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The Mesozoic Corals.
Bibliography 1758-1993.

Supplement 26 (-2022)

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Summary

This supplement to the bibliography (published in the Coral Research Bulletin 1, 1994) contains 24 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 24 autres références au sujet de la taxinomie, paléoécologie et paléogéographie des coraux mesozoïques (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 24 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

New papers published the previous two years yield 24 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

ANONYMOUS

2021. Opinion 2478 (Case 3771) – Stylina Lamarck, 1816 (Coelenterata, Scleractinia): current usage conserved by designation of a type species and corresponding lectotype. – *Bulletin of Zoological Nomenclature*, 78: 147-148. C • j • F

The International Commission on Zoological Nomenclature has conserved current usage of the generic name *Stylina* LAMARCK, 1816 by designating a type species, *Stylina insignis* FROMENTEL, 1861, as well as a lectotype for the species. [original abstract]

ARKADIEV, V.V.

2021. Catalogue of the collection to the E. I. Eichwald's monograph by "Lethaea Rossica ou Paléontologie de la Russie", 1865–1868 (Mesozoic sponges, corals, worms, scaphopods and bryozoans). – 182 pp.; St. Petersburg (LEMA Publishing House). C • g • RUS

BAUER, A. & KRIEGER, T.

2022. Fossilien aus dem Mitteljura von Auerbach und Edelsfeld (Oberpfalz). – *Steinkern*, 49: 3-112; Bielefeld. D • j • D

DIENI, I. & MASSARI, F.

2021. The coral Synastrea bellula (d'Orbigny) in the Berriasian of Venetian Prealps (NE Italy). A key for interpreting the palaeobathymetry of the Maiolic a on the Trento Plateau. – *Cretaceous Research*, 125, 104871: 1-14; Amsterdam. D • k • I

The presence of a small colony of *Synastrea bellula* (D'ORBIGNY, 1850) in Berriasian beds of the pelagic Maiolica in the Venetian Prealps (NE Italy) provides a key for interpreting the palaeobathymetry of the formation on the Trento Plateau. This pennular scleractinian belongs to a zooxanthellate group whose fossil and modern representatives are characterized by an outstanding specialization in colonizing deeper parts of the marine photic zone (mesophotic zone). The coral grew on the shell of an inferred ammonoid affected by in tense microbial erosion. The conch was encrusted first by bryozoans and later by the coral, which immurated a microserpulid, designated as *Turriserpula coralliophila* gen. et sp. nov. Applying the sclerochronology method, a life duration of the stony coral of at least twelve years is inferred. [original abstract]

FALCES-DELGADO, S., GARCÍA-MARTÍNEZ, N., GIANNETTI, A. & BAEZA-CARRATALÁ, J.F.

2022. Reef-associated depositional environments in the lowermost Cretaceous facies (Berriasian) from the Eastern Prebetic domain (South-Iberian Palaeomargin, SE Spain). – *Cretaceous Research*, 137, 105225: 1-19; Amsterdam. D • k • E

The Berriasian carbonate successions cropping out in the shallow-water platform of the easternmost Prebetic Domain (SE Spain) involve reef-associated environments including a diverse epibiota with diceratid representatives unreported so far. Interpretation of different sub-environments suggests a proximal-distal shallow platform transect. In the shallowest near shore environment, high energy conditions are recorded, with fine-grained bioclasts interbedded with episodes with black pebbles. Subsequently, a more restricted intra-platform environment is represented by oncoidal rud stones with benthic foraminifera, photophilic microencrusters, microbial-type coatings, mud mounds and a rich record of epibenthic biota preserved in life position (diceratid patches, stromatoporoids, and a diverse coral assemblage). This association points to relatively stable and restrictive low-energy conditions in a proximal shallow-water subtidal environment below the fair-weather wave base. Distally, a deeper, opener setting is established. Here, phaceloid and thin-laminated corals are preserved in life position in a calpionellid-rich matrix typifying a mesophotic reefal complex with clear open marine influence. Biostratigraphical analysis performed mainly on benthic foraminifera, algae, diceratids, and coral representatives allows to specify a Berriasian age for these facies. New occurrence data are also reported, such as the oldest record of the coral genus *Floriastrea* worldwide. The highly diverse coral assemblages reveal a species-level taxonomic divergence in relation with taxa from the same biochore and palaeogeographical domain, supporting the endemic condition for this fauna. The first report of diceratids in the Eastern Prebetic around the J/C transition evokes *Heterodiceras* as possible precursor of the Cretaceous rudist build-ups developed in the Urgonian platforms in the Prebetic Domain. [original abstract]

