PLANT REMAINS FROM THE NORTHEAST TELL AT BUSRĀ

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Plants and plant products have always been important resources. Use of plants includes food, building material, fuel, furnishings and equipment. Understanding how botanical resources were involved in past human life clarifies central archaeological questions about diet and activity, living conditions and technological levels, as well as the environment surrounding communities. Agricultural practices shape settlement lifestyles. Plant remains show what crops were grown, and how they were processed. The plant component, both wild and cultivated, of human diet can suggest staple items, variety, and nutrition. Presence of exotic species may indicate trade. Changes in diet, crop types or husbandry techniques may be detected, and can be correlated with other archaeological data. Archaeobotany is the subdiscipline which examines the presence, use, and importance of plants in ancient settlements.

Answering these types of questions depends on thorough sampling of plant remains. Each cultural level must be extensively examined to understand the contemporary use of botanical resources, before different periods can be compared. Such wide study requires sampling standards and strategies which are established before excavation begins. Evaluation of evidence given by plants should be based on general archaeological goals.

In 1983, charred plant remains were collected during excavation of the northwest tell at Busrā. This was the first time such material had been sampled at the site. Therefore, rather than as a class of artefact used to maximize information about the site, botanical remains were retrieved as an experiment, to see what could be found. There was little preplanning, and sampling was very restricted.

Analysis of these remains, in turn, has been limited. As with any archaeobotanical approach, the first step is identification. Remains have been grouped for assessment into two categories: cultivated plants, and wild plants.

Samples from Busrā contain several cereal crops. The type of staple cereals on which the people of Busrā depended would have affected crop processing techniques. Determining whether irrigation was used in the past helps elucidate another aspect of
community technology and lifestyle. Buṣrā material has been briefly compared to patterns of husbandry elsewhere.

Other cultivars complementing cereals, and edible wild plants may have added interesting tastes to food. Different wild and weed plant species grow according to agricultural regimes of ploughing, sowing, weeding, and reaping. Changes in presence of wild plants may indicate altered techniques. Unfortunately, samples were not large enough to investigate these questions properly.

The Buṣrā assemblage was collected as an initial trial and its analysis reflects this experimental approach. An ideal archaeobotanical study is greater in scope at all stages. It is designed for maximum contribution to general interpretation of a site. Nonetheless, looking at plant remains from Buṣrā has suggested certain lines of thought when reconstructing past life in the settlement.

**SAMPLING FOR PLANT REMAINS**

*Standard Archaeobotanical Sampling Technique*

Excavation aims determine archaeobotanical sampling technique (Payne, 1972: 63; Jones, 1983: 15; Badham and Jones, 1985: 15). For example, if a survey on the spread of domesticated plants is of primary interest, recording only presence or absence of crop species is needed; small samples from a limited range of contexts may be satisfactory (Jones, 1983: 15). To go beyond a list of common species, the archaeobotanist must have both representative samples of any given assemblage, and sufficient quantities for meaningful statistical analysis (Kenward et al., 1980: 3). A standard, straightforward, and reliable collection method must be used, so that processing can keep up with excavation.

The principle of flotation has been used more and more often to gather charred plant materials since its introduction less than twenty years ago. The Ankara machine, described by David French (1971: 59), was designed for simplicity, efficiency, and unbiased, or at least systematically biased, recovery of macroscopic remains. One goal of its development was mechanical processing with defined standards to accurately repeat the retrieval procedure (French, 1971: 59). Extensive sampling can be done using the Ankara model, one of its many modifications, or other systems, including the Cambridge froth flotation machine (Jarman et al., 1972).

Hand flotation is an alternative to mechanical methods. This technique, at its simplest, involves placing soil in a bucket of water, stirring and pouring what floats through mesh or a stack of sieves. Not all charred material will float on the surface, and some often gets left behind after each pouring. To prevent partial sampling, water should be added and poured off through sieves until no more material is visible. As Payne (1972: 62) discusses, incomplete samples are biased, reducing the validity of conclusions based on them. Hand floating is an inefficient way to handle large quantities of soil; it is better suited to small samples.

