tiberias Excavations.

**Panther head,** Ramat HaNadiv Excavations. Photo: A. Avital.

**Group of dwellings in the Arab village of Deir Samit.** Photo I. Shtulman.

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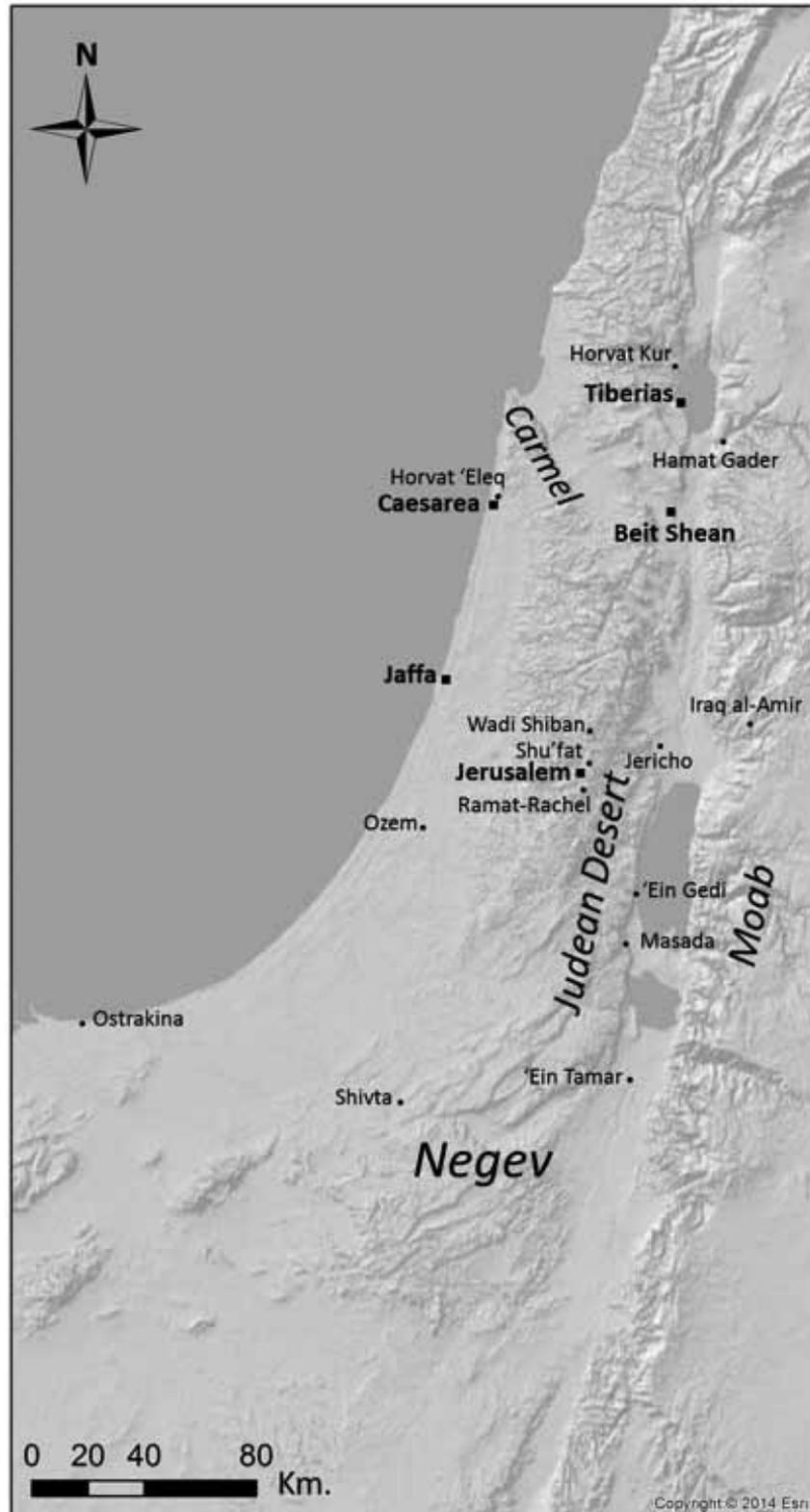
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Map of sites and geographical regions addressed in the book.



MIXED WOOL AND LINEN TEXTILES  
 (SHA'ATNEZ IN HEBREW)  
 FROM A NABATEAN BURIAL CAVE AT 'EN TAMAR\*

ORIT SHAMIR

'En Tamar ("the spring of the palm tree," ancient Thamara?) is a Nabatean desert oasis southwest of the Dead Sea (Fig. 1). It is located ca. 10 km from Meẓad Tamar, which was one of the way stations on the road to Petra. Excavations at the site uncovered a burial cave (Fig. 2) dated to the first–third centuries CE (Hirschfeld 2006) or late second–early third centuries CE (T. Gini, pers. comm.). The archaeological finds at 'En Tamar attest that this was the second most important settlement after Zoara in the northern 'Arabah Valley. According to Hirschfeld (2006), the inhabitants of the site benefited from the general prosperity of this region, which derived from a local economy based on date palm plantations and balsam groves.

