

NOTES ON THE PRESENT AVIFAUNA OF ḤESBÂN

MERLING K. ALOMÍA

Centro de Educación Superior Unión
Lima, Peru

In a country like Jordan, so dependent on agricultural activities, the ecological impact of birds on its national economy is more significant than appears at first glance. Until recently the bones of vertebrates other than mammals have received little attention at archaeological sites, but birds can have a great importance and value to the archaeologist as well as to the ecologist and the zoological taxonomist.¹ Since almost all bird bones that are found on an archaeological site are there because man chose to gather these creatures either living or dead, these bird remains must almost invariably be interpreted in the light of human hunting and other activity. Besides identification of the species, a knowledge of the birds' behavior is also important in deciding in what circumstances a species may have been captured.²

During the five archaeological campaigns conducted at Tell Ḥesbân since 1968, special attention has been given to the unearthed faunal remains, including avifauna.³ The present paper, however, is the first specific report in the particular area of ornithology. The basic material for this paper was gathered in field observations (23 June-11 August 1976) during free times while the author was participating in the fifth Heshbon expedi-

¹ R. E. Chaplin, *The Study of Animal Bones from Archaeological Sites* (London: Seminar Press, 1971), pp. 48, 159.

² *Ibid.*, p. 156.

³ See Øystein LaBianca, "The Zooarchaeological Remains from Tell Ḥesbân," *AUSS* 11 (1973): 33-44; also Øystein and Asta Sakala LaBianca, "Domestic Animals of the Early Roman Period of Tell Ḥesbân," *AUSS* 14 (1976): 205-16; Joachim Boessneck and Angela von den Driesch, "Preliminary Analysis of the Animal Bones from Tell Ḥesbân," in this issue.

tion as a member of the architect-surveyor team.⁴ This study is confined to some ecological observations of birds seen in the region surrounding Tell Ḥesbân.

HESBÂN'S HABITAT

The area around Heshbon (modern Ḥesbân) extends over several small hills. It could be said that these rocky hills, where the numerous *wadis* start to cut down in sharp gradient westward toward the Jordan Valley, form part of the sudden termination of the Transjordan Plateau.⁵ The highest of these hills, Tell Ḥesbân, stands 896 m. above sea level, while the altitude of the others fluctuates between 860 and 879 m. This higher hill, on which most of the excavations were conducted, stands between two *wadis*. Toward its eastern slopes lies Wadi el-Marbat, while on its western side lies Wadi el-Majarr, a tributary of Wadi Ḥesbân, which in turn empties into the flood plain of the Jordan River about 4 km. north of the Dead Sea.⁶

Three km. north of the *tell* lies 'Ain Ḥesbân,⁷ a spring, which is more than 100 m. lower than the *tell's* summit⁸, from which

⁴ The author gratefully acknowledges his indebtedness to Drs. Joachim Boessneck and Angela von den Driesch of the Institut für Palaeoanatomie, Domestikationsforschung und Geschichte der Tiermedizin der Universität München, for their kindness in comparing some of their field observations on birds of the Heshbon area; also to Dr. Asa Thoresen of Andrews University, who kindly provided some bibliographical material and corrected an early draft of this paper.

⁵ Denis Baly, *Geographical Companion of the Bible* (London: McGraw-Hill, 1963), p. 59.

⁶ Wadi Ḥesbân is about 22 km. in total length and has a gradient of 47 m. per mile. This wadi joins the Wadi Kefrein (which in turn is formed by the union of Wadi es-Sir in Arak el-Emir and the Wadi Na'ur) to form the Wadi el-Garbé, which flows out into the Jordan River 4 km. above its entry into the Dead Sea (F. M. Abel, *Geographie de la Palestine* [Paris: Gabalda et Cie, 1933-38], 1:176). Wadi Ḥesbân sometimes is also called Wadi Kefrein (Nelson Glueck, *The Jordan River* [Philadelphia: Westminster, 1946], p. 241).

⁷ S. H. Horn, "Heshbon," *Encyclopedia of Archaeological Excavations in the Holy Land*, 2 (Englewood Cliffs, N.J.: Prentice-Hall, 1975): 510.