FRANKOWIAK, K., RONIEWICZ, E. & STOLARSKI, J.

2021. Photosymbiosis in Late Triassic scleractinian corals from the Italian Dolomites – *PeerJ*, 9: e11062. C • t

During the Carnian, oligotrophic shallow-water regions of the western Tethys were occupied by small, coral-rich patch reefs. Scleractinian corals, which already contributed to the formation of the reef structure, owed their position most probably to the symbiosis with dinoflagellate algae (zooxanthellae). Using microstructural (regularity of growth increments) and geochemical (oxygen and carbon stable isotopes) criteria of zooxanthellae symbiosis, we investigated whether this partnership was widespread among Carnian scleractinians from the Italian Dolomites (locality Alpe di Specie). Although corals from this locality are renowned from excellent mineralogical preservation (aragonite), their skeletons were rigorously tested against traces of diagenesis Irrespective of their growth forms, well preserved skeletons of corals from the Dolomites, most frequently revealed regular growth bands (low values of coefficient of variation) typical of modern zooxanthellate corals. Paradoxically, some Carnian taxa (*Thamnasteriomorpha frechi* and *Thamnasteriomorpha* sp.) with highly integrated thamnasterioid colonies which today are formed exclusively by zooxanthellate corals, showed irregular fine-scale growth bands (coefficient of variation of 40% and 41% respectively) that could suggest their asymbiotic status. However, similar irregular skeletal banding is known also in some modern agariciids (*Leptoseris fragilis*) which are symbiotic with zooxanthellae. This may point to a similar ecological adaptation of Triassic taxa with thamnasterioid colonies. Contrary to occasionally ambiguous interpretation of growth banding, all examined Carnian corals exhibited lack of distinct correlation between carbon (d13C range between 0.81‰ and 5.81‰) and oxygen (d18O values range between 4.21‰ and 1.06‰) isotope composition of the skeleton which is consistent with similar pattern in modern zooxanthellates. It is therefore highly likely, that Carnian scleractinian corals exhibited analogous ecological adaptations as modern symbiotic corals and that coral-algal symbiosis that spread across various clades of Scleractinia preceded the reef bloom at the end of the Triassic. [original abstract]

GARBEROGLIO, R.M., LÖSER, H. & LAZO, D.G.

2021. Lower Cretaceous corals from the Agrio Formation, Neuquén Basin, west-central Argentina: Family Columastraeidae. – *Cretaceous Research*, 124, 104817: 1-19; Amsterdam. D • k • RA

This contribution presents the second part of the results of an ongoing systematic revision of the coral fauna from mixed carbonate-siliciclastic sedimentary facies of the Agrio Formation (upper Valanginian–upper Hauterivian) of the Neuquén Basin, west-central Argentina. Columastraeid corals (superfamily Cladocoroidea, that corresponds partly to the suborder Faviina) are represented by six species of the genus *Eocolumastrea* LÖSER and ZELL, 2015, namely *E. gortanii*, *E. magna*, *E. neuquensis*, *E. octaviae*, *E.* cf. *octaviae* and *E.* sp. 2. Records of the species are close or match with their first appearances worldwide. The studied corals correspond to mostly ramose and secondarily massive colonies, that are here interpreted as capable of thriving in mixed carbonate-siliciclastic environments and settling on soft substrates and able to resist moderate turbidity, sedimentation, and storm influence. Correlation with other columastraeid Lower Cretaceous coral faunas shows affinity with those also recorded in mixed carbonate-siliciclastic sedimentary facies, such as the Bisbee Basin. [original abstract]

GARBEROGLIO, R.M., LÖSER, H. & LAZO, D.G.