The burial cave was cut into the soft marl. The burial loci, hewn in the walls of the cave and in its floor, were five sealed cist graves appropriate to the size of the deceased. They were covered with stone slabs, making it possible to return and use the site for family burial over several generations. Skeletons of men, women and children were discovered, all wrapped in shrouds.

The finds – pottery, glass, silver jewelry, carnelian and gold-plated beads, the leather sole of a sandal with bronze nails of the *caliga* type and wooden artifacts and textiles – reflect the wealth of the family whose members were buried in the burial cave (Hirschfeld 2006). Several hundred artifacts made of organic materials – textiles, basketry, cordage, leather and wood – were discovered with the burials, as well as short date-palm cords, fruits and seeds of date palms, nuts, olives and Egyptian balsam (*Balanites aegyptiaca*) (Shamir 2006a; Amar and Shamir 2014). These materials were preserved due to the arid climate of the region. The many thin leather fragments in good quality were probably parts of shrouds, as is

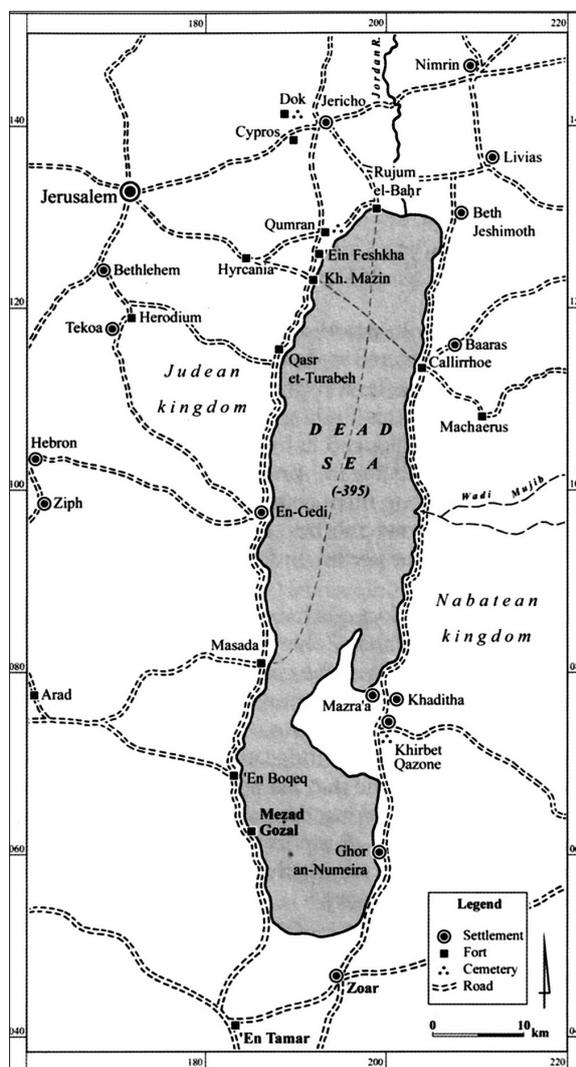


Fig. 1. Map of the vicinity of 'En Tamar (Hirschfeld 2006:168).

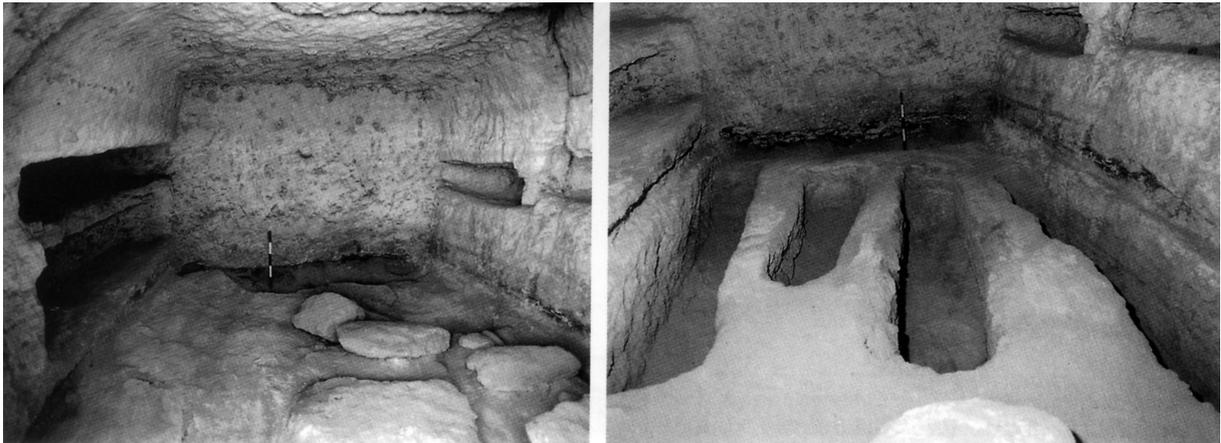


Fig. 2. The interior of the burial cave before and after opening the graves, looking south (Hirschfeld 2006:182).



