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The Mesozoic Corals. Bibliography 1758-1993.

Supplement 24 (-2019)

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Summary

This supplement to the bibliography (published in the Coral Research Bulletin 1, 1994) contains 14 additional references to literary material on the taxonomy, palaeoecology and palaeogeography of Mesozoic corals (Triassic - Cretaceous; Scleractinia, Octocorallia). The bibliography is available in the form of a data bank with a menu-driven search program for Windows-compatible computers. Updates are available through the Internet (www.cp-v.de).

Key words: Scleractinia, Octocorallia, corals, bibliography, Triassic, Jurassic, Cretaceous, data bank

Résumé

Le supplément à la bibliographie (publiée dans Coral Research Bulletin 1, 1994) contient 14 autres références au sujet de la taxinomie, paléoécologie et paléogéographie des coraux mésozoïques (Trias - Crétacé; Scleractinia, Octocorallia). Par le service de mise à jour (www.cp-v.de), la bibliographie peut être livrée sur la base des données avec un programme de recherche contrôlée par menu avec un ordinateur Windows-compatible.

Mots-clés: Scleractinia, Octocorallia, coraux, bibliographie, Trias, Jurassique, Crétacé, base des données

Zusammenfassung

Die Ergänzung zur Bibliographie (erschienen im Coral Research Bulletin 1, 1994) enthält 14 weitere Literaturzitate zur Taxonomie und Systematik, Paläoökologie und Paläogeographie der mesozoischen Korallen (Trias-Kreide; Scleractinia, Octocorallia). Die Daten sind als Datenbank zusammen mit einem menügeführten Rechercheprogramm für Windows-kompatible Computer im Rahmen eines Änderungsdienstes im Internet (www.cp-v.de) verfügbar.

Schlüsselworte: Scleractinia, Octocorallia, Korallen, Bibliographie, Trias, Jura, Kreide, Datenbank

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Preface

Numerous hints given by colleagues and new papers edited the previous year yield 14 references for a supplement to the bibliography. For the form of arrangement and abbreviations please refer to the bibliography itself (Coral Research Bulletin 1, 1994).

The supplement

BOIVIN, S., GRETZ, M., LATHUILLÈRE, B., OLIVIER, N. & BARTOLINI, A.

- 2018.** Coral- and oyster-microbialite patch reefs in the aftermath of the Triassic–Jurassic biotic crisis (Sinemurian, Southeast France). – *Swiss Journal of Geosciences*, 111: 509–520. D • j • F

The end of the Triassic and the Early Jurassic are intervals characterised by profound biotic and environmental changes, accompanied by dramatic decreases in marine fauna diversity. Corals were strongly affected and assemblages underwent a severe reduction; compared with those of the Upper Triassic, the Early Jurassic is traditionally defined as holding a “reef gap”. A Sinemurian coral-microbialites patch reef, located in southern France in the Hérault department (Le Perthus locality), is here described. This bioconstruction developed in a shallow mixed siliciclastic-carbonate inner ramp setting. The reef volume is composed of up to 70% of an intercoral facies mostly microbialites, with subordinated sediments (approximately 20–30% of the intercoral facies). Therefore, the patch reef can be defined as a coral-microbialite bioconstruction, in which microbialites were the main framebuilders. The coral assemblage has low diversity and is dominated by massive to branching colonies of *Chondrocoenia clavellata*. This highlights the reef diversity after the T/J boundary crisis. The Le Perthus patch reef could have acted as an edge for the dominant currents and probably induced reductions in hydrodynamic energy and sedimentation on one of its sides. Consequently, it could have triggered the growth of small lateral bioconstructions, composed of oysters and microbialites, uniquely on one of its sides. The evolution of the facies shows that the Le Perthus patch reef grew in a shallowing-upward setting accompanied by an increase in siliciclastic inputs. The rate of bioerosion and the faunal assemblage suggest that the bioconstructions could have been developed in a mesotrophic environment. [original abstract]

DOWELD, A.B.