2022. Lower Cretaceous corals from the Agrio Formation, Neuquén Basin, west-central Argentina: Families Latomeandridae, Madreporidae, Thamnasteriidae, and Holocoenia Group. – *Cretaceous Research*, 135, 105195: 21 pp.; Amsterdam. N • k • RA

This paper is the third contribution to the systematic description of the coral fauna recorded in biostromes (patch-reefs and coral meadows) from mixed carbonate-siliciclastic sedimentary facies of the Agrio Formation (upper Valanginian–Hauterivian) of the Neuquén Basin, west-central Argentina. The studied specimens belong to the superfamily Cyclolitoidea (former suborder Microsolenina), family Latomeandridae (*Ovalastrea dubia* and *Stylomaeandra neuquensis* sp. nov. and *S*. cf. *pseudominima*); superfamily Madreporoidea (former suborder Faviina), Madreporidae indet.; superfamily Rhizangioidea, (former suborder Fungiina), family Thamnasteriidae (*Ahrdorffia vaughani*), and the informal *Holocoenia* Group (former suborder Fungiina), (*Holocoenia collinaria*, *H. triboleti* and *H*. cf. *triboleti*). First record of family Madreporidae is here extended from the Barremian down to the upper Hauterivian, and records of the species are close or match with their first appearances worldwide. The studied corals are interpreted as colonies capable of thriving in mixed carbonate-siliciclastic environments and settling on soft substrates and able to resist moderate turbidity, sedimentation, and storm influence. The total coral fauna of the Agrio Formation, including the present study, reaches a total of 22 species grouped in nine genera and six families. Correlation of the Agrio Formation coral fauna with other Early Cretaceous coral faunas shows affinity with those faunas recorded in the Paris Basin (north of France) and Puebla Basin (San Juan Raya southwest of Tehuacán, central Mexico). This is in agreement with what has been inferred on other Agrio macroinvertebrates, like bivalves, gastropods, and ammonoids, which show close relationships with those from the European Tethys region. In particular the corals show similarities with those regions having similar sedimentary settings (under clastic influence) than with nearby basins or regions. [original abstract]

KOŁODZIEJ, B. **& BUCUR, I.I.**

2020. An Early Cretaceous mesophotic coral ecosystem built by platy corals (middle Aptian, Southern Carpathians, Romania). – *Cretaceous Research*, 109, 104374: 1-12; Amsterdam. D • k • RO

A low relief middle Aptian (Gargasian) reef built by platy corals is described from the Lower Cretaceous succession of the Resita–Moldova Noua zone (Southern Carpathians, SW Romania). Two coral-bearing units, 16–17 and 38–42 m thick, discontinuously cover ca. 1100 m. This is an unusually thick fossil reef to be built by platy corals. The coral units are underlain by bioclastic limestones interlayered with thin rudist-chaetetid biostromes, separated by a 15–30 m thick interval of bioclastic limestones and overlain by upper Aptian conglomerates. Mostly dense, rarely sparse, platestones are composed of a low diversity coral assemblage mainly represented by the suborder Microsolenina. Small, branching corals are very rare. The matrix mainly consists of fine bioclastic-peloidal packstones and wackestones. Dominance of microsolenine corals, their flattened morphology, the presence of epibionts on coral undersurfaces and occurrence of red algae *Sporolithon rude* and *Polyastra alba* indicate that low-light was the main factor controlling reef growth. As with most fossil reefs dominated by platy corals (e.g., Upper Jurassic microsolenid reefs), the Resita reef can be considered an analogue of modern reefs from mesophotic coral ecosystems (MCEs) in relatively deep water settings. The mesophotic or perhaps oligophotic environment was characterised by low background sedimentation, and high nutrient level as evidenced by abundant bioerosion traces. Matrix sediment and rare fragmentation of coral skeletons indicate moderate water movement. In contrast with common Barremian–lower Aptian coral reefs, younger Lower Cretaceous reefs in Romania are very rare. This reflects the general demise of carbonate platforms in the northern Tethyan domain during the early Aptian Oceanic Anoxic Event (OAE1a). [original abstract]