Fig. 3. Textiles before cleaning. Courtesy of the Israel Antiquities Authority; photograph by Clara Amit (Shamir 2006:191).

also the case at Kh. Qazone (Politis 1998; 1999; Shanks 1999; see also below) and Hegra (Bouchaud et al. 2015; see also below).

The textiles, some of them decorated with bands, do not display any stitching or signs of reuse and were in primary use as shrouds, another indication of the high economic status of the deceased.

#### The 'En Tamar Textiles

Around 200 plain-weave linen textile fragments were found (Fig. 3). They were used as shrouds. Among them is a small group of four linen textiles decorated with very thin red bands of wool (Figs. 4–5; Shamir 2003:37; 2006a). The combination of linen and wool, *sha'atnez* in Hebrew, is the main topic of this paper. The red dye was probably obtained from the madder plant (*Rubia tinctoria*), which was in common use in Israel until the nineteenth century and is still used today, for example, in Turkey (pers. obs.).

Linen does not absorb dyes, except for blue products of indigo (Yadin 1963:271; Wild 1970:8; Shamir and Sukenik 2011:216). N. Sukenik recently conducted an experiment on the dyeing of linen with dyes from different sources and arrived at the same conclusion (pers. comm.). Consequently, the only way to decorate linen textiles was with self bands (a group of weft threads in a single shed) or with another material such as wool, which absorbs dyes very well.

The threads are S-spun (spun to the left; Fig. 6), a technique typical of Israel and Egypt for millennia. The number of threads is usually 16 threads per centimeter in both the warp and the weft (balanced plain weave; Fig. 7). Plain weave was still the commonest weave in the Near East during the Roman period. The textiles from

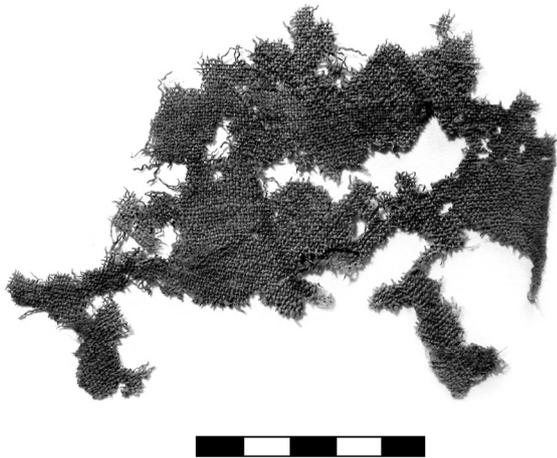


Fig. 4. 'En Tamar. Linen textile decorated with wool bands (IAA No. 2003-9038). Courtesy of the Israel Antiquities Authority; photograph by Clara Amit.

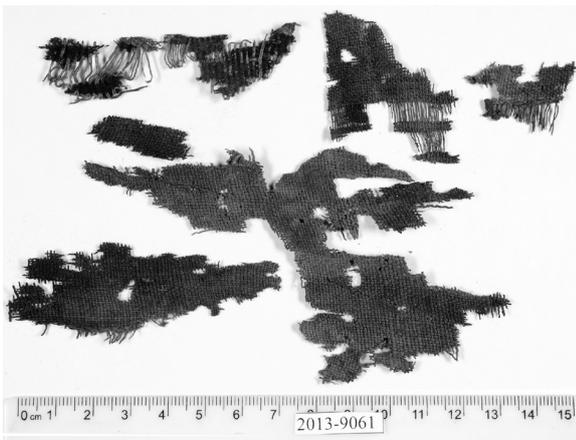


Fig. 5. 'En Tamar. Linen textile decorated with wool bands (IAA No. 2013-9061). Courtesy of the Israel Antiquities Authority; photograph by Clara Amit.

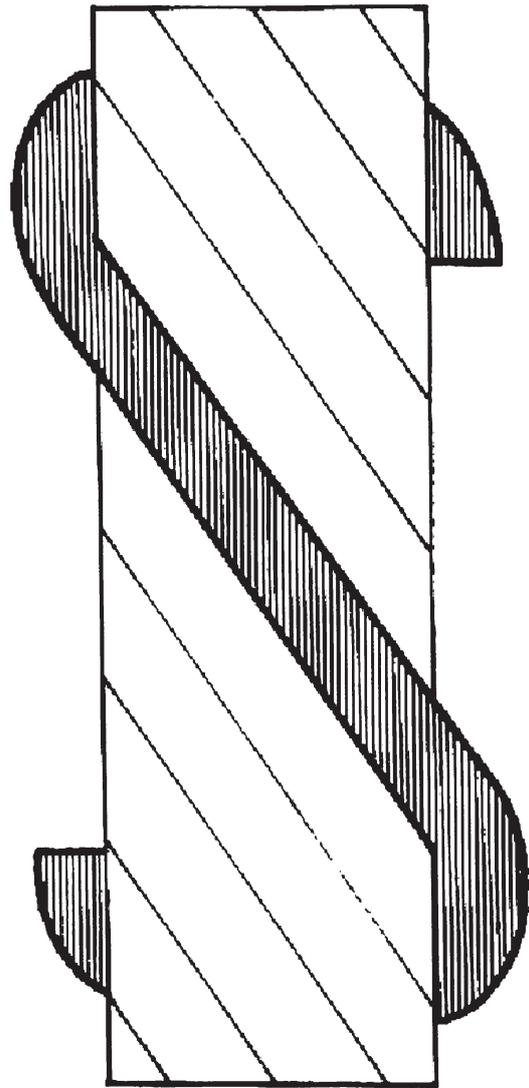


Fig. 6. S-spun threads (Sheffer and Granger-Taylor 1994:162, Fig. 1).

