The 1974 Season of Excavations at Tell Ḥesbân

Lawrence T. Geraty

The fourth season of excavations took place at Tell Ḥesbân between June 26 and August 14, 1974. The results of the previous three seasons of work were briefly reported on by the expedition director, Professor Siegfried H. Horn, in *ADAJ* as follows: the 1968 season: XII-XIII (1967-68) 51-52; the 1971 season: XVII (1972) 15-22; the 1973 season: XVIII (1973) 87-88, and XIX (1974) 151-156. [1]

Again, the excavations were chiefly sponsored by Andrews University (Berrien Springs, Michigan) with the full cooperation of the Department of Antiquities [2] and the American Center for Oriental Research in Amman. [3] Other supporting institutions were Calvin Theological Seminary (Grand Rapids, Michigan), Covenant Theological Seminary (St. Louis, Missouri), Grace Theological Seminary (Winona Lake, Indiana), Hope College (Holland, Michigan) through the Kyle-Kelso Archaeological Fund, and the Graduate School of Loma Linda (California) University. Financial support came also from a number of private donors and for the loan of several tents from the Youth Authority, the expedition is indebted to His Excellency Prince Raad Zeid Hussein.

Staff

For the 1974 season of excavations, S. H. Horn was succeeded as director by Lawrence T. Geraty, also of Andrews University, though Professor Horn acted as senior advisor and object registrar. Other core staff members again included Roger Boraas of Upsala College, chief stratigrapher and coordinator of specialists; James Sauer of ACOR, chief ceramic typologist and Area B supervisor; Bastiaan Van Elderen of Calvin, advisor and Area A supervisor; Bert DeVries of Calvin, chief architect-surveyor; Øystein

1 The fuller official preliminary reports for each season have appeared in **Andrews University Seminary Studies (AUSS)** and Andrews University Monographs (AUM) edited by R.S. Boraas and S.H. Horn: the 1968 season: **AUSS** VII (1969) 97-239 and AUM II (1969); in addition to these, A. Terian published the coins in **AUSS** IX (1971) 147-160; and E.N. Lugenbeal and J. A. Sauer, the pottery in **AUSS** X (1972) 21-69; the 1971 season: **AUSS** XI (1973) 1-144 and AUM VI (1973); in addition to these, R.G. Bullard published a study of the geology of the area in **AUSS** X (1972) 129-141: J.A. Sauer, the pottery in AUM VII (1973); and A. Terian, the coins in **AUSS** XII (1974) 35-46; the 1973 season: **AUSS** XIII (1975) 101-247 and AUM VIII (1975); the 1974 season will appear in **AUSS** XIV (1976) and AUM IX (1976) and it is on the various manuscripts prepared for it by area supervisors and other specialists that this report is based.

2 The expedition is grateful to Mr. Yacoub Oweis, Director-General of the Department of Antiquities, for the excavation permit, for the loan from his staff of Mr. Muhammad Murshed Khadija, and for numerous courtesies extended throughout our stay in Jordan.

3 The expedition recognizes its sense of obligation to the Amman Committee of the American Schools of Oriental Research for its support and particularly to Dr. Bastiaan Van Elderen, then Director of ACOR, for the loan of equipment and the services of Mr. Muhammad Adawi, and for his constant help throughout the season.

LaBianca of Brandeis University, zooarchaeologist and ethnographer; and Hester Thomsen of Greater New York Academy, pottery registrar. New core staff members included Larry Herr of Harvard University, Area D supervisor; Robert Ibach of Grace, survey supervisor; Harold Mare of Covenant, Area C supervisor; James Stirling of Loma Linda, tomb and anthropology supervisor; Paul Denton of Andrews, chief photographer; and Harold James of Andrews, geologist. Sabri Abbadi, Mahmoud Rusan, and Muhammad Murshed Khadija were the very valuable and cooperative representatives from the Department of Antiquities--the latter archaeologist serving also as foreman.

Altogether there was a staff of 75 members of — 85 from overseas (United States, Canada, Britain, Denmark, Norway, Australia, New Zealand, and Indonesia) and 17 from Jordan, among whom the archaeology students from the University of Jordan were Abdel Samia' Abu-Dayya, Samir Ghishan, Rose Habaybeh, Zeidan Kafafi, and Mujahad Muhaisin (the other Jordanian square supervisors were Adib Abu-Shmais, Omar Daud, Nabil Qadi, and George Terzibashian). This large group was housed at the Amman Training Centre for Palestinian Refugees, [4] located between Amman and Tell Ḥesbân (Pl. XIII:2). Approximately 150 other Jordanians were hired as laborers, the majority of them coming from the village of Ḥesbân.