⁸ L. Heidet, "Hèsebon," *Dictionnaire de la Bible*, ed. F. D. Vigoroux, vol. 3 (Paris: Letouzev, 1903), col. 660.

flows a perennial stream that contributes to the fertility of one part of the Heshbon area, and especially to all the region along the Wadi Ḥesbân as it goes down to the Jordan plain.⁹ Oleanders (*Nerium oleander*) grow in profusion around the spring, and fields of vegetables flank the stream. Beans were the principal cultivated crop while we were there. This charming corner of 'Ain-Ḥesbân is by far the most beautiful in the area of Heshbon. There we noted that bird life was abundant and the species were more varied.

Ḥesbân, located at 31° 44' 55" north latitude and 35° 48' 55" east longitude, belongs to the subtropical zone but has a Mediterranean climate that is, as in other parts of Transjordan, quite temperate.¹⁰ Like Palestine in general, Ḥesbân has only two seasons, winter and summer,¹¹ the rainy season and the dry season. Tell Ḥesbân, during the summer of 1976, had a mean daily temperature of 24.3° C (possibly only an approximation since on some days no data were taken).¹²

Summer winds at Ḥeshbân are chiefly from the northwest or west; in winter, mostly from the west but changing often to south and southeast. But in the transitional periods from winter to summer or vice-versa easterly winds are common.¹³ Although the summer days are hot and dry, there is a good breeze and nights are refreshingly cool and almost wet. Frequently, early mornings tend to be hazy. In fact, on most summer days the

⁹ H. B. Tristram, *The Land of Moab* (New York: Harper, 1873), p. 351.

¹⁰ Y. T. Toni and S. Mousa, *Jordan: Land and People* (Amman: Jordan Press Foundation, 1973), p. 5; C. Ritter, *The Comparative Geography of Palestine and the Sinaitic Peninsula* (reprint, New York: Greenwood, 1968), 2:370; Michael DeBuit, *Géographie de la Terre Sainte*, (Paris: Editions Cerf, 1958), p. 81; Victor Howells, *A Naturalist in Palestine* (Ziptree, England: Anchor, 1956), p. 167; Charles Pfeiffer, H. F. Vos, *The Wycliffe Historical Geography of Bible Lands* (Chicago: Moody, 1968), p. 195.

¹¹ George A. Turner, *Historical Geography of the Holy Land* (Grand Rapids, Mich.: Baker, 1973), p. 5.

¹² Robin Cox, "The Physical Climate at Ḥesbân and its Vicinity in Recent Times" (unpublished manuscript, Andrews University, 1976), pp. 4, 23.

¹³ Emil G. Kraeling, *Rand McNally Bible Atlas* (New York: Rand McNally, 1952), p. 37.

horizon is too hazy to see the hills of Jerusalem toward the west, which can be distinctly observed when standing among the ruins of Heshbon during clear days. Abundant dew keeps the soil sufficiently humid to make dry-land farming possible even during summer.

On the northwest side of the *tell*, going down the Wadi el-Majarr, and on the opposite slopes of the same *wadi*, west of the *tell*, the eroded soil exposes masses of weathered bedrock. Here, as in other sites of Palestine, the limestone has facilitated the formation and excavation of caves, some for ancient sepulchers,¹⁴ now serving as sleeping-places of cattle and refuges of wild birds, and sometime as human habitations. The same limestone on the *tell* has encouraged men to build cisterns for water and pit storage for grain, and other products.

The fertile area of ancient Heshbon (mentioned in Isa. 16:8-9) still grows successive crops year after year in the red, sandy loam. The reaped grain is brought to the threshing floor to be cleaned from the chaff in summer time, making excellent use of the western winds to winnow the threshed grain. This provides food for many birds.

Ḥesbân is in what has been designated as a forest region, but today no forest exists. The degradation from forest to steppe and from this to semidesert, which has clearly taken place in many parts of Jordan, was due to fire, ax, and overgrazing.¹⁵

There is no reason to think of Ḥesbân as an exception to this fact. Notwithstanding, grain and many cultivated fruit trees and a variety of plants are seen. Olives (*Olea europea*), apricots (*Prunus armeniaca*), figs (*Ficus carica*), pomegranates (*Punica granatum*), vines (*Vitis vinifera*), watermelon (*Citrullus vulgaris*) and melons (*Cucumis melo*), tomatoes (*Lycopersicum*

¹⁴ For a description of the geology of Ḥesbân, see Reuben G. Bullard, "Geological Study of the Heshbon Area," *AUSS* 10 (1972): 129-141; also Tristram, *Moab*, p. 35.