'En Tamar are not warp-faced and are not delicate and crowded, like the linen textiles from Egypt. Moreover, there are no traces at 'En Tamar of complex weave such as twill, which was found at Mo'a (Shamir 2005) and Sha'ar Ramon (Shamir 2004).

The source of flax, the raw material of the linen, could be Beth She'an (Scythopolis) or a locale in the Jordan Valley such as Jericho (Midrash Rabbah, Genesis 19:1; Babylonian Talmud, Mo'ed Qaṭan 18b; Safrai 1994:155–157; Shamir 1996:142), rather than Egypt. No loomweights, and only a few spindle whorls, have

been found at Nabatean sites. The textiles from 'En Tamar were probably produced on the vertical two-beam upright loom that became popular when the warp-weighted loom went out of use in the region at the end of the first century CE (Shamir 1994:277; 1996).

In the Land of Israel in the Roman period, the typical decoration of textiles was bands. These usually ornamented tunics by flanking the neck opening and descending from the shoulders (or shoulder blades, *clavis* in Latin) on the back and front, but were also put to other uses, such as bed covers, chair and stool covers,

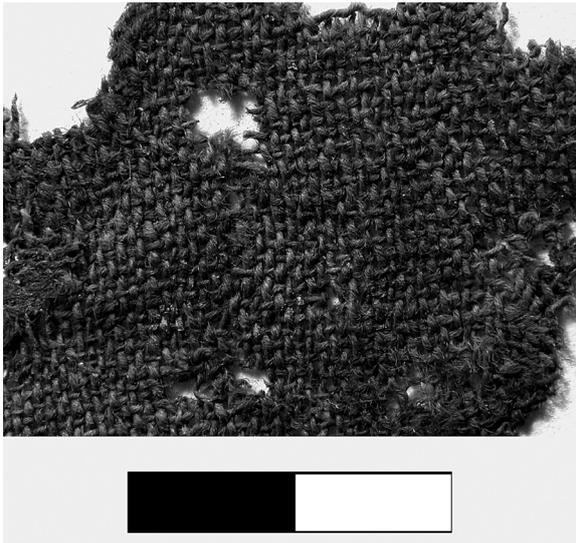


Fig. 7. 'En Tamar, balanced plain weave (Courtesy of the Israel Antiquities Authority; photograph by Clara Amit).

wall hangings, mattress covers, pillowslips, etc.

In terms of the material, it is uncommon in Israel to find a high percentage of linen textiles. 75% of the textiles of the Roman period found in Israel are made of wool and only 25% of linen. The other materials are textiles made of goat and camel hair (Shamir 2015:9). Wool textiles were dominant in Jewish sites, except for Qumran, where only linen textiles were found (Shamir and Sukenik 2011), and also in Jewish burials, where with only one exception the shrouds are made of linen (Shamir 2006b; 2015). At Nabatean sites such as 'En Raḥel (Shamir 1999), Mo'a (Shamir 2005), Qazra and Sha'ar Ramon (Shamir 2004), wool textiles were dominant as well. The 'En Tamar burials are hence an exception.

Shrouds in primary use were more commonly made of linen than of wool in the Land of Israel. Wool was generally in secondary use when utilized for shrouds (Shamir 2006b; 2015), such as at the Cave of Letters, where most of the shrouds were made from tunics and mantles, usually made of wool, that had been ripped apart for this purpose. Linen sacks were also used as shrouds (Yadin 1963:204–205, 218, 237). Linen shrouds have been discovered in burials dating from the Roman period at 'En Gedi (Hadas 1994; Sheffer 1994), Geshar Ha-Ziv (Shimoni and Shamir 1994) and Jericho, where imprints of textiles were found on bones and skulls

(Hachlili and Killebrew 1999:169) and the material used was identified as linen because of the equal number of threads in the warp and the weft. Shrouds were also found at Naḥal David and Ze'elim, but the material was not specified (Aharoni 1961:19; Avigad 1962:182–183), and they could not be examined since they did not reach the Israel National Collections. One exception is the Jewish wool shroud from the first century CE found in a grave in the Ben Hinnom Valley (Akeldama) in Jerusalem (Shamir 2007; 2015).

The best-preserved shrouds are from Late Hellenistic and Early Roman 'En Gedi (second–first centuries BCE). They were found in eight Jewish tombs on the southern bank of Naḥal 'Arugot and in one tomb on the northern bank of Naḥal David (Hadas 1994; Shamir 2006b; 2015). The use of linen in burials is also observed later on at Byzantine Nessana (Bellinger 1962), Tel Sheva (Shamir 2006b) and Reḥovot-in-the-Negev (Shamir 2001).

