

# The Mesozoic Corals. Bibliography 1758-1993.

Supplement 20 ( -2014)

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## Summary

This supplement to the bibliography (published in the Coral Research Bulletin 1, 1994) contains 17 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](http://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 17 autres références au sujet de la taxinomie, paléocéologie et paléogéographie des coraux mésozoïques (Trias - Crétacé; Scleractinia, Octocorallia). Par le service de mise à jour ([www.cp-v.de](http://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 17 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](http://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 17 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

### ARCHIAC, E.J.A. DE

1838. Observations sur le groupe moyen de la formation Crétacée. – *Mémoires de la Société géologique de France*, 3: 261-311; Paris. C • k • F

### CIOFALO, S.

1877. Su di alcune nuove specie fossili del Cretaceo di Caltauturo. – *Annuario della Società dei Naturalisti in Modena*, (2) 11: 1-6, 1 pl.; Modena. C • k • l

### CUIF, J.P.

2014. The Rugosa–Scleractinia gap re-examined through microstructural and biochemical evidence: A tribute to H.C. Wang. – *Palaeoworld*, 23: 1-14; Amsterdam (Elsevier Scientific Publishing Company). G • t

More than sixty years ago, H.C. Wang carried out an extensive study of skeletal microstructures of the Paleozoic corals and concluded that a "direct descent" may have existed between the two coral suborders: the Paleozoic Rugosa and the younger Scleractinia that had been established as distinct phyla by Haeckel (1896). Skeletal microstructures and three-dimensional reconstructions of walls and septa have revealed remarkable similarities between some Permian and Triassic corals, but it is only during the recent years that significant relationships were established between the structural properties of coral skeletons and their control by the biological process. Supported by recent genetic studies of calcareous biomineralization among various invertebrate phyla, the Wang's opinion now appears a reasonable working hypothesis. [original abstract]

### DIETL, G.

2013. Der Braunjura am Fuß der Schwäbischen Alb. – *Fossilien*, Sonderheft, 1-64. D • j • D

### ETHERIDGE, R.

1913. The Cretaceous fossils of the Gingin Chalk. – *Bulletin of the Geological Survey of Western Australia*, 55: 9-31. N • k • AUS

### GRETZ, M., LATHUILLIÈRE, B., MARTINI, R. & BARTOLINI, A.

2013. The Hettangian corals of the Isle of Skye (Scotland): An opportunity to better understand the palaeoenvironmental conditions during the aftermath of the Triassic-Jurassic boundary crisis. – *Palaeogeography, Palaeoclimatology, Palaeoecology*, 376: 132-148; Amsterdam. D • j • GB

At Ob Lusa (Isle of Skye, Scotland), six distinct coral beds were observed in a modern outcrop where a Hettangian succession is exposed. The coral associations are monogenic, belonging to Lepidophyllia, a massive cerioid genus. The lowest bed has relatively well-developed colonies that form small bioconstructions whereas the other beds have small and dispersed colonies that are completely drowned in the matrix. Their morphology and size can vary, but the general growth fabric is dominated by platy colonies. This type of growth fabric is defined as a platestone. The most surprising characteristic of these specimens, especially for the platy corals, is their growth pattern; many samples do not exhibit the classical growth polarity because they are bifacial. Geochemical analyses (d18O, d13C) were conducted on oyster shells that were associated with the corals. The results indicate that the mean palaeotemperature was approximately 22 °C. Sedimentological analysis revealed shallow settings where the hydrodynamic energy and siliciclastic inputs fluctuated. The general faunal assemblage of the outcrop had low

diversity and was mainly composed of allochthonous bioclots. The corals at Ob Lusa clearly did not live under ideal environmental conditions for the development of corals. [original abstract]

### GUÉRANGER, M.E.

1853. Essay d'un répertoire paléontologique du Département de la Sarthe dressé suivant l'ordre de superposition des terrains ou Liste des Fossiles observés jusqu'ici dans cette localité. – 44 pp.; Le Mans (Imprimerie de Julien, Lanier et Ce.). C • jk • F