¹⁵ A. Reifenberg, *The Struggle Between the Desert and the Sown* (Jerusalem, 1955), p. 22; Bryan Nelson, *Azraq: Desert Oasis* (Athens, Ohio: Ohio University Press, 1974), p. 7.

esculentum) and tobacco (*Nicotina tabacum*) are actually cultivated on the slopes near Ḥesbân. Other wild plants are seen in the ruins as well as in the barren surroundings where the soil, being unprotected, has been eroded away by action of wind and torrential rain. Plants such as caper (*Capparis spinosa*), nettles (*Urtica urens*) and many different thorny compositae, one of which is called "Skul el-jamal" by the Arabs there, and also the thorny burnet (*Poterium spinosum*) can be seen everywhere. Other aromatic herbs as well as some Graminea (grasses) are common all around Ḥesbân.¹⁶ Many of these plants provide sustenance for the avifauna that appears at Ḥesbân every season.

AVIFAUNA OF ḤESBÂN

There are three main zoogeographical regions in Palestine: the Mediterranean, the Saharo-Sindian and the Irano-Turanian. Ḥesbân is in the Mediterranean area.¹⁷ Of great importance to Ḥesbân are the bird migrations through the Levant, because Jordan is situated in the middle of one of the great migration routes, where there is an almost constant movement of birds to and fro.¹⁸ Bodenheimer mentions 413 listed species and subspecies for the general area of Palestine—among them 143 residents, 58 summer-breeders, 67 common winter visitors,¹⁹ and Nelson lists for Jordan at least 121 migrant species. Of this total 10% were observed as summer residents at Ḥesbân.

A. Wildfowl of Ḥesbân

The birds observed by the author at Ḥesbân between 17 June and 24 August are as follows:

¹⁶ See Patricia Crawford and Øystein Sakala LaBianca, "Flora of Ḥesbân," *AUSS* 14 (1976): 177-187.

¹⁷ F. S. Bodenheimer, *Animal Life in Palestine* (Jerusalem: Mayer, 1935), p. 24.

¹⁸ W. K. Bigger, *Handbook of Palestine* (London: Luke and Keith-Roche, 1934), p. 404.

¹⁹ Bodenheimer, *Animal Life*, p. 148; Nelson, *Azraq*, pp. 267-77. For a list of birds of Jordan see also F. Hüe and R. D. Etchécopar, "Notes Ornithologiques de Moyen-Orient," *L'Oiseau et la Revue Française Ornithologie* 36 (1966): 95-109; 235-51.



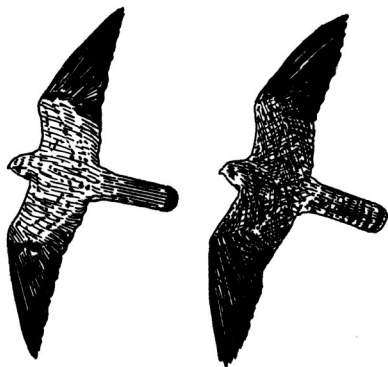
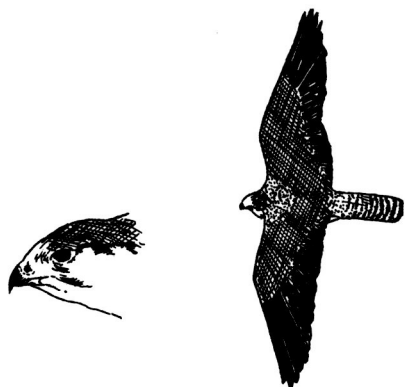
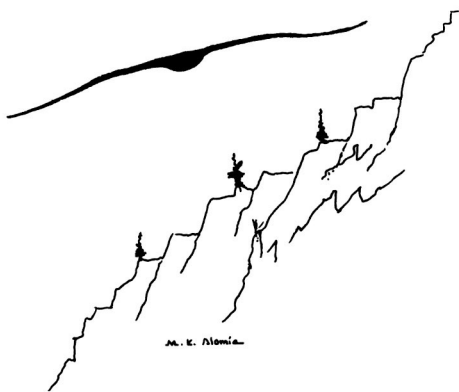
1. House sparrow



2a. White stork in flight



2b. White stork coming down

3. Adult male and female kestrels (*Falco tinnunculus*) from above5. Adult lanner (*Falco biarmicus*) from above and head profile

4. Gliding flight of both species (in 3 and 5)

Fig. 23. Present avifauna of H̄sb̄n̄.

