

BOOK REVIEW

Annalen des Naturhistorischen Museums in Wien, Serie A, 113 (2011), dedicated to the 60th birthday of Werner E. Piller. Andreas Kroh, Michael Rasser & Mathias Harzhauser, eds., 2011, Naturhistorisches Museum, Vienna, 807 pp. ISBN 978-3-902421-55-5.

This volume is a collection of papers dedicated to Werner E. Piller (Vienna, 27th May, 1951) by some of his colleagues on the occasion of his 60th birthday. The papers deal with some of the many facets of Piller's research fields, investigations that may help to show a more complete general picture of the Earth history.

This book, edited by Andreas Kroh, Michael Rasser and Mathias Harzhauser, is produced at 17x24 cm in size in a single column format. The papers are illustrated with excellent drawings; plates are generally of a very high standard. The book comprises 24 papers, by a total of 54 authors (see the web page at http://www.nhm-wien.ac.at/verlag/wissenschaftliche_publicationen/annalen_serie_a/113_2011). The introduction of F.F. Steininger is an excellent summary to the Piller's academic life spent so far in Vienna and Graz (Austria). The papers focus on Piller's main Earth Science research fields, ranging from systematics and facies analysis, through stratigraphy and biostratigraphy, to ecology and palaeoecology.

Most of the papers deals with facies (siliciclastic, carbonates, pelagic and shallow water sediments) and Recent and fossil biotic assemblages (in reference order: dinoflagellates, cold-water corals, coralline red algae, calcareous sponges, gastropods, bryozoans, brachiopods, water striders, turtles, mammals, dasycladalean green algae, marine ostracods, ophiuroids). Those researchers, who work in the above-mentioned fields, certainly know and often use results obtained by Werner Piller. However, those who know him personally, recognizing his important contribution to Earth Sciences, enjoy marvellous features of his extraordinary personality. Openness, readiness for discussion, erudition, interest in people and concern in their problems, sense of humour, that's what makes communication with him so desirable and pleasant. Moreover, his vivid interest in science on a larger scale and a deep concern in its future lead Werner E. Piller to activities in science organizations in Austria and all over the world, to his personal participation in different projects aiming at strengthening collaboration with different countries. His work in this respect is widely recognized and acknowledged by the scientific community.

The reddish Rosso Ammonitico and greyish Biancone facies from the Puez area (Col de Puez) near Wolkenstein/Selva di Val Gardena (Dolomites, South

Tyrol, Italy) are explored by A. Lukender. The sedimentary succession sheds light on the early Lower Cretaceous tectonic evolution of plateaus and platforms (Trento Plateau and Friuli Platform) and of the surrounding basins (Lombardian Basin and Belluno Basin).

M.H. Wagneich, H. Egger, H. Gebhardt, O. Mohammed, C. Spötl, V. Koukal, and G. Hobiger describe a Palaeocene/Eocene boundary section from the Zwieselalm Formation of the Upper Gosau Subgroup at Gams, Northern Calcareous Alps, Austria. The Palaeocene/Eocene boundary at the base of the Pichler section is characterized by a negative excursion of carbon isotope values (CIE), the occurrences of the dinoflagellate cyst *Apectodinium augustum* and the calcareous nannoplankton species *Discoaster araneus* and *Rhomboaster* spp.

F. Lirer and S. Iaccarino deal with the introduction and definition of the Global Stratotype Section and Points (GSSP) replacing the Mediterranean Neogene historical stages. At present, two deep water marine sedimentary sections in the Mediterranean area (La Vedova in Conero area, central Italy and S. Peter's Pool in Malta) are identified as potential candidates to define the base of the Langhian, while suitable sections for the base of the Burdigalian are not yet documented.

A stratigraphic and sedimentological analysis of the Miocene spongolitic unit from Central Apennines was performed by M. Brandano and L. Corda. The spongolitic succession of the Latium-Abruzzi Platform represents the sedimentation along the platform margin domain. The combined effect of volcanism, changes in oceanic circulation and the Apennine foredeep-related siliciclastic input, favoured the spreading for marly-spongolitic facies in the Central Apennines, as well as throughout the Mediterranean area.