KOŁODZIEJ, B. **& MARIAN, V.A.**

2021. Simplified, wall-based morphology of a new Aptian coral and discussion of contrasting opinions on the taxonomy of similar corals. – *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*, 300, 2: 201-213; Stuttgart. N • k • RO

A new colonial coral, *Monopachyphyllia roniewiczae* gen. et sp. nov., from the upper Aptian carbonate platform of the Perşani Mountains (Eastern Carpathians, Romania) is described. This densely branching (subphaceloid) coral has a very simple morphology. The thick wall is the dominant skeletal element and even attains 1/3–1/2 of the diameter of the entire corallite (up to 2.5 mm in diameter). The wall is developed prior to septa and is interpreted as a pachytheca. There is only one septum or very few septa, usually developed as short septal ridges. The septal apparatus, like in many other wall-based corals, is far from the traditional scleractinian septal pattern and septal insertion. The new coral is included in the suborder Pachythecaliina, provisionally into the family Carolastraeidae, superfamily Heterocoenioidea. The contrasting opinions on the systematic position of morphologically similar corals are discussed. Wall-based corals (family Zardinophyllidae, superfamilies Amphiastreoidea and Heterocoenioidea) are morphologically perhaps the most unusual post-Palaeozoic corals, with diverse taxonomic approaches. They are classified into the suborders Heterocoeniina, Amphiastreina or Pachythecaliina and placed in the order Scleractinia or in the extinct order Hexanthiniaria. [original abstract]

LÖSER, H.

2021. Corals from the Early Cretaceous (?Late Valanginian - Aptian) of Puebla (Mexico): Family Solenocoeniidae. – *Paleontología mexicana*, 10, 1: 37-51; Mexico City. D • k • MEX

The present contribution is the second instalment of a systematic revision of the Early Cretaceous corals of the area of San Juan Raya and San Antonio Texcala, Puebla, Mexico. The corals of the family Solenocoeniidae (superfamily Eugyroidea) are revised. The family is represented by the genera *Adelocoenia* (two species), *Cryptocoenia* (seven species), and *Pentacoenia* (eight species). The coral species show the most relationships to species from the Hauterivian of the Paris Basin. [original abstract]

LÖSER, H.

2022. A new coral family and three new genera (Scleractinia) from the Lower Cretaceous of Puebla and Sonora, Mexico. – *Revista mexicana de ciencias geológicas*, 39, 3: 220-229; Mexico City. N • k • MEX

Solitary corals currently assigned to the genus *Plesiosmilia* are common elements in Late Jurassic to Early Cretaceous coral faunas. The genus itself is poorly defined and its systematic position is questionable. Moreover, examination of type material has shown that the genus lumps corals of different morphologies. Here, one common coral type is separated in a new solitary coral genus as well as two new phaceloid coral genera with a comparable morphology. The three new and another three existing genera are collected in a new family. The newly described material comes from the Upper Valanginian-Lower Hauterivian of San Juan Raya (Puebla) and the Lower Albian of Rayón (Sonora, both Mexico).

LÖSER, H. & CALLAPEZ, P.M.

2022. Upper Cenomanian and lower Turonian (Cretaceous) corals from the Tethyan West Portuguese Carbonate Platform. – *Journal of Iberian Geology*, 48, 2: 141-162; Madrid. D • k • P