Such standard collection procedures are essential to compare sample contents directly (Badham and Jones, 1985: 15). Badham and Jones (1985: 15) recommend the standard should be based on retrieved remains, not a predetermined volume of soil. The actual amount of processed soil then depends on density of plant remains. Preservation should be taken into account as well (Hillman, 1981: 141). A poorly preserved deposit may need more extensive sampling than the minimum, to obtain sufficient numbers of identifiable material. Kenward et al. (1980: 3) state absolute minimum sample size is 200 items but
Badham and Jones (1985: 25) recommend sampling should aim for 500 seeds per deposit. These minimum amounts are approximate, and indicate what sort of numbers processing should retrieve. Some flexibility is needed to deal with different conditions in the field.

In addition, sampling strategy should be outlined before work commences on site (Green, 1979: 54). In a seminal paper, Dennell (1972: 149) establishes the need for extensive sampling throughout each level. His work at Chevdar in Bulgaria (Dennell, 1972: 158) shows that sampling a single context in each stratigraphic level is likely to bias conclusions about past processing methods and economic activity. A wide range of samples must be taken from one level to account for variation between contexts; only then can differences among phases be adequately assessed (Dennell, 1972: 149). Hillman (1981: 141) and Jones (1981: 105; 1983: 15) have further developed this observation.

Not all contexts which might be expected to yield plant remains will actually contain them; Hole et al. (1969: 24) found more plant material in thin ash lenses on floors for example, than in hearths and ovens. All deposits which may have plant remains should be examined.

To permit efficiency, and thorough interpretation of archaeobotanical material, sampling technique must include several important factors. To decide when a given context has been adequately processed, a cut-off point should be set in advance. As many deposits as possible should be floated for plant remains. A reliable and repeatable method must be used extensively during excavation.

Sampling Methods On Site

During the 1983 season at Buṣrā, excavation included recovery of plant materials. Because this was a first attempt without an archaeobotanist on site, sampling was restricted to a very small proportion of all deposits.

An area of the excavation was designated the plant test column. Located in the south east corner of grid H2, it was in the center of Room 3 of the Umayyad farmhouse, and measured 50 cm by 50 cm. The plant test column was shifted to grid J1 below stratum 18 when grid H2 became too restricted by building debris. A few samples were taken from other grids nearby. Nearly every stratum had one context from which plant remains were taken (see pp. 33 and 34 for plans of excavated areas).

Excavated soil from each stratum in the plant test column was saved for sampling. No records were provided on the amount of soil processed per sample, although different volumes were taken depending on the depth of the deposit. Comparing samples is therefore difficult, because there is no standard number of items retrieved, nor is seed density known.

Soil was passed through two wire sieves; the finer mesh size was 1 mm². This created three portions: two caught in each sieve, and soil which fell through the smaller mesh. Any observed carbonized material, or observed object believed to be organic, was collected by hand from the sieves. A sample of each portion of soil was taken by filling a plastic bag; each was estimated to have weighed from half to one kilogram. Each plastic bagful was then floated separately. Bagged soil was shaken into a large container of water; floating material was skimmed off, dried, and wrapped in paper. Unfortunately, remains which sank or did not come to the surface were probably missed.

Partial recovery limits sample size, and reduces numbers of all categories of remains; applicable analytical techniques are accordingly diminished (Payne, 1972: 59). Samples
Ear composed of spikelets joined to central rachis.

Spikelets attached to rachis; enlarged view.

Single spikelet

Rachis node with glume stubs attached

Parts of spikelet in expanded view.

Fig. 1: Simplified diagram of parts of the wheat plant
taken from the tell at Buṣrā have far fewer items than generally recommended for statistical analysis (cf. Kenward et al., 1980: 3; Badham and Jones, 1985: 25; Jones, 1983).

Possible Sources of Contamination

As with any type of artefact found during excavation, contamination and mixing of deposits must be considered for plant remains. Keeppax (1977: 224, 225) suggests four potential sources of archaeobotanical contamination. Careless excavation and collection of samples, cross contamination in the collection apparatus, and aerial contamination of exposed surfaces, are all possible during work on site. Presumably due care was taken throughout the excavation. Conditions of preservation at Buṣrā allow only charred plants to persist, so aerial contamination by modern plants can be ruled out.

Keeppax's (1977: 225) fourth point is that contamination may occur before digging, but after deposition. Helga Seeden has pointed out possible sources of post-depositional contamination (1984: 159-160). Roots had extensively penetrated upper strata to the Umayyad floor (stratum 4). Below this, they reached as far as 6 meters below ground level (stratum 26). To the extent that roots push through soil, and create gaps when they die, small particles, including small charred plant remains, may shift in the ground and drop through cracks. Another, more thorough agent of soil mixing, was probably the Jumpling Worm, or Horse of the Devil (Polyphylla fullo). Helga Seeden noted the burrows and cocoons in the Umayyad floor (see Berytus 32).

