ADAPTATIVE STRATEGIES OF SOFT-BOTTOM, SUSPENSION-FEEDING ANOMALODESMATAN PELECYPODS TO PHYSICAL DISTURBANCE: EXAMPLES FROM THE PERMIAN OF THE PARANA BASIN, BRAZIL.

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Life mode and taphonomic analyses of soft-bottom, suspension-feeding anomalodesmatan pelecypods found in event concentrations in the Early Permian (Tubarao Group) of the Parana Basin indicate that adaptation to reworking and rapid sedimentation is a major control on their ecology and evolution. Two types of adaptative strategies are recognized on the basis of fossil preservation and functional anatomy: "exposed strategy", including shallow to intermediate, active burrowers, and "sheltered strategy", including deep burrowers.

Exposed strategy is shown by shallow and active burrowers like "*Myonia*"? "*costata*", "*Myonia tayoensis*" and intermediate burrowers, as "*Australomya sinuosa*" from the Taio assemblage (Rio Bonito Fm.). Their shells are usually found disarticulated or butterflied and chaotically distributed in a fine amalgamated sandstone, generated by storms in a shallow marine environment. When articulated these shells are not found in situ, indicating exumation and rapid (not abrupt) sedimentation. Shells of shallow and active burrowers (e.g., "*Astartila*" sp., "*Myonia*" sp. and "*Pyramus*" sp.), from the Sao Sepe assemblage (Palermo Fm.) show the same preservational pattern.

A contrasting pattern is shown by deep-burrowers like "Allorisma barringtoni" and "Vacunella" cf. "V. etheridgei" from the Rio do Sul Fm. (Baitaca assemblage). They are commonly found in situ, in platformal marine fine siltstone. Life positioned specimens of *Allorisma barringtoni* show evidence of scape structures, suggesting ability to elevate the shell during rapid sedimentation, probably induced by storms. However, in this species, reburrowing ability was not efficient, as suggested by the reduced anterior portion of their shells.

Our data aggrees with Kondo's (1995) observations which suggest that shallow burrowers are easily exumated, reworked, transported, and deep burrowers are rarely exumated and exposed at the water-sediment interface, even after death. Since this adaptation to physical instability determines life mode and shell morphology, repetition of these adaptive strategies in unrelated lineages lead to homeomorphy.

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