M. Harzhauser, G. Daxner-Höck, U.B. Göhlich, and D. Nagel present an unusual assemblage of molluscs and vertebrates in Lower Pannonian fluvial deposits of the Hollabrunn-Mistelbach Formation, Lower Austria. The composition of the mollusc fauna reveals a very complex mixing from at least three older strata resulting in a biostratigraphically condensed assemblage. The parautochthonous faunal elements reveal a multi-habitat assemblage from lotic, lentic and terrestrial habitats of the palaeo-Danube delta. The studied section is thus an extraordinary example on the difficulties for biostratigraphic dating along such flat basin margins.

Cold-water corals and their associated mounds and reefs attracted a growing number of marine geologists to study these biogenic structures in detail, since these mounds may represent modern analogues to the well-known mound structures from Palaeozoic and Early Mesozoic times. S. Flögel and W.-C. Dullo perform a comparative test study applying conventional Conductivity-Temperature-Depth (CTD) casts and a newly and self designed mini lander system, which was deployed on the West Florida slope at 531 m water depth for continuous bottom water measurements.

A.M. Mansour, A.H. Nawar, and H.A. Madkour explore the geochemistry and the texture of marine surface-sediments in selected areas along the Red Sea coast in order to assess the possible influence of human activities on the composition of the sediments, to test for anomalous enrichments in heavy metals, and to evaluate and quantify metal release into the sea. Mansour et al.'s results indicate that the main sources of metals in the marine environments are of anthropogenic origin. In addition, trace metals are initially supplied to these areas from terrestrial sources via wades or the atmosphere, and from biological activity in the sea.

G. Radtke, P. Schäfer, H. Blaschek, and S. Golubic analyze and compare microborings in shells and shell fragments on Atlantic and Pacific coasts of Panama. Both coasts show considerable diversity of microboring morphotypes. Three new morphotypes of microborings were found only on the Caribbean coast and one on the Pacific coast, possibly reflecting regional distinction of the euendolithic microflora. The implications of the observed findings in this modern setting for the fossil occurrences of microborings are discussed.

J. Aguirre, J.C. Braga, and D. Bassi have studied fossil coralline algal species described by Pfender, Miranda, and Lemoine from type localities in northern Spain. Based on topotypes, the taxonomic re-assessment of the species *Sporolithon lugeonii* (Pfender) Ghosh & Maithy 1996, *Lithothamnion camarasae* Pfender 1926, *Hydrolithon lemoinei* (Miranda) Aguirre, Braga & Bassi comb. nov., *Mesophyllum mengaudii* (Lemoine) Aguirre, Braga & Bassi comb. nov., and *Arthrocardia mengaudii* (Lemoine) Aguirre, Braga & Bassi comb. nov. is proposed.

Coralline algae are the main components of the Oligocene (Rupelian-early Chattian?) limestones in Sierra Espuña (SE Spain), one of the very few localities with shallow-marine Oligocene deposits in the Iberian Peninsula. J.C. Braga and D. Bassi describe fossil components, lithofacies, and stratigraphic patterns of the Oligocene limestones which formed on a carbonate ramp that developed on and interfingered with deltaic deposits.

Upper Triassic (most probably Rhaetian in age) hypercalcified sponges, including "Sphinctozoans" and "Inozoans" are described in details by K. Rashidi and B. Senowbari-Daryan from the Nayband Formation, ex-

posed in the northeast area of Esfahan, central Iran. The new species *Peronidella pilleri* n. sp., *Amblysiphonella bisiphonata* n. sp., *A. torabii* n. sp., and *Parauvanella spinosa* n. sp. are proposed.

Gastropods and their habitats from the northern Red Sea (Egypt: Safaga) are described by R. Janssen, M. Zuschin, and C. Baal. Almost 5,900 shells of Caenogastropoda from a highly structured, coral-dominated coastal area of approximately 75 km² were studied and yielded 112 species of Sorbeoconcha and Littorinimorpha as well as one Vetigastropod.

Bryozoans from around the Arabian Peninsula are only poorly known. B. Berning and A.N. Ostrovsky describe a new cheilostome taxon, *Omanipora pilleri* n. gen. n. sp., from the western Indian Ocean, south of the town of Duqm (eastern central Oman).

