					June, 1, 2021

The Mesozoic Corals.
Bibliography 1758-1993.

Supplement 25 (-2020)

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Summary

This supplement to the bibliography (published in the Coral Research Bulletin 1, 1994) contains 21 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 21 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 21 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 21 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., VASSEUR, R., LATHUILIÈRE, B., LAZAR, I. & DURLET, C.

2019. A little walk between Early Jurassic sponges and corals: A confusing morphological convergence. – *Geobios*, 57: 1-24; Lyon. N • j • MA

Hispaniastraea TURNŠEK et GEYER, 1975 is a unique coral genus from the Early Jurassic Epoch (Liassic). Corals of this genus are characterised by a highly dominant major septum and a set of eleven minor septa that are very short or even abortive. Initially discovered in Spain, new samples of this genus were depicted from Morocco by Beauvais in 1980; however, this genus was interpreted as a synonym of *Pseudoseptifer* FISCHER, 1970, a chaetetid sponge (i.e., a sponge with siliceous spicules embedded in a calcareous skeleton). The skeleton of *Pseudoseptifer* is composed of adjacent tubules that increase by fissiparity by means of a pseudoseptum. Based on the study of new material sampled from the Lower Jurassic of Morocco and Southern France, we highlight the coexistence and legitimacy of both genera (i.e., *Pseudoseptifer* and *Hispaniastraea*), which therefore constitutes a fine example of morphological convergence between separate phyla. Although the living tissues and microstructures of the skeleton differ between the sponge and coral genera, the distinction from fossil material is challenging, especially if material is diagenetically altered. Herein, we recommend a set of key characters to distinguish these genera and propose a systematic revision of the genus *Hispaniastraea*. The synonymy between the two original species, *Hispaniastraea murciana* and *H. ramosa* is established and a new species, *Hispaniastraea ousriorum*, is described. Finally, a new family, the Hispaniastraeidae (Order Hexanthiniaria?), is erected for these distinctive corals, which are unique in the history of this group. [original abstract]

BUGROVA, I.YU.

2005. New data on the Early Cretaceous corals of Turkmenistan. [In:] ARKADIEV, V.V. & PROZOROVSKIJ, V.A. [Eds.]: The Cretaceous system of Russia: the problems of stratigraphy and paleogeography. – 136-142. N • k • TUR

CIPRIANI, A., FABBI, S., LATHUILIÈRE, B. & SANTANTONIO, M.

2019. A reef coral in the condensed Maiolica facies on the Mt Nerone pelagic carbonate platform (Marche Apennines): The enigma of ancient pelagic deposits. – *Sedimentary Geology*, 385: 45-60; Amsterdam. D • j • I

A coral interpreted as a shallow-water zooxanthellate (z-) form has been recovered from the uppermost part of a condensed, pelagic carbonate platform-top succession, in levels with transitional characters between the Jurassic Bugarone Group and the Maiolica Formation, a calpionellid-bearing pelagic deposit. While the existence of z-corals in the Jurassic pelagicfacies of northern Apenninic structural highs is well documented, with early Tithonian forms diagnostic of the lower layers of the photic zone, the species described in this paper is slightly younger (late Tithonian), possesses a different morphology and is known from typical reef facies. While this finding provides welcome evidence for the paleodepth interpretation of otherwise enigmatic facies, it also challenges our understanding of pelagic deposits, in paleoenvironments that have no modern counterparts. [original abstract]

GAMEIL, M., EL-SOROGY, A.S. & AL-KAHTANI, K.M.

2020. Solitary corals of the Campanian Hajajah Limestone Member, Aruma Formation, Central Saudi Arabia. – *Historical biology*, 32, 1: 1-17. N • k • SA