### HANSEN, TH. & SURLYK, F.

2014. Marine macrofossil communities in the uppermost Maastrichtian chalk of Stevns Klint, Denmark. – *Palaeogeography, Palaeoclimatology, Palaeoecology*, 399: 323-344; Amsterdam. C • k • DK

Three successive marine habitats and their benthic macrofossil communities have been recognised and assessed in the uppermost Maastrichtian chalk of Stevns Klint, Denmark. The mound-bedded lower Sigerslev Member was deposited below the photic zone under the influence of persistent, non-erosive bottom currents. It is draped by the upper Sigerslev Member, which was laid down in deeper water than any other chalk known from onshore Denmark. Deposition took place under quiet conditions, apparently not influenced by bottom currents. The sparse level-bottom community lived on a seafloor with low nutrient supply. It was characterised by recumbent brachiopods and bivalves, sponges and some spatulate, long-spined echinoids, which were able to traverse the soft substrate. The top part of the Maastrichtian assigned to the Højerup Member, consists of low biogenic chalk mounds formed mainly by profuse growth of small-sized bryozoans governed by nutrient-rich currents from the south. The macrofauna of this member is of very high density and richness, yet species composition is similar to that of the mound-bedded lower Sigerslev Member. The bryozoan thickets of the two members are accompanied by a rich fauna of bivalves, echinoids, polychaetes, gastropods and brachiopods. Attached forms were dependent on hard, mainly small substrates provided largely by dead bryozoans, and on a steady nutrient supply. The bivalve fauna is richer and occurs in slightly higher densities in the Højerup Member than in the similarly mound-bedded lower Sigerslev Member. The number of polychaete species is also greater in the Højerup Member. The faunal differences reflect the shallower-water setting and a higher influx of food during deposition of the latter unit. The final Maastrichtian benthic macrofossil community at Stevns Klint represented by the Højerup Member thus shows the greatest faunal richness and density in the Upper Cretaceous chalk in the Danish Basin. There is no evidence of faunal impoverishment at the end of the Cretaceous in the Stevns Klint succession, which is complete across the Cretaceous-Paleogene boundary, and the study thereby corroborates the increasingly dominant view of a very abrupt faunal turnover at the K/Pg boundary. [original abstract]

### LIAO, WEI-HUA & DENG, ZHAN-QIU

2013. Mesozoic scleractinian corals of China. – 224 pp., 84 pls.; Hefei (China University of Science and Technology Press). N • tj • RC

### LÖSER, H.

- 2014a. The genus *Brachyseris* Alloiteau 1946/47 and remarks on *Latimaeandraraea felixi* Angelis d'Ossat, 1905 (Scleractinia; Cretaceous). – *Treballs del Museu de Geologia de Barcelona*, 20: 15-20; Barcelona. D • k • A/E

The Early Albian coral species *Latimaeandraraea felixi* is investigated on the basis of thin sections obtained from the holotype. Its fine skeletal structure and systematic position are elucidated, but its generic position remains questionable. It is most closely related to the genus *Brachyseris* from which it differs by lacking the typical pattern (forming tholiform walls in two different levels) of this genus. The genus *Brachyseris* is considered in greater detail on the basis of the holotype and topotypical material of the type species. It is related to other Leptophyllid genera such as *Microphyllia*, *Thalamocaeniopsis*, *Trigerastraea* and *Vallimeandra*, but is very probably restricted to the Late Cretaceous. [original abstract]

### LÖSER, H.

- 2014b. Revision of the family Agatheliidae (Scleractinia; Cretaceous). – *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*, 273, 3: 299-318; Stuttgart. N • k • A/CZ/D/E/F/GB/GR/UA/E

