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LATE VISÉAN RUGOSE CORAL FAUNAS FROM SOUTH-EASTERN IRELAND: COMPOSITION, DEPOSITIONAL SETTING AND PALAEOECOLOGY OF *SIPHONODENDRON* BIOSTROMES

Ian D. SOMERVILLE*, P. COZAR* & Sergio RODRÍGUEZ**

* Department of Geology, University College Dublin, Belfield, Dublin 4, Ireland; ian.somerville@ucd.ie
** Departamento y U.E.I. de Paleontología, Facultad de Ciencias Geológicas e Instituto de Geología Económica, Ciudad Universitaria, 28040 Madrid, Spain; sergrodr@geo.ucm.es

Rich late Viséan rugose coral assemblages dominated mostly by solitary forms are recorded from late Asbian limestones (upper part of the Ballyadams Formation) in the Carlow area, southeast Ireland. More diverse assemblages are recorded in the Brigantian Clogrenan Formation with abundant fasciculate and cerioid colonial taxa. The limestones display shoaling-upward cycles developed on an extensive shallow water tidally-influenced shelf in which periodic subaerial exposures are recognised by palaeokarsts and palaeosols. *Siphonodendron* biostromes are recorded from the lower part of the Clogrenan Formation at discrete horizons which can be correlated between quarries up to 50 km apart. All of the biostromes are dominated by tabular or low bulbous colonies of *Siphonodendron pauciradiale* with pronounced peripheral growth strategies. The dimensions of fasciculate colonies are typically 20-30 cm high and 70-90 cm in width, but some reach 4.5 m across. The corallites in many colonies have the same upper growth level. The mostly upright *in situ* colonies show relatively dense packing and formed bafflestones and are thus regarded as autobiostromes, but periodic storm events formed autoparabiostromes when some of the colonies were overturned. Associated rugose corals in the biostromes are *Diphyphyllum furcatum, Lonsdaleia duplicata* and the massive cerioid species *Lithostrotion decipiens, Actinocyathus floriformis* and *Palastraea regia*, together with tabulate corals (*Syringopora)* and sponges (chaetetids*)*, but all form accessory roles in the constructions. Solitary corals are mainly sparse, except at Dunamase Quarry where several recorded taxa result in a much higher diversity biostrome. Gigantoproductid brachiopods are an important related element, commonly forming concentrations of *in situ* shells below, within or above the biostrome, but rarely formed sites for attachment for the colonies.

The Carlow *Siphonodendron* biostromes show many characteristics in common with the biostromes from the late Asbian *Siphonodendron* Limestone in SW Spain, although the dominant species there is the larger *S. martini,* not *S. pauciradiale*. Both regions have biostromes with relatively high diversity, but those in Carlow have a high diversity of colonial taxa (fasciculate and cerioid) resulting from their slightly younger (Brigantian) age, coinciding with the appearance of new colonial rugose genera.

The Carlow *Siphonodendron* biostromes are different from the '*pauciradiale* reefs' in the Bricklieve Mountains, NW Ireland, even though they contain the same dominant species. The Carlow biostromes have a much higher diversity (genera and species) and formed in a shallower water setting. Also, they show less fragmentation of colonies and a higher proportion of *in situ* colonies than those biostromes in NW Ireland, where over 50 % of the colonies are overturned and abraded, reflecting growth in a more open marine shelf, commonly affected by storms. The Belgian *Siphonodendron* biostromes are thinner and not as laterally extensive as those at Carlow. They are dominated by *S. junceum* with *S. martini,* but *S. pauciradiale* has a less important role in the constructions. They are also developed above beds with chaetetids and gigantoproductid brachiopods, although neither were involved in the biostromes, similar to those at Carlow.