Fourteen species of the solitary corals belonging to eight genera and six families were identified and illustrated from the Campanian – Maastrichtian Aruma Formation, northeast of Riyadh, Saudi Arabia. *Cunnolites* (*Plesiocunnolites*) *riyadhensis*, *Actinoseris riyadhensis* and *Asteroseris arabica* are believed to be new. Genus *Cunnolites* dominates the identified fauna with six species namely *Cunnolites* (*C.*) *reussi*, *C.* (*P.*) *orbignyi*, *C.* (*P.*) *longifossata*, *C.* (*P.*) *scutellum*, *C.* (*C.*) *profundus* and *C.* (*P.*) *riyadhensis* (n. sp.). The other species belong to *Aulosmilia cuneiformis*, *Rennensismilia inflexa*, *Rennensismilia* sp., *Acrosmilia conica*, *Actinoseris riyadhensis* (n. sp.), *Asteroseris arabica* (n. sp.), *Montlivaltia* sp. and *Conicosmilotrochus* sp. The solitary corals have various growthforms from cupolate to flabellate, trochoid, ceratoid, cylindrical and patellate. The studied taxa inhabit soft substrate in turbid water environment with low rate of sedimentation. Borings and scars are rare, encrustations occur on the lower surfaces of some specimens. Partial mortality, overgrowths, disorientation or any records of life impedences due to sedimentation and unstable substrate were not observed in the studied specimens. Pedestals and columnar growths are also absent. Bioerosion is observed in some specimens in the form of pittings produced by predators. [original abstract]

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

2020. Early Cretaceous corals from the Agrio Formation, Neuquén Basin, west-central Argentina: Family Actinastraeidae. – *Cretaceous Research*, 114, 104503: 1-18; Amsterdam. D • k • RA

This contribution presents the first results of an ongoing systematic revision of the coral fauna of the Agrio Formation (upper Valanginian–upper Hauterivian) of the Neuquén Basin, west-central Argentina. Actinastraeid corals (superfamily Actinastraeoidea, that corresponds to the former suborder Archeocaeniina) are represented by eight species in three genera, namely *Actinastraeopsis* (two species), *Stelidioseris* (five species) and *Stephanastrea* (one species). *Actinastraeopsis* and *Stelidioseris* species records are close to or match with their first occurrences or are new first records. The last record of the genus *Stephanastrea* is now extended up from the Tithonian to the upper Hauterivian. 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. Correlation with other actinastraeid Lower Cretaceous coral faunas shows affinities with those that are also record from mixed carbonate-siliciclastic environments such as the Paris Basin, East Iberia, Bisbee Basin and Texas Platform. [original abstract]

GENDRY, D.

2013. Les falaises des Vache-Noir un gisement emblématique du Jurassique à Villers-sur-Mer, Normandie. – *Fossiles*, 4: 80-84; Yssingeaux (Edition du Piat). D • j • F

HATTORI, K., KERANS, C. & MARTINDALE, R.C.

2019. Sequence stratigraphic and paleoecologic analysis of an Albian coral-rudist patch reef, Arizona, USA. – *Palaios*, 34, 12: 600-615; Lawrence, Kan.. C • k • USA

Widespread carbonate platform growth in the Cretaceous Tethys is associated with expansive reef margin and interior patch reef development. These reefs and their associated facies have the potential to be significant hydrocarbon reservoirs, but characterization is challenging because of complex facies distributions, inadequate understanding of biotic communities and processes impacting their development, and difficulties delineating timelines in systems that build their own topography. Other factors that may impact underlying topography, such as tectonics or halokinesis, further complicate the story. This study delves into these complexities in a dataset from the Fairway Field, a large oil and gas field (115 km2, 410 million barrels original oil-in-place) that produces from the Aptian James Limestone in the East Texas Basin, Texas, USA. The field contains a patch reef complex, here defined as an assemblage of patch reefs that grew near each other with out necessarily being physically connected, that has significant lateral and vertical facies heterogeneity. Previous attempts at characterization have failed to fully recognize the importance of its proximity to four salt domes, which modified topography and influenced deposition prior to and during reef development. Here, we reassess the stratal architecture of the Fairway Field from a sequence stratigraphic perspective, with the goal of augmenting understanding of timing of reef development and facies distributions and ultimately building a better stratigraphic framework for a halokinetically influenced patch reef complex. Core descriptions and core-calibrated wireline-log correlation across the field yield a model that explains the relationship between halokinetic topography, energy regime, relative water depth, and reef- and reef-associated facies development. Porosity and permeability measurements taken across the field are analyzed to determine best reservoir facies and their distribution. The new stratigraphic model is useful for predicting facies architecture in other analogous reef complexes, such as those elsewhere in the Gulf of Mexico and in the Middle East; its tie to reservoir facies distributions also improves its

utility for exploration purposes. Furthermore, this work demonstrates that halokinesis has a major impact on carbonate development and necessitates a new generalized model for halokinetically altered carbonate platforms. [original abstract]

HOQUI, M., BRESSAN, G.S. & PALMA, R.M.

