THE MOLLUSCA OF TELL ḤESBÂN

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The molluscs are a part of the ecology of an area. They are an element of the faunal assemblage which can indicate the age of the deposit, the presence or absence of certain types of water sources, as well as give a picture of both general and local climatic conditions (Sparks 1969; Evans 1972).

The study of the molluscs is especially interesting for a site like Tell Ḥesbân where the marine and freshwater sources are accessible but not located in the immediate vicinity. This implies that the aquatic specimens which are present must have been carried in from the outside. In this way, the molluscs can provide information about contacts with other groups of people and geographical areas as well as about possible diet customs.

In calcareous soils such as those of Ḥesbân, the mineral matter of the shell, which is calcium carbonate, is better preserved than in areas where soils are either more basic or acidic. Nevertheless, many difficulties may be encountered in the specific identification of the shells. In spite of the relatively good conditions for preservation, many specimens are found in a fragmentary state. The diagnostic colorings and markings may also have been obliterated or disguised by the erosive action of time and the elements. The identification of the land snails is especially problematical in that there is a great diversity of shapes and sizes as well as markings within the same species. There are also many species that are identical on the outside and can be identified only by examination of the fleshy parts of the live animal (operculum, radula, mouth parts, etc.).

Therefore, the following identifications for the most part have

been confined to the generic level. This level of identification is sufficient, however, for the purposes of this report (see Table 3).

Table 3. Molluscs Identified from Tell Ḥesbân[1]

COMMON NAME	QUANTITY	GENUS	FAMILY
Freshwater			
Pearly freshwater mussel	10	*Unio* Retz. sp.	Unionidae
Freshwater snail	1	*Melanopsis* sp.	Melaniidae
Marine			
Cowry (venus shell)	2	*Cypraea* L. sp.	Cypraeidae
Money cowry	1	*Cypraea moneta* L.	Cypraeidae
Murex	4	*Murex* L. sp.	Muricidae
Clam	10	*Glycimeris* Lam.	Glycymeridae
Wedge clam	2	*Donax* L.	Donacidae
Terrestrial (Land snails)[2]			
	35	*Helix (Levantina) caesareana*	Helicidae
	13	*Helix salomonica*	Helicidae
	11	*Helix (Euparypha) seetzeni*	Helicidae
	494	*Buliminus (Petraeus) halepensis*	Pupidae
	146	(tiny, immature land snails—unidentifiable)	

At Ḥesbân, eleven different species of mollusc remains, in the form of shells or shell fragments, have been found. These remains can be divided into three different groups: (1) freshwater, (2) marine, (3) terrestrial (land snails).

The freshwater specimens appear to be mainly from one group. Fragments of *Unio*, or pearly freshwater mussel, are present. The fact that the shells are fragmented and not especially numerous or concentrated in any specific area may indicate that they were probably not used as food. The heavy lining of the

[1] Space and the scope of this paper does not permit a listing of these specimens according to area, square, and locus. Interested readers may obtain this information by writing to Patricia Crawford or Øystein Sakala LaBianca, c/o Lawrence T. Geraty, Andrews University, Berrien Springs, Michigan 49104.

[2] For a discussion and classification of landsnails of the Middle East, see Louis Germain 1908.

shiny substance known as mother of pearl may account for the limited collection of and interest in these shells. This iridescent substance has been used as inlay in decorative items. The other freshwater mollusc present is a single specimen of the small freshwater snail *Melanopsis*.

The marine fauna is represented by five species. They presumably originated in one of the several marine areas accessible to Ḥesbân—the Mediterranean Sea, the Gulf of Aqaba and the Red Sea, or even the Indian Ocean. Because of the considerable distances involved and the perishability of seafood in a warm climate, we can assume that these specimens were probably not carried inland as items of food. The paucity of each type might indicate that they were brought to the area as singular items of interest, much as a person today might carry home some especially attractive shells as souvenirs or merely as objects that were pleasing to the eye. The cowries, clams, and murexes are all such aesthetic items.

The molluscs of the family Muricidae from the Mediterranean area were used as sources of dye in ancient times. The substance which was used to produce the lovely Tyrian purples is extracted from the soft parts of the animal. The shells were ground up and mixed with soda, then evaporated to the desired strength to make the dyes. Since the specimens are so few in number, it is unlikely that the people of Ḥesbân used it for this purpose (in spite of the fragmentary nature of three out of the four shells).

The one intact specimen may have been used as a personal ornament as implied by the presence of a square, unnatural looking hole through which a cord might have been strung, enabling it to be worn around the neck. It should be noted that investigators have reported mounds of murex shells, in some cases dating back to 1600 B.C., which have holes in exactly the same location as our specimen. These holes were probably made by a punch or stamp in such a way as to extract the dye gland of the animal without damaging the shell (Webb 1948:9). Perhaps our shell was carried back to Ḥesbân from such a site.

Holes present in the clams and cowry shells may indicate that these items were also strung and used for adornment, whether they were originally made by predators boring through to the fleshy parts of the animal or by man. The cowry shells especially are naturally highly polished and often very colorful. They are known to be used to decorate saddles as well as for personal adornment. The money cowry has been used as a medium of exchange in many parts of the world since ancient times. There are references to it in a 7th century Hindu arithmetic (Rogers 1908:128).

The land snails are by far the most numerous among the mollusc remains from Ḥesbân. It is possible that they may have been used as sources of food. Charles Reed (1962) deals with two of the groups (*Helix levantina* and *Helix salomonica*). He tested them as items of diet and found them both acceptable, although he found the *H. salomonica* more palatable. The *H. salomonica* closely resembles the *Helix pomatia* or Roman snail, the gastronomic delight of European countries.

Land snails as items of diet could possibly account for their numbers. However, the snail *Buliminus* which shows the highest population, is probably too small to have been painstakingly extracted and eaten. Their presence in the landscape today within their natural habitat means that they were not necessarily transported from the outside to the Ḥesbân area. Their numbers therefore could be a natural phenomena and have nothing to do with diet.

Land snails, however, may be used as indicators of local climatic conditions, their numbers and proportionate populations changing with fluctuations in rainfall, moisture conditions, and temperature over a long period (Evans 1969; Reed 1962). Careful analysis of their remains as well as their ecological characteristics and habits today may reveal environmental information about the conditions of the past.

The specimens examined, especially the marine and freshwater specimens, are too few in number to be of any great significance in interpreting the history of Ḥesbân. They are interesting how-

ever as indicators of travel to and from the marine and riverine areas. The terrestrial specimens, though more numerous, do not reveal any important aspects of culture. Taken alone as ecological indicators, they do not provide conclusive information. However, taken in conjunction with all the other separate observations about environmental indicators, they may eventually aid in elucidating important and specific aspects of the natural and cultural history of Ḥesbân.

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