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The State of Preservation of Shell Material in Midden Sites

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Abstract

THE results of a series of experiments designed to gauge the amount of fragmentation and movement of exposed shells under present-day conditions considered in conjunction with a detailed study of the survival rate of prehistoric shells led to the conclusion that significant numbers of the latter can be lost in antiquity. To date no account has been taken of this possibility in quantitative studies of shell middens, and it is suggested here that such future studies should give this aspect of midden analysis some consideration.

INTRODUCTION

ALTHOUGH the potentiality of shell middens for reconstructing aspects of the ecology and economy of prehistoric societies has been recognised for over a century, the sampling problems involved have received little recognition. A detailed examination of faunal material from a series of shell middens excavated at Wilson's promontory, Victoria, Australia, suggested that a considerable number of individual shells, in some cases up to 50 per cent of the sample, have not survived. The purpose of the present paper is to consider the factors contributing to the differential preservation of shellfish.

Material and Methods

Field experiments were undertaken in eight locations, each with different degrees of exposure to the wind. In each case, shells were found in the process of being eroded from the midden matrix. A grid system was laid out over the area, and the number of individual shells per species in each six foot square was mapped, in order to permit the calculation of contours of equal shell density and the extent of individual shell movement. Shells of certain species were removed from selected areas in the grid, cleaned on the upper side only, painted red for easy recognition and replaced in pre-recorded positions. The extent of fragmentation for individual

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