2019. Revision of the Coral Fauna of an Upper Jurassic Patch Reef from the La Manga Formation, Neuquén Basin, Argentina. – *Ameghiniana. Revista de la Asociación Paleontológica Argentina*, 56, 1: 53-71; Buenos Aires. D • j • RA

The coral patch reef of the La Manga Formation at Bardas Blancas (Mendoza Province) is a good example of this kind of structure for the Upper Jurassic (Oxfordian) of the Neuquén Basin. In previous reports, four different genera of corals were identified: *Actinastrea*, *Australoseris*, *Garateastrea*, and *Thamnasteria*. A new systematic revision of the previously studied specimens and new material, lead to the rejection of the assignments to *Garateastrea*, *Actinastrea*, and *Thamnasteria*, which are now identified as *Australoseris*, *Stelidioseris*, and *Etallonasteria*, respectively, while those originally identified as *Australoseris* are maintained. New results are based on a taphonomic analysis carried out to recognize the bias introduced in the systematic assignments by different preservational—taphonomic—grades. Four taphonomic grades were defined as Tg0–Tg3, with an increasing degree of taphonomic distortion. Tg0 is an ideal state with preservation of the microstructure. The loss of microstructural features occurs in Tg1–Tg3, preventing assignment at the suprageneric to the specific level. Additionally, those specimens with Tg2 and Tg3 suffered a change in their macrostructural features giving rise to apparent morphological details that may lead to wrong assignments. Tg3 is the stage of preservation most frequently seen in the field. This is not useful for systematic studies due to the loss of all diagnostic features. Samples with Tg1 are useful for systematic studies because most of the macrostructural characters are preserved almost in their original condition. Taphonomic analyses of the specimens are necessary to carry out reliable systematic studies for later measurements of richness and evenness. [original abstract]

KOŁODZIEJ, B.

2020. A new coral genus with prominent, ramified main septum (Aptian, Tanzania). – *Ameghiniana. Revista de la Asociación Paleontológica Argentina*, 57, 6: 555-565; Buenos Aires. N • k • EAT

The new coral *Heteroamphiastrea loeseri* gen. et sp. nov., Family Carolastraeidae, Superfamily Heterocoenioidea, is described from the lower Aptian of the Lindi region (Tendaguru area) in southeast Tanzania. The new genus is characterised by a cerioid colony type, an underdeveloped septal system with bilateral symmetry defined by a strong main septum with secondary outgrowths and the presence of a marginarium. Overall, this monospecific genus shows skeletal features of the family Carolastraeidae, but like other genera of the family, it shares some morphological features with the families Heterocoeniidae (Heterocoenioidea) and Amphiastreidae (Amphiastreoidea). *Heteroamphiastrea* gen. nov. exemplifies corals with relatively rare morphology. They are the most controversial Mesozoic corals without consensus on highrank taxonomy. Heterocoenioidea and Amphiastreoidea have been recently classified into the suborder Heterocoeniina, Amphiastreina or Pachythecaliina, separately or together. Further, they were classified into the Order Scleractinia or into the extinct Order Hexanthiniaria. [original abstract]

KUTZ, M., LÖSER, H., FRANZ, M. & BLATTMANN, E.

2020. Fossilien aus dem Breisgauer Hauptrogenstein (Bajocium, Mitteljura) unter besonderer Berücksichtigung der Korallen. – *Steinkern*, 41, 2: 14-33. D • j • D

In den vergangenen 20 Jahren konnten in Kalksteinbrüchen in Bollschweil am Schönberg (Firma Knauf, inzwischen geschlossen) und Merdingen am Tuniberg (Firma Hauri, noch in Betrieb) sowie in Naturaufschlüssen und alten Steinbrüchen Korallen des Hauptrogensteins (Bajocium, Mitteljura) aufgesammelt werden. Da bislang keine Bearbeitung existiert bzw. die Literatur – mit Ausnahme von Meyer (1888) – nur Faunenlisten präsentiert, möchten wir an dieser Stelle mit einer Auswahl von Fundstücken einen Anfang machen. Der Bericht soll ferner zeigen, was der Hauptrogenstein darüber hinaus an Fossilien bietet. [original abstract]

LATHUILIÈRE, B., BARON-SZABO, R.C., CHARBONNIER, S. & PACAUD, J.-M.