Objectives

Objectives of the 1974 season included completing, if possible, the excavation of the Byzantine church on the acropolis of the tell (Area A); this involved locating the narthex at its western extremity (Pl. XIII:1). On a level shelf of the tell to the south (Area B), more work needed to be done before what looked like a water reservoir could be confidently claimed as such. Especially the 30 cm.-thick plaster "flooring" found 9 m. down in one square had to be connected up with the 16 m. stretch of continuously plastered retaining wall and cut bedrock in adjoining squares to the east (Pl. XVI:1). This same area contained the best hints of the earliest occupational evidence so far discovered at the site -- Iron I (12th-10th centuries B.C.); these hints begged for further excavation. Between Areas A and B lay Area D, the southern access route to the acropolis. In addition to reaching bedrock in its squares and exploring several unentered storage cisterns, an important goal was to connect stratigraphically, if possible, its monumental stairway discovered in 1973 with the Area B plaster layers found in 1968 and 1971 and subsequently interpreted as resurfacings of a roadway or plaza. Our primary objective in Area C on the mound's western slope was to clarify the extent of previously uncovered Iron Age and Roman fortifications.

Since a great variety of Roman and Byzantine tomb types had been discovered

4 The expedition tenders its thanks to Mr. John W. Tanner, Director of UNRWA Affairs, Jordan, and to Mr. Husni Ayesh, Principal, Amman Training Centre, for their gracious hospitality in allowing the staff to use a portion of their facilities as expedition headquarters.

in the Areas E and F cemeteries in 1971 and 1973, we hoped in 1974 to locate tombs from the Iron Age. We also planned several soundings elsewhere on the tell and in its vicinity (Area G) to see whether their archaeological history would agree with that already discovered on the upper part of the ancient mound where excavation from previous seasons had been concentrated.

In 1973 we began an archaeological survey of the countryside within a 10 km. radius of Ḥesbân that included the tracing of the Roman road from Tell Ḥesbân (Esbus in Roman times) to Tell er-Rameh (Roman Livias) in the Jordan valley. Another objective of the 1974 season was to complete this survey and then to sound one of Ḥesbân's ancient satellite communities in order to test the validity of the survey team's method of suggesting the occupation history of a given site on the basis of potsherds collected from its surface.

A final important goal of the last expedition was to allow for increased collection of scientific data (pollen, seed, shell, soil, rock, etc.) as well as the rigorous processing of this data both at the site and after the season was over. This goal included expansion of our zoo-archaeological and ethnographic research.

Discoveries

As usual, these many objectives for the new season were only partially realized. The narthex of the Christian church in Area A proved as elusive as it did in the 1973 season and mostly for the same reason: it was apparently covered by an extremely well-preserved Mamlūk building complex consisting of several corridors and rooms (Pl. XV:2) and a bath house that was (as it turns out) only partially excavated in 1973. Unexpectedly the team assigned to these squares in 1974 spent most of its time uncovering what proved to be the front half of the bathing establishment founded on what was probably the southern half of the church's narthex (Pl. XIV:1). Other Area A discoveries of 1973 whose excavation was completed in 1974 included an Umayyad *ṭabun* (Pl. XV:1) and an underground storage complex of three circular 3.5 x 2 m. cavities which may have been used for the storage of wine in jars.

Work in Area B confirmed the presence of a huge water reservoir, though the crew working there was not able to complete excavation all the way to the reservoir's bottom along the eastern wall. We were successful also in laying fare extensive remains there from the Iron I period between two relatively vertical faces of bedrock. Considerable additional evidence of post-Iron Age periods also came to light in Area B: a Late Hellenistic industrial use of an earlier cave; from the Early Roman period, beautifully tooled podiums associated with the roadway layers identified earlier, dry storage cavities in bedrock, and *ṭabuns ;* and in Square D.4, a vaulted room, cave, and tunnel from the Mamlūk period. In order to achieve the stratigraphical connections we desired between Areas B and D, a new square was opened in 1974 which should be deep enough after another season's work to provide the information we need.