Ploughing topsoil will mix upper layers (Keeppax, 1977:225). Normally, products from present day plants can be distinguished from archaeological remains because they are unburnt, but recent use of the excavated field as a refuse dump has caused deposition of much modern charred material; this is a source of possible contamination. Topsoil at Buṣrā had frequently been disturbed by tilling. A section of the site had also been quarried for building stone within the last 25 years and other areas nearby may have been dug for stone at various times since the collapse of the Umayyad farmhouse (Seeden, 1986). Plant remains from the highest levels, at least to the upper part of stratum 3, are probably thoroughly mixed, and will not yield useful archaeobotanical information.

Identification (Fig. 1)

Having obtained samples during excavation, analysis requires identification of recovered items (cf. Fig. 1). Identification precision depends on the condition of remains. Preservation of plant remains from Buṣrā varied considerably, both within each sample and between levels. Material from Bronze Age strata appeared most abraded and fragile; items from younger deposits were often distorted or fragmented. Many individual samples had a surprising mixture of preservation. Some seeds, cereal grains, and rachis fragments were perfectly preserved; others were badly damaged. Sometimes specific features were visible on otherwise amorphous-looking objects, which allowed classification at least to general categories (for example, rachis node), or even to generic level. Other items which at first sight seemed identifiable, had no surviving characteristics and had to be placed in very broad categories — indeterminate seed, for example.

Three main resources aided identification. These were reference collections, floras and seed atlases, and individual expertise. Gordon Hillman's reference collection of Turkish plants (housed at the Department of Human Environment, Institute of Archaeology, London) was frequently used, occasionally augmented by the Department's collection of British species. Seed atlases helped confirm or narrow down the possibilities. Davis' Flora of Turkey (1965-1982), and Flora Palaestina (Zohary, 1966, 1972; Feinbrun-Dothan, 1978, 1986) were consulted for information on habitat and seed
Fig. 2: Selection of archaeological *Triticum* rachis nodes from Buṣrā, and one modern comparison node of *T. durum*. Scale is 1 mm.

(A) Archaeological charred *T. aestivum*, from level 4. Note typical shield shape and lack of knobs.
(B) Modern uncharred *T. durum*, GCH 3677. Note slight shield shape and distinct knobs.
(C) Archaeological charred *T. durum*, from level 4. Note typical trapezoidal shape and distinct knobs.
(D) Archaeological charred *T. durum*, 'ḥawrānī type', similar to *T. durum*, GCH 3677. Note shield shape and knobs.
size, as well as seed morphology. The latter publication, which includes flora of the Hawrān region, was taken as the final authority for information on species characteristics. Criteria for identification included morphology, size, surface cell patterns and interior structure. Four classes of material will be discussed further here.

_Free threshing wheat_ (**Triticum**). Criteria for identification of wheat rachises were based on Gordon Hillman's analysis of characteristics, especially for free threshing varieties (Hillman, forthcoming). Free threshing wheat rachises were distinguished from glume wheats by, among other characteristics, their lack of glume stubs. Many free threshing rachis nodes from Buṣrā samples have some features of modern _Triticum durum_ (macaroni wheat) and also resemble present day _T. aestivum_ (bread wheat). Knobs below glume attachments are particularly suggestive of _T. durum_ as it grows today, but shield shaped internodes are more commonly found in modern _T. aestivum_. _Triticum durum_ reference specimen GCH 3677, collected from Turkey, has a similar intermediate form. This rachis also has slightly curved internode edges, rather than the trapezoidal shape more common to _T. durum_. (See Fig. 2). Macaroni wheat of type GCH 3677 is widespread in east-central Turkey between the upper Euphrates and Murān rivers.

Many Buṣrā wheat grains, particularly in the Byzantine and Umayyad strata, are extremely broad and short. Surface cell patterns, where preserved, are open and coarse, resembling modern _T. durum_ caryopsis texture. Some modern Hawrān wheat grains were collected for comparison; upon charring, they became nearly spherical, very similar to archaeological material (Fig. 3). The intermediate type rachis nodes and short, broad caryopses may come from the same wheat variety. At the time of writing unfortunately modern Hawrān wheat was not available for examination. When the morphology of modern grain caryopses and rachises is determined, this suggestion will be strengthened or discouraged. However, short of a fortuitous find of a preserved intact ear of wheat, the postulate cannot be proved.