2020. The Mesozoic scleractinian genus Adelocoenia (Stylinidae) and its Jurassic species. – *Carnets de Géologie / Notebooks on Geology*, 20, 19: 367-406. D • j

The genus *Adelocoenia* ORBIGNY, 1849, is revised and a neotype is designated for its type species *Astrea castellum* MICHELIN, 1844. For various reasons that lie in the taxonomic history of scleractinian corals, it has become a difficult task to reliably assign Mesozoic corals having the combined features of plocoid corallite integration and the absence of a columella. Therefore, many such genera are in need of revision, one of which is *Adelocoenia*. In addition to the revision of the type species, Jurassic species grouped within *Adelocoenia* are revised using type material when it was possible. Many new synonymies are proposed based mainly on characters such as symmetry and dimensions of skeletal features. Another consequence is that most species previously grouped with *Pseudocoenia* ORBIGNY are transferred to *Adelocoenia*. Furthermore, we present a clarified view of the paleogeographical and stratigraphical distributional patterns of the genus *Adelocoenia*, according to which *Adelocoenia* had its first appearance during the Early Jurassic, represented by a single specimen known from the Sinemurian of France. Subsequently, this genus had a significant increase in both distribution and diversity during the Middle Jurassic. The pinnacle of its success followed in the Late Jurassic during which *Adelocoenia* had its greatest morphological disparity and taxonomical diversity, and its largest geographical distribution. The genus survived in the Cretaceous record. Throughout its history, *Adelocoenia* predominantly occurred in inner platform environments that were located in low latitudes. [original abstract]

LÖSER, H.

2020. Regional persistence of the extant coral genus Stephanocoenia in the Western Hemisphere since the Early Cretaceous. – *Paläontologische Zeitschrift*, 94, 1: 17-39; Stuttgart. N • k • AB/BDS/C/DO/JAM/MEX/NAL/PE/USA/YV

The scleractinian coral genus *Stephanocoenia* was previously only known from the Western Atlantic with two Pliocene and two extant species, of which two are considered synonymous. Systematic sampling and examination of collection material revealed that the genus occurs from the Hauterivian to extant with gaps in the fossil record during the Campanian, Paleocene and Eocene. During this time the genus was restricted to the Western Atlantic and is unknown in other areas with the exception of one specimen from the Maastrichtian of the eastern Pacific. Thirteen species are separated using non-parametric statistical methods. Two species are described as new. One species remained in open nomenclature and two species can only be compared to existing species. The genus reached its highest abundance during the Early Albian with five species and the Pleistocene/extant with four species. *Stephanocoenia* demonstrates a regional persistence unchanged over the past 135 million years, which is unique among all post-paleozoic scleractinian corals. *Stephanocoenia* is also the most ancient hermatypic scleractinian coral genus, which still exists today. [original abstract]

LÖSER, H., MENDICOA, J. & FERNÁNDEZ MENDIOLA, P.A.

2020. Early Aptian corals from Peñascal (Bilbao; N Spain). – *Spanish Journal of Palaeontology*, 35, 2: 209-228; Madrid. D • k • E

From two horizons in the Lower Aptian Peñascal limestone Formation south of Bilbao 22 coral species are reported. The corals belong to the scleractinian families Actinastraeidae, Eugyridae, Haplaraeidae, Latomeandridae, and Solenocoeniidae, and the octocorallian family Helioporidae. The stratigraphic distribution of the species lies between the Berriasian to Cenomanian, but most species have a distribution between the Barremian and Albian. The faunas show most palaeobiogeographical relationship to faunas from the Hauterivian to Albian of the European Boreal, the Western Atlantic and the Western Tethys. [original abstract]

MONTAÑÀ, A., CALZADA, S. & MORENO, E.

2019. Sobre una localidad de Ortholina lujani y el género Ortholina. – *Scripta Musei Geologici Seminarii Barcinonensis*, 25: 17-19; Barcelona. C • k • E

SALAZAR, C. & STINNESBECK, W.