- 2014.** Starostinia, a new generic replacement name for *Ironella* Starostina & Krasnov, 1970 (Anthozoa: Scleractinia: Rhipidogyridae) non Cobb, 1920 (Nematoda: Ironidae). – *Zootaxa*, 3815, 2: 299–300; Auckland. N • j

The fossil genus *Ironella* Starostina & Krasnov (type species *I. giseldonensis* by original designation) was established (in Krasnov & Starostina 1970: 79) for distinctive scleractinian corals from Northern Caucasus of Russia (Northern Ossetia). However, *Ironella* Cobb (1920: 277), a living nematode (Adenophorea: Enoplida: Ironidae), preceded the fossil coral name, which becomes a preoccupied later homonym. The nematode *Ironella* is well recognized in modern zoology (Nematoda: LSID urn:lsid:marinespecies.org:taxname:227324), and in this connection a new generic designation is necessary for the later homonymic fossil scleractinian genus. To resolve homonymy, in accordance with the International Code of Zoological Nomenclature, *Starostinia* gen. nov. (type species *Ironella giseldonensis* Starostina & Krasnov, 1970) is here proposed as a replacement genus name for *Ironella* Starostina & Krasnov non Cobb. The genus is named in honor of Russian palaeontologist E. A. Starostina. [original abstract]

GALE, L., PEYBERNES, C., CELARC, B., HOCEVAR, M. & SELIH, V.S.

- 2018.** Biotic composition and microfacies distribution of Upper Triassic build-ups: new insights from the Lower Carnian limestone of Lesno Brdo, central Slovenia. – *Facies*, 64, 17: 1–24; Erlangen. C • t • SLO

The architecture and composition of Middle to lower Upper Triassic platforms is often obscured by dolomitization. Hence, comparatively little is known about their architectures compared to their size and geographic extent. An active quarry near Lesno Brdo (central Slovenia) offers an excellent exposure of Lower Carnian (Julian) massive lime-

stone, which is diagenetically little altered. A detailed microfacies analysis along a 15.5-m log revealed the presence of three facies types: fine-grained limestone as a groundmass, blocks and globular masses of sponge-microbialite boundstone, and lens-like aggregations of polychaete (terebellid) tubes. Sponge-microbialite boundstone contains a rather small number of cosmopolitan sponge taxa, selenoporacean red algae, microproblematica, bryozoans, and a small proportion of dwelling fauna. Instead, stromatolites represent the main constituent. While some blocks appear to have truncated margins, others show mammillary-like protrusions of microbialites into the surrounding sediment, suggesting active growth of microbialite-producing organisms. Aggregations of terebellid worm tubes show a highly irregular relief, with tubes placed sub-parallel to the ancient sea floor. The presence of fibrous rim cement, crystal silt, and in some cases fragmentation of the tubes, suggest at least moderately energetic waters. Aggregations are thus interpreted as preserved in situ, but not in toto. The entire complex was probably deposited at the margin or upper slope of a carbonate platform. Although the presence of a large number of terebellids associated with microbialites boundstone may indicate some sort of environmental stress, such a stress remains to be identified. [original abstract]

HERNÁNDEZ MORALES, H. & LÖSER, H.

- 2018.** Revision of the family Helioporidae (Coenothecalia, Anthozoa; Cretaceous - Extant). – *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*, 287, 3: 351–363; Stuttgart. D • kcr

The octocoral family Helioporidae (order Helioporacea) is revised on the basis of its type genus. The family, well known for the extant 'Blue coral' *Heliopora coerulea*, encompasses colonial corals whose skeletons are made of large monocentric skeletal elements that form the wall and the coenosteum. Its projections into the corallites form a kind of septa. Along with the extant genus *Heliopora* Blainville, 1830, the family encompasses the Cretaceous genera *Dactylacis* Orbigny, 1849, *Eomontipora* Gregory, 1932, *Parapolytremacis* Alloiteau, 1957, *Polytremacis* Orbigny, 1849, *Proheliopora* Kusmicheva, 1975, *Pseudopolytremacis* Morycowa, 1971, and *Selidolithus* Alloiteau, 1957. All genera are reviewed on the basis of type material of their respective type species, as far as possible. The present revision suggests a smaller number of genera for the Cretaceous than previously thought. All genera are considered synonymous with *Heliopora*, with the exception of *Pseudopolytremacis* and its junior synonym *Proheliopora*. *Heliopora* ranges from the Hauterivian to the present and *Pseudopolytremacis* from Barremian to Santonian. [original abstract]

KOŁODZIEJ, B., SALAMON, K., MORYCOWA, E., SZULC, J. & ŁABAJ, M.

