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COMPARISONS OF RUGOSE CORALS FROM THE UPPER VISÉAN OF SW SPAIN AND IRELAND: IMPLICATIONS FOR IMPROVED RESOLUTIONS IN LATE MISSISSIPPIAN CORAL BIOSTRATIGRAPHY

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Rugose corals have been used in biostratigraphic studies mainly for local zonations. Their utility as index fossils have been undervalued because of problems for identification and overemphasis on the facies control on the coral distribution. Problems of identification may be solved using only well defined and well known species and genera, and by using the species group concept. The Upper Viséan transgression created extensive shallow-water carbonate shelves producing abundance of corals and widespread distribution of main taxa. For these reasons, the Upper Viséan is a very good epoch for comparing distribution of rugose coral assemblages from different regions and assessing their value as index fossils.

This study is based on distribution analysis of Upper Viséan corals collected in SW Spain and Ireland during the last 20 years. Comparisons have been made with Upper Viséan coral faunas collected in other areas of Western Tethys and adjacent regions. Rugose corals from Ireland and Spain have been considered to the species level. In some cases we applied a pragmatic approach using species groups when two or more species are similar, have identical stratigraphic distribution and may be misidentified.

More than 50 species have been analysed, but only 35 have been considered important for the coral biostratigraphy in the Upper Viséan in terms of their broad geographical distribution, their occurrence in shallow-water platform facies and their complete distribution in the Upper Viséan. Their distribution in all regions within the western Tethys subprovince is consistent with only minor differences.

The stratigraphical distribution of rugose coral species in Southwest Spain and Ireland show similar patterns. Five coral assemblage zones can be established in Sierra Morena; Zones 1 and 2 combined could be Early Asbian in age, Zone 3 is Late Asbian and Zones 4 and 5 combined are Brigantian. The Upper Viséan In Ireland comprises four coral zones, Zone F is Early Asbian in age, Zone G is Late Asbian and Zones H-I are Brigantian. There are some small differences in the first occurrences of some markers, but both zonations are analogous. These zonations are consistent with those proposed previously in Belgium (Poty 1985), Britain (Mitchell 1989) and Russia (Hecker 2001).

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