Scleractinian corals of late Cenomanian to early Turonian age from the western border of the Iberian Peninsula are described for the first time. They derive from middle to inner shelf limestones of the mid Albian-Turonian West Portuguese Carbonate Platform, near the localities of Figueira da Foz, Leiria, and Nazaré, where a succession of fossil-rich beds with cephalopods, rudists, and other invertebrates allows an accurate biostratigraphic control from the basal upper Cenomanian to the upper Turonian. During this interval, facies are deeper and carbonate-rich, that are more favourable to the occurrence of hermatypic corals and which are absent in previous sequences of the platform. The studied corals belong to the superfamilies Actinastreoidea, Cladocoroidea, Cyclolitoidea, Madreporoidea, Phyllosmilioidea, and Poritoidea. With a total of 11 species, the number of taxa is comparatively low when compared with other Late Cretaceous faunas. The corals show relationships to Albian coral faunas from the SE Iberian Platform and the Quillan Basin (SW France), both of which are located in the Tethyan Realm. The faunal turnover in scleractinian corals at the Cenomanian/Turonian (C/T) boundary is discussed. Scleractinian corals were rich in genera during the Cenomanian and reach about 110 co-existing genera at the base of the late Cenomanian. This number was reduced by 46 genera that became extinct at the Cenomanian/Turonian boundary, but were replaced rapidly after the boundary by 59 genera, of which six became extinct before the Coniacian. Sixty-six genera survived the C/T boundary, of which 11 became extinct before the middle Coniacian. This means that the Cenomanian richness in genera was almost restored in the Coniacian. [original abstract]

LÖSER, H., FERNÁNDEZ MENDIOLA, P.A., PÉREZ-MALO, J., DOMÍNGUEZ PASCUAL, S. & CAHUZAC, B.

2021. Redefinition of the family Rhizangiidae (Scleractinia; Cretaceous to Recent) and description of a new genus from the Early Cretaceous of Spain. – *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*, 299, 3: 259-274; Stuttgart. N • kcr • E/F

The family Rhizangiidae (order Scleractinia) is revised on the basis of topotypical material from France and additional material from Spain. Its septal microstructure coincides with that of the family Siderastreidae. For priority reasons, the Rhizangiidae replaces this family. It also replaces the superfamily Thamnasterioidea, as a superfamily that encompasses the families Rhizangiidae ORBIGNY, 1851 and Thamnasteriidae REUSS, 1864. The family Rhizangiidae reaches from the upper Valanginian to recent and includes six fossil and two recent genera. A new fossil genus is established from the Lower Cretaceous of Spain that reaches from the Hauterivian to Santonian and occurs in the Western and Central Tethys, and in the Western Atlantic. Genera that were formerly assigned to the Rhizangiidae belong partly to the family Astrangiidae. This family is briefly discussed. The family Astrangiidae is not considered synonymous with the Rhizangiidae. [original abstract]

LÖSER, H. & FŐZY, I.

2022. Late Jurassic corals from the Bakony Mountains (Transdanubian Range, Hungary). [In:] FÖZY, I. [Ed.]: Fauna, biostratigraphy and facies evolution of the Late Jurassic–Early Cretaceous formations in the Bakony Mountains (Transdanubian Range, Hungary), p. 201-214; Szeged (Institute of Geosciences, University of Szeged, GeoLitera Publishing House). D • j • H

LÖSER, H., NIETO, L.M., CASTRO, J.M. & REOLID, M.

2021. A Lower Valanginian coral fauna from the South Iberian Palaeomargin (Internal Prebetic, SE Spain). – *Palaeontologia Electronica*, 24, 1: 1-57. N • k • E

From the Lower Valanginian of the Sierra de Cazorla (Internal Prebetic, SE Spain), a coral fauna is taxonomically described. The fauna encompasses 51 species in 29 genera. One genus and three species are described as new. The most species-rich are the superfamilies Cyclolitoidea and Stylinoidea. The faunal composition is ambivalent and encompasses typical Jurassic taxa, such as members of the families Amphiastraeidae, Rhipidogyridae, Solenocoenidae and Stylinidae, but also typical Cretaceous elements such as the genera *Confusaforma*, *Floriastrea* and *Holocoenia* (which also have their first occurrence in the Valanginian studied fauna). Four Jurassic genera show a range extension into the Early Valanginian: *Alloiteaucoenia*, *Bilaterocoenia*, *Hykeliphyllum*, and *Miscellosmilia*. Other genera still survived into the Late Valanginian (*Placogyra*, *Rhipidogyra*, and *Solenocoenia*) but became extinct. A palaeobiogeographic analysis shows relationships of the studied fauna to the Tithonian and the Kimmeridgian of the northern Tethys on one hand, and the Hauterivian of the Paris Basin and the Puebla Basin (Mexico) on the other. Nineteen species of the studied fauna remained in open nomenclature; the majority of them probably represent new species. [original abstract]

LÖSER, H. & WILMSEN, M.

