BANCOLE (MANTUA, NORTHERN ITALY):
ANALYSIS OF MOLLUSC COMMUNITIES FROM THE NEOLITHIC AND POST-NEOLITHIC TO THE LATE MEDIAEVAL LEVELS

Alberto Girod

THE SITE

The middle Neolithic site of Bancole is located near Porto Mantovano, in the locality called Villa Giardino (Fig. 1). It was partly investigated during rescue excavations carried out in 1996 and 1997 (Breveglieri-Starnini 1998; Starnini 1999). They revealed the presence of a few pits. The most interesting finds were collected in the area of Pit 1. It consists of a shallow depression filled with a dark clayey deposit containing potsherds, lithic artefacts (Fig. 2) and other finds attributable to the early phase of the Square-Mouthed Pottery Culture (Starnini et alii, in press; Starnini-Voytek, in press). The remains of two burials (Starnini, 1999) were discovered at the top of the remaining pit-fill, the upper part of which had been destroyed by recent agricultural activities. The stratigraphic picture is made up of three main features: Level 1, which is modern agricultural, together with the underlying Level 2, constitutes the cap which covers and englobes both a canal and an artificial depression, indicated as Pit 1 in the text, of the Neolithic (Fig. 3).

Soil samples were collected from different excavation layers. The wet sieving of some of them led to the recovery, among the other things, of several micro-molluscs. Furthermore, part of the small canal was excavated close to Pit 1. It contained potsherds of the Historical period probably dating back to the late Middle Ages (xiv-xv century) and many land-snails. These latter were accurately collected, and are the subject of this study, together with those found by sieving.

MALACOLOGICAL RECORDS AND METHODS

Sampling of the molluscs was carried out applying both the bulk-sample technique and the visual-sample technique. In the laboratory, we then proceeded to sifting, with the aid of continuous but not too strong jets of water, on a column of sieves with mesh sizes of between 1500 and 200 μm up to almost complete elimination of soil particles. These procedures enabled the recovery of a large number of species and individuals, in particular adult and juvenile forms attributed to the microfauna, as well as fragments of their periostomes and apical turns (Krolopp 1965; Girod 1996). Levels 1 and 2 were subdivided into cuts each 20 cm thick, and this enabled identification of faunistic associations different from one another and the drawing-up of some considerations on the paleoenvironmental evolution of the site.

The abundance of finds has enabled a detailed analysis of the individual components (Fig. 4) and has allowed to subdivide the mollusc population into a number of communities greater than what had hitherto been possible for other sites that also regarded the area of the Po valley. In abandoning the necessary schematizations resorted to in research carried out in other areas (Vhò, Fiorano Modenese, Spilamberto, Powglia), we have approached more closely the typology of the mollusc communities proposed by Horácek and Lozek (1988), albeit using, for assigning individual species to the various communities, schemes which in our opinion are better suited to the reality of Italian fauna (Zeissler 1963; Kofler 1965; Girod 2005).

Table 1 lists the species present in the excavation, their frequencies in terms of number of individuals in each feature and level or cut. Table 2 contains some notes on the ecological characteristics of each species, as well as the attribution to a faunistic association. In the case of Helicodiscus singleianus (Pilsbry 1890), none of the individuals gathered, whether adult or juvenile specimens, showed any trace of calcification of the shell. It is a rather rare species, of which there exist few reports in Italy given the difficulty of finding them, since they live underground (Giusti 1976; Pizzoli 1985). In our case, the well preserved and fresh specimens with subtransparent shell of a pale brown colour, belong to recent individuals, i.e., ones that died not long ago. It was decided not to include this species in the counts in order to prevent 'contamination' of the data.1

1 We are grateful to Prof. Folco Giusti for his kind help in the identification of Helicodiscus singleianus and Vitrea crassa (Paulucci 1878).
distribution of the frequencies and as regards the scarcity of species and reduced biodiversity. The exception is P. elegans, which evinces a marked regression in Level 1.

RIASSUNTO

I reperti malacologici provengono da un sacco 'open air'. Le malacocenosi sono sia d’acqua dolce che di terra. Le prime si sono formate con le esondazioni del fiume Mincio che hanno ripetutamente interessato le antiche rive e le zone limitrofe. Le malacofoane terrestri sono costituite da varie associazioni: di ambienti umidi ed ombrosi, spesso ricchi di lettiera, tipiche di zone con buona copertura arborea. Associazioni mesofile in cui confluiscono varie specie che, pur sfruttando l’ombrosità ambientale ben si insediano in zone con vegetazione di arbusti ed in spazi luminosi ed aperti. Associazioni xerofile, di terreni sfiati e con vegetazione erbacea, ben illuminati e soleggiati. In tutte queste associazioni sono presenti tanto le specie e gli individui di taglia molto piccola, tra 1,8 e 4 mm, quanto le specie più grasse fino a Cepaea ed Helix. Helicodicus singleanus, di cui si sono trovate esclusivamente le conchiglie in buon stato di conservazione, quindi recenti, è stato escluso dal trattamento dei dati.

Summary

The malacological material comes from an open-air site. The mollusc communities are made up of both fresh-water molluscs and land snails. The former were formed by the flooding of the River Mincio which repeatedly involved the old banks and the neighbouring areas. The land snails are made up of various associations typical of damp and shady environments, frequently rich in litter, characteristic of areas of good tree cover; mesophile associations where various species converge which, albeit exploiting the shade of the environment, settle well in areas with shrubby vegetation and in bright and open spaces; and xerophile associations, belonging to broken-up soils with herbaceous vegetation, well illuminated and sunny. In all these associations, both species and individuals of very small size, between 1,8 and 4 mm, and larger species up to Cepaea and Helix are present. Helicodicus singleanus, of which exclusively the shells were found, these being in a good state of conservation, and hence recent, was excluded from the data processing.

References


K. Baba 1974, Ein Beitrag zur Verbreitung und Ökologie der Bradybaena fruticum (O.F. Müller) in Ungarn (in ungherese), Szegedi Tanárképző Főiskola Tudományos Közlőnyeiabilité, 3, pp. 89-98.


A. Girod 2005, Considerazioni sulla malacocenose terrestre...
ISTRATTO