Ciconiiformes

Ciconiidae: White storks (*Ciconia ciconia*) appeared twice near Ḥesbân, one (7 July) walking, the other flying (Fig. 23:2). White storks are spring and autumn visitors to Jordan, but a few immature birds sometime spend part of the summer there. Perhaps some of those specimens were seen as wanderers at Jalûl, about 6 or 7 km. southeast of Tell Ḥesbân.

From the study of the migration movements of these birds it must be said that they pass right through Ḥesbân, though at great height. Only tired birds drop out, sometimes in large numbers, as was recorded on 31 August 1963, when about a thousand were found on the Ramath-Amman road and thousands on the northern shore of the Dead Sea.²⁰

Falconiformes

Accipitridae: We could see at Ḥesbân occasionally some raptors. We saw the griffon vulture (*Gyps fulvus*) twice. On 1 July, one griffon vulture appeared flying at 10:00 a.m. at the height of the acropolis of the *tell*. It came from the east and went on, following the course of Wadi el-Majarr. On 28 July almost at noon we saw another, this time flying over the course of Wadi el-Marbat, going also from east to west. A few minutes later two Egyptian vultures (*Neophron percnopterus*) passed over the tell, going from northeast to southwest.

Falconidae: Falcons are common in Jordan. Until quite recently they were used by Arabs in the sport of falconry. However, the first people who trained hawks for hunting were the Assyrians of Ashurbanipal's days. Assyrians invented all the accessories of this sport such as the falconer's gloves, the hood, and jesses.²¹

We saw two different falcons, the kestrel (*Falco tinnunculus*) on 29 June, 28 July, and 24 August at Ḥesbân and the lanner falcon (*F. biarmicus*) on 7 July over Jalûl (Fig. 23:3, 5). Pre-

²⁰ Nelson, *Azraq*, pp. 192, 193.

²¹ E. Hyams, *Animals in the Service of Man* (London: Dent, 1972), p. 195.

sumably other falcons can be seen in Ḥesbân in other seasons, since many others pass through Jordan.

Galliformes

Phasianidae: The chukar (*Alectoris chukar*) can still be found at Ḥesbân. The song of this bird is heard down by the river-bed of Wadi el-Majarr, especially at evening and morning. I observed it on 24 August (Fig. 24:1).

Columbiformes

Pteroclididae: It is possible that at Ḥesbân more than one species of sandgrouse could exist. These beautiful birds have sometimes been conjectured to have been the Biblical "quail" of the Israelites in the wilderness. A small flock of five spotted sandgrouse (*Pterocles senegallus*) was seen on 17 July going down to the Wadi el-Majarr, toward the west of the *tell* (Fig. 24:2).

Strigiformes

Strigidae: The little owl (*Athene noctua*) is a very common resident at Ḥesbân. The specimens seen at the Wadi el-Majarr apparently were nesting. We observed a pair going into a hole in the rock with food. However, the crack was too deep and narrow for us to reach the chicks. We also saw little owls perched on the ruins at Ḥesbân and occasionally flying among the rocks and walls of the acropolis.

Apodiformes

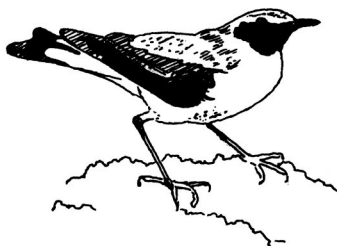
Apodidae: Swifts in flight were often seen at Ḥesbân. The alpine swift (*Apus melba*) is a summer resident of the zone. A spectacular appearance of alpine swifts occurred over the *tell* on 29 June, when a swarm of *formicidae*—ants (apparently *Dorylus punicus*)—appeared on the very top of the *tell*. This swarm attracted at least two hundred of the birds. For more than two hours the horde of swifts were flying over the acropolis, eating the insects.



