

X INTERNATIONAL

CONGRESS

ON FOSSIL

CNIDARIA AND PORIFERA



August 12–16, 2007
St. Petersburg, Russia



ABSTRACTS



St. Petersburg, 2007



REMARKS ON RUGOSE CORAL TAXONOMY

JERZY FEDOROWSKI

*Institute of Geology, Adam Mickiewicz University, Maków Polnych 16, Pl 61-606 Poznań, POLAND;
jerzy@amu.edu.pl*

Precise taxonomy is possible only when specimens are thoroughly investigated and checked against well known types. This simple procedure is not always followed, resulting in a common lack of credible data.

Re-investigation of the holotype and only existing specimen of *Pentamplexus simulator* Schindewolf, 1940 has shown that its author did not present the true positions of individual transverse sections through the early growth stage, but oriented them artificially according to his ideas derived from the morphology of the calice (Schindewolf 1942, pl. 33, fig. 2a-d, text-fig. 89a-d). His errors were in part corrected by Weyer & Iljina (1979), but they also did not identify the counter protoseptum correctly. Re-orientation of the original thin sections and two new ones indicates an assignment of that diagenetically altered specimen to the family Polycoeliidae de Fromentel, 1861, rather than to the Plerophyllidae Koker, 1924 as proposed by Schindewolf (1942) and Weyer & Iljina (1979).

Manipulation of the data by Schindewolf (1942) resulted in his incorrect diagnosis of *Pentaphyllum* de Koninck, 1872, which was followed by many students, who introduced almost 50 species summarized by Iljina, 1984. Despite its name and Schindewolf's (1942) suggestion, the poorly preserved type of that genus possesses six, rather than five dominant septa in its calice.

Inadequate recognition of the true morphology of the tabularium must lead to incorrect classification up to family level. The biform tabularium is not always recognized and is commonly improperly described, despite its importance as a factor in water distribution within the gastro-vascular cavity and its diagnostic value for taxonomy.

References

- Iljina, T. G. 1984. Historical development of corals. Suborder Polycoeliina. *Trudy Paleontologicheskogo Instituta Akademii Nauk SSSR* 198: 1-184 (in Russian).
Schindewolf, O. H. 1942. Zur Kenntnis der Polycoelien und Plerophyllen. Eine Studie über den Bau der "Tetrakorallen" und ihre Beziehungen zu den Madreporarien. *Abhandlungen des Reichsamtes für Bodenforschung* 204: 1-324.
Weyer, D. & Iljina, T. G. 1979. Die Permischen Rugosa-Genera *Pleramplexus* und *Pentamplexus*. *Zeitschrift für geologische Wissenschaften* 11: 1315-1341.

EXAMPLES OF ARCHITECTURE OF REEFAL FACIES AND RELATED DEPOSITS IN THE DEVONIAN OF THE CANTABRIAN ZONE (NW SPAIN)

LUIS PEDRO FERNÁNDEZ¹, MIGUEL ARBIZU¹, ESPERANZA FERNÁNDEZ-MARTÍNEZ²,
JENARO LUIS GARCÍA-ALCALDE¹, ISABEL MÉNDEZ-BEDIA¹, FRANCISCO SOTO¹,
MONTSE TRUYOLS¹ & CARMEN VERA DE LA PUENTE¹

¹Departamento de Geología, Universidad de Oviedo, c/ Arias de Velasco s/n, 33005 Oviedo, SPAIN;
lpedro@geol.uniovi.es; marbizu@geol.uniovi.es; jalcalde@geol.uniovi.es; imbedia@geol.uniovi.es; fsoto@geol.uniovi.es;
mtruyols@geol.uniovi.es; cvera@geol.uniovi.es

²Área de Paleontología, Facultad de Ciencias Biológicas y Ambientales, Campus de Vegazana, s/n, 24071 León, SPAIN;
e.fernandez@unileon.es

The Devonian record of the Cantabrian Zone (NW Spain) is formed of an alternation of siliciclastic and carbonate units, chiefly of shallow water origin, that were deposited on the North Gondwanan passive margin prior to the onset of the Variscan orogeny (Carboniferous). The carbonate units range from a few tens to some two hundred metres in thickness and record deposition in carbonate platforms of mainly ramp type. They are relatively rich in reefal faunas, in such a way that seven reefal episodes of uneven importance, spanning from earliest Pragian to Famennian, have been distinguished. These reefal episodes consist of coral and stromatoporoid bioherms and biostromes with a local appearance of mud mounds.