2022. Lower Cenomanian (Cretaceous) corals from Cóbreces (Cantabria, northern Spain). Part I: superfamilies Actinastreoidea, Amphiastreoidea, Caryophyllioidea. – *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*, 303, 2: 203-218; Stuttgart. D • k • E

The present contribution constitutes the first part of a series of publications on the lower Cenomanian (lower Upper Cretaceous) coral fauna of Cóbreces in Cantabria (Spain). The fauna, derived from a complex of several patch reefs in the lower Altamira Formation, encompasses a total of approximately 140 coral species and is the largest known Cenomanian coral fauna to date. Here, a detailed introduction to the geology and outcrop area is provided and six species of four genera of the superfamilies Actinastreoidea, Amphiastreoidea, and Caryophyllioidea (previously classified in the suborders Archeocaeniina, Amphiastreina, Caryophylliina) are presented. [original abstract]

MANNANI, M.

2020. Late Triassic scleractinian corals from Nayband Formation, southwest Ardestan, Central Iran. – *Boletín de la Sociedad Geológica Mexicana*, 72, 2: 1-33; Mexico City. D • t • IN

Late Triassic coral fauna from the Nayband Formation, southwest of Ardestan town (Central Iran), is represented by solitary, phaceloid and colonial (cerioid, meandroid, thamnasterioid, and plocoid) growth forms, attributed to 14 genera and 24 species. They occur in biostromal bioconstructions, in Bidestan and Howz-e-Khan Members of Nayband Formation. Sponges and corals are the main reef-building organisms in these biostromes, and occur together with hydrozoan *Heterastridium* spp., bivalves, and other reef dwellers (e.g., echinoderms, gastropods, and brachiopods). The corals of the studied area bear taxonomic resemblance to the Late Triassic corals from Northern Calcareous Alps and Pamirs, Central Asia. [original abstract]

SALAMON, K., KOŁODZIEJ, B. **& LÖSER, H.**

2021. Diverse nature of ubiquitous microborings in Cenomanian corals (Saxonian Cretaceous Basin, Germany). – *Cretaceous Research*, 126, 104888: 1-12; Amsterdam. C • k • D

Upper Cenomanian rocky shore conglomerates exposed in the abandoned Ratssteinbruch quarry in Dresden (Saxonian Cretaceous Basin, Eastern Germany) contain numerous small coral colonies. The skeletons are commonly encrusted with thin ferruginous microbial crusts. Skeletal elements, especially radial elements (septa), contain abundant microborings filled with iron oxyhydroxides. Natural casts of microborings were studied under SEM. Two categories of microborings (2–12 ìm in diameter) were distinguished in respect of their time of production. Type 1 microborings occur in the inner part of the colonies and are typically distributed more or less along the septa in the direction of the coral growth. This type is represented by Ichnoreticulina elegans (most common traces; produced by chlorophyte green alga), Scolecia filosa (traces of cyanobacteria), and much more rarely by *Conchocelichnus seilacheri* (traces of red algae). They were produced during coral life (in vivo), and provide insight into the very poorly recognised skeleton microbiome of fossil corals. Chlorophyte alga *Ostreobium quekettii* – the most common microendolith in the skeletons of living modern corals – produces I. elegans, which dominates the Type 1 microborings. Type 2 microborings include *I. elegans*, *S. filosa*, *Scolecia serrata* (made by bacteria) and undetermined microborings. They occur directly below the microbial crusts coating the entire colony, or below thin ferruginous films coating the surfaces of skeletal elements. Microborings are distributed randomly or are more or less perpendicular to skeleton surfaces, demonstrating that Type 2 microborings were evidently made by microendoliths after coral death (post-mortem), when skeletal elements were exposed. [original abstract]