2015. Redefinition, stratigraphy and facies of the lo Valdés Formation (Upper Jurassic-Lower Cretaceous) in central Chile. – *Boletín del Museo Nacional de Historia Natural, Chile*, 64: 41-68. D • k • RCH

Lo Valdés Formation was informally divided in three members (Spilitas, Arenáceo and Calcáreo). A redefinition of the Lo Valdés Formation is proposed here which reduces this lithostratigraphic unit to the

"Arenáceo" and "Calcáreo" members; the "Spilitas" member is treated as a separate unit, termed the Baños Morales Formation. The new Baños Morales Formation (formerly "Spilitas" member of the Lo Valdés Formation) is 760 meters thick and consists predominantly of porphyry andesite and volcanic breccia, while intercalated sedimentary rocks are rare and restricted to four units, each a few meters thick. The type locality for the Baños Morales Formation is on the southern side of the El Volcán valley, in the high Andes southeast of Santiago (70°02`57``W and 33°49`41``S). Ammonites and other molluscs from the sedimentary rocks intercalated with the andesitic rock sequence indicate an early-middle Tithonian age for the Baños Morales Formation. The Lo Valdés Formation as re-defined here conformably overlies the Baños Morales Formation. Its type locality is located on the southern side of the El Volcán River (70°02`52``W and 39°49`50``S). The unit consists of siliciclastic and carbonate sedimentary rocks separated into three formal members (from base to top), the Escalador, Placa Roja and Cantera Members. The Lo Valdés Formation is late Tithonian to Hauterivian in age, based on abundant and relatively diverse ammonite assemblages. The lithological composition and biotic content of the Lo Valdés Formation suggest shoreface, offshore transition and offshore environments. The carbonate content increases upsection. The Escalador Member represents shoreface facies, with transgressive shallow marine intervals and a storm-dominated shelf facies. Offshore transition facies are reflected in the Placa Roja Member by rhythmically-bedded siltstone, calcareous siltstone, wackestone and packstone. The presence of disseminated pyrite and high content of organic matter indicate reducing and low-energy environments. An offshore (outer-ramp) environment is present in the Cantera Member towards the top of the section and is represented by an increase in silty wackestone and mudstone and a decrease in faunal richness and abundance. The re-definition of Lo Valdés Formation, and assignation of the new Baños Morales Formation show that two main events occurred in the Andean Basin during the Late Jurassic – Early Cretaceous transition. The Baños Morales Formation records a dominance of andesitic lithologies that indicates volcanic events with quiescence, the latter evidenced by decimetre-scale sedimentary layers. A prominent lithological change, from volcanic dominance to the exclusively marine succession of the Lo Valdés Formation, marked the second event during this time in the Andean Basin. [original abstract]

SALMI-LAOUAR, S., FERRÉ, B. & AOUISSI, R.

2019. Abondance d'Aspidiscus cristatus (Lamarck, 1801) dans la Formation des Marnes de Smail de la région de Batna (NE d'Algérie) : Une espèce caractéristique pour le Cénomanien moyen. – *Carnets de Géologie*, 19, 10: 1-13; Madrid. D • k • DZ

The Cenomanian marls of the Batna region (NE Algeria) display several fossiliferous beds with highly diversified fauna. Among the abundant and well-preserved fossils stands out *Aspidiscus cristatus* (LAMARCK, 1801). This coral taxon is assigned to the Family Latomeandridae ALLOITEAU, 1952, due to the presence of pennulae and inner septal margins with slight perforations. In the studied sections *Aspidiscus cristatus* is found in beds ranging from the *Cunningtoniceras inerme* Zone to the *Acanthoceras amphibolum* Zone, with a relative abundance within the *Acanthoceras* cf. *rhotomagense* Zone. This species is subsequently a good marker for the Middle Cenomanian in the Batna district. We give herein a systematic and paleontological description and discuss the paleoenvironmental and paleogeographic framework of this taxon. Actually the outer morphology of its test, with convex outer surface and planar to concave inner surface, suggests an adaptation to mud-supported, low-energy marine environments with high sedimentary rate. The paleogeographic range of this taxon, with often larger-size specimens on the southern and eastern margins of the Tethysian Realm, than those on the northern margin, supports very peculiar thermal gradient and climactic zone, with relatively warmer waters on the southern Tethysian margin during the Cenomanian, favoring a more frequent and more effective bioerosion on fossil specimens from southern Tethysian areas than that affecting specimens from northern Tethysian areas. [original abstract]

SHISHLOV, S.B., DUBKOVA, K.A., BUGROVA, I.YU. & TRIKOLIDI, F.A.