1. Chukar



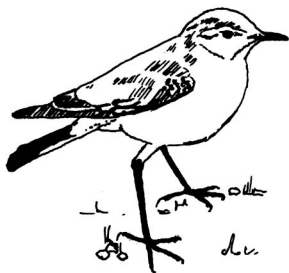
2. Spotted sandgrouse



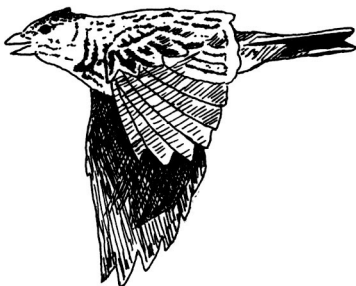
3. Black-eared wheatear



4. Crested lark



5. Isabelline wheatear



6. Skylark

Fig. 24. Present avifauna of Hēsban.

Passeriformes

Hirundinidae: The sand martin (*Riparia riparia*) and the house martin (*Delichon urbica*) appeared a few times at Ḥesbân, generally when the swifts came to feed. On 4 August a pale crag martin (*Hirundo obsoleta*) appeared wandering over the *tell* feeding on small winged insects. The red-rumped swallow (*Hirundo daurica*) was seen at 'Ain Ḥesbân. We did not see the swallow (*Hirundo rustica*) nor the crag martin (*Hirundo rupestris*) so common in Jordan and Israel; however, it is very possible to find them both at Ḥesbân in other seasons.

Alaudidae: Larks are residents at Ḥesbân, and the different species of them apparently live together. The crested lark (*Galerida cristata*) breed there in June (Fig. 24:4). On 24 June an Arab boy brought me a chick of the crested lark. It was at least two weeks old and ran with the typical crest erect. The short-toed lark (*Calandrella cinerea*) appeared in flocks at Ḥesbân, such as we saw on 28 July at the southeast side of the hill on the Wadi el-Marbat. The skylark (*Alauda arvensis*) (Fig. 24:6) and the desert lark (*Ammomanes deserti*) appear less frequently. Another species of lark is reported for Ḥesbân although we were not able to see them.

Turdidae: *Oenanthe*: At least three different chats were seen at Ḥesbân: the Isabelline wheatear (*Oenanthe isabellina*) breeds there between May and June. On 19 June, on the northeast slope of the *tell* we saw a juvenile being fed by its parents. It still had downy feathers and was not yet able to fly well (Fig. 24:5). The black-eared wheatear (*Oenanthe hispanica*) (Fig. 24:3), the mourning wheatear (*Oenanthe lugens*), and the red-rumped wheatear (*Oenanthe moesta*) were occasionally seen toward the west of Ḥesbân on the slopes of the Wadi el-Majarr and Wadi Ḥesbân.

Phoenicurus: We saw one rufous bushchat (*Cercotrichas galactotes syriacus*) at 'Ain Ḥesbân, on 12 July.

Sylviidae: *Acrocephalus*: Some warblers also appeared among

the gardens, *wadi* beds, and bushes of H̄esbân. The graceful warbler (*Prinia gracilis*) and the scrub warbler (*Scotocerca inquieta*) were the most common. Another, which I could not be sure about, was the Olivaceous warbler (*Hippolais pallida*).

Nectariniidae: The Palestine sunbird (*Nectarinia osea*) may be a rare visitor to H̄esbân. Its metallic colors make it a feathered jewel. Although it can be seen frequently in the Petra area, we may have seen one as we were going down to the bed of Wadi el-Majarr.

Sparrows and finches are among the most numerous and common birds at H̄esbân.

Ploceidae: The house sparrow (*Passer domesticus*) is found everywhere at H̄esbân (Fig. 23:1). It nests in holes in the walls of houses or in uninhabited caves of the vicinity. Two pairs chose holes in an excavated cistern in Area A to nest at the beginning of July.

Fringillidae: The goldfinch (*Carduelis carduelis*), a very colorful bird, is seen also in flocks at H̄esbân. On 9 July an area supervisor who was digging in a cave on a farm on the western slope of the *tell* told me of a nest in a fig tree. Unfortunately boys had totally destroyed the nest by the time we got there. However, on 12 July we saw four young birds learning to fly. So we concluded the goldfinch breeds at H̄esbân between June and July.

Other finches such as the siskin (*Carduelis spinus*) and the greenfinch (*Carduelis chloris*), are also very common.