The late Albian to Maastrichtian coral family Agatheliidae (suborder Heterocoeniina) is revised on the basis of its type genus and respective type species. The family encompasses solitary and colonial forms with thick compact radial elements with a mostly regular septal symmetry. Radial elements are composed of small trabeculae and have strongly ornamented septal lateral faces. Together with the name-giving genus *Agathelia* Reuss, 1854, the genera *Carantophyllum* Alloiteau, 1957, *Caelumastrea* Reig Oriol, 1994, *Canleria* Eliášová, 1996, *Eothelia* Löser et al., 2013b and *Pallarsastrea* Reig Oriol, 1989 (as a synonym of *Agathelia*), as well as the new genera *Agasmilia* and *Agatheliopsis*, are assigned to the family. *Agasmilia* is the only solitary form. *Agatheliopsis* is a plocoid form related to *Agathelia*. New species of *Agathelia* and *Caelumastrea* are established. All genera are revised on the basis of the types of their respective type species. Possible species of all genera are presented. The palaeobiogeography of the genera is discussed. The family occurs from the Late Albian to Maastrichtian and is restricted to the Western and Central Tethys. [original abstract]

**LÖSER, H.**

- 2014c.** 3. Korallen / 3. Corals. [In:] NIEBUHR, B. & WILMSEN, M. [Eds.]: *Kreide-Fossilien in Sachsen, Teil 1.* – *Geologica Saxonica*, 60, 1: 17-56. D • k • D

From the Cenomanian of the Saxonian Cretaceous 61 coral species in 33 genera are reported that belong to the Hexacorallia (suborders Archeocaeniina, Caryophylliida, Faviina, Fungiina, Heterocoeniina, Meandrinina, Microsolenina and Stylinina) and Octocorallia (orders Alcyonacea and Coenothecalia). Colonial corals dominate against solitary forms, hermatypic against ahermatypic. The majority of the species derives from two outcrop areas: Meißen-Zscheila with an Early Cenomanian age, and the Ratssteinbruch of Dresden-Dölzsch with a Late Cenomanian age. Some Late Cenomanian material from Dresden-Plauen, Dresden-Coschütz, Dresden-Leubnitz, Dohna and Tharandt as well as solitary corals from Dresden-Strehlen is also described. The corals of the Cretaceous of Saxonian present a high rate of endemism, more in the Late than the Early Cenomanian faunas. [original abstract]

**LÖSER, H.**

- 2014d.** Nomenclatural note about the fossil coral genus *Coelosmilia* (Cretaceous). – *Palaeodiversity*, 7: 129-132; Stuttgart. D • k • F

The coral genus name *Coelosmilia* is generally applied to small solitary corals of the Late Cretaceous. The genus was established twice: *Coelosmilia* Orbigny, 1850 is a solitary coral related to *Trochidomeandra* Morycowa, 1971, known from the Late Albian to early Late Cenomanian. *Stelloria* Orbigny, 1849 may be a senior synonym. *Coelosmilia* Milne Edwards & Haime, 1851 is a nomen dubium because the provenance and age of the type of its type species is unknown. [original abstract]

**MARTINDALE, R.C., KRISTYN, L., BOTTJER, D.J., CORSETTI, F.A. & SENOWBARI-DARYAN, B.**

- 2013.** Depth transect of an Upper Triassic (Rhaetian) reef from Gosau, Austria: Microfacies and community ecology. – *Palaeogeography, Palaeoclimatology, Palaeoecology*, 376: 1-21; Amsterdam. C • t • A

In the Late Triassic (~235-201.3 Ma) scleractinian corals and hypercalcified sponges built large, diverse reef eco-systems, the most famous of which are the Dachstein reefs. This study presents a depth transect along an Upper Triassic (lower Rhaetian) Dachstein reef from the Gosauseemargin of the Dachsteingebirge (Gosau, Austria). The Gosausee microbial-sponge-coral reef is a complete barrier reef with an almost continuous fore reef to lagoon transect preserved (a very rare occurrence for the Triassic), and thus provides a window into depth zonation of Dachstein-type reef facies and biotic succession. The Gosausee reef facies exhibit strong depth control and five classic reef facies or zones are identified: the fore reef, reef front, reef crest, back reef, and lagoon facies. Thin, rare microbial fabrics and a high abundance of fine-grained, mud-rich skeletal wackestones (transported reef debris) characterize the deepest fore reef. As the reef shallows, muddy sediments decrease in abundance and are replaced