Thecideid brachiopods are poorly known brachiopods of debated phylogenetic relationships which occur from the Late Triassic to the Recent. J.H. Nebelsick, D. Bassi, and M.W. Rasser show that the palaeoecology of these brachiopods closely mirrors that of Recent and fossil thecideid species which are characteristics of cryptic habitats in tropical and warm temperate seas.

H. Zettel and E. Heiss describe and illustrate new species of two hitherto monotypic genera of water striders from Eocene Baltic amber inclusions: *Metrocephala schaeferi* n. sp., and *Succineogerris nilsi* n. sp. Additional descriptive notes and illustrations are presented for the type material of *S. larssoni*.

C.A. Meyer deals with carapaces of marine turtles from the Late Jurassic Solothurn Turtle Limestone (Reuchenette Formation, Late Kimmeridgian, Switzerland). These carapaces commonly yield rounded pits that may have resulted from epibionts or ectoparasites, although a conclusive interpretation has not yet been presented. The grazing traces suggest the presence of a post-mortem dense algal cover and indicate an extended exposure time of the carapaces at the sediment-water interface.

Recently, during the first evolutionary phase of the *Ursus deningeri-spelaeus* group new forms have been identified that shared the same environment for a long time till the extinction of Upper Pleistocene. M. Rossi and G. Santi provide a more detailed morphological and morphometrical analysis of the remains from Cerè Cave (Veneto, Northern Italy).

Late Bronze Age (Urnenfelderzeit) faunal remains from Brixlegg (Tyrol, Austria) are analyzed by F. Boschin and A. Riedel. The characteristics of the assemblage (faunal composition, age-at-death, relative abundance of different bones) reflect the peculiar economy of a mining settlement. The outstandingly tall Early Bronze Age dog breed from Brixlegg is still present during the Late Bronze Age.

I. Bucur examines dasycladalean calcareous algae from the Barremian (Early Cretaceous) deposits from

Serre de Bleyton (Drôme, France). The algal association, consisting of 15 taxa, was transported by gravitative flows from a shallower area to a deeper, basinal setting.

Brachiopods from three outcrops sampled by D. Gaspard in the Barremian turbiditic formations, from Serre de Bleyton, Drôme (SE France), reveal a great biodiversity. These specimens, representatives of Rhynchonellida, Thecideida, and Terebratulida, are described following their morphological characteristics.

M. Jäger analyzes the Barremian of the Serre de Bleyton which has yielded many calcareous tubes and tube fragments of a diverse polychaete fauna of *ca.* 20 species. One new genus, *Pseudomicrorbis* n. gen., and seven new species are introduced.

The turbiditic Barremian of the Serre de Bleyton, Drôme, SE France has yielded 67 species of marine ostracods belonging to 38 different genera. J.-F. Babinot and J.-P. Colin systematically describe and illustrate these taxa in 8 plates.

Two turbiditic beds of Barremian age from Serre de Bleyton, Drôme, Southern France, yielded disarticulated

brittle-star remains that were examined by B. Thuy and A. Kroh. A total of nine species were found, including two undescribed species (*Ophiozonella stoehrae* n. sp., *Ophiotitanos pilleri* n. sp.). The Serre de Bleyton fauna is the most diverse in the Early Cretaceous known to date and fills at least part of a major stratigraphic gap between well-known and comparably diverse Late Jurassic and Late Cretaceous brittle-star assemblages.

The other contributions on this fauna were published in the volume 112 of this journal. This special volume of the *Annalen des Naturhistorischen Museums in Wien* gives a modern and mostly well-selected review of several research aspects dealing with the Earth Sciences. Biotic developments, coupled with sedimentology and stratigraphy, are the key contributions of this standard reference volume.

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RECENSIÓN

Andrej Ernst and Peter Köningshof, 2010. *Bryozoan fauna and microfacies from a Middle Devonian reef complex (Western Sahara, Morocco)*. *Abhandlungen der Senckenberg Gessellschaft für Naturforschung*, 568, 91 pp., 6 figs., 1 tab., 1 app., 27 lám. E. Schweizerbart'sche Verlagsbuchhandlung (Nägele u. Obermiller) Stuttgart. ISBN 978-3-510-61397-7 rústica.

El Dr. Andrej Ernst, del Institut für Geowissenschaften (Christian-Albrechts-Universität zu Kiel) es actualmente uno de los investigadores más activos en todo el mundo en el estudio de los briozoos paleozoicos. En los últimos años ha centrado su atención en las faunas devónicas, habiendo producido ya numerosos artículos de carácter eminentemente sistemático y paleobiogeográfico en este campo.

