

THE STRUNIAN RUGOSA RECOVERY AFTER THE LATE FRASNIAN CRISIS IN BELGIUM AND SURROUNDING AREAS

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In the shelf environments of Belgium and surrounding areas, after the Late Frasnian crisis, the disseminated Rugosa totally missed in the lower part of the Famennian. They reappeared from the *marginifera* Conodont Zone (Fa2a), but remained very uncommon till the end of the *velifer* Zone (Fa2c). They include few species belonging to ante-Famennian genera, such as *Breviphyllum*, or showing close affinities with some of them, such as *Campophyllum*.

Near the base of the Strunian (base of the LV Spore Zone, Fa2d), Rugosa became common in the distal zone of the basin, in Etroeungt area (Northern France), where marine shales, including limestone beds, developed out of the influence of the sandy sediments which are known in the proximal zone (Belgium, Western Germany). Then (from the base of "Tn1a"), they progressively extended to Belgium and Germany, following the gradation of the limestone facies upwards the sandstone ones. The Strunian coral fauna is relatively rich in species, and includes ante-Famennian-like taxa, such as *Campophyllum*, genera closely related to the former, which are homeomorph of Lower Carboniferous (Visean) ones, such as the so-called "*Palaeosmilium*" and "*Dibunophyllum*", and one which were previously described from the Lower Carboniferous (*Clisiophyllum*). The intraspecific variability of these corals is very high and makes difficult their systematics. At the level of a specific population, the morphological variability can be as important as the one which is usually observed at an interspecific level. The geographical populations can be assigned to ecotypes or to subspecies. This variability is well demonstrated for *Campophyllum flexuosum*, one of the most common species, and is considered as being the first level of the coral recovery after the Late Frasnian crisis. It gave rise very quickly to different species and probably to some of the other genera, which usually show a similar high rate of variability. The radiation of the Strunian Rugosa was abruptly stopped at the Devonian-Carboniferous boundary, by the Hangenberg event, about 1 m.y. after its beginning, at the time the morphology of the species were not still stabilized. The Rugosa which were recorded from the Strunian of Belgium, France and Western Germany, are not known from the Tournaisian and probably have no relationships with Carboniferous ones, except for *Clisiophyllum* which reappears as late as the Visean.