2019. Structure and depositional environment of the Valanginian-Hauterivian sections in the middle reaches of the Bodrak River (South-Western Crimea). – *Vestnik SPBGU Nauki o Zemle*, 64, 1: 114-135. C • k • UA

The materials, collected during the description of 17 outcrops of Karatlykh formation (Lower Valanginian) and Karaghach formation (Lower Hauterivian) in the Bodrak River middle course (South-Western Crimea), are analyzed. The results of microscopic descriptions of thin sections, computed micro-tomography of samples, carbonate content detection, and particle-size analysis of insoluble residue are presented, the remains of scleractinian corals and cartilaginous fish are studied. Descriptions and sedimentological interpretation of 8 lithological-genetic types of layers are also presented in this article. During Karatlykh time and regressive phases of Karaghach time, terrigenous sedimentation prevailed. From the coast to the center of the basin there were pebble-sandy beaches, sandy ripples, detrital ripples with sandy depressions, detrital ripples of the far part of the shallow-water shelf. During transgressive phases of the Karaghach time, there was a shortage of terrigenous sedimentary material and carbonate sedimentation dominated. The area with solitary corals was formed along the coast and separated from the sea by patch reefs zone, detritus and coral bioherms were located on the fore reef zone. Deeper there were detrital ripples with sandy depressions, detrital ripples with single bioherms and detrital ripples with rare biostromes. According to bed's vertical sequences, transgressive-regressive sedimentation cycles are established. It became the basis for a detailed correlation of sections. Paleogeographic schemes for the short range of geological time corresponding to transgressive and regressive maxima are compiled. It is shown that in the paleobasin there were two types of lateral sequences of accumulative landscapes. As a result, we demonstrate that in Lower Valanginian and Lower Hauterivian the studied territory represented a shallow offshore part of the sea, washed the land southeastward. This land represented the main terrigenous provenance for the basin. [original extended summary]

VASSEUR, R., BOIVIN, S., LATHUILIÈRE, B., LAZAR, I. & DURLET, C.

2019. Lower Jurassic corals from Morocco with skeletal structures convergent with those of Paleozoic rugosan corals. – *Palaeontologia Electronica*, 22.2.48A: 1-32. N • j • MA

Neorylstonia nom. nov. *pseudocolumellata*, a replacement name for *Mesophyllum pseudocolumellatum* BEAUVAIS, 1986, is only known from uppermost Sinemurian to uppermost Pliensbachian (Lower Jurassic) strata of Morocco. This solitary coral species went extinct during the Pliensbachian-Toarcian transition (~183.5 My), which is currently considered to be a second order biodiversity crisis linked to a period of rapid and global paleoenvironmental disturbances. *Neorylstonia pseudocolumellata* has a distinctive skeletal organization. The axial structure of the corallite, which has no equivalent in Mesozoic taxa, is reminiscent of the skeletal organization of some Paleozoic rugose corals such as *Amygdalophyllum* DUN and BENSON, 1920, or *Rylstonia* HUDSON and PLATT, 1927. This similarity is based on the occurrence of a calicular boss also named pseudocolumella. As Rugosa and Scleractinia do not appear closely related, we consider that this feature cannot be due to evolutionary inheritance from a Rugosan ancestor. The morphological aspects of the skeleton have been assessed in order to understand the function and growth of this axial "calicular boss" as well as to more precisely describe the genus and species characters. The organization of the septal apparatus points to a typical Scleractinian pattern, which is also supported by the original aragonitic mineralogy of the skeleton. This implies a convergence phenomenon, leaving open the question of the functional significance of such a calicular organization. We posit that this feature was used for sexual reproduction and so did not always develop in a population. [original abstract]

VIDEIRA-SANTOS, R., SCHEFFLER, S.M., MARTINS DEOLIVEI PONCIANO, L.C., WEINSCHÜTZ, L.C., FIGUEIREDO, R.G., RODRIGUES, T., SAYAO, J., RIFF, D. & KELLNER, A.W.A.

2020. First description of scleractinian corals from the Santa Marta and Snow Hill Island (Gamma Member) formations, Upper Cretaceous, James Ross Island, Antarctica. – *Advances in Polar Science*, 31, 3: 1-10.