Turning to present-day Jordan, there are a few Nabatean burials with textile remains. At Kh. Qazone, originally located on the eastern shore of the Dead Sea, a cemetery of 3,500 graves was discovered. Twenty-three Nabatean graves were excavated, 19 of them previously undisturbed and many containing well-preserved bodies. The graves, in which men, women and children were buried, have a characteristic form consisting of a dug shaft with an offset burial niche at the bottom. They are dated to the first and second centuries CE (although some of the textiles have features that point to the third century). Some of the bodies were encased within decorated and stitched leather shrouds. Others were still wrapped in reused textiles used as shrouds, such as tunics, mantles and scarves; they exhibit a range of repairs, particularly patching. There is a small number of items that were made specifically for burial, e.g. decorated leather shrouds encountered in seven burials and a new shroud made of linen that was not previously used or washed. It was found in a burial of a six-year-old girl as the outer wrapping above items of clothing: a mantle, a tunic and a red belt. A few grave goods were discovered: some jewelry including two gold earrings and beads, a scarab, a wooden staff, leather sandals, a laurel wreath, Nabatean sherds and funerary stelae (Politis 1998; 1999; Shanks 1999; Granger-Taylor 2000).

At Petra graves similar to those of 'En Tamar were cut into the rock and covered with stone slabs. In the Renaissance Tomb a few small fragments of textiles were found, perhaps related to the deceased's clothes or

the wrapping of the body in textiles (Schmid 2006:139).

In Wadi Mataha in Petra, excavation of a cist in a tomb yielded textile and wood fragments that are of possible significance as pieces of a shroud and an ossuary (a bone box used for secondary burials). Ten pieces of linen from the cist were recovered. Another linen textile is decorated with three bands of dark purple wool. According to Blackburn (2010:39), in these Nabatean burials the bones were wrapped in linen shrouds before being placed in ossuaries or burial chambers.

During the 2006 excavation season in the region near Petra, a Nabatean burial was uncovered. Textiles were laid over the deceased, and the rest of the burial was encased in a leather shroud (Blackburn 2010:44).

Ancient Hegra, located in northwestern Saudi Arabia, was most inhabited in the Nabatean period (Bouchaud et al. 2015:28). In Area A (first century CE) two deceased were found wrapped with three layers of shrouds: the first, which covers the body, is a fabric of fine hair (sheep, goat or camel) and is dyed red. It is covered by a second textile made of linen, which in turn is covered by another thick linen textile. This last layer is in contact with the leather. Between the layers is a black organic substance (Mathe et al. 2009; Bouchaud et al. 2015:34). Linen bands 2–3 cm wide and leather straps are pieces of strapping knotted around the shrouds (Bouchaud et al. 2015:36).

The linen shrouds found in the Land of Israel, including 'En Tamar, are undyed and are cream or beige in color, but not white, which was achieved by bleaching. This is in contrast to Talmudic sources that mention white shrouds (Grossi 2012:19). Bleaching was a long process intended to whiten linen textiles, which are naturally of a gray-brown color. The textiles were soaked in cleaning and whitening chemicals and were then exposed to the sun for weeks, eventually becoming white. Bleached textiles were usually made for clothing such as that found at Masada, the Cave of the Letters and Qumran, but they were also used as scroll wrappers, e.g. at Qumran (Shamir and Sukenik 2011:220).

### *Sha'atnez*

Jewish law forbids the wearing of *sha'atnez* – garments made of mixed wool and linen. This prohibition is mentioned twice in the Hebrew Bible. In Lev. 19:19 it is stated that “you shall not put on cloth from a mixture of two kinds of material.” The prohibition of the mixture

of diverse kinds also refers to interbreeding of different species of animals, putting different species of animals under the same yoke and planting different species of seeds together in the same field. Although *sha'atnez* garments are mentioned, the materials are not specified. Deut. 22:11, however, adds: “You shall not wear cloth combining wool and linen” (Roussin 1994:183; see the discussion in Shamir 2014; Shamir forthcoming).

*Sha'atnez* applies only to sheep's wool and linen. Any other combination of materials, such as the combinations of cotton, silk, camel hair, mohair, hemp or nettle, does not create *sha'atnez*. The wool and linen may not be spun, woven, sewn, tied, knotted or knitted together for use in a garment. Even a single linen thread found in a large garment of wool renders the entire garment *sha'atnez* (Brauner 2006:1; Mishnah, Kil'ayim 9:9; Sifrah Qedoshim 2:4; Sifrah Devarim 235). Men and women are equally obligated in all the prohibitions of *sha'atnez*, and it is also forbidden to clothe a child in *sha'atnez* garments (Brauner 2006:2).

This law is strictly observed even today by the Jewish Orthodox community, in which many people bring clothing to experts who are employed to detect the presence of *sha'atnez* by microscopic (<http://shatnez.n3.net/>).