SALAMON, K., KOŁODZIEJ, B.**, RADTKE, G., SCHNICK, H.H.** & **GOLUBIC, S.**

2022. Microborings in Jurassic scleractinians: a glimpse into the ancient coral skeleton microbiome. – *Coral Reefs*, 41: 863-867; Berlin. D • j • PL

Boring microorganisms (microendoliths) are ubiquitous in living corals, constituting the skeleton microbiome important for coral health and reef resilience. Numerous microborings were recognized in Upper Jurassic (ca. 160 million years ago) corals (Pomerania, Poland) providing a glimpse into the oldest scleractinian skeleton microbiome so far. Scanning electron microscope study of resin casts of microborings (ca. 4 µm) revealed that they represent mostly the ichnospecies *Ichnoreticulina elegans*, commonly considered as traces of *Ostreobium quekettii*, an alga adapted for a low-light environment. The distribution pattern of microborings (occurrence in the inner part of the skeletal elements, commonly upward orientation) implies that they were not done post-mortem, but by microendoliths inhabiting the coral skeleton during coral life. These findings imply that the most common boring microorganism inhabiting the skeleton of Jurassic corals was, like in modern corals, *O. quekettii* or a similar green alga. The microbiome of dead parts of modern living colonies revealed by analysis of microborings is an unexplored, but is a perspective topic for research by reef biologists. [original abstract]

STONE, T., MARTINDALE, R.C., FONVILLE, T., LATHUILIÈRE, B. & **BOIVIN, S.**

2022. Assessment of a reef community from Lower Jurassic (Pliensbachian) strata in the central High Atlas Mountains of Morocco. – *Palaios*, 37: 633-649; Lawrence, Kan. D • j • MA

During the Early Jurassic, reefs in the shallow seas of the Atlas Rift experienced substantial changes as they recovered from the end-Triassic mass extinction. Excellent Lower Jurassic reef deposits documenting this change occur in the Central High Atlas region of Morocco, and herein we describe Owl Olistolith, a micro-olistolith found in lower Pliensbachian-aged (~ 188.7 million years ago) Moroccan strata. The olistolith records the composition of a reef that grew within the Atlas rift zone and represents a snapshot of reef recovery ~ 10 million years after the end-Triassic mass extinction. Owl Olistolith is derived from a reef that was originally situated on an outer platform within fair weather wave base; it broke loose and was transported to deeper water and deposited amongst marls. Corals and microbialites formed the primary framework of the reef; microproblematica, foraminifera, and other minor components were also present. The reef can be divided into two dominant facies: a microbialite facies that contains no corals (54%–94%

microbialites), and a coral-microbialite facies with substantial proportions of both microbialite (23%–50%) and corals (14%–72%). The micro-olistolith contains at least 15 distinct coral types. In this study, seven coral genera were identified, three of which represent taxa that span the Triassic/Jurassic boundary, including *Coryphyllia*, *Stylophyllopsis*, and *Margarosmilia*. These results indicate that, although surviving taxa played a significant role, newly evolved corals were the most important taxa in the reestablishment of reef ecosystems in the Early Jurassic of Morocco. [original abstract]

VASSEUR, R. & LATHUILIÈRE, B.