The stratigraphic location of these reefal deposits and their relationships to the surrounding facies, both at large scale (i.e. within a formation, at the scale of tens to hundreds of metres) and small scale (i.e., at the scale of metre-



thick packages), suggest that the reefal deposits appearance, their facies distribution and the architecture of the carbonate platform itself were governed by several orders of cyclicity, presumably of eustatic origin, with a local tectonic overprint of variable importance.

In this work, several examples, mainly from the third and fifth episodes mentioned above, are discussed to show the sequential arrangement of the reefal deposits. These two episodes are found in the Lochkovian shales of the Valporquero Formation (La Vid Group) and in the Givetian–earliest Frasnian Candás-Portilla Formation, respectively.

This work is a contribution to the Projects CGL2005–03715/BTE and IGCP 499

LOWER DEVONIAN (EARLIEST PRAGIAN) CORALS AND STROMATOPOROIDS FROM THE CANTABRIAN ZONE (NW SPAIN)

ESPERANZA FERNÁNDEZ-MARTÍNEZ¹, ISABEL MÉNDEZ-BEDIA², FRANCISCO SOTO²,
BRUNO MISTIAEN³ & LUIS PEDRO FERNÁNDEZ²

¹Área de Paleontología, Facultad de Ciencias Biológicas y Ambientales, Campus de Vegazana, s/n, 24071 León, SPAIN;
e.fernandez@unileon.es

²Departamento de Geología, Universidad de Oviedo, c/ Arias de Velasco s/n, 33005 Oviedo, SPAIN;
imbedia@geol.uniovi.es; fsoto@geol.uniovi.es; lpedro@geol.uniovi.es

³Laboratoire de Paléontologie stratigraphique, FLST & ISA, Université Catholique de Lille, UMR 8014 du CNRS, 41 rue du
Port, 59046 Lille Cédex, FRANCE; b.mistiaen@isa-lille.fr

Devonian rocks in the Cantabrian Zone (NW Spain) are well known for their abundant content in reefal faunas. Up to seven reefal episodes of different importance are recorded in this zone. The first episode developed during the earliest Pragian and it consists of thin bedded biostromal limestones with a rich fauna of corals (tabulate and rugose) and stromatoporoids. The aim of this work is to show the faunal composition and the sedimentological features of this first reefal episode.

Of the few outcrops of this interval that are known, we have selected three well exposed sections for this study: the Santa María del Mar section (Asturias province) in the northern part of the Cantabrian Zone and the Cantera de Vañes and Arauz sections (Palencia province) in the southern slope of this zone. The Santa María del Mar section belongs to the Nieva Formation, whereas the other two sections correspond to the laterally equivalent Lebanza Formation. Both formations are Lochkovian–Pragian in age.

The Santa María del Mar section is composed of bioclastic limestones interbedded with marlstones. Reefal levels are mainly developed at the top of the bioclastic beds. Some of these levels are thin biostromes composed of rugose corals (*Disphyllum* and *Embolophyllum*). Others yield laminar and flattened domical stromatoporoids belonging to the genera *Intexodictyon*, *Plectostroma*, *Habrostroma* and *Parallelostroma* and abundant but not diverse tabulate corals represented by the genera *Favosites* and *Thamnopora*.

The Cantera de Vañes section consists of a wide range of limestone deposits forming limestone packages and limestone-marlstone alternations. Rugose corals are especially found in small disphyllid biostromes. Most of the tabulate corals are rounded small to medium coralla of the genus *Favosites*; in several levels the genera *Thamnopora* and *Heliolites* are also common together with auloporida corals. Three genera of stromatoporoids have been identified as *Labechiella*, *Parallelostroma* and *Plectostroma*.

The succession in the Arauz section is lithologically similar to the former and displays a diverse fauna of tabulate corals (mainly the genus *Praemichelinia* and to a lesser degree *Parastriatopora* and *Favosites*), rugose corals (*Disphyllum* and *Tryplasma*) and stromatoporoids (*Labechiella* and *Plectostroma*). Bryozoan colonies are also very common at certain levels.

In all these successions the occurrence of post-mortem overgrowths between tabulate corals and stromatoporoids and of borings is frequent.

Regarding the stromatoporoids, it is worth noting that this is the first time that the genera *Habrostroma*, *Labechiella* and *Intexodictyon* have been found in Spain.

This work is a contribution to the Projects CGL2005–03715/BTE and IGCP 499.