Despite this, *sha'atnez* can be used to make shrouds for the deceased (Mishnah, Kilayim 9:4; Babylonian Talmud, Nidda 61b; Babylonian Talmud, Pesachim 40b; Grossi 2012:3). However, none of the Jewish shrouds found in the above-mentioned archaeological sites, and none of the shrouds made of reused textiles (see below), are *sha'atnez*.

In Second Temple times, only the High Priest (Exod. 28:6) and the priests were allowed to wear *sha'atnez* while serving in the Temple (Shamir 2014:298). Although the garments of the High Priest differed from the garments of the ordinary priests, most scholars agree that all of them wore *sha'atnez*. Ordinary priests wore *sha'atnez* only in their girdle ([https://www.templeinstitute.org/priestly\\_garments.htm](https://www.templeinstitute.org/priestly_garments.htm)), while the High Priest wore additional garments of *sha'atnez*. Flavius Josephus (4, 8, 11) also wrote that the wearing of *sha'atnez* was generally prohibited, being reserved for priests.

Although thousands of textiles in the Land of Israel have been examined, not a single piece of *sha'atnez* has been recovered from any Jewish site of the Roman period (Shamir 2014). This is in contrast with Roman sites in neighboring areas, for example Dura Europos (Pfiester

and Bellinger 1945:25, No. 256) and Palmyra (Pfister 1934:13; 1937: Pls. 2:C, 4:F) in Syria and sites in Coptic Egypt, which have yielded a great deal of textiles made of mixed linen and wool (Baginski and Tidhar 1980). Nevertheless, a few pre-Roman sites in the Land of Israel have yielded *sha'atnez* textiles: Kuntillat 'Ajrud (Ḥorvat Teiman) in Sinai, dated to the first half of the eighth century BCE (Iron Age II) (Sheffer and Tidhar 2012), and Wadi ed-Dāliyah, located 14 km northwest of Jericho, where artifacts belonging to Samaritan refugees and dated to the end of the Persian and Early Hellenistic periods were found (Crowfoot 1974:60, 63). In both cases the *sha'atnez* finds were interpreted as belonging to priests or to the Samaritan High Priest (Shamir 2014:298).

At Masada, among the 1600 or so textiles now being studied by H. Granger-Taylor, there are only two examples woven with a combination of wool and linen – probably both pillow slips (Granger-Taylor and Finch 2014; Granger-Taylor pers. comm.). There are a few examples of the use of linen sewing threads on wool textiles, from the Cave of Letters (No. 45) and two cases from Masada (Precker 1992:152–153; Shamir 2014:298). Their presence can be explained by the harsh conditions imposed by the Roman siege (Shamir 2014:302). Another example is mixed linen and wool in the tassels, not connected/attached to any garment or textile, of the Cave of Letters (*tzitziyot* – ritual tassels – according to Yadin 1963:182–187; but see Shamir 2014:297, 303).

### Conclusions

'En Tamar and Wadi Mataha are the only Nabatean or Roman sites in which *sha'atnez* textiles have been found. Although some of the Nabatean sites served the Roman army, they did not yield *sha'atnez* textiles.

The complete absence of mixed wool and linen (*sha'atnez*) textiles at non-Jewish sites (except for 'En Tamar and Wadi Mataha) can be explained by the fact that during the Roman period textiles in Israel were produced by Jews and purchased by the non-Jewish population. There is a striking likeness between the Nabatean and Jewish textiles of the first–second centuries CE, including the use of shaded bands and the number of threads per square centimeter (Shamir 2014:302).

The textile industry (wool in Judea and flax in the Beth She'an Valley and Galilee; Shamir 1996:142), which was dominated by the Jewish population, was the most important industry in the Land of Israel during the Roman period. Safrai (1994:452) called it the “flax revolution,” which changed the agriculture and economy of the Land of Israel. In the Talmudic sources there is ample evidence that weaving and dyeing were a Jewish expertise in the ancient world (Roussin 1994:182). Weaving and dyeing were second only to agriculture in the local Jewish economy (Yadin 1963:170). During the period of the Mishnah and Talmud, textiles constituted the major industrial export from the Land of Israel. The main exporter was the city of Beth She'an (Clement of Alexandria, *Paedagogus* 2. 20:115).

So what was the origin of the *sha'atnez* textiles of 'En Tamar? They were probably purchased from non-Jewish producers, but there is no indication of their origin. The prohibition of the wearing of *sha'atnez* garments does not affect their production. Thus, a Jew is allowed to produce *sha'atnez* garments for a non-Jew or sell them to him on the condition that he knows that the garment will not be sold to another Jew and that the *sha'atnez* is easily recognizable (Brauner 2006:2). The archaeological finds seem to show that such a practice was not widespread.