2021. Pliensbachian corals from the Western Tethys. – *Geodiversitas*, 43, 22: 1187-1291; Paris. N • j • F/I/MA

Late Liassic in the Western Tethys has been the cradle of Middle and Late Jurassic diversity of corals. This is what revised and enhanced taxonomy of corals from Pliensbachian and Toarcian stages reveals. The current new taxonomic study of Pliensbachian corals describes 66 species distributed in 41 genera and 20 identified families. It includes four new genera: *Podosmilia* n. gen., *Tubulosmilia* n. gen., *Prismastrea* n. gen. and *Spongiocoenia* n. gen.; and 20 new species: *Axosmilia amellagouensis* n. sp., *Apocladophyllia guigouensis* n. sp., *Coryphyllia bicuneiformis* n. sp., *Coryphyllia capillaria* n. sp., *Proleptophyllia calix* n. sp., *Proleptophyllia magna* n. sp., *Proleptophyllia subphaceloida* n. sp., *Fungiaphyllia praecursor* n. sp., *F. rotunda* n. sp., *Margarosmilia dividenda* n. sp., *Paravolzeia calabrensis* n. sp., *Distichophyllia pauciseptata* n. sp., *Retiophyllia zizensis* n. sp., *Epismiliopsis paraeudesi* n. sp., *Phacelostylophyllum* mg. *arbustulum* n. sp., *Podosmilia horologium* n. gen., n. sp., *Stylophyllopsis bovista* n. sp., *S. veracolumella* n. sp., *Tubulosmilia regularis* n. gen., n. sp. and *Prismastrea organum* n. gen., n. sp. So many new species appear surprising at first sight considering the special attention paid in this study to the correction of species diversity overestimations that took place in the literature of the last century as a consequence of a typological approach. Many taxa previously considered extinct at T-J boundary were still living during Pliensbachian times, various genera are known only for Pliensbachian. In addition, a small number of genera namely Isastrea, Montlivaltia and Thamnasteria have their first occurrence during this stage. Despite their low abundance during Pliensbachian, these genera will significantly increase their part in Middle and Upper Jurassic communities. Most collected coral assemblages come from both reefs and level-bottom assemblages found in carbonate platform situation. [original abstract]

VIDEIRA-SANTOS, R., TOBIN, T.S. & SCHEFFLER, S.M.

2022. New occurrences of caryophylliid and fungiacyathid scleractinian corals from the Santa Marta and Snow Hill Island formations (Upper Cretaceous, Antarctica). – *Cretaceous Research*; Amsterdam. N • k • ant

Scleractinian corals have been reported in the Antarctic Cretaceous since the beginning of the 20th century, but few studies have described the taxonomy of these specimens. Here we describe three new occurrences of coral from the James Ross Basin based on specimens collected in 2016. We identified *Dasmosmilia*? sp. and *Heterocyathus filkorni* sp. nov. in the Alpha Member of the Santa Marta Formation on James Ross Island (upper Santonian to lower Campanian) and *Fungiacyathus deltoidophorus* and a poorly-preserved and unidentifiable scleractinian coral from the Karlsen Cliffs Member of Snow Hill Island Formation (lower Maastrichtian). *Heterocyathus filkorni* sp. nov. represents the earliest occurrence of this genus in the Southern Hemisphere and is consistent with the hypothesis that a marine exchange between Europe and Antarctica was occurring in the Late Cretaceous. If confirmed, the *Dasmosmilia* described here represent their earliest record from the Antarctic Cretaceous. [original abstract]

ZAIKA, Y.U.

2022. On Thamnasteria concinna (Goldfuss) (Scleractinia: Thamnasteriidae) in Pleistocene erratics of Belarus. – *Biological sciences*, 1, 11: 4-9. D • j • BY

For the first time, erratic Upper Jurassic Scleractinian corals are reported herein from Pleistocene outcrops of Belarus. The studied material belongs to a widespread species, *Thamnasteria concinna* (GOLDFUSS). These findings are of interest primarily because Jurassic erratic fossils are extremely rare in this region. The main distribution areas of *Thamnasteria concinna* (GOLDFUSS) in bedrock as well as erratics are located to the west of the places of its discovery in Belarus. Less often this species was reported further south. Previously the presence of *Thamnasteria concinna* (GOLDFUSS) was also mentioned in the Upper Jurassic biohermal deposits in the extreme southeast of Belarus. However, these deposits are overlain by younger sediments at a considerable depth and are therefore not regarded the most probable source of the material described here. If we consider the area of distribution of *Thamnasteria concinna* (GOLDFUSS) as erratics, then the localities closest to the Belarusian ones are confined to the north-west of Poland. As far as it can be judged from some previously published data, certain features of preservation of erratic specimens collected in Belarus resemble those from Poland, where, as it is assumed here, they may come from. Thus, their occurrence in Belarus is not readily explained by sublongitudinal glacial transport from the north and northwest, which is usually accepted for erratics. A probable explanation for this may be sublatitudinal transport by floating ice. [original abstract]