Antarctic corals are known from the Upper Cretaceous Santa Marta Formation (Santonian-early Campanian) and Gamma Member (late Campanian) of Snow Hill Island Formation (late Campanian-early Maastrichtian) but they have not so far been taxonomically described. We describe three corals taxa based on 29 specimens collected in 2007 and 2016 on James Ross Island (northeast of the Antarctic Peninsula). They represent the first formal record of scleractinian corals from the Santa Marta Formation, identified as Caryophylliidae indet. and Gamma Member of Snow Hill Island Formation, identified as ?*Astreopora* sp. and *Fungiacyathus deltoidophorus*. The family Caryophylliidae and the genus *Astreopora* were not restricted to the Weddellian Biogeographic Province but the species *Fungiacyathus deltoidophorus* was endemic to Antarctica during the Cretaceous. The genus *Fungiacyathus* and the family Caryophylliidae thrive in Antarctica until the present day. Fungiacyathus occurred in shallower environments during the late Campanian than today. No specimens related to *Astreopora* have yet to be found in Antarctica after the late Campanian.

This can be explained by the capacity of *Fungiacyathus* and Caryophyllidae to endure cold waters, since they are asymbiotic corals. The symbiotic ?*Astreopora* sp., due to its sensitivity to low temperatures, became extinct in this continent as soon as the Antarctic waters began to cool, around the Campanian/Maastrichtian. The presence of ?*Astreopora* sp. in Gamma Member of Snow Hill Island Formation may represents the first occurrence of this genus in Antarctica and the oldest record of this genus in the Southern Hemisphere. [original abstract]

WANG, YONG-SHENG, SUN, JI-BIN, WANG, YAN, ZHENG, CHUN-ZI & YUE, ZONG-YUAN

2020. Some early Cretaceous scleractinian corals from Xenkyer, Baingoin, Xizang (Tibet). – *Acta Palaeontologica Sinica*, 59, 4: 452-466; Beijing. D • k • RCH

The Early Cretaceous scleractinian corals described in the present paper were collected by the Geological Survey of Jilin Province from Xenkyer, Baingoin, Xizang (Tibet). These fossil corals, occur in association with some typical Early Cretaceous *Orbitolina*. The scleractinian corals described and illustrated comprise 10 species within 10 genera including 3 new species and 3 which are specifically indeterminable. *Cyathophora* ? sp., *Stylina namcoensis* sp. nov., *Epistreptophyllum* cf. *diatritum* WU, 1975, *Protethmos* cf. *discus* LIAO and XIA, 1985, *Axosmilia* sp., *Placophyllia baingoingensis* sp. nov., *Hydnophora styriaca* (MICHELIN), 1847, *Eohydnophora baingoinensis* sp. nov., *Prototrochocyathus* ? sp., *Ironella giseldonensis* STAROSTINA and KRASNOV, 1970. Although the material described herein are not much, a few genera and species afford evidence for constraining the age of the fossil-bearing deposits. Even if the geological range of the greater part of the genera is from the Jurassic to Cretaceous. However, the genera *Eohydnophora* and *Prototrochocyathus* are the characteristic Cretaceous corals. The genus *Eohydnophora* has hitherto been known from the Cretaceous of Japan and China. The range of *Hydnophora* lasted from Cretaceous up to now but the holotype of *Hydnophora styriaca* (MICHELIN) was from the Upper Cretaceous of Austria. Taken together, the fossil asemblage indicates an Early Cretaceous age, obviously bearing a much closer relationship with those of Japan, the Himalayas, the Caucasus, the Carpathians, the Alps, Austria, Germany and France. Since the Early Cretaceous Scleractinian Corals of Tibet have very few reported in Tibet, a brief description of these fossils seems desirable. [original English summary]

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2018. Case 3771 - Stylina Lamarck, 1816 (Coelenterata, Scleractinia): proposed conservation of usage by designation of Stylina insignis Fromentel, 1861 as type species and lectotype designation for it. – *Bulletin of Zoological Nomenclature*, 75, 1: 229-236. C • j

The purpose of this application under Article 81 of the Code is to conserve the name *Stylina* LAMARCK, 1816 in its accustomed usage by designating a new type species *Stylina insignis* FROMENTEL, 1861 and to designate a lectotype. *Stylina* LAMARCK, 1816 is a Mesozoic genus distributed worldwide that contains hundreds of species names. The genus is the nominate taxon of the Stylinidae and even the basis for the suborder Stylinina, but the type species *Stylina echinulata* LAMARCK, 1816 cannot be identified. [original abstract]