Work in Area C successfully uncovered more of the Iron Age and Roman city fortifications (Pl. XVI:2), but further excavation is required to see their full extent; a Mamlūk domestic complex of rooms and courts continued to emerge in the eastern sector of the Area (Pl. XVI:3). The finds in Area D clarified a number of stratigraphic problems associated with loci in and around bedrock — three squares each produced a storage cavity cut into bedrock, and one complete Late Roman subterranean room was excavated in Square D.2 (Pl. XVII:1).

Though several new Roman and Byzantine tombs were found and excavated (including sealed Early Roman Tomb E.6 not disturbed by robbers in recent times and Early Roman Tomb G.10 sealed with a rolling stone (Pl. XX:1) but plundered through the roof by modern robbers), most of them were not excavated in our attempt to locate earlier tombs or cave burials; in this endeavor, so largely a matter of chance, we were unsuccessful. Our soundings (Area G) in several spots around the tell confirmed the occupation history already disclosed on the acropolis; hence no evidence for Sihon the Amorite's period (pre-1200 B.C., the Late Bronze Age) came to light. The 72 x 49 m. depression east of the tell across the main road proved to be a reservoir with two use phases, first Byzantine, then Mamlūk.

The survey team was able to complete its work, adding 22 new sites to the 103 discovered in 1973 making a total of 125 archaeological sites within a 10 km. radius of the tell. They also added the discovery in the Jordan Valley of an additional mile of the ancient Roman road that ran between Esbus and Livias. The 20,000 sherds gathered from the 125 sites yield interesting occupation patterns for the Ḥesbân region: intensive occupation in the Byzantine period (pottery attested at 108 sites), heavy occupation in the Iron (91 sites) and Roman (79 sites) periods, medium occupation in the Ayyūbid/Mamlūk (49 sites), Early Bronze (46 sites), and Modern (30 sites) periods, but comparatively light occupation in the Umayyad (17 sites), Hellenistic (14 sites), Ottoman (13 sites), Middle Bronze (9 sites), Chalcolithic (9 sites), Late Bronze (3 sites), and 'Abbasid (2 sites) periods. The latter half of the season was spent pursuing the survey team's second objective: sounding a satellite mound to test the validity of their method. For this they chose Umm es-Sarab (G.8), a small hill (known to C. R. Conder as Umm Askak) at the head of the Wadi Hesban, 4.5 km. north of Tell Ḥesbân proper. Though Bronze Age sherds had been found in surface sherding this site, they were found only in mixed contexts when digging. Only Byzantine and Early Roman strata were found in the two 2 x 6 m. trenches that were completed to bedrock. In the earliest stratum were two articulated adult (c. 25 years old) burials in the soil as well as a child burial found in a blocked rock-cut recess. The ratio of sherds from the various periods found while digging proved to be the same as the ratio found in the surface survey, suggesting the soundness of the survey team's working hypothesis: sherds collected from the surface with sufficient thoroughness reflect a site's occupational history.

Hundreds of scientific samples were taken from important loci (seed—obtained through a simple field flotation procedure inspired by Robert Stewart—pollen, carbon shell, and other organic data, soil, rock, and other inorganic data). Most of these were brought back to the United States for analysis and results will appear in the full preliminary report. Our zooarchaeologist worked out a system of processing and analyzing bones right in the field; more than ten thousand were then registered on data input sheets for computer analysis. Our ethnographic research concentrated on describing and understanding the physiography, demography, social organization, economy, and material culture of the present-day village.

To describe the results of this last summer's excavation in greater detail, we will start from the earliest occupationnal evidence at Tell Ḥesbân and proceed to the most recent.

Iron I Period. The earliest evidence of occupation attested on the mound so far dates back to the Iron I age (12th-10th centuries B.C.), the Biblical period of the Judges. In 1973, Areas B and C, the areas farthest down the slopes, produced Iron I soil layers, but in 1974, in Area B, Iron I architecture was also found in association with them. In a 4 m. deep, 13 m. long depression, fissure, or channel between two slabs of bedrock lay a major fortification wall built of rough, tightly fitting boulders which, because of its size and construction, could have served to defend the Iron I city (Pl. XVI:1). And a large plastered cistern in Area D was probably Iron I since its water-laid silt layer contained only Iron I sherds.