Corvidae: Crows are common on both sides of the Jordan. We observed a raven (*Corvus corax*) flying alone at H̄esbân on 7 July, the brown-necked raven (*Corvus ruficollis*) on 29 and 30 July; and probably the fan-tailed raven (*Corvus rhipidurus*) on 3 August. Two hooded crows (*Corvus corone cornix*) passed by on 21 July flying from northeast to southwest of H̄esbân.

B. Domestic Birds of H̄esbân

H̄esbân is suitable for poultry-raising, and certainly this is

not a recent business. The excavations there have proved that the ancients engaged in it. The following birds are raised by Ḥesbân residents.

Columbiformes

Columbidae: The domestic pigeon (*Columba livia domestica*) is one of the most numerous among the birds raised.

Galliformes

Phasianidae: Chicken (*Gallus gallus domesticus*) is most common.

Meleagrididae: Turkey (*Meleagris gallopavo*) is very scarce.

Anatidae: Goose (*Anser anser domesticus*) is scarce.

CHANGES FROM PAST TO PRESENT

Past avifauna at Ḥesbân is discussed elsewhere in this issue (see note 3). Some bird species found in the strata of Tell Ḥesbân, and until recent times seen in Palestine, are no longer found in the region. The drastic environmental and faunal changes that have occurred in recent centuries in Mediterranean sites²² are seen also at Ḥesbân.

The ostrich has been of great interest, at least to African man, since Paleolithic times. But man's interest has been in chasing it, not domesticating it. Tristram relates that the ostrich was still common in the Belqa and the Syrian desert when he crossed the region, and also that the greatest feat of the Arab hunter was the capture of an ostrich. The ostrich feathers were used for ornamentation, and exquisite drinking vessels were made from the shells of its eggs. The Romans in their festivities sometimes derived pleasure from exhibitions of ostriches in the circus, cutting off their heads so that the mob and the senators could enjoy the spectacle of the big bird running about headless for some minutes.²³

²² See F. Hübner, R. D. Etchécopar, and Guy Mountfort, "Disappearing Wildlife and Growing Desert in Jordan," *Oryx* 7 (1964): 229-32.

²³ Hyams, *Animals*, p. 193; Tristram, *Natural History*, p. 236; *Views of the Biblical World*, 3 (Jerusalem: International Publishing Co., 1960): 38.

According to Bodenheimer, as late as 1929, ostriches were still seen in Palestine, although very rarely, but today the ostrich no longer exists in the wild state, not even in Iraq,²⁴ and in Jordan it has been extinct for some time. According to Nelson, the extinction occurred in the 1920s, at least up to 34° N in the Syrian Desert. He also mentions an unproven record of two near Zerqa, 1952-1953, but also states that "certainly there were one to two alive as late as about 1940."²⁵ This should be so since reports have been made that the last specimen was killed and eaten by Arabs in Saudi Arabia during World War II.²⁶

It is said that the houbara bustard is disappearing, but verbal reports are cited that the bird was recently still numerous in the more fertile rolling country south of Amman. Although bustards were highly beneficial to agriculture at all times, they were also one of the preferred victims to falconers in past years. It must be assumed that although little is known about the present status of this bird in Jordan, its evident decline through recent years has been almost certainly due to hunting.²⁷

Partridges have always been hunted for food. Bodenheimer refers to the periodic Arab custom of arranging "battues" to hunt partridges. Knowing that these birds are excellent runners and that they will not fly unless compelled to do so, the hunters exhaust the birds and finally kill them with sticks.²⁸ At Ḥesbân, partridge perhaps was the most commonly hunted bird, since unearthed remains are relatively plentiful.²⁹

Coots live in watered areas, near fresh water, usually with vegetated margins. At Ḥesbân, the nearness of 'Ain Ḥesbân makes quite possible the existence of some *Rallidae*.

²⁴ Bodenheimer, *Animal Life*, p. 174; E. D. Van Buren, "The Fauna of Ancient Mesopotamia as Represented in Art," *AnOr* 18 (1939): 82.

²⁵ Nelson, *Azraq*, p. 368.

²⁶ Ferguson, *Living Animals*, p. 368.