- 2017.** Platy corals from the Middle Triassic of Upper Silesia, Poland: Implications for photosymbiosis in the first scleractinians. – *Palaeogeography, Palaeoclimatology, Palaeoecology*, 490: 533–545; Amsterdam. D • t • PL

Coral patch reefs from Middle Triassic (upper Pelsonian – lower Illyrian) strata in the Upper Silesia region of southern Poland (Germanic domain of the Peri-Tethys) are rare examples of the first scleractinian buildups. The shallowing-upward succession in the Tarnów Opolski quarry records a transition from sponge to coral patch reefs interbedded with bioclastic limestones. Coral pillarstones built by thin, branching *Volzeia* szulci are succeeded by platy *Pamirosieris silesiaca* constructing two platestone layers, each up to 50 cm thick. Serial sections through platestones revealed flat to undulose growth form of *P. silesiaca*. The maximum observable dimension of the coral plates is 24 cm wide (typically up to 12 cm), while thickness of most plates is 1–1.5 cm. Coral plates are interlayered with crinoidal wacke- to packstone and microbialites, which are locally important component of the platestone. Platy corals grew in a shallow, turbid-water environment with changing, but dominantly moderate hydrodynamics. Net sedimentation was low, as indicated by the epibionts encrusted to the undersides of the coral plates, and locally common microbial fabrics. Growth-interruptions of *P. silesiaca* record events of storm-induced sediment input and resuspension of carbonate mud. Based on the euphotic floor model, the flattened morphology of *P. silesiaca* is interpreted as an optimal growth form in a turbid, low-light environment. Platy scleractinian assemblages from Silesia are the oldest occurrences of this ecological coral group (mostly re-presenting deeper, mesophotic habitats) and support the hypothesis that some of the earliest scleractinians had photosymbionts like modern zooxanthellae. [original abstract]

LÖSER, H.

- 2018.** Fossile Korallen aus Jura und Kreide. Aufbau, Klassifikation, Bestimmung und Fundmöglichkeiten. 2. Auflage. – VI, 198 pp.; Dresden (CPress Verlag).

Coral reefs are complex ecosystems. Their main producers - the corals - are more primitive organisms. Nevertheless they create complicated constructed skeletons presenting a wide range of shapes. For half a billion years exist corals, for about 250 million years the stony corals (Scleractinia) which colonize also today oceans. Changing environmental conditions forced the sensible organisms to create again and again new constructions resulting in a almost unlimited richness of forms through time. Not much is known about the relationship between the construction of the skeleton made of calcium carbonate and the biology of the living animal, mainly for groups which lived in periods long ago making classification and taxonomy difficult. This book will be help to work with Mesozoic corals (without Triassic) and gives in five large chapters (morphology; palaeoecology, diversity and evolution; sampling and examination; systematics and list of common genera; coral localities) insight in the most important aspects of a difficult organism group. The book is based on lecture material and is written for geology and biology students, as well for interested amateurs and biologists or geologists who want to gain insight in this invertebrate group.

In the second revised and enlarged edition of the book the systematic part was adapted to the new classification system proposed in 2016. The number of included genera increased and more than the half of the figures in the systematic part was replaced by better illustrations. The Late Cretaceous corals are better represented compared to the first edition.

LÖSER, H., ARIAS, C. & VILAS, L.

- 2019.** Upper Valanginian to Lower Hauterivian coral faunas from the Sierra Larga (Prebetic zone, SE Spain). – *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*, 292, 3: 259-290; Stuttgart. D • k • E

From the Upper Valanginian and Lower Hauterivian of the Sierra Larga (Prebetic zone, SE Spain) two small faunas of colonial corals are taxonomically described. The Valanginian fauna encompasses 23 species and the Hauterivian fauna 11 species. The family diversity with 11 families or informal groups is high. Most species-rich are the families Latomeandridae, Microsoleniidae, and Stylinidae. Whereas the Hauterivian fauna contains only few common genera, the Valanginian fauna represents more and more rare genera. The faunas differ in age and facies and represent a low coincidence in their taxonomic composition. The species of both faunas are known from other areas with a range of Oxfordian to Turonian in age, but most species occurred from the Hauterivian to the Lower Aptian. Palaeobiogeographically, both faunas show a relationship with Lower Cretaceous faunas of the Western Hemisphere and nearby located faunas of the Tethys and Boreal. Two genera – Actinastraeopsis and Polyphylloseris – experience a range extension in their first occurrence. [original abstract]

LÖSER, H. & HEINRICH, M.