El Dr. Peter Köningshof, del Senckenberg Forschungsinstitut und Naturmuseum (Frankfurt am Main) viene desarrollando diversas líneas de investigación, entre las que se encuentra la sedimentología y paleoecología de ambientes arrecifales devónicos, y ha analizado recientemente las formaciones arrecifales del Devónico del Sáhara desde el punto de vista paleoecológico y de puesta en valor como patrimonio paleontológico.

Ambos autores han vuelto a coordinar sus esfuerzos para llevar a cabo un estudio de la fauna de briozoos presente en Sabkhat Lafayrina, un complejo arrecifal del Devónico Medio en la Cuenca del Tindouf, en el Sáhara Occidental (Marruecos), así como la distribución de estos organismos en los diferentes depósitos que integran dicho complejo. Tras una breve introducción, se describe el marco geológico de Sabkhat Lafayrina, aportando una completa lista de referencias en la que se incluyen los trabajos más recientes, algunos de ellos llevados a cabo por los propios autores. El análisis de microfacies recoge una sucinta descripción de la sucesión estratigráfica en la que se encuadra el inicio y evolución de la secuencia arrecifal. Como en otras secciones repartidas por todo el mundo, la presencia de briozoos es más destacada en facies periarrecifales que en las dominadas por el desarrollo de corales y estromatoporoideos. En el caso de Sabkhat Lafayrina, son las facies packstone y grainstone que componen la base del complejo las que contienen mayor abundancia de briozoos. Resulta interesante un dato adicional y escasamente tratado en la literatura briozoológica, como es el hallazgo de fenestrados junto a grandes colonias de corales, debido a que aprovechan superficies adecuadas de los mismos como sustratos duros para fijarse y crecer alejados del sedimento.

La fauna descrita en este estudio comprende veintiséis especies repartidas en cinco de los seis órdenes que integran la clase Stenolaemata y en los que se agrupan la inmensa mayoría de las formas paleozoicas. Diecisiete de

las especies descritas son nuevas, incluyendo dos que son asignadas a géneros monotípicos nuevos. La amplitud de miras en la composición taxonómica aporta una visión panorámica de la diversidad alcanzada por los briozoos en los medios arrecifales y periarrecifales devónicos.

En cuanto a las relaciones paleobiogeográficas, la mayoría de los géneros y algunas de las especies identificadas por los autores en Sabkhat Lafayrina se encuentran además en diversos puntos de Europa y Estados Unidos. El trabajo de los Drs Ernst y Köningshof contribuye a dibujar con mayor precisión las distribuciones geográficas de los taxones estudiados, tanto en el caso de algunos como *Ceramella* y *Euspilopora*, cuya presencia sólo se conocía en el Devónico Medio de Estados Unidos, como en el caso de *Intrapora*, un género definido en el Devónico de Norteamérica y cuya extensión geográfica se ha ido incrementando con citas repartidas por Europa, la antigua URSS y China. Los estudios dedicados a briozoos devónicos en diferentes partes del mundo están aportando nueva luz a faunas que han sido consideradas en ocasiones erróneamente como provincialistas, debido en parte a un conocimiento muy limitado de las mismas, y que sin embargo presentan una dispersión notablemente superior a la que permitían atisbar los trabajos clásicos. Una de las mayores trabas para el desarrollo de este tipo de estudios reside en la relativa escasez de trabajos sistemáticos publicados desde el siglo XIX hasta hoy, y en la precariedad de información útil para establecer comparaciones fiables de la que adolecen algunos de ellos, según los cánones taxonómicos actuales. Sin duda alguna, los Drs Ernst y Köningshof se han enfrentado a este obstáculo, y su esfuerzo representa una importante contribución para ayudar a superarlo. Por esta razón, el libro "*Bryozoan fauna and microfacies from a Middle Devonian reef complex (Western Sahara, Morocco)*" será una obra de referencia no sólo para los especialistas en briozoos, sino que será de interés para la interpretación de reconstrucciones paleogeográficas, y sentará las bases para nuevos estudios sistemáticos, paleoecológicos y paleobiogeográficos.

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