²⁷ Nelson, *Azraq*, pp. 47, 320; C. W. M. Praed and C. H. B. Grant, *African Handbook of Birds* (2 vols.; London: Longmans, Green, 1957-60), 1:314; Bodenheimer, *Animal Life*, p. 168.

²⁸ Bodenheimer, *Animal Life*, p. 172.

²⁹ LaBianca, "Zooarchaeological Remains," p. 140.

The griffon vulture, as well as the raven and the crow, apparently has not since ancient times changed in its habitat status at Ḥesbân, where its wandering flights are seen quite frequently. The same thing could be said of the Egyptian vulture, which is still today a summer breeder in Palestinian boundaries and thus an occasional, if not frequent, visitor at Ḥesbân.

Poultry raising, which seems to have played a role from ancient times at Tell Ḥesbân, is practiced today. Domestic fowl, believed to have been imported from Southern Asia and brought to Palestine after the Babylonian captivity, probably originated from jungle fowl.³⁰ The chicken began to be domesticated in the Indus Valley and arrived in the Middle East by trade. Apparently at the same time or earlier (before 1400 B.C.) geese were first domesticated in Mesopotamia. It is generally held that the pigeon had already been used by man as food more than 2,000 years earlier; however, besides this use, pigeons had a unique function in the service of man. Egyptians, Greeks, and Romans used them as carriers of messages, and the Arabs used them for mail in war times.³¹

Note should be taken of representations of birds of Ḥesbân in the arts. Mosaics of the Byzantine period found in Jordan give some idea of past avifauna, principally in Jerash and, of more interest for our purpose, in the area of Madaba,³² to which Ḥesbân belongs. The church mosaics found in and near Madaba have provided a variety of birds, many depicted in forms too stylized to permit any conjecture as to their species. Some of the identifiable birds in mosaics of this area are eagle, bustard, pea-

³⁰ W. W. Ferguson, *Living Animals of the Bible* (New York: Scribner, 1974), p. 48; Tristram, *Natural History of the Bible* (London: Clay and Taylor, 1880), p. 223.

³¹ F. E. Zeuner, *A History of Domesticated Animals* (London: Hutchinson, 1963), p. 31; Hyams, *Animals*, pp. 35, 37.

³² C. H. Kraeling, *Gerasa, City of the Decapolis* (New Haven, Conn.: ASOR, 1938), pp. 297-352; S. J. Saller and B. Bagatti, *The Town of Nebo (Khirbet el-Mekajyat)* (Jerusalem: Franciscan Press, 1949), pp. 48-137.

cock, goose, duck, flamingo, woodcock, pheasant, partridge, francolin, dove, and ostrich.³³

The latest mosaic found in this area was uncovered inside the Byzantine church of Siyaghah, at Mount Nebo, about 8 km. southwest of Ḥesbân. The mosaic presents scenes, in color, taken from the rural life of the 4th/5th centuries A.D.³⁴ Among the scenes are pictured wild and tame animals, trees and flowers, and also a man leading an ostrich by a rope tied to its neck. Apparently the most frequently represented bird in these mosaics is the francolin (of the *Phasianidae*), still living in Jordan although rarely seen.

None of the mosaics found at Ḥesbân showed any bird figures. However, among the objects found there were two bird representations. The first, found in 1971 in an Early Roman tomb, is a swan-shaped cosmetic container. The swan's body is formed by a shell and the lid, neck, wing, and tail, are of carved ivory.³⁵ The second, found in 1976, is a bone carved piece with a Greek mythic scene—Prometheus chained with his entrails being devoured by an eagle (or vulture).³⁶

CONCLUSION

The birds listed here are only those that we could see while searching for them in our free time between assigned tasks on the *tell*. Comparing available lists covering the vast area of the Middle East we found that our number represents only a small percentage of all the birds which are expected to be seen at Ḥesbân through a year. Thus a more careful search should be done, particularly at other times of the year, in order to have the whole picture of the avifauna of Ḥesbân and its relation with man's activities there.

³³ Files on Mosaics of Jordan, in the Department of Antiquities of Jordan, Amman.

³⁴ *Jordanian Times*, Amman, Aug. 15, 1976.

³⁵ D. Waterhouse, "Areas E and F" (Heshbon 1971), *AUSS* 11 (1973): 118.

³⁶ See Jennifer C. Groot, "The Prometheus Bone Carving," in this issue, pp. 225-228.