

# IL NATURALISTA SICILIANO

*Organo della Società Siciliana di Scienze Naturali*

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VARIABILITY IN ORNAMENT AND SHAPE OF THE GENUS  
*UROCYTHEREIS* FROM A SOUTHERN ITALY BAY (IONIAN SEA)

High-degree variability in ostracod shell sculpture is a recurring problem experienced by authors dealing with studies of shallow marine assemblages. Seemingly well-distinct features occurring in some infralittoral ostracod taxa lead taxonomists either to propose a large number of specific names, which frequently have not stood the test of time, or to “lump” together very different forms.

During the study of the Recent ostracods of the La Strea Bay (AIELLO *et al.*, 2006) some hundreds of *Urocythereis* specimens were collected and assigned to three species: *U. margaritifera* (MÜLLER, 1894), *U. distinguenda* (NEVIANI, 1928) and *Urocythereis* sp. 1 (*sensu* BARRA, 1997). The presence of shells exhibiting transitional characters between the former two species (then included in *U. margaritifera*) indicated an unsolved taxonomic issue. The uncertain taxonomy of *Urocythereis* is due to the variability of the shell ornamentation and consequently species limits within the genus remain partly ambiguous.

To solve this problem, we have used two different methods of morphological analyses to assess how many species of *Urocythereis* inhabit the Recent bottom sediments of the La Strea Bay. One method is the comparison of ornament morphology, taking into special account the features of the reticulation. The other method is the morphometric analysis of the outline, by means of the computer program Morphomatica (LINHART *et al.*, 2006).

Analyses of reticulation patterns in Hemicysteridae and Trachyleberidiidae were originally undertaken by LIEBAU (1969, 1971) and BENSON (1971,

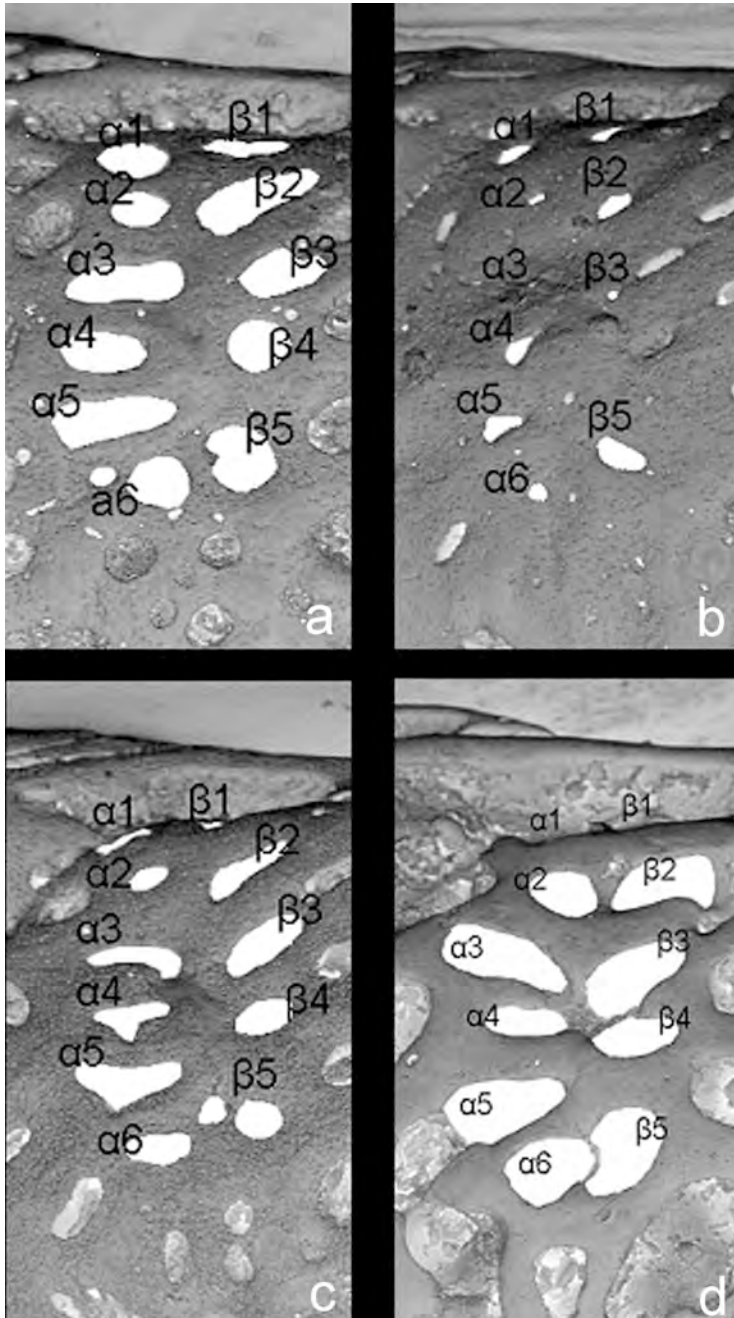


Fig. 1 — Dorsal median group of fossae in *U. margaritifera* (a), *U. distinguenda* (b), *U.?* *margaritifera* (c) e *Urocythereis* sp. 1 (d)

1972), evidencing the relevance of homologous structures for systematics and evolution studies. OKADA (1981, 1982) clarified the relationship between epidermal cells and reticulation meshes, and observed that in the specimens pertaining to the same species the structure of the fossae/muri system is steady.

In order to evaluate the variability range of the ornament features in *Urocythereis*, we have selected five areas where homologous fossae-muri can be recognized in the three forms ("species"). Such areas are: the pre-ocular area, the two concentric rows of fossae running parallel to the anterior margin, the antero-median group of three fossae just behind them, the dorsal median group (ATHERSUCH, 1977) situated between the post-ocular sinus and the sub-central area (Fig. 1) and the caudal group.

Some groups of fossae are relatively steady while others can vary in shape or in number of fossae (by subdivision). Celation, the development of an outer layer of calcite overlapping the reticulation (SYLVESTER-BRADLEY & BENSON, 1971) is a morphological disturbance able to hide some features, in part or completely.

Fossal pattern variations have been compared with shape analysis obtained through Morphomatica, an user-friendly computer programme designed for the morphometric analysis of the ostracod outline.

Results seem to indicate that the combined study of outline and ornament variability would be a useful tool for species discrimination.

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