Iron II Period. Until 1974, there remained a gap for our occupational evidence between the 10th and 7th centuries B.C., but in the last season a corpus of sherds from the 9th/8th centuries B.C., or early Iron II period, may have been stratigraphically isolated in Area C. The same type of pottery (red wheel-burnished, but no black) was then found in small quantities in Area B when the upper courses of the eastern header-stretcher wall of the huge water reservoir were dismantled (Pl. XVI:1). The adjective "huge" may be justified by the fact that we know the reservoir is at least 16 m. long, 11 m. wide, and 5 m. deep; how much larger than that only future digging will reveal. And the fact that this unusual structure is a reservoir can no longer be doubted after the season's discovery of its complex hydraulic system. Whether the probable 9th/8th centuries B.C. date applies to the construction of the reservoir or only its repair, we cannot now be sure. In any case, since it appears to be within the ancient city, one cannot help but be reminded that Biblical Heshbon was famous for its pools by the gate of Bath-rabbim (Canticles 7:4).

Iron II/Persian Period. Previous excavation has shown that the Iron II/Persian period is well represented at the site (again primarily in Areas B and C)—both by soil layers and impressive architectural remains. The reservoir was filled (after a period of abandonment, in the Late Hellenistic period) with soil containing masses of 7th/6th centuries B.C. pottery. From this fill have come

several ostraca in previous summers and the summer of 1974 was no exception: an early 6th century B.C. four line ostracon turned up; the latest of our Ammonite inscriptions, it is an inventory mentioning (according to Professor F. M. Cross) figs, beast of burden, and ropes (Pl. XVIII:1). Another rare find in this fill was a .07 m. long metal needle preserved from its point to its eye.

In 1973, in Area C, we found a major 7th/6th centuries B.C. wall laid on a rock ledge against a higher shelf of bedrock with another buttress wall placed against it at a right angle. In 1974 we found an extension of that wall to the south; we can also connect up to its northern end a wall extending into an adjoining square to the east that was excavated in 1968. It is quite possible, then, that we have now found the Iron II/Persian city's zigzag defense wall on the tell's western slope.

Late Hellenistic Period. Like so many other towns in Palestine during the 6th-4th centuries B.C., Tell Ḥesbân, too, seems to have been abandoned. In fact it apparently was not resettled until the 2nd/1st centuries B.C., probably by the Maccabees. As already stated, it was during this period that the water reservoir was covered with a deep fill belonging to the 7th/6th centuries B.C. But our primary evidence from this period, known archaeologically as Late Hellenistic, is a whole series of usually bell-shaped (often interconnected) storage cavities (or wine cellars?) cut into bedrock in Areas A, B, and D. Our geologist informed us that the unplastered pits could not have been cisterns since their rock sides were too permeable, so their exact use awaits further study. Enigmatically, two of these pits yielded 35 pyramid—shaped (loom?) weights (Pl. XVII:2). Another interesting subterranean installation was found in the floor of an Area B cave: a 20 cubic meter circular pool perhaps for industrial use. Its Late Hellenistic silt fill produced a very clearly inscribed Rhodian jar handle whose potter's date stamp mentions Aristeidas, a name known to have belonged to a priest of Rhodes in both the early 3rd and early 2nd centuries B.C. (see J. W. Crowfoot, *The Objects from Samaria*, London 1957, pp. 379, 381). From the pottery and coin evidence, we know ours to have belonged to the latter century.

Early Roman Period. From the 1st century B.C. to the 2nd century A.D., when Hesban was known as Esbus, extensive building activity must have taken place since such widespread evidence of it has been found. Apparently belonging to this period is the impressive acropolis perimeter wall built on bedrock and excavated in Area D during the 1971 and 1973 seasons. Another installation built on bedrock, this time a high stone tower with a paved flagstone floor and a formal entrance on the west, continued to be uncovered in the two westernmost squares of Area C (Pl. XVI:2). Abundant evidence for domestic occupation during this Early Roman period comes from a complex of Area B caves found in bedrock and the exterior soil surfaces associated with them. Connected with the latter was a fine series of ceramic *ṭabuns* or baking ovens. Previous reports have described the long sequence of plaster layers and their soil make-up found throughout Area

B which began in this period and continued without interruption on into the Byzantine period. They have been interpreted as a series of roadbeds for foot traffic, or plazas. In 1974 two corner stretches of curbing stones, perhaps for podiums, were found in asociation with the earliest of these Early Roman plaster layers in the northwest corner of Area B. The high quality workmanship on the podiums as well as their position may indicate they were the bases or pedestals for shrines on the southern approach to the acropolis. Further north on this approach, in Area D, rock-cut "Cistern" D.3:57 produced 55 full pails of Early Roman sherds and almost a thousand registered bones—all from the first half of the 1st century A.D.

