

TAPHONOMY OF AMMONITE CONDENSED ASSOCIATIONS. JURASSIC EXAMPLES FROM CARBONATE PLATFORMS OF IBERIA

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Condensed associations of ammonites show different features in shallow environments in relation to deep environments. The degree of taphonomic condensation in recorded associations reaches the highest values in shallow epicontinental platforms, but not in deep basins. However, the degree of taphonomic heritage (estimated by the ratio of reelaborate elements in the whole assemblage) can reach 100% in both cases. The degree of packing of ammonite remains and the stratigraphical persistence display smaller values in shallow than in deep environments.

Condensed associations from deep environments usually contain taphonic population of type 1, composed of monospecific shells showing unimodal and asymmetric distribution of size-frequencies, with positive skew. These populations have a high proportion of microconchs and the shells of juvenile individuals are predominant, whilst shells of adult individuals are scarce. In deep environments, phragmocones are normally filled by sediment, and concretionary internal moulds display disarticulation surfaces and fractures with acute margins. Pyritic ammonites are common in certain deep environments.

On the other hand, in shallow environments, taphonic populations are usually of type 2 or 3, those of type 1 being not represented. Taphonic populations of type 2 are composed of mono- or polyspecific shells showing unimodal and normal distribution of size-frequencies, with high kurtosis. Populations of this second type have a low proportion of microconchs and the shells of juvenile individuals are scarce, whilst the shells of adult individuals are common. Taphonic populations of type 3 are composed of polyspecific shells showing uni- or polymodal and asymmetric distribution of size-frequencies, with negative skew. Shells of juvenile individuals are absent, microconchs are very scarce and shells of adult individuals are predominant in taphonic populations of this last type. In shallow environments, hollow ammonites (*i.e.*, shells showing no sedimentary infill in the phragmocone) are abundant, reelaborate internal moulds show high values of roundness and sphericity as well as common biogenic borings, and pyritic ammonites are scarce.