_Two row barley_ (**Hordeum vulgare**). Every identifiable _Hordeum_ rachis node is from 2-row barley. Two specimens of twisted _Hordeum_ grain from level 28 are not conclusive proof of 6-row barley. Although these caryopses have a definite curve, distortion by heat cannot be ruled out. It is possible that 2-row barley grains occasionally get twisted during abnormal development. The status of barley from level 28 is perhaps open to question, but all other samples with _Hordeum_ contain straight grains and two row barley rachises.

_Awn fragments_. Some awn fragments are incompletely charred and come from strata well below topsoil. Had they been modern intrusives, other small semi-charred items would probably have been transferred as well. Since awn fragments have a high silica content, they are more likely to be preserved over long periods of time without complete charring. These are the only uncharred remains which were considered part of the archaeological assemblage.

_Bread and dung_. Several samples include chunks of charred material containing unaligned plant fibers in a featureless matrix. Some chunks are coarse textured, with large fibers; these are identified as dung. Fragments called bread textured have a fine texture, with very small length of fiber. These pieces may be neither dung nor bread. Chemical analysis might help to establish their identity.

ANALYSIS

Identification of the Buṣrā plant assemblage forms several categories. Cultivars include cereals, pulses, and fruits. Wild seeds are present in every level analysed for remains, but each sample has low numbers of seeds. By examining cultivars in chronological order, beginning from earliest times, the beginnings of a pattern of plant use emerges. When searching for trends, changes in presence of wild seeds over time may show altered husbandry techniques or exploitation of different resources. Analysis of the small samples
Fig. 3: Charred 'hawrānī type' *Triticum durum* grain. Scale is 1 mm.

(A) Typical modern 'hawrānī type' *T. durum*, charred in ash at 300° C for approximately 1 hour.

(B) Archaeological charred wheat grain, resembling 'hawrānī type' *T. durum*, from level 4.
from Buṣrā gives little concrete information, but indicates the potential for further investigation using extensive sampling.

Cereals are the most abundant class of crop remains; *Hordeum vulgare* (two row barley), glume wheats, and free threshing wheats are represented by grain and rachis nodes. Most strata contain pulses, but they are present in very low numbers. Fruit seeds are found in 21 of 23 samples.

Two row barley is present in every level, whether as rachis nodes or grain. This corresponds to the pattern Hubbard noted for other sites in the Levant (Hubbard, 1980: 59).

Distinguishing the predominance of glume wheats or free threshing wheats as crops in an agricultural settlement is important, because each type requires different processing methods (Hillman, 1984, 1985). Glume wheats have grains held tightly in the ear; much work is needed to separate the edible portion from chaff and straw. Free threshing wheats are more easily cleaned. The choice of wheat grown involves other factors as well. Local conditions, including soil type, available water, and temperature, may favour one variety over another.

From Bronze Age levels at Buṣrā, few *Triticum* chaff fragments are found; both glume and free threshing wheats are present. Stratum 20 is the only level to have spikelet forks; one is from the glume wheat *T. monococcum* (einkorn). No free threshing grains could be identified with certainty.

Glume wheats may have been predominant at Buṣrā during the Bronze Age. Hubbard's (1980: 56) survey using presence analysis suggests *T. dicoccum* (emmer wheat) was abundant elsewhere in the Levant from between 5,500 and 4,500 years B.P., and then declined, whereas *T. monococcum* (einkorn) was never common and disappeared about 3,500 b.p. Buṣrā's unreliable samples follow this apparent pattern.

Alterations in climate and cultural preferences, environmental degradation, and competition with new crops are considered by Hubbard (1980) as factors explaining changes in plant assemblages. In using his synthesis for comparison, it is important to realise a crucial difference among the sites he analysed. Some excavations used flotation for recovery of plant remains, and some did not. The latter will have biased samples, and conclusions based on them, as Payne (1972: 62) has shown, are unreliable. The study is a useful starting point, and suggests a valuable method of analysis, but should be approached with caution.

Numbers are very low in these samples (less than 20 grains or rachises of wheat in each Bronze Age sample), which makes comparison difficult. However, in these small assemblages from the Bronze Age, only 2 items are derived from free threshing wheats. These are 'ḥawrānî' macaroni wheat (*T. durum*) rachis nodes in stratum 20, dating from about 1800 B.C.

One *T. monococcum* grain was found in strata 9 and 11, from the 1st century A.D. Single finds from restricted samples cannot carry much significance. The einkorn find may reflect its use as a crop at that time, or change plants may have been growing as weeds or contaminants in fields of emmer or free threshing wheat.

In strata laid down during Nabataean, Roman, and Byzantine times, distortion and imperfect preservation prevents identification of many grains as glume or free threshing. Chaff can more reliably be identified than grain. Of the rachis nodes 'ḥawrānî' macaroni wheat again appears in early Roman strata 9 and 11. It is present in Byzantine level 5, and topsoil levels. Glume wheats do not appear in level 4, but presence of *Triticum* at all is questionable.

Samples from Umayyad floors have few contents, perhaps because floors were constantly swept clean. In the hearth, no barley rachis fragments are found, but barley grains are relatively abundant. One free threshing wheat rachis node is present.

Helbaek (1958: 309) suggests *Triticum aestivum* (bread wheat, a free threshing variety)
at Lachish was introduced during the Iron Age, but *T. aestivum* was present much earlier at other Near Eastern sites. Much more extensive sampling is needed to determine whether glume wheats were ever the primary cereal crop at Buṣra or if free threshing wheat was always favoured. The two types may have grown at the same time during the Bronze Age.

One agricultural technique to consider is irrigation. It involves a certain level and type of technology. If a community used irrigation, the people would have carried out activities associated with it, such as establishment and maintenance. Irrigation leads to increased control over the environment, which permits a greater stability in food supply. This would ultimately be reflected in the settlement's quality of life.

Free threshing wheat varieties in particular may indicate whether irrigation was used. According to Percival (1974: 207), *T. durum* is very drought resistant, and can yield reasonably well in regions too dry for *T. aestivum*. Relying on Percival, Hopf (1983: 583) states that *Triticum durum* is well adapted to hot, arid conditions and presence of *Triticum aestivum* in such a setting at Jericho suggests irrigation. Willcox (1981: 247) says finds of *T. aestivum*, among other species, implies irrigation at Jawa.

However, observations made by Gordon Hillman (pers. comm.) in Turkey indicate the opposite. The present-day Turkish farmers who cultivate *T. durum* grow it in arid areas with occasional irrigation. Fields which have no irrigation are planted with *T. aestivum*. *T. durum* receiving some irrigation yields more than unirrigated *T. aestivum*.

*T. durum* was cultivated at Buṣra from about 1800 B.C. to modern times. Few rachis nodes of *T. aestivum* were positively identified. More archaeobotanical sampling would clarify the relative importance of these two wheat varietics, providing more evidence about irrigation. Present day farmers use simple methods of irrigation (Kadour and Seeden, 1983: 78); this combined with G. Hillman's observations suggest irrigation of some type was practiced since the Bronze Age at Buṣra.

In contrast to cereal, pulses are usually represented by only one to three seeds per stratum. Possible reasons for the low numbers of pulses include:

i) most were not collected (*Vicia ervilia* [bitter vetch] seeds, for example, may sink during both machine and hand processing);

ii) most pulses were poorly preserved and are not recognizable;

iii) legumes were rarely charred;

iv) legumes were not a major part of the diet; or

v) legumes were never processed or prepared at this part of the site.

The latter possibility seems unlikely; if legumes were being processed at Buṣra over 3,500 years, they would probably appear in greater abundance in some samples. The likelihood of other possibilities is difficult to assess.

*Lens culinaris* (lentil) occurs most frequently; this species is present in samples from all periods. *Vicia ervilia* (bitter vetch) is less often encountered. It may have been used primarily as green fodder for animals penned by houses in the settlement, and thus occurred less frequently on site in seed. *V. ervilia* seed can be used as animal feed but must first be detoxified by cracking and soaking. This procedure may make it unrecognizable in the archaeobotanical assemblage. Either as green fodder or in seed, using *V. ervilia* as animal feed makes its exposure to hearth fires, and thus preservation by charring, unlikely.