by microbial fabrics, corals, and cements. Abundant sponges, microbial crusts, and thick, marine cements typify the reef crest, whereas microbialite-coated phaceloid corals are dominant in the back reef facies. Heavily cemented oncoids or microbial-sponge bindstones are characteristic of the lagoon. Based on their compositional and biotic similarities, the Gosausee reef was likely part of the same barrier reef systems as the source reef for the Gosaukamm reef breccia (one of the classic Norian-Rhaetian Dachstein reefs). The reef zones of the Gosauseemargin can be used to interpret the depth or reef zone of less well preserved reef fragments, can inform models of community ecology and niche utilization in the Late Triassic, and highlight the need for additional research into the environmental factors that controlled biotic distribution in Upper Triassic reefs. [original abstract]

**SERRAN-BRAÑAS, C.I. & CENTENO-GARCÍA, E.**

- 2014.** Paleoenvironmental interpretation using fossil record: San Juan Raya Formation, Zapotitlán basin, Puebla, Mexico. – *Revista mexicana de ciencias geológicas*, 31, 1: 1-13; Mexico City. D • k • MEX

The San Juan Raya Formation is world-wide recognized because of the high diversity and abundance of fossils. In this study nine biofacies, three ichnofacies and ten lithofacies were recognized and interpreted on the basis of the influence of several environmental factors such as water depth change, sedimentation rate, water salinity and substrate consistency. Among these factors, salinity variations were apparently crucial for developing and replacement of the different biofacies. Most of biofacies and ichnofacies inhabited in subtidal, shoreface and inner shelf zones. The aim of this investigation is to provide a comprehensive reconstruction of the different faunal benthonic assemblages and paleoenvironments in a sector of the San Juan Raya Formation during Early Cretaceous time. The results indicate that the paleoenvironmental model for the study area corresponds to a shallow marine, open-coast, storm-dominated clastic system, characterized by several variations in subenvironments, from foreshore to offshore. Along a measured composite column of about 765.5 m in length, nine cycles of transgression-regression were identified, with the shallowest stage at the 200 and 500 m levels and the deepest conditions at 300, 400 and 765.5 m in the column. [original abstract]

**WRIGHT, J.K.**

- 2014.** A new section through the Corallian Group (Oxfordian, Upper Jurassic) rocks of Calne, Wiltshire, southern England. – *Proceedings of the Geologists' Association*, 125: 83-95; London. C • j • GB

Information obtained during the digging of a pipeline trench southwest of Calne, Wiltshire, has enabled the compilation of the first complete sequence through the strata of the Corallian Group (Oxfordian) in this area of west Wiltshire. A detailed description of this sequence of sands, clays, ooidal and coralliferous limestones which represent the Kingston and Stanford Formations is provided, and the information obtained used to provide a new synthesis of the stratigraphy of the Corallian Group in west Wiltshire. The existence of a previously unrecognized sedimentary sub-basin of the Wessex Basin is demonstrated. Previously unrecorded stratal sequences and faults have been discovered, and the existence established within the Wiltshire Corallian of a new coralliferous horizon, the Westbrook Coral Bed. The setting of this sedimentary sequence within the tectonic regime which existed in this part of the Wessex Basin in the Late Jurassic is reviewed. [original abstract]

**ZAMAN, S. & LATHUILLIÈRE, B.**

- 2014.** A lectotype for *Cyathophora richardi* Michelin 1843. – *Zootaxa*, 3795, 2: 198-200; Auckland. D • j • F

The figured syntype of *Cyathophora richardi* Michelin 1843, type species of the genus *Cyathophora* Michelin 1843, was recovered from the collection of the Muséum national d'Histoire naturelle (MNHN, Paris, France). It is herein designated as a lectotype in order to keep the traditional usage of the widely used genus *Cyathophora*. [original abstract]