Across the Wadi Majjar, to the west of the tell, lies our Area E, a Roman/Byzantine cemetery. An unusual Early Roman tomb was carefully excavated there in 1974. Lying on the forecourt immediately in front of the entrance, which was closed with a rectangular stone and caulked shut, a unique double-spoted black Herodian lamp with central (broken) handle was found (Pl. XVIII:2). Though two slightly damaged cooking pots were found *in situ* in the unrobbed tomb, to our great surprise no skeletal remains, either whole or decomposed, were discovered. Could this unexpected phenomenon (absence of bones, but presence of vessels damaged enough only to make them inutile) point to a Roman cult practice for the dead?

In addition to the three Early Roman burials already mentioned that were excavated by the survey team at Umm es-Sarab (G.8) 4.5 km. north of Tell Hesban, there was one further important Early Roman burial site discovered just northwest of the mound (G.10): a family tomb sealed with a rolling stone (Pl. XX:1). Like the first rolling stone tomb discovered in 1971 in Area F, this one had first been broken into by modern tomb robbers. Though they left the interior in disarray, careful work produced a beautiful gold earring, a perfectly preserved bronze fibula, a glass bottle, three Herodian clay lamps, and a Nabataean coin dated to the reign of Rabbel II (A.D. 71-106)—a fact that suggests, despite the opinion of some, that this type of tomb postdates the destruction of Jerusalem in A.D. 70 (Pl. XX:2). This argument may be bolstered by the architecture of the tomb which appears to be typologically more advanced than the 1971 tomb: vaulted ceiling, "picture" moulding around the walls, isosceles-triangle lamp niches within circles on the wall, and the mixture of loculi and arcosolia for burials. Another interesting feature of the new tomb was the fact that the rolling stone's track was cut entirely out of solid rock as opposed to the 1971 tomb where the outside wall of the track was artificially built up. Bones from at least 12 persons (both male and female) were found, ranging in age from infants to the elderly. So far, these two tombs at Hesban are the only known representatives of the rolling stone type east of the Jordan River.

Late Roman Period. The archaeological evidence suggests that Esbus continued to thrive during the 2nd-4th centuries A.D. Though further excavation is ne-

cessary to tell for sure, it is possible that during the Late Roman period a pagan temple adorned the acropolis; at least several imposing walls from this period in Area A may now be so interpreted. The temple would have been oriented toward the east, preceded by a paved platform and a stylobate wall that would have supported four columns. This temple may appear on the rare Elagabalus coin minted at Esbus ca. A.D. 220, examples of which were found at Ḥesbân in 1973 and 1974. Leading up to the temple from the south was the monumental stairway discovered in Area D in 1973. Beneath this stairway an entire Late Roman room (or subterranean basement) was excavated in 1974—all four walls and the doorway being intact and bedrock serving as the floor, though one wonders what happened in two of the corners which were cut into two of the subterranean Hellenistic storage cavities already mentioned (Pl. XVII:1). A sobering object found here from this period was a lead flogging head, still covered with sharp points that could inflict serious wounds when applied in the Roman manner.

Byzantine Period. The most noteworthy architecture on the mound from the 4th-7th centuries A.D., or Byzantine period, is the basilica-type Christian church in Area A excavated largely in previous seasons. A further attempt was made in 1974 to locate its narthex but as has been mentioned, it was apparently covered with the Islamic bath to be described later. To the south of the church (in Area D), further excavation was carried out beneath the adjoining flagstone paved courtyard which indicated a Byzantine date for this imposing structure (though it may well have been repaired in the Umayyad period since a nicely inscribed Byzantine cross was found). A Byzantine object from Area C worthy of note is a Greek ostracon that came from a Byzantine soil and rock fill inside the Early Roman tower already discussed. Unfortunately it is broken and contains only two and a half Greek letters, possibly the genitive ending of a proper name. The major 1974 discovery from this period came in a long-noticed depression next to the wadi across the Na'ur-Madeba road east of the mound (G.5) where another huge water reservoir (72 x 49 m.) and its embankments were sounded in six trenches. The floor of the reservoir was a fine layer of cement with a cobblestone and cement foundation. A second layer of cement may represent a much later (Ayyūbid/Mamlūk) use. These cement layers ran up to the reservoir's four walls constructed of squared stones set in cement and at least partially battered against their respective virgin-soil embankments. The positions of the stones in the upper preserved courses of the walls would indicate the reservoir's usefulness may have come to an end with an earthquake.