A possible *Lathyrus sativus cicera* (grass pea), or *Cicer arietinum* (chick pea) occurs in stratum 20 of the Bronze Age; *L. sativus cicera* does not occur again until the Umayyad collapse layer. No certain identification of *C. arietinum* was made. *Vicia faba* (horse bean) is only in the modern level and the single *Pisum sativum* (pea) in stratum 3 may also be derived from topsoil refuse.

The typical Mediterranean — Near Eastern fruits, fig, olive, and grape (*Ficus, Olea,
and *Vitis*, respectively), also appear throughout all periods, although not in all strata. The only other fruit is found in the Umayyad collapse level; a possible seed of *Cornus mas* (Cornelian cherry), and a collection of *cf. Pinus pinea* (stone pine) seed coat fragments were recovered.

If trends in crop type are noted, their cause might be suggested by examining which wild species change, and which remain throughout the record. Edaphic conditions, including climate change, as well as transfer to other cultivation methods, alter weed flora of crops; detecting patterns depends on a large number of precisely identified weeds (Wasylikowa, 1981: 11).

Most identified wild seeds from Buštá occur only in one or a few samples. Those in at least one sample of each period, are *Coronilla scorpoides* (crown vetch), *Malva sp.* (Mallow), and *Asperula / Galium* (Cleavers type). Given sufficient material, size of wild seed may indicate plant processing activities before charring and deposition (Dennell, 1974: 276, 283; Hillman, 1984: 8; Jones, 1981: 108). Most wild seed recovered from Buštá had a smallest dimension of 1 to 2 mm. This may reflect archaeological collection method more than past manipulation of plants. No distinctive weed seed compositions are discernable.

Several of the identified wild plants can be eaten or have medicinal properties. It is not possible to tell if these plants were so used, or whether they arrived on site as crop weeds. They may also have arrived attached to plants burnt for fuel, or in dung used for the same purpose.

With very limited numbers of weed seeds, Hopf (1983: 590) could not learn anything about soil types, conditions in the fields, crop rotation, or other aspects of cultivation at Jericho. The restricted Buštá assemblage is similarly uninformative. Here again, large scale retrieval will yield samples from which conclusions can be drawn.

**Conclusion**

Examination of botanical remains can allow greater understanding of past human activity. Wide ranging archaeobotanical analysis requires plant remains collected in reasonable numbers from many different well defined and well sealed contexts, across all levels of the site. Where these conditions are not met, conclusions are restricted. Although plant samples from Buštá are limited, beginnings of a pattern can be discerned.

Barley (*Hordeum vulgare*) appears in all strata, as with other Levant sites which Hubbard (1980: 59) reviewed. The relative importance or abundance of glume wheats and free threshing wheats cannot be judged, nor can the balance between *Triticum durum* (macaroni wheat) and *T. aestivum* (bread wheat) be ascertained. Most Bronze Age samples contain mixtures of *T. monococcum* (einkorn), *T. dicoccum* (emmer), *T. durum*, and *T. aestivum*; by Islamic times, only free threshing wheats are present. The reasons for this apparent change remain unknown, given present available evidence.

A distinctive form of *Triticum durum* occurs from Bronze Age times onwards. The presence of *T. durum* from the Middle Bronze Age to modern times suggests irrigation was used. However, much more investigation is required to confirm this tentative proposal. Further work on larger samples of wild species might indicate application and intensity of irrigation.

Pulses are found, probably complementing cereals in the diet, but they are not abundant. Not surprisingly, figs, olives, and grapes are present throughout Buštá's archaeological record. Wild seeds appear in such low concentrations that they make no contribution to archaeobotanical analysis.
The small area sampled shows that the tell at Buṣrā does contain significant amounts of plant remains. Since the AUB Buṣrā project has been completed, it is too late to return for more material to try answering intriguing questions which have been raised.

However, work done at Buṣrā illustrates that similar sites can contribute valuable information on past life and activity through study of botanical remains. It should encourage future excavations to include sampling for plants according to pre-arranged standards and techniques. Within an established framework, standards and methods are constantly being evaluated; they evolve and adapt to local situations.

Once archaeobotany becomes an integral part of archaeological investigation, botanical aspects of each site can be thoroughly investigated, and comparisons can be made with confidence between sites. These in turn will eventually create broadly based knowledge, for the Levant and elsewhere, on past uses of and interactions with the wide range of available plant resources.

When archaeobotany is used to its full potential, sites such as Buṣrā will contribute greatly to our understanding of past human life.

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