The Nabatean took care of their deceased in different manners. The reused textiles used to wrap the deceased at Kh. Qazone, the absence of resinous substances other than at Hegra, and the linen shrouds decorated with wool bands at 'En Tamar and at Wadi Mataha show that the choices made by the living to bury their dead differed from one site to another within the same political region (Bouchaud et al. 2015:40)

\* 'En Tamar was excavated in 2001 by the late Prof. Yizhar Hirschfeld (Hirschfeld 2006). After he discovered organic artifacts, he immediately invited me to see and study them. We presented our preliminary results in 2003 at the conference “Crossing the Rift Valley” in Atlanta, organized and published by P. Bienkowski and K. Galor (2006), but there is still much to be done, such as publishing the coins, glass, etc. I would like to thank Dr. Tali Gini, Dr. Naama Sukenik for their important comments and Rabbi Nahum Ben-Yehuda for his comments about *sha'atnez* in my previous articles.

## LIST OF REFERENCES

- Aharoni Y. 1961. The Expedition to the Judean Desert, Expedition B. *IEJ* 11:11–25.
- Amar Z. and Shamir O. 2013. Egyptian Balsam and its Use in the Jordan Rift Region. *Judea and Samaria Research Studies* 22:369–376 (Hebrew).
- Avigad N. 1962. The Expedition to the Judean Desert, Expedition A–Nahal David. *IEJ* 12:169–183.
- Baginski A. and Tidhar A. 1980. *Textiles from Egypt 4th–14th Centuries*. Jerusalem.
- Bellinger L. 1962. Textiles. In H.D. Colt. *Excavations at Nessana*. London. Pp. 91–105.
- Blackburn D. 2010. An Archaeological Exploration of the Role of Votive Offerings in a Nabataean Burial. *Studia Antiqua* 8:35–45.
- Bouchaud C., Sachet I., Dal Prà P., Delhopital R. and Leguilloux M. 2015. New Discoveries in a Nabataean Tomb. Burial Practices and ‘Plant Jewellery’ in Ancient Hegra (Madâ’in Sâlih, Saudi Arabia). *Arabian Archaeology and Epigraphy* 26:28–42.
- Brauner R. 2005. *A Simple Guideline to Sha’atnez*. Raanana.
- Crowfoot E. 1974. Textiles. In P.W Lapp and N.L. Lapp. *Discoveries in the Wâdi ed-Dâliyeh* (AASOR 41). New Haven. Pp. 60–77.
- Drinkwater J.F. Introduction. In J.P. Wild and M. Carroll eds. *Dressing the Dead in Classical Antiquity*. Chalford. Pp. 11–16.
- Granger-Taylor H. 2000. The Textiles from Khirbat Qazone (Jordan). In D. Cardon and M. Feugère eds. *Archéologie des textiles des origines au Ve siècle: Actes du colloque de Lattes, octobre 1999*. Montagnac. Pp. 149–162.
- Granger-Taylor H. and Finch K. 2014. A Well-preserved Household Textile from Roman Egypt. In S. Bergerbrant and S. H. Fossøy eds. *A Stitch in Time: Essays in Honour of Lise Bender Jørgensen*. Gothenburg. Pp. 189–208.
- Grossi A. 2012. Jewish Shrouds and Funerary Customs: A Comparison with the Shroud of Turin. <https://independent.academia.edu/AdaGrossi>
- Hadas G.P. 1994. *Nine Tombs of the Second Temple Period at ‘En Gedi* (‘Atiqot 24). Jerusalem.
- Hachlili R. and Killebrew A. 1999. *Jericho – The Jewish Cemetery of the Second Temple Period* (IAA Reports 7). Jerusalem.
- Hirschfeld Y. 2006. The Nabataean Presence South of the Dead Sea: New Evidence. In P. Bienkowski and K. Galor. *Crossing the Rift Valley* (Levant Supplementary Series 3). Pp.167–190.
- Josephus, *Jewish Antiquities*, ed. H. St. J. Thackeray, 1956–1957. London.
- Mathe C. et al. 2009. The Study of Nabataean Organic Residues from Madâ’in Sâlih, Ancient Hegra, by Gas Chromatography–Mass Spectrometry. *Archaeometry* 51: 626–636.
- Pfister R. 1934. *Textiles de Palmyre*. Paris.
- Pfister R. 1937. *Nouveaux textiles de Palmyre*. Paris.
- Pfister R. and Bellinger L. 1945. *Excavations at Dura Europos IV,2: The Textiles*. New Haven.
- Politis K.D. 1998. Rescue Excavations in the Nabatean Cemetery at Khirbat Qazone 1996–1997. *ADAJ* 42:611–614.
- Politis K.D. 1999. The Nabatean Cemetery at Khirbat Qazone. *NEA* 62:2.
- Precker R. 1992. *Vegetable Dyes and the Dyeing Industry in the Eastern Mediterranean during the Hellenistic, Roman and Byzantine Period*. MA thesis, Bar-Ilan University. Ramat Gan (Hebrew).
- Roussin L.A. 1994. Costume in Roman Palestine: Archaeological Remains and the Evidence from the Mishnah. In J.L. Sebesta and L. Bonfante eds. *The World of Roman Costume*. Madison, WI. Pp. 182–190.
- Safrai Z. 1994. *The Economy of Roman Palestine*. London.
- Shamir O. 1994. Loomweights from Masada. In J. Aviram, G. Foerster and E. Netzer eds. *Masada IV*. Jerusalem. Pp. 265–282.
- Shamir O. 1996. Loomweights and Whorls. In D.T. Ariel. *Excavations at The City of David 1978–85, Directed by Y. Shiloh IV* (Qedem 35). Jerusalem. Pp. 135–170.
- Shamir O. 1999. Textiles, Basketry, and Cordage from ‘En Raḥel. *‘Atiqot (ES)* 38:91–124.
- Shamir O. 2001. Byzantine and Early Islamic Textiles Excavated in Israel. *Textile History* 32:93–105.
- Shamir O. 2003. Textiles, Basketry and Cordage from Nabatean Sites along the Spice Route between Petra and Gaza. In R. Rosenthal-Heginbottom ed. *The Nabateans in the Negev*. Haifa. Pp. 35–38.
- Shamir O. 2004. Coloured Textiles Found along the Spice Route Joining Petra and Gaza – Examples from the First Century CE to Eighth Century CE. In L. Cleland and K. Stears eds. *Colour in the Ancient Mediterranean World* (BAR International Series 1267). Oxford. Pp. 49–52.
- Shamir O. 2005. Textiles, Basketry, Cordage and Whorls from Mo’a. *‘Atiqot* 50:99.—152.
- Shamir O. 2006a. Textiles, Basketry and Cordage and Fruits from ‘En Tamar: Preliminary Report. In P. Bienkowski