Umayyad Period. The only installation of note excavated this past season from the Umayyad period, 7th/8th centuries A.D., was found cut through one of the Byzantine church's mosaic floors in Area A: an unusually well preserved ceramic *ṭabun*, 2 m. in diameter and 1 m. deep, complete with a stone and plaster built pipe opening into its western side which

may have served either as a flue or as an aperture through which fuel could be added (Pl. XV:1). Two beautiful glass weights came from Umayyad contexts—one from an adjoining square (Pl. XIX:1) and the other from G.6, a sounding on the tell's western slope. Each contains a short Islamic inscription (the *shahadah*) in early Arabic script.

Though 'Abbasid occupation from the 8th/9th centuries A.D. has been uncovered in previous seasons, nothing of significance turned up in 1974.

Ayyūbid/Mamlūk Period. After a gap from the 9th to the 12th centuries A.D., Tell Ḥesbân was again settled by Arabs, this time in the Ayyūbid period (12th/13th centuries A.D.) which led without any apparent break at our site right into the Mamlūk period (13th/14th centuries A.D.). Though we are gradually making progress at separating the ceramic horizons of these two periods, they are so much alike that we have so far continued to lump them together. Each area on the mound has produced remains from these periods. In 1974, caves that showed use in the Ayyūbid/Mamlūk period were excavated in Areas B and F, while a very well preserved domestic housing arrangement from the same period was uncovered in Area C. From one of these houses came a ceramic base inscribed in Arabic with a broken text, "... *wa arba'ah* " ("...and four") (Pl. XIX:2). Another Ayyūbid/Mamlūk complex of (plastered) rooms--including one that was vaulted—was discovered in Area A at the western adge of the acropolis (Pl. XV:2). An additional structure preserving an arch from the period was found in Sounding G.6.

The most interesting find from the Ayyūbid/Mamlūk period, however, is the well preserved Area A bath complex already mentioned. The northern half consisted of a furnace room, warm and cold water tanks located above and to the side of the furnace, a heated tile-floored bathroom containing a stone basin into which the water ran through pipes in the wall, and a hallway leading into the bathroom; these were all excavated in 1973 (Pl. XIV:2). The southern half remained to be discovered in 1974 and consisted of an audience room or lounge complete with plastered bench, platform, and niches for footwear, and an entrance hall entered through a fine threshold (Pl. XIV:1). Built of hewn stone, basalt and limestone tiles, and plastered throughout, the entire complex (14.5m. long and 5.5m. wide) is an example of fiine workmanship. It is the first complete Mamlūk bath found in Jordan and since it is so well preserved (one wall preserved even to the height of the door lintel) the Department of Antiquities is making plans to restore it.

Registered Objects. Among the more than four hundred objects recorded from the 1974 season, and in addition to the ones already mentioned above, 37 legible coins (from the Ptolemaic, Maccabaean, Nabataean, Phoenician, Roman, Byzantine, Umayyad, Ayyūbid, and Mamlūk periods), and 27 whole pots (7 from tombs and 20 from the tell proper—coming from the Hellenistic, Roman, Byzantine, Umayyad, and Mamlūk periods) will

probably prove to be important. In addition to these objects, about twenty-three thousand sherds and over a thousand glass fragments of bottles, cups, bowls, and lamps were registered from every major period of habitation at Ḥesbân from the Hellenistic period on. Dr. Sidney Goldstein (of Corning Museum of Glass) who is studying these fragments has discovered ingots of gold foil sandwiched between two layers of glass which provide documentation for the technique of Byzantine mosaic gold glass installation. Already mentioned were the more than ten thousand bones and hundreds of scientific samples now being studied. So far 11 species of molluscs (2 freshwater, 5 marine, and 4 terrestrial), 13 species of ancient flora (5 grains, 3 legumes, and 5 fruits), and 34 species of modern flora have been identified. Thus the 1974 season proved to be profitable both in terms of what was actually found as well as in terms of the job we now know remains. A fifth expedition is planned for the summer of 1976.

Lawrence T. Geraty