- 2018.** New coral genera and species from the Rußbach/Gosau area (Late Cretaceous; Austria). – *Palaeodiversity*, 11: 127-149; Stuttgart. N • k • A

From the Coniacian to Santonian of the Gosau Group in Austria, six new genera (*Astraraetrochus*, *Geroastrea*, *Pachyheterocoenia*, *Pachyphylloipsis*, *Paractinacis*, *Synhydnophora*) within the families Astraraeidae, Heterocoeniidae, Negoporitidae, Phyllosmiliidae, and Synastraeidae, and 12 new species of Scleractinian corals are established (*Astraraetrochus bachi*, *Crinopora ireneae*, *Crinopora thomasi*, *Geroastrea alexi*, *Gosaviaraea aimeae*, *Nefocoenia seewaldi*, *Nefocoenia werneri*, *Pachyheterocoenia leipnerae*, *Pachyphylloipsis magnum*, *Paractinacis uliae*, *Proplesiastraea rivkae*, *Synhydnophora wagreichi*). The new taxa emerged during a systematic revision of the coral fauna of the so-called Gosau facies in the area of Rußbach and Gosau (Austria), which was for the first time carried out by the systematic preparation of thin sections and the application of more profound measurements of the corallite dimensions. [original abstract]

LÖSER, H., HEINRICH, M. & SCHUSTER, U.

- 2019a.** Korallen von Rußbach und Gosau (Coniac-Santon; Österreich). – VI, 367 pp.; Dresden (CPress Verlag). D • k • A

The corals of the so-called "Gosaukreide" form the most species-rich and best-preserved Mesozoic corals at all. For almost 200 years the coral fauna has been investigated, 330 species are reported, four comprehensive monographs were published. The present compilation concentrates in a lithostratigraphic level and a certain area: the Streiteck, Grabenbach and Hochmoos formations in the valleys of Gosau and Rußbach. As a total, 350 species (in 86 genera) are described and illustrated, mainly with thin sections, but also surfaces of complete specimens. Morphometric data are provided. The compilation may assist collectors as well as professional palaeontologists to put a name on corals from the Gosau area.

LÖSER, H., HEINRICH, M. & SCHUSTER, U.

- 2019b.** Corals from Rußbach and Gosau (Coniacian-Santonian; Austria). English abridged version. – 117 pp.; Dresden (CPress Verlag). C • k • A

LÖSER, H., STEUBER, T. & LÖSER, C.

- 2018.** Early Cenomanian coral faunas from Nea Nikopoli (Kozani, Greece; Cretaceous). – *Carnets de Géologie / Notebooks on Geology*, 18, 3: 23-121. N • k • GR

An Early Cenomanian marine succession rich in corals is reported from the western margin of the Pelagonian zone in central Greece. The succession starts with a coarse conglomerate followed by sandstone, nodular limestone and massive limestone. Fifteen levels contain corals with the nodular limestone being the most species-rich. As a total, 78 species in 46 genera are described. They belong to 15 superfamilies. Three genera and four species are described as new. The new genera belong to the families Heterocoeniidae and Felixaraeidae, and the informal Plesiosmiliids. The record of six genera results in stratigraphical range extensions. The coral associations show more relationships to Early than to Late Cretaceous faunas. Thirty-nine genera already existed before the Cenomanian and 33 genera continued into the Middle Cenomanian, but only 19 genera persisted into the Turonian. The coral fauna has close palaeobiogeographic relationships with mainly Boreal or North Tethyan Cenomanian faunas such as those of the Aquitanian Basin, the Basque-Cantabrian Basin, or with faunas from the northern margin of the Rhenish Massif, but shares also species with the Late Aptian to Early Albian of the Bisbee Basin in North America and with faunas of the Early to Middle Albian of the Northern Pyrenees. [original abstract]

MORYCOWA, E.

- 2018.** Supplemental data on Triassic (Anisian) corals from Upper Silesia (Poland). – *Annales Societatis Geologorum Poloniae*, 88, 1: 37-45; Kraków. N • t • PL

About twenty species of scleractinian corals are known from the shallow marine epicontinental deposits (Middle Triassic: Anisian, Muschelkalk) of Kraków-Upper Silesia region. Four of them require taxonomic revision. On the basis of partly preserved micromorphological features and the microstructure of the skeletons two of them are corrected, i.e. *Coelocoenia? assmanni* Weissmermel, 1925 and *C. exporrecta* Weissmermel, 1925, from Kamien Slaski, near Opole (Upper Silesia). *Coelocoenia? assmanni* was incorporated into *Eckastraea prisca* (Weissmermel, 1925), family Eckastraeidae Morycowa, 2006, in Morycowa and Szulc (2006) and *C. exporrecta* is assigned to a new genus *Opolestraea* nov. gen., family Eckastraeidae. [original abstract]

RICCI, C., LATHUILLIÈRE, B. & RUSCIADELLI, G.

- 2018.** Coral communities, zonation and paleoecology of an Upper Jurassic reef complex (Ellipsactinia limestones, central Apennines, Italy). – *Rivista italiana di paleontologia e stratigrafia*, 124, 3: 433-508; Milano. N • j • I

This work describes and analyzes an original collection of fossil corals from the Ellipsactinia Limestones (Kimmeridgian-Tithonian), exposed in the Marsica area (central Apennines, Italy), focusing on taxonomy and paleoecology. 43 species grouped into 32 genera, 16 families and 9 suborders were identified. *Astreoidogrya giadae* nov. gen. nov. sp. (Rhipidogryidae) and *Clausastrea eliasovae* nov. sp. (Montlivaltiidae) are new taxa. Corals occur from the back reef to the reef crest, showing a marked zonation, expressed by a variation of coral cover and type, although the reef front and slope facies could not be sampled. The back reef is characterised by scattered medium-to-small colonies, with a relative high variety of colony shape, corallite arrangement types and high taxonomic diversity. *Stylosmilia*, *Calamophylloipsis*, *Intersmilia*, *Pleurophyllia*, *Bracthelia*, *Heliocoenia*, *Ogilvinella* occur here among others. The inner reef flat records the highest coral cover, with large robust branching, such as "*Pseudocoenia*", *Heliocoenia*, *Calamophylloipsis*, and large dome-shaped meandroid, such as *Psammogyra*, *Pruvostraea*, *Eugyriopsis* colonies. Within the external reef flat and the reef crest the coral cover is low and the stromatoporoid-bearing mounds dominate on the isolated coral bioconstructions. Controlling factors as bathymetry, hydrodynamic disturbances, abrasive currents, background sedimentation and morphological irregularities of the depositional profile are considered to explain the observed coral zonation. High diversity and low dominance indices are interpreted to result from reef complex heterogeneity, which should have influenced the formation of different ecological niches and consequently the proliferation of a greater number of taxa in a relatively small area. [original abstract]

TORRES DE LA CRUZ, F., CHACÓN-BACA, E., GÓMEZ-MANCHA, Y.E. & COSSÍO-TORRES, T.

2018. A palaeobiological window into the Lower Cretaceous Cupido Formation: Puerto México section, Nuevo Leon, Mexico. – *Carnets de Géologie*, 18, 8: 187-203; Madrid.

D • k • MEX

Abstract: A rich geobiological record of Cretaceous biotic and abiotic interactions around the proto-Gulf of Mexico has been preserved in the massive Cupido carbonate platform, i.e., in a sedimentary sequence that represents a depositional period of approximately 15 Myr. This work documents lateral facies variation on a dip slope reef from a new outcrop in the upper part of the Cupido Formation in the state of Nuevo Leon, Mexico. The measured transect is correlated with a stratigraphic column

logged in a nearby section. The preserved fossil biota represents marginal reef facies dominated by abundant rudist shells such as *Douvilleia skeltoni*, *Toucasia* sp., *Offneria* sp., and *Amphitrocoelus* sp. associated with relatively large colonial corals (with diameters up to 25 cm) like *Stelidioseria* sp. and to a lesser extent, with stromatoporoids. Benthic foraminifers (miliolids and textularids) with associated dasycladalean algae such as *Salpingorella* sp. and *Terquemella* spp. dominate the microfossiliferous content in wackestones to packstones. This facies is overlain by a thin (15-30 cm) stromatolite horizon at the upper end of the measured section. This locality represents a new paleobiological and taphonomic window into one of the most extensive carbonate platform systems developed along the margin of the Gulf of Mexico during the Cretaceous. [original abstract]