- and K. Galor. *Crossing the Rift Valley* (Levant Supplementary Series 3). Oxford. Pp. 191–194.
- Shamir O. 2006b. Shrouds and Other Textiles from ‘En Gedi. In Y. Hirschfeld. *‘En Gedi, “A Large Village of Jews”*. Haifa. Pp. 57\*–59\*.
- Shamir O. 2007. Textiles from the 1<sup>st</sup> Century CE in Jerusalem – A Preliminary Report. In C. Gillis and M.-L. B. Nosch eds. *Ancient Textiles: Production, Craft and Society*. Oxford. Pp. 77–80.
- Shamir O. 2014. Two Special Traditions in Jewish Garments and the Rarity of Mixed Wool and Linen Threads in the Land of Israel. In M. Harlow, C. Michel and M.-L. Nosch eds. *Prehistoric, Ancient Near Eastern and Aegean Textiles and Dress: An Interdisciplinary Anthology* (Ancient Textiles Series 18). Oxford. Pp. 298–308.
- Shamir O. 2015. A Burial Textile from the First Century CE in Jerusalem Compared to Roman Textiles in the Land of Israel and the Turin Shroud. *Proceedings of the Workshop on Advances in the Turin Shroud Investigation*. IEEE-ATSI. SHS Web of Conferences. [http://www.shs-conferences.org/articles/shsconf/pdf/2015/02/shsconf\\_ati2014\\_00010.pdf](http://www.shs-conferences.org/articles/shsconf/pdf/2015/02/shsconf_ati2014_00010.pdf)
- Shamir O. forthcoming. *Sha‘atnez* – The Biblical Prohibition Against Wearing Mixed Wool and Linen Together and the Observance and Enforcement of the Commandment in the Orthodox Jewish Communities Today. In M.-L. Nosch, C. Michel and S. Gaspa eds. *Textile Terminologies from the Orient to the Mediterranean and Europe 1000 BC–AD 1000* (Ancient Textiles Series). Oxford.
- Shamir O. and Sukenik N. 2011. Qumran Textiles and the Garments of Qumran’s Inhabitants. *Dead Sea Discoveries* 18:206–225.
- Shanks H. 1999. Who Lies Here? Jordan Tombs Match Those at Qumran. *BAR* 25:49–53.
- Sheffer A. 1994. Textiles from Tomb 2 at ‘En Gedi. In G.P. Hadas. *Nine Tombs of the Second Temple Period at ‘En Gedi* (*‘Atiqot* 24). Jerusalem. Pp. 9\*, 66–68 (Hebrew with English summary).
- Sheffer A. and Tidhar A. 2012. Textiles and Basketry at Kuntillat ‘Ajrud. In Z. Meshel ed. *Kuntillat ‘Ajrud (Horvat Teman). An Iron Age II Religious Site on the Judea-Sinai Border*. Jerusalem. Pp. 289–312 (after *‘Atiqot* 20 (1991):1–26 with comment by the editor).
- Shimoni C. and Shamir O. 1994. Geshet Haziv – Textile Remains on Coins. *‘Atiqot* 25:97.
- Schmid S.G. 2006. New Insights into Nabataean Funerary Practices. In Joaquín M<sup>a</sup> Córdoba et al. eds. *Proceedings of the 5th International Congress on the Archaeology of the Ancient Near East. Madrid, April 3–8 2006*. Madrid. Pp. 135–160.
- Wild P. 1970. *Textile Manufacture in the Northern Roman Provinces*. London.
- Wild J.P. 2012. The Textile Archaeology of Roman Burials: Eyes Wide Shut. In J.P. Wild and M. Carroll eds. *Dressing the Dead in Classical Antiquity